ROBOTICS

# Operating manual

## Troubleshooting IRC5

Trace back information:
Workspace 20A version a12
Checked in 2020-03-13
Skribenta version 5.3.033

# Operating manual
# Troubleshooting IRC5
RobotWare 6.10.02

Document ID: 3HAC020738-001
Revision: AE

© Copyright 2005-2020 ABB. All rights reserved.
Specifications subject to change without notice.

The information in this manual is subject to change without notice and should not be construed as a commitment by ABB. ABB assumes no responsibility for any errors that may appear in this manual.

Except as may be expressly stated anywhere in this manual, nothing herein shall be construed as any kind of guarantee or warranty by ABB for losses, damages to persons or property, fitness for a specific purpose or the like.

In no event shall ABB be liable for incidental or consequential damages arising from use of this manual and products described herein.

This manual and parts thereof must not be reproduced or copied without ABB's written permission.

Keep for future reference.

Additional copies of this manual may be obtained from ABB.

Original instructions.

© Copyright 2005-2020 ABB. All rights reserved.
Specifications subject to change without notice.

# Table of contents

Overview of this manual ..... 7

**1 Introduction to troubleshooting 11**

1.1 Overview of troubleshooting ..... 11
1.2 Standard toolkit ..... 12
1.3 Tips and tricks while troubleshooting ..... 13
1.3.1 Troubleshooting strategies ..... 13
1.3.2 Work systematically ..... 15
1.3.3 Keeping track of history ..... 16
1.4 Filing an error report ..... 17

**2 Troubleshooting by fault symptoms 19**

2.1 Start-up failures ..... 19
2.2 Controller not responding ..... 21
2.3 Low controller performance ..... 22
2.4 All LEDs are off at controller ..... 24
2.5 No voltage in service outlet ..... 26
2.6 Problem starting the FlexPendant ..... 28
2.7 Problem connecting FlexPendant to the controller ..... 29
2.8 Erratic event messages on FlexPendant ..... 30
2.9 Problem jogging the robot ..... 31
2.10 Reflashing firmware failure ..... 32
2.11 Inconsistent path accuracy ..... 33
2.12 Mechanical noise or dissonance ..... 35
2.13 Manipulator crashes on power down ..... 37
2.14 Problem releasing Robot brakes ..... 38
2.15 Intermittent errors ..... 40
2.16 Force starting of Boot Application ..... 41

**3 Troubleshooting by unit 43**

3.1 Troubleshooting LEDs in the controller ..... 43
3.2 Troubleshooting the FlexPendant ..... 45
3.3 Troubleshooting communications ..... 46
3.4 Troubleshooting fieldbuses and I/O units ..... 47
3.5 Troubleshooting the computer unit ..... 48
3.6 Troubleshooting the panel board ..... 50
3.7 Troubleshooting the drive system ..... 52
3.8 Troubleshooting the axis computer ..... 54
3.9 Troubleshooting the system power supply ..... 56
3.10 Troubleshooting the power distribution board ..... 61
3.11 Troubleshooting the contactor interface board ..... 66
3.12 Troubleshooting the customer I/O power supply ..... 68

**4 Troubleshooting by event log 71**

4.1 Event log messages ..... 71
4.2 How to read RAPID event log messages ..... 72
4.3 1 xxxx ..... 74
4.4 2 xxxx ..... 100
4.5 3 xxxx ..... 141
4.6 4 xxxx ..... 196
4.7 5 xxxx ..... 311
4.8 7 xxxx ..... 354
4.9 9 xxxx ..... 395
4.10 11 xxxx ..... 442
4.11 12 xxxx ..... 533
4.12 13 xxxx ..... 536



© Copyright 2005-2020 ABB. All rights reserved.

4.13 15 xxxx ..... 575
4.14 17 xxxx ..... 576

**5 Circuit diagrams** **579**

5.1 Circuit diagrams ..... 579

**Index** **583**



© Copyright 2005-2020 ABB. All rights reserved.

# Overview of this manual

## About this manual

This manual contains information, procedures and descriptions, for troubleshooting IRC5 based robot systems.

> **Note**
>
> It is the responsibility of the integrator to provide safety and user guides for the robot system.

## Usage

This manual should be used whenever robot operation is interrupted by malfunction, regardless of whether an error event log message is created or not.

> **Note**
>
> Before any work on or with the robot is performed, the safety information in the product manual for the controller and manipulator must be read.

## Who should read this manual?

This manual is intended for the following personnel:

- Machine and robot operators qualified to perform very basic troubleshooting and reporting to service personnel.
- Programmers qualified to write and change RAPID programs.
- Specialized troubleshooting personnel, usually very experienced service personnel, qualified for methodically isolating, analyzing and correcting malfunctions within the robot system.

## Prerequisites

The reader should:

- Have extensive experience in troubleshooting industrial electro-mechanical machinery.
- Have in depth knowledge of the robot system function.
- Be familiar with the actual robot installation at hand, its surrounding equipment and peripherals.

## References

| Reference: | Document ID |
|---|---|
| *Product manual - IRC5*<br>IRC5 of design M2004 | *3HAC021313-001* |
| *Product manual - IRC5*<br>IRC5 of design 14 | *3HAC047136-001* |
| *Operating manual - IRC5 Integrator's guide* | *3HAC050940-001* |
| *Operating manual - Emergency safety information* | *3HAC027098-001* |

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

*Continued*

| Reference: | Document ID |
|---|---|
| *Safety manual for robot - Manipulator and IRC5 or OmniCore controller* | *3HAC031045-001* |
| *Operating manual - IRC5 with FlexPendant* | *3HAC050941-001* |
| *Operating manual - RobotStudio* | *3HAC032104-001* |
| *Operating manual - Getting started, IRC5 and RobotStudio* | *3HAC027097-001* |
| *Technical reference manual - System parameters* | *3HAC050948-001* |
| *Application manual - MultiMove* | *3HAC050961-001* |

The product documentation is available in several languages.

## Revisions

| Revision | Description |
|---|---|
| - | First edition. |
| A | Information has been added.<br>The document has been partly restructured. |
| B | Information on how to submit error report has been changed.<br>Information on RAPID change logs have been added.<br>Event log messages have been added. |
| C | Updated Event log messages. |
| D | Updated Event log messages. |
| E | Updated Event log messages. |
| F | Minor corrections. Updated Event log messages. |
| G | Minor corrections. Updated Event log messages. |
| H | New information in section Serial Measurement Unit regarding the battery pack.<br>More detailed information about troubleshooting power supplies DSQC 604, 661 and 662.<br>Removed safety I/O signals: DRV1PANCH1, DRV1PANCH2, DRV1SPEED.<br>New drive system introduced. Drive System 04 and Drive System 09 are both described. |
| J | Released with RobotWare 5.13.<br>The chapter *Safety* is updated.<br>The contents in the following sections were updated:<br>• Corrections regarding drive system information in chapter *Descriptions and background information*.<br>• Restructured the chapters as per the new document startergy.<br>• Updated the graphic in the *Recommended actions* of the section *No voltage in service outlet on page 26*.<br>• Updated the *Possible causes* in the section *Problem starting the FlexPendant on page 28*.<br>• Updated the graphics in the section *LEDs in the Control Module*.<br>• Updated the graphic in *Possible causes* of the section *Problem releasing Robot brakes on page 38*. |
| K | Updated Event log messages. |
| L | Released with RobotWare 5.14.<br>*Event number series on page 72* added. |

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

| Revision | Description |
|---|---|
| M | Released with RobotWare 5.14.02.<br>Updated Event log messages. |
| N | Released with RobotWare 5.15.<br>Updated Event log messages. |
| P | Released with RobotWare 5.15.01.<br>Updated the section *Overview of troubleshooting on page 11*. |
| Q | Released with RobotWare 5.60.<br>• The document has been partly restructured.<br>• New main computer DSQC1000 is introduced.<br>• Old main computer DSQC 639 is removed throughout the manual.<br>• The dual controller is removed throughout the manual.<br>• Updated Event log messages. |
| R | Released with RobotWare 5.61.<br>• Added a note in the section *Event number series on page 72*.<br>• Added Slovenian Event log messages.<br>• Added the Event log message io_elogtext.xml.<br>• Updated the name of the connectors and other minor updates in *Troubleshooting the system power supply on page 56* and *Troubleshooting the power distribution board on page 61*. |
| S | Released with RobotWare 6.0.<br>• Added information on *Restarting a locked FlexPendant on page 45*.<br>• Added information on *Type of event log messages on page 71*.<br>• Added the Event log message pymc_elogtext.xml. |
| T | Released with RobotWare 6.01.<br>• Added the description of event log message types. See *Type of event log messages on page 71*.<br>• Added a note on the possibility of a slight difference between the English event logs and translated event logs in *Type of event log messages on page 71*. |
| U | Released with RobotWare 6.02. |
| V | Released with RobotWare 6.03.<br>• Added event logs for functional safety, see *9 xxxx on page 395*.<br>• Added event logs for Connected Service Embedded, see *17 xxxx on page 576*. |
| W | Released with RobotWare 6.04.<br>• Updated event logs for RobotWare 6.04. |
| X | Released with RobotWare 6.05.<br>• New main computer DSQC1024 is introduced.<br>• Updated event logs for RobotWare 6.05. Added the event logs for Integrated Vision. |
| Y | Released with RobotWare 6.06.<br>• Updated event logs for RobotWare 6.06.<br>• Removed main computer DSQC1024. |
| Z | Released with RobotWare 6.07.<br>• Updated event logs for RobotWare 6.07.<br>• Safety section restructured. |
| AA | Released with RobotWare 6.08.<br>• Updated event logs for RobotWare 6.08. |

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

*Continued*

| Revision | Description |
|---|---|
| AB | Released with RobotWare 6.09.<br>• Updated description in *Filing an error report on page 17*.<br>• Added description if all LEDs are off in *Troubleshooting the computer unit on page 48*.<br>• Corrected graphic of the axis computer, see *Troubleshooting the axis computer on page 54*.<br>• Updated event logs for RobotWare 6.09. |
| AC | Released with RobotWare 6.10.<br>• Updated event logs for RobotWare 6.10. |
| AD | Released with RobotWare 6.10.01.<br>• Updated event logs for RobotWare 6.10.01. |
| AE | Released with RobotWare 6.10.02.<br>• Updated event logs for RobotWare 6.10.02.<br>• The safety information is moved to the product manuals for the controller and the manipulator. |


© Copyright 2005-2020 ABB. All rights reserved.

# 1 Introduction to troubleshooting

## 1.1 Overview of troubleshooting

### How to use this manual when troubleshooting

The following table details how to put the information in this manual to best use during troubleshooting the robot system.

Troubleshooting manual

| | |
|---|---|
| Troubleshooting by fault symptoms | Each fault or error is first detected as a symptom, for which an error event log message may or may not be created. It could be an error event log message on the FlexPendant, an observation that the gearbox on axis 6 is getting hot or that the controller can not be started. The faults displaying an event log message are listed in the end of this manual.<br>See *Troubleshooting by fault symptoms on page 19*. |
| Troubleshooting by unit | Describes how to troubleshoot if the following does not work correctly, for example:<br>• FlexPendant<br>• computer unit<br>• fieldbus and I/O units<br>• power supply<br>See *Troubleshooting by unit on page 43*. |
| Troubleshooting by event logs | Lists all the available event log messages. These may be displayed either on the FlexPendant or using RobotStudio. Having access to all messages will be useful during troubleshooting.<br>See *Troubleshooting by event log on page 71*. |

Additional information

In addition to the information given in this document, other documents may provide vital information, e.g. the Circuit Diagram.

Such useful documents are listed in the section *Circuit diagrams on page 579*.

### Read the event logs

The error event logs which may be viewed on either the FlexPendant or RobotStudio, contain lots of information about any malfunction detected by the system.

### Read the circuit diagrams

The circuit diagrams contain a lot of information useful, or even essential, to a trained troubleshooter. See *Circuit diagrams on page 579*.

### Check the LEDs on the electronic units

If a fault is thought to be caused by an electronic unit (circuit board in the controller or other), the LEDs on the unit front may give leads.


© Copyright 2005-2020 ABB. All rights reserved.

## 1.2 Standard toolkit

### General

Listed are tools required to perform the actual troubleshooting work. All tools required to perform any corrective measure, such as replacing parts, are listed in their Product Manual section respectively.

### Contents, standard toolkit, IRC5

| Tool | Remark |
|---|---|
| Screw driver, Torx | Tx10 |
| Screw driver, Torx | Tx25 |
| Ball tipped screw driver, Torx | Tx25 |
| Screw driver, flat blade | 4 mm |
| Screw driver, flat blade | 8 mm |
| Screw driver, flat blade | 12 mm |
| Screw driver | Phillips-1 |
| Box spanner | 8 mm |

### Contents, standard toolkit, troubleshooting

| Qty | Art. no. | Tool | Rem. |
|---|---|---|---|
| - | - | Normal shop tools | Contents as specified above. |
| 1 | - | Multimeter | - |
| 1 | - | Oscilloscope | - |
| 1 | - | Recorder | - |


© Copyright 2005-2020 ABB. All rights reserved.

## 1.3 Tips and tricks while troubleshooting

### 1.3.1 Troubleshooting strategies

**Isolate the fault!**

Any fault may give rise to a number of symptoms, for which error event log messages may or may not be created. In order to effectively eliminate the fault, it is vital to distinguish the original symptom from the consequential ones.

A help in isolating the fault may be creating a historical fault log as specified in section *Make a historical fault log! on page 16*.

**Split the fault chain in two!**

When troubleshooting any system, a good practice is to split the fault chain in two. This means:

- identify the complete chain.
- decide and measure the expected value at the middle of the chain.
- use this to determine in which half the fault is caused.
- split this half into two new halves, etc.
- finally, a single component may be isolated. The faulty one.

Example

A specific IRB 7600 installation has a 12 VDC power supply to a tool at the manipulator wrist. This tool does not work, and when checked, there is no 12 VDC supply to it.

- Check at the manipulator base to see if there is 12 VDC supply. Measurement show there are *no* 12 VDC supply. (Reference: Circuit Diagram in the *Product manual, IRC5*)
- Check any connector between the manipulator and the power supply in the controller. Measurement show there are *no* 12 VDC supply. (Reference: Circuit Diagram in the *Product manual, IRC5*)
- Check the power supply unit LED.

**Check communication parameters and cables!**

The most common causes of errors in serial communication are:

- Faulty cables (e.g. send and receive signals are mixed up)
- Transfer rates (baud rates)
- Data widths that are incorrectly set.

**Check the software versions!**

Make sure the RobotWare and other software run by the system are the correct version. Certain versions are not compatible with certain hardware combinations.

Also, make a note of all software versions run, since this will be useful information to the ABB support people.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

How to file a complete error report to your local ABB service personnel is detailed in section *Filing an error report on page 17*.


© Copyright 2005-2020 ABB. All rights reserved.

## 1.3.2 Work systematically

**Do not replace units randomly!**

Before replacing *any part at all*, it is important to establish a probable cause for the fault, thus determining which unit to replace.

Randomly replacing units may sometimes solve the acute problem, but also leaves the troubleshooter with a number of units that may/may not be perfectly functional.

**Replace one thing at a time!**

When replacing a presumably faulty unit that has been isolated, it is important that **only one** unit be replaced at a time.

Always replace components as detailed in the Repairs section of the Product manual of the robot or controller at hand.

Test the system after replacing to see if the problem has been solved.

If replacing several units at once:

- it is impossible to determine which of the units was causing the fault.
- it greatly complicates ordering a new spare part.
- it may introduce new faults to the system.

**Take a look around!**

Often, the cause may be evident once you see it. In the area of the unit acting erroneously, be sure to check:

- Are the attachment screws secured?
- Are all connectors secured?
- Are all cabling free from damage?
- Are the units clean (especially for electronic units)?
- Is the correct unit fitted?

**Check for tools left behind!**

Some repair and maintenance work require using special tools to be fitted to the robot equipment. If these are left behind (e.g. balancing cylinder locking device or signal cable to a computer unit used for measuring purposes), they may cause erratic robot behavior.

Make sure all such tools are removed when maintenance work is complete!


© Copyright 2005-2020 ABB. All rights reserved.

## 1.3.3 Keeping track of history

**Make a historical fault log!**

In some cases, a particular installation may give rise to faults not encountered in others. Therefore, charting each installation may give tremendous assistance to the troubleshooter.

To facilitate troubleshooting, a log of the circumstances surrounding the fault gives the following advantages:

- it enables the troubleshooter to see patterns in causes and consequences not apparent at each individual fault occurrence
- it may point out a specific event always taking place just before the fault, for example a certain part of the work cycle being run.

**Check up the history!**

Make sure you always consult the historical log if it is used. Also remember to consult the operator, or similar, who was working when the problem first occurred.

**At what stage did the fault occur?**

What to look for during troubleshooting depends greatly of when the fault occurred: was the robot just freshly installed? Was it recently repaired?

The table gives specific hints to what to look for in specific situations:

| If the system has just: | then: |
|---|---|
| been installed | Check:<br>• the configuration files<br>• connections<br>• options and their configuration |
| been repaired | Check:<br>• all connections to the replaced part<br>• power supplies<br>• that the correct part has been fitted |
| had a software upgrade | Check:<br>• software versions<br>• compatibilities between hardware and software<br>• options and their configuration |
| been moved from one site to another (an already working robot) | Check:<br>• connections<br>• software versions |


© Copyright 2005-2020 ABB. All rights reserved.

## 1.4 Filing an error report

### Introduction

If you require assistance of ABB support personnel in troubleshooting your system, you can file a formal error report. The system can generate a special diagnostics file on demand. Attach this file to the error report.

Depending on the state of the system, the diagnostics file can be created manually in several ways.

The diagnostics file includes:

- **Event log**: A list of all system events.
- **Backup**: A backup of the system taken for diagnostics purposes.
- **System information**: Internal system information useful to ABB support personnel.

**Note**

It is not required to create or attach any additional files to the error report if not explicitly requested by the support personnel.

**Note**

If the system is completely offline, for example when replacing hardware in the controller, a system diagnostics can be taken after the system is started again. If any serious errors occur before replacing the hardware, causing sysfail state, then the system will save the diagnostics information automatically. This information will be included next time the system is started and a diagnostics is generated, even after a system reset.

### Creating the diagnostics file using the FlexPendant

| | Action |
|---|---|
| 1 | On the main menu, tap **Control Panel** and then **Diagnostics**. |
| 2 | Specify the name of the diagnostics file and the folder and tap **OK**. The default save folder is `C:/Temp`, but any folder can be selected, for example, a connected USB memory.<br>The creation process can take a couple of minutes. A message is displayed while the process is ongoing, saying **Creating file. Please wait**. |

### Creating the diagnostics file using RobotStudio

If the FlexPendant is somehow unresponsive or unavailable, the diagnostics report can be can be generated using RobotStudio.

| | Action |
|---|---|
| 1 | Connect to the controller using RobotStudio. |
| 2 | Click **Properties**. |
| 3 | Click **Save System Diagnostics**. |

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

1.4 Filing an error report
*Continued*

| | Action |
|---|---|
| 4 | Select location and click **Save**.<br>The system diagnostics will be saved in the selected location. |

### Sending the error report

Send an e-mail addressed to your local ABB support personnel, and make sure to include the following information:

- Robot serial number
- RobotWare version
- External options
- A written fault description. The more detailed, the easier for the ABB support personnel to assist you.
- If available, enclose the license key.
- Attach the diagnostics file.

  To shorten file transfer time, you can compress the data into a zip-file.

**Note**

If the previously mentioned methods to generate a diagnostics file are not available, an SD-card image can be generated using the *Recovery Disk* tool in **Installation Manager**, and sent to your local ABB. See *Operating manual - IRC5 Integrator's guide*.


© Copyright 2005-2020 ABB. All rights reserved.

# 2 Troubleshooting by fault symptoms

## 2.1 Start-up failures

**Introduction**

This section describes possible faults during start-up and the recommended action for each failure.

**Consequences**

Problem starting the system

**Symptoms and causes**

The following are the possible symptoms of a start-up failure:

- LEDs not lit on any unit.
- Earth fault protection trips.
- Unable to load the system software.
- FlexPendant not responding.
- FlexPendant starts, but does not respond to any input.
- Disk containing the system software does not start correctly.

**Recommended actions**

The following are the recommended actions to be taken during a start-up failure:

**Note**

This may be due to a loss of power supply in many stages.

| | Action | Info/illustration |
|---|---|---|
| 1 | Make sure the main power supply to the system is present and is within the specified limits. | Your plant or cell documentation can provide this information. |
| 2 | Make sure that the main transformer is correctly connected to the mains voltage levels at hand. | How to strap the mains transformer is detailed in the product manual for the controller. |
| 3 | Make sure that the main switches are switched on. | |
| 4 | Make sure that the power supply to the controller is within the specified limits. | If required, troubleshoot the power supply units as explained in section *Troubleshooting the system power supply on page 56*. |
| 5 | If no LEDs lit, proceed to section *All LEDs are off at controller on page 24*. | |
| 6 | If the system is not responding, proceed to section *Controller not responding on page 21*. | |
| 7 | If the FlexPendant is not responding, proceed to section *Problem starting the FlexPendant on page 28*. | |

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

*Continued*

| | Action | Info/illustration |
|---|---|---|
| 8 | If the FlexPendant starts, but does not communicate with the controller, proceed to section *Problem connecting FlexPendant to the controller on page 29*. | |


© Copyright 2005-2020 ABB. All rights reserved.

## 2.2 Controller not responding

### Description

This section describes the possible faults and the recommended actions for each failure:

- Robot controller not responding
- LED indicators not lit

### Consequences

System cannot be operated using the FlexPendant.

### Possible causes

| | Symptoms | Recommended action |
|---|---|---|
| 1 | Controller not connected to the mains power supply. | Ensure that the mains power supply is working and the voltage level matches that of the controller requirement. |
| 2 | Main transformer is malfunctioning or not connected correctly. | Ensure that the main transformer is connected correctly to the mains voltage level. |
| 3 | Main fuse (Q1) might have tripped. | Ensure that the mains fuse (Q1) inside the controller is not tripped |


© Copyright 2005-2020 ABB. All rights reserved.

## 2.3 Low controller performance

### Description

The controller performance is low, and seems to work irrationally.

If the controller is not responding at all, proceed as detailed in section *Controller not responding on page 21*.

### Consequences

These symptoms can be observed:

- Program execution is sluggish, seemingly irrational and sometimes stalls.

### Possible causes

The computer system is experiencing too high load, which may be due to one, or a combination, of the following:

- Programs containing too high a degree of logical instructions only, causing too fast program loops and in turn, overloads the processor.
- The I/O update interval is set to a low value, causing frequent updates and a high I/O load.
- Internal system cross connections and logical functions are used too frequently.
- An external PLC, or other supervisory computer, is addressing the system too frequently, overloading the system.

### Recommended actions

| | Action | Info/illustration |
|---|---|---|
| 1 | Check whether the program contains logical instructions (or other instructions that take “no time” to execute), since such programs may cause the execution to loop if no conditions are fulfilled.<br>To avoid such loops, you can test by adding one or more WAIT instructions. Use only short WAIT times, to avoid slowing the program down unnecessarily. | Suitable places to add WAIT instructions can be:<br>• In the main routine, preferably close to the end.<br>• In a WHILE/FOR/GOTO loop, preferably at the end, close to the ENDWHILE/ENDFOR etc. part of the instruction. |
| 2 | Make sure the I/O update interval value for each I/O board is not too low. These values are changed using RobotStudio.<br>I/O units that are not read regularly may be switched to “change of state” operation as detailed in the RobotStudio manual. | ABB recommends these poll rates:<br>• DSQC 327A: 1000<br>• DSQC 328A: 1000<br>• DSQC 332A: 1000<br>• DSQC 377A: 20-40<br>• All others: >100 |
| 3 | Check whether there is a large amount of cross connections or I/O communication between PLC and robot system. | Heavy communication with PLCs or other external computers can cause heavy load in the robot system main computer. |

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

| | Action | Info/illustration |
|---|---|---|
| 4 | Try to program the PLC in such a way that it uses event driven instructions, instead of looped instructions. | The robot system have a number of fixed system inputs and outputs that may be used for this purpose.<br>Heavy communication with PLCs or other external computers can cause heavy load in the robot system main computer. |


© Copyright 2005-2020 ABB. All rights reserved.

## 2.4 All LEDs are off at controller

**Description**

No LEDs at all are lit in the controller.

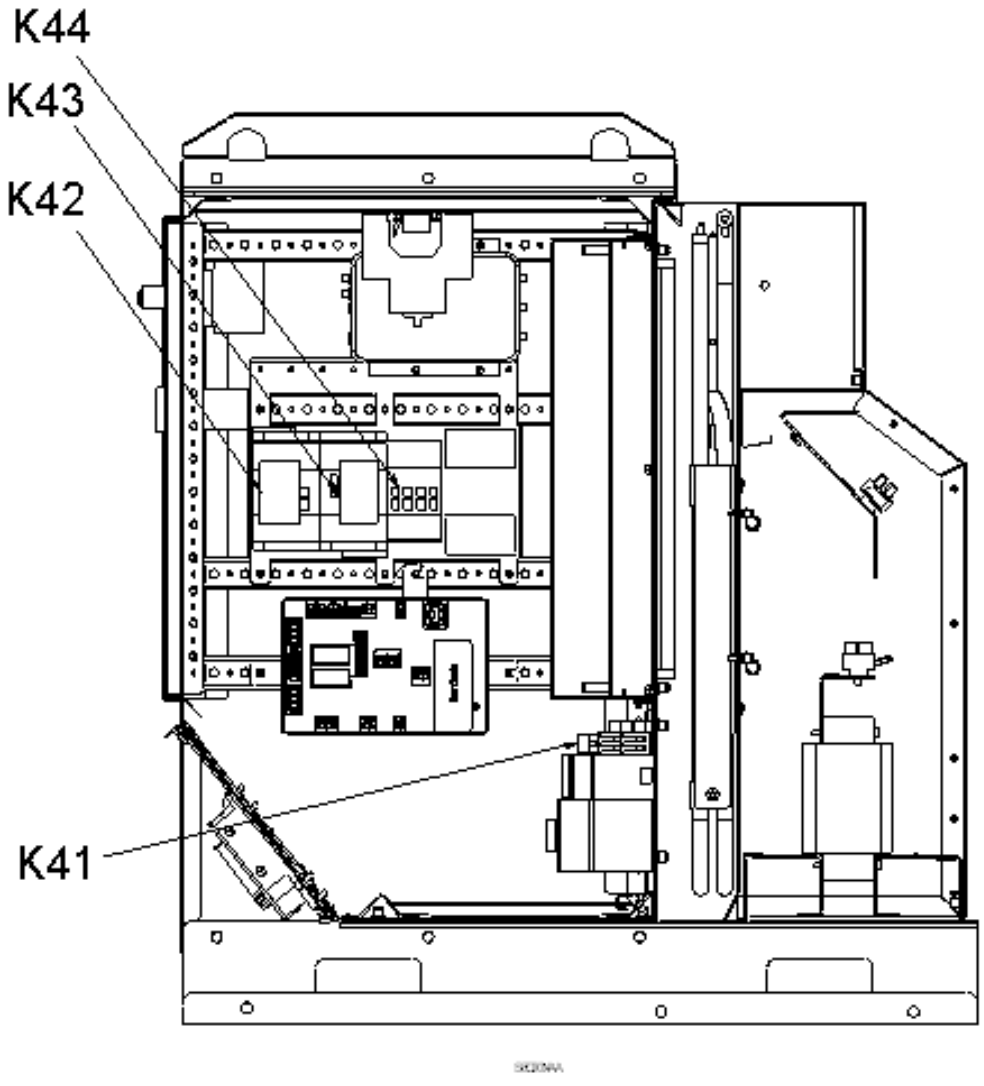
**Consequences**

The system cannot be operated or started at all.

**Possible causes**

The symptom can be caused by (the causes are listed in order of probability):

- The system is not supplied with power.
- The main transformer is not connected for the correct mains voltage.
- Circuit breaker F6 (if used) is malfunctioning or open for any other reason.
- Contactor K41 is malfunctioning or open for any other reason.




en1000000051

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

**Recommended actions**

| | Action | Information |
|---|---|---|
| 1 | Make sure the main switch has been switched on. | |
| 2 | Make sure the system is supplied with power. | Use a voltmeter to measure incoming mains voltage. |
| 3 | Check the main transformer connection. | The voltages are marked on the terminals. Make sure they match the shop supply voltage. |
| 4 | Make sure circuit breaker F6 (if used) is closed in position 3. | The circuit breaker F6 is shown in the circuit diagram in the product manual for the controller. |


© Copyright 2005-2020 ABB. All rights reserved.

## 2.5 No voltage in service outlet

### Description

Some controllers are equipped with service voltage outlet sockets, and this information applies to these modules only.

No voltage is available in the controller service outlet for powering external service equipment.

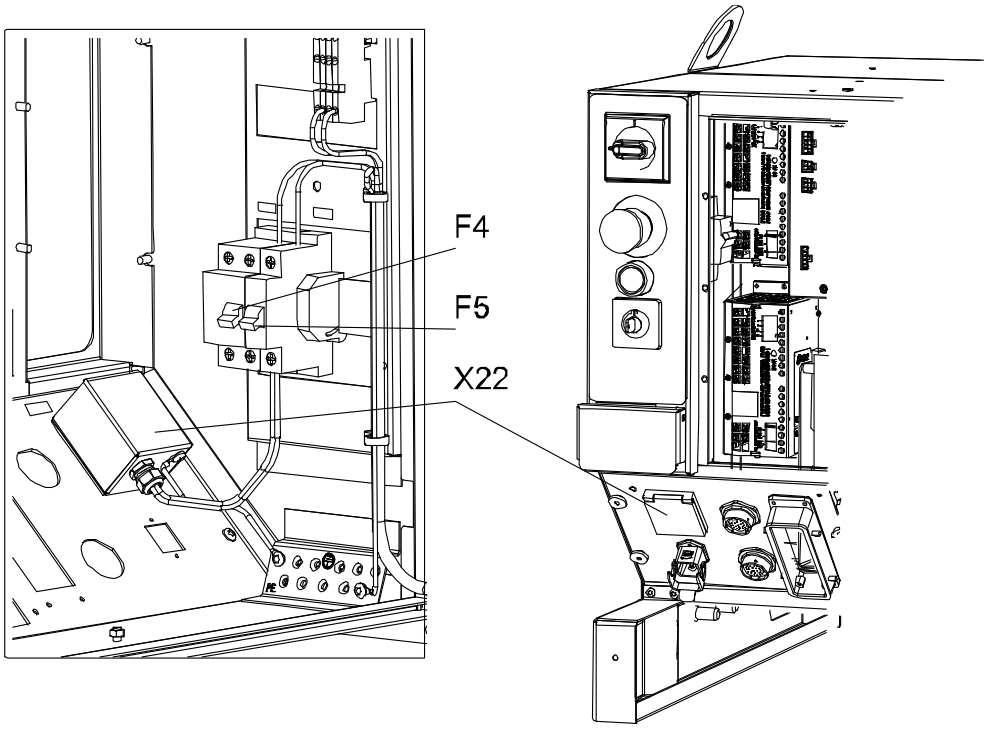
### Consequences

Equipment connected to the controller service outlet does not work.

### Probable causes

The symptom can be caused by (the causes are listed in order of probability):

- Tripped circuit breaker (F5)
- Tripped earth fault protection (F4)
- Mains power supply loss
- Transformers incorrectly connected




xx0500001403

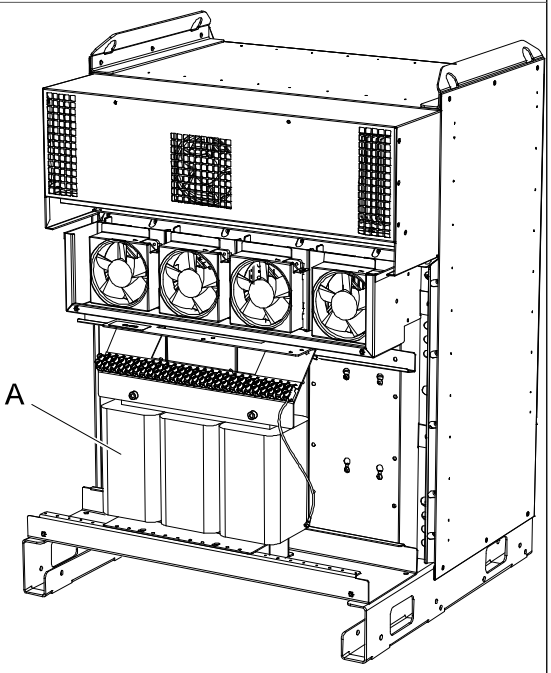
### Recommended actions

| | Action | Information |
|---|---|---|
| 1 | Make sure the circuit breaker in the controller has not been tripped. | Make sure any equipment connected to the service outlet does not consume too much power, causing the circuit breaker to trip. |

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

| | Action | Information |
|---|---|---|
| 2 | Make sure the earth fault protection has not been tripped. | Make sure any equipment connected to the service outlet does not conduct current to ground, causing the earth fault protection to trip. |
| 3 | Make sure the power supply to the robot system is within specifications. | Refer to the plant documentation for voltage values. |
| 4 | Make sure the transformer (A) supplying the outlet is correctly connected, i.e. input and output voltages in accordance with specifications. |  xx0500002028 Refer to the plant documentation for voltage values. |


© Copyright 2005-2020 ABB. All rights reserved.

## 2.6 Problem starting the FlexPendant

### Description

The FlexPendant is not responding, either completely or intermittently.

No entries are possible, and no functions are available.

If the FlexPendant starts but does not display a screen image, proceed as detailed in section *Problem connecting FlexPendant to the controller on page 29*.

### Consequences

The system cannot be operated using the FlexPendant.

### Possible causes

The symptom can be caused by (the causes are listed in order of probability):

- The system has not been switched on.
- The FlexPendant is not connected to the controller.
- The cable from the controller is damaged.
- The cable connector is damaged.
- FlexPendant power supply from controller is faulty.

### Recommended actions

The following actions are recommended (listed in order of probability):

| | Action | Information |
|---|---|---|
| 1 | Make sure the system is switched on and that the FlexPendant is connected to the controller. | How to connect the FlexPendant to the controller is detailed in *Operating manual - Getting started, IRC5 and RobotStudio*. |
| 2 | Inspect the FlexPendant cable for any visible damage. | If faulty, replace the FlexPendant. |
| 3 | If possible, test by connecting a different FlexPendant to eliminate the FlexPendant and cable as error sources. | |
| 4 | If possible, test the FlexPendant with a different controller to eliminate the controller as error source. | |


© Copyright 2005-2020 ABB. All rights reserved.

## 2.7 Problem connecting FlexPendant to the controller

### Description

The FlexPendant starts but does not display a screen image.

No entries are possible, and no functions are available.

See also section *Problem starting the FlexPendant on page 28*.

### Consequences

The system cannot be operated using the FlexPendant.

### Possible causes

The symptom can be caused by (the causes are listed in order of probability):

- The Ethernet network has problems.
- The main computer has problems.

### Recommended actions

The following actions are recommended (listed in order of probability):

| | Action | Information |
|---|---|---|
| 1 | Check all cables from power supply unit to main computer, making sure these are correctly connected. | |
| 2 | Make sure the FlexPendant has been correctly connected to the controller. | |
| 3 | Check all indication LEDs on all units in the controller. | All indication LEDs and their significance are specified in section *Troubleshooting LEDs in the controller on page 43*. |
| 4 | Check all status signals on the main computer. | |


© Copyright 2005-2020 ABB. All rights reserved.

## 2.8 Erratic event messages on FlexPendant

### Description

The event messages displayed on the FlexPendant are erratic and do not seem to correspond to any actual malfunctions on the robot. Several types of messages can be displayed, seemingly erroneously.

This type of fault may occur after major manipulator disassembly or overhaul, if not performed correctly.

### Consequences

Major operational disturbances due to the constantly appearing messages.

### Possible causes

The symptom can be caused by (the causes are listed in order of probability):

- Internal manipulator cabling not correctly performed. Causes may be: faulty connection of connectors, cable loops too tight causing the cabling to get strained during manipulator movements, cable insulation chafed or damaged by rubbing short-circuiting signals to earth.

### Recommended actions

The following actions are recommended (listed in order of probability):

| | Action | Information |
|---|---|---|
| 1 | Inspect all internal manipulator cabling, especially all cabling disconnected, connected re-routed or bundled during recent repair work. | Refit any cabling as detailed in the product manual for the robot. |
| 2 | Inspect all cable connectors to make sure these are correctly connected and tightened. | |
| 3 | Inspect all cable insulation for damage. | Replace any faulty cabling as detailed in the product manual for the robot. |


© Copyright 2005-2020 ABB. All rights reserved.

## 2.9 Problem jogging the robot

### Description

The system can be started but the joystick on the FlexPendant does not work.

### Consequences

The robot can not be jogged manually.

### Possible causes

The symptom can be caused by (the causes are listed in order of probability):

- The joystick is malfunctioning.
- The joystick may be deflected.

### Recommended actions

The following actions are recommended (listed in order of probability):

| | Action | Information |
|---|---|---|
| 1 | Make sure the controller is in manual mode. | How to change operating mode is described in *Operating manual - IRC5 with FlexPendant*. |
| 2 | Make sure the FlexPendant is connected correctly to the Control Module. | |
| 3 | Reset the FlexPendant. | Press Reset button located on the back of the FlexPendant.<br>**Note**<br>The Reset button resets the FlexPendant not the system on the Controller. |


© Copyright 2005-2020 ABB. All rights reserved.

## 2.10 Reflashing firmware failure

**Description**

When reflashing firmware, the automatic process can fail.

**Consequences**

The automatic reflashing process is interrupted and the system stops.

**Possible causes**

This fault usually occurs due to a lack of compatibility between hardware and software.

**Consequences**

The following actions are recommended (listed in order of probability):

| | Action | Information |
|---|---|---|
| 1 | Check the event log for a message specifying which unit failed. | The logs may also be accessed from RobotStudio. |
| 2 | Was the relevant unit recently replaced?<br>If YES; make sure the versions of the old and new unit is identical.<br>If NO; check the software versions. | |
| 3 | Was the RobotWare recently replaced?<br>If YES; make sure the versions of the old and new unit is identical.<br>If NO; proceed below! | |
| 4 | Check with your local ABB representative for a firmware version compatible with your hardware/software combination. | |


© Copyright 2005-2020 ABB. All rights reserved.

## 2.11 Inconsistent path accuracy

### Description

The path of the robot TCP is not consistent. It varies from time to time, and is sometimes accompanied by noise emerging from bearings, gearboxes, or other locations.

### Consequences

Uneven quality. Production is not possible.

### Possible causes

The symptom can be caused by (the causes are listed in order of probability):

- Robot not calibrated correctly.
- Robot TCP not correctly defined.
- Parallel bar damaged (applies to robots fitted with parallel bars only).
- Mechanical joint between motor and gearbox damaged. This often causes noise to be emitted from the faulty motor.
- Bearings damaged or worn (especially if the path inconsistency is coupled with clicking or grinding noises from one or more bearings).
- The wrong robot type may be connected to the controller.
- The brakes may not be releasing correctly.

### Recommended actions

The path accuracy depends on many factors. The following table describes the most common causes of problems with the path accuracy. Depending on your installation, the recommended working procedure is to work step by step, starting with the step that seems most plausible given your circumstances.

| | Action | Note |
|---|---|---|
| 1 | Study the path of the robot in motion, to find if an external force, for example, an external cable package, is colliding with or restricting the movement of the robot. | Remove the obstacles. |
| 2 | In high temperature environments, the material in the robot can expand, thereby causing inconsistent path accuracy. | Improve the ventilation around the robot. |
| 3 | Make sure the robot tool and work object are correctly defined. | How to define these are detailed in *Operating manual - IRC5 with FlexPendant*. |
| 4 | Check the positions of the revolution counters. | Update if required. |
| 5 | If required, recalibrate the robot axes. | How to calibrate the robot is detailed in the product manual for the robot. |
| 6 | If you hear noise that has not been there before, locate the source to define if a motor or bearing is faulty.<br>Study the path of the robot TCP to establish which axis, and thus which motor, may be faulty. | Replace the faulty motor, gearbox, or bearing as specified in the product manual for the robot. |

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

## 2.11 Inconsistent path accuracy

*Continued*

| | Action | Note |
|---|---|---|
| 7 | Check the trueness of the parallel bar (applies to robots fitted with parallel bars only). | Replace the faulty parallel bar as specified in the product manual for the robot. |
| 8 | Make sure the correct robot type is connected as specified in the system. | Update the system with the correct robot type, see *Operating manual - IRC5 Integrator's guide*. |
| 9 | Make sure the robot brakes work properly. | Proceed as detailed in section *Problem releasing Robot brakes on page 38*. |


© Copyright 2005-2020 ABB. All rights reserved.

## 2.12 Mechanical noise or dissonance

### Description

Mechanical noise or dissonance that has not been observed before can indicate problems in bearings, motors, gearboxes, or similar. Be observant of changes over time.

A faulty bearing often emits scraping, grinding, or clicking noises shortly before failing.

### Consequences

Failing bearings cause the path accuracy to become inconsistent, and in severe cases, the joint can seize completely.

### Possible causes

The symptom can be caused by:

- Worn bearings.
- Contaminations have entered the bearing grooves.
- Loss of lubrication in bearings.
- Loose heat sinks, fans, or metal parts.

If the noise is emitted from a gearbox, the following can also apply:

- Overheating.

### Recommended actions

The following actions are recommended:

| | Action | Information |
|---|---|---|
| 1 | **CAUTION**<br>Allow hot parts to cool down. | |
| 2 | Verify that the service is done according to the maintenance schedule. | |
| 3 | If a bearing is emitting the noise, determine which one and make sure that it has sufficient lubrication. | |
| 4 | If possible, disassemble the joint and measure the clearance. | |
| 5 | Bearings inside motors are not to be replaced individually, but the complete motor is replaced. | |
| 6 | Make sure the bearings are fitted correctly. | |
| 7 | Tighten the screws if a heat sink, fan, or metal sheet is loose. | |

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

2.12 Mechanical noise or dissonance
*Continued*

| | Action | Information |
|---|---|---|
| 8 | Too hot gearbox oil may be caused by:<br>• Incorrect oil quality or level.<br>• The robot work cycle runs a specific axis too hard. Investigate whether it is possible to program small "cooling periods" into the application.<br>• Overpressure created inside gearbox. | Robots performing certain, extremely heavy duty work cycles may be fitted with vented oil plugs. These are not fitted to normal duty robots, but can be purchased from your local ABB representative. |


© Copyright 2005-2020 ABB. All rights reserved.

## 2.13 Manipulator crashes on power down

### Description

The manipulator is able to work correctly while Motors ON is active, but when Motors OFF is active, one or more axes drops or collapses under its own weight.

The holding brakes (one in each motor), is not able to hold the weight of the manipulator arm.

### Consequences

For a heavy robot, the fault can cause severe injuries or death to personnel working in the area or severe damage to the robot and/or surrounding equipment.

For a small robot, the fault can cause injuries to personnel working close to the robot or damage to the robot and/or surrounding equipment.

### Possible causes

The symptom can be caused by:

- Faulty brake.
- Faulty power supply to the brake.

### Recommended actions

The following actions are recommended:

| | Action | Information |
|---|---|---|
| 1 | Determine which motor(s) causes the robot to collapse. | |
| 2 | Check the brake power supply to the collapsing motor during the Motors OFF state. | See the circuit diagram. |
| 3 | Remove the resolver or resolver cover of the motor to see if there are any signs of oil leaks. | If found faulty, the motor must be replaced as a complete unit. |
| 4 | Remove the motor from the gearbox to inspect it from the drive side. | If found faulty, the motor must be replaced as a complete unit. |


© Copyright 2005-2020 ABB. All rights reserved.

## 2.14 Problem releasing Robot brakes

**Description**

When starting robot operation or jogging the robot, the internal robot brakes must release in order to allow movements.

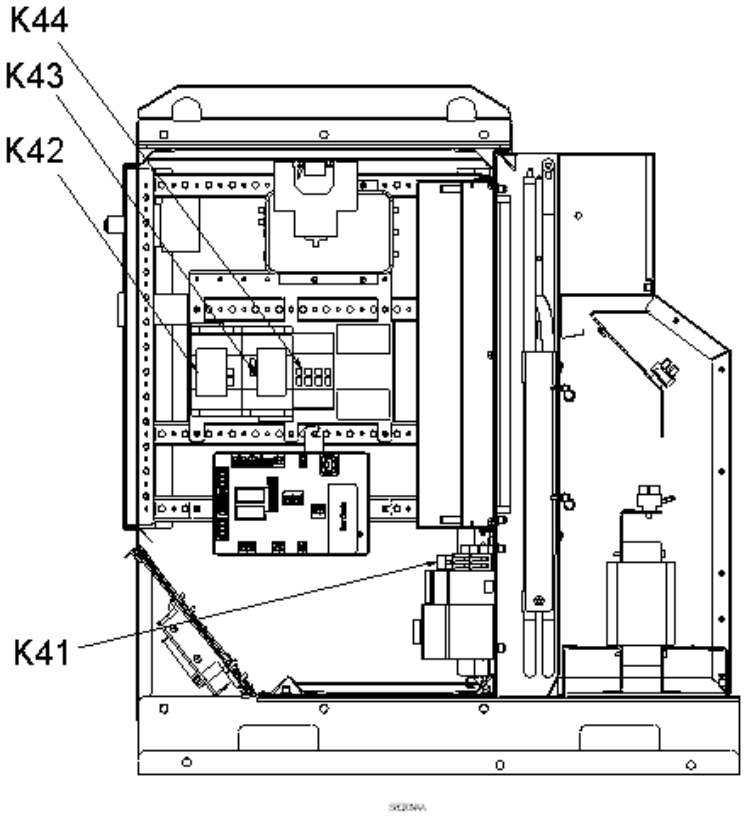
**Consequences**

If the brakes do not release, no robot movement is possible, and a number of error log messages can occur.

**Possible causes**

The symptom can be caused by (the causes are listed in order of probability):

- Brake contactor (K44) does not work correctly.
- The system does not go to status Motors ON correctly.
- Faulty brake on the robot axis.
- Supply voltage 24V BRAKE missing.




en1000000051

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

**Recommended actions**

This section details how to proceed when the robot brakes do not release.

| | Action | Information |
|---|---|---|
| 1 | Make sure the brake contactor is activated. | A ‘tick’ should be audible, or you may measure the resistance across the auxiliary contacts on top of the contactor. |
| 2 | Make sure the RUN contactors (K42 and K43) are activated. NOTE that **both** contactors must be activated, not just one! | A ‘tick’ should be audible, or you may measure the resistance across the auxiliary contacts on top of the contactor. |
| 3 | Use the push buttons on the robot to test the brakes.<br>If just one of the brakes malfunctions, the brake at hand is probably faulty and must be replaced.<br>If none of the brakes work, there is probably no 24V BRAKE power available. | The location of the push buttons differ, depending on robot model. Please refer to the product manual for the robot! |
| 4 | Check the power supply to make sure 24V BRAKE voltage is OK. | |
| 5 | A number of other faults within the system can cause the brakes to remain activated. In such cases, event log messages will provide additional information. | The event log messages can also be accessed using RobotStudio. |


© Copyright 2005-2020 ABB. All rights reserved.

## 2.15 Intermittent errors

### Description

During operation, errors and malfunctions may occur, in a seemingly random way.

### Consequences

Operation is interrupted, and occasionally, event log messages are displayed, that sometimes do not seem to be related to any actual system malfunction. This sort of problem sometimes affects the Emergency stop or Enable chains respectively, and may at times be very hard to pinpoint.

### Probable causes

Such errors may occur anywhere in the robot system and may be due to:

- external interference
- internal interference
- loose connections or dry joints, e.g. incorrectly connected cable screen connections.
- thermal phenomena , e.g. major temperature changes within the workshop area.

### Recommended actions

In order to remedy the symptom, the following actions are recommended (the actions are listed in order of probability):

| | Action | Info/illustration |
|---|---|---|
| 1 | Check all the cabling, especially the cables in the Emergency stop and Enable chains. Make sure all connectors are connected securely. | |
| 2 | Check if any indication LEDs signal any malfunction that may give some clue to the problem. | All indication LEDs and their significance are specified in section *Troubleshooting LEDs in the controller on page 43*. |
| 3 | Check the messages in the event log. Sometimes specific error combinations are intermittent. | The event log messages may be viewed either on the Flex-Pendant or using RobotStudio. |
| 4 | Check the robot's behavior, etc, each time that type of error occurs. | If possible, keep track of the malfunctions in a log or similar. |
| 5 | Check whether any condition in the robot working environment also changes periodically, e.g, interference from any electric equipment only operating periodically. | |
| 6 | Investigate whether the environmental conditions (such as ambient temperature, humidity, etc) has any bearing on the malfunction. | If possible, keep track of the malfunctions in a log or similar. |


© Copyright 2005-2020 ABB. All rights reserved.

## 2.16 Force starting of Boot Application

### Description

Robot Controller always runs in one of the following two modes:

- Normal operation mode (a user created system is selected to run)
- Boot Application mode (advanced maintenance mode)

In rare occasions, a serious error (in software or configuration of the selected system), may prevent the controller from starting properly in the normal operation mode. A typical case is when a controller is restarted after a network configuration change, causing the controller to be non responsive from FlexPendant, RobotStudio, or FTP. To rescue the robot controller from this situation, a new way (`force starting of Boot Application through main power switch`) to force start of the controller in Boot Application mode has been implemented.

### Consequences

The system has startup problems or the FlexPendant cannot connect to the system.

### Recommended action

Repeat the following action three times in a row:

1. Turn ON the main power switch.
2. Wait approximately for 20 seconds.
3. Turn OFF the main power switch.

The currently active system is de-selected and a forced start of Boot Application is done in the following startup. This makes it possible to rescue some data from a system that does not start properly.

**Note**

This action shall not affect any of the files in the directories belonging to the de-selected system and this action has no effect if the controller is already in the Boot Application mode.


© Copyright 2005-2020 ABB. All rights reserved.

This page is intentionally left blank

# 3 Troubleshooting by unit

## 3.1 Troubleshooting LEDs in the controller

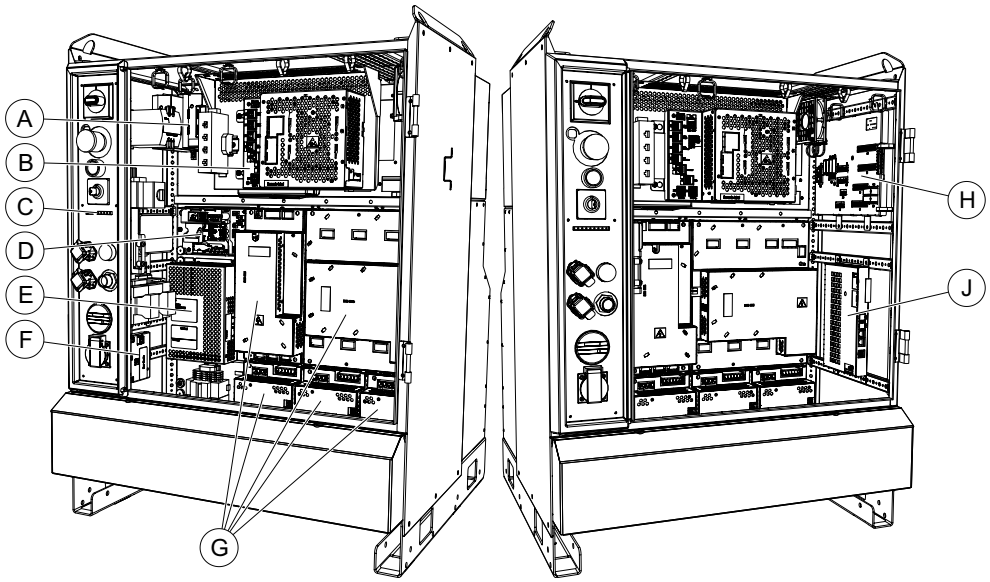
### General

The controller features a number of indication LEDs, which provide important information for troubleshooting purposes. If no LEDs light up at all when switching the system on, troubleshoot as detailed in section *All LEDs are off at controller on page 24*

All LEDs on the respective units, and their significance, are described in the following sections.

All units with LEDs are shown in the illustration below:

### Units with LEDs in the controller




xx1300000858

| | | |
|---|---|---|
| A | Customer I/O power supply | *Troubleshooting the customer I/O power supply on page 68* |
| B | Computer unit | *Troubleshooting the computer unit on page 48* |
| C | LED board | *LED board on page 44* |
| D | Power distribution board | *Troubleshooting the power distribution board on page 61* |
| E | System power supply | *Troubleshooting the system power supply on page 56* |
| F | Contactor interface board | *Troubleshooting the contactor interface board on page 66* |
| G | Drive system | *Troubleshooting the drive system on page 52* |
| H | Panel board | *Troubleshooting the panel board on page 50* |
| J | Axis computer | *Troubleshooting the axis computer on page 54* |

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

**LED board**

The function of the LEDs on the LED board are identical to those on the panel board, see section *Troubleshooting the panel board on page 50*.

Should the LED board not be working, but the panel board is, the problem is the communication between these boards or the LED board itself. Check the cabling between them.


© Copyright 2005-2020 ABB. All rights reserved.

## 3.2 Troubleshooting the FlexPendant

### General

The FlexPendant communicates, through the panel board, with the main computer. The FlexPendant is physically connected to the panel board through a cable in which the +24 V supply and two enabling device chains run and emergency stop.

### Procedure

The procedure below details what to do if the FlexPendant does not work correctly.

| | Action | Info/illustration |
|---|---|---|
| 1 | If the FlexPendant is completely is not responding, proceed as detailed in section *Problem starting the FlexPendant on page 28*. | |
| 2 | If the FlexPendant starts, but does not operate correctly, proceed as detailed in section *Problem connecting FlexPendant to the controller on page 29*. | |
| 3 | If the FlexPendant starts, seems to operate, but displays erratic event messages, proceed as detailed in section *Erratic event messages on FlexPendant on page 30*. | |
| 4 | Check the cable for connections and integrity. | |
| 5 | Check the 24 V power supply. | |
| 6 | Read the error event log message and follow any instructions of references. | |

### Restarting a locked FlexPendant

In case the FlexPendant is locked by a software error or misuse you can unlock it either using the joystick, or using the reset button (located on the back on FlexPendant with USB port).

Use this procedure to unlock the FlexPendant using the joystick.

| | Action | Information |
|---|---|---|
| 1 | Move the joystick to the right three times, with full deflection. | The joystick must be moved to its utmost limit. Therefore, use slow and distinct movements. |
| 2 | Move the joystick to the left once, with full deflection. | |
| 3 | Move the joystick down once, with full deflection. | |
| 4 | A dialog is displayed. Tap **Reset**. | The FlexPendant is restarted. |


© Copyright 2005-2020 ABB. All rights reserved.

## 3.3 Troubleshooting communications

### Overview

This section details how to troubleshoot data communication in the Control and Drive Modules.

### Troubleshooting procedure

When troubleshooting communication faults, follow the outline detailed below:

| | Action | Info/illustrations |
|---|---|---|
| 1 | Faulty cables (e.g. send and receive signals are mixed up). | |
| 2 | Transfer rates (baud rates). | |
| 3 | Data widths that are incorrectly set. | |


© Copyright 2005-2020 ABB. All rights reserved.

## 3.4 Troubleshooting fieldbuses and I/O units

**Further information**

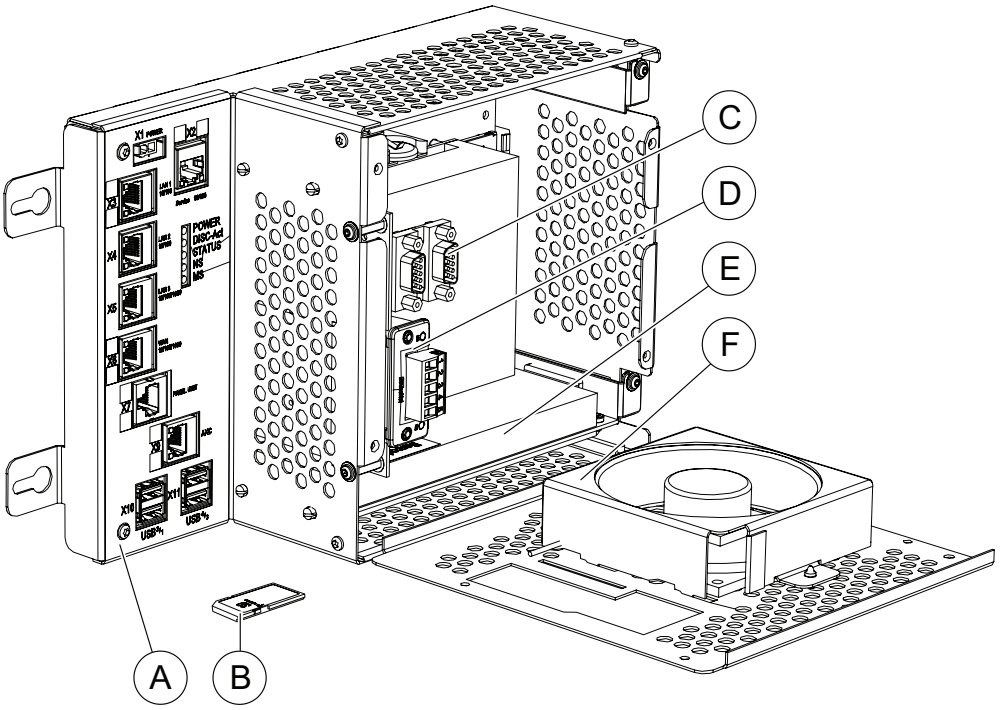
Information about how to troubleshoot the fieldbuses and I/O units can be found in the manual for the respective fieldbus or I/O unit.


© Copyright 2005-2020 ABB. All rights reserved.

## 3.5 Troubleshooting the computer unit

### Computer unit parts

The illustration below shows the placement of the parts in the computer unit.




xx1300000851

| | Description | Type |
|---|---|---|
| A | Computer unit | DSQC1000/DSQC1018/DSQC1024 |
| B | Mass Memory with boot loader 2GB | - |
| C | Expansion Board complete | DSQC1003 |
| D | PROFINET Slave Fieldbus Adapter | DSQC 688 |
| D | PROFIBUS Slave Fieldbus Adapter | DSQC 667 |
| D | Ethernet/IP Slave Fieldbus Adapter | DSQC 669 |
| D | DeviceNet Slave Fieldbus Adapter | DSQC1004 |
| E | DeviceNet Master/Slave PCIexpress | DSQC1006 |
| E | PROFIBUS-DP Master/Slave PCIexpress | DSQC1005 |
| F | Fan with receptacle | - |

For more information and spare part numbers, see the product manual for the controller.

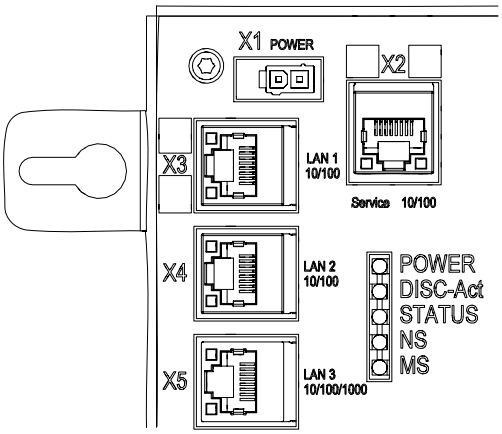
*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

## LEDs

The illustration below shows the LEDs on the computer unit:




xx1300000857

| Description | Significance |
|---|---|
| POWER<br>(green) | Normal startup:<br>• OFF, During a normal startup the LED is off until COM Express module inside the computer unit is started.<br>• SOLID ON, After completion of startup LED is solid on.<br>Failure during startup (off between blinks). One to four short blinks, one second off. This is repeated until power off.<br>• Internal fail of power, FPGA, and/or the COM Express module.<br>• Replace the computer unit.<br>Power failure during runtime (fast flashing between blinks). One to five blinks, 20 fast flashing blinks. This is repeated until power off.<br>• Temporary voltage drop, cycle the power to the controller.<br>• Check the power supply voltage to the computer unit.<br>• Replace the computer unit. |
| DISC-Act<br>(yellow) | (Disc activity.)<br>Indicates that the computer is writing to the SD-card. |
| STATUS<br>(red/green) | Startup sequence:<br>1 SOLID RED, loading bootloader.<br>2 FLASHING RED, loading image.<br>3 FLASHING GREEN, loading RobotWare.<br>4 SOLID GREEN, system ready.<br>Fault indication:<br>• SOLID RED forever, check the SD-card.<br>• FLASHING RED forever, check the SD-card.<br>• FLASHING GREEN forever, view error messages on FlexPendant or CONSOLE. |
| NS<br>(red/green) | (Network Status)<br>Not used. |
| MS<br>(red/green) | (Module Status)<br>Not used. |

Replace the computer unit if all LEDs are off but 24V PC is measured to be ok.

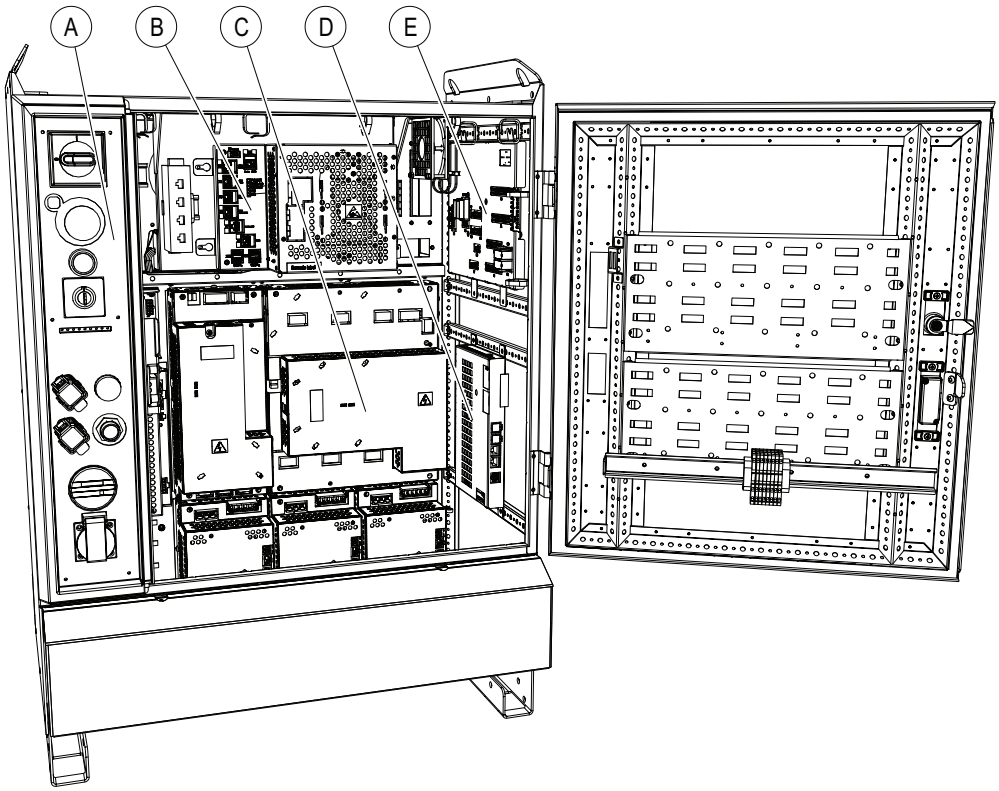
For information about the LEDs on the AnybusCC slave fieldbus adapter and the PCIExpress master/slave fieldbus board, see the corresponding fieldbus manual.


© Copyright 2005-2020 ABB. All rights reserved.

## 3.6 Troubleshooting the panel board

### Location

The panel board unit, DSQC 643, is located as shown in the illustration below.




xx1300000679

| | |
|---|---|
| A | Operator’s panel |
| B | Computer unit |
| C | Drive system |
| D | Axis computer |
| E | Panel board unit |

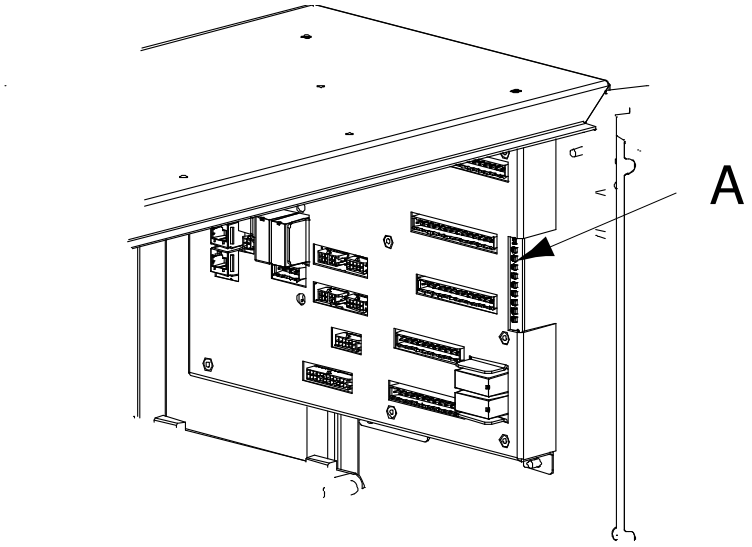
*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

## LEDs

The illustration below shows the LEDs on the Panel board:




xx0400001076

| | |
|---|---|
| A | Panel board LEDs |

The panel board LEDs are described from top to bottom below:

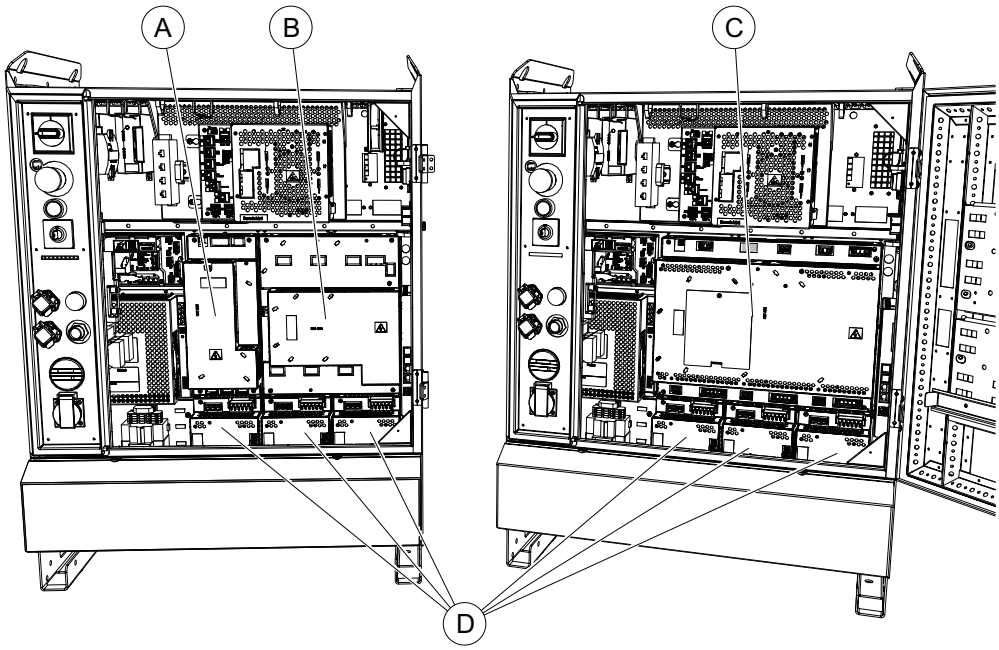
| Description | Significance |
|---|---|
| Status LED | GREEN flashing: serial communication error.<br>GREEN steady: no errors found and system is running.<br>RED flashing: system is in power up/self test mode.<br>RED steady: other error than serial communication error. |
| Indication LED, ES1 | YELLOW when Emergency stop (ES) chain 1 closed |
| Indication LED, ES2 | YELLOW when Emergency stop (ES) chain 2 closed |
| Indication LED, GS1 | YELLOW when General stop (GS) switch chain 1 closed |
| Indication LED, GS2 | YELLOW when General stop (GS) switch chain 2 closed |
| Indication LED, AS1 | YELLOW when Auto stop (AS) switch chain 1 closed |
| Indication LED, AS2 | YELLOW when Auto stop (AS) switch chain 2 closed |
| Indication LED, SS1 | YELLOW when Superior stop (SS) switch chain 1 closed |
| Indication LED, SS2 | YELLOW when Superior stop (SS) switch chain 2 closed |
| Indication LED, EN1 | YELLOW when ENABLE1=1 and RS-communication is OK |


© Copyright 2005-2020 ABB. All rights reserved.

## 3.7 Troubleshooting the drive system

### Location

The illustration shows the location of drive units in the controller.




xx1300000808

| | |
|---|---|
| A | Additional Rectifier Unit (only used for additional axes in combination with small robots) |
| B | Main Drive Unit for small robots |
| C | Main Drive Unit for large robots |
| D | Additional Drive Units (for additional axes) |

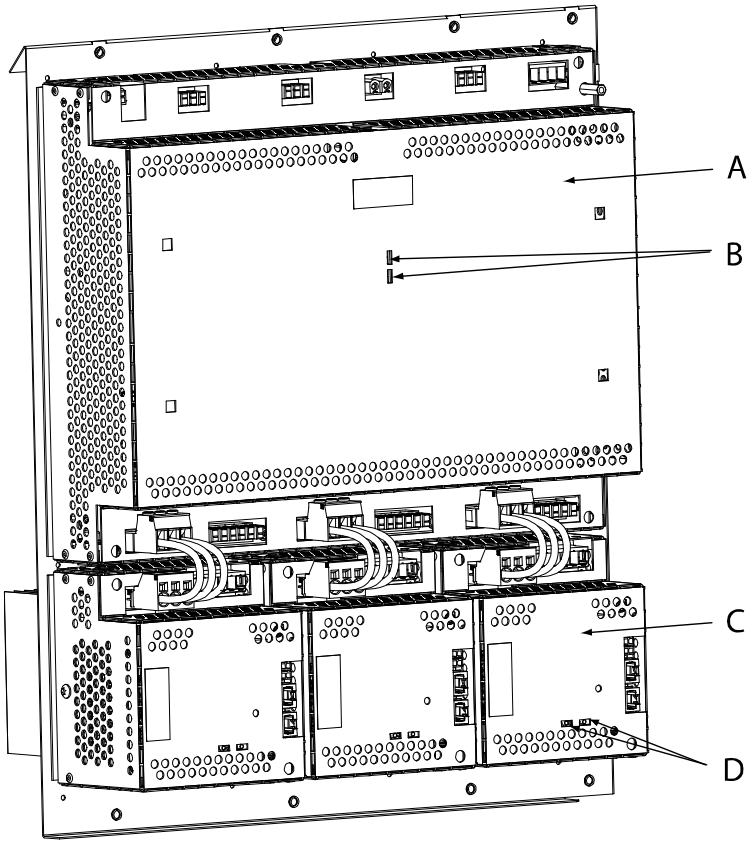
*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

## LEDs

The illustration below shows the indication LEDs on the Main Drive Unit and Additional Drive Units.




xx0800000486

| | |
|---|---|
| A | Main Drive Unit |
| B | Main Drive Unit Ethernet LEDs |
| C | Additional Drive Unit |
| D | Additional Drive Unit Ethernet LEDs |

| Description | Significance |
|---|---|
| Ethernet LEDs (B and D) | Shows the status of Ethernet communication between an additional axis computer (2, 3 or 4) and the Ethernet board.<br>• GREEN OFF:10 Mbps data rate has been selected.<br>• GREEN ON:100 Mbps data rate has been selected.<br>• YELLOW flashing: The two units are communicating on the Ethernet channel.<br>• YELLOW steady: A LAN link is established.<br>• YELLOW OFF: A LAN link is *not* established. |

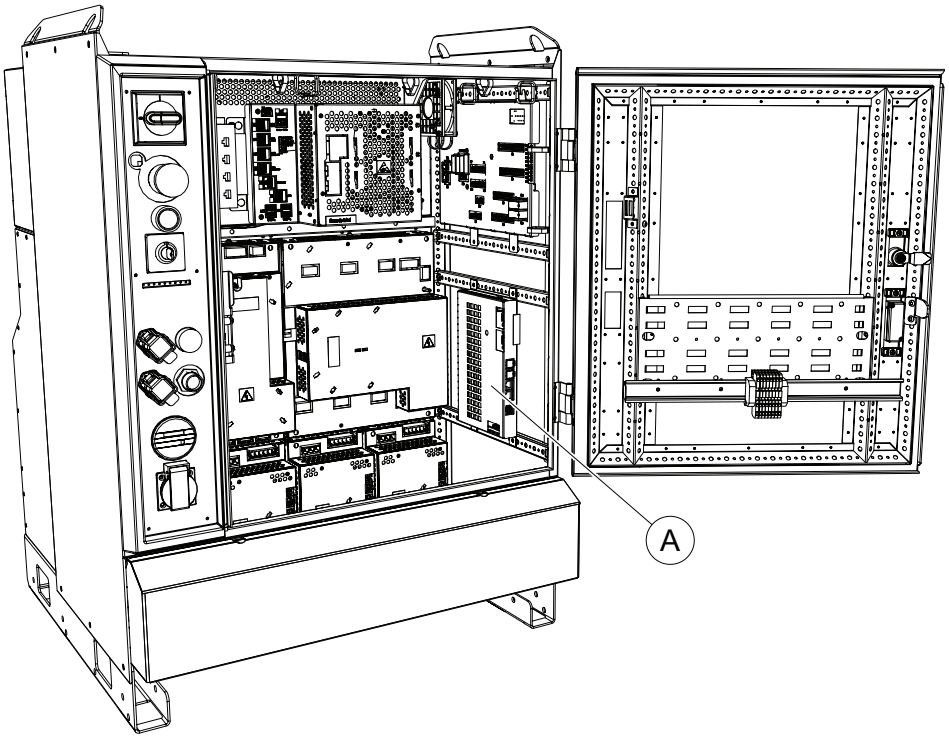


© Copyright 2005-2020 ABB. All rights reserved.

## 3.8 Troubleshooting the axis computer

### Location

The illustration below shows the location of the axis computer, DSQC 668, in the controller.

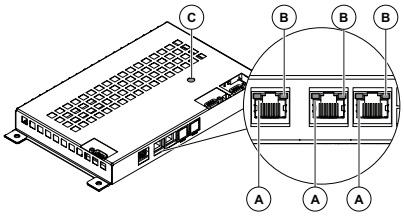



xx1300000809

| | |
|---|---|
| A | Axis computer |

### LEDs

The illustration below shows the LEDs on the Axis computer:




xx0800000485

| | |
|---|---|
| A | Ethernet LED (yellow) |
| B | Ethernet LED (green) |
| C | Status LED |

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

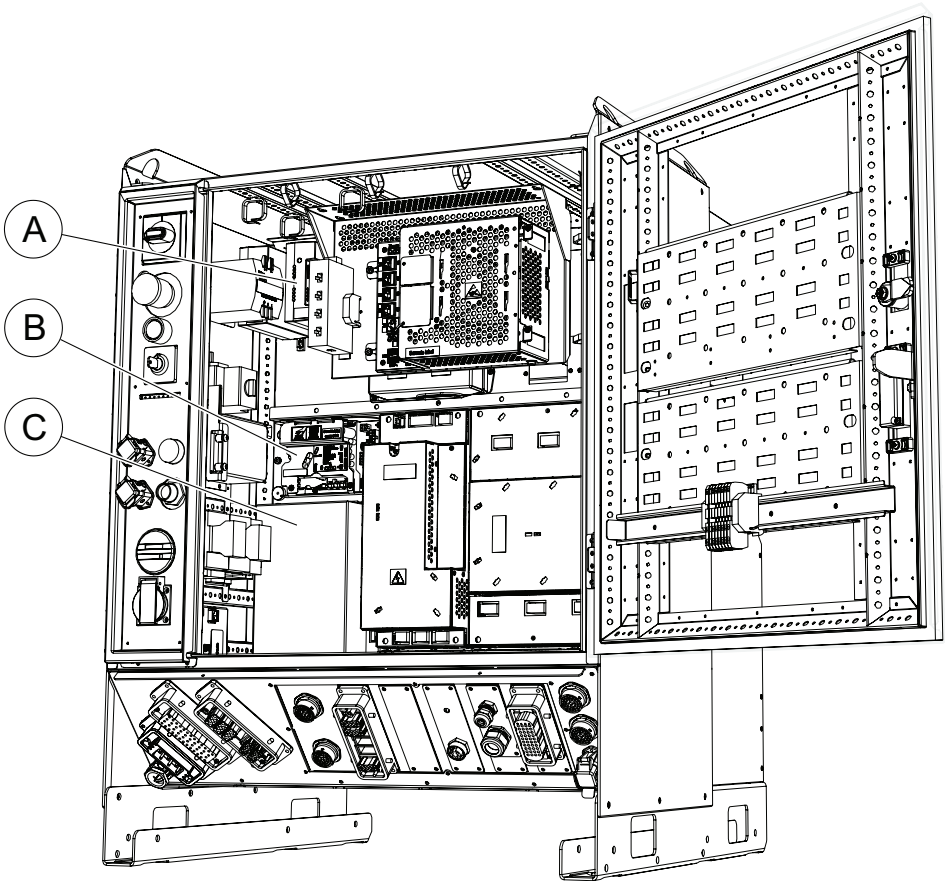
| Description | Significance |
|---|---|
| Status LED | Normal sequence during startup:<br>1 RED steady: Default at power-up.<br>2 RED flashing: Establish connection to main computer and load program to axis computer.<br>3 GREEN flashing: Start-up of axis computer program and connect peripheral units.<br>4 GREEN steady. Start-up sequence ready. Application is running.<br>The following indicates errors:<br>• OFF: No power to axis computer or internal error (hardware/firmware).<br>• RED steady (forever): The axis computer has failed to initialize basic hardware.<br>• RED flashing (forever): Missing connection to main computer, main computer start-up problem or RobotWare installation problem.<br>• GREEN flashing (forever): Missing connections to peripheral units or RobotWare start-up problem. |
| Ethernet LED | Shows the status of Ethernet communication between an additional axis computer (2, 3 or 4) and the Ethernet board.<br>• GREEN OFF:10 Mbps data rate has been selected.<br>• GREEN ON:100 Mbps data rate has been selected.<br>• YELLOW flashing: The two units are communicating on the Ethernet channel.<br>• YELLOW steady: A LAN link is established.<br>• YELLOW OFF: A LAN link is *not* established. |


© Copyright 2005-2020 ABB. All rights reserved.

## 3.9 Troubleshooting the system power supply

### Location

The illustration below shows the location of the system power supply, DSQC 661, in the controller.




xx1300000813

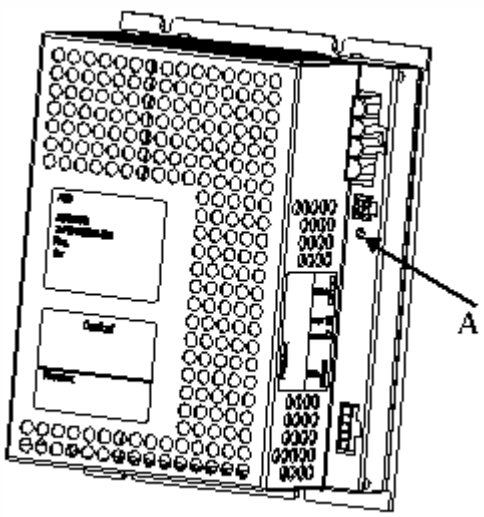
| | |
|---|---|
| A | Customer I/O power supply |
| B | Power distribution board |
| C | System power supply |

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

## LEDs




en1000000041

| | |
|---|---|
| A | DC OK indicator |

| Description | Significance |
|---|---|
| DC OK indicator | GREEN: When all DC outputs are above the specified minimum levels.<br>OFF: When one or more DC output/s below the specified minimum level. |

## Required test equipment

Equipment needed for troubleshooting:

- Ohmmeter
- Resistive load (e.g. main computer on +24V_PC)
- Voltmeter

## Preparations

| | Action |
|---|---|
| 1 | Check the FlexPendant for errors and warnings. |
| 2 | Make sure that the control system power supply is in run-time mode.<br>Do this by waiting 30 seconds after power-on. |

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### Troubleshooting procedure

The troubleshooting table is supposed to be used as a detailed instruction together with the troubleshooting flowchart.

| | Test | Note | Action |
|---|---|---|---|
| 1 | Check the indicator LED on DSQC 661. | The indicator LED is labelled as DC OK led. | If the LED is:<br>• GREEN, the DSQC 661 should be working properly.<br>• PULSING GREEN, the DC output is probably not connected to any unit (load) or there may be a short circuit on the output. Proceed with step 2.<br>• OFF, either the DSQC 661 is faulty or it does not have sufficient input voltage. Proceed with step 4. |
| 2 | Check connection between DC output and the connected unit. | Make sure that the power supply is connected to DSQC 662.<br>A minimum load of 2A is required on the DC output connector X2 for the DSQC 661 to work properly. | If the connection is OK, proceed with step 3.<br>If the connection is faulty or the power supply is not connected to DSQC 662, repair connection/connect it. Verify that the fault has been fixed and restart this guide if necessary. |
| 3 | Check for short circuit on DC output. | Check both the DC output connector X2 on DSQC 661 and the input connector X1 on DSQC 662.<br>Measure the resistance between voltage pins and ground. The resistance should not be *less than 10 ohms*.<br>**Note**<br>Do not measure the resistance between pins. Dual pins are used for both power supply and ground.<br>The DC output connector X2 is shown in the Circuit Diagram in *Product manual - IRC5*. | If no short circuit is found, proceed with step 4.<br>If a short circuit is found on DSQC 661, proceed with step 10.<br>If a short circuit is found on DSQC 662, get that unit working. Verify that the fault has been fixed and restart this guide if necessary. |

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

| | Test | Note | Action |
|---|---|---|---|
| 4 | Measure the DC voltage while the output is connected to DSQC 662 or some other load. | DSQC 661 requires a minimum load of 2A in order to deliver +24V.<br>Measure the voltage using a voltmeter at the DC output connector X2. The voltage should be: +24V < U < +27V.<br>If the voltage measured at the load falls below +24 V, voltage drops in the cables and connectors.<br>The DC output connector X2 is shown in the Circuit Diagram in *Product manual - IRC5*. | If the correct voltage is detected and the DC OK led is green, the power supply is working properly.<br>If the correct voltage is detected and the DC OK led is off, the power supply is regarded as faulty but does not have to be replaced instantly.<br>If no or the wrong voltage is detected, proceed with step 5. |
| 5 | Measure the input voltage to the DSQC 661. | Measure the voltage using a voltmeter. Voltage should be: 172 < U < 276V.<br>The AC input connector X1 is shown in the Circuit Diagram in *Product manual - IRC5*. | If the input voltage is correct, proceed with step 10.<br>If no or the wrong input voltage is detected, proceed with step 6. |
| 6 | Check switches Q1-2. | Make sure that they are closed.<br>Their physical location is shown in the Circuit Diagram in *Product manual - IRC5*. | If the switches are closed, proceed with step 7.<br>If the switches are open, close them. Verify that the fault has been fixed and restart this guide if necessary. |
| 7 | Check main fuse F2 and optional fuse F6 if used. | Make sure that they are open.<br>Their physical location is shown in the Circuit Diagram in *Product manual - IRC5*. | If the fuses are open, proceed with step 8.<br>If the fuses are closed, open them. Verify that the fault has been fixed and restart this guide if necessary. |
| 8 | Make sure that the input voltage to the cabinet is the correct one for that particular cabinet. | | If the input voltage is correct, proceed with step 9.<br>If the input voltage is incorrect, adjust it. Verify that the fault has been fixed and restart this guide if necessary. |
| 9 | Check the cabling. | Make sure that the cabling is correctly connected and not faulty. | If the cabling is OK, the problem is likely to be the transformer T1 or the input filter. Try to get this part of the supply working. Verify that the fault has been fixed and restart this guide if necessary.<br>If the cabling is found unconnected or faulty, connect/replace it. Verify that the fault has been fixed and restart this guide if necessary. |
| 10 | The DSQC 661 may be faulty, replace it and verify that the fault has been fixed. | How to replace the unit is detailed in *Product manual - IRC5*. | |

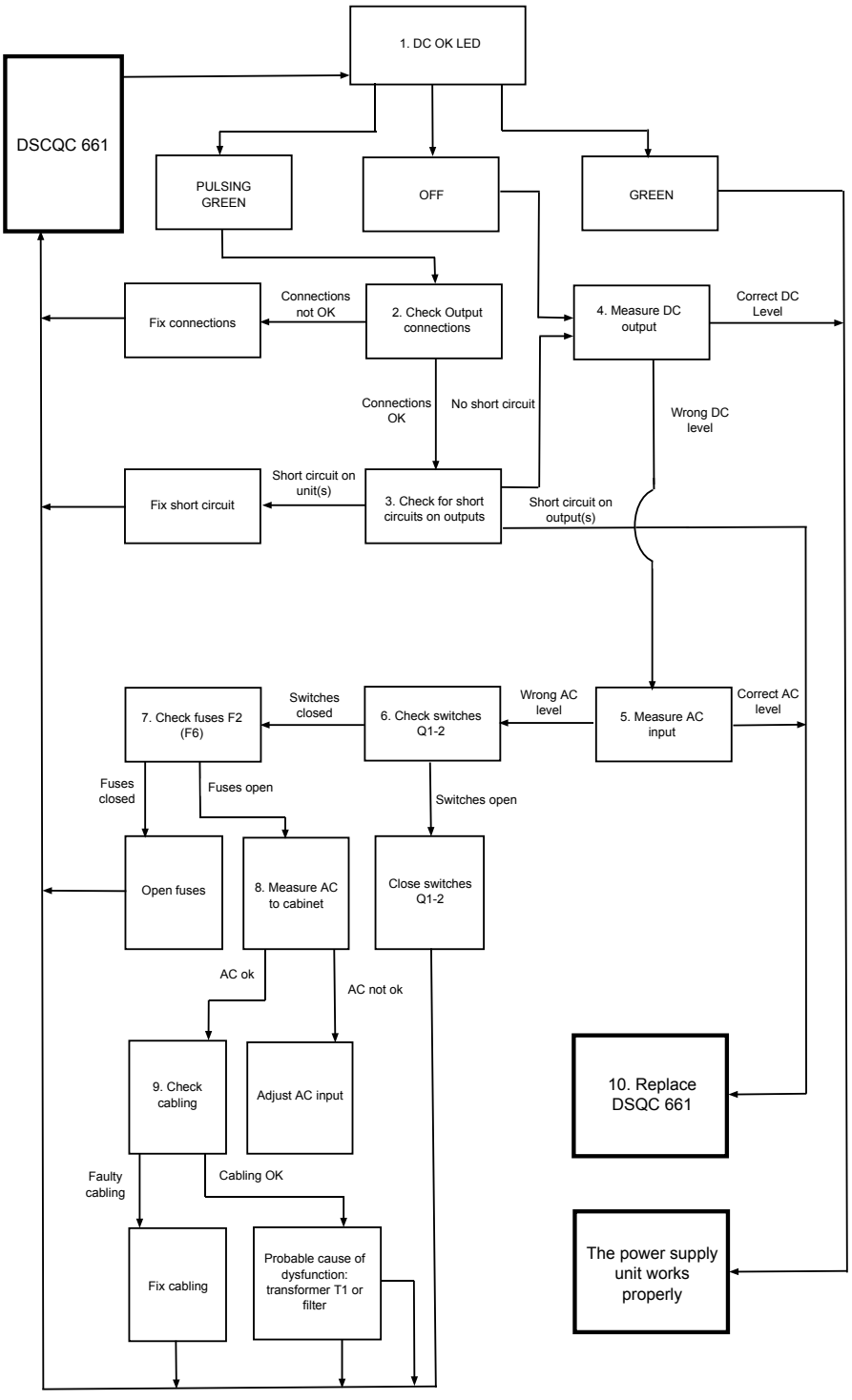
*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

## 3.9 Troubleshooting the system power supply
*Continued*

### Troubleshooting flowchart




xx1200001313

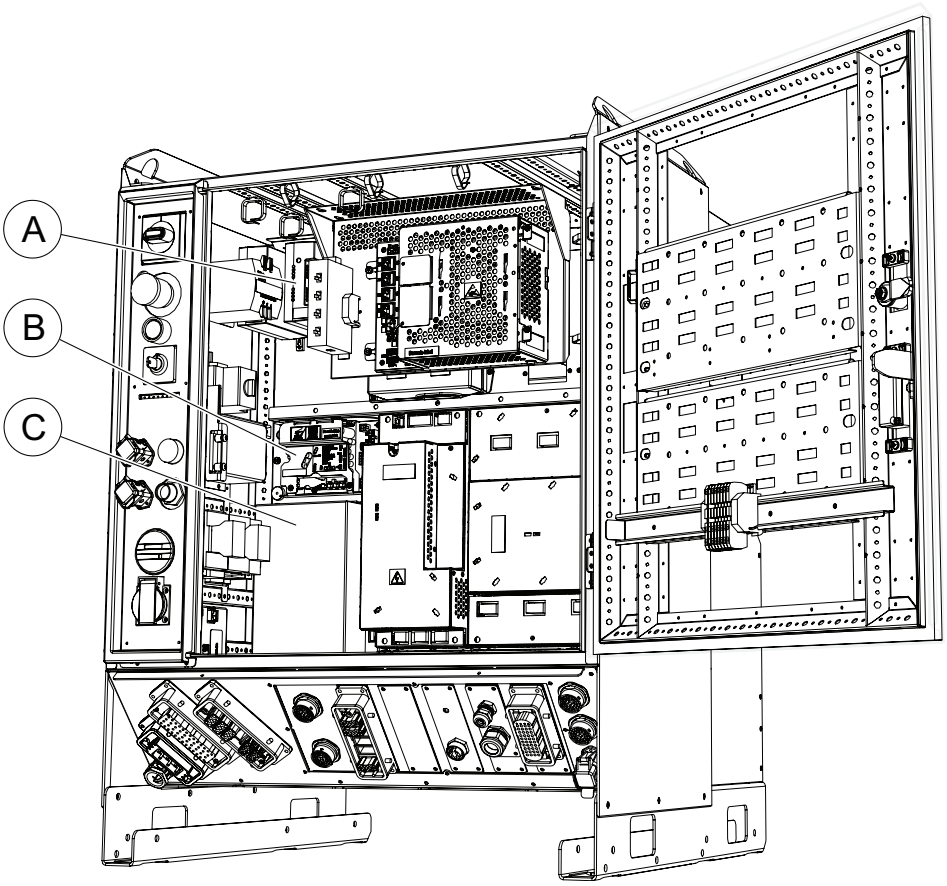


© Copyright 2005-2020 ABB. All rights reserved.

## 3.10 Troubleshooting the power distribution board

### Location

The power distribution board, DSQC 662, is located on the left side as shown in the illustration below.




xx1300000813

| | |
|---|---|
| A | Customer I/O power supply |
| B | Power distribution board |
| C | System power supply |

**CAUTION**

Hot surface on top of the power distribution board unit.

Risk of burns. Be careful when removing the unit.

Do not route or place cables on top of the power distribution board.

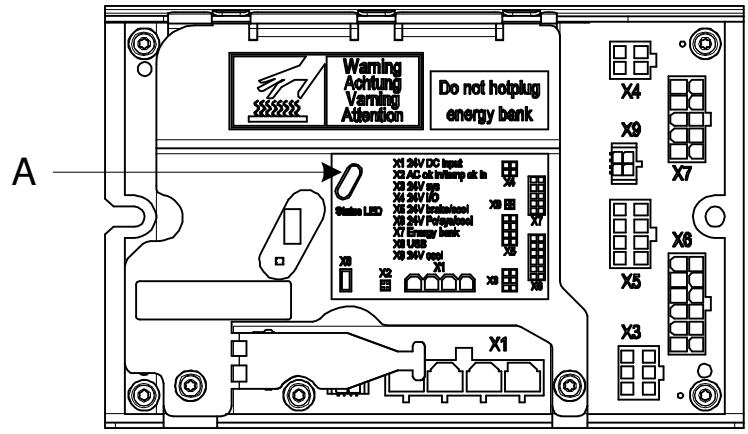
*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

3.10 Troubleshooting the power distribution board
*Continued*

## LEDs




en1000000042

| | |
|---|---|
| A | DCOK indicator |

| Description | Significance |
|---|---|
| DCOK indicator | GREEN: When DC output is above the specified minimum level.<br>OFF: When the DC output below the specified minimum level. |

## Required test equipment

Equipment needed for troubleshooting:

- Ohmmeter
- Resistive load (e.g. main computer on +24V_PC)
- Voltmeter

## Preparations

| | Action | Note |
|---|---|---|
| 1 | Check the FlexPendant for errors and warnings. | |
| 2 | Make sure that the power distribution board is in run-time mode.<br>Do this by waiting 1 minute after power-on. | **Note**<br>When the AC power has been cut off, the indicator LED (Status LED) on DSQC 662 will turn red and stay red until UltraCAP is empty. This may take a long time and is completely normal. It does not mean that there is something wrong with the 662. |

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### Troubleshooting procedure

The troubleshooting table is supposed to be used as a detailed instruction together with the troubleshooting flowchart.

| | Test | Note | Action |
|---|---|---|---|
| 1 | Check the indicator LED on DSQC 662. | The indicator LED is labelled Status LED. | If the LED is:<br>• GREEN, the DSQC 662 should be working properly.<br>• PULSING GREEN, a USB communication error has occurred. Proceed with step 2.<br>• RED, the input/output voltage is low, and/or the logic signal ACOK_N is high. Proceed with step 4.<br>• PULSING RED, one or more DC outputs are under specified voltage level. Make sure cables are properly connected to its respective units. Proceed with step 4.<br>• PULSING RED/GREEN, a firmware upgrade error has occurred. This is not supposed to happen during runtime mode, proceed with step 6.<br>• OFF, either the DSQC 662 is faulty or it does not have sufficient input voltage. Proceed with step 4. |
| 2 | Check USB connection on both ends. | | If the connection seems OK, proceed with step 6.<br>If there is a problem with the connection, proceed with step 3. |
| 3 | Try to fix the communication between the power supply and the computer by reconnecting the cable. | Make sure that the USB cable is properly connected on both ends. | If the communication comes back up, verify that the fault has been fixed and restart this guide if necessary.<br>If unable to fix the communication, proceed with step 6. |
| 4 | Disconnect one DC output at a time and measure its voltage. | Make sure that at least one unit is connected at all times. A minimum load of 0.5- 1A is required on at least one output for the DSQC 662 to work properly.<br>Measure the voltage using a voltmeter. The voltage should be: +24V < U < +27V.<br>The DC outputs are shown in the Circuit Diagram in *Product manual - IRC5*. | If the correct voltage is detected on all outputs and the Status LED is green, the power supply is working properly.<br>If the correct voltage is detected on all outputs and the Status LED is NOT green, the power supply is regarded as faulty but does not have to be replaced instantly.<br>If no or the wrong voltage is detected, proceed with step 5. |

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

3.10 Troubleshooting the power distribution board
*Continued*

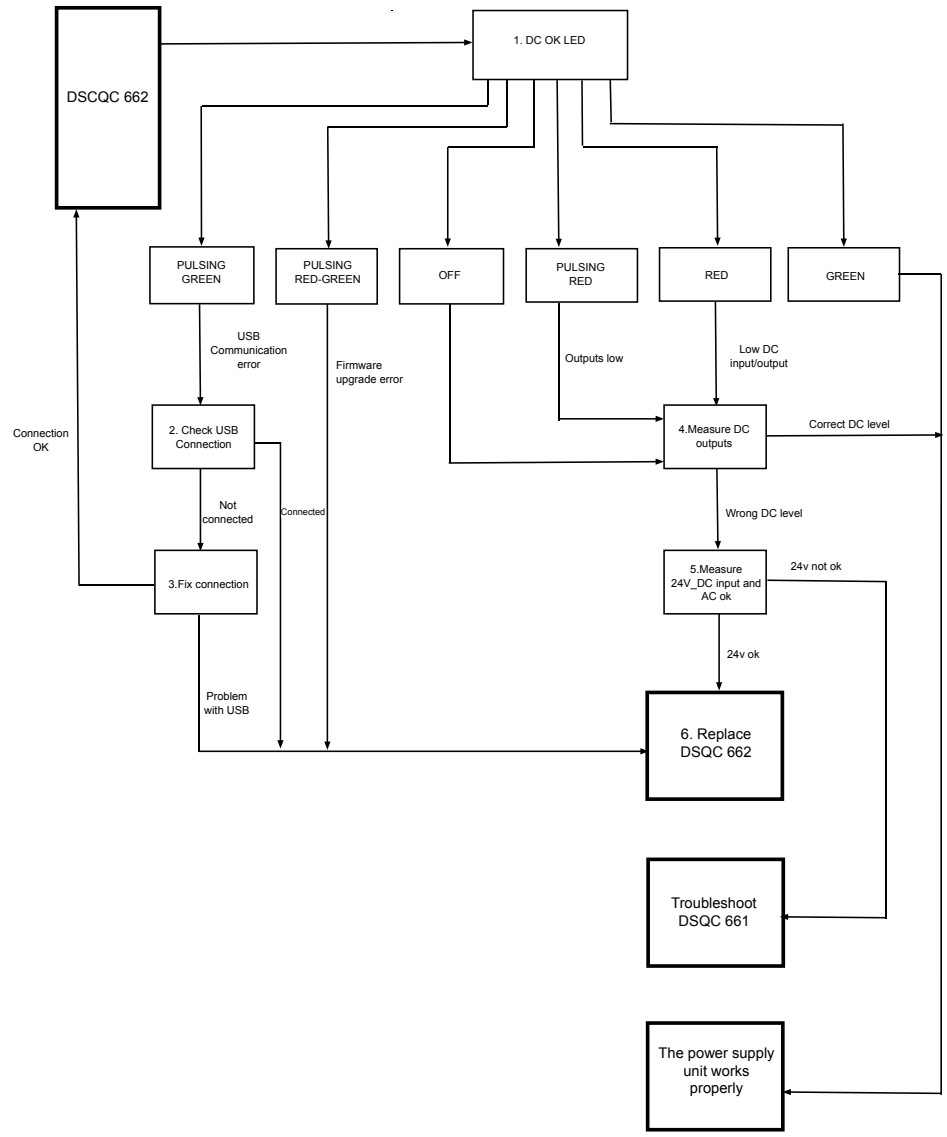
| | Test | Note | Action |
|---|---|---|---|
| 5 | Measure the input voltage to the DSQC 662 and the ACOK_N signal. | Measure the voltage using a voltmeter. Input voltage should be: 24 < U < 27V and ACOK_N should be 0V.<br>Make sure that connectors X1 and X2 are connected properly on both ends.<br>The DC input connector X1 and ACOK_N connector X2 are shown in the Circuit Diagram in *Product manual - IRC5*. | If the input voltage is correct, proceed with step 6.<br>If no or the wrong input voltage is detected, troubleshoot DSQC 661. |
| 6 | The DSQC 662 may be faulty, replace it and verify that the fault has been fixed. | How to replace the unit is detailed in *Product manual - IRC5*. | |

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

## Troubleshooting flowchart



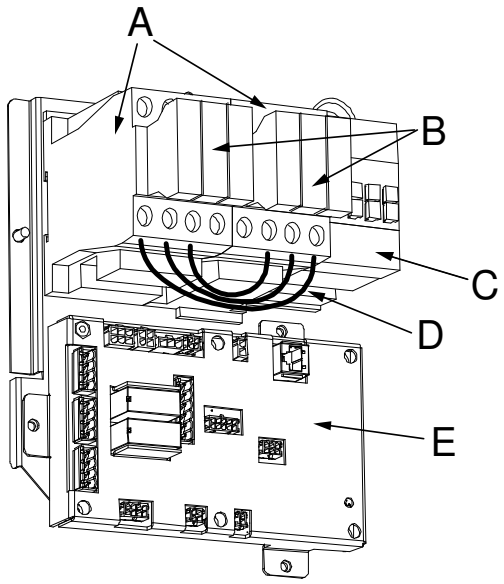

xx1200001314


© Copyright 2005-2020 ABB. All rights reserved.

## 3.11 Troubleshooting the contactor interface board

### Location

The illustration below shows the location of the contactor interface board, DSQC 611, in the controller.

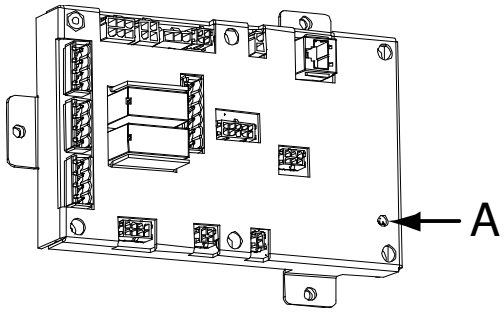



xx0400001058

| | |
|---|---|
| A | MOTOR ON contactor K42 |
| B | MOTOR ON contactor K43 |
| C | Brake contactor |
| D | Jumpers (3pcs) |
| E | Contactor interface board |

### LEDs

The illustration below shows the LEDs on the Contractor interface board:




xx0400001091

| | |
|---|---|
| A | Status LED |

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

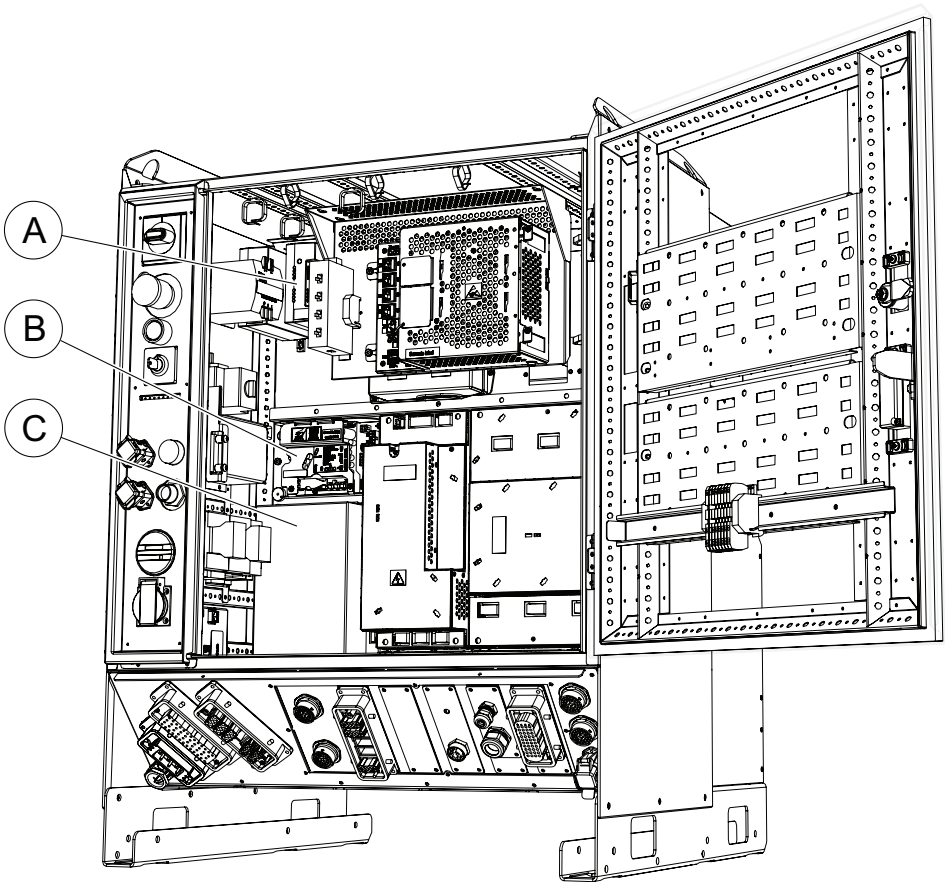
| Description | |
|---|---|
| Status LED | GREEN flashing: serial communication error.<br>GREEN steady: no errors found and system is running.<br>RED flashing: system is in power-up/self-test mode.<br>RED steady: other error than serial communication error. |


© Copyright 2005-2020 ABB. All rights reserved.

## 3.12 Troubleshooting the customer I/O power supply

### Location

The customer I/O power supply, DSQC 609, is located as shown in the figure below.




xx1300000813

| | |
|---|---|
| A | Customer I/O power supply |
| B | Power distribution board |
| C | System power supply |

**CAUTION**

If there are two or more Customer I/O power supply units mounted in a row and too close to each other, there will be a heating problem and the units can be damaged.

To avoid damaging the Customer I/O power supply units, the units must be separated with 3 pcs of exterior support.

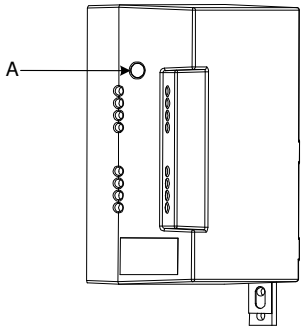
*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

## LEDs

The illustration below shows the LEDs on the Customer Power Supply Module:




en1000000037

| | |
|---|---|
| A | DCOK indicator |

| Description | Significance |
|---|---|
| DCOK indicator | GREEN: When all DC outputs are above the specified minimum levels.<br>OFF: When one or more DC output/s below the specified minimum level. |



© Copyright 2005-2020 ABB. All rights reserved.

This page is intentionally left blank

# 4 Troubleshooting by event log

## 4.1 Event log messages

### Type of event log messages

The IRC5 supports three types of event log messages:

| Type | Description |
|---|---|
| Information | These messages are used to log information into the event log, but that do not require specific actions on the part of the user. Informational messages do not take focus on a display device for the controller. |
| Warning | These messages are used to remind the user that something is not necessarily correct in the system but that operation continues. These messages are placed into the event log but do not take focus on a display device. |
| Error | These messages indicate something is seriously wrong with the system and that operation has stopped. They are used when an immediate action should be taken by the user. |

**Note**

The message type is not contained in the actual message text, but in the code itself when the message is generated. Messages can only appear as one type and the message should be written to provide information about its type.

**Note**

The version of the translated event logs as shown in the translated manuals may differ slightly to the English version due to late corrections.


© Copyright 2005-2020 ABB. All rights reserved.

## 4.2 How to read RAPID event log messages

### Event number series

The event messages are divided into the following groups depending on which part of the robot system it refers to.

> **Note**
>
> Not all event log messages are translated to all languages. However, the English version of the manual contains all event log messages that are included in the related RobotWare release.

| Number series | Type of event |
|---|---|
| 1 xxxx | Operational events; events dealing with handling of the system. |
| 2 xxxx | System events; events dealing with system functions, system states, and so on. |
| 3 xxxx | Hardware events; events dealing with system hardware, manipulators as well as controller hardware. |
| 4 xxxx | Program events; events dealing with RAPID instructions, data, and so on. |
| 5 xxxx | Motion events; events dealing with the control of the manipulator movements and positioning. |
| 7 xxxx | I/O events; events dealing with inputs and outputs, data buses, and so on. |
| 8 xxxx | User events; events defined by the user. |
| 9 xxxx | Functional safety events; events related to functional safety. |
| 11 xxxx | Process events; application specific events, arc welding, spot welding, and so on.<br>0001 - 0199 Continous Application Platform<br>0200 - 0399 Discrete Application Platform<br>0400 - 0599 Arc<br>0600 - 0699 Spot<br>0700 - 0799 Bosch<br>0800 - 0899 Dispense<br>1000 - 1200 Pick and Place<br>1400 - 1499 Production manager<br>1500 - 1549 BullsEye<br>1550 - 1599 SmartTac<br>1600 - 1699 Production Monitor<br>1700 - 1749 TorchClean<br>1750 - 1799 Navigator<br>1800 - 1849 Arcitec<br>1850 - 1899 MigRob<br>1900 - 2399 PickMaster RC<br>2400 - 2449 AristoMig<br>2500 - 2599 Weld Data Monitor<br>2600 - 2649 GSI<br>2700 - 2702 Integrated Vision<br>4800 - 4814 Miscellaneous Process |

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

| Number series | Type of event |
|---|---|
| 12 xxxx | Configuration events; events dealing with the configuration of the system. |
| 13 xxxx | Paint |
| 15 xxxx | RAPID |
| 17 xxxx | Connected Service Embedded event logs which are generated during starting, registering, unregistering, losing connectivity, and so on. |


© Copyright 2005-2020 ABB. All rights reserved.

## 4.3 1 xxxx

### 10002, Program pointer has been reset

**Description**

The program pointer of task *arg* has been reset.

**Consequences**

When started, program execution will start on the first instruction of the task's entry routine. NOTE that the manipulator may move to unexpected position when restarted!

**Probable causes**

The operator has probably requested this action manually.

### 10009, Work memory full

**Description**

The task *arg* has no memory left for new RAPID instructions or data.

**Recommended actions**

Save the program and then restart the system.

### 10010, Motors OFF state

**Description**

The system is in the Motors OFF state. It enters this state either after switching from Manual mode to Automatic, or after the Motors ON circuit has been opened during program execution.

**Consequences**

No operation will be possible until after closing the Motors ON circuit. The manipulator's axes are meanwhile held in position by mechanical holding brakes.

### 10011, Motors ON state

**Description**

The system is in the Motors ON state.

**Consequences**

The Motors ON circuit has been closed, enabling power supply to the manipulator's motors. Normal operation may be resumed.

### 10012, Safety guard stop state

**Description**

The system is in the Guard stop state. It enters this state either after switching from Automatic mode to Manual, or after the Motors ON circuit has been opened by an Emergency Stop, General Stop, Automatic Stop or Superior Stop, or in manual mode if enabling device was released.

**Consequences**

No operation will be possible until after closing the Motors ON circuit. The manipulator's axes are meanwhile held in position by mechanical holding brakes.

**Probable causes**

Any safety device connected to the system's stop inputs have been opened. These are shown in the Circuit Diagram.

**Recommended actions**

1 Check which safety device caused the stop.
2 Close the circuit.
3 To resume operation, switch the system back to state Motors ON.

### 10013, Emergency stop state

**Description**

The system is in the Emergency stop state, since the Motors ON circuit has been opened by an Emergency Stop device.

**Consequences**

All program execution and thus robot actions are immediately halted. The robot axes are meanwhile held in position by mechanical holding brakes.

**Probable causes**

Any emergency stop device connected to the emergency stop input have been opened. These may be internal (on the controller or on the FlexPendant) or external (devices connected by the system builder). The internal devices are shown in the Circuit Diagram.

**Recommended actions**

1 Check which emergency stop device caused the stop.
2 Close/reset the device.
3 To resume operation, switch the system back to state Motors ON by pressing this button on the Control Module.

### 10014, System failure state

**Description**

Execution of all NORMAL tasks has been stopped due to malfunction.

**Consequences**

No start of program execution or manual manipulator jogging will be possible until after the system has been restarted.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

**Probable causes**

A large number of malfunctions may cause this condition. Please use the FlexPendant or RobotStudio to check other event log messages for events occurring at this time!

**Recommended actions**

1 Determine what caused the stop by studying the event log.
2 Remedy the fault.
3 Restart the system as detailed in the Operating manual for the controller.

## 10015, Manual mode selected

**Description**

The system is in the Manual mode.

**Consequences**

Programmed operation is possible, but only with a max. speed of 250 mm/s. The manipulator may also be jogged manually after pressing the enabling device on the FlexPendant.

## 10016, Automatic mode requested

**Description**

The system has been ordered to go to the Automatic mode.

**Consequences**

The system will go to the Automatic mode after confirmed from FlexPendant.

## 10017, Automatic mode confirmed

**Description**

The system is in the Automatic mode.

**Consequences**

The enabling device is disconnected. The robot can move without human intervention.

## 10018, Manual mode full speed requested

**Description**

The system has been ordered to go to the Manual mode without any speed restraints.

**Consequences**

The system will go to the Manual mode full speed.

## 10019, Manual mode full speed confirmed

**Description**

The system is in the Manual mode without any speed restraints.

**Consequences**

Programmed operation is possible while pressing the hold-to-run button on the FlexPendant. The manipulator may also be jogged manually after pressing the enabling device on the FlexPendant.

## 10020, Execution error state

**Description**

The program execution in task *arg* has been stopped due to a spontaneous error.

**Consequences**

No program execution will be possible until the error has been removed.

**Probable causes**

A large number of malfunctions may cause this condition. Please use the FlexPendant or RobotStudio to check other event log messages for events occurring at this time!

**Recommended actions**

1 Determine what caused the stop by studying the event log.
2 Remedy the fault.
3 If necessary, move Program Pointer to main before pressing start button.

## 10021, Execution error reset

**Description**

The program execution in task *arg* has left a spontaneous error state.

## 10024, Collision triggered

**Description**

Some mechanical part of the manipulator has collided with a piece of fixed equipment in the cell.

**Consequences**

Manipulator movement is interrupted and program execution is stopped.

## 10025, Collision confirmed

**Description**

The collision detection has been confirmed.

**Recommended actions**

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 10026, Collision retraction

**Description**

The manipulator has attempted to back away from the obstacle, into which it collided, and succeeded.

**Consequences**

The system is ready to go back to normal operation.

### 10027, Collision retraction fail

**Description**

The manipulator has attempted to back away from the obstacle, into which it collided, and failed.

**Consequences**

The system is NOT ready to go back to normal operation.

**Probable causes**

This may be caused by the robot being stuck to the object into which it collided.

**Recommended actions**

1 Go to Manual Mode.
2 Manually run the robot away from the object.
3 Resume operation by restarting the program.

### 10030, All axes commutated

**Description**

After checking, the system has found all manipulator axes to be commutated.

**Consequences**

Normal operation is possible.

### 10031, All axes calibrated

**Description**

After checking, the system has found all manipulator axes to be calibrated.

**Consequences**

Normal operation is possible.

### 10032, All revolution counters updated

**Description**

After checking, the system has found all revolution counters for all manipulator axes to be updated.

**Consequences**

Normal operation is possible.

### 10033, All axes synchronized

**Description**

After checking, the system has found all manipulator axes to be synchronized.

**Consequences**

Normal operation is possible.

### 10034, Axis not commutated

**Description**

After checking, the system has found that one or more manipulator axes are not commutated.

**Consequences**

To enable operation, all manipulator axes must be commutated.

**Probable causes**

The manipulator drive motor and related units may have been altered, e.g. after replacing a faulty unit.

**Recommended actions**

Commutate the manipulator axes as detailed in the manipulator Product Manual.

### 10035, Axis not calibrated

**Description**

After checking, the system has found that one or more manipulator axes are not calibrated.

**Consequences**

To enable operation, all manipulator axes must be calibrated.

**Probable causes**

The manipulator drive motor and related units may have been altered, e.g. after replacing a faulty unit.

**Recommended actions**

Calibrate the manipulator axes as detailed in the manipulator Product Manual.

### 10036, Revolution counter not updated

**Description**

After checking, the system has found that the revolution counters of one or more manipulator axes are not updated.

**Consequences**

To enable operation, the revolution counters of all manipulator axes must be updated.

**Probable causes**

The manipulator drive motor and related units may have been altered, e.g. after replacing a faulty unit.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

**Recommended actions**

Update the revolution counters of all manipulator axes as detailed in the manipulator Product Manual.

## 10037, Axis not synchronized

**Description**

After checking, the system has found that one or more manipulator axes are not synchronized.

**Consequences**

To enable operation, all manipulator axes must be synchronized.

**Probable causes**

The manipulator drive motor and related units may have been altered, e.g. after replacing a faulty unit.

**Recommended actions**

Synchronize the manipulator axes as detailed in the manipulator Product Manual.

## 10038, Robot memory is OK

**Description**

During startup, the system has found that all data in the robot memory is OK.

**Consequences**

Operation is possible.

## 10039, Robot memory is not OK

**Description**

During startup, the system has found that data in the robot memory is not OK.

**Consequences**

All data must be OK before automatic operation is possible. Manually jogging the robot is possible.

**Probable causes**

There are differences between the data stored in the robot and the controller. This may be due to replacement of SMB-board, controller or both.

**Recommended actions**

1 Update the robot memory as detailed in Operating manual for the controller.

## 10040, Program loaded

**Description**

A program or program module has been loaded into task *arg*. After loading, *arg* bytes memory remain. The size of the loaded program is *arg* bytes.

## 10041, Program deleted

**Description**

A program or program module was deleted from task *arg*.

**Consequences**

If the deleted program contained the task entry routine, the program will no longer be executable.

**Probable causes**

The program may have been removed manually.

**Recommended actions**

1 Define an entry routine in one of the task's remaining programs, or:
2 Load a program containing an entry routine.

## 10042, Axis synchronized

**Description**

A fine calibration or update of revolution counter(s) was made.

## 10043, Restart failed

**Description**

The task *arg* can't restart.

## 10044, Program Pointer updated

**Description**

The task *arg* could have changed the Program Pointer position.

**Recommended actions**

## 10045, System restarted

**Description**

System was restarted.

**Recommended actions**

## 10046, System reset

**Description**

Loading the original system installation settings.

**Recommended actions**

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 10048, Background task did stop

**Description**

The task *arg* stopped without reason.

**Recommended actions**

### 10051, Event routine error

**Description**

The task *arg* could not start the specified system event routine *arg*. The routine is either unknown to the system or the program is unlinkable.

**Recommended actions**

1 Insert the routine in a system module or:
2 Correct the program or:
3 Make sure that someone else does not have mastership over motion.

### 10052, Regain start

**Description**

A regain movement has started.

**Recommended actions**

### 10053, Regain ready

**Description**

The regain movement is ready.

**Recommended actions**

### 10054, Regain rejected

**Description**

Regain on path not possible, as one client has already ordered it.

**Recommended actions**

A new regain movement is ordered during an already started regain movement. Reduce the number of start orders from e.g. system I/O

### 10055, Path process restarted

**Description**

The path process has been restarted.

**Recommended actions**

### 10056, System shutdown initiated

**Description**

System shutdown is now initiated and steps are taken to stop activities and store the current state for the next startup.

**Recommended actions**

### 10060, Test of enable chain

**Description**

The enable chain is always tested at startup. If the test failed an error message concerning enable will follow.

**Recommended actions**

If enable chain test at startup failed the related error message will be "Enable chain timeout"

### 10061, A target has been modified

**Description**

A target in module *arg* in task *arg* has been modified or tuned. Start line *arg*, column *arg*, end line *arg*.

### 10062, A module has been edited.

**Description**

Module *arg* in task *arg* has been edited between lines: *arg*, *arg* by *arg*.

### 10063, Module has been edited

**Description**

Module *arg* in task *arg* has been edited.

### 10064, A module has been erased.

**Description**

Module *arg* in task *arg* has been erased.

### 10065, New user has started to modify RAPID.

**Description**

User *arg* has started with RAPID program modifications in task *arg*.

### 10066, Not possible to load system module

**Description**

System module *arg* in task *arg* cannot be loaded since the file is not found.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

## 10067, Program Pointer Reset

**Description**

Unable to reset the program pointer for task *arg*.

**Consequences**

The program will not start.

**Probable causes**

- No program is loaded.
- The main routine is missing.
- There are errors in the program.

**Recommended actions**

1 Load program if no program is loaded.
2 Check that the program has a main routine. If there is no main routine, add one.
3 Check for errors in the program and correct them.
4 See previous error messages in the Event log.

## 10068, Start Program

**Description**

Unable to start program for task *arg*.

**Consequences**

The program will not execute.

## 10074, NFS server up

**Description**

The control system communicates correctly with the NFS server *arg*.

## 10075, NFS server down

**Description**

The control system is not able to communicate correctly with the NFS server *arg*.

**Consequences**

If the server *arg* is defined as TRUSTED, robot program execution will be stopped. If the server is defined as NON-TRUSTED, execution will proceed. These definitions are specified in the Application manual - Controller software.

**Probable causes**

If this message is displayed at first start-up, the server configuration may be incorrect. If displayed during operation, the previously working communication has been lost due to a broken connection. Also see the I/O event log!

**Recommended actions**

1 Check the NFS server configuration.
2 Check all communication hardware, cables and such.
3 Check NFS client configuration on the controller.

## 10076, FTP server up

**Description**

The control system communicates correctly with the FTP server *arg*.

## 10077, FTP server down

**Description**

The control system is not able to communicate correctly with the FTP server *arg*.

**Consequences**

If the server *arg* is defined as TRUSTED, robot program execution will be stopped. If the server is defined as NON-TRUSTED, execution will proceed. These definitions are specified in the Application manual - Controller software.

**Probable causes**

If this message is displayed at first start-up, the server configuration may be incorrect. If displayed during operation, the previously working communication has been lost due to a broken connection. Also see the I/O event log!

**Recommended actions**

1 Check the FTP server configuration.
2 Check all communication hardware, cables and such.
3 Check the FTP client configuration on the controller.

## 10078, A module has been edited

**Description**

Module *arg* in task *arg* has been edited before line: *arg* by *arg*.

## 10079, A module has been edited

**Description**

Module *arg* in task *arg* has been edited after line: *arg* by *arg*.

## 10080, An updated RAPID file is found

**Description**

The SEMISTATIC task *arg* has an older version of a module installed than the source *arg*

**Recommended actions**

Restart the system with a "Reset RAPID" to install the newer version.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 10081, Background task *arg*

**Description**

Failed to load a newer version of a module. The source of the module is *arg*.

**Recommended actions**

See previous messages for the possible root cause or restart the system with a "Reset RAPID" to load the newer version.

### 10082, RAPID Task supervision

**Description**

Task *arg* is not running. The system will be set in SysFail state. It's now impossible to change to motors on *arg*.

**Recommended actions**

See previous messages for the cause. Restart the system to reset the error state.

### 10083, RAPID Task supervision

**Description**

Task *arg* is not running. The system will be set in motors off state. *arg*

**Recommended actions**

See previous messages for the cause.

### 10084, RAPID Task supervision

**Description**

Task *arg* is not running. All NORMAL tasks will also be stopped.

**Recommended actions**

See previous messages for the cause.

### 10085, RAPID Task supervision

**Description**

Task *arg* can't be stopped. The trustLevel is set to a safety level.

**Recommended actions**

If the task should be possible to stop change the trustLevel or task type in the system parameters menu.

### 10086, Robot is purged OK

**Description**

Purging pressure regained after a purge fault.

**Recommended actions**

### 10087, Purge state: *arg*.

**Description**

State changed.

**Recommended actions**

### 10090, Reset RAPID done

**Description**

Reset RAPID is done.

**Consequences**

After restart the system's state will be resumed except for manually loaded programs and modules. Static and semistatic tasks are restarted from the beginning, not from the state they had when the system was stopped.
Modules will be installed and loaded in accordance with the set configuration. System parameters will not be affected.

**Probable causes**

1 Reset RAPID was ordered by the user.
2 The system forced Reset RAPID due to inconsistent data, malfunction or unrecoverable task state.

### 10091, Restart not possible

**Description**

A restart after collision detection is not possible before acknowledge the error dialogue.

**Recommended actions**

### 10092, (Re)start not possible

**Description**

(Re)start is not possible due to lost contact with IO module *arg* configured with trustlevel.

**Recommended actions**

### 10093, (Re)start not possible

**Description**

(Re)start of task *arg* is not possible before a controller restart is done.

**Recommended actions**

The background task is configured with Trustlevel set to SysHalt

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 10095, At least one task is unchecked in the task selection panel

**Description**

One or more of the NORMAL tasks are unchecked in the task selection panel when performing a (re)start.

**Recommended actions**

### 10096, *arg* not active!

**Description**

The workobject *arg* contains a coordinated mechanical unit which is not activated.

**Recommended actions**

Activate the mechanical unit and perform the operation again.

### 10097, Restart not possible

**Description**

The task *arg* is set in blocked state and the program is for that reason not possible to restart from the current program position.

**Recommended actions**

The Program Pointer must be moved before restart.

### 10098, Restart not possible

**Description**

The task *arg* has been in system failure state and the program is for that reason not possible to restart from the current program position.

**Recommended actions**

The Program Pointer must be moved before restart.

### 10099, Program start rejected

**Description**

The system has performed a soft stop, and the program may not be restarted.

**Consequences**

The system goes to the Motors OFF state and cannot be started. The full meaning of this status is described in the Trouble shooting manual, IRC5.

**Probable causes**

The soft stop may be caused by opening the safety circuit.

**Recommended actions**

1 Check the safety circuits for an open switch.
2 Go to Motors ON and restart the program.

### 10106, Time for service

**Description**

It's time for service for robot *arg* because it is *arg* days since the last service.

**Recommended actions**

### 10107, Close to service

**Description**

It remains *arg* days for robot *arg* until it's time for service.

**Recommended actions**

### 10108, Time for service

**Description**

It's time for service for robot *arg* cause it's *arg* hours of production since last service.

**Recommended actions**

### 10109, Close to service

**Description**

It remains *arg* hours of production for robot *arg* to next service.

**Recommended actions**

### 10110, Gearbox needs service

**Description**

The gearbox at *arg* of robot *arg* needs service.

**Recommended actions**

### 10111, Gearbox reached service interval

**Description**

The gearbox at *arg* of robot *arg* has reached *arg* of its service interval.

**Recommended actions**

### 10112, SIS calendar notification

**Description**

The system date and time has changed.
This could cause problems with the SIS calendar notification.

**Recommended actions**

The SIS parameters Calendar Limit and Calendar Warning might need to be changed

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 10115, Serial memory data are moved from robot memory to controller memory

**Description**

Serial memory data are moved from robot memory to controller memory by *arg*.

**Recommended actions**

### 10116, Serial memory data are moved from controller memory to robot memory

**Description**

Serial memory data are moved from controller memory to robot memory by *arg*.

**Recommended actions**

### 10117, Serial memory data in robot memory is cleared

**Description**

Serial memory data in robot memory is cleared by *arg*.

**Recommended actions**

### 10118, Serial memory data in controller memory is cleared

**Description**

Serial memory data in controller memory is cleared by *arg*.

**Recommended actions**

### 10120, Program stopped

**Description**

The task *arg* has stopped. The reason is that an external or internal stop after current instruction has occurred.

**Recommended actions**

### 10121, Program stopped

**Description**

The task *arg* has stopped. The reason is that the task has reached an exit instruction.

**Recommended actions**

### 10122, Program stopped

**Description**

The task *arg* has stopped. The reason is that the task is ready.

**Recommended actions**

### 10123, Program stopped

**Description**

The task *arg* has stopped. The reason is that the task is ready with this step.

**Recommended actions**

### 10124, Program stopped

**Description**

The task *arg* has stopped. The reason is that the task has reached a break instruction.

**Recommended actions**

### 10125, Program stopped

**Description**

The task *arg* has stopped. The reason is that an external or internal stop has occurred.

**Recommended actions**

### 10126, Program stopped

**Description**

The task *arg* has stopped. The reason is that an error has occurred.

**Recommended actions**

### 10127, Backward execution not possible

**Description**

The task *arg* has stopped. The reason is that it is not possible to execute backward past beginning of instruction list.

**Recommended actions**

### 10128, Backward execution not possible

**Description**

The task *arg* has stopped. The reason is that it is not possible to execute backward past the instruction.

**Recommended actions**

### 10129, Program stopped

**Description**

The task *arg* has stopped. The reason is that the event routine for RESET or POWER_ON is ready.

**Recommended actions**

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 10130, Program stopped

**Description**

The task *arg* has stopped. The reason is that the task is ready with this move step.

**Recommended actions**

### 10131, Program stopped

**Description**

The task *arg* has stopped. The reason is that the routine called from system IO interrupt or a service routine is ready.

**Recommended actions**

### 10132, Program stopped

**Description**

The task *arg* has stopped. The reason could not be determined.

**Recommended actions**

### 10133, Program stopped

**Description**

The task *arg* has stopped. The reason is that the task is ready with the execution of the UNDO handlers.

### 10134, POWER_ON event routine stopped

**Description**

The system was stopped while execution a POWER_ON event routine.

**Consequences**

WARNING: Moving program pointer will leave the system in an undefined state because many applications rely on the POWER_ON routine completion.

**Probable causes**

POWER_ON event routines can be stopped for many reasons. You may need to look for other event log messages but the normal ones are:

1 Stop button
2 Rapid Stop instruction
3 Execution error

**Recommended actions**

Unless there is an error then the POWER_ON routines will complete their task if you press start and when done then execution will stop again, without any normal RAPID code being executed.

### 10135, Program stopped

**Description**

The task *arg* has stopped. The reason is that an external or internal stop after current cycle has occurred.

**Recommended actions**

### 10136, Program stopped

**Description**

The task *arg* has stopped. The reason is that the task has reached a stop instruction.

**Recommended actions**

### 10137, Program stopped

**Description**

The task *arg* has stopped. The reason is that the task has reached a stop\AllMoveTask instruction.

**Recommended actions**

### 10138, Program stopped

**Description**

The task *arg* has stopped. The reason is that an stop from system input has occurred.

**Recommended actions**

### 10140, Speed adjusted

**Description**

The speed has been adjusted to *arg*% by *arg*.

### 10141, Program pointer moved to cursor

**Description**

The program pointer of task *arg* in module *arg* has been moved to position *arg* by *arg*.

### 10142, Call routine

**Description**

The program pointer in task *arg* has been moved to routine *arg* by *arg*.

### 10143, Cancel call routine

**Description**

The execution of the called routine has been canceled in task *arg* by *arg*.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 10144, Simulate of Wait instruction

**Description**

A wait instruction (WaitTime, WaitUntil, WaitDO, etc.) has been simulated in task *arg* by *arg*.

**Recommended actions**

### 10145, Task selection panel is set

**Description**

Task *arg* has been added in Task Selection Panel by *arg*.

**Recommended actions**

### 10146, Task selection panel is cleared

**Description**

Task *arg* has been removed in Task Selection Panel by *arg*.

**Recommended actions**

### 10147, Setting of variable

**Description**

Variable *arg* has changed to value *arg* by *arg*.

**Recommended actions**

### 10148, Setting of IO

**Description**

IO signal *arg* has changed value to *arg* by *arg*.

**Recommended actions**

### 10149, Program Pointer moved to routine

**Description**

The program pointer in task *arg* has been moved to routine *arg* by *arg*.

**Recommended actions**

### 10150, Program started

**Description**

Execution of task *arg* has been started from the first instruction of the task's entry routine. The originator could not be determined.

**Recommended actions**

### 10151, Program started

**Description**

Execution of task *arg* has been started from the first instruction of the task's entry routine. The originator is an external client.

**Recommended actions**

### 10152, Program started

**Description**

Execution of task *arg* has been started from the first instruction of the task's entry routine. The start order was initiated by an action causing the UNDO handler to execute.

### 10153, Run mode is changed

**Description**

Run mode has been changed to single cycle by *arg*.

### 10154, Run mode is changed

**Description**

Run mode has been changed to continuous mode by *arg*.

### 10155, Program restarted

**Description**

Execution of task *arg* has been restarted from where it was previously stopped. The originator could not be determined.

**Recommended actions**

### 10156, Program restarted

**Description**

Execution of task *arg* has been restarted from where it was previously stopped. The originator is an external client.

**Recommended actions**

### 10157, Program restarted

**Description**

Execution of task *arg* has been restarted from where it was previously stopped. The restart order was initiated by an action causing the UNDO handler to execute.

### 10158, Program started

**Description**

Stepwise forward execution of task *arg* has been started.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 10159, Program started

**Description**

Stepwise backward execution of task *arg* has been started.

### 10160, Pulsing of IO

**Description**

IO signal *arg* has been pulsed by *arg*.

**Recommended actions**

### 10170, Background task *arg*

**Description**

refuse to start. Task is empty.

**Recommended actions**

### 10171, Background task *arg*

**Description**

refuse to start. Wrong state.

**Recommended actions**

### 10172, Background task *arg*

**Description**

refuse to start. Can't set PP to the main routine.

**Probable causes**

The module that contains the main routine was not loaded since the module file is missing in the target directory.

The module that contains the main routine was not loaded since the configuration file has no entry for automatic loading of the module.

The main routine is missing.

The main entry is corrupted.

**Recommended actions**

Load the module manually or perform a system reset after the cause of the problem is removed.

### 10173, Background task *arg*

**Description**

refuse to start. Can't set the execution mode.

**Recommended actions**

### 10174, Background task *arg*

**Description**

refuse to start. The start order failed.

**Recommended actions**

### 10175, Background task *arg*

**Description**

refuse to start due to a syntax error.

**Recommended actions**

### 10176, Background task *arg*

**Description**

refuse to start. Can't load module.

**Probable causes**

The module file is missing in the target directory.

**Recommended actions**

1 Copy the module file to the target directory.
2 Reset the system.

### 10177, Task refuses to start

**Description**

Task *arg*:

There is not sufficient program memory or the program memory is fragmented. Modules could be missing or data may not have been installed.

**Recommended actions**

1 Unload/reload modules and restart the system.
2 Split large data structures.
3 Do Reset RAPID.
4 Increase stack size for task.

### 10178, A static/semistatic task can't be stepped

**Description**

Task *arg* can't be started.

A static/semistatic task can only run in continuous mode.

**Consequences**

No tasks will be started.

**Probable causes**

Trying to step (forward or backward) a static/semistatic task.

**Recommended actions**

Start *arg* in continuous mode.

### 10185, Task could not be prepared for start

**Description**

Task *arg*:

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

There is not sufficient program memory or the program memory is fragmented. Modules could be missing or data may not have been installed.

**Recommended actions**

1 Unload/reload modules and restart the system.
2 Split large data structures.
3 Do Reset RAPID.

### 10190, Protected area not done

**Description**

A power fail did occur in the middle of a protected area for the task *arg*. The system is trying to selfheal.

**Recommended actions**

### 10191, Protected area not done

**Description**

A power fail did occur in the middle of a protected area for the task *arg*. A pending error is removed from the queue.

**Recommended actions**

### 10192, Protected area not done

**Description**

A power fail did occur in the middle of a protected area for the task *arg*. A pending exit is removed from the queue.

**Recommended actions**

### 10193, Protected area not done

**Description**

A power fail did occur in the middle of a protected area for the task *arg*. This may result in an extra program cycle.

**Recommended actions**

### 10194, Protected area not done

**Description**

A power fail did occur in the middle of a protected area for the task *arg*. The task will be restarted from the main routine.

**Recommended actions**

### 10195, Protected area not done

**Description**

A power fail did occur in the middle of a protected area for the task *arg*. All tasks are reset and all user programs are lost.

**Recommended actions**

Try to save the user program and restart the system.

### 10196, Protected area not done

**Description**

A power fail did occur in the middle of a protected area for the task *arg*.

**Recommended actions**

### 10200, Event logs are cleared

**Description**

User *arg* has cleared all event logs.

**Recommended actions**

### 10201, Event logs for one domain is cleared

**Description**

User *arg* has cleared domain *arg*X XXX.

**Recommended actions**

### 10202, Date and/or time is changed

**Description**

Date and/or time is changed to *arg* by *arg*.

**Recommended actions**

### 10205, Configuration parameter changed

**Description**

A configuration parameter has been changed in domain: *arg* by *arg*.

**Recommended actions**

### 10206, Configuration file has been loaded

**Description**

A configuration file *arg* has been loaded by *arg*.

**Recommended actions**

### 10210, Execution cancelled

**Description**

The restart will clear the execution in task *arg* of a POWER ON system event routine.

**Recommended actions**

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 10211, Execution cancelled

**Description**

The restart will clear the execution in task *arg* of a STOP system event routine.

**Recommended actions**

### 10212, Execution cancelled

**Description**

The restart will clear the execution in task *arg* of an EMERGENCY STOP system event routine.

**Recommended actions**

### 10213, Execution cancelled

**Description**

The restart will clear the execution in task *arg* of a START system event routine.

**Recommended actions**

### 10214, Execution cancelled

**Description**

The restart will clear the execution in task *arg* of a RESTART system event routine.

**Recommended actions**

### 10215, Execution cancelled

**Description**

The restart will clear the execution in task *arg* of a RESET system event routine.

**Recommended actions**

### 10216, Execution cancelled

**Description**

The restart will clear the execution in task *arg* of an INTERNAL system event routine.

**Recommended actions**

### 10217, Execution cancelled

**Description**

The restart will clear the execution in task *arg* of a USER routine.

**Recommended actions**

### 10218, Execution cancelled

**Description**

The restart will clear the execution in task *arg*.

**Recommended actions**

### 10219, Execution cancelled

**Description**

The restart will clear the execution in task *arg*of a STEP system event routine.

**Recommended actions**

### 10230, Backup step ready

**Description**

The backup step Prepare is ready.

**Recommended actions**

### 10231, Backup step ready

**Description**

The backup step Configuration is ready.

**Recommended actions**

### 10232, Backup step ready

**Description**

The backup of Task is ready.

**Recommended actions**

### 10233, Backup step ready

**Description**

The backup of Controller Settings is ready.

**Recommended actions**

### 10250, Restore step ready

**Description**

The restore step Prepare is ready.

**Recommended actions**

### 10251, Restore step ready

**Description**

The restore step Configuration is ready.

**Recommended actions**

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 10252, Restore step ready

**Description**

The restore of Task is ready.

**Recommended actions**

### 10253, Restore step ready

**Description**

The restore of User Task is ready.

**Recommended actions**

### 10254, Restore step ready

**Description**

The restore of Controller Settings is ready.

**Recommended actions**

### 10255, Restore step ready

**Description**

The restore of Safety Settings is ready.

**Recommended actions**

### 10260, System diagnostics info generated

**Description**

System diagnostics information was successfully generated to file *arg*

### 10261, System diagnostics info unavailable

**Description**

User requested to save diagnostics system information to file *arg*. System was unable to fulfill this request.

**Consequences**

Diagnostics system information is normally used when reporting a problem with the system to ABB support.

**Probable causes**

The system is in such state that it is not possible to generate the requested information.
Please check that the device has enough space left.

**Recommended actions**

If you are experiencing a problem with the system contact ABB support.

### 10262, System log has been created

**Description**

A system log has been created.
A System Diagnostics has to be created using FlexPendant or RobotStudio.

**Probable causes**

The system log was triggered by the error event: *arg*

**Recommended actions**

Create a System Diagnostics and attach it to your error report if reported to ABB support.

### 10270, Cyclic Brake Check Done

**Description**

The Cyclic Brake Check has been done for all brakes supervised by Safety Controllers.

### 10271, Cyclic Brake Check Started

**Description**

The Cyclic Brake Check has been started.

### 10272, Brake Check Done

**Description**

The Brake Check has been done for all brakes.

### 10273, Brake Check Started

**Description**

The Brake Check has been started.

### 10280, The coordinate system has been changed to World frame

**Description**

The coordinate system has been changed to World frame in mechanical unit *arg* by *arg*.

### 10281, The coordinate system has been changed to Base frame

**Description**

The coordinate system has been changed to Base frame in mechanical unit *arg* by *arg*.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 10282, The coordinate system has been changed to Tool frame

**Description**

The coordinate system has been changed to Tool frame in mechanical unit *arg* by *arg*.

### 10283, The coordinate system has been changed to Object frame

**Description**

The coordinate system has been changed to Object frame in mechanical unit *arg* by *arg*.

### 10284, Non motion execution mode is set

**Description**

The non motion execution mode has been set by *arg*.

**Consequences**

The mechanical unit will not move when executing.

### 10285, Non motion execution mode has been reset

**Description**

The non motion execution mode has been reset by *arg*.

**Consequences**

The mechanical unit will move while executing.

### 10286, Payload has been changed

**Description**

The payload has been changed to *arg* in task *arg* by *arg*.

### 10287, Total load has been changed

**Description**

The total load has been changed to *arg* in task *arg* by *arg*.

### 10288, The Work Object has been changed

**Description**

The Work object has been changed to *arg* in task *arg* by *arg*.

### 10289, The tool has been changed

**Description**

The tool has been changed to *arg* in task *arg* by *arg*.

### 10290, The robot has been calibrated

**Description**

The mechanical unit *arg*, axis *arg* has been calibrated by *arg*.

### 10291, Goto position

**Description**

The functionality Goto position has been used by *arg*.

### 10292, Revolution Counter updated

**Description**

The revolution counter for robot *arg*, axis *arg* has been updated by *arg*.

### 10293, Path Supervision is set to On

**Description**

The Path supervision for task *arg* is set to On by user: *arg*.

### 10294, Path Supervision is set to Off

**Description**

The Path supervision for task *arg* is set to Off by user: *arg*.

### 10295, The Sensitivity for Path Supervision is updated

**Description**

The Sensitivity for task *arg* for Path Supervision is set to *arg*% by user: *arg*.

### 10296, Jog Supervision is set to On

**Description**

The Jog supervision for task *arg* is set to On by user: *arg*.

### 10297, Jog Supervision is set to Off

**Description**

The Jog supervision for task *arg* is set to Off by user: *arg*.

### 10298, The Sensitivity for Jog Supervision is updated

**Description**

The Sensitivity for task *arg* for Jog Supervision is set to *arg*% by user: *arg*.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 10300, A Reset RAPID is ordered

**Description**

Reset RAPID has been ordered from the system.

**Recommended actions**

### 10301, Reset RAPID is ordered

**Description**

Reset RAPID has been ordered manually or automatically during a configuration.

**Recommended actions**

### 10304, An update has been ordered

**Description**

An update of program configuration is done.

**Recommended actions**

### 10350, Update of task failed

**Description**

The system could not update task *arg* to the new configuration.

**Recommended actions**

### 10351, A task is removed

**Description**

The task *arg* was removed because of configuration changes.

**Recommended actions**

### 10352, A task is added

**Description**

The task *arg* was installed because of configuration changes.

**Recommended actions**

### 10353, A task is reinstalled

**Description**

The task *arg* was reinstalled because of configuration changes.

**Recommended actions**

### 10354, Restore aborted due to lost system data.

**Description**

The system is using a backup of the system data, since the system data was not properly saved at last shutdown. Due to this, a previously ordered Restore from directory *arg* was attempted again, but was aborted.

**Consequences**

No RAPID programs or modules will be loaded.

**Probable causes**

The system data was not properly saved at last shutdown.

**Recommended actions**

After recovering from the system data loss by a (B)ackup-Restart or system re-installation, please verify that the backup directory *arg* is OK, and perform the Restore again.

### 10355, Restore error

**Description**

Error during the restore of Task. Trying to load to unknown task, *arg*.

**Consequences**

Loading has been aborted for *arg*.

**Probable causes**

The current system doesn't have the same options as the one used to create the backup.

### 10400, User *arg* logged on

**Description**

User *arg* logged on using *arg*.

### 10401, User *arg* logged off

**Description**

User *arg* using *arg* logged off.

### 10420, New unsafe robot path

**Description**

The robot path has been cleared after a target has been modified in task *arg*. The robot will for that reason move towards the position pointed out by the move instruction at the program pointer. Move instructions between the modified target and the program pointer will be skipped.

**Consequences**

The programmed speed is used for this movement.
The new untested path may contain obstacles that might cause a collision.

**Recommended actions**

Check your program pointer and move it if necessary.
Reduce the speed.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

## 10421, Planned path not aborted

**Description**

A target that may be part of the planned robot path has been modified. The new target position will be used the next time the instruction with the target is executed.

**Consequences**

The current planned path is using the old target position.

**Recommended actions**

If the current planned path is unsafe, move the program pointer to abort it.

## 10450, Update package rejected by the controller

**Description**

It was not possible to prepare update of the current RobotWare system using update package with ID: *arg*. Error code is: *arg*.

**Consequences**

The system remains unchanged.

**Recommended actions**

Contact the package provider or ABB support.

## 10451, Update of RobotWare System failed

**Description**

It was not possible to apply update of the current RobotWare system using update package with ID: *arg*. Error code is: *arg*.

**Consequences**

The system remains unchanged.

**Recommended actions**

Contact the update Deployment Package provider or ABB support.

## 10452, Update of RobotWare System done

**Description**

Update of the current RobotWare system using the Deployment Package '*arg*' has been successful.
A file with update summary can be found at the following location: *arg*.
Backup of the system prior to the update is located at: *arg*.
Status code for auto restore of the backup: *arg* (0=pending/1=failed/2=not requested).

**Consequences**

The current system has been updated as specified by the update package.

## 10453, Update package deleted

**Description**

Update package with the following ID: *arg* was deleted from the controller.

**Consequences**

Update package is no longer available. Disk space used by the package has been reclaimed.

## 10454, Incomplete update package deleted

**Description**

Incomplete update package with the following ID: *arg* was deleted from the controller.

**Consequences**

Disk space used by the update has been reclaimed.

## 10455, Update of RobotWare System error

**Description**

Update of the current RobotWare System did not complete properly.

**Consequences**

The current RobotWare system may be in an undefined state and it may need to be repaired.

**Recommended actions**

1 Manually check if all products in the current system have expected versions and then load a backup if desired.
2 Delete and re-install the current RobotWare system.
3 Use disk recovery functionality.

## 10456, Insufficient disk space to perform request

**Description**

Available disk space on the controller was insufficient to perform the requested action. Required space: *arg* MB. Available space: *arg* MB.

**Consequences**

The requested action has been aborted and the system remains unchanged.

**Recommended actions**

Remove unnecessary files from the controller disk and try again.

## 10457, Event routines are deferred

**Description**

The *arg* event routine *arg* in task *arg* could not start. Executions of event routines are deferred until next start order for this task.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

**Recommended actions**

Check earlier events in the event log for the reason why this task could not start.

## 11020, Backup error

**Description**

An error occurred while preparing to create a backup.

Unknown error.

**Consequences**

The backup request is aborted.

No backup was created.

**Recommended actions**

*arg*

## 11024, Backup error

**Description**

An error occurred while preparing to create a backup.

A directory/file couldn't be created.

**Consequences**

The backup request is aborted.

No backup was created.

**Probable causes**

You may not have write access to the backup drive.

The drive might be full.

If it is a network drive, you might have lost connection.

**Recommended actions**

1 Verify that the backup drive isn't write protected

2 If it is a network drive, verify that controller hasn't lost contact

## 11025, Backup error

**Description**

An error occurred while preparing to create a backup.

The backup directory couldn't be created.

**Consequences**

The backup request is aborted.

No backup was created.

**Probable causes**

The path might be too long.

You may not have write access to the backup drive.

The drive might be full.

If it is a network drive, you might have lost connection.

**Recommended actions**

1 Verify that the backup drive isn't write protected

2 If it is a network drive, verify that controller hasn't lost contact

## 11026, Backup error

**Description**

An error occurred while preparing to create a backup.

Error while creating the backinfo.txt file.

**Consequences**

The backup request is aborted.

No backup was created.

**Probable causes**

You may not have write access to the backup drive.

The drive might be full.

If it is a network drive, you might have lost connection.

**Recommended actions**

1 Verify that the backup drive isn't write protected

2 If it is a network drive, verify that controller hasn't lost contact

## 11029, Backup error

**Description**

An error occurred while preparing to create a backup.

The given backup path is too long.

**Consequences**

The backup request is aborted.

No backup was created.

**Probable causes**

The given backup path has exceeded the maximum allowed *arg* characters.

**Recommended actions**

Use a shorter path to create the backup.

## 11031, Backup error

**Description**

An error occurred while preparing to create a backup.

Error while searching for a file/entry.

**Consequences**

The backup request is aborted.

No backup was created.

**Recommended actions**

*arg*

## 11036, Backup error

**Description**

An error occurred while preparing to create a backup.

Write error.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

**Consequences**
The backup request is aborted.
No backup was created.

**Probable causes**
You may not have write access to the backup drive.
The drive might be full.
If it is a network drive, you might have lost connection.
Do not create a backup inside the HOME directory.

**Recommended actions**
*arg*

## 11037, Backup error

**Description**
An error occurred while preparing to create a backup.
At least one modules name is too long.

**Consequences**
The backup request is aborted.
No backup was created.

**Recommended actions**
*arg*

## 11039, Backup error

**Description**
An error occurred while preparing to create a backup.
The drive is full.

**Consequences**
The backup request is aborted.
No backup was created.

**Recommended actions**
*arg*

## 11041, Backup error

**Description**
An error occurred while preparing to create a backup.
Error while verifying the system.
system.xml isn't installed in the system

**Consequences**
The backup request is aborted.
No backup was created.

**Probable causes**
system.xml isn't installed in the system

**Recommended actions**
Reset the system.

## 11042, Backup error

**Description**
An error occurred while preparing to create a backup.
Error while verifying the system.
system.xml isn't present in the SYSTEM directory.

**Consequences**
The backup request is aborted.
No backup was created.

**Probable causes**
system.xml isn't present in the SYSTEM directory.

**Recommended actions**
Reset the system.

## 11044, Backup error

**Description**
Error while verifying the backup path.

**Consequences**
The backup request is aborted.
No backup was created.

**Probable causes**
The backup path contains an invalid character.

**Recommended actions**
Verify the backup path.

## 11045, Backup error

**Description**
Error while creating the backup directory due to missing access rights.

**Consequences**
The backup request is aborted.
No backup was created.

**Probable causes**
Missing access rights in the given backup path.

**Recommended actions**
Verify the access rights.

## 11120, Backup error

**Description**
Error during the backup step Configuration.
Unknown error.

**Consequences**
The backup request is aborted.
No backup was created.

*Continues on next page*


© Copyright 2005-2020 ABB. All rights reserved.

### 11127, Backup error

**Description**

Error during the backup step Configuration.

Error while reading configuration parameters.

**Consequences**

The backup request is aborted.

No backup was created.

### 11128, Backup error

**Description**

Error during the backup step Configuration.

Error writing configuration parameters.

**Consequences**

The backup request is aborted.

No backup was created.

**Probable causes**

1 The destination is write protected.
2 The controller has lost contact with a mounted device (e.g. NFS, FTP, USB).

**Recommended actions**

1 Verify that the destination isn't write protected.
2 Verify that controller hasn't lost contact with a mounted device.

### 11129, Backup error

**Description**

Error during the backup step Configuration.

The given backup path is too long.

**Consequences**

The backup request is aborted.

No backup was created.

**Probable causes**

The given backup path has exceeded the maximum allowed *arg* characters.

**Recommended actions**

Use a shorter path to where to create the backup.

### 11130, Backup error

**Description**

Error during the backup step Configuration.

No more objects.

**Consequences**

The backup request is aborted.

No backup was created.

### 11136, Backup error

**Description**

Error during the backup step Configuration.

Write error.

**Consequences**

The backup request is aborted.

No backup was created.

**Probable causes**

1 The destination is write protected.
2 The controller has lost contact with a mounted device (e.g. NFS, FTP, USB).

**Recommended actions**

1 Verify that the destination isn't write protected.
2 Verify that controller hasn't lost contact with a mounted device.

### 11220, Backup error

**Description**

Error during the backup of Task.

Unknown error.

**Consequences**

The backup request is aborted.

No backup was created.

### 11222, Backup error

**Description**

Error during the backup of Task.

The backup already contains directories that are to be created.

**Consequences**

The backup request is aborted.

No backup was created.

### 11223, Backup error

**Description**

Error during the backup of Task.

The directory lacks at least one necessary item.

**Consequences**

The backup request is aborted.

No backup was created.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

## 11224, Backup error

**Description**

Error during the backup of Task.

The directory does not exist.

**Consequences**

The backup request is aborted.

No backup was created.

## 11225, Backup error

**Description**

Error during the backup of Task.

Directory cannot be created.

**Consequences**

The backup request is aborted.

No backup was created.

**Probable causes**

1 The destination is write protected.
2 The controller has lost contact with a mounted device (e.g. NFS, FTP, USB).

**Recommended actions**

1 Verify that the destination isn't write protected.
2 Verify that controller hasn't lost contact with a mounted device.

## 11226, Backup error

**Description**

Error during the backup of Task.

Error while writing the backup.

**Consequences**

The backup request is aborted.

No backup was created.

**Probable causes**

1 The destination is write protected.
2 The controller has lost contact with a mounted device (e.g. NFS, FTP, USB).

**Recommended actions**

1 Verify that the destination isn't write protected.
2 Verify that controller hasn't lost contact with a mounted device.

## 11229, Backup error

**Description**

Error during the backup step Prepare.

The given backup path is too long.

**Consequences**

The backup request is aborted.

No backup was created.

**Probable causes**

The given backup path has exceeded the maximum allowed *arg* characters.

**Recommended actions**

Use a shorter path to create the backup.

## 11230, Backup error

**Description**

Error during the backup of Task.

No more objects.

**Consequences**

The backup request is aborted.

No backup was created.

## 11231, Backup error

**Description**

Error during the backup of Task.

The directory lacks at least one necessary item.

**Consequences**

The backup request is aborted.

No backup was created.

## 11236, Backup error

**Description**

Error during the backup of Task.

Write error.

**Consequences**

The backup request is aborted.

No backup was created.

**Recommended actions**

Check: No space left on device. Corrupt device.

## 11237, Backup error

**Description**

Error during the backup of Task.

At least one modname is too long.

**Consequences**

The backup request is aborted.

No backup was created.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 11238, Backup error

**Description**

Error during the backup of Task.

Low on program memory.

**Consequences**

The backup request is aborted.

No backup was created.

**Probable causes**

The backprocess needs program memory to store persistent variables.

**Recommended actions**

1 Stop the program before taking the backup.
2 Reduce the number of persistent variables in program.
3 Reduce the rapid program.

### 11261, Backup removed

**Description**

Error while creating a backup at path: *arg*

**Consequences**

The backup request is aborted.

No backup was created.

**Probable causes**

Check for other error messages regarding backup.

### 11262, Backup error

**Description**

Error during the backup of Controller Settings.

**Consequences**

The backup request is aborted.

No backup was created.

**Probable causes**

Check for other error messages regarding backup.

### 11263, Backup operation failed

**Description**

The user *arg* does not have the required UAS grant UAS_BACKUP for the requested backup operation.

**Consequences**

The backup operation was not performed.

**Probable causes**

The user does not have the required UAS grant, is not logged on or has an invalid user id.

**Recommended actions**

Log in as another user that has the required UAS grant, or add the grant to the existing user. If shown after a System Diagnostics file generation, please regenerate it after solving the UAS issues.

### 12020, Restore error

**Description**

Error during the restore step Prepare.

Unknown error.

**Recommended actions**

*arg*.

### 12023, Restore error

**Description**

Error during the restore step Prepare.

The directory lacks at least one necessary item.

**Recommended actions**

*arg*.

### 12024, Restore error

**Description**

Error during the restore step Prepare.

The directory does not exist.

**Recommended actions**

*arg*.

### 12029, Restore error

**Description**

Error during the restore step Prepare.

The path is too long.

**Probable causes**

The maximum allowed *arg* characters has been exceeded.

**Recommended actions**

Make sure no files with deep structures or long names have been added to the backup used to restore from.

### 12030, Restore error

**Description**

Error during the restore step Prepare.

No more objects.

**Recommended actions**

*arg*.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 12031, Restore error

**Description**

Error during the restore step Prepare.

The directory lacks at least one necessary item.

**Recommended actions**

*arg*.

### 12032, Restore error

**Description**

Error during the restore step Prepare.

The system version doesn't match the backup.

**Recommended actions**

*arg*.

### 12033, Restore error

**Description**

Error during the restore step Prepare.

Error restoring configuration parameters.

**Recommended actions**

*arg*.

### 12035, Restore error

**Description**

Error during the restore step Prepare.

Mismatch between current system and the backup.

**Recommended actions**

*arg*.

### 12036, Restore error

**Description**

Error during the restore step Prepare.

Write error.

**Recommended actions**

*arg*.

### 12120, Restore error

**Description**

Error during the restore step Configuration.

Unknown error.

**Probable causes**

One possible reason could be that the system name contains unsupported characters.

### 12123, Restore error

**Description**

Error during the restore step Configuration.

The directory lacks at least one necessary item.

### 12129, Restore error

**Description**

Error during the restore step Prepare.

The path is too long.

**Probable causes**

The maximum allowed *arg* characters has been exceeded.

**Recommended actions**

Make sure no files with deep structures or long names have been added to the backup used to restore from.

### 12130, Restore error

**Description**

Error during the restore step Configuration.

No more objects.

### 12131, Restore error

**Description**

Error during the restore step Configuration.

The directory lacks at least one necessary item.

### 12134, Restore error

**Description**

Error during the restore step Configuration.

Error restoring configuration parameters.

### 12136, Restore error

**Description**

Error during the restore step Configuration.

Write error.

**Probable causes**

There might be some files located in the target HOME directory that are in use. The restore operation cannot overwrite the file(s).

**Recommended actions**

Check if there are any open files, and if so, close them.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 12220, Restore error

**Description**

Error during the restore of Task.

Unknown error.

### 12230, Restore error

**Description**

Error during the restore of Task.

No more objects

### 12231, Restore error

**Description**

Error during the restore of Task.

The directory lacks at least one necessary item.

### 12236, Restore error

**Description**

Error during the restore of Task.

Write error.

### 12320, Restore error

**Description**

Error during the restore of User Task.

Unknown error.

### 12323, Restore error

**Description**

Error during the restore of User Task.

The directory lacks at least one necessary item.

### 12338, Restore error

**Description**

Error during the restore of User Task.

Unknown task.

### 12341, Restore error

**Description**

Error during the restore of Controller Settings.

### 12342, Restore error

**Description**

Error during the restore of Safety Settings.

### 12510, Network subnet mask illegal

**Description**

The subnet mask *arg* for network interface *arg* is illegal.

**Consequences**

The network interface will not be configured, and may not be used.

**Probable causes**

The network subnet mask may be mistyped.

**Recommended actions**

1 Make sure the network subnet mask is correct.

### 12511, Network interface IP address illegal

**Description**

The network IP address *arg* for interface *arg* is illegal/missing.

**Consequences**

The interface will not be configured, and may not be used.

**Probable causes**

The network IP address may be mistyped or it already exists on the network.

**Recommended actions**

1 Make sure the interface IP address is correct and not a duplicate.

### 12512, Network gateway IP address illegal

**Description**

The gateway IP address *arg* is illegal/missing or the destination IP address *arg* is illegal.

**Consequences**

The network will not be reached, and may not be used.

**Probable causes**

The gateway IP and/or destination IP addresses may be mistyped.

**Recommended actions**

1 Make sure the gateway IP and destination IP addresses are correct.

### 12513, No parameters from the DHCP server

**Description**

The network interface *arg* has not received any parameters from the DHCP server.

**Consequences**

The interface will not be configured, and may not be used.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

**Probable causes**

The LAN connection is not working -The DHCP server is not activated.

**Recommended actions**

1 Make sure the LAN cable is working and correctly connected.
2 Make sure the DHCP server is activated.
3 Set the LAN IP address manually.

## 12514, Network interface initialization error

**Description**

The network interface *arg* could not be initialized.

**Consequences**

The interface will not be configured, and may not be used.

**Probable causes**

The network parameters may be wrong.

- Although unlikely, the hardware may be faulty, requiring replacement.

**Recommended actions**

1 Make sure the network parameters for the interface at hand are correct.
2 Isolate the cause, by replacing the suspected hardware.

## 12515, Network interface IP addresses overlap

**Description**

The network IP address for '*arg*' is overlapping with IP address for '*arg*'.

**Consequences**

The interface will not be configured, and may not be used.

**Probable causes**

The network IP address and subnet mask overlaps with other IP address and subnet mask.

**Recommended actions**

1 Make sure the interface IP address and subnet mask are correct.

## 12610, Available RAM memory low

**Description**

The available amount of RAM memory is low. Total RAM memory size: *arg* bytes. Free: *arg* bytes.

**Consequences**

The system may run out of memory.

**Recommended actions**

It is recommended to restart the system.

## 12611, Available RAM memory very low

**Description**

The available amount of RAM memory is very low. Total RAM memory size: *arg* bytes. Free: *arg* bytes.

**Consequences**

The system may run out of memory. Memory allocation for non-production critical functionality will be rejected.

**Recommended actions**

It is highly recommended to restart the system.

## 12612, Available RAM memory too low

**Description**

The available amount of RAM memory is too low. Total RAM memory size: *arg* bytes. Free: *arg* bytes.

**Consequences**

The system will enter System Failure State.

**Recommended actions**

Please restart the system.

## 12700, Missing time zone information

**Description**

No time zone information has been specified.

**Recommended actions**

Please use the FlexPendant or RobotStudio to set the time zone for your location.


© Copyright 2005-2020 ABB. All rights reserved.

## 4.4 2 xxxx

### 20010, Emergency stop state

**Description**

The emergency stop circuit has previously been broken, and while broken, an attempt was made to operate the robot.

**Consequences**

The system remains in state "Waiting for Motors ON after emergency stop".

**Probable causes**

An attempt has been made to maneuver a control, before switching the system back to status Motors ON.

**Recommended actions**

1 To resume operation, switch the system back to state Motors ON by pressing the Motors ON button on the Control Module.

### 20011, Emergency stop state.

**Description**

Emergency stop reset is required.

**Recommended actions**

First release the Emergency stop button and then press the panel button.

### 20012, System failure state active

**Description**

Fatal non-recoverable system error. Controller restart is required.

**Recommended actions**

Turn the mains switch off and on again if the soft restart command is ignored or not possible to reach.

### 20025, Stop order timeout

**Description**

The stop order was carried out as a forced guard stop when no acknowledgement was received within the expected time.

**Recommended actions**

### 20030, Axis not commutated

**Description**

One or several internal drive unit axes are not commutated.

**Recommended actions**

### 20031, Axis not calibrated.

**Description**

One or several absolute/relative measurement axes are not calibrated.

**Recommended actions**

Check what axis that are not calibrated and calibrate them.

### 20032, Rev. counter not updated

**Description**

Revolution counter is not updated. One or several absolute measurement axes are not synchronized.

**Recommended actions**

Move the axes to the sync position and update the revolution counters.

### 20033, Axis not synchronized.

**Description**

One or several relative measurement axes are not synchronized.

**Recommended actions**

Order Motors On and synchronize all mechanical units in the list.

### 20034, Robot memory is not OK

**Description**

This action or state is not allowed since data in the robot memory is not OK.

**Consequences**

All data must be OK before automatic operation is possible. Manually jogging the robot is possible.

**Probable causes**

There are differences between the data stored in the robot and the controller. This may be due to replacement of SMB-board, controller or both, or manually cleared robot memory.

**Recommended actions**

1 Update the robot memory as detailed in the operating manual for the controller.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

## 20051, Not allowed command

**Description**

The command is only allowed when the client is in control of the resource (program/motion).

**Consequences**

The system remains in the same status, and the requested action will not be performed.

**Recommended actions**

1 Check if the client is in control, by checking "Write Access" in RobotStudio.
2 Check if the client who ought to be in control really is.

## 20054, Not allowed command

**Description**

The command is NOT allowed when the program is executing.

**Consequences**

The system remains in the same status, and the requested action will not be performed.

**Recommended actions**

1 Make sure the program is not executing.

## 20059, Not allowed command

**Description**

The command is not allowed when the file containing system persistent data is invalid (the system has been started using last good auto saved system data).

**Consequences**

The system remains in the same status, and the requested action will not be performed.

**Recommended actions**

1 Revert to last auto saved system data (restart mode "Revert to last auto saved").
2 Reset the system (restart mode "Reset system").
3 Reinstall the system.

## 20060, Not allowed command

**Description**

The command is not allowed in Auto mode.

**Consequences**

The system remains in the same status, and the requested action will not be performed.

**Recommended actions**

1 Make sure the system is NOT in Auto Mode.

## 20061, Not allowed command

**Description**

The command is not allowed when changing to Auto mode.

**Consequences**

The system remains in the same status, and the requested action will not be performed.

**Recommended actions**

1 Make sure the system is NOT changing to Auto Mode.

## 20062, Not allowed command

**Description**

The command is not allowed in Manual mode.

**Consequences**

The system remains in the same status, and the requested action will not be performed.

**Recommended actions**

1 Make sure the system is NOT in Manual Mode.

## 20063, Not allowed command

**Description**

The command is not allowed in Manual full speed mode.

**Consequences**

The system remains in the same status, and the requested action will not be performed.

**Recommended actions**

1 Make sure the system is NOT in Manual full speed Mode.

## 20064, Not allowed command

**Description**

The command is not allowed when changing to Manual full speed mode.

**Consequences**

The system remains in the same status, and the requested action will not be performed.

**Recommended actions**

1 Make sure the system is NOT changing to Manual full speed Mode.

## 20065, Not allowed command

**Description**

The command is only allowed in Manual mode (reduced or full speed).

*Continues on next page*


© Copyright 2005-2020 ABB. All rights reserved.

**Consequences**
The system remains in the same status, and the requested action will not be performed.

**Recommended actions**
1 Make sure the system is NOT in Auto mode or changing to Manual Mode (reduced or full speed).

## 20066, Not allowed command

**Description**
The system input action *arg* is not allowed in Manual full speed mode.

**Consequences**
The system remains in the same status, and the requested action will not be performed.

**Recommended actions**
1 Make sure the system is NOT in Manual full speed Mode.

## 20067, Not allowed command

**Description**
The system input action *arg* is not allowed when changing to Manual full speed mode.

**Consequences**
The system remains in the same status, and the requested action will not be performed.

**Recommended actions**
1 Make sure the system is NOT changing to Manual full speed Mode.

## 20068, Not allowed command

**Description**
The command is not allowed in current energy state.

**Consequences**
The system remains in the same status, and the requested action will not be performed.

**Probable causes**
The system is in an energy saving state.

## 20069, Not allowed command

**Description**
The command is not allowed when the robot is manually jogged.

**Consequences**
The system remains in the same status, and the requested action will not be performed.

**Probable causes**
The system is manually jogged.

## 20070, Not allowed command

**Description**
The command is not allowed in Motors ON state.

**Consequences**
The system remains in the same status, and the requested action will not be performed.

**Recommended actions**
1 Make sure the system is in Motors OFF state.

## 20071, Not allowed command

**Description**
The command is not allowed while changing to Motors ON state.

**Consequences**
The system remains in the same status, and the requested action will not be performed.

**Recommended actions**
1 Investigate by whom and why the action was requested, and, if required, correct the reason.

## 20072, Not allowed command

**Description**
The command is not allowed in Motors OFF state.

**Consequences**
The system remains in the same status, and the requested action will not be performed.

**Recommended actions**
1 Make sure the system is in Motors ON state.

## 20073, Not allowed command

**Description**
The command is not allowed while changing to Motors OFF state.

**Consequences**
The system remains in the same status, and the requested action will not be performed.

**Recommended actions**
1 Investigate by whom and why the action was requested, and, if required, correct the reason.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

## 20074, Not allowed command

**Description**

The command is not allowed in Guard Stop state.

**Consequences**

The system remains in the same status, and the requested action will not be performed.

**Recommended actions**

1 Make sure the system is NOT in Guard Stop state.

## 20075, Not allowed command

**Description**

The command is not allowed in Emergency Stop state.

**Consequences**

Emergency stop reset is required.

**Recommended actions**

1 Make sure the system is NOT in Emergency Stop state.

## 20076, Not allowed command

**Description**

The command is not allowed in system failure state.

**Consequences**

A non-recoverable system error has occurred, and a controller restart is required.

**Recommended actions**

1 Make sure the system is NOT in Emergency Stop state.
2 Perform a restart as detailed in the operating manual for the controller.
3 If restarting is not possible, switch the main power OFF and then back ON.

## 20080, Not allowed command

**Description**

The command is not allowed when axis has not been commutated.

**Consequences**

The system remains in the same status, and the requested action will not be performed.

**Recommended actions**

1 Commutate the axis as detailed in the Additional Axes Manual.
2 Investigate by whom and why the action was requested, and, if required, correct the reason.

## 20081, Not allowed command

**Description**

The command is not allowed when axis is not calibrated.

**Consequences**

The system remains in the same status, and the requested action will not be performed.

**Recommended actions**

1 Calibrate the axis as detailed in the Calibration Pendulum Instruction or the Instructions for Level-meter calibration, depending on which equipment to be used.

## 20082, Not allowed command

**Description**

The command is not allowed when axis revolution counter is not updated.

**Consequences**

The system remains in the same status, and the requested action will not be performed.

**Recommended actions**

1 Update the revolution counter as detailed in the operating manual for the controller.

## 20083, Not allowed command

**Description**

The command is not allowed when axis is not synchronized.

**Consequences**

The system remains in the same status, and the requested action will not be performed.

**Recommended actions**

1 Synchronize the axis as detailed in the Calibration Pendulum Instruction or the Instructions for Level-meter calibration, depending on which equipment to be used.

## 20084, Not allowed command

**Description**

This command is not allowed since data in the robot memory is not OK.

**Consequences**

All data must be OK before automatic operation is possible. Manually jogging the robot is possible.

**Recommended actions**

1 Update the robot memory as detailed in the operating manual for the controller.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

## 20088, Automatic Mode Rejected

**Description**

The speed could not be set to 100% when automatic mode was requested.

**Consequences**

The system cannot enter automatic mode.

**Probable causes**

The speed could not be set to 100%.

**Recommended actions**

1 Switch back to manual mode.
2 a) Set the speed in the QuickSet menu.b) or set System Parameter Controller/Auto Condition Reset/AllDebugSettings/Reset to No if the system should be in debug mode when switching to auto.
3 Switch back to automatic mode and confirm.

## 20089, Automatic Mode Rejected

**Description**

The call chain was altered to begin at a routine other than main and could not be reset to main when automatic mode was requested.

**Consequences**

The system cannot enter automatic mode.

**Probable causes**

Program pointer could not be set to Main.

**Recommended actions**

1 Switch back to manual mode.
2 a) Move PP to main.b) or if the program always shall start at the new routine, change System Parameter "Main entry" (Domain Controller, Type Task) to the new routine name.c) or set System Parameter Controller/Auto Condition Reset/AllDebugSettings/Reset to No if the system should be in debug mode when switching to auto.
3 Switch back to automatic mode and confirm.

## 20092, Not allowed command

**Description**

Not allowed in state System IO Start Blocked.

**Recommended actions**

## 20093, Automatic Mode Rejected

**Description**

One or more of the NORMAL tasks were disabled and could not be enabled when automatic mode was requested.

**Consequences**

The system cannot enter automatic mode.

**Probable causes**

It is not possible to reset Task Selection Panel in synchronized block.

**Recommended actions**

1 Switch back to manual mode.
2 a) Set PP to main.b) or step out of synchronized block.c) or set System Parameter Controller/Auto Condition Reset/AllDebugSettings/Reset to No if the system should be in debug mode when switching to auto.
3 Switch back to automatic mode and confirm.

## 20094, Load name could not be found

**Description**

Load name *arg* could not be found.

**Consequences**

It is not possible to jog without a correct defined load.

**Probable causes**

The module with the load definition is probably deleted.

**Recommended actions**

Load module with load definition. Choose other load.

## 20095, Tool name could not be found

**Description**

Tool name *arg* could not be found.

**Consequences**

It is not possible to jog without a correct defined tool.

**Probable causes**

The module with the tool definition is probably deleted.

**Recommended actions**

Load module with tool definition. Choose other tool.

## 20096, WorkObject name could not be found

**Description**

WorkObject name *arg* could not be found.

**Consequences**

It is not possible to jog without a correct defined workobject.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

**Probable causes**
The module with the workobject definition is probably deleted.

**Recommended actions**
Load module with workobject definition. Choose other workobject.

## 20097, Not allowed to jog with LOCAL PERS Load

**Description**
The object *arg* is of type LOCAL PERS and is not possible to jog.

**Recommended actions**
Change Load.

## 20098, Not allowed to jog with LOCAL PERS Tool

**Description**
The object *arg* is of type LOCAL PERS and is not possible to jog.

**Recommended actions**
Change Tool.

## 20099, Not allowed to jog with LOCAL PERS Work Object

**Description**
The object *arg* is of type LOCAL PERS and is not possible to jog.

**Recommended actions**
Change Work Object.

## 20101, FlexPendant (program) in control.

**Description**
The FlexPendant programming window has focus and is in control of the program server.

**Recommended actions**
Change to the production window and perform the command again.

## 20103, Controller busy updating Task Selection Panel.

**Description**
The Task Selection Panel is having an update. It is not possible to do the requested command.

**Recommended actions**
Perform the command again or restart the controller and perform the command again.

## 20104, The system path is too long.

**Description**
The system path is too long. It is not possible for the system to act in a safe way.

**Consequences**
The system will enter system failure state.

**Recommended actions**
Move the system to a location with a shorter file path.

## 20105, Backup already in progress

**Description**
A backup is already in progress.

**Consequences**
The command "Backup" from System Input Signal will be rejected.

**Recommended actions**
Use System Output Signal "Backup in progress" to control if a backup can be started.

## 20106, Backup path

**Description**
There are errors in the backup path or the backup name in the configuration for the System Input Backup. The directory for the backup cannot be created. Backup path: *arg*. Backup name: *arg*.

**Consequences**
The command "Backup" from System Input Signal will be rejected.

**Recommended actions**
Verify that configured path and name for the System Input Backup are correct.

## 20111, FlexPendant (program) in control

**Description**
The FlexPendant programming window has focus and is in control of the program server.

**Recommended actions**
Change to the production window and perform the command again.

*Continues on next page*


© Copyright 2005-2020 ABB. All rights reserved.

## 20120, System IO in control

**Description**

See Title.

**Recommended actions**

## 20126, Load data has changed

**Description**

The active load *arg* was removed and replaced with *arg*. The load data was located in task: *arg* connected to mechanical unit *arg*.

**Consequences**

The load definition for jogging may not be correct.

**Probable causes**

The load data was removed. The module containing the original tool definition may have been deleted.

**Recommended actions**

If you require the old definition, locate the program or module of the original load data and load it.

## 20127, Tool data has changed

**Description**

The active tool *arg* was removed and replaced with *arg*. The tool data was located in task: *arg* connected to mechanical unit *arg*.

**Consequences**

The tool definition for jogging may not be correct.

**Probable causes**

The tool data was removed. The module containing the original tool definition may have been deleted.

**Recommended actions**

If you require the old definition, locate the program or module of the original tool data and load it.

## 20128, Work object data has changed

**Description**

The active work object *arg* was removed and replaced with *arg*. The work object data was located in task: *arg* connected to mechanical unit *arg*.

**Consequences**

The work object definition for jogging may not be correct.

**Probable causes**

The work object data was removed. The module containing the original tool definition may have been deleted.

**Recommended actions**

If you require the old definition, locate the program or module of the original work object data and load it.

## 20130, Active Task Menu is restored

**Description**

During a controller restart, the "Active Task Menu" is restored in Auto mode.

**Consequences**

If one or several tasks were unchecked, they are now checked again after the restart in Auto mode.

**Probable causes**

A controller restart has been performed.

**Recommended actions**

Go to manual mode.

1 Uncheck the unwanted tasks.
2 Go back to Auto mode.

## 20131, Automatic Mode Rejected

**Description**

One or more logical I/O signals were blocked and could not be unblocked when automatic mode was requested.

**Consequences**

The system cannot enter automatic mode.

**Probable causes**

Some blocked I/O signal could not be unblocked.

**Recommended actions**

1 Switch back to manual mode.
2 a) Check Event Log for errors related to I/O,b) or set System Parameter Controller/Auto Condition Reset/AllDebugSettings/Reset to No if the system should be in debug mode when switching to auto.
3 Switch back to automatic mode and confirm.

## 20132, Blocked I/O signals

**Description**

One or more logical I/O signals were blocked during startup in automatic mode.

**Consequences**

Blocked signals will be unblocked.

**Probable causes**

System was switched to automatic mode during a controller restart.

System parameter AllDebugSettings is set to Yes.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

**Recommended actions**

None, system has automatically reset debug settings. To keep debug settings in auto:

1 Switch back to manual mode.
2 Set system parameter Controller/Auto Condition Reset/AllDebugSettings/Reset to NO.
3 Switch back to automatic mode and confirm.
4 For more info, see the Technical Reference Manual - System Parameters.

## 20133, Debug Settings in Auto

**Description**

One or more logical I/O signals were blocked during startup in automatic mode.

**Consequences**

Blocked I/O signals will stay blocked. System will not be in full production mode in auto.

**Recommended actions**

For full production mode:

1 Switch back to manual mode.
2 Set system parameter Controller/Auto Condition Reset/AllDebugSettings/Reset to YES.
3 Switch back to automatic mode and confirm.
4 For more info, see the Technical Reference Manual - System Parameters.

## 20134, Call Chain

**Description**

The call chain has been altered to begin at a routine other than main.

**Consequences**

Program pointer will be reset to main routine.

**Probable causes**

System was switched to automatic mode during controller restart. System parameter AllDebugSettings is set to Yes.

**Recommended actions**

For debug mode in auto:

1 Switch back to manual mode.
2 Set system parameter AllDebugSetting, reset to NO.
3 Switch back to automatic mode and confirm.
4 For more info, see the Technical Reference Manual - System Parameters.

## 20135, Debug Settings in Auto

**Description**

The call chain has been altered to begin at a routine other than main.

**Consequences**

Program pointer will not be set to main. System will not be in full production mode in auto.

**Recommended actions**

For full production mode:

1 Switch back to manual mode.
2 Set system parameter Controller/Auto Condition Reset/AllDebugSettings/Reset to YES.
3 Switch back to automatic mode and confirm.
4 For more info, see the Technical Reference Manual - System Parameters.

## 20136, Reduced Speed

**Description**

The system was running at reduced speed during startup in automatic mode.

**Consequences**

Speed will be set to 100%.

**Probable causes**

System was switched to automatic mode during controller restart.

**Recommended actions**

None, system has automatically reset debug settings.
To keep debug settings in auto:

1 Switch back to manual mode.
2 Set system parameter Controller/Auto Condition Reset/AllDebugSettings/Reset to NO.
3 Switch back to automatic mode and confirm.
4 For more info, see the Technical Reference Manual - System Parameters.

## 20137, Debug Settings in Auto

**Description**

The system was running at reduced speed during startup in automatic mode.

**Consequences**

Speed will stay unchanged. System will not be in full production mode in auto.

**Recommended actions**

For full production mode:

*Continues on next page*


© Copyright 2005-2020 ABB. All rights reserved.

1 Switch back to manual mode.
2 Set system parameter Controller/Auto Condition Reset/AllDebugSettings/Reset to YES.
3 Switch back to automatic mode and confirm.
4 For more info, see the Technical Reference Manual - System Parameters.

## 20138, Disabled Tasks

**Description**

One or more of the NORMAL tasks were disabled during the startup when in automatic mode.

**Consequences**

All disabled normal tasks will be enabled.

**Probable causes**

System was switched to automatic mode during controller restart. System parameter AllDebugSettings is set to Yes.

**Recommended actions**

None, system has automatically reset debug settings. To keep debug settings in auto:

1 Switch back to manual mode.
2 Set system parameter Controller/Auto Condition Reset/AllDebugSettings/Reset to NO.
3 Switch back to automatic mode and confirm.
4 For more info, see the Technical Reference Manual - System Parameters.

## 20139, Debug Settings in Auto

**Description**

One or more of the NORMAL tasks were disabled during startup in automatic mode.

**Consequences**

Disabled tasks will stay disabled. System will not be in full production mode in auto.

**Recommended actions**

For full production mode:

1 Switch back to manual mode.
2 Set system parameter Controller/Auto Condition Reset/AllDebugSettings/Reset to YES.
3 Switch back to automatic mode and confirm.
4 For more info, see the Technical Reference Manual - System Parameters.

## 20140, Motors On rejected

**Description**

Motors On, via System IO, was rejected.

**Recommended actions**

## 20141, Motors Off rejected

**Description**

Motors Off, via System IO, was rejected.

**Recommended actions**

## 20142, Start rejected

**Description**

Start/restart of program, via System IO, was rejected.

**Consequences**

Program will not be possible to start.

**Probable causes**

- The reason could be that the robot is outside of regain distance.
- The program was executing.
- An ongoing Backup operation.

**Recommended actions**

- Jog robot into regain zone or move the program pointer.
- Stop program before activating System Input Start.

## 20143, Start at main rejected

**Description**

Start of program at main, via System IO, was rejected.

**Consequences**

Program will not be possible to start.

**Probable causes**

- The program was executing.
- An ongoing Backup operation.

**Recommended actions**

Stop program before activating System Input Start at Main.

## 20144, Stop rejected

**Description**

Stop of program, via System IO, was rejected.

**Recommended actions**

## 20145, Stop cycle rejected

**Description**

Stop of program after cycle, via System IO, was rejected.

**Recommended actions**

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

## 20146, Manual interrupt rejected

**Description**

Manual interrupt of program, via System IO, was rejected.

**Consequences**

The manual interrupt will not be executed.

**Probable causes**

- The program was executing.
- An ongoing Backup operation.

**Recommended actions**

Stop program before activating System Input Interrupt.

## 20147, Load and start rejected

**Description**

Load and start of program, via System IO, was rejected.

**Consequences**

Program will not be possible to start.

**Probable causes**

- The arguments for the System Input Load and Start are wrong.
- The module was loaded, but the system failed to set the program pointer.
- The program was executing.
- An ongoing Backup operation.

**Recommended actions**

Check the following:

- Correct arguments for System Input Load and Start.
- Defined and correct name of the program file to be loaded (including mass memory unit).
- Defined and correct name of the task that the program should be loaded in.
- Program stopped before activating System Input Load and Start.

## 20148, Confirm rejected

**Description**

Emergency Stop reset confirm, via System IO, was rejected.

**Recommended actions**

## 20149, Error reset rejected

**Description**

Program execution error reset, via System IO, was rejected.

**Recommended actions**

## 20150, Load failure

**Description**

Load of program, via System IO, failed.

**Consequences**

Program will not be possible to start.

**Probable causes**

- The arguments for the System Input Load are wrong.
- The module was loaded, but the system failed to set the program pointer.
- The program was executing.
- An ongoing Backup operation.

**Recommended actions**

Check the following:

- Correct arguments for System Input Load.
- Defined and correct name of the program file to be loaded (including mass memory unit).
- Defined and correct name of the task that the program should be loaded in.
- Program stopped before activating System Input Load.

## 20153, Motors On and Start rejected

**Description**

Motors On and Start/Restart of program, via System IO, was rejected.

**Consequences**

Program will not be possible to start.

**Probable causes**

- The reason could be that the robot is outside of regain distance.
- The program was executing.
- An ongoing Backup operation.

**Recommended actions**

- Jog robot into regain zone or move the program pointer.
- Stop program before activating System Input Motors On and Start.

## 20154, Stop instruction rejected

**Description**

Stop of program after instruction, via System IO, was rejected.

**Recommended actions**

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 20156, Undefined Argument

**Description**

Interrupt routine name for System IO Manual Interrupt is not defined.

**Recommended actions**

Configure the interrupt routine name.

### 20157, Undefined Argument

**Description**

Program name for System IO LoadStart is not defined.

**Recommended actions**

Configure the program name.

### 20158, No System Input signal

**Description**

A System Input has been configured to an I/O-signal that does not exist. System Input: *arg*. Signal Name: *arg*.

**Consequences**

The system goes to system failure state.

**Recommended actions**

Add signal *arg* to eio.cfg or remove System Input *arg* from eio.cfg. For every System Input a signal must be configured.

### 20159, No System Output signal

**Description**

A System Output has been configured to an I/O-signal that does not exist. System Output: *arg*. Signal Name: *arg*.

**Consequences**

The system goes to system failure state.

**Recommended actions**

Add signal *arg* to eio.cfg or remove System Output *arg* from eio.cfg. For every System Output a signal must be configured.

### 20161, Path not found

**Description**

The system module *arg* in task *arg* has a corresponding specification in the configuration for "Task modules" that point out a non-existing file path.

**Recommended actions**

View "Task modules" in the "System Parameter" menu and change the path in the item for this system module.

### 20162, Write error

**Description**

A write error occur when the system try to save the system module *arg* at *arg* in task *arg*. Or the file system was full.

**Recommended actions**

View "Task modules" in the "System Parameter" menu and change the path in the item for this system module.

### 20164, Reconfig failed

**Description**

There are still some unsaved system modules.

**Recommended actions**

Read error descriptions in earlier messages. Try another system start.

### 20165, Program Pointer lost.

**Description**

Restart is no longer possible from current position.

**Recommended actions**

The program has to be started from the beginning.

### 20166, Refuse to save module

**Description**

The module *arg* is older than the source at *arg* in task *arg*.

**Recommended actions**

### 20167, Unsaved module

**Description**

The module *arg* is changed but not saved in task *arg*.

**Recommended actions**

### 20170, The system was stopped

**Description**

An error was detected, which stopped the system.

**Consequences**

The system goes to status SYS STOP and the robot is stopped along the path.

**Probable causes**

A number of errors may cause this status transition.

**Recommended actions**

1 Check other event messages occurring at the same time to determine the actual cause.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

2 Fix the cause of the fault.

## 20171, The system was halted

**Description**

An error was detected, which halted the system.

**Consequences**

The system goes to status SYS HALT, the program and robot motion is stopped and the motors are switched OFF.

**Probable causes**

A number of errors may cause this status transition.

**Recommended actions**

1 Check other event messages occurring at the same time to determine the actual cause.
2 Fix the cause of the fault.
3 Restart the program.

## 20172, The system has failed

**Description**

An error was detected, which caused the system to fail.

**Consequences**

The system goes to system failure state. The program and robot motion is stopped and the motors are switched OFF.

**Probable causes**

A number of errors may cause this status transition.

**Recommended actions**

1 Check other event messages occurring at the same time to determine the actual cause.
2 Fix the cause of the fault.
3 Perform a controller restart as detailed in the operating manual for the controller.

## 20176, Analog System Output Outside Limits

**Description**

The value *arg* for the System Output *arg*, signal *arg*, is outside its limits (logical min: *arg* m/s, logical max: *arg* m/s).

**Consequences**

The new value is not set; the previous value of the analogue signal is preserved.

**Probable causes**

The logical upper and/or lower limit for the signal may be defined wrongly.

**Recommended actions**

Adjust the values of the logical upper and/or lower limit for the signal and restart the controller.

## 20177, Short circuit in Motor phase circuit

**Description**

The motor or motor cable for joint *arg* in drive module *arg*, drive unit number *arg*, is a short circuit.

**Consequences**

No operation will be possible until after correcting the fault. The system goes to status SYS HALT.

**Probable causes**

This may be caused by a faulty motor or motor cable. It may also be caused by contamination in the contactors for the cables or a failure of the motor windings.

**Recommended actions**

1 Make sure the motor cable is correctly connected to the drive unit.
2 Check the cable and motor by measuring their resistance respectively. Disconnect before measuring.
3 Replace any faulty component.

## 20178, Wrong task name configured

**Description**

Wrong task name *arg* configured for System Input *arg*.

**Consequences**

The digital input signal will not be connected to the specified event.

**Recommended actions**

Change the configuration and restart the controller.

## 20179, Disk memory critically low

**Description**

The amount of free storage capacity on the disk has reached a critical level. It is now less than 10 Mb. Execution of RAPID programs is stopped.

**Consequences**

The disk memory is very close to being completely full. When this happens the system will not be able to function.

**Probable causes**

Too much data on the disk.

**Recommended actions**

1 Save the files on some other disk connected to the network.
2 Erase data from disk.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

3 After removing files from the drive, restart the program.

## 20181, System Reset rejected.

**Description**

System Reset via System IO not allowed.

**Recommended actions**

## 20182, The System Input Signal QuickStop is ineffective.

**Description**

A stop action has already started.

**Recommended actions**

## 20184, Incorrect argument for System Inputs

**Description**

An undefined Start Mode has been declared for System IO.

**Recommended actions**

## 20185, Incorrect Name

**Description**

An undefined Name has been declared in current runchn_bool configuration.

**Recommended actions**

## 20187, Diagnostics record file created

**Description**

Due to any of a number of faults, a system diagnostics file was created at *arg*. This file contains internal debug info and is intended for trouble shooting and debugging purposes.

**Consequences**

The system will react to the error causing the stop as specified in its own event log text.

**Probable causes**

A number of errors may cause this. Faults causing the system to go to system failure state will generally also create a diagnostics record file.

**Recommended actions**

If required, the file may be appended to an error report sent to your local ABB representative.

## 20188, System data is not valid

**Description**

The contents of the file, *arg*, containing system persistent data is invalid. Internal error code: *arg*. The system has been started using last good system data saved earlier at *arg*.

**Consequences**

Any changes made in the system configuration or RAPID programs since *arg* will be rejected.

**Recommended actions**

1 Check other event messages occurring at the same time to determine the actual cause.
2 If acceptable, revert to the last auto saved system data.
3 Reinstall the system.
4 Check the available disk storage capacity. If required, erase data to increase free storage capacity.

## 20189, Robot data not valid

**Description**

Could not load the system independent robot data from file *arg*. The file exists but the content is not valid. Internal code: *arg*.

**Recommended actions**

Check other logged messages for needed actions. Make sure there is free memory left on the device.

## 20192, Disk memory low

**Description**

The amount of free storage capacity on the disk is less than 25 MB. When reaching 10 MB, execution of RAPID programs will be stopped.

**Consequences**

The disk memory is close to being completely full. When this happens the system will not be able to function.

**Probable causes**

Too much data on the disk.

**Recommended actions**

1 Save the files on some other disk connected to the network.
2 Erase data from disk.

## 20193, Robot data update warning

**Description**

Axis sync values and service information data (SIS) was restored from backup.
The system independent robot data was not saved during system shutdown. The data was restored from latest backup.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

**Recommended actions**

Make sure there is free memory left on the device.

The backup battery may be drained. Check the hardware log.

## 20194, System data backup could not be created

**Description**

The system was restored successfully but a backup of the current system data could not be created.

**Recommended actions**

Make sure there is free memory left on the device *arg*.

## 20195, System data from last shutdown is lost

**Description**

Normally, all system data is saved on shutdown. During the last shutdown saving data has failed. The system has been started using last good system data saved earlier at *arg*.

**Consequences**

Any changes made in system configuration or RAPID programs since *arg* will NOT be available after restart. Any such changes will have to be re-implemented.

**Probable causes**

The backup energy bank may have been drained at the time of the shutdown. The storage disk may be full.

**Recommended actions**

1. Check other event messages occurring at the same time to determine the actual cause.
2. If acceptable, restart using revert to last auto saved to accept the last good system data.
3. Reinstall the system.
4. Check the available disk storage capacity. If required, erase data to increase free storage capacity.

## 20196, Module saved

**Description**

During reconfiguration of the system a changed and not saved module was found.

The module was saved to *arg*.

**Recommended actions**

## 20197, System data from last shutdown cannot be found

**Description**

Normally, all system data is saved on shutdown. The file containing system persistent data cannot be found. The system has been started using last good system data saved earlier at *arg*.

**Consequences**

Any changes made in system configuration or RAPID programs since *arg* will NOT be available after restart. Any such changes will have to be re-implemented.

**Probable causes**

The file containing the saved system data may have been manually moved or deleted.

**Recommended actions**

1. Check the location and availability of the saved system data file.
2. If acceptable, restart using revert to last auto saved to accept the last good system data.
3. Reinstall the system.

## 20199, System SoftStop Rejected

**Description**

The System Input SoftStop is not allowed.

**Recommended actions**

## 20270, Access error

**Description**

Panel Module access error.

**Recommended actions**

Examine your I/O configuration files.

## 20280, Symbol conflict

**Description**

The signal *arg* defined in the IO configuration conflict with another program symbol with the same name.

Due on that fact the signal will not be mapped to a program variable.

**Recommended actions**

Rename the signal in the IO configuration.

## 20281, IO configuration error

**Description**

*arg arg* with signal name *arg* has wrong signal type. Found *arg* expected *arg*.

**Recommended actions**

Change your configuration and restart the controller.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 20282, Resource and index exist

**Description**

Resource *arg*.

Index *arg*.

**Recommended actions**

### 20283, Text database is full.

**Description**

Resource *arg*.

Index *arg*.

**Recommended actions**

### 20284, Wrong Signal Type For System Input

**Description**

The System Input *arg* is configured with an I/O-signal of wrong type.

The I/O-signal *arg* is of type *arg* and this System Input requires an I/O-signal of type *arg*.

**Recommended actions**

Change the configuration for the specified System Input.

### 20285, Wrong Signal Type For System Output

**Description**

The System Output *arg* is configured with an I/O-signal of wrong type.

The I/O-signal *arg* is of type *arg* and this System Output requires an I/O-signal of type *arg*.

**Recommended actions**

Change the configuration for the specified System Output.

### 20286, Not Unique I/O-Signal For System Output

**Description**

Each System Output must have a unique I/O-signal configured.

It is not possible to configure same I/O-signal to several System Outputs.

System Output: *arg*.

Signal Name: *arg*.

**Recommended actions**

### 20287, Not Unique I/O-signal For System Input

**Description**

Each System Input must have a unique I/O-signal configured.

It is not possible to configure same I/O-signal to several System Inputs.

System Input: *arg*.

Signal Name: *arg*.

### 20288, Unknown System Output Type

**Description**

The configured System Output type is unknown by the system.

Unknown System Output: *arg*.

**Recommended actions**

Verify that the System Output name is correctly spelled.

### 20289, Unknown System Input Type

**Description**

The configured System Input type is unknown by the system.

Unknown System Input: *arg*.

**Recommended actions**

Verify that the System Input name is correctly spelled.

### 20290, Unknown Mechanical Unit Name For System Output

**Description**

A System Output is configured with a mechanical unit name which is unknown by the system.

System Output: *arg*.

Mechanical unit name: *arg*.

**Recommended actions**

The specified mechanical unit must be configured in order to be used by System Outputs.

Verify that the mechanical unit name is correctly spelled.

### 20291, Unknown System Input Restriction Type

**Description**

The configured System Input Restriction Type is unknown by the system.

Unknown System Input Restriction: *arg*.

**Recommended actions**

Verify that the System Input Restriction name is correctly spelled.

### 20292, Unknown System Input Restriction

**Description**

The configured System Input Restriction is unknown by the system.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

System Input Restriction Type: *arg*.
Unknown System Input Restriction: *arg*.

**Recommended actions**
Verify that the System Input Restriction name is correctly spelled.

## 20293, The Requested Action is Restricted

**Description**
The requested *arg* is restricted by the system input *arg* set by I/O signal *arg*.

**Consequences**
The action called for will not take place.

**Probable causes**
System input *arg* may be set by external equipment, such as PLCs, etc. for a number of reasons.

**Recommended actions**
1 Investigate why the system input was set, and, if required, correct the reason.

## 20294, Action *arg* cannot be fulfilled.

**Description**
The requested action cannot be fulfilled since the IO unit is not responding.

**Consequences**
It is not possible to decide if there are any restrictions set to the action.

**Probable causes**
The requested action will not be fulfilled until the I/O unit is enabled again.

**Recommended actions**
Never disable a unit with System Inputs/Outputs.

## 20295, Signal cannot be used as System Output.

**Description**
The System Output *arg* is configured with an I/O-signal with wrong category. The I/O-signal *arg* belongs to category Safety and cannot be used as System Output.

**Recommended actions**
Choose another signal or set to another category.

## 20296, Wrong task name configured

**Description**
Wrong task name *arg* configured for System Output *arg*.

**Consequences**
The digital output signal will not be connected to the specified event.

**Recommended actions**
Change the configuration and restart the controller.

## 20297, System Output Communication Failure

**Description**
Unable to set the value of the I/O signal *arg* connected to the System Output *arg*.

**Consequences**
The system goes to status SYS HALT.

**Probable causes**
- The connection to the I/O unit may have been lost.

## 20298, Unknown Mechanical Unit Name For System Input

**Description**
A System Input is configured with a mechanical unit name which is unknown by the system.
System Input: *arg*.
Mechanical unit name: *arg*.

**Recommended actions**
The specified mechanical unit must be configured in order to be used by System Inputs.
Verify that the mechanical unit name is correctly spelled.

## 20321, Not-a-Number

**Description**
Not-a-Number was found in task *arg*.
A symbol of type '*arg*' was found holding an undefined number.

**Consequences**
The undefined number was replaced with '*arg*'.

## 20322, Positive infinity

**Description**
Positive infinity was found in task *arg*.
A symbol of type '*arg*' was found holding positive infinity.

**Consequences**
The positive infinity was replaced with '*arg*'.

*Continues on next page*


© Copyright 2005-2020 ABB. All rights reserved.

## 20323, Negative infinity

**Description**

Negative infinity was found in task *arg*.

A symbol of type '*arg*' was found holding negative infinity.

**Consequences**

The negative infinity was replaced with '*arg*'.

## 20324, Incorrect argument for System IO Signal

**Description**

*arg* set to signal *arg* has an incorrect argument.

**Consequences**

It will not be possible to use *arg*.

**Probable causes**

The configuration has probably been edited outside a proper configuration editor.

**Recommended actions**

The system IO signal must be reconfigured, preferably with the configuration editor on RobotStudio or on FlexPendant.

## 20325, SC *arg* supervision not activated

**Description**

There is no user configuration in Safety Controller (SC), i.e. safety supervision is disabled.

**Consequences**

SC cannot stop robot movement.

**Probable causes**

There is no user configuration in SC or there is no SC connected in the drive module *arg*.

**Recommended actions**

Download a new user configuration to SC. Activate the configuration by restarting the controller and enter the pin code.

## 20326, Incorrect argument for System IO Signal

**Description**

*arg* set to signal *arg* has an incorrect argument. The delay must not be a negative value.

**Consequences**

It will not be possible to use *arg*.

**Recommended actions**

The system IO signal must be reconfigured.

## 20350, Not a valid task name

**Description**

The task name *arg* cannot be used as a name of a task. It is either already used as an installed symbol, a reserved word in the system or too long (max. 16 characters).

**Consequences**

The task will not be installed in the system.

**Recommended actions**

Change the configuration of the task name and restart the controller.

## 20351, Max number of tasks exceeded

**Description**

The maximum number of tasks, *arg*, of the configuration type *arg* is exceeded.

**Consequences**

All configured tasks will not be installed.

**Recommended actions**

Change the configuration and restart the controller.

## 20352, Not a valid Motion Planner name

**Description**

The Motion Planner name for Mechanical Unit Group *arg* in *arg* is not correct.

The reason can be one of the following:

1 Empty name.
2 Not present in the Motion configuration.
3 Already in use by another Mechanical Unit Group.

**Consequences**

The system will not be able to use.

**Recommended actions**

Change the configuration and restart the controller.

## 20353, Mechanical unit not found

**Description**

The mechanical unit *arg* in *arg* cannot be found in the list of configured mechanical units.

**Consequences**

It is not possible to execute any RAPID instructions that use the configured mechanical units.

**Probable causes**

The unit is probably not present in the Motion configuration.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

**Recommended actions**

Change the configuration and restart the controller.

## 20354, The argument is undefined

**Description**

The configured argument *arg* for task *arg* is not a valid type.

**Consequences**

The behavior of the task will be undefined.

**Recommended actions**

Change the configuration and restart the controller.

## 20355, Mechanical Unit Group name not correct

**Description**

The configured name of *arg* in task *arg* is not correct.

The reason could be:

1 The argument is not used in the configuration.
2 The configured name is not a member of the Mechanical Unit Group.
3 The configured name is already used by another task.

**Consequences**

The task will not be installed or it will not be possible to execute RAPID motion instructions.

**Recommended actions**

Change the configuration and restart the controller.

## 20356, Maximum number of Motion tasks exceeded

**Description**

Only *arg* tasks are allowed to control mechanical units i.e. execute RAPID move instructions.

**Recommended actions**

Change the configuration and restart the controller.

## 20357, No configured Motion task

**Description**

No task is configured to control mechanical units i.e. execute RAPID move instructions.

**Consequences**

It is not possible to execute any RAPID move instructions.

**Recommended actions**

Reinstall the system and be sure to include a robot.

## 20358, No members of *arg* configured

**Description**

The configuration type is required in a multi robot system.

**Consequences**

It is not possible to execute any RAPID move instructions.

**Recommended actions**

Change the configuration and restart the controller.

## 20359, Cfg type *arg* is configured

**Description**

The type was found but not expected in a system with current options.

**Recommended actions**

Check if the right configuration file is loaded or remove all instances of the type.

Restart the controller.

## 20360, Unknown event in cfg type *arg*

**Description**

The event *arg* is not a system event.

**Recommended actions**

Change the configuration and restart the controller.

## 20361, Only shared modules in the shared task

**Description**

The module *arg* is not configured shared and cannot be loaded into the shared task.

**Recommended actions**

Change the configuration and restart the controller.

## 20362, Not defined task name

**Description**

The task *arg* in cfg type *arg* is not configured in the system.

**Recommended actions**

Change the configuration and restart the controller.

## 20363, Module not a system module

**Description**

The module *arg* loaded from the file *arg* is not a system module.

**Recommended actions**

Change the file suffix or add a module attribute to the module.

Load the module again or restart the controller.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

## 20364, Max number of Mechanical Unit Groups exceeded

**Description**

The maximum number of Mechanical Unit Groups, *arg*, of the configuration type *arg* is exceeded.

**Consequences**

Exceeded instances are ignored.

**Recommended actions**

Change the configuration and restart the controller.

## 20365, Update of configuration is done

**Description**

All tasks are reset to its main routine due to configuration changes.

**Recommended actions**

## 20366, Type error in task configuration

**Description**

The task *arg* is configured with wrong type. Task configured to control mechanical units i.e. execute RAPID move instructions must be of type *arg*.

**Consequences**

The task will not be installed.

**Recommended actions**

Change the configuration and restart the controller.

## 20367, No configured mechanical units

**Description**

The instance *arg* of configuration type *arg* has no mechanical unit argument.

**Consequences**

It will not be possible to perform any actions against the motion system, i.e. execute RAPID move instructions.

**Recommended actions**

Change the configuration and restart the controller.

## 20368, Not connected Mechanical Unit Group

**Description**

There is no Motion task connected with the Mechanical Unit Group *arg*.

**Consequences**

It will not be possible to use the mechanical units that belong to this group.

**Probable causes**

The cause of this error can be a missing RAPID task instance in the Controller domain of the configuration or a task that has not been configured as a Motion task.

**Recommended actions**

1 Add a Motion task instance that is connected to the Mechanical Unit Group.
2 Change an existing non Motion task to a Motion task.
3 Remove the Mechanical Unit Group.
4 Check for misspelled names.

## 20369, Confusing configuration of system parameters.

**Description**

There is a mixture of old and new structure of type System Misc.

**Consequences**

It is possible that not the correct parameters are configured.

**Probable causes**

Configuration of old and new structure has been loaded into the system.

**Recommended actions**

1 Check that the correct parameters are configured.
2 Update the parameters in System Misc with correct values.
3 Save the Controller domain and replace the old configuration file.

## 20370, Failed to read configuration data for regain distance

**Description**

The system failed to read the configuration data for the type <*arg*>. The regain distance is the limit when the system will warn before a start with regain movement.

**Consequences**

Default value for the regain distance will be used.

**Probable causes**

- The sys.cfg file loaded into the system does not contain any regain distance information.
- No sys.cfg file has been loaded due to file errors.

**Recommended actions**

1 Load a new sys.cfg file and restart the controller.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

## 20371, A default Mechanical Unit Group is used

**Description**

The configuration of task *arg* has no connection to *arg*. The attribute *arg* is required in a MultiMove system and is missing.

**Consequences**

The task performs no movement by the mechanical unit, but can read motion data. The RAPID functions may fail, if they read motion data and is connected to the wrong mechanical unit. The Mechanical Unit Group in *arg* has been connected to the task.

**Probable causes**

- The attribute was not specified when the configuration was created.
- The configuration file could have been created in a non-multi move system.

**Recommended actions**

1 Make sure the correct Mechanical Unit Group is connected to the task.

## 20372, Failed to read configuration data.

**Description**

The system failed to read the configuration data for the type <*arg*>.

**Consequences**

Hotedit or modpos will not be possible.

**Probable causes**

- The sys.cfg file loaded into the system does not contain hotedit and modpos information.
- No sys.cfg file has been loaded due to file errors.

**Recommended actions**

Load a new sys.cfg file and restart the controller.

## 20373, Missing task name

**Description**

No task is given for module *arg* in cfg type *arg*.

**Recommended actions**

Change the configuration and restart the controller.

## 20380, No Motion Planner connected to mechanical unit

**Description**

The mechanical unit *arg* has no Motion Planner connected.

**Consequences**

It is not possible to use this mechanical unit in any operations such as calibration or activation.

**Probable causes**

The cause of this error is probably an error in the configuration.

**Recommended actions**

Check the Motion and/or Controller configuration.

## 20381, Error when recreating path after power fail

**Description**

The path wasn't successfully recreated.

**Consequences**

The Program Pointer must be moved before restarting the program. It's recommended to move the robot to a safe position though the robot might not follow the original path when restarted.

**Probable causes**

A number of errors may cause this. Faults causing the system to go to system failure state will generally also cause path recreate after power failure to fail.

**Recommended actions**

1 Check other event messages occurring at the same time to determine the actual cause.
2 Fix the cause of the fault.
3 Move the robot to a safe position before restarting. The robot may not follow the original path.

## 20390, Start rejected

**Description**

Start/restart of program, via System IO, was rejected.
The reason is that write access is held by *arg* using *arg*.

**Recommended actions**

## 20391, Start at main rejected

**Description**

Start of program at main, via System IO, was rejected.
The reason is that write access is held by *arg* using *arg*.

**Recommended actions**

## 20392, Manual interrupt rejected

**Description**

Manual interrupt of program, via System IO, was rejected.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

The reason is that write access is held by *arg* using *arg*.

**Recommended actions**

## 20393, Load and start rejected

**Description**

Load and start of program, via System IO, was rejected.
The reason is that write access is held by *arg* using *arg*.

**Recommended actions**

## 20394, Motors On and Start rejected.

**Description**

Motors On and Start/restart of program, via System IO, was rejected.
The reason is that write access is held by *arg* using *arg*.

**Recommended actions**

## 20395, Load rejected

**Description**

Load of program via System IO, was rejected.
The reason is that write access is held by *arg* using *arg*.

## 20396, Manual interrupt rejected

**Description**

Manual interrupt of program, via System IO, was rejected in task *arg*.
Manual interrupt is not allowed during synchronized movement.

## 20397, Manual interrupt rejected

**Description**

Manual interrupt of program, via System IO, was rejected in task *arg*.
The interrupt is connected to *arg*, which is not a valid RAPID procedure.

**Consequences**

*arg* will not be executed.

**Probable causes**

1 does not exist.
2 is not a procedure (PROC) that takes zero (0) parameters.

**Recommended actions**

Make sure that *arg* is an existing procedure (PROC) that takes zero (0) parameters.

## 20398, Automatic Mode Rejected

**Description**

A stopped static/semi-static task (alias background task) could not be started when automatic mode was requested.

**Consequences**

The system cannot enter automatic mode.

**Probable causes**

A stopped static/semi-static task could not be started.

**Recommended actions**

1 Switch back to manual mode.
2 Make sure that all static/semi-static tasks has a program/module containing the configured production entry.
3 Make sure that no static/semi-static task has any syntax errors.
4 Switch back to automatic mode and confirm.

## 20399, Static/Semi-static task started

**Description**

At least one static/semi-static task (alias background task) was not executing after startup in automatic mode.

**Consequences**

Execution was started in at least one static/semi-static task.

**Probable causes**

System was switched to automatic mode during a controller restart.

**Recommended actions**

None, system has automatically reset debug settings. To keep debug settings in auto:

1 Switch back to auto mode.
2 Set system parameter Controller/Auto Condition Reset/AllDebugSettings/Reset to NO.
3 Switch back to automatic mode and confirm.
4 For more info, see the Technical Reference Manual - System Parameters.

## 20400, Debug Settings In Auto

**Description**

A static/semi-static task (alias background task) has been stopped.

**Consequences**

The static/semi-static task will not be started.
System will not be in full production mode in auto.

**Recommended actions**

For full production mode:

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

1 Switch back to manual mode.
2 Set system parameter Controller/Auto Condition Reset/AllDebugSettings/Reset to Yes.
3 Switch back to automatic mode and confirm.
4 For more info, see the Technical Reference Manual - System Parameters.

## 20401, Too many CFG instances

**Description**

There are too many instances *arg* of type *arg* in topic *arg*.

**Consequences**

The wrong instance may be used and cause unexpected behavior.

**Probable causes**

There are multiple instances of *arg*of type *arg* in topic *arg*.

**Recommended actions**

Remove all instances but one.

## 20402, Automatic Mode Rejected

**Description**

An active RAPID Spy session could not be deactivated when automatic mode was requested.

**Consequences**

The system cannot enter automatic mode.

**Probable causes**

RAPID Spy could not be deactivated.

**Recommended actions**

1 Switch back to manual mode.
2 Use an external client, e.g. RobotStudio, to deactivate RAPID Spy.
3 Switch back to automatic mode and confirm.

## 20403, RAPID Spy deactivated

**Description**

RAPID Spy was deactivated after startup in automatic mode.

**Consequences**

RAPID Spy was deactivated.

**Probable causes**

System was switched to automatic mode during controller restart.

**Recommended actions**

None, system has automatically reset debug settings. To keep debug settings in auto:

1 Switch back to manual mode.
2 Set system parameter Controller / Auto Condition Reset / AllDebugSettings / Reset to NO.
3 Switch back to automatic mode and confirm.
4 For more info, see the Technical Reference Manual - System Parameters.

## 20404, Debug Settings In Auto

**Description**

RAPID Spy is active.

**Consequences**

RAPID Spy will not be deactivated.
System will not be in full production mode in auto.

**Recommended actions**

For full production mode:
1 Switch back to manual mode.
2 Set system parameter Controller / Auto Condition Reset / AllDebugSettings / Reset to Yes.
3 Switch back to automatic mode and confirm.
4 For more info, see the Technical Reference Manual - System Parameters.

## 20408, PP to Main rejected

**Description**

Setting PP to Main, via System IO, was rejected.
The reason is that write access is held by *arg* using *arg*.

## 20409, PP to Main rejected

**Description**

Setting PP to Main, via System IO, was rejected.

**Consequences**

PP wasn't set to Main.

**Probable causes**

The reason could be that the program was executing or that no program is loaded containing the Main procedure.

**Recommended actions**

Make sure the program execution is stopped and that a program containing the Main procedure is loaded.

## 20410, Energy Saving has been reset

**Description**

Energy Saving has been reset. Before being reset, the system was in Energy Saving Mode: *arg*.

*Continues on next page*


© Copyright 2005-2020 ABB. All rights reserved.

**Consequences**
The system is no longer in any Energy Saving mode.

**Probable causes**
The system has been restarted, intentional or caused by a power fail.

## 20411, Energy saving activated

**Description**
The robot system has entered an energy saving state.

**Consequences**
The robot system will not be able to perform any normal tasks.

## 20412, Energy saving deactivated

**Description**
The robot system has resumed from an energy saving state.

**Consequences**
The robot system will now be able to perform any normal tasks.

## 20413, Motors On failed

**Description**
Motors On failed when the controller was resuming from an energy saving state.

**Consequences**
The system will resume from energy saving state, but remain in Motors Off/Guard Stop.

**Probable causes**
The controller:
- is no longer in Auto mode,
- is in system failure state,
- is in emergency stop state.

## 20414, Program start failed

**Description**
Start of program execution failed when the controller was resuming from an energy saving state.

**Consequences**
The system will resume from energy saving state, but remain in stopped state.

**Probable causes**
The controller:
- is no longer in Auto mode,
- is in system failure state,
- is in emergency stop state.

## 20415, Motors On/Program Start failed

**Description**
Motors On and/or Start of program execution failed when the controller was resuming from an energy saving state.

**Consequences**
The system will resume from energy saving state, but remain in Motors Off.

**Probable causes**
The system is in Emergency Stop state.

**Recommended actions**
Make sure the emergency stop button has been released and that the emergency stop has been reset (pressing Motors On button or using System Input action 'Reset Emergency Stop').

## 20416, Energy saving blocked

**Description**
The robot system has been blocked from entering an energy saving state.

**Consequences**
The robot system will not be able to enter an energy saving state until being unblocked.

## 20417, Energy saving unblocked

**Description**
The robot system has left blocked state.

**Consequences**
The robot system will now be able to enter an energy saving state.

## 20418, Energy saving already active

**Description**
The robot system has already entered energy saving state. There is no support for switching between energy saving modes. To enter a different energy saving mode, the robot system must first be resumed.

**Consequences**
The robot system will remain in the previously entered saving mode.

**Probable causes**
The robot system has already entered energy saving state.

**Recommended actions**
To enter a different energy saving mode, the robot system must first be resumed.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

## 20425, Write Access rejected

**Description**

Requesting Write Access, via System IO, was rejected.

**Consequences**

Write Access was not granted.

**Probable causes**

The reason could be that another client already holds write access or that the system isn't in Auto mode.

**Recommended actions**

Make sure that no other client, e.g. RobotStudio, holds write access and that the system is in Auto mode.

## 20426, Write Access rejected

**Description**

Requesting Write Access, via System IO, was rejected.
The reason is that write access is held by *arg* using *arg*.

## 20440, Failed to initialize FW upgrade framework

**Description**

The firmware upgrade framework for hardware boards could not be initialized.

**Consequences**

No firmware upgrade of hardware boards will be performed.

**Probable causes**

An invalid xml file in the controller installation:*arg*.

**Recommended actions**

For developers:

- Correct the file. Use the hw_compatibility.xsd schema to verify.

For other users:

- Reinstall the system.

## 20441, Failed to initialize firmware patch

**Description**

Failed to initialize the firmware patch handling for hardware boards.

**Consequences**

No firmware patches for hardware boards will be applied.

**Probable causes**

The firmware patch file was invalid:*arg*.

**Recommended actions**

Correct the patch file. Use the schema hw_compatibility.xsd to verify.

## 20443, Multiple firmware upgrade restarts

**Description**

A new restart to firmware upgrade mode was ordered after two consecutive upgrade restarts.

**Consequences**

No further restart to firmware upgrade mode was performed.

**Probable causes**

Firmware upgrade of a hardware board has most likely failed. The board's firmware or hardware may be corrupt.

**Recommended actions**

Check the event log for previous error messages.

## 20444, The SD card was removed

**Description**

The SD card was removed.

**Consequences**

The system will enter system failure state.

**Probable causes**

The SD card was removed or there is a glitch in the contact between the SD card and the connector.

**Recommended actions**

Perform a restart as detailed in the Operator's Manual, IRC5.

## 20445, The USB to Serial adapter was removed

**Description**

The USB to Serial adapter was removed.

**Consequences**

The USB to serial port is not accessible.

**Probable causes**

The USB to Serial adapter was removed or there is a glitch in the contact between the USB to Serial adapter or the connector.

**Recommended actions**

Perform a restart as detailed in the Operator's Manual, IRC5.

## 20446, Failed to access the HOME directory

**Description**

The system failed to access the HOME directory during startup. The system has tried to create a new HOME directory to recover.

**Consequences**

The system has entered system failure state.
If a new HOME directory was created: *arg* then it will be empty.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

**Probable causes**

The HOME directory was missing or renamed before the reboot of the system.

**Recommended actions**

1 Check the contents in the HOME directory for any missing file or folder.
2 Copy any missing contents to the HOME directory from a Backup and reboot the system or do a restore from a Backup to recover.

## 20450, SC *arg* CBC Speed exceeded

**Description**

Cyclic Brake Check (CBC) speed limit is exceeded in Safety Controller (SC) on mechanical unit *arg*. Either CBC test interval has expired or a previous brake check failed.

**Recommended actions**

Decrease speed and execute Brake check.

## 20451, SC *arg* Not synchronized

**Description**

Safety Controller (SC) *arg* is not synchronized with supervised mechanical units.

**Recommended actions**

Move all mechanical units supervised by Safety Controller *arg* to the synchronization positions defined in the safety configuration.

## 20452, SC *arg* Synchronized

**Description**

Safety Controller (SC) *arg* is now synchronized to supervised mechanical units. Safety supervision can be used.

## 20453, SC *arg*: Wrong Sync. Position

**Description**

The positions of the supervised mechanical units do not match the synchronization positions defined in the safety configuration for Safety Controller (SC) *arg* on axis *arg*.

**Recommended actions**

- Check that all supervised mechanical units are positioned at the configured synchronization position.
- Check that the synchronization switch is working properly.
- Check that motor calibration and revolution counters are updated and correct.
- Check that the synchronization position in the safety configuration is correct.
- Check for configuration error.
- Download motor calibration values.
- Check if axis 4 or 6 is configured as independent, if YES, check that the EPS configuration is configured likewise.

## 20454, SC *arg* Servo-Lag Limit exceeded

**Description**

Safety Controller (SC) *arg* detected a too big difference between the ordered and actual position, for mechanical unit *arg* on axis *arg*.

**Recommended actions**

- Check for collision.
- If using external axis, check Servo Lag settings in the safety configuration.
- If using Soft Servo, Check that the Operational Safety Range (OSR) Tolerance in the safety configuration is not set too low.
- Verify that revolution counters are updated.
- Check for communication problems to the main computer, axis computer or the serial measurement board.
- Check if tool weight is correctly defined.

## 20455, SC *arg* Incorrect Position Value

**Description**

Incorrect position value from serial measurement board detected by Safety Controller (SC) *arg* on mechanical unit *arg*.

**Recommended actions**

- Check resolver and resolver connections.
- Replace serial measurement board.
- Replace resolver.

## 20456, SC *arg* Reference Data Timeout

**Description**

The robot controller has stopped sending reference data to Safety Controller (SC) *arg*.

**Recommended actions**

1 Check previous error logs for possible causes.
2 Restart the robot controller.

## 20457, SC *arg* Changed safety configuration

**Description**

The safety configuration for Safety Controller (SC) *arg* has changed contents or does not fit with the used hardware.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

**Probable causes**

- New safety configuration has been downloaded, the normal case.
- The configuration does not fit with the used hardware. Typically when the event message with request for new pin code is repeated.
- Corrupt safety configuration. Typically when the event message with request for new pin code is repeated.

**Recommended actions**

1 Check for new event messages that indicates if a new safety configuration has been downloaded.
2 If no new safety configuration has been downloaded and this event message comes after a restart, download a new safety configuration to the Safety Controller.
3 Create and download a new safety configuration if this event message comes after every restart and there is a request for new pin code again.

## 20458, SC *arg* Internal Failure

**Description**

Internal Failure in Safety Controller (SC) *arg*.

**Recommended actions**

- Check Safety Controller cabling.
- Check Safety Controller health on LED.
- Replace Safety Controller if remaining error.

## 20459, SC *arg* Input/Output Failure

**Description**

I/O Error on Safety Controller (SC) *arg*.

**Recommended actions**

- Check Safety Controller cabling.
- Check Safety Controller health.

Restart robot controller, after performing recommended actions.

## 20460, SC *arg* safety configuration not found

**Description**

Failed to retrieve safety configuration for Safety Controller (SC) *arg*.

**Recommended actions**

- Restart robot controller.
- Download a safety configuration to the SC.
- Reinstall system.

## 20461, SC *arg* Robot Configuration not found

**Description**

Failed to retrieve robot configuration for Safety Controller (SC) *arg*.

**Recommended actions**

- Restart robot controller.
- Reinstall system.

## 20462, SC *arg* Calibration Offset not found

**Description**

Failed to retrieve motor calibration offsets for Safety Controller (SC) *arg*.

**Recommended actions**

Download new calibration offsets to the SC.

## 20463, SC *arg* safety configuration downloaded

**Description**

Download of safety configuration was successful for Safety Controller (SC) *arg*.

## 20464, SC *arg* OSR Limit exceeded

**Description**

Safety Controller (SC) *arg* detected a too big difference between the ordered and actual position inside Operational Safety Range (OSR), for mechanical unit *arg* on axis *arg*.

**Recommended actions**

- Check for collision.
- Check that Operational Safety Range (OSR) Tolerance in the safety configuration is not set too low.
- Synchronize the Safety Controller, if the revolution counters have been updated since last synchronization.

## 20465, SC *arg* SAS Speed exceeded

**Description**

Safe Axis Speed (SAS) violation on mechanical unit *arg* axis *arg* on Safety Controller (SC).

**Recommended actions**

Decrease speed on axis *arg*.

## 20466, SC *arg* Input/Output Failure

**Description**

I/O Error on Safety Controller (SC) *arg* I/O *arg* Type *arg*.

Type 1: Input.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

Type 2: Output.

**Probable causes**

- Wrong connection to I/O terminals on SC.
- Two channel I/O mismatch.

**Recommended actions**

- Check SC cabling.
- Check SC health.

Restart robot controller, after performing recommended actions.

## 20467, SC *arg* STS speed exceeded

**Description**

Safe reduced Tool Speed (STS) in Safety Controller (SC) on mechanical unit *arg* too high. Cause *arg*.

**Probable causes**

1 Tool0 speed.
2 Elbow speed.
3 Tool speed.
4 Additional axis speed.

**Recommended actions**

Reduce tool speed.

## 20468, SC *arg* STZ violation

**Description**

Safe Tool Zone (STZ) *arg* is violated on mechanical unit *arg*.
Tool *arg* was active.
Cause *arg*.

**Probable causes**

1 Exceeded speed.
2 Wrong tool position.
3 Wrong tool orientation.
4 Wrong elbow position.
5 Wrong tool point 1 position.
6 Wrong tool point 2 position.
7 Wrong tool point 3 position.
8 Wrong tool point 4 position.
9 Wrong tool point 5 position.
10 Wrong tool point 6 position.
11 Wrong tool point 7 position.
12 Wrong tool point 8 position.

**Recommended actions**

- Reduce speed.
- Move robot tool to safe position.
- Adjust tool orientation.

## 20469, SC *arg* SAR violation

**Description**

Safe Axis Range (SAR) *arg* is violated on mechanical unit *arg* axis *arg*.

**Recommended actions**

Move mechanical unit to safe position.

## 20470, SC *arg* Synchronization Pre-warning

**Description**

Synchronization required for mechanical units supervised by Safety Controller (SC) *arg* in less than *arg* hour(s).

**Recommended actions**

Perform synchronization before the time limit expires.

## 20471, SC *arg* Synchronization Timeout

**Description**

Synchronization time limit expired for Safety Controller (SC) *arg*.

**Recommended actions**

Perform synchronization.

## 20472, SC *arg* New safety configuration

**Description**

Safety Controller (SC) *arg* has received a new safety configuration. A new PIN-code is needed to activate.

**Recommended actions**

1 Log in as a user with safety configuration grants.
2 Enter new PIN-Code for the Safety Controller in the Control Panel.

## 20473, SC *arg* Dual Computer mismatch

**Description**

Safety Controller (SC) *arg* have had conflicting values for a Safety Output for too long.

**Consequences**

The Safety Controller has entered a Safe State and issue an error after 10 minutes of internal mismatch, if recommended actions are not performed.

**Probable causes**

- The mechanical unit have been parked at a position on, or close to, a supervised or monitored function limit for too long time.
- Internal computation error in Safety Controller.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

**Recommended actions**

Move all mechanical units' axes and tools well inside or outside monitored and supervised function limits.

## 20474, SC *arg* I/O Supply Failure

**Description**

I/O supply voltage level for Safety Controller (SC) *arg* is out of range.

**Probable causes**

Either the voltage is out of limits or the voltage is missing.

**Recommended actions**

1 Connect 24V supply with correct voltage level to I/O supply terminals.
2 Restart robot controller.

## 20475, SC *arg* Synchronization rejected

**Description**

Safety Controller (SC) *arg* is not correctly configured for synchronization.

**Probable causes**

- Safety configuration PIN is not set or is incorrect.
- Safety configuration is empty.
- Safety configuration is corrupt or missing.
- Safety Controller connected to the wrong SMB bus.
- I/O power supply missing.

**Recommended actions**

Verify and check possible causes.

## 20476, SC *arg* Disabled

**Description**

Safety Controller (SC) *arg* is disabled.

**Consequences**

All safety supervision has been disabled in the Safety Controller.
Risk for safety hazards.

**Recommended actions**

Download a safety configuration to the Safety Controller.

## 20477, SC *arg* SMB Communication Failure

**Description**

Safety Controller (SC) *arg* failed to communicate with serial measurement board (SMB).

**Recommended actions**

1 Make sure that the cabling from SMB to Safety Controller is connected to the right SMB connector and functional.
2 Restart the robot controller.

## 20478, SC *arg* Main Supply Failure

**Description**

The main power supply voltage for Safety Controller (SC) *arg* is out of range.

**Probable causes**

Either the voltage is out of limit or the voltage is missing.

**Recommended actions**

1 Check Safety Controller cabling.
2 Check voltage from power supply.
3 Restart robot controller.

## 20479, SC *arg* Additional Axis missing

**Description**

An additional axis that is supervised by Safety Controller (SC) *arg* is no longer present in the system configuration.

**Recommended actions**

Reinstall the supervised additional axis, or download a safety configuration without supervision of the additional axis.

## 20480, SC *arg* SST violation

**Description**

Safe Stand Still (SST) *arg* in Safety Controller (SC) is violated on mechanical unit *arg* axis *arg*.

**Recommended actions**

- Verify RAPID program.
- Verify process equipment.
- Check that movement is not ongoing when SST is active.
- Check previous event messages.

## 20481, SC *arg* OVR active

**Description**

Override Operation (OVR) active on Safety Controller (SC) *arg*.
SafeMove will stop the robot after approximately 20 minutes with OVR active.
Speed is limited to 250 mm/s or 18 degrees/s.

**Recommended actions**

Deactivate signal connected to OVR input.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 20482, SC *arg* OVR time out

**Description**

Override Operation (OVR) has been active too long time on Safety Controller (SC) *arg*.

**Recommended actions**

1 Restart robot controller.
2 Toggle signal connected to OVR input.
3 Activate Confirm stop by pressing Motors On push button.
4 Jog robot back into working area.
5 Deactivate signal connected to OVR input.

### 20483, SC *arg* CBC soon required

**Description**

Cyclic Brake Check (CBC) required in less than *arg* hours.

**Recommended actions**

Perform a brake check before the time limit expires.

### 20484, SC *arg* CBC needs to be done

**Description**

Cyclic Brake Check (CBC) time limit expired in Safety Controller (SC) or last brake check failed.

**Recommended actions**

Perform a brake check.

### 20485, SC *arg* Too low brake torque

**Description**

Too low brake torque in Safety Controller (SC) on mechanical unit *arg* axis *arg*.

**Probable causes**

- Axis has not been tested.
- Worn out brake(s).

**Recommended actions**

- Check that the failing axis is activated.
- If failing axis is activated replace brake(s) as soon as possible.

### 20486, SC *arg* CBC interrupted or incorrect

**Description**

Safety Controller (SC) has detected that the last Cyclic Brake Check (CBC) on mechanical unit *arg* was interrupted or incorrect.

**Recommended actions**

- Check previous event messages.
- Perform a new brake check only if needed, typically if event message 20485 also has been displayed.

### 20487, SC *arg* Unsynchronized speed exceeded

**Description**

Exceeded axis speed when Safety Controller (SC) *arg* was unsynchronized.

**Recommended actions**

Jog mechanical unit to synch position with low axis speed. Reduce speed to 250 mm/s or 18 degrees/s.

### 20488, SC *arg* Unsynchronized time limit expired

**Description**

Available time to move the robot when unsynchronized has expired for Safety Controller (SC) *arg*.

**Recommended actions**

1 Do a Confirm stop by pressing the Motors ON push button or activate system input.
2 Synchronize SC .

### 20489, SC *arg* has been disabled

**Description**

Safety Controller (SC) *arg* has been disabled and no supervision functions are active.

**Probable causes**

Either a system reset has been performed or it's the first startup of SC.

**Recommended actions**

Download a configuration to SC *arg*.

### 20490, SC *arg* OVR Speed exceeded

**Description**

Override (OVR) Speed limit exceeded on mechanical unit *arg*.

**Probable causes**

If Override (OVR) is active, then OVR speed limitations will be active.

**Recommended actions**

- Decrease speed.
- Deactivate OVR.

### 20491, SC *arg* Override active during startup

**Description**

Override digital input was active during startup on SC *arg*.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

## 20492, SC *arg* SST violation in Brake test

**Description**

Movement detected during Brake test on Safety Controller (SC) *arg*. Mechanical unit *arg*. Axis *arg*.

**Probable causes**

- Interrupted braketest.
- Worn out Brakes.

**Recommended actions**

- Restart CBC.
- Replace Brake.

## 20493, SC *arg* SBR triggered

**Description**

Safe Brake Ramp (SBR) on Safety Controller (SC) was interrupted by a Class 0 stop due to slow deceleration on mechanical unit *arg*. This is normal and occurs in cases when a stop1 is to slow. Check for other safety controller event messages.

**Recommended actions**

- Change parameter value for SBR in Motion configuration.
- Trigger a new stop to test the Brake Ramp.
- If this happens frequently, check the Application manual for mechanical units' configuration.

## 20494, SC *arg* Tool change incorrect

**Description**

Incorrect tool change with Tool *arg* on mechanical unit *arg*.

**Recommended actions**

- Check if correct tool.
- Decrease speed if needed.
- Perform a new tool change.

## 20501, ES panel open

**Description**

The emergency stop panel has previously been broken, and while broken, an attempt was made to operate the robot.

**Consequences**

The system remains in the Emergency Stop status.

**Probable causes**

An attempt has been made to maneuver a control, e.g. the enabling device.

**Recommended actions**

1 To resume operation, first reset the emergency stop panel button.
2 Then switch the system back to state Motors ON by pressing the Motors ON button on the Control Module.

## 20502, ES pendant open

**Description**

The emergency stop pendant has previously been broken, and while broken, an attempt was made to operate the robot.

**Consequences**

The system remains in the Emergency Stop status.

**Probable causes**

An attempt has been made to maneuver a control, e.g. the enabling device.

**Recommended actions**

1 To resume operation, first reset the emergency stop pendant button.
2 Then switch the system back to state Motors ON by pressing the Motors ON button on the Control Module.

## 20503, ES ext.cat.0 open

**Description**

The emergency stop external has previously been broken, and while broken, an attempt was made to operate the robot.

**Consequences**

The system remains in the Emergency Stop status.

**Probable causes**

An attempt has been made to maneuver a control, e.g. the enabling device.

**Recommended actions**

1 To resume operation, first reset the emergency stop external button.
2 Then switch the system back to state Motors ON by pressing the Motors ON button on the Control Module.

## 20505, Delayed stop open

**Description**

Delayed stop open.

**Consequences**

The system goes to status SYS HALT.

**Recommended actions**

1 To resume operation, first reset the delayed stop button.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

2 Then switch the system back to state Motors ON by pressing the Motors ON button on the Control Module.

## 20506, Test Stop open

**Description**

The Test Mode Safeguarded Stop circuit has been broken.

**Consequences**

The system goes to status SYS HALT.

**Probable causes**

One or more of the switch connected in series with the Test Mode Safeguarded Stop circuit have been opened, which may be causes by a large number of faults. This is only possible while in the Manual operational mode.

**Recommended actions**

1 Locate the switch, reset it and restart the controller.
2 Check cables and connections.

## 20507, Hardware chain open

**Description**

Relays (KA16 and KA17) on Safety Interface Board (SIB) not activated.

**Consequences**

Motor on command rejected.

**Recommended actions**

Press motor ON button to close the chain.

## 20521, Test Stop conflict

**Description**

Status conflict for the Test Stop chain.

**Consequences**

The system goes to status SYS HALT.

**Recommended actions**

Please check the two-channel safety guard that caused the status conflict.

## 20525, ES panel conflict

**Description**

Status conflict for the Emergency Stop panel chain.

**Consequences**

The system goes to status emergency stop.

**Recommended actions**

Please check the two-channel safety guard that caused the status conflict.

## 20526, ES pendant conflict

**Description**

Status conflict for the Emergency Stop pendant chain.

**Consequences**

The system goes to status emergency stop.

**Recommended actions**

Please check the two-channel safety guard that caused the status conflict.

## 20527, ES ext.cat.0 conflict

**Description**

Status conflict for the Emergency Stop ext.cat.0 chain.

**Consequences**

The system goes to status emergency stop.

**Recommended actions**

Please check the two-channel safety guard that caused the status conflict.

## 20528, HV Interlock input conflict

**Description**

Only one of the two input signals in the high voltage chains is opened.

**Consequences**

Paint enable chain opens.

**Recommended actions**

Please check the two-channel safety guard that caused the status conflict.

## 20529, Cabin Interlock input conflict

**Description**

Only one of the two input signals in cabin interlock chains is opened.

**Consequences**

Paint enable chain opens.

**Recommended actions**

Check cables and connections.

## 20531, Delayed Stop conflict

**Description**

Status conflict for the delayed stop circuit.

**Consequences**

The system goes to status SYS HALT.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

**Recommended actions**

Check cables and connections.

## 20534, Mode selector conflict

**Description**

Any of the connections to the mode selector are faulty.

**Consequences**

The system goes to status SYS HALT.

**Recommended actions**

Check cables and connections.

## 20535, AUX Interlock conflict

**Description**

Only one of the two AUX interlock chains was opened. Normally used on CBS door interlock.

**Consequences**

Paint enable chain opens.

**Recommended actions**

Check cables and connections.

## 20536, Motor on chain conflict

**Description**

Only one of the two motor on chain signals in run chain is opened.

**Consequences**

The system goes to status SYS HALT.

**Recommended actions**

Check cables and connections.

## 20550, Glitch test fault

**Description**

Status active when firmware on Process Interface Board (PIB) did not detect any glitch test pulse for 30 seconds.

**Consequences**

The system goes to status SYS HALT.

**Recommended actions**

1 Check other error messages for primary fault reason.
2 Check for communication problems between PIB and Main Computer (MC).

## 20556, Enable 2 AXC 1 open

**Description**

Status active when enable from Axis Computer 1 open.

**Consequences**

The system goes to status SYS HALT.

**Recommended actions**

1 Check other error messages for primary fault reason.
2 If no other error messages, please check line voltage for one phase missing.

## 20557, Enable 2 AXC 2 open

**Description**

Status active when enable from Axis Computer 2 open.

**Consequences**

The system goes to status SYS HALT.

**Recommended actions**

1 Check other error messages for primary fault reason.
2 If no other error messages, please check line voltage for one phase missing.

## 20558, Manipulator fault

**Description**

Status active when power to manipulator *arg* connected to Manipulator Interface Board (MIB) *arg* is lost, or manipulator's enable chain conditions is not OK.

**Consequences**

The system goes to status SYS HALT.

**Recommended actions**

1 Check the power to the manipulator.
2 Check that the enable chain on Manipulator Controller Board (MCOB/MCB) is OK.
3 Check for over temperature in Manipulator motors.
4 Check manipulator signals through Power Distribution Board (PDB). See the Circuit Diagram.

## 20559, Collision sensor active

**Description**

Status active when digital collision sensor on Manipulator Controller Board (MCOB) *arg* is active.

**Consequences**

The system goes to status SYS HALT.

**Recommended actions**

Check the collision sensors connected to MCOB.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

## 20560, Axis limit on MCOB

**Description**

Status active when limit sensor on Manipulator Controller Board (MCOB) *arg* is active.

**Consequences**

The system goes to status SYS HALT.

**Recommended actions**

Check the limit sensors connected to MCOB.

## 20561, Manipulator software has opened enable chain

**Description**

Status active when Manipulator Controller Board (MCOB/MCB) *arg* software has opened the enable chain.

**Consequences**

The system goes to status SYS HALT.

**Recommended actions**

1 Check other error messages for primary fault reason.
2 Check for brake fault.

## 20562, Reset ES fault

**Description**

Status active when Reset Emergency Stop input is activated for more than 3 seconds.

**Consequences**

The system goes to status SYS HALT.

**Recommended actions**

1 Check the connection of external reset of Emergency Stop.
2 Check the motor on push button.

## 20563, Servo disconnect open

**Description**

Status active when Servo disconnect switch on system *arg* is off.

**Consequences**

The system goes to status SYS HALT.

**Recommended actions**

If Servo disconnect switch is not installed, check the disable link on Manipulator Interface Board (MIB).

## 20564, Brake rel. on axes 1 & 7

**Description**

Status active when manual brake release on axes 1 and 7 enabled.

**Consequences**

The system goes to status SYS HALT.

**Recommended actions**

Check switch for manual brake release of axes 1 and 7.

## 20565, External enable 1 open

**Description**

Status active when external enable 1 on Manipulator Controller Board (MCOB) *arg* is open.

**Consequences**

The system goes to status SYS HALT.

**Recommended actions**

Check connection on MCCB X25.

## 20566, External enable 2 open

**Description**

Status active when external enable 2 on Manipulator Controller Board (MCOB) *arg* is open.

**Consequences**

The system goes to status SYS HALT.

**Recommended actions**

Check connection on MCCB X43.

## 20567, Power low on MCOB

**Description**

Status active when power below 16V on Manipulator Controller Board (MCOB) *arg*.

**Consequences**

The system goes to status SYS HALT.

**Recommended actions**

Check power on MCOB.

## 20568, Hardware enable open on MCOB/MCB

**Description**

Status active when firmware on Manipulator Controller Board (MCOB/MCB) *arg* has opened the enable chain.

**Consequences**

The system goes to status SYS HALT.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

## 20569, Watchdog fault on MCOB/MCB

**Description**

Status active when watchdog on Manipulator Controller Board (MCOB/MCB) *arg* fails.

**Consequences**

The system goes to status SYS HALT.

## 20570, FlexPendant wiring error

**Description**

Status active when Process Interface Board (PIB) detects fault on emergency stop pendant and enabling device signals (glitch test).

**Consequences**

The system goes to status SYS HALT.

**Recommended actions**

1 Check cables and connections to FlexPendant.
2 Check Pendant Interface Board (TIB) and Manipulator Interface Board (MIB).

## 20571, HV Interlock open

**Description**

Paint system High Voltage (HV) interlock is opened by external interlock connection.

**Consequences**

Paint enable chain opens.

**Recommended actions**

Check manual switch for disconnecting of the HV system.

## 20572, Cabin Interlock open

**Description**

Cabin Interlock is opened by external interlock connection.

**Consequences**

Paint enable chain opens.

**Recommended actions**

Check cabin ventilation and other cabin safety functions.

## 20573, Controller ID is Missing

**Description**

Controller ID is the controller's unique identity. It is by default equal to the serial number of the controller's cabinet. The software configuration of the controller is missing this identity information.

**Probable causes**

This may happen if the storage media of the controller has been replaced or reformatted.

**Recommended actions**

Read the serial number of the controller from the controller cabinet to find out what the controller ID should be. Use RobotStudio tools to set this value for the controller.

## 20574, Process Interlock open

**Description**

Process Interlock is opened by external interlock connection.

**Consequences**

Paint enable chain opens.

**Recommended actions**

Check manual switch for disconnecting of the process system.

## 20575, AUX Interlock open

**Description**

AUX Interlock is opened by external interlock connection. Normally used for Cartridge Bell System (CBS).

**Consequences**

Paint enable chain opens.

**Recommended actions**

Check cables and equipment connected to AUX inputs.

## 20576, System 2 Interlock open

**Description**

System 2 Interlock is opened. Normally used for Cartridge Bell System (CBS) or paint pumps.

**Consequences**

Paint enable chain opens.

**Recommended actions**

Check cables and equipment connected to system 2.

## 20577, HV ON open

**Description**

High Voltage (HV) switch on operating panel is opened.

**Consequences**

Paint enable chain opens.

**Recommended actions**

Give acknowledge on motor ON and switch on the HV key to close the HV interlock chain.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 20581, SPI communication towards SIB is down

**Description**

Status active when cyclic enable 1 test fails from Safety Interface Board (SIB).

**Consequences**

The system goes to status SYS HALT.

**Recommended actions**

1 Check status on Serial Peripheral Interface (SPI) status.
2 Check cables between Process Interface Board (PIB) and SIB.

### 20582, SPI communication towards MIB is down

**Description**

Status active when cyclic enable 1 test fails from Manipulator Interface Board (MIB) *arg*.

**Consequences**

The system goes to status SYS HALT.

**Recommended actions**

1 Check cables and Serial Peripheral Interface (SPI) status.
2 Check cables between SIB and Manipulator Interface Board (MIB).

### 20583, Watchdog towards PIB software fails

**Description**

Status active when firmware on Process Interface Board (PIB) discover watchdog fault between PIB firmware and PIB software.

**Consequences**

The system goes to status SYS HALT.

**Probable causes**

Too high processor load on PIB software.

### 20584, Fault on internal SPI

**Description**

Status active when firmware on Process Interface Board (PIB) discover watchdog fault towards Safety Interface Board (SIB) and Manipulator Interface Board (MIB).

**Consequences**

The system goes to status SYS HALT.

**Probable causes**

Serial Peripheral Interface (SPI) communication is down on SPI 1.

**Recommended actions**

Check cables between PIB, SIB and MIB.

### 20585, Enable chain opened from IPS

**Description**

Status active when enable chain is opened from signal Safety/PibSw/Enable.

**Consequences**

The system goes to status SYS HALT.

**Recommended actions**

Check the actuator connected to signal Safety/PibSw/Enable.

### 20586, Watchdog fault towards PIB firmware

**Description**

Status active when software on Process Interface Board (PIB) discover watchdog fault towards PIB firmware caused by fault on FPGA.

**Consequences**

The system goes to status SYS HALT.

### 20587, Watchdog fault towards PIB firmware

**Description**

Status active when software on Process Interface Board (PIB) discover watchdog fault towards PIB firmware caused by fault on the In-System Micro Controller.

**Consequences**

The system goes to status SYS HALT.

**Probable causes**

Firmware not running.

### 20588, Watchdog fault between PIB and MC

**Description**

Process Interface Board (PIB) has detected a watchdog fault towards Main Computer (MC).

**Consequences**

The system goes to status SYS HALT.

**Probable causes**

1 Broken Ethernet cable between PIB and MC.
2 High network load.

**Recommended actions**

If problem persists:

1 Check MC.
2 Check Ethernet cable between PIB and MC.
3 Restart the controller.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

## 20589, Watchdog fault between PIB and MCOB/MCB

**Description**

Status active when agent connection between Process Interface Board (PIB) and Manipulator Controller Board (MCOB/MCB) is down.

**Consequences**

The system goes to status SYS HALT.

**Recommended actions**

1 Check cables.
2 Check MCOB/MCB status.

## 20590, Open circuit mask not set

**Description**

The open circuit mask for brakes on Manipulator Controller Board (MCOB/MCB) *arg* is not set. The mask should be set from Process Interface Board (PIB) during start-up.

**Consequences**

This message will be given every time the brakes are released, until the open circuit mask on MCOB/MCB is set.

**Probable causes**

IPS configuration on PIB is not loaded or configuration file for brake settings is missing.

**Recommended actions**

1 Check that IPS configuration is loaded during start-up.
2 Check that IPS configuration file for brake settings are installed on PIB.

## 20591, FlexPendant hot plug timeout

**Description**

The FlexPendant hot plug button is pressed for too long time.

**Consequences**

The system goes to status SYS HALT.

**Recommended actions**

Press motor ON button to close the chain.

## 20592, External process enable open

**Description**

Status active when external process enable connection on Manipulator Controller Board (MCB) *arg* is open.

**Consequences**

The system goes to status SYS HALT.

**Recommended actions**

Check connection on MCB X2.

## 20593, IO power low on MCB

**Description**

Status active when IO power below 16V on Manipulator Controller Board (MCB) *arg*.

**Consequences**

The system goes to status SYS HALT.

**Recommended actions**

Check power on MCB.

## 20594, Communication fault between PIB and MC

**Description**

Process Interface Board (PIB) has detected a communication fault towards Main Computer (MC).

**Consequences**

The system goes to system failure state.

**Probable causes**

1 Broken Ethernet cable between PIB and MC.
2 High network load.

**Recommended actions**

1 Check Ethernet cable between PIB and MC.
2 Check MC.
3 Restart the controller.

## 20595, SPI communication towards PSA is down

**Description**

Status active when cyclic enable 1 test fails from Paint Safety Adapter Board (PSA).

**Consequences**

The system goes to status SYS HALT.

**Recommended actions**

1 Check status on Serial Peripheral Interface (SPI) status.
2 Check cables between MIB and Paint Safety Adapter Board (PSA).

## 20600, Unofficial RobotWare release

**Description**

The current RobotWare is not an officially supported release. Unofficial RobotWare releases may only be used for time-limited test and validation purposes.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

**Consequences**

ABB will not provide long-term support on unofficial releases.

**Recommended actions**

If this is a production system, install an official RobotWare release as soon as possible.

## 20601, Too long paths when unpacking RobotWare files

**Description**

The RobotWare installation package was not properly unpacked on the controller. Some files in the package have a path that is too long and could not be handled by the controller software. During the installation process the controller software was upgraded to handle longer paths, so a re-installation of the system should solve the problem.

**Consequences**

Some RobotWare files are missing on the controller and your system may not be able to operate properly.

**Recommended actions**

Re-install the system by using SystemBuilder. If the error is still present after the re-installation, contact customer support.

## 20602, Unofficial RobotWare image

**Description**

The current RobotWare main computer image is not the original, and is hence not officially supported.

**Consequences**

ABB will not provide long-term support on unofficial RobotWare releases.

**Probable causes**

The officially released main computer image has been replaced, e.g., for the purpose of collecting diagnostic data for a specific problem.

**Recommended actions**

If this is a production system, install an official RobotWare release as soon as possible.

## 20610, Motor phase short circuit

**Description**

The drive unit for joint *arg* has reported short circuit. The joint is connected to drive module *arg* with unit position *arg* and node *arg*.

**Consequences**

No operation will be possible until the fault is corrected. The system goes to Motors Off state with zero torque.

**Probable causes**

1 Short circuit in cables or connectors between the phases or to ground.
2 Short circuit in motor between the phases or to ground.

**Recommended actions**

1 Check/replace cables and connectors.
2 Check/replace motor.

## 20620, The system has entered an internal test mode

**Description**

A feature to perform ABB Robotics internal tests has been enabled in *arg*.

**Consequences**

The system may not behave as expected.

**Recommended actions**

Restart the controller when the test has been performed. If this was an unexpected message, please contact your contact your local ABB representative for assistance.

## 20630, Camera job missing Output to Rapid

**Description**

The camera *arg* has a job loaded that is not created with the "Use Output to Rapid" functionality. The "Use Output to Rapid" functionality will be disabled until the next state change from program mode to run mode.

**Consequences**

All functionality that requires the use of output to Rapid, e.g. CamGetResult, is turned off. CamGetParameter is not affected and will still work.

**Probable causes**

- The "Use Output to Rapid" configuration parameter is set to Yes, but was supposed to be set to No.
- The job loaded into the camera is not correct or is not compatible with this version of RobotWare.

**Recommended actions**

- Set the camera in program mode. Load a valid job into the camera or use Robot Studio to create one.
- In RobotStudio in the "Vision"-tab, select "Output to RAPID" to convert parameters to RAPID variables and save the job.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

- Set the "Use Output to Rapid" configuration parameter to No, if that functionality is not indended to be used.

## 20631, Communication failure with camera

**Description**

The robot controller failed to communicate with camera *arg*.

**Consequences**

Camera results may be lost.

**Recommended actions**

- Check camera status.
- Check cabling between the robot controller and the camera.

## 20632, IP address of the camera has changed

**Description**

The IP address of the camera *arg* has changed. It is necessary to restart the controller to use the Integrated Vision functionality.

**Recommended actions**

Restart the controller.

## 20633, Integrated Vision not installed

**Description**

The option Integrated Vision is not installed on this system.

**Consequences**

No communication with the camera is possible.

**Probable causes**

The Integrated Vision functionality have been used or configured without the Integrated Vision option installed.

**Recommended actions**

1. If the Integrated Vision option is needed: configure a new system with this option, and install the system.
2. If the Integrated Vision option is not needed: remove the use of Integrated Vision functionality, i.e. RAPID or configuration data.

## 20634, No result for current camera job

**Description**

The robot controller did not receive any result for camera *arg*.

**Consequences**

The robot controller will not recognize any positional data in the image.

**Probable causes**

No part tools have been defined for the current job loaded in camera *arg*.

**Recommended actions**

Use RobotStudio to add a Part Location Tool or a Part Inspection Tool to the job. Follow the instruction in the RobotStudio context menu and save the job.

## 20635, Too many cameras connected

**Description**

Number of cameras connected to the robot controller is *arg*. Max number of cameras for a robot controller is *arg*.

**Consequences**

The robot controller will not communicate with all the cameras.

**Probable causes**

Maximum number of cameras for a robot controller have been exceeded.

**Recommended actions**

Reduce the number of cameras connected to the robot controller.

## 20636, Duplicated camera name

**Description**

The camera configuration is invalid. The camera name *arg* have been used for more than one camera.

**Consequences**

The robot controller will not communicate with cameras with the same name.

**Probable causes**

Two or more cameras with the same name have been configured.

**Recommended actions**

Rename the cameras so that they have unique names and restart the controller.

## 20637, Camera permission denied

**Description**

Permission denied to login to the camera with ip address *arg* using username *arg*.

**Consequences**

The robot controller cannot login to the camera.

**Probable causes**

Username and/or password is not correct.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

**Recommended actions**

From RobotStudio Integrated Vision Add-In use "Set Controller User" to select camera login credentials to be used by the controller.

## 20638, Option missing

**Description**

You are trying to use functionality that require the RobotWare Option *arg*.

**Recommended actions**

Check the options of your system.

Correct your system options and reset the system.

## 20639, Camera connection up

**Description**

The robot controller communicates correctly with the camera *arg* with IP address *arg*.

## 20640, Camera connection down

**Description**

The connection to camera *arg* with IP address *arg* has been lost.

**Consequences**

The robot controller cannot access the camera.

**Recommended actions**

Check cabling and camera settings.

## 20641, New camera detected

**Description**

A new camera with mac address *arg* has been detected.

## 20642, DryRun configuration error

**Description**

Error while reading the DryRun configuration file *arg*.

**Consequences**

The DryRun configuration failed. All signals might not have been added to the Dryrun configuration.

**Probable causes**

The file does not follow the recommended XML format.

**Recommended actions**

Review the DryRun configuration file *arg* and make sure it is correct. See the recommended XML format in the user documentation.

## 20643, DryRun configuration error

**Description**

Error while reading the DryRun configuration file *arg*.

**Consequences**

The DryRun configuration failed. The signal *arg* was not added to the DryRun configuration.

**Probable causes**

1 The file does not follow the recommended XML format.
2 The signal is missing in the I/O configuration.

**Recommended actions**

Review the DryRun configuration file *arg* and make sure that the entry for signal *arg* is correct. See the recommended XML format in user documentation.

## 20644, DryRun configuration error

**Description**

Error while reading the DryRun configuration file *arg*.

**Consequences**

The DryRun configuration failed. The signal *arg* was not added to the DryRun configuration.

**Probable causes**

The maximum number of allowed configured signals in DryRun has been exeeded. No more than *arg* signals can be configured for DryRun.

**Recommended actions**

Reduce the number of signals in the DryRun configuration.

## 20645, DryRun configuration error

**Description**

Unexpected error during the DryRun configuration.

**Consequences**

All signals might not have been added to the DryRun configuration.

**Recommended actions**

Review all DryRun configuration files and make sure that they are correct. See the recommended XML format in user documentation.

## 20646, DryRun aborted

**Description**

DryRun was aborted by a Stop.

**Consequences**

Dryrun was aborted and no signal values have been updated.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

**Recommended actions**
DryRun will be executed in fully at next program start.

## 20647, DryRun aborted

**Description**
DryRun was aborted by a Power Fail.

**Consequences**
All signal values might not have been updated as planned and PP might be in wrong place.

**Recommended actions**
Move PP to Main to restart the production cycle and refresh all signal values.

## 20648, DryRun aborted

**Description**
DryRun was aborted by an execution error.

**Consequences**
Dryrun was aborted and no signal values have been updated.

**Recommended actions**
Solve the error and try to start again.

## 20649, DryRun configuration error

**Description**
Error while configuring DryRun, a signal named *arg* already exists.

**Consequences**
The DryRun configuration failed. The original configuration of signal *arg* was kept in the DryRun configuration.

**Probable causes**
The signal *arg* is duplicated in the DryRun configuration.

**Recommended actions**
Review all DryRun configuration files and make sure that signal *arg* is only present once.

## 20650, DryRun aborted

**Description**
DryRun was aborted when program execution reached end of main without reaching position where program pointer was placed when DryRun started.

**Consequences**
All signal values might not have been updated as planned and PP might be in wrong place.

**Probable causes**
The program pointer's original position could not be reached while restarting execution in DryRun mode from the beginning of the routine.

**Recommended actions**
Move PP to Main to restart the production cycle and refresh all signal values.

## 20651, Image request timed out

**Description**
An image request for camera *arg* has timed out.

**Consequences**
- If the camera is still processing the image then new commands towards the camera may not respond and also timeout.
- If/when the current processing image completes it will insert the results into the database.

**Probable causes**
- The timeout set in configuration for the maximum time for image requests may be set too low.
- The camera may be in an error state.
- The communication with the camera is down.

**Recommended actions**
- If the image processing time is larger than the maximum time set in configuration for image requests, then adjust the configuration.
- Start and try again.
- If the problem remain, restart the camera.

## 20652, Camera job is not valid

**Description**
The job loaded into the camera *arg* is not correct or is not compatible with this version of RobotWare.

**Consequences**
The camera will reset to program mode.

**Probable causes**
- The job loaded into the camera is not correct or is not compatible with this version of RobotWare.
- The "Use Output to Rapid" configuration parameter is set to Yes, but was supposed to be set to No.

**Recommended actions**
- If the usage of output to Rapid functionality, e.g. CamGetResult, is not indended to be used, then set the "Use Output to Rapid" configuration to No.

*Continues on next page*


© Copyright 2005-2020 ABB. All rights reserved.

- If the "Use of Output to Rapid" functionality is needed then a correct job has to be loaded into the camera.
- Make sure that the fields in the "Output to Rapid" tab is saved before loading the job.

## 20653, DryRun rejected

**Description**

DryRun was rejected due to unfinished movement.

**Consequences**

Start will be rejected until unfinished movement has been cleared.

**Probable causes**

DryRun execution cannot handle unfinished movement.

**Recommended actions**

Abort unfinished movement:

- Set PP to Cursor, i.e. to the posisiton where PP currently is
- Set PP to Main

## 20655, No job is loaded in the camera

**Description**

There is no job loaded in the camera *arg* or the active job in the camera has not been saved.

**Consequences**

If there is no job loaded in the camera, the robot controller will not recognize any positional data in the image.

**Recommended actions**

- If no job exists on the camera, use RobotStudio to create a job and add a Part Location Tool or a Part Inspection Tool to the job. Follow the instruction in the RobotStudio context menu and save the job.
- If an active job exists on the camera, save the job.

## 20656, Camera refresh started

**Description**

An update of camera information has been ordered by an external client.

**Consequences**

If a camera is busy doing any time consuming operation such as loading a job or processing an image, the camera refresh service for that specific camera will be postponed until the ongoing operation is finished.

## 20657, Camera IP address changed

**Description**

The IP address of camera *arg* with MAC address *arg* has changed.
Old IP address *arg*.
New IP address *arg*.

**Consequences**

For the controller to connect to a configured camera that has a new IP address, it is necessary to warmstart the controller.

**Recommended actions**

If a configured camera has changed IP address, warmstart the controller.

## 20658, Camera updated

**Description**

The camera *arg* with IP address*arg* and MAC address *arg* has been updated.

## 20659, Camera instruction

**Description**

The camera *arg* is of type *arg*. The instruction *arg* is not available on a camera *arg*.

## 20660, Debug service not using default values

**Description**

The debug service is not using default values and the system is considered to be in debug mode.

**Consequences**

The changed debug service settings may slightly affect system performance.

**Recommended actions**

To switch back to default debug service setting, please set the configuration parameter in domain *arg*, type *arg*, instance *arg* and attribute *arg* to false.

## 20661, Debug service using default values

**Description**

The debug service is now using default values and the system is no longer in debug mode.


© Copyright 2005-2020 ABB. All rights reserved.

## 4.5 3 xxxx

### 31810, DeviceNet master/slave board is missing

**Description**

The DeviceNet master/slave board does not work.

**Consequences**

No communication on the DeviceNet network is possible.

**Probable causes**

The DeviceNet master/slave board is either malfunctioning or missing.

**Recommended actions**

1 Make sure a DeviceNet master/slave board is installed.
2 Replace the board if faulty.

### 31910, PROFIBUS master board is missing

**Description**

The PROFIBUS master board does not work.

**Consequences**

No communication on the Profibus is possible.

**Probable causes**

The PROFIBUS master board is either malfunctioning or missing.

**Recommended actions**

1 Make sure a PROFIBUS master board is installed.
2 Replace the board if faulty.

### 31911, Profibus board update error

**Description**

The RobotWare software was not able to download new driver software to the PROFIBUS master board. The *arg* channel (ch *arg*) of the Profibus board could not be programmed. Internal error code:*arg*.

**Consequences**

No communication on the Profibus is possible.

**Probable causes**

The RobotWare software may be corrupt or the board hardware may be malfunctioning.

**Recommended actions**

1 Restart the controller to reattempt downloading the software.
2 Reinstall the present system files.
3 Create and run a new system to download the driver software.
4 Replace the board if faulty.

### 31912, PROFIBUS master board failure

**Description**

The PROFIBUS master board did not start up correctly.

**Consequences**

No communication on the Profibus is possible.

**Probable causes**

The PROFIBUS master board hardware may be malfunctioning.

**Recommended actions**

1 Restart the controller.
2 Replace the PROFIBUS master board if faulty.

### 31913, PROFIBUS master board internal error

**Description**

The PROFIBUS master board reported internal error *arg*.

**Consequences**

No communication on the PROFIBUS network is possible.

**Probable causes**

The PROFIBUS master board hardware may be malfunctioning.

**Recommended actions**

1 Restart the controller.
2 Replace the PROFIBUS master board if faulty.

### 31914, PROFIBUS network startup error

**Description**

PROFIBUS network startup error *arg*. Check cabling, terminators and modules then restart.

**Recommended actions**

### 31915, PROFIBUS network error

**Description**

PROFIBUS master network error.
Internal error
Error code *arg*.

**Consequences**

Certain expected associated errors may be delayed.

**Probable causes**

Faulty PROFIBUS cabling, terminators and/or module(s).
Duplicated PROFIBUS addresses.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

**Recommended actions**

Check cabling, terminators and modules.

## 31916, PROFIBUS network OK

**Description**

PROFIBUS regained contact on the master network.

**Recommended actions**

## 31917, PROFIBUS master board exception

**Description**

A fatal error has occurred on the PROFIBUS master board. *arg* channel in task *arg*. Parameters *arg*.

**Consequences**

No communication on the Profibus is possible.

**Probable causes**

The PROFIBUS master board hardware may be malfunctioning.

**Recommended actions**

1 Restart the controller.
2 Replace the PROFIBUS master board if faulty.

## 32501, Main computer fpga not reachable

**Description**

The system cannot contact the fpga on the main computer.

**Consequences**

No communication with the safety system is possible. The system goes to system failure state.

**Probable causes**

The main computer fpga is malfunctioning.

**Recommended actions**

1 Replace the unit if faulty.

## 32530, No Communication With The Safety System

**Description**

There is no serial communication between the safety system and the robot communication card.

**Consequences**

The system goes to system failure state.

**Probable causes**

Probably hardware fault in cable between safety system and Robot Communication Card. The safety system, or its power supply, may also be faulty.

**Recommended actions**

1 Restart the controller to resume operation.
2 Make sure the cable between robot communication card and safety system is working and correctly connected.
3 Check the safety system power supply.
4 Replace the unit if faulty.

## 32540, Drive unit firmware re-flash started

**Description**

In drive module *arg*, a required upgrade of the firmware in the drive unit at unit position *arg* has started. The old firmware revision *arg* is replaced with revision *arg*.

**Recommended actions**

Wait for the firmware upgrade process to complete. Do not turn off system power!

## 32541, Drive unit firmware re-flash complete

**Description**

In drive module *arg*, the upgrade of the firmware in the drive unit with unit position *arg* is completed. New revision is *arg*.

## 32542, Drive unit hardware not supported

**Description**

In drive module *arg*, the system cannot use the drive unit with hardware identity *arg* because the hardware revision *arg* is not supported.

**Consequences**

The system is unable to use the drive unit. The system goes to system failure state.

**Probable causes**

The RobotWare version is too old to support the drive unit.

**Recommended actions**

1 Upgrade the system to a RobotWare version supporting the drive unit revision.
2 Replace the drive unit to one with compatible revision.

## 32543, Drive unit firmware re-flash failed

**Description**

In drive module *arg*, the upgrade of the firmware in the drive unit at unit position *arg* failed.

**Consequences**

The required upgrade of the drive unit firmware is not performed.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

**Recommended actions**

1 Check other hardware event log messages for detailed explanation of the error condition.
2 Try again by restart the controller using the main power switch.

## 32544, Drive unit firmware file not found

**Description**

The file *arg*, required to upgrade a drive unit's firmware, is not found.

**Consequences**

The required upgrade of the drive unit firmware is not performed.

**Probable causes**

The RobotWare installation does not contain the firmware file.

**Recommended actions**

Reinstall the system.

## 32545, Drive unit firmware file type error

**Description**

The file *arg*, required to upgrade a drive unit's firmware, is of wrong type.

**Consequences**

The required upgrade of the drive unit firmware is not performed.

**Probable causes**

The RobotWare installation is faulty.

**Recommended actions**

Reinstall the system.

## 32546, Drive unit firmware file error

**Description**

The file *arg*, required to upgrade a drive unit's firmware, is not usable because it failed the integrity check.

**Consequences**

The required upgrade of the drive unit firmware is not performed.

**Probable causes**

The RobotWare installation is faulty.

**Recommended actions**

Reinstall the system.

## 32550, Firmware re-flash started

**Description**

A required update of the *arg* firmware has started. File used: [*arg*].

**Recommended actions**

Wait for the re-flash to complete.

## 32551, Firmware re-flash completed

**Description**

The update of *arg* firmware has completed successfully.

## 32552, Firmware re-flash failed

**Description**

The update of *arg* firmware failed.
Internal error code:*arg*.

**Recommended actions**

1 Check other error messages for detailed explanation.
2 Restart the controller.
3 Reinstall the system.
4 Replace the .

## 32553, Firmware file is corrupt

**Description**

The firmware file [*arg*] is corrupt. Internal error code:*arg*.

**Recommended actions**

Reinstall the system.

## 32554, Firmware file not found

**Description**

The firmware file [*arg*] is not found.

**Recommended actions**

Reinstall the system.

## 32555, Safety System Unit Not Supported

**Description**

The system cannot use the safety system unit *arg*, revision *arg*.

**Consequences**

The system is unable to use the affected hardware.

**Recommended actions**

1 Change the affected hardware to a compatible version.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

## 32560, Axis computer firmware re-flash started

**Description**

In drive module *arg*, a required upgrade of the firmware in the axis computer *arg* with hardware identity *arg* has started. The old firmware revision *arg* is replaced with revision *arg*.

**Recommended actions**

Wait for the firmware upgrade process to complete. Do not turn off system power!

## 32561, Axis computer firmware re-flash complete

**Description**

In drive module *arg*, the upgrade of the firmware in the axis computer *arg* with hardware identity *arg* is completed. New revision is *arg*.

## 32562, Axis computer communication error

**Description**

The system failed to communicate with the axis computer in drive module *arg* when trying to read firmware information.

**Consequences**

The system is unable to determine if an upgrade is required of the firmware in the affected drive module. The system goes to system failure state.

**Probable causes**

This may be due to a cable break, bad connector or high levels of interference in the cable between the main computer and the axis computer.

**Recommended actions**

1. Make sure the cable between the main computer and the axis computer is not damaged and that both connectors are correctly connected.
2. Make sure no extreme levels of electromagnetic interference are emitted close to the robot cabling.

## 32563, Axis computer hardware not supported

**Description**

In drive module *arg*, the system cannot use the axis computer with hardware identity *arg* because the hardware revision *arg* is not supported.

**Consequences**

The system is unable to use the axis computer. The system goes to system failure state.

**Probable causes**

The RobotWare version is too old to support the axis computer unit.

**Recommended actions**

1. Replace the axis computer to one with compatible revision.
2. Upgrade the system to a RobotWare version supporting the axis computer revision.

## 32564, Axis computer firmware re-flash failed

**Description**

In drive module *arg*, the upgrade of the firmware in the axis computer *arg* with hardware identity *arg* failed.

**Consequences**

The required upgrade of the axis computer firmware is not performed.

**Recommended actions**

1. Check other hardware event log messages for detailed explanation of the error condition.
2. Retry again by restarting the controller using the main power switch.

## 32565, Axis computer firmware file not found

**Description**

The file *arg*, required to upgrade an axis computer's firmware, is not found.

**Consequences**

The required upgrade of the axis computer firmware is not performed.

**Probable causes**

The RobotWare installation does not contain the firmware file.

**Recommended actions**

Reinstall the system.

## 32567, Axis computer firmware file type error

**Description**

The file *arg*, required to upgrade an axis computer firmware, is of wrong type.

**Consequences**

The required upgrade of the axis computer's firmware is not performed.

**Probable causes**

The firmware file is corrupt.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

**Recommended actions**
Reinstall the system.

## 32568, Axis computer firmware file error

**Description**
The file *arg*, required to upgrade an axis computer's firmware, is not usable because it failed the integrity check.

**Consequences**
The required upgrade of the axis computer firmware is not performed.

**Probable causes**
The firmware file is corrupt.

**Recommended actions**
Reinstall the system.

## 32569, Corrupt axis computer hardware

**Description**
In drive module *arg*, the axis computer flash memory has a corrupt content.

**Recommended actions**
1 Retry again by restarting the controller using the main power switch.
2 If the problem remains then replace the axis computer.

## 32570, Firmware re-flash started

**Description**
A required update of the *arg* firmware has started. Replacing old firmware version: [*arg*].

**Recommended actions**
Wait for the re-flash to complete.

## 32571, Firmware re-flash completed

**Description**
The update of *arg* firmware has completed successfully. New version: [*arg*]. Internal code:[*arg*]

## 32572, Firmware re-flash failed

**Description**
The upgrade of *arg* firmware failed.
Current version:*arg*. Internal error code:*arg*.

**Recommended actions**
1 Check other hardware eventlog messages for detailed explanation of the error condition.
2 Reinstall the system.

## 32573, Unable to download firmware file

**Description**
The firmware file *arg* is not found. Internal error code:*arg*.

**Recommended actions**
Reinstall the system.

## 32574, Corrupt axis computer hardware

**Description**
The *arg* flash memory has a corrupt content. Internal error code:*arg*.

**Recommended actions**
1 Check other hardware event log messages for detailed explanation of the error condition.
2 Restart the controller.
3 If failure occurs again, replace the axis computer.

## 32575, Found no axis computer board

**Description**
System failed to detect any connected axis computer.

**Recommended actions**
1 Check system for axis computer board.
2 Check Ethernet cables between the main computer and the axis computer.
3 Restart the controller.

## 32576, Axis firmware: No communication

**Description**
The system failed to communicate with axis board *arg* when trying to check the firmware version.

**Consequences**
The system is unable to check and if necessary upgrade the firmware in the affected axis computer.

**Recommended actions**
1 Check system for axis computer board.
2 Check Ethernet cables between the main computer and the axis computer.
3 Restart the controller.

## 32577, Axis computer hardware data error

**Description**
In drive module *arg*, the axis computer has corrupt information stored on the unit.

*Continues on next page*


© Copyright 2005-2020 ABB. All rights reserved.

**Consequences**

The system goes to system failure state.

**Probable causes**

The integrity check of the axis computer information stored on the unit has failed.

**Recommended actions**

1 Retry again by restarting the controller using the main power switch.
2 Replace the faulty axis computer.

## 32580, Firmware re-flash started

**Description**

A required update of the *arg* firmware has started. Internal code: [*arg*].
File: [*arg*].

**Recommended actions**

Wait for the re-flash to complete.

## 32581, Firmware re-flash completed

**Description**

The update of *arg* firmware has completed successfully. Internal code:[*arg*]

**Recommended actions**

No action required.

## 32582, Firmware re-flash failed

**Description**

The update of *arg* firmware failed.
Internal error code:*arg*.

**Recommended actions**

1 Check other error messages for detailed explanation.
2 Reinstall the system.

## 32583, Firmware file corrupt

**Description**

The update of *arg* firmware failed.
The firmware file [*arg*] is corrupt.
Internal error code:*arg*.

**Recommended actions**

Reinstall the system.

## 32584, Firmware file not found

**Description**

The update of *arg* firmware failed.
The firmware file [*arg*] is not found.
Internal error code:*arg*.

**Recommended actions**

Reinstall the system.

## 32585, No Safety System Found By Axis Computer

**Description**

Axis computer failed to detect the safety system.

**Recommended actions**

1 Check communication cables between the axis computer and the safety system.
2 Check power supply to the safety system.
3 Restart the controller.

## 32590, Firmware re-flash started

**Description**

A required update of the *arg* firmware in drive module *arg* has started.
File: [*arg*].

**Recommended actions**

Wait for the re-flash to complete, this will take approximately 3.5 minutes.

## 32591, Firmware re-flash completed

**Description**

The update of *arg* firmware in drive module *arg* has successfully completed.

**Recommended actions**

No action required.

## 32592, Firmware re-flash failed

**Description**

The update of *arg* firmware in drive module *arg* has failed.

**Recommended actions**

1 Check other error messages for detailed explanation.
2 Reinstall the system.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

## 32593, Firmware file corrupt

**Description**

The update of *arg* firmware in drive module *arg* has failed.
The firmware file [*arg*] is corrupt.

**Recommended actions**

Reinstall the system.

## 32594, Firmware file not found

**Description**

The update of *arg* firmware in drive module *arg* has failed.
The firmware file [*arg*] is not found.

**Recommended actions**

Reinstall the system.

## 32601, Interbus master/slave board is missing

**Description**

The Interbus master/slave board does not work.

**Consequences**

No communication on the Interbus is possible.

**Probable causes**

The Interbus master/slave board is either malfunctioning or missing.

**Recommended actions**

1 Make sure an Interbus master/slave board is installed.
2 Replace the board if faulty.

## 32651, Serial port hardware is not accessible

**Description**

The system has tried to address the serial port *arg*, and failed.

**Consequences**

The optional serial port hardware cannot be accessed. The connector and the physical channel using the connector will not be available for use.

**Probable causes**

The serial port hardware is missing or malfunctioning.

**Recommended actions**

1 Make sure the required serial port hardware has been correctly installed and is not faulty.
2 Replace the serial port hardware.

## 33503, Revolution counter update failure

**Description**

Update of the revolution counter for joint *arg* failed.

**Consequences**

Joint not synchronized.

**Probable causes**

1 Joint missing or not active.
2 Measurement system error.

**Recommended actions**

1 Check if joint active.
2 Check configuration files.
3 Check measurement system.

## 33601, Anybus module is missing

**Description**

The Anybus module is missing.

**Consequences**

No communication with the Anybus module is possible.

**Probable causes**

The Anybus module is either malfunctioning or missing.

**Recommended actions**

1 Make sure a Anybus module is installed.
2 Replace the module if faulty.

## 34100, Drive system not supported

**Description**

The configured drive system in drive module *arg* is not of type Drive System '04.

**Consequences**

The system goes to system failure state.

**Probable causes**

1 Wrong drive module key used, i.e., the configuration does not match hardware.
2 Wrong hardware used in the system.

**Recommended actions**

1 Reinstall the system with a drive module key that matches the hardware.
2 Replace the drive module with one that supports Drive System '04.

## 34101, Drive system not supported

**Description**

The configured drive system in drive module *arg* is not of type Drive System '09.

**Consequences**

The system goes to system failure state.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

**Probable causes**

1 Wrong drive module key used, i.e., the configuration does not match hardware.
2 Wrong hardware used in the system.

**Recommended actions**

1 Reinstall the system with a drive module key that matches the hardware.
2 Replace the drive module with one that supports Drive System '09.

## 34200, Lost communication with all drive units

**Description**

In drive module *arg*, the axis computer has lost communication with all drive units.

**Consequences**

No operation will be possible until the fault is corrected. The system goes to Motors Off state with zero torque.

**Probable causes**

Communication problem between drive units and the axis computer.

**Recommended actions**

1 Check that all cables are properly connected.
2 Check that the drive units have logic power.
3 Check/replace Ethernet cables.
4 Check for other hardware event log messages.
5 Check the event log for power supply unit error messages.
6 Check the cabling between the power supply unit and the drive unit.
7 Check the 24V output from the power supply unit.

## 34202, Lost communication with drive unit

**Description**

In drive module *arg*, the axis computer has lost communication with the drive unit at unit position *arg*.

**Consequences**

No operation will be possible until the fault is corrected. The system goes to Motors Off state with zero torque.

**Probable causes**

Communication problem between the drive unit and the axis computer.

**Recommended actions**

1 Check that all cables are properly connected.
2 Check that the drive unit has logic power.
3 Check/replace Ethernet cables.
4 Check for other hardware event log messages.
5 Check the event log for power supply unit error messages.
6 Check the cabling between the power supply unit and the drive unit.
7 Check the 24V output from the power supply unit.

## 34203, Motor current too high

**Description**

The motor current is too high for joint *arg*, connected to drive module *arg* with the drive unit at unit position *arg* and node *arg*.

**Consequences**

No operation will be possible until the fault is corrected. The system goes to Motors Off state.

**Probable causes**

1 The motor configuration is incorrect.
2 The axis load may be too high or the motor may have stalled (maybe due to a collision).
3 The motor is too small for the drive unit.
4 Short circuit between motor phases or ground.

**Recommended actions**

1 Check that the motor configuration is correct.
2 Check that the robot has not collided.
3 If possible, reduce the speed of the user program.
4 Check that the axis load is not too high for the motor.
5 Verify that the maximum motor current is not too small compared to the maximum current of the drive unit.
6 Check the motor cable and motor by measuring their resistance respectively. Disconnect before measuring.

## 34251, Incoming mains phase missing

**Description**

In drive module *arg*, the rectifier unit at drive unit position *arg* has detected a power loss in one phase.

**Consequences**

The system may stop with DC link too low voltage.

**Probable causes**

1 Incoming mains voltage loss of one phase.
2 Some malfunction in cabling or internal 3-phase components.
3 The rectifier unit is faulty.

**Recommended actions**

1 Check all incoming mains phases to the cabinet.
2 Check all internal 3-phase components (main switch, mains filter, fuse, contactors) and cabling in the drive module.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

## 34252, Incoming mains missing

**Description**

In drive module *arg*, the rectifier unit at drive unit position *arg* has detected a mains voltage loss.

**Consequences**

No operation will be possible until the fault is corrected. The system goes to Motors Off state.

**Probable causes**

1 Incoming mains voltage loss.
2 Some malfunction in the cabling or in internal 3-phase components.
3 The rectifier unit is faulty.

**Recommended actions**

1 Check the incoming mains voltage.
2 Check all the internal 3-phase components (main switch, mains filter, fuse, contactors) and cabling in the drive module.

## 34255, Rectifier temperature error

**Description**

In drive module *arg*, the rectifier unit at drive unit position *arg* has reached a too high temperature level.

**Consequences**

No operation will be possible until the rectifier has cooled down. The system goes to Motors Off state.

**Probable causes**

1 The cooling fans may be faulty or the air flow may be obstructed.
2 The ambient temperature may be too high.
3 The system may be running with a too high torque for extended periods of time.

**Recommended actions**

1 Verify that the fans are running and that the air flow is not obstructed.
2 Verify that the ambient temperature does not exceed the cabinet's temperature rating.
3 If possible, rewrite the user program to reduce the amount of hard acceleration and hard deceleration.
4 Reduce the static torque due to gravity or external forces.

## 34256, Rectifier temperature warning

**Description**

In drive module *arg*, the rectifier unit at drive unit position *arg* is approaching a too high temperature level.

**Consequences**

It is possible to continue but the margin to maximum allowed temperature is too low to sustain long term operation.

**Probable causes**

1 The cooling fans may be faulty or the air flow may be obstructed.
2 The ambient temperature may be too high.
3 The system may be running with a too high torque for extended periods of time.

**Recommended actions**

1 Verify that the fans are running and that the air flow is not obstructed.
2 Verify that the ambient temperature does not exceed the cabinet's temperature rating.
3 If possible, rewrite the user program to reduce the amount of hard acceleration and hard deceleration.
4 Reduce the static torque due to gravity or external forces.

## 34257, Open circuit in bleeder resistor circuit

**Description**

In drive module *arg*, the bleeder resistor connected to the rectifier unit at drive unit position *arg* has too high resistance (open circuit).

**Consequences**

No operation will be possible until the fault is corrected. The system goes to Motors Off state.
WARNING HIGH VOLTAGE: THE DC LINK WILL NOT BE DISCHARGED WHEN THE SYSTEM IS POWERED OFF.

**Probable causes**

This may be caused by a faulty bleeder resistor cable or a faulty bleeder resistor.

**Recommended actions**

WARNING HIGH VOLTAGE CAN BE PRESENT.
1 Make sure the bleeder resistor cable is properly connected to the rectifier unit.
2 Disconnect the bleeder and check the cable and measure the bleeder resistance. The expected resistance should be approximately ohms.

## 34258, Short circuit in bleeder resistor circuit

**Description**

In drive module *arg*, the bleeder resistor connected to the rectifier unit at drive unit position *arg* is indicating a short circuit.

*Continues on next page*


© Copyright 2005-2020 ABB. All rights reserved.

**Consequences**

No operation will be possible until the fault is corrected. The system goes to Motors Off state.
WARNING HIGH VOLTAGE: THE DC LINK WILL NOT BE DISCHARGED WHEN THE SYSTEM IS POWERED OFF.

**Probable causes**

This may be caused by a faulty bleeder resistor cable or a faulty bleeder resistor.

**Recommended actions**

WARNING HIGH VOLTAGE CAN BE PRESENT.

1 Make sure the bleeder resistor cable is correctly connected to the rectifier unit.
2 Disconnect the bleeder and check the cable and measure the bleeder resistance. The expected resistance should be approximately ohms.
3 Check for bleeder short circuit against ground.

## 34261, Rectifier startup error

**Description**

In drive module *arg*, the inrush control relay in the rectifier unit at drive unit position *arg* indicates an error.

**Consequences**

No operation will be possible until the fault is corrected. The system goes to Motors Off state.

**Probable causes**

This may be caused by a faulty rectifier inrush control relay.

**Recommended actions**

Restart the controller and try again. If the problem remains then replace the unit.

## 34262, Incoming mains frequency warning

**Description**

In drive module *arg*, the incoming mains voltage has wrong frequency. The rectifier unit at drive unit position *arg* has reported the problem.

**Consequences**

The system may stop with DC link voltage too low.

**Probable causes**

1 The incoming mains frequency is not within specification.
2 Short circuit between motor phases or ground.

**Recommended actions**

1 Check and adjust incoming mains frequency.
2 Check the motor cable and motor by measuring their resistance respectively. Disconnect before measuring.

## 34263, Rectifier startup error

**Description**

In drive module *arg*, the dc-link in the rectifier unit at drive unit position *arg* has too low voltage.

**Consequences**

No operation will be possible until the fault is corrected. The system goes to Motors Off state.

**Probable causes**

1 Low AC-voltage level to rectifier input.
2 This may be caused by a faulty rectifier inrush control resistor.
3 A short circuit is present on the dc-link.

**Recommended actions**

1 Restart the controller and try again.
2 Check incoming mains voltage.
3 Check all internal 3-phase components (main switch, mains filter, fuse, contactors) and cabling in the drive module.
4 If new installed system with mains transformer - check transformer voltage selection.
5 If drive unit has additional axes - check dc-link wiring.
6 If the problem remains then replace the unit.

## 34264, Rectifier inrush limitation active in Motors On

**Description**

In drive module *arg*, the inrush control resistor in the rectifier unit at drive unit position *arg* is wrongly engaged.

**Consequences**

The system goes to Motors Off state to protect the hardware.

**Probable causes**

This error occur when the DC link voltage becomes too low and all mains phases are missing.

**Recommended actions**

1 Check the hardware event log for other errors.
2 Check incoming mains voltage.
3 Check that the correct voltage is selected with jumpers on the transformer (optional).
4 Check all internal 3-phase components (main switch, mains filter, fuse, contactors) and cabling in the drive module.

## 34265, DC link short circuit error

**Description**

In drive module *arg*, the DC link in the rectifier unit at drive unit position *arg* is short circuit.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

**Consequences**

No operation will be possible until the fault is corrected. The system goes to Motors Off state.

**Probable causes**

1 DC link cables for an additional drive unit is damaged or wrongly connected.
2 Internal error in rectifier unit or drive unit.

**Recommended actions**

Check DC link cables and connectors.

## 34266, Rectifier inrush limitation and bleeder active

**Description**

In drive module *arg*, with rectifier unit at drive unit position *arg*, the inrush control resistor is active at the same time as the bleeder resistor is active.
The inrush control resistor is located in the rectifier unit.
The bleeder resistor is connected to the rectifier unit or the drive unit with embedded rectifier.

**Consequences**

The system goes to Motors Off state to protect the hardware.

**Probable causes**

This problem is most likely to occur when the incoming mains voltage is too high to the rectifier.

**Recommended actions**

1 Check that the incoming mains voltage is according to specification for the drive unit.
2 Check that the correct voltage is selected with jumpers on the transformer (optional).

## 34267, Too many rectifiers connected

**Description**

In drive module *arg* the system has detected more rectifiers than the system can handle. The limit was reached when drive unit at unit position *arg* was detected.

**Consequences**

No operation will be possible until the fault is corrected. The system goes to system failure state.

**Probable causes**

1 Too many drive unit that are equipped with rectifiers are connected.

**Recommended actions**

1 Verify that the proper drive units' types are connected to the drive unit communication link.
2 Disconnect unused drive unit(s).

## 34268, Rectifier charging error

**Description**

In drive module *arg*, the dc-link in the rectifier unit at drive unit position *arg* has too low voltage.

**Consequences**

No operation will be possible until the fault is corrected. The system goes to Motors Off state.

**Probable causes**

1 Low AC-voltage level to rectifier input.
2 This may be caused by a faulty rectifier bleeder.
3 The bleeder resistor or its wiring is faulty.
4 A short circuit is present on the dc-link.

**Recommended actions**

1 Restart the controller and try again.
2 Check incoming mains voltage.
3 If new installed system with mains transformer - check transformer voltage selection.
4 Check bleeder resistor and its wiring.
5 If the problem remains then replace the unit.

## 34300, Unknown drive unit type

**Description**

In drive module *arg*, the drive unit at unit position *arg* has an unknown hardware identity *arg*.

**Consequences**

No operation will be possible until the fault is corrected. The system goes to system failure state.

**Probable causes**

The drive unit is either unsupported or faulty.

**Recommended actions**

1 Verify that the drive unit is supported by the RobotWare version. Upgrade RobotWare if needed.
2 Replace drive unit.

## 34303, Motor current warning

**Description**

For joint *arg*, the current controller detected a too large torque current deviation for the motor. The joint is connected to drive module *arg* in the drive unit at unit position *arg* and node *arg*.

**Consequences**

Operation will be possible but system is close to a stopping error.

*Continues on next page*


© Copyright 2005-2020 ABB. All rights reserved.

**Probable causes**

1 The motor data in the configuration files may be wrong.
2 The motor cables are not correctly connected or damaged.
3 Short circuit in motor cable between phase to phase or phase to ground.
4 The DC link voltage may be too low.
5 The incoming mains voltage is not within specification.

**Recommended actions**

1 Verify that the motor data in the configuration file is correct for this joint. The configuration data is described in Technical reference manual - System parameters.
2 Verify that the motor cables are not damaged or badly connected.
3 Verify that the motor cables has no short circuits internally or to ground.
4 Verify that no DC link errors are present in the event log.
5 Verify that the incoming mains voltage is within the specification.

## 34304, Motor current warning

**Description**

For joint *arg*, the current controller detected a too large current deviation for the motor. The joint is connected to drive module *arg* in the drive unit at unit position *arg* and node *arg*.

**Consequences**

Operation will be possible but system is close to a stopping error.

**Probable causes**

1 The motor data in the configuration files may be wrong.
2 The motor cables are not correctly connected or damaged.
3 Short circuit in motor cable between phase to phase or phase to ground.
4 The DC link voltage may be too low.
5 The incoming mains voltage is not within specification.

**Recommended actions**

1 Verify that the motor data in the configuration file is correct for this joint. The configuration data is described in Technical reference manual - System parameters.
2 Verify that the motor cables are not damaged or badly connected.
3 Verify that the motor cables has no short circuits internally or to ground.
4 Verify that no DC link errors are present in the event log.
5 Verify that the incoming mains voltage is within the specification.

## 34306, Drive unit temperature error

**Description**

The drive unit for joint *arg* has reached a too high temperature level. The joint is connected to drive module *arg* with the drive unit at unit position *arg* and node *arg*.

**Consequences**

No operation will be possible until the fault is corrected. The system goes to Motors Off state.

**Probable causes**

1 The cooling fans may be faulty or the air flow may be obstructed.
2 The cooling fins are covered by dust reducing the cooling effect.
3 The ambient temperature may be too high.
4 The joint may be running with a too high torque for extended periods of time.

**Recommended actions**

1 Verify that the fans are running and that the air flow is not obstructed.
2 Clean the cooling fins.
3 Verify that the ambient temperature does not exceed the cabinet's temperature rating.
4 If possible, rewrite the user program to reduce the amount of hard acceleration and hard deceleration.
5 Reduce the static torque due to gravity or external forces.

## 34307, Drive unit temperature warning

**Description**

The drive unit for joint *arg* is approaching a too high temperature level. The joint is connected to drive module *arg* with the drive unit at unit position *arg* and node *arg*.

**Consequences**

It is possible to continue but the margin to maximum allowed temperature is too low to sustain long term operation.

**Probable causes**

1 The cooling fans may be faulty or the air flow may be obstructed.
2 The cooling fins are covered by dust reducing the cooling effect.
3 The ambient temperature may be too high.
4 The joint may be running with a too high torque for extended periods of time.

**Recommended actions**

1 Verify that the fans are running and that the air flow is not obstructed.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

2 Clean the cooling fins.
3 Verify that the ambient temperature does not exceed the cabinet's temperature rating.
4 If possible, rewrite the user program to reduce the amount of hard acceleration and hard deceleration.
5 Reduce the static torque due to gravity or external forces.

## 34308, Drive unit critical temperature error

**Description**

The drive unit for joint *arg* has reached a critical high temperature level. The joint is connected to drive module *arg* with the drive unit at unit position *arg* and node *arg*.

**Consequences**

No operation will be possible until the fault is corrected. The system goes to Motors Off state with zero torque.

**Probable causes**

1 The cooling fans may be faulty or the air flow may be obstructed.
2 The cooling fins are covered by dust reducing the cooling effect.
3 The ambient temperature may be too high.
4 The joint may be running with a too high torque for extended periods of time.

**Recommended actions**

1 Verify that the fans are running and that the air flow is not obstructed.
2 Clean the cooling fins.
3 Verify that the ambient temperature does not exceed the cabinet's temperature rating.
4 If possible, rewrite the user program to reduce the amount of hard acceleration and hard deceleration.
5 Reduce the static torque due to gravity or external forces.

## 34309, Drive transistor current too high

**Description**

The drive unit transistor current is too high for joint *arg*. The joint is connected to drive module *arg* with the drive unit at unit position *arg* and node *arg*.

**Consequences**

No operation will be possible until the fault is corrected. The system goes to Motors Off state.

**Probable causes**

1 The motor configuration is incorrect.
2 The axis load may be too high or the motor may have stalled (maybe due to a collision).
3 Short circuit between motor phases or ground.

**Recommended actions**

1 Check that the motor configuration is correct.
2 Check that the robot has not collided.
3 If possible, reduce the speed of the user program.
4 Check that the axis load is not too high for the drive unit.
5 Check the motor cable and motor by measuring their resistance respectively. Disconnect before measuring.

## 34311, Drive inverter saturated warning

**Description**

The drive unit for joint *arg* has reached maximum output voltage. The joint is connected to drive module *arg* with the drive unit at unit position *arg* and node *arg*.

**Consequences**

Operation will be possible but system is close to a stopping error.

**Probable causes**

1 The motor is not properly connected to the drive unit.
2 The motor data in the configuration is not correct.
3 The DC link voltage is too low.
4 Short circuit between motor phases or ground.

**Recommended actions**

1 Check motor cables and connectors.
2 Check configuration of motor parameters.
3 Check for other hardware event log messages.
4 Check incoming mains voltage to the rectifier unit, adjust the mains tolerance min value.
5 Check the motor cable and motor by measuring their resistance respectively. Disconnect before measuring.

## 34312, Missing drive unit

**Description**

For joint *arg*, the system cannot find configured drive unit. The joint is configured for drive module *arg*, in the drive unit at unit position *arg*.

**Consequences**

The system goes to system failure state.

**Probable causes**

A joint is configured but drive unit is not found.

**Recommended actions**

1 Verify that the drive module contains the drive unit for the configured joint.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

2 Verify that the configuration for the drive unit position is correct.
3 Verify that the cables between drive units are correctly inserted in the correct connector position.
4 If the cable is correctly connected, then it may be damaged and should be replaced.
5 Check the event log for power supply unit error messages.
6 Check the cabling between the power supply unit and the drive unit.
7 Check the 24V output from the power supply unit.

## 34313, Wrong type of drive unit

**Description**

In drive module *arg*, the hardware identity for drive unit at unit position *arg* is different from the one specified in the configuration. Installed drive unit hardware identity is *arg*, and the configured identity is *arg*.

**Consequences**

No operation will be possible until the fault is corrected. The system goes to system failure state.

**Probable causes**

The drive unit type does not match the one specified in the installation key.

**Recommended actions**

1 Verify that the drive unit position is correct, i.e., the Ethernet cables are correctly connected.
2 Verify that the drive module key match the installed hardware.
3 Replace the drive unit with the one specified in the drive module key.

## 34314, Missing drive unit node

**Description**

For joint *arg*, the drive unit does not support the node number configured. The joint is configured for drive module *arg*, in the drive unit at unit position *arg* with node *arg*.

**Consequences**

The system goes to system failure state.

**Probable causes**

The configured drive unit node is not supported for the configured type of drive unit.

**Recommended actions**

Check the drive unit node number in the configuration.

## 34316, Motor current error

**Description**

For joint *arg*, the current controller detected a too large torque current deviation for the motor. The joint is connected to drive module *arg* in the drive unit at unit position *arg* and node *arg*.

**Consequences**

The system goes to Motors Off state.

**Probable causes**

1 The motor data in the configuration files may be wrong.
2 The motor cables are not correctly connected or damaged.
3 Short circuit in motor cable between phase to phase or phase to ground.
4 The DC link voltage may be too low.
5 The incoming mains voltage is not within specification.

**Recommended actions**

1 Verify that the motor data in the configuration file is correct for this joint. The configuration data is described in Technical reference manual - System parameters.
2 Verify that the motor cables are not damaged or badly connected.
3 Verify that the motor cables has no short circuits internally or to ground.
4 Verify that no DC link errors are present in the event log.
5 Verify that the incoming mains voltage is within the specification. Change the mains tolerance min so that it reflects the actual mains voltage.

## 34317, Motor current error

**Description**

For joint *arg*, the current controller detected a too large current deviation for the motor. The joint is connected to drive module *arg* in the drive unit at unit position *arg* and node *arg*.

**Consequences**

The system goes to Motors Off state.

**Probable causes**

1 The motor data in the configuration files may be wrong.
2 The motor cables are not correctly connected or damaged.
3 Short circuit in motor cable between phase to phase or phase to ground.
4 The DC link voltage may be too low.
5 The incoming mains voltage is not within specification.

**Recommended actions**

1 Verify that the motor data in the configuration file is correct for this joint. The configuration data is described in Technical reference manual - System parameters.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

2 Verify that the motor cables are not damaged or badly connected.
3 Verify that the motor cables has no short circuits internally or to ground.
4 Verify that no DC link errors are present in the event log.
5 Verify that the incoming mains voltage is within the specification. Change the mains tolerance min so that it reflects the actual mains voltage.

## 34318, Drive inverter saturated error

**Description**

The drive unit for joint *arg* has reached maximum output voltage. The joint is connected to drive module *arg* with the drive unit at unit position *arg* and node *arg*.

**Consequences**

The system goes to Motors Off state.

**Probable causes**

1 The motor is not properly connected to the drive unit.
2 The motor data in the configuration is not correct.
3 The DC link voltage is too low.
4 Short circuit between motor phases or ground.

**Recommended actions**

1 Check motor cables and connectors.
2 Check configuration of motor parameters.
3 Check for other hardware event log messages.
4 Check incoming mains voltage to the rectifier unit.
5 Check the motor cable and motor by measuring their resistance respectively. Disconnect before measuring.

## 34319, Drive unit critical error

**Description**

The drive unit for joint *arg* gives an unspecified error, but is likely due to over temperature or short circuit. The joint is connected to drive module *arg* with the drive unit at unit position *arg* and node *arg*.

**Consequences**

No operation will be possible until the fault is corrected. The system goes to Motors Off state with zero torque.

**Probable causes**

1 The cooling fans may be faulty or the air flow may be obstructed.
2 The cooling fins are covered by dust reducing the cooling effect.
3 The ambient temperature may be too high.
4 The joint may be running with a too high torque for extended periods of time.
5 Short circuit in cables or connectors between the phases or to ground.
6 Short circuit in motor between the phases or to ground.

**Recommended actions**

1 Verify that the fans are running and that the air flow is not obstructed.
2 Clean the cooling fins.
3 Verify that the ambient temperature does not exceed the cabinet's temperature rating.
4 If possible, rewrite the user program to reduce the amount of hard acceleration and hard deceleration.
5 Reduce the static torque due to gravity or external forces.
6 Check/replace cables and connectors.
7 Check/replace motor.

## 34320, Too many drive nodes connected

**Description**

In drive module *arg* the system has detected more drive nodes than the system can handle. The error occurred when drive unit at unit position *arg* was detected.

**Consequences**

No operation will be possible until the fault is corrected. The system goes to system failure state.

**Probable causes**

1 Too many drive units is connected to the drive unit communication link.
2 The connected drive units can be of wrong types, and may be equipped with too many drive nodes.

**Recommended actions**

1 Verify that the proper drive unit types are connected to the drive unit communication link.
2 Disconnect unused drive unit(s).

## 34321, Drive unit configuration error

**Description**

In drive module *arg* the drive unit at position *arg* has a configuration error due to a mismatch between the drive unit and measurement system. The drive unit can only support *arg* joints having same measurement excitation. The error occurred when adding joint *arg* to the system.

**Consequences**

No operation will be possible until the fault is corrected. The system goes to system failure state.

*Continues on next page*


© Copyright 2005-2020 ABB. All rights reserved.

**Probable causes**

Too many joints are using same measurement excitation and all are using same drive unit.

**Recommended actions**

1 Move the joint or another joint with same node excitation to the other excitation (EXC1 - EXC2), by reroute the joint measurement node connection both in hardware and in configuration.
2 Restart the controller.

## 34322, Drive unit configuration error

**Description**

In drive module *arg* the drive unit at position *arg* is using wrong rectifier.

**Consequences**

No operation will be possible until the fault is corrected. The system goes to system failure state.

**Probable causes**

A drive unit must always configure a rectifier with lower or same unit position as the inverter. There must not be any other rectifier with unit position between the configured rectifier and drive unit.

**Recommended actions**

1 Check that configuration file for additional axis is of type drive system 09.
2 Change used rectifier (dc_link) in the additional axis configuration.
3 Remove unused rectifier mounted between configured rectifier and drive unit.

## 34400, DC link voltage too high

**Description**

In drive module *arg*, the drive unit at unit position *arg* has a DC link voltage that is too high.

**Consequences**

No operation will be possible until the fault is corrected. The system goes to Motors Off state.
WARNING HIGH VOLTAGE: THE DC LINK MAY BE DISCHARGED VERY SLOWLY (APPROXIMATELY 1 HOUR) WHEN THE SYSTEM IS POWERED OFF.

**Probable causes**

1 The bleeder resistor is not connected or faulty.
2 The user program may contain too much deceleration of the manipulator's axes. This fault is more likely if the system contains additional axes.

**Recommended actions**

WARNING HIGH VOLTAGE CAN BE PRESENT.

1 Make sure the bleeder resistor cable is properly connected to the rectifier unit.
2 Disconnect the bleeder and check the cable and measure the bleeder resistance. The expected resistance should be approximately ohms.
3 Rewrite the user program to reduce the amount of hard decelerations.

## 34401, DC link voltage too low warning

**Description**

In drive module *arg*, the drive unit at unit position *arg* has a DC link voltage that is close to minimum limit.

**Consequences**

Operation will be possible but the system is close to a stopping error.

**Probable causes**

The incoming mains voltage to the rectifier unit is out of specification.

**Recommended actions**

1 Check for other hardware event log messages regarding mains voltage problem.
2 Check incoming mains voltage. Change the mains tolerance min so that the mains voltage is inside the specified interval.
3 Check that the correct voltage is selected with jumpers on the transformer (optional).
4 Check all internal 3-phase components (main switch, mains filter, fuse, contactors) and cabling in the drive module.

## 34402, DC link voltage too low

**Description**

In drive module *arg*, the DC link voltage is too low for the drive unit at unit position *arg*.

**Consequences**

No operation will be possible until the fault is corrected. The system goes to Motors Off state.

**Probable causes**

The incoming mains voltage to the rectifier unit is out of specification.

**Recommended actions**

1 Check for other hardware event log messages regarding mains voltage problem.
2 Check incoming mains voltage. Change the mains tolerance min so that the mains voltage is inside the specified interval.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

3 Check that the correct voltage is selected with jumpers on the transformer (optional).
4 Check all internal 3-phase components (main switch, mains filter, fuse, contactors) and cabling in the drive module.

## 34404, DC link voltage is critically high

**Description**

In drive module *arg*, the drive unit at unit position *arg* has a DC link voltage that is critically high.

**Consequences**

No operation will be possible until the fault is corrected. The system goes to Motors Off state with zero torque.
WARNING HIGH VOLTAGE: THE DC LINK MAY BE DISCHARGED VERY SLOWLY (APPROXIMATELY 1 HOUR) WHEN THE SYSTEM IS POWERED OFF.

**Probable causes**

1 The bleeder resistor is not connected or faulty.
2 The user program may contain too much deceleration of the manipulator's axes. This fault is more likely if the system contains additional axes.

**Recommended actions**

WARNING HIGH VOLTAGE CAN BE PRESENT.
1 Make sure the bleeder resistor cable is properly connected to the rectifier unit.
2 Disconnect the bleeder and check the cable and measure the bleeder resistance. The expected resistance should be approximately ohms.
3 Rewrite the user program to reduce the amount of hard decelerations.

## 34405, DC link voltage too high warning

**Description**

In drive module *arg*, the drive unit at unit position *arg* has a DC link voltage that is close to maximum limit.

**Consequences**

Operation will be possible but the system is close to a stopping error.
WARNING HIGH VOLTAGE: THE DC LINK MAY BE DISCHARGED VERY SLOWLY (APPROXIMATELY 1 HOUR) WHEN THE SYSTEM IS POWERED OFF.

**Probable causes**

1 The bleeder resistor is not connected or faulty.
2 The user program may contain too much deceleration of the manipulator's axes. This fault is more likely if the system contains additional axes.

**Recommended actions**

WARNING HIGH VOLTAGE CAN BE PRESENT.
1 Make sure the bleeder resistor cable is properly connected to the rectifier unit.
2 Disconnect the bleeder and check the cable and measure the bleeder resistance. The expected resistance should be approximately ohms.
3 Rewrite the user program to reduce the amount of hard decelerations.

## 34406, Drive unit power supply error

**Description**

In drive module *arg*, the drive unit with unit position *arg* has detected problem with the logic power.

**Consequences**

No operation will be possible until the fault is corrected. The system goes to Motors Off state with zero torque.

**Probable causes**

The 24V logic supply to the drive is temporary or constantly lost.

**Recommended actions**

1 Check the event log for power supply unit error messages.
2 Check the cabling between the power supply unit and the drive unit.
3 Check the 24V output from the power supply unit.

## 34407, Drive unit internal error

**Description**

In drive module *arg*, the drive unit at unit position *arg* has indicated an internal error.

**Consequences**

The system goes to system failure state with zero torque.

**Probable causes**

An internal error has occurred in the drive unit firmware.

**Recommended actions**

Restart the controller by using the main power switch.

## 34408, Drive unit hardware data error

**Description**

In drive module *arg*, the drive unit at unit position *arg* has corrupt information stored on the unit.

**Consequences**

The system goes to system failure state.

*Continues on next page*


© Copyright 2005-2020 ABB. All rights reserved.

**Probable causes**

The integrity check of the drive unit information stored on the drive unit has failed.

**Recommended actions**

1 Retry again by restarting the controller using the main power switch.
2 Replace the faulty drive unit.

## 34409, Drive unit startup error

**Description**

The system has failed to complete the initialization phase of a drive unit. The drive unit is located in drive module *arg* at unit position *arg*.

**Consequences**

The system goes to system failure state.

**Probable causes**

The system has failed to complete the initialization phase of the drive unit.

**Recommended actions**

1 Retry by restarting the controller using the main power switch.
2 Check for other hardware event log messages.

## 34410, Too many drive units connected

**Description**

In drive module *arg* the system has detected more drive units than the system can handle. The maximum number of drive units supported is *arg*, but *arg* was detected.

**Consequences**

No operation will be possible until the fault is corrected. The system goes to system failure state.

**Probable causes**

Too many drive unit that are connected.

**Recommended actions**

Disconnect unused drive unit(s).

## 34411, DC link error

**Description**

The system has detected an unexpected low DC bus voltage in a drive unit that is not used by any joints. The drive unit is located in drive module *arg* at unit position *arg*.

**Consequences**

No operation will be possible until the fault is corrected. The system goes to Motors Off state.

**Probable causes**

1 Incoming mains are missing.
2 The DC bus cable is faulty connected to the drive unit.
3 Short circuit on a DC bus. It can be both inside the drive unit and in the cables.

**Recommended actions**

1 Check incoming mains.
2 Check DC cabling.
3 Check if there are any short circuit.
4 Replace the drive unit(s).

## 34423, Incompatible drive unit types

**Description**

The configured drive system in drive module *arg* contains incompatible drive unit types.

**Consequences**

The system goes to system failure state.

**Probable causes**

Drive units of type DSQC462 are not compatible with any other drive unit types and may not be used in the same drive module.

**Recommended actions**

1 Check the configuration to make sure that only compatible drive unit types are use within the same drive module.

## 37001, Motors ON contactor activation error

**Description**

Motors ON contactor *arg* in drive module *arg* failed to close when ordered.

**Consequences**

The mechanical unit cannot be run manually or automatically.

**Probable causes**

1 The run chain for the contactor is open.
2 There are problems in the contactor itself, either mechanical or electrical.
3 The FlexPendant enabling device may have been toggled too quickly, or the system may not be configured correctly. On rare occasions, this fault may occur in combination with other faults, in which case this may be found in the error log.

**Recommended actions**

1 To resume normal operation, first acknowledge the error, then release the enabling device and press it again after approx. one second.
2 Check cables and connections on the safety system.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

3 Check any other error log messages coinciding in time with this one for clues.
4 Check the system motion configuration regarding Motors ON relay. The configuration data is described in Technical reference manual - System parameters.

Warning: Further use of robot is not permitted until the fault is found and eliminated.

## 37043, Safety signals overloaded

**Description**

The AC_ON or SPEED signals draw too much current.

**Consequences**

The safety system shuts down the signals, causing the system to go to either system failure state (for AC_ON) or status SYS HALT (for SPEED).

**Probable causes**

A load connected to the circuit may be too high, or the safety system may be malfunctioning. See the circuit diagram!

**Recommended actions**

1 Check all loads connected to the AC_ON and SPEED circuits.
2 Check the safety system cabling and connectors, and replace any faulty unit if required.

## 37044, Overload on Panel Board digital output signals

**Description**

The panel board user digital outputs draw too much current.

**Consequences**

The panel board shuts down the signals, causing the system to go to status SYS HALT.

**Probable causes**

A load connected to the circuit may be too high, or the panel board may be malfunctioning. See the circuit diagram!

**Recommended actions**

1 Check all loads connected to the user digital outputs.
2 Check the panel board cabling and connectors, and replace any faulty unit if required.

## 37045, Faulty external computer fan

**Description**

The external computer fan in the control module spins too slowly.

**Consequences**

No system consequence. The control module temperature will rise.

**Probable causes**

Faulty fan, cabling or power supply. See the circuit diagram!

**Recommended actions**

1 Check the cabling to the external computer fan.
2 Check the fan, and replace any faulty unit if required.

## 37046, Safety signals overloaded

**Description**

The 24 V PANEL supply draws too much current.

**Consequences**

The safety system shuts down the signal, causing the system to go to status SYS HALT.

**Probable causes**

A load connected to the circuit may be too high, or the safety system unit may be malfunctioning. See the circuit diagram!

**Recommended actions**

1 Check all loads connected to the 24V PANEL circuit.
2 Check cabling on the safety system.

## 37049, Activation contactor activation error

**Description**

The activation relay for mechanical unit *arg* failed to close.

**Consequences**

The mechanical unit cannot be run manually or automatically.

**Probable causes**

The activation relay configured within the system may be faulty, or the system may not be configured correctly.

**Recommended actions**

1 Check the contactor and make sure its connections are connected correctly.
2 Check the system motion configuration regarding the activation relay. The configuration data is described in Technical reference manual - System parameters.

## 37050, Overtemperature in main computer

**Description**

The temperature in the main computer unit or the main computer processor is too high.

**Consequences**

The system might get damaged.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

**Probable causes**

The unit may be overloaded, its fans may be malfunctioning or the air flow may be restricted.

**Recommended actions**

1 Make sure the fans are operating.
2 Check that air flow to the unit fans is not restricted.

## 37053, Check the CMOS battery voltage level

**Description**

The CMOS battery on the computer board might be empty.

**Consequences**

After restart of the system, the system time will be reset.
The system will also use an erroneous setup or no restart will be possible.

**Probable causes**

1 The system time has never been set.
2 The CMOS battery is faulty/empty.

**Recommended actions**

1 Set the system time, restart the system with power switch and check if this event message is reported again.
2 If this error is reported again, replace the CMOS battery and set the system time.

## 37054, Faulty computer unit fan

**Description**

The fans in the computer unit spin too slowly.

**Consequences**

No system consequence. The computer unit temperature will rise.

**Probable causes**

Faulty fan, cabling or power supply. See the circuit diagram!

**Recommended actions**

1 Check the cabling to the computer unit fan.
2 Check the fan.
3 Check the fan power supply.
4 Replace the faulty component if required.

## 37056, Cooling fan error

**Description**

Cooling unit fan has stopped or is rotating very slowly (Less than *arg* rpm).

**Recommended actions**

1 Check the fan cables.
2 Replace the fan.

## 37062, Computer module power supply warning

**Description**

The *arg* V voltage of the computer module power supply is *arg* V, which is out of the allowed range.

**Consequences**

**Probable causes**

The power supply unit, cabling, input voltage to the power supply or the output load may cause the faulty voltage level. See the Trouble Shooting Manual and circuit diagram!

**Recommended actions**

1 Check all cabling to the power supply unit.
2 Measure the output and input voltage levels.
3 Replace the faulty unit if required.

## 37069, Faulty backup Power Supply

**Description**

The backup energy bank in the control module supplying the backup voltage is faulty.

**Consequences**

After switching the power off, no system data changes will be saved, unless "Shutdown main computer" has been done first.

**Probable causes**

This may be caused by a faulty backup energy bank, cabling or charger.

**Recommended actions**

Do "Shutdown main computer" before turning the main power off or wait until battery has been charged!

1 Check the backup energy bank cabling and connectors.
2 Check the backup energy bank.
3 Check the power supply.
4 Replace the faulty unit if required.

## 37070, Overtemperature in Control Module Power Supply

**Description**

The temperature in the control module power supply is too high.

**Consequences**

The system is shut down immediately.

**Probable causes**

This may be caused by poor cooling, too high a load on the power supply or by a faulty power supply.

**Recommended actions**

1 Check the cooling fan.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

2 Check the output power.
3 Replace any faulty unit if required.

## 37074, Purge pressure too low

**Description**

Purge system number *arg* associated with manipulator interface board (MIB) *arg*.

**Recommended actions**

Check the purge air supply and search for leaks in:

1 The purge unit.
2 The flexible hose conduit.
3 The manipulator itself.

## 37075, Purge pressure too high

**Description**

Purge system number *arg* associated with manipulator interface board (MIB) *arg*.

**Recommended actions**

Check the purge unit and the air supply.

## 37076, Unexpected low purge flow

**Description**

Purge system number *arg* associated with manipulator interface board (MIB) *arg*.

**Recommended actions**

Check the purge unit and the air supply. Search for leaks in the purge system.

## 37077, Unexpected high purge flow

**Description**

Purge system number *arg* associated with manipulator interface board (MIB) *arg*.

**Recommended actions**

Check the purge unit and the air supply.

## 37078, Purge timers differ

**Description**

Unacceptable divergence between process interface board (PIB) and manipulator interface board (MIB) *arg* purge timers.

**Consequences**

The purge timer will be restarted.

**Recommended actions**

1 Check Serial Peripheral Interface (SPI) cables.
2 Replace MIB if faulty.
3 Replace PIB if faulty.

## 37080, Purge configuration not valid

**Description**

The purge time key on manipulator interface board (MIB) *arg* X19 is not valid.

**Consequences**

Default time (300s) is used.

**Probable causes**

Faulty or missing purge time key.

**Recommended actions**

1 Check that the purge time key is correctly mounted.
2 Replace purge time key.

## 37081, Purge timers differ

**Description**

Unacceptable divergence between CPLD and FPGA firmware on manipulator interface board (MIB) *arg* purge timers.

**Consequences**

The purge timer will be restarted.

**Recommended actions**

Replace MIB if faulty.

## 37082, Divergence between PIB and MIB outputs

**Description**

Process interface board (PIB) and manipulator interface board (MIB) *arg* are not agreed concerned to output status for purge relay and power relay.

**Consequences**

Purge sequence is restarted.

## 37083, Purge sensor has detected pressure failure

**Description**

Purge fault reported from manipulator interface board (MIB) *arg*. The purging system has detected pressure not OK from sensors. Motors and paint equipments are switched off and main computer may be informed to disconnect the serial measurement unit (SMU). Depends on signal timing.

**Consequences**

Motors and paint equipments are turned off, run chain opened and maybe also disconnected SMU.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

**Recommended actions**

1 Check air supply.
2 Check that air outlet is not blocked.
3 Check purge sensors and cabling for purge sensors.

## 37090, Temp. too high, sensor *arg*

**Description**

System overheat detected on manipulator controller board (MCOB) *arg*. Sensors 1-7: motor 1-7. Sensor 8: Serial measurement board. Run chain has been opened.

**Recommended actions**

Wait until the overheated motor or equipment has cooled down.

## 37094, Activate connection error

**Description**

Could not activate *arg*. Connection relay input *arg* indicates no connection.

**Recommended actions**

1 Check that if mechanical unit is connected.
2 Check the connection relay input signal setup.

## 37095, Brake power fault

**Description**

The supervision of brake power on manipulator controller board (MCOB) *arg* has detected fault on the power signal and turned ON all brakes.

**Recommended actions**

1 Check brake power on MCOB.
2 Check brake power relay in cabinet.
3 Check for disturbances on the brake power signal on MCOB.
4 Check for short circuit on brakes.

## 37096, Brake power fault

**Description**

The supervision of brake power on manipulator controller board (MCOB/MCB) *arg* has detected fault on the power signal and turned ON all brakes.

**Recommended actions**

1 Check brake power on MCOB/MCB.
2 Check brake power from power supply in cabinet.
3 Check for disturbances on the brake power signal on MCOB/MCB.
4 Check for short circuit on brakes.

## 37097, Brake short circuit fault

**Description**

The supervision of brakes on manipulator controller board (MCOB/MCB) *arg* has detected a short circuit on axis *arg* and turned ON all brakes.

**Recommended actions**

1 Check for short circuit on brakes.

## 37098, Brake open circuit fault

**Description**

The supervision of brakes on manipulator controller board (MCOB/MCB) *arg* has detected an open circuit on axis *arg* and turned ON all brakes.

**Recommended actions**

1 Check for open circuit on brakes.

## 37099, Temp. too high, sensor *arg*

**Description**

System overheat detected on manipulator controller board (MCOB/MCB) *arg*. Sensors supervised on motors, Serial measurement unit (SMU) or process equipment. Run chain has been opened.
Sensors 1-8: Robot motors 1-8. Sensor 9: SMU. Sensors 10-14: Process 1-5. Please refer to current robot configuration for more details.

**Recommended actions**

Wait until the overheated motor or equipment has cooled down.

## 37100, I/O node flash disk error

**Description**

Flash name: *arg*.
Flash disk function: *arg*.
Error description: *arg*

**Recommended actions**

Report error.

## 37101, Brake Failure

**Description**

The brakes for mechanical unit *arg* fail to engage.

**Consequences**

The mechanical unit may collapse when the motors are turned off.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

**Probable causes**

The configuration of brake relay may be incorrect, or the brake relay may be faulty. If an external brake relay is being used, the relay must be correctly defined in the motion configuration file.

**Recommended actions**

1 Check that the external brake relay (if used) is correctly defined in the configuration file.
2 Check that the corresponding I/O signal is correctly defined in the I/O configuration file. The configuration data is described in Technical reference manual - System parameters.

## 37102, Power supply warning, faulty 24V COOL level

**Description**

The 24V COOL output of the control module power supply is out of range.

**Consequences**

No system consequence.

**Probable causes**

The control module power supply unit cabling or the output load may cause the faulty voltage level. The power supplies are shown in the product manual for the controller and the circuit diagram.

**Recommended actions**

1 Check all cabling to the control module power supply unit.
2 Check the output voltage level, and replace any faulty unit if required.

## 37103, Power supply warning, faulty 24V SYS level

**Description**

The 24V SYS output of the control module power supply is out of range.

**Consequences**

No system consequence.

**Probable causes**

The control module power supply unit, cabling or the output load may cause the faulty voltage level. The power supplies are shown in the product manual for the controller and the circuit diagram.

**Recommended actions**

1 Check all cabling to the control module power supply unit.
2 Check the output voltage level, and replace any faulty unit if required.

## 37104, There is no backup voltage available!

**Description**

The backup energy bank maintaining the backup voltage is not functional.

**Consequences**

After switching the power off, a B type restart must be performed. No system data changes will be saved at power off.

**Probable causes**

This may be caused by a faulty backup energy bank, cabling or charger.

**Recommended actions**

Before working on the system, perform a controlled shutdown to ensure all system data is correctly saved.

1 Check the cables and connectors of the backup energy bank.
2 Check the backup energy bank.
3 Check the power supply.
4 Replace the faulty unit if required.

## 37105, Regained communication with Power Supply

**Description**

The main computer has regained communication with the control module power supply.

## 37106, Low backup energy bank voltage level

**Description**

The voltage in the computer unit backup energy bank is too low to be functional.

**Consequences**

No system consequence. No system data changes will be saved at power off.

**Probable causes**

This may be caused by a faulty backup energy bank, cabling or charger.

**Recommended actions**

Before working on the system, perform a controlled shutdown to ensure all system data is correctly saved.

1 Check the cables and connectors of the backup energy bank.
2 Check the backup energy bank.
3 Check the power supply.
4 Replace the faulty unit if required.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

## 37107, Faulty backup energy bank

**Description**

The backup energy bank in the control module maintaining the backup voltage is not functional.

**Consequences**

If switching the power off, a B type restart must be performed. No backup will be made at power off.

**Probable causes**

This may be caused by a faulty backup energy bank, cabling or charger.

**Recommended actions**

Before working on the system, perform a controlled shutdown to ensure all system data is correctly saved.

1 Check the backup energy bank cable and connector.
2 Check the backup energy bank.
3 Replace the faulty unit if required.

## 37108, Lost communication: Power supply and computer

**Description**

The main computer has lost communication with the control module power supply.

**Consequences**

The main computer cannot retrieve status info or switch the power supply off. No system data changes will be saved at power off.

**Probable causes**

The USB cable from the main computer to the control module power supply may be faulty or disconnected, or the power supply may be faulty.

**Recommended actions**

Before working on the system, perform a controlled shutdown to ensure all system data is correctly saved.

1 Check the cabling and connectors to the control module power supply.
2 Check the power supply unit, and replace any faulty unit if required.

## 37109, Brake Release Failure

**Description**

The brakes for mechanical unit *arg* fail to release.

**Consequences**

The mechanical unit may not move when the motors are turned on.

**Probable causes**

The configuration of brake relay may be incorrect, or the brake relay may be faulty. If an external brake relay is being used, the relay must be correctly defined in the motion configuration file.

**Recommended actions**

1 Check that the external brake relay (if used) is correctly defined in the configuration file.
2 Check that the corresponding I/O signal is correctly defined in the I/O configuration file. The configuration data is described in Technical reference manual - System parameters.
3 Check I/O signals are correctly connected.

## 37110, Missing signal for Leak Detection

**Description**

Leak detection is enabled, but no signal is configured for the supervision.

**Recommended actions**

Configure the signal under Configuration/Process/Foundry Prime Leak Detection.

## 37111, Leak Detected

**Description**

Too high leak detected for more than *arg* seconds.

**Recommended actions**

Check the system for leaks.

## 37200, Power fault: Emergency Stop supply

**Description**

Power fault on 24V emergency stop supply. Feedback from safety interface board (SIB).

**Consequences**

The system goes to status SYS HALT.

**Recommended actions**

1 Check cables and connections.
2 Check power supply.

## 37201, Power fault: 24V Fail-safe supply

**Description**

Power fault on 24V fail-safe supply. Feedback from safety interface board (SIB).

**Consequences**

The system goes to status SYS HALT.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

**Recommended actions**

1 Check cables and connections.
2 Check power supply.

## 37202, Power fault: 24V I/O supply

**Description**

Power fault on 24V I/O supply. Feedback from safety interface board (SIB).

**Consequences**

The system goes to status SYS HALT.

**Recommended actions**

1 Check cables and connections.
2 Check power supply.

## 37203, Power fault: 24V SYS supply

**Description**

Power fault reported when 24V SYS < 18V. Feedback from manipulator interface board (MIB) *arg*.

**Consequences**

The system goes to status SYS HALT.

**Recommended actions**

1 Check cables and connections.
2 Check power supply.

## 37204, Power fault: 24V I/O supply

**Description**

Power fault reported when 24V I/O < 18V. Feedback from manipulator interface board (MIB) *arg*.

**Consequences**

The system goes to status SYS HALT.

**Recommended actions**

1 Check cables and connections.
2 Check power supply.

## 37205, Power fault: 12V Purge supply

**Description**

Power fault reported when 12V purge < 10.8V. Feedback from manipulator interface board (MIB) *arg*.

**Consequences**

The system goes to status SYS HALT.

**Recommended actions**

1 Check cables and connections.
2 Check power supply.

## 37206, Power fault: 12V FlexPendant supply

**Description**

Power fault on 12V FlexPendant supply. Feedback from pendant interface board (TIB).

**Consequences**

The system goes to status SYS HALT.

**Recommended actions**

1 Check cables and connections.
2 Check power supply.

## 37207, Battery charge low

**Description**

Less than 2 months until the battery backup to serial measurement board (SMB) is discharged. Counting from first time this message was displayed. The battery is mounted on manipulator interface board (MIB).

**Recommended actions**

Replace battery mounted on MIB.

## 37208, Overtemperature in transformer

**Description**

The temperature in the transformer is too high.

**Consequences**

The system goes to status SYS HALT.

**Probable causes**

The unit may be overloaded, its fans may be malfunctioning or the air flow may be restricted.

**Recommended actions**

1 Make sure the fans are operating.
2 Check that air flow to the unit fans is not restricted.

## 37209, Overtemperature in cabinet

**Description**

The temperature in the cabinet is too high.

**Consequences**

The system goes to status SYS HALT.

**Probable causes**

The unit may be overloaded, its fans may be malfunctioning or the air flow may be restricted.

**Recommended actions**

1 Make sure the fans are operating.
2 Check that air flow to the unit fans is not restricted.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 37210, Fault on contactor KM1

**Description**

A fault is observed on motor contactor KM1.

**Consequences**

The system goes to status SYS HALT.

**Recommended actions**

1 Check cables and connections.
2 Check contactor.

### 37211, Fault on contactor KM2

**Description**

A fault is observed on motor contactor KM2.

**Consequences**

The system goes to status SYS HALT.

**Recommended actions**

1 Check cables and connections.
2 Check contactor.

### 37212, Fault on contactor KM101

**Description**

A fault is observed on motor contactor KM101.

**Consequences**

The system goes to status SYS HALT.

**Recommended actions**

1 Check cables and connections.
2 Check contactor.

### 37213, Fault on contactor KM102

**Description**

A fault is observed on motor contactor KM102.

**Consequences**

The system goes to status SYS HALT.

**Recommended actions**

1 Check cables and connections.
2 Check contactor.

### 37214, Run chain 1 feedback conflict

**Description**

Safety interface board (SIB) and manipulator interface board (MIB) *arg* reports divergence on run chain 1 feedback signals.

**Consequences**

The system goes to status SYS HALT.

**Recommended actions**

1 Check cables and connections.
2 Replace SIB if faulty.
3 Replace MIB if faulty.

### 37215, Run chain 2 feedback conflict

**Description**

Safety interface board (SIB) and manipulator interface board (MIB) *arg* reports divergence on run chain 2 feedback signals.

**Consequences**

The system goes to status SYS HALT.

**Recommended actions**

1 Check cables and connections.
2 Replace SIB if faulty.
3 Replace MIB if faulty.

### 37216, Brake chain 1 feedback conflict

**Description**

Safety interface board (SIB) and manipulator interface board (MIB) *arg* reports divergence on brake chain 1 feedback signals.

**Consequences**

The system goes to status SYS HALT.

**Recommended actions**

1 Check cables and connections.
2 Replace SIB if faulty.
3 Replace MIB if faulty.

### 37217, Brake chain 2 feedback conflict

**Description**

Safety interface board (SIB) and manipulator interface board (MIB) *arg* reports divergence on brake chain 2 feedback signals.

**Consequences**

The system goes to status SYS HALT.

**Recommended actions**

1 Check cables and connections.
2 Replace SIB if faulty.
3 Replace MIB if faulty.

### 37218, Cabin Interlock chain 1 feedback conflict

**Description**

Safety interface board (SIB) and manipulator interface board (MIB) *arg* reports divergence on cabin interlock chain 1 feedback signals.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

**Consequences**

The system goes to status SYS HALT.

**Recommended actions**

1 Check cables and connections.
2 Replace SIB if faulty.
3 Replace MIB if faulty.

## 37219, Cabin Interlock chain 2 feedback conflict

**Description**

Safety interface board (SIB) and manipulator interface board (MIB) *arg* reports divergence on cabin interlock chain 2 feedback signals.

**Consequences**

The system goes to status SYS HALT.

**Recommended actions**

1 Check cables and connections.
2 Replace SIB if faulty.
3 Replace MIB if faulty.

## 37220, HV Interlock chain 1 feedback conflict

**Description**

Safety interface board (SIB) and manipulator interface board (MIB) *arg* reports divergence on high voltage (HV) interlock chain 1 feedback signals.

**Consequences**

The system goes to status SYS HALT.

**Recommended actions**

1 Check cables and connections.
2 Replace SIB if faulty.
3 Replace MIB if faulty.

## 37221, HV Interlock chain 2 feedback conflict

**Description**

Safety interface board (SIB) and manipulator interface board (MIB) *arg* reports divergence on high voltage (HV) interlock chain 2 feedback signals.

**Consequences**

The system goes to status SYS HALT.

**Recommended actions**

1 Check cables and connections.
2 Replace SIB if faulty.
3 Replace MIB if faulty.

## 37222, System 2 Interlock chain feedback conflict

**Description**

Safety interface board (SIB) and manipulator interface board (MIB) *arg* reports divergence on system 2 interlock chain feedback signals.

**Consequences**

The system goes to status SYS HALT.

**Recommended actions**

1 Check cables and connections.
2 Replace SIB if faulty.
3 Replace MIB if faulty.

## 37223, Main relay chain feedback conflict

**Description**

Safety interface board (SIB) and manipulator interface board (MIB) *arg* reports divergence on main relay chain feedback signals.

**Consequences**

The system goes to status SYS HALT.

**Recommended actions**

1 Check cables and connections.
2 Replace SIB if faulty.
3 Replace MIB if faulty.

## 37224, Cabin Interlock chain 1 conflict

**Description**

Divergence on cabin interlock chain 1 between input and output signals on safety interface board (SIB).

**Consequences**

Paint enable chain opens.

**Recommended actions**

1 Check cables and connections.
2 Replace SIB if faulty.

## 37225, Cabin Interlock chain 2 conflict

**Description**

Divergence on cabin interlock chain 2 between input and output signals on safety interface board (SIB).

**Consequences**

Paint enable chain opens.

**Recommended actions**

1 Check cables and connections.
2 Replace SIB if faulty.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

## 37226, HV Interlock chain 1 conflict

**Description**

Divergence on high voltage (HV) interlock chain 1 between input and output signals on safety interface board (SIB).

**Consequences**

Paint enable chain opens.

**Recommended actions**

1 Check cables and connections.
2 Replace SIB if faulty.

## 37227, HV Interlock chain 2 conflict

**Description**

Divergence on high voltage (HV) interlock chain 2 between input and output signals on safety interface board (SIB).

**Consequences**

Paint enable chain opens.

**Recommended actions**

1 Check cables and connections.
2 Replace SIB if faulty.

## 37228, Cabin Interlock chain conflict from SIB

**Description**

Only one of the two cabin interlock chains is opened. Reported from safety interface board (SIB).

**Consequences**

Paint enable chain opens.

**Recommended actions**

Replace SIB if faulty.

## 37229, HV Interlock chain conflict from SIB

**Description**

Only one of the two high voltage (HV) interlock chains is opened. Reported from safety interface board (SIB).

**Consequences**

Paint enable chain opens.

**Recommended actions**

Replace SIB if faulty.

## 37230, Brake Performance Warning

**Description**

The cyclic brake check indicates that the brake for the mechanical unit *arg* axis no *arg* has not full braking torque.

**Consequences**

This is only a warning and no immediate action need to be taken.

## 37231, Brake Performance Error

**Description**

The function Cyclic Brake Check has found that the mechanical brake for the mechanical unit *arg* axis no *arg* has too low braking torque.

**Consequences**

WARNING: The brake performance is too low for this axis. Until the brake is verified to have sufficient/approved braking torque, it is only possible to move the robot with the specified manual reduced speed ("Reduced max speed (mm/s)") according to the setup in the configurator for Cyclic Brake Check.

**Recommended actions**

1 Run the Cycle Brake Check once more.
2 Replace the motor with its brake.

## 37232, Cyclic Brake Check Configuration Error

**Description**

The cyclic brake check has found that the mechanical brake for the mechanical unit *arg* axis no *arg* has no defined brake torque requirement level.

**Consequences**

The cyclic brake check will continue but no valid brake check will be done for this axis.

**Probable causes**

The motion configuration data are not correct specified for this axis.

**Recommended actions**

The motion configuration data are not correct specified for this axis:

1 Specify a value for parameter max_static_arm_torque if axis shall be tested.
2 Deactivate Cyclic Brake Check in the configuration if the axis should not be tested. Parameter 'Deactivate Cyclic Brake Check for axis', topic Motion, type 'Arm'.

## 37233, Cyclic Brake Check Configuration Error

**Description**

The cyclic brake check has found that the mechanical brake for the mechanical unit *arg* axis no *arg* should be tested according to the configuration. But the actual mechanical unit

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

cannot be included in the Safety Controller, because activation/deactivation at runtime is allowed.

**Consequences**

The cyclic brake check will continue with other mechanical units.

**Probable causes**

The motion configuration data are not correct specified for this axis.

**Recommended actions**

The motion configuration data are not correct specified for this axis:

1 Cyclic Brake Check has been specified but should not be done for this axis
2 The mechanical unit must be active at startup and deactivation must not be allowed.

## 37234, Brake Performance Warning

**Description**

The Brake Check indicates that the mechanical brake for the mechanical unit *arg* axis no *arg* has not full braking torque.

**Consequences**

This is only a warning and no immediate action need to be taken.

## 37235, Brake Performance Error

**Description**

The Brake Check has found that the mechanical brake for the mechanical unit *arg* axis no *arg* has too low braking torque.

**Consequences**

WARNING: The brake performance is too low for this axis.

**Recommended actions**

1 Run the Brake Check once more.
2 Replace the motor with its brake.

## 37236, Brake Check Configuration Error

**Description**

The Brake Check has found that the mechanical brake for the mechanical unit *arg* axis no *arg* should be tested. The actual mechanical unit cannot be included in the test, because activation/deactivation at runtime is allowed.

**Consequences**

The Brake Check will continue with other mechanical units.

**Probable causes**

The motion configuration data are not correct specified for this axis.

**Recommended actions**

The motion configuration data are not correct specified for this axis:

1 Brake Check has been specified but should not be done for this axis.
2 The mechanical unit must be active at startup and deactivation must not be allowed.

## 37237, Brake Check Configuration Error

**Description**

The brake check has found that the mechanical brake for the mechanical unit *arg* axis no *arg* has no defined brake torque requirement level.

**Consequences**

The brake check will continue but no valid brake check will be done for this axis.

**Probable causes**

The motion configuration data are not correct specified for this axis.

**Recommended actions**

The motion configuration data are not correct specified for this axis:

1 Specify a value for parameter max_static_arm_torque if axis shall be tested.
2 Deactivate BrakeCheck in the configuration if the axis should not be tested. Parameter 'Deactivate Cyclic Brake Check for axis', topic Motion, type 'Arm'.

## 37240, Cabin Interlock chain conflict from MIB

**Description**

Only one of the two cabin interlock chains is opened. Reported from manipulator interface board (MIB) *arg*.

**Consequences**

Paint enable chain opens.

**Recommended actions**

Replace MIB if faulty.

## 37241, HV Interlock chain conflict from MIB

**Description**

Only one of the two high voltage (HV) chains is opened. Reported from manipulator interface board (MIB) *arg*.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

**Consequences**

Paint enable chain opens.

**Recommended actions**

Replace MIB if faulty.

## 37242, Run chain conflict from SIB

**Description**

Only one of the two run chain feedback signals from safety interface board (SIB) was opened.

**Consequences**

The system goes to status SYS HALT.

**Recommended actions**

Replace SIB if faulty.

## 37243, Brake chain conflict from SIB

**Description**

Only one of the two brake chain signals from safety interface board (SIB) was opened.

**Consequences**

The system goes to status SYS HALT.

**Recommended actions**

Replace SIB if faulty.

## 37244, Run chain conflict from MIB *arg*

**Description**

Only one of the two run chain feedback signals from manipulator interface board (MIB) was opened.

**Consequences**

The system goes to status SYS HALT.

**Recommended actions**

Replace MIB if faulty.

## 37245, Brake chain conflict from MIB *arg*

**Description**

Only one of the two brake chain feedback signals from manipulator interface board (MIB) was opened.

**Consequences**

The system goes to status SYS HALT.

**Recommended actions**

Replace MIB if faulty.

## 37246, Emergency Stop relay conflict

**Description**

Only one of the two emergency stop chains was opened internal on safety interface board (SIB).

**Consequences**

The system remains in the Emergency Stop status.

**Recommended actions**

1 Press emergency stop and reset emergency stop once again.
2 Replace SIB if faulty.

## 37247, Circulation Fan *arg* malfunction

**Description**

Circulation fan for the drive systems at the cabinet rear side has stopped or is rotating very slowly.

**Consequences**

The drive systems temperature will rise.

**Probable causes**

Faulty fan, cabling or power supply. See the circuit diagram!

**Recommended actions**

1 Check the fan cables.
2 Check the power supply.
3 Check the fan.

## 37248, Circulation Fan *arg* malfunction

**Description**

Circulation fan in the cabinet front door has stopped or is rotating very slowly.

**Consequences**

The temperature in the cabinet will rise.

**Probable causes**

Faulty fan, cabling or power supply. See the circuit diagram!

**Recommended actions**

1 Check the fan cables.
2 Check the power supply.
3 Check the fan.

## 37249, Glitch in Emergency Stop circuits

**Description**

Two or several status changes detected on signal within few milliseconds. This message is most likely caused by bad connections in ES_INPUT circuits.

**Consequences**

Motors and paint equipments are maybe switched off.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

**Recommended actions**
Check cables and connections on the safety system for ES_INPUT.

## 37250, Glitch in Auto Mode Stop circuit

**Description**
Two or several status changes detected on signal within few milliseconds. This message is most likely caused by bad connections in MODE_STOP circuits.

**Consequences**
Motors are maybe switched off.

**Recommended actions**
Check cables and connections on the safety system for Auto_Mode_Stop (or Test_Mode_Stop / Enabling Device).

## 37251, Glitch in Delayed Stop circuit

**Description**
Two or several status changes detected on signal within few milliseconds. This message is most likely caused by bad connections in DLY_STOP circuits.

**Consequences**
Motors are maybe switched off.

**Recommended actions**
Check cables and connections on the safety system for DLY_STOP.

## 37252, Glitch in General Mode Stop circuit

**Description**
Two or several status changes detected on signal within few milliseconds. This message is most likely caused by bad connections in GM_STOP circuits.

**Consequences**
Motors are maybe switched off.

**Recommended actions**
Check cables and connections on the safety system for GM_STOP.

## 37253, Glitch in Run Chain on SIB

**Description**
Two or several status changes detected on signal within few milliseconds. This message is most likely caused by bad connections in safety interface board (SIB) Run_Chain circuits.

**Consequences**
Motors are maybe switched off.

**Recommended actions**
1 Check cables and connections on the safety system.
2 Check for other error messages for external connections (interlocks).

## 37254, Glitch in Run Chain on MIB

**Description**
Two or several status changes detected on signal within few milliseconds. This message is most likely caused by bad connections in manipulator interface board (MIB) Run_Chain circuits.

**Consequences**
Motors for CBS and CBS motion are maybe switched off.

**Recommended actions**
1 Check cables and connections on the safety system.
2 Check for other error messages for external connections (interlocks).

## 37255, Glitch in Cabin Interlock circuit

**Description**
Two or several status changes detected on signal within few milliseconds. This message is most likely caused by bad connections in cabin interlock circuits.

**Consequences**
Paint equipments are maybe switched off.

**Recommended actions**
Check cables and connections on the safety system for cabin interlock.

## 37256, Glitch in High Voltage Interlock circuit

**Description**
Two or several status changes detected on signal within few milliseconds. This message is most likely caused by bad connections in high voltage interlock circuits.

**Consequences**
High voltage is maybe switched off.

**Recommended actions**
Check cables and connections on the safety system for HV interlock.

*Continues on next page*


© Copyright 2005-2020 ABB. All rights reserved.

### 37257, Glitch in System 2 Interlock circuit

**Description**

Two or several status changes detected on signal within few milliseconds. This message is most likely caused by bad connections in system 2 interlock circuits.

**Consequences**

Paint equipments are maybe switched off.

**Recommended actions**

Check cables and connections on the safety system for system 2 interlock.

### 37258, Glitch in Process Interlock circuit

**Description**

Two or several status changes detected on signal within few milliseconds. This message is most likely caused by bad connections in process interlock circuits.

**Consequences**

Paint equipments are maybe switched off.

**Recommended actions**

Check cables and connections on the safety system for process interlock.

### 37259, Glitch in AUX Interlock circuit

**Description**

Two or several status changes detected on signal within few milliseconds. This message is most likely caused by bad connections in AUX run chain circuits. Normally used for Cartridge Bell System (CBS) doors.

**Consequences**

System 2 Motors and motion are maybe switched off.

**Recommended actions**

Check cables and connections on the safety system for AUX run chain.

### 37260, Brake driver fault

**Description**

The supervision of brakes on manipulator controller board (MCOB) *arg* has detected a driver fault on axis *arg* and turned ON all brakes.

**Recommended actions**

1 Check/exchange MCOB.

### 37261, Circulation Fan malfunction

**Description**

Circulation fan for the PDB has stopped or is rotating very slowly.

**Consequences**

The power distribution board (PDB) temperature will rise.

**Probable causes**

Faulty fan, cabling or power supply. See the circuit diagram!

**Recommended actions**

1 Check the fan cables.
2 Check the power supply.
3 Check the fan.

### 37262, Divergence between PSA outputs and SIB inputs

**Description**

Paint Safety Adapter has tried to turn off an interlock input, but the feedback is still active.

**Consequences**

Paint enable chain opens.

**Recommended actions**

Check cables and connectors. Change hardware.

### 37263, PSA disabled from superior system

**Description**

Paint Safety Adapter has been disabled from the superior control system.

**Consequences**

Paint enable chain opens.

### 37274, Brake Maintenance

**Description**

The *arg* indicates that the mechanical brake for axis *arg* on mechanical unit *arg* is in need of brake maintenance.

**Consequences**

The brake maintenance is automatically started on axis *arg*. The brake will then be tested again.

### 37275, Brake Performance

**Description**

The *arg* shows that the mechanical brake for axis *arg* for mechanical unit *arg* is fully functional.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

## 37501, Filesystem unknown: USB Device

**Description**

The filesystem type on the USB device with logical unit *arg* is not supported.

**Consequences**

The USB device with the logical unit *arg* cannot be accessed. The filesystem is of type *arg*. The file(s) on the USB device with logical number *arg* will not be accessible.

**Probable causes**

The filesystem is formatted with an unsupported file system type.

**Recommended actions**

Format the USB device with the FAT32 filesystem.

## 37502, Mass storage device removed

**Description**

The mass storage device was removed.

**Consequences**

The system goes to system failure state. The filesystem on the mass storage device could be corrupt. The file(s) on the mass storage device could be corrupt. The file(s) on the mass storage device will not be accessible.

**Probable causes**

The mass storage device was removed or there was a malfunction of the mass storage device.

**Recommended actions**

Check that the mass storage device firmly is in place. If the problem persists, try with another device.

## 37503, Mass storage file system error

**Description**

Mass storage file system error.

**Consequences**

An error was detected in the filesystem. The error was corrected. The correction could lead to missing file(s).

**Probable causes**

The mass storage device was removed or there was a malfunction of the mass storage device.

**Recommended actions**

If the problem persists, try with another device.

## 37504, Mass storage file system error

**Description**

Mass storage file system error.

**Consequences**

The system goes to system failure state. The filesystem on the mass storage device could be corrupt. The file(s) on the mass storage device could be corrupt.

**Probable causes**

The mass storage device was removed or there was a malfunction of the mass storage device.

**Recommended actions**

If the problem persists, try with another device.

## 37505, USB mass storage write during shutdown

**Description**

There was a write to the USB mass storage during shutdown.

**Consequences**

The previous shutdown time could be longer than usual.

**Probable causes**

There was an active write to the USB mass storage unit during shutdown.

**Recommended actions**

None, the previous shutdown time could be longer than usual.

## 38100, Configuration failure

**Description**

Drive module has detected configuration failure at measurement link.
Drive module: *arg*.
Measurement link: *arg*.
Board position: *arg*

**Recommended actions**

- Check configuration for measurement link.
- Check configuration for measurement board.
- Check configuration for measurement nodes.

## 38101, SMB Communication Failure

**Description**

A transmission failure has been detected between the axis computer and the serial measurement board on measurement link *arg* in drive module *arg*.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

**Consequences**
The system goes to system failure state and loses its calibration information.

**Probable causes**
This may be caused by bad connections or cables (screening), especially if non-ABB cables are used for additional axes. Possible causes are also faulty serial measurement board or axis computer.

**Recommended actions**
1 Reset the robot's revolution counters as detailed in the robot Product Manual.
2 Make sure the cable between serial measurement board and axis computer is connected correctly, and that it meets the specification set by ABB.
3 Make sure the cable screen is correctly connected at both ends.
4 Make sure no extreme levels of electromagnetic interference are emitted close to the robot cabling.
5 Make sure the serial measurement board and axis computer are fully functional. Replace any faulty unit.

## 38102, Internal failure

**Description**
The measurement system has detected a hardware or software fault on measurement link *arg* in drive module *arg*.

**Consequences**
The system goes to system failure state and loses its calibration information.

**Probable causes**
This may be caused by some temporary disturbance in the robot cell or by a faulty axis computer.

**Recommended actions**
1 Restart the controller.
2 Reset the robot's revolution counters as detailed in the robot Product Manual.
3 Make sure no extreme levels of electromagnetic interference are emitted close to the robot cabling.
4 Make sure the axis computer is fully functional. Replace any faulty unit.

## 38103, Lost communication with the SMB

**Description**
The communication has been lost between the axis computer and the serial measurement board on measurement link *arg* in drive module *arg*.

**Consequences**
The system goes to system failure state and loses its calibration information.

**Probable causes**
This may be caused by bad connections or cables (screening), especially if non-ABB cables are used for additional axes. Possible causes are also faulty serial measurement board or axis computer.

**Recommended actions**
1 Reset the robot's revolution counters as detailed in the robot Product Manual.
2 Make sure the cable between serial measurement board and axis computer is connected correctly, and that it meets the specification set by ABB.
3 Make sure the cable screen is correctly connected at both ends.
4 Make sure no extreme levels of electromagnetic interference are emitted close to the robot cabling.
5 Make sure the serial measurement board and axis computer are fully functional. Replace any faulty unit.

## 38104, Overspeed During Teach Mode

**Description**
Joint *arg* connected to drive module *arg* has exceeded the maximum speed for teach mode operation.

**Consequences**
The system goes to status SYS HALT.

**Probable causes**
The robot may have been moved manually while in state Motors OFF. The error may also be caused by a maladjustment in the relation, commutation, between motor shaft and resolver on an additional axis, primarily during installation.

**Recommended actions**
1 Press the Enabling Device to attempt resuming operation.
2 Check other event log messages occurring at the same time to determine the actual cause.
3 Perform a re-commutation of the motor at hand. How to do this is specified in the Additional Axes Manual.

## 38105, Data not found

**Description**
Configuration data for measurement board not found.
System will use default data.
Drive module: *arg*.
Measurement link: *arg*.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

Board node: *arg*

**Recommended actions**

Check configuration.

## 38200, Battery backup lost

**Description**

The battery backup to serial measurement board (SMB) *arg* in the robot connected to drive module *arg* on measurement link *arg* has been lost.

**Consequences**

When the SMB battery power supply is interrupted, the robot will lose the revolution counter data. This warning will also repeatedly be logged.

**Probable causes**

This may be due to an SMB battery that is discharged or not connected. For some robot models, the SMB battery power is supplied through a jumper in the robot signal cable (see the circuit diagram for the controller), and disconnecting the cable interrupts the battery power supply. Some earlier robot versions used rechargeable batteries, and these must be charged for at least 18 hours before working correctly.

**Recommended actions**

1 Make sure a charged SMB battery is connected to the board.
2 NOTE! Disconnecting the robot signal cable may disconnect the SMB battery power supply, triggering the battery warning to be logged.
3 Reset the battery power warning by updating the revolution counters as detailed in the robot's product manual.
4 Replace the battery if discharged.

## 38201, Serial Board not found

**Description**

Serial measurement board not found on measurement link.
Drive module: *arg*.
Measurement link: *arg*.
Measurement board: *arg*.

**Recommended actions**

- Check system configuration parameters.
- Check connections and cables to serial measurement board.
- Replace serial measurement board.

## 38203, SMB offset X error

**Description**

Offset error for X signal at serial measurement board.
Drive module: *arg*.
Measurement link: *arg*.
Measurement board: *arg*.

**Recommended actions**

- Replace serial measurement board.

## 38204, SMB offset Y error

**Description**

Offset error for Y signal at serial measurement board.
Drive module: *arg*.
Measurement link: *arg*.
Measurement board: *arg*.

**Recommended actions**

- Replace serial measurement board.

## 38205, SMB Linearity Error

**Description**

Linearity error for X-Y signal difference at serial measurement board.
System may still operate with warning.
System will not function with error.
Drive module: *arg*.
Measurement link: *arg*.
Measurement board: *arg*.

**Recommended actions**

- Replace serial measurement board.

## 38206, SMB Linearity X Error

**Description**

Linearity error for X signal on serial measurement board.
Drive module: *arg*.
Measurement link: *arg*.
Measurement board: *arg*.

**Recommended actions**

- Replace serial measurement board.

## 38207, SMB Linearity Y Error

**Description**

Linearity error for Y signal at serial measurement board.
Drive module: *arg*.
Measurement link: *arg*.
Measurement board: *arg*.

**Recommended actions**

- Replace serial measurement board.

*Continues on next page*


© Copyright 2005-2020 ABB. All rights reserved.

## 38208, Resolver error

**Description**

Too high voltage from X or Y resolver signals.

Sum of squared X and Y exceeds max.

Joint: *arg*.

Drive module: *arg*.

Measurement link: *arg*.

Measurement board: *arg*.

Board node: *arg*.

**Recommended actions**

- Check resolver and resolver connections.
- Replace serial measurement board.
- Replace resolver.

## 38209, Resolver error

**Description**

Too low voltage from X or Y resolver signals.

Sum of squared X and Y too low.

Joint: *arg*.

Drive module: *arg*.

Measurement link: *arg*.

Measurement board: *arg*.

Board node: *arg*.

**Recommended actions**

- Check resolver and resolver connections.
- Replace serial measurement board.
- Replace resolver.

## 38210, Transmission fault

**Description**

Serial measurement board SMS communication failed.

Status: *arg*.

Drive module: *arg*.

Measurement link: *arg*.

Measurement board: *arg*.

Board node: *arg*.

**Recommended actions**

- Restart the controller.
- Check cable and connectors for SMB communication.
- Replace the serial measurement board.

## 38211, Measurement functionality error

**Description**

The serial measurement board does not support 7 axes.

Drive module: *arg*.

Measurement link: *arg*.

Measurement board: *arg*.

**Recommended actions**

- Check configurations of the 7th axis.
- Replace serial measurement board to a board with 7 axes functionality.

## 38212, Data not found

**Description**

Configuration data for serial measurement board not found.

System will use default data.

Drive module: *arg*.

Measurement link: *arg*.

Measurement board: *arg*.

**Recommended actions**

- Check configuration.

## 38213, Battery charge low

**Description**

Battery on serial measurement board will soon be depleted.

Replace battery at a suitable opportunity.

Drive module: *arg*.

Measurement link: *arg*.

Measurement board: *arg*.

**Recommended actions**

- Do not turn off the controller until the battery is replaced.
- Replace battery on serial measurement.

## 38214, Battery failure

**Description**

Transportation shut down of battery failed. The battery will still be in normal mode.

Drive module: *arg*.

Measurement link: *arg*.

Measurement board: *arg*.

**Recommended actions**

- Retry shut down.
- Replace serial measurement board.

## 38215, Battery supervision failure

**Description**

Failure occurred during reset of battery supervision circuit in serial measurement board.

Drive module: *arg*.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

Measurement link: *arg*.
Measurement board: *arg*.

**Recommended actions**

- Repeat update of revolution counter for joint connected to the SMB.
- Replace serial measurement board.

## 38216, SMB functionality error

**Description**

The serial measurement board does not support needed functionality. The needed functionality is available in DSQC633C or better SMB.
Drive module: *arg*.
Measurement link: *arg*.
Measurement board: *arg*.

**Consequences**

The motion performance will be lower compared with what it should be with DSQC633C or better SMB.

**Recommended actions**

- Replace serial measurement board with a board with at least DSQC633C functionality.

## 38217, SMB functionality error

**Description**

The serial measurement board does not support needed functionality. The needed functionality is available in DSQC633D or better SMB.
Drive module: *arg*.
Measurement link: *arg*.
Measurement board: *arg*.

**Consequences**

The motion performance will be lower compared with what it should be with DSQC633D or better SMB.

**Recommended actions**

- Replace serial measurement board with a board with at least DSQC633D functionality.

## 38218, Encoder high temperature

**Description**

The temperature of the motor encoder is too high.
Joint: *arg*.
Drive module: *arg*.
Measurement link: *arg*.
Measurement board: *arg*.
Board node: *arg*.

**Consequences**

The life time of the encoder can be reduced.

**Recommended actions**

Stop robot and wait for motor/encoder to cool down.

- Reduce ambient temperature.
- Change robot program to avoid high speeds and torques.

## 38230, PMC card not connected correctly

**Description**

The PMC card that is configured in the motion configuration is not connected or is not working correctly.

**Consequences**

The application that needs this PMC card cannot be run.

**Probable causes**

The PMC card is not connected or the card is broken.

**Recommended actions**

Please check the PMC card that is attached to the axis computer in the drive module *arg*.

## 38231, PMC card cannot be started

**Description**

The PMC card that is configured in the motion configuration is not set up correctly and cannot be started.

**Consequences**

The application that uses this PMC card cannot be run.

**Probable causes**

The error is probably an error in the motion configuration.

**Recommended actions**

Please check the limits for channels for this card in the motion configuration.

## 38232, PMC max channels reached

**Description**

The PMC card that is configured in the motion configuration is not set up correctly and cannot be started.

**Consequences**

The application that uses this PMC card cannot be run.

**Probable causes**

The error is probably an error in the motion configuration.

**Recommended actions**

Please check the limits for channels for this card in the motion configuration.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

## 38233, Force sensor safety channel error

**Description**

The safety channel in the cable between the force sensor and measurement board is under configured safety channel voltage level. The force sensor is connected to the axis computer in drive module *arg*.

**Consequences**

The system will go to SYS HALT and the application that uses this sensor cannot be run until cable is connected or replaced. Safety channel supervision can be disconnected in the motion configuration.

**Probable causes**

1 The cable is not attached correctly.
2 The cable has damage to the connectors or the cable itself.
3 The sensor cable does not have safety channel.

**Recommended actions**

Assure that the cable is connected properly and inspect the connectors at both ends of the cable and the cable itself. Replace if damaged.

## 38234, Max Force or Torque reached

**Description**

The measured force or torque in the force sensor attached to the axis computer in drive module *arg* has higher value than it is configured for.

**Consequences**

The system will not stop due to this.

**Probable causes**

The applied force or torque on the sensor is higher that configured. Too high ordered reference can be the cause. The configuration might also be faulty.

**Recommended actions**

Check the force and torque references in the program and if the environment have applied too high force or torque to the sensor.

## 38235, Saturation warning of force sensor input

**Description**

The analog input values of the measurement board connected to the force sensor have saturated and the time in saturation has reached the warning level.
The measurement board is connected to the axis computer in drive module *arg*

**Recommended actions**

Check the load that was applied to the force/torque sensor. Check that the cable, sensor and measurement board is not damaged.
Increase the system parameter: time in saturation before warning

## 38236, Saturation error of force sensor input

**Description**

The analog input values of the measurement board connected to the force sensor have saturated and the time in saturation has reached the error level. The measurement board is connected to the axis computer in drive module *arg*

**Consequences**

System will stop.

**Recommended actions**

Check the load that was applied to the force/torque sensor. Check that the cable, sensor and measurement board is not damaged. Increase the system parameter: time in saturation before error

## 38237, Configuration error for Force Measurement Board

**Description**

The configuration input values for the Force Measurement Board connected to the force sensor is erroneous. The board is connected to drive module *arg*, link *arg*.

**Consequences**

The system goes to system failure state.

**Recommended actions**

Check the configuration.

## 38238, Force Sensor has too noisy signals

**Description**

The force sensor detected signals with noise level higher than expected.
Task: *arg*.
Program Ref. *arg* .

**Consequences**

The force control application cannot be run.

**Probable causes**

The cause of noisy signals can be from tool vibrations attached to the sensor.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

It can also be an electrically issue such as bad grounding or insufficient shielding of other devices, for instance an electrical tool causing electrical disturbances on the measurements.

**Recommended actions**

If the probable cause is vibrations the recommended action is to try build the tool in such a way that it reduces the vibration. It can also be tested to run the RAPID instruction that fails with the vibrating tool turned off during the FCCalib or FCLoadId. If there are no visible vibrations then it should be investigated if this is an electrical disturbance problem.

Use TuneMaster to compare signals 1001-1006 when:

- Robot is in motors off state
- Robot is run by slow jogging.
- The electrical tool is running.

The level of sensitivity for the check can be changed by parameter Noise Level that belongs to the type FC Sensor, in the topic Motion. It is however only recommended to change this level if the investigation of the cause has been done and shows that the level is only a bit too low.

## 39401, Torque Current Reference Error

**Description**

The torque-current reference is increasing too quickly for joint *arg*, connected to drive module *arg*.

**Consequences**

**Probable causes**

The resolver feedback may be poor or the speed loop gain may be badly adjusted.

**Recommended actions**

1 Check the resolver cable and the resolver grounding for this joint. If this joint is an additional axis, then check that the motor data in the configuration file is correct. The configuration data is described in Technical reference manual - System parameters.
2 Reduce the gain of the speed loop.

## 39402, Motor Angle Reference Warning

**Description**

The motor angle reference is increasing too quickly for joint *arg*, connected to drive module *arg*.

**Consequences**

**Probable causes**

The resolver feedback may be poor or the speed loop gain may be badly adjusted.

**Recommended actions**

1 Check the resolver cable and the resolver grounding for this joint. If this joint is an additional axis, then check that the motor data in the configuration file is correct. The configuration data is described in Technical reference manual - System parameters.
2 Reduce the gain of the speed loop.

## 39403, Torque Loop Undercurrent

**Description**

The torque-current controller detected too low current for joint *arg*, connected to drive module *arg*.

**Consequences**

**Probable causes**

The motor data in the configuration files may be wrong or the DC bus voltage may be too low.

**Recommended actions**

1 Check that the motor data in the configuration file is correct for this joint. The configuration data is described in Technical reference manual - System parameters.
2 Check that no DC bus errors are present in the event log.
3 Check that the incoming mains voltage is within the specification.
4 Check that the motor cables are not damaged or badly connected.

## 39404, Torque Loop Overcurrent

**Description**

The field-current controller detected too high current for joint *arg*, connected to drive module *arg*.

**Consequences**

**Probable causes**

The motor data in the configuration files may be wrong.

**Recommended actions**

1 Check that the motor data in the configuration file is correct for this joint. The configuration data is described in Technical reference manual - System parameters.
2 Check that no DC bus errors are present in the event log.
3 Check that the incoming mains voltage is within the specification.
4 Check that the motor cables are not damaged or badly connected.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

## 39405, Maximum PWM Reached in Torque Controller

**Description**

The torque-current control loop has been saturated for joint *arg*, connected to drive module *arg*.

**Consequences**

**Probable causes**

The mains voltage may be too low or the motor windings or motor cables may be broken.

**Recommended actions**

1 Check that no DC bus errors are present in the event log.
2 Check that the incoming mains voltage is within specified limits.
3 Check the motor cables and motor windings for open circuits.

## 39406, Field Loop overcurrent

**Description**

The field-current control loop has produced too high current for joint *arg*, connected to drive module *arg*.

**Consequences**

**Probable causes**

The motor data in the configuration files may be wrong.

**Recommended actions**

1 Check that no DC bus errors are present in the event log.
2 Check that the incoming mains is within specified limits.
3 Check the motor cables and motor windings.

## 39407, Drive Unit has the wrong type code

**Description**

The type code in drive unit for joint *arg* in drive module *arg* is different from the one specified in the configuration file. Installed drive unit type is *arg*, and the configured type is *arg*.

**Consequences**

No operation will be possible until after correcting the fault. The system goes to status SYS HALT.

**Probable causes**

The configuration file may contain incorrect values, the configuration key may be incorrect or the hardware may be of the wrong type. If the drive unit was recently replaced, a drive unit with the wrong type code may have been fitted or the key was not replaced with one for the correct hardware/software combination.

**Recommended actions**

1 Make sure the values in the configuration file match the installed hardware.
2 Make sure the configuration key match the installed hardware/software combination. The configuration data is described in Technical reference manual - System parameters.
3 If the drive unit was recently replaced, make sure a unit of the correct type code is used.

## 39408, Rectifier Unit has the wrong type code

**Description**

The type code for rectifier unit *arg* in drive module *arg* is different from the one specified in the configuration file. Installed rectifier unit type is *arg*, and the configured type is *arg*.

**Consequences**

No operation will be possible until after correcting the fault. The system goes to system failure state.

**Probable causes**

The configuration file may contain incorrect values, the configuration key may be incorrect or the hardware may be of the wrong type. If the rectifier unit was recently replaced, a rectifier unit with the wrong type code may have been fitted or the key was not replaced with one for the correct hardware/software combination.

**Recommended actions**

1 Make sure the values in the configuration file match the installed hardware.
2 Make sure the configuration key match the installed hardware/software combination. The configuration data is described in Technical reference manual - System parameters.
3 If the rectifier unit was recently replaced, make sure a unit of the correct type code is used.

## 39409, Capacitor Unit has the wrong type code

**Description**

The type code for capacitor unit *arg* in drive module *arg* is different from the one specified in the configuration file. Installed capacitor unit type is *arg*, and the configured type is *arg*.

**Consequences**

No operation will be possible until after correcting the fault. The system goes to status SYS HALT.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

**Probable causes**
The configuration file may contain incorrect values, the configuration key may be incorrect or the hardware may be of the wrong type. If the capacitor unit was recently replaced, a capacitor unit with the wrong type code may have been fitted or the key was not replaced with one for the correct hardware/software combination.

**Recommended actions**
1 Make sure the values in the configuration file match the installed hardware.
2 Make sure the configuration key match the installed hardware/software combination. The configuration data is described in Technical reference manual - System parameters.
3 If the capacitor unit was recently replaced, make sure a unit of the correct type code is used.

## 39410, Drive Unit communication warning

**Description**
Many communication errors are being detected between the axis computer and drive unit number *arg* in drive module *arg*. (error rate per time unit)

**Consequences**
If the number of communication errors increases further, there is a risk that the controller will be forced to stop.

**Probable causes**
External noise may interfere with the communication signals.

**Recommended actions**
1 Check the communication link cable between the axis computer and the main drive unit is correctly connected.
2 Check that the module is properly grounded.
3 Check for external electromagnetic noise sources close to the drive module.

## 39411, Too Many communication errors

**Description**
Four or more consecutive communication packets have been lost between the axis computer and drive unit *arg* in drive module *arg*.

**Consequences**
No operation will be possible until after correcting the fault. The system goes to status SYS HALT.

**Probable causes**
There may be a break in the communication link cable between the axis computer and the main drive unit, the drive module may be incorrectly grounded or excessive noise may interfere with the communication signals.

**Recommended actions**
1 Check the communication link cable between the axis computer and the main drive unit is correctly connected.
2 Check that the module is properly grounded.
3 Check for external electromagnetic noise sources close to the drive module.

## 39412, Too Many Missed Reference Updates

**Description**
Too many missed communication packets have been detected for joint *arg*, in drive module *arg*.

**Consequences**
No operation will be possible until after correcting the fault. The system goes to status SYS HALT.

**Probable causes**
There may be a break in the communication link cable between the axis computer and the main drive unit, the drive module may be incorrectly grounded or excessive noise may interfere with the communication signals.

**Recommended actions**
1 Check the communication link cable between the axis computer and the main drive unit is correctly connected.
2 Check that the module is properly grounded.
3 Check for external electromagnetic noise sources close to the drive module.

## 39413, Drive Software Not Synchronized

**Description**
The axis computer software in drive module *arg* has become unsynchronized with the drive software for joint *arg*. This is an unstable software state.

**Consequences**
No operation will be possible until after correcting the fault. The system goes to status SYS HALT.

**Probable causes**
There may be glitches in the system timing.

**Recommended actions**
1 Restart the controller.
2 If the problem persists, contact your local ABB representative.

*Continues on next page*


© Copyright 2005-2020 ABB. All rights reserved.

## 39414, Unknown Capacitor Type Code

**Description**

The type code for the capacitor unit *arg* in drive module *arg* is not recognised by the system.

**Consequences**

No operation will be possible until after correcting the fault. The system goes to status SYS HALT.

**Probable causes**

The wrong type of capacitor unit may have been fitted or the capacitor version used is not supported by the software.

**Recommended actions**

1 Check the type of capacitor unit fitted. Replace if it is the wrong type.
2 If the problem persists, contact your local ABB representative.

## 39415, Communication with the Drive Unit Lost

**Description**

Communication with drive unit number *arg* in drive module *arg* has been lost.

**Consequences**

No operation will be possible until after correcting the fault. The system goes to status SYS HALT.

**Probable causes**

There may be a break in the communication link cable between the axis computer and the main drive unit, the drive module may be incorrectly grounded or excessive noise may interfere with the communication signals.

**Recommended actions**

1 Check the communication link cable between the axis computer and the main drive unit is correctly connected.
2 Check that the module is properly grounded.
3 Check for external electromagnetic noise sources close to the drive module.

## 39416, Drive Unit Not Responding

**Description**

The main drive unit in drive module *arg* is not responding.

**Consequences**

No operation will be possible until after correcting the fault. The system goes to status SYS HALT.

**Probable causes**

There may be a break in the communication link cable between the axis computer and the main drive unit, or there may be a lock-up in the software.

**Recommended actions**

1 Check the communication link cable between the axis computer and the main drive unit is correctly connected.
2 Restart the controller.
3 If the problem persists, contact your local ABB representative.

## 39417, Cannot find Drive Software Version File

**Description**

The system cannot locate a valid drive version file on the disk. The file may have been erased my mistake. Without this file it is not possible to check if the drive unit software needs updating.

**Recommended actions**

Contact your local ABB representative.

## 39418, Unknown Drive Unit type code

**Description**

The type code for the drive unit *arg* in drive module *arg* is not recognized by the system. Installed drive unit type is *arg*, and the configured type is *arg*.

**Consequences**

No operation will be possible until after correcting the fault. The system goes to status SYS HALT.

**Probable causes**

The connection to the drive unit may be bad or the hardware may be faulty.

**Recommended actions**

1 Make sure the cable connections on the drive unit are correct.
2 Make sure the drive unit is one supported by this controller.
3 If the drive unit was recently replaced, make sure a unit of the correct type code is used.

## 39419, Unknown Rectifier type code

**Description**

The type code for the rectifier unit *arg* in drive module *arg* is not recognized by the system. Installed rectifier unit type is *arg*, and the configured type is *arg*.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

**Consequences**
No operation will be possible until after correcting the fault. The system goes to status SYS HALT.

**Probable causes**
The connection to the drive unit may be bad or the hardware may be faulty.

**Recommended actions**
1 Make sure the cable connections on the rectifier unit are correct.
2 Make sure the rectifier unit is one supported by this controller.
3 If the rectifier unit was recently replaced, make sure a unit of the correct type code is used.

## 39420, Drive Unit built in test failure

**Description**
Drive unit number *arg* in drive module *arg* has detected an internal hardware failure.

**Consequences**
No operation will be possible until after correcting the fault. The system goes to status SYS HALT.

**Probable causes**
The test software is not working correctly, or the actual hardware is faulty.

**Recommended actions**
1 Perform a shutdown and then restart the controller.
2 If the problem persists, isolate the faulty drive unit and replace it.

## 39421, Drive Unit configuration test failure

**Description**
Drive unit number *arg* in drive module *arg* has detected an internal error.

**Consequences**
No operation will be possible until after correcting the fault. The system goes to status SYS HALT.

**Probable causes**
The connection to the drive unit may be bad or incorrect hardware may have been fitted.

**Recommended actions**
1 Perform a shutdown and then restart the controller.
2 If the problem persists, isolate the faulty drive unit and replace it.

## 39422, Drive Unit watchdog timeout

**Description**
The time limit for watchdog timer for drive unit number *arg* in drive module *arg* has expired.

**Consequences**
No operation will be possible until after correcting the fault. The system goes to status SYS HALT.

**Probable causes**
The connection to the drive unit may be bad or incorrect hardware may have been fitted. It may also be caused by an internal error in the drive unit.

**Recommended actions**
1 Perform a shutdown and then restart the controller.
2 If the problem persists, isolate the faulty drive unit and replace it.

## 39423, Drive Unit Internal Warning

**Description**
Internal measurement warning for drive unit number *arg* in drive module *arg*.
Supervision code = *arg*.

**Consequences**
No operation will be possible until after correcting the fault. The system goes to status SYS HALT.

**Probable causes**
There may be problems with the control cable, the DC link connection (bus bar or cable) or internal hardware.

**Recommended actions**
1 Check the control cables and DC link connection (bus bar or cable) are correctly inserted for this unit.
2 Restart the controller.

## 39424, Drive Unit internal error

**Description**
Internal measurement warning for drive unit number *arg* in drive module *arg*.
Supervision Code = *arg*.

**Consequences**
No operation will be possible until after correcting the fault. The system goes to status SYS HALT.

**Probable causes**
The connection to the drive unit may be bad or incorrect hardware may have been fitted. It may also be caused by faulty

*Continues on next page*


© Copyright 2005-2020 ABB. All rights reserved.

control cable, DC link connection (bus bar or cable) or internal hardware.

**Recommended actions**

1 Make sure the control cables and DC link connection (bus bar or cable) are correctly connected for this unit.
2 Perform a shutdown and then restart the controller.
3 If the problem persists, isolate the faulty unit and replace it.

## 39425, Drive Unit measurement failure

**Description**

A current measurement circuit in drive unit number *arg*, drive module *arg*, attached to joint *arg* has failed.

**Consequences**

No operation will be possible until after correcting the fault. The system goes to status SYS HALT.

**Probable causes**

This may be caused by a faulty or lacking DC link connection between the rectifier and drive units.

**Recommended actions**

1 Make sure the DC link connection (bus bar or cable) is correctly connected between the rectifier and drive unit.
2 Check the indication LEDs on the rectifier and drive units. The significance of the LEDs is described in the Trouble Shooting Manual.

## 39426, Rectifier internal failure

**Description**

The rectifier on communication link *arg* attached to drive module *arg* has detected an internal failure.

**Consequences**

No operation will be possible until after correcting the fault. The system goes to status SYS HALT.

**Probable causes**

This may be caused by a faulty or lacking signal connection between the rectifier and drive units.

**Recommended actions**

1 Make sure the signal cable is correctly connected between the rectifier and drive unit.
2 Check the indication LEDs on the rectifier and drive units. The significance of the LEDs is described in the Trouble Shooting Manual.

## 39427, Rectifier communication missing

**Description**

The communication with the rectifier on drive communication link *arg*, drive module *arg* has been lost.

**Consequences**

No operation will be possible until after correcting the fault. The system goes to status SYS HALT.

**Probable causes**

This may be caused by a faulty or lacking signal connection between the rectifier and drive units.

**Recommended actions**

1 Make sure the signal cable is correctly connected between the rectifier and drive unit.
2 Perform a shutdown and then restart the controller.
3 If the problem persists, isolate the faulty unit and replace it.

## 39428, Rectifier startup error

**Description**

The rectifier on drive communication link *arg*, drive module *arg* has detected a startup error.

**Consequences**

No operation will be possible until after correcting the fault. The system goes to status SYS HALT.

**Probable causes**

This may be caused by an internal error in the rectifier unit.

**Recommended actions**

1 Make sure the signal cable is correctly connected between the rectifier and drive unit.
2 Perform a shutdown and then restart the controller.
3 If the problem persists, isolate the faulty rectifier unit and replace it.

## 39431, Update of Drive Unit Software in Progress

**Description**

The drive unit software in drive module *arg* is being updated. Please wait for the upgrade to be completed. This will take approximately 3.5 minutes.
NOTE: Please do not turn off the power or restart the controller until the download is complete.

**Recommended actions**

Please wait...

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

## 39432, Incompatible boot version in drive unit

**Description**

The boot version in drive module *arg* is version *arg*, which is not allowed. The latest allowed boot version is *arg*.

**Consequences**

No operation will be possible until after correcting the fault. The system goes to status SYS HALT.

**Probable causes**

The boot version is not compatible with the hardware version.

**Recommended actions**

1 Replace the drive unit with one using a boot version equal to or greater than the latest allowed one.

## 39434, Drive Unit Start Failure

**Description**

The drive unit in drive module *arg* failed to start. drive boot status = *arg*. drive dsp1 status = *arg*.

**Consequences**

The robot cannot be operated.

**Probable causes**

A number of errors may cause this.

**Recommended actions**

1 Switch the main power off to the module and then switch it back on. Note that a normal restart will NOT suffice!
2 If the problem persists, replace the drive unit.

## 39435, Cannot find additional axis drive unit

**Description**

The system cannot detect an additional axis drive for joint *arg* in drive module *arg*.

**Consequences**

System goes to SYS_FAIL.

**Probable causes**

This can be due to:

1 Having an additional axis configured but not having a drive unit in the drive module.
2 Having an external drive unit but not connecting the cable to the X connector position on the main drive unit.
3 Damaged cable between the additional axis drive and the main drive unit.

**Recommended actions**

1 Check the drive module contains enough additional axis drives.
2 Check that the configuration key does not define more external drive units then are connected in the drive module
3 Check the cable between the additional axis drive unit and to the main drive unit is correctly inserted in the right connector position.
4 If the cable exists and is correctly inserted, then it may be damaged and should be replaced.

## 39440, Open circuit in bleeder resistor circuit

**Description**

The bleeder resistor connected to the rectifier on drive link *arg*, drive module *arg*, is an open circuit.

**Consequences**

No operation will be possible until after correcting the fault. The system goes to status SYS HALT.

**Probable causes**

This may be caused by a faulty bleeder resistor cable or bleeder resistor.

**Recommended actions**

1 Make sure the bleeder resistor cable is correctly connected to the rectifier unit.
2 Make sure the cable and resistor is working correctly by measuring their resistance respectively. Disconnect before measuring.
3 Replace any faulty component.

## 39441, Short circuit in bleeder resistor circuit

**Description**

The bleeder resistor connected to the rectifier on drive link *arg*, drive module *arg*, is a short circuit.

**Consequences**

No operation will be possible until after correcting the fault. The system goes to status SYS HALT.

**Probable causes**

This may be caused by a faulty bleeder resistor cable or bleeder resistor.

**Recommended actions**

1 Make sure the bleeder resistor cable is correctly connected to the rectifier unit.
2 Make sure the cable and resistor is working correctly by measuring their resistance respectively. Disconnect before measuring.
3 Replace any faulty component.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

## 39442, Bleeder Resistance Too Low

**Description**

The bleeder resistance is too low for the rectifier on drive communication link *arg*, drive module *arg*.

**Consequences**

No operation will be possible until after correcting the fault. The system goes to status SYS HALT.

**Probable causes**

The bleeders may have the wrong resistance value or one of the bleeders may have failed, causing a short circuit.

**Recommended actions**

1 Check the bleeder resistors to see that they are the correct resistance value for this drive module configuration.
2 Check that none of the resistors have failed. The configuration data is described in Technical reference manual - System parameters.

## 39443, Bleeder Resistor Overload Warning

**Description**

The power consumed by the bleeder resistors is approaching overload for the rectifier on drive communication link *arg*, drive module *arg*.

**Consequences**

No operation will be possible until after correcting the fault. The system goes to status SYS HALT.

**Probable causes**

The user program may contain too much hard braking of the manipulators, which is more likely if the system contains additional axes.

**Recommended actions**

1 Rewrite the user program to reduce the amount of hard braking.

## 39444, Bleeder resistor overload error

**Description**

The bleeder resistors have been overloaded for the rectifier on drive communication link *arg*, drive module *arg*.

**Consequences**

No operation will be possible until after correcting the fault. The system goes to status SYS HALT.

**Probable causes**

The user program may contain too much hard braking or too high a payload of the manipulators. This is more likely if the system contains additional axes.

**Recommended actions**

1 Rewrite the user program to reduce the amount of hard braking.

## 39450, Faulty Fan Unit Power Supply

**Description**

The power supply for the fan unit in drive module *arg* is not within its allowed voltage limits.

**Consequences**

**Probable causes**

The main fan power supply unit may be faulty or the supply to this power supply unit may not be within its allowed voltage limits.

**Recommended actions**

1 Check the fan cable is correctly inserted.
2 Check that all fans are working.
3 Check the input voltage to the main fan power supply unit. Replace any faulty unit.

## 39451, Fan Unit Malfunction

**Description**

The fan unit in drive module *arg* has malfunctioned.

**Consequences**

**Probable causes**

The fan unit may be faulty, a loss of power supply or the fan power cable may not be connected correctly.

**Recommended actions**

1 Make sure the fan cable is correctly connected.
2 Make sure all fans are working and that air flow is not obstructed.
3 Measure the output voltage from the drive unit supplying the fan. Replace any faulty unit.

## 39452, Axis Computer Cooling Fan Malfunction

**Description**

The cooling fan for the axis computer in drive module *arg* has malfunctioned.

**Recommended actions**

1 Check that the fan cable is correctly inserted.
2 Replace the faulty fan unit.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

## 39453, Transformer Cooling Fan Malfunction

**Description**

The cooling fan for the transformer supplying drive module *arg* has malfunctioned.

**Recommended actions**

1 Check if fan cable is correctly inserted.
2 Replace the faulty fan unit.

## 39460, DC Link Voltage Too Low

**Description**

The DC link voltage is too low for the rectifier on drive communication link *arg*, drive module *arg*.

**Consequences**

No operation will be possible until after correcting the fault. The system goes to status SYS HALT.

**Probable causes**

The DC link bus bar may be incorrectly connected or the three-phase mains power may be interrupted while the robot is in the Motors ON state. The mains contactor may also have been opened whilst the robot is in Motors ON state (breaking the safety chain). The incoming main power supply may also be too low.

**Recommended actions**

1 Make sure the DC link bus bar is correctly connected.
2 Make sure the mains supply has not been interrupted.
3 Make sure the safety chain has not been broken.
4 Make sure the output voltage of the drive module power supply is within acceptable limits as specified in the Product Manual.

## 39461, DC Link Voltage Too High

**Description**

The DC link voltage is too high for the rectifier on drive communication link *arg*, drive module *arg*.

**Consequences**

No operation will be possible until after correcting the fault. The system goes to status SYS HALT.

**Probable causes**

The user program may contain too much hard braking of the manipulators, which is more likely if the system contains additional axes. The brake resistors may also be faulty.

**Recommended actions**

1 Check the bleeder resistors to see that they are the correct resistance value for this drive module configuration.
2 Check that none of the resistors have failed.
3 If possible, rewrite the user program to reduce the amount of hard braking.

## 39462, DC Link Voltage at Critical

**Description**

The DC link voltage is critically high for the rectifier on drive communication link *arg*, drive module *arg*.

**Consequences**

No operation will be possible until after correcting the fault. The system goes to status SYS HALT.

**Probable causes**

The user program may contain too much hard braking of the manipulators, which is more likely if the system contains additional axes. The brake resistors may also be faulty.

**Recommended actions**

1 Check the bleeder resistors to see that they are the correct resistance value for this drive module configuration.
2 Check that none of the resistors have failed.
3 Rewrite the user program to reduce the amount of hard braking.

## 39463, Motor Phase Short Circuit Warning

**Description**

A brief short circuit was detected in the motor/motor cable for the motor attached to joint *arg* in drive module *arg*.

**Consequences**

**Probable causes**

This may be due to dust or metal fragments contaminating the contacts or motor windings.

**Recommended actions**

No action is required if the problem does not persist.

## 39464, Short circuit in Motor phase circuit

**Description**

The motor or motor cable for joint *arg* in drive module *arg*, drive unit number *arg*, is a short circuit.

**Consequences**

No operation will be possible until after correcting the fault. The system goes to status SYS HALT.

**Probable causes**

This may be caused by a faulty motor or motor cable. It may also be caused by contamination in the contactors for the cables or a failure of the motor windings.

*Continues on next page*


© Copyright 2005-2020 ABB. All rights reserved.

**Recommended actions**

1 Make sure the motor cable is correctly connected to the drive unit.
2 Check the cable and motor by measuring their resistance respectively. Disconnect before measuring.
3 Replace any faulty component.

## 39465, Motor current warning

**Description**

The motor current is higher than the allowed for joint *arg* in drive module *arg*, drive unit number *arg*.

**Consequences**

**Probable causes**

The motor load may be too high or the motor may have stalled (maybe due to a collision).

**Recommended actions**

1 Check that the robot has not collided with anything.
2 If possible, reduce the speed of the user program.
3 If the axis is an additional axis, check that the motor load is not too high for the drive unit.

## 39466, Motor Current Overload

**Description**

The motor current is too high for joint *arg* in drive module *arg*, drive unit number *arg*.

**Consequences**

No operation will be possible until after correcting the fault. The system goes to status SYS HALT.

**Probable causes**

The motor load may be too high or the motor may have stalled (maybe due to a collision).

**Recommended actions**

1 Check that the robot has not collided.
2 If possible, reduce the speed of the user program.
3 If the axis is an additional axis, check that the motor load is not too high for the drive unit.

## 39467, Drive Unit Temperature Warning

**Description**

The temperature has risen above the warning level in drive unit number *arg*, drive module *arg*, which is the lowest abnormal level of three.

**Consequences**

**Probable causes**

The ambient temperature may be too high, the cooling fans may have failed or the user program may consume more current than the drive system can supply.

**Recommended actions**

1 Check that the fans are running and that the air flow is not obstructed.
2 Check that the ambient temperature does not exceed the cabinet rating.
3 If the system contains additional axes then check that motors are not too large for the drive units.
4 If possible, rewrite the user program to reduce the amount of hard acceleration.

## 39468, Drive Unit Temperature Alarm

**Description**

The temperature has risen above the alarm level in drive unit number *arg*, drive module *arg*, which is the second abnormal level of three.

**Consequences**

No operation will be possible until after correcting the fault. The system goes to status SYS HALT.

**Probable causes**

The ambient temperature may be too high, the cooling fans may have failed or the user program may consume more current than the drive system can supply.

**Recommended actions**

1 Check that the fans are running and that the air flow is not obstructed.
2 Check that the ambient temperature does not exceed the cabinet rating.
3 If the system contains additional axes then check that motors are not too large for the drive units.
4 If possible, rewrite the user program to reduce the amount of hard acceleration.

## 39469, Drive Unit Temperature Critical

**Description**

The temperature has risen above the critical level in drive unit number *arg*, drive module *arg*, which is the top abnormal level of three.

**Consequences**

No operation will be possible until after correcting the fault. The system goes to status SYS HALT.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

**Probable causes**

The ambient temperature may be too high, the cooling fans may have failed or the user program may consume more current than the drive system can supply.

**Recommended actions**

1 Check that the fans are running and that the air flow is not obstructed.
2 Check that the ambient temperature does not exceed the cabinet rating.
3 If the system contains additional axes then check that motors are not too large for the drive units.
4 If possible, rewrite the user program to reduce the amount of hard acceleration.

## 39470, Power Semiconductor Warning

**Description**

The power semiconductor is approaching overload for joint *arg*, in drive unit number *arg*, drive module *arg* .

**Consequences**

**Probable causes**

The motor load may be too high, the motor may have stalled (maybe due to a collision), the motor load may be too high or there may not be enough cooling.

**Recommended actions**

1 Check that the robot has not collided.
2 Check that the fans are running and that the air flow is not obstructed.
3 Check that the ambient temperature does not exceed the cabinet rating.
4 If the system contains additional axes then check that motors are not too large for the drive units.
5 If possible, rewrite the user program to reduce the amount of hard acceleration.

## 39471, Power Semiconductor Overload Error

**Description**

The power semiconductor has been overloaded for joint *arg*, in drive unit number *arg*, drive module *arg* .

**Consequences**

No operation will be possible until after correcting the fault. The system goes to status SYS HALT.

**Probable causes**

The motor load may be too high, the motor may have stalled (maybe due to a collision), the motor load may be too high or there may not be enough cooling.

**Recommended actions**

1 Check that the robot has not collided.
2 Check that the fans are running and that the air flow is not obstructed.
3 Check that the ambient temperature does not exceed the cabinet rating.
4 If the system contains additional axes then check that motors are not too large for the drive units.
5 If possible, rewrite the user program to reduce the amount of hard acceleration.

## 39472, Incoming Mains Phase Missing

**Description**

The rectifier connected to communication link *arg* in drive module *arg* detects a power loss in one phase.

**Consequences**

No operation will be possible until after correcting the fault. The system goes to status SYS HALT.

**Probable causes**

This may be caused by an actual mains power loss, some malfunction in the Motors ON contactors or its cabling or in another part of the three phase chain inside the cabinet. On rare occasions, this fault may occur in combination with other faults, in which case this may be found in the error log.

**Recommended actions**

1 Make sure the mains switch is closed and that there is mains voltage present. No volts means the problem is in mains cable connector or the factory power supply.
2 If the voltage is OK, disconnect the input mains cable and measure the resistance of all three phases across all the components in the 3 phase supply chain. Start from the contactor closest to the rectifier and work backwards towards the mains switch. The contactors can be closed manually to perform the test. Refer to the electrical drawings for the cabinet.
3 Check the indication LEDs on the rectifier unit. The significance of these is described in the Trouble Shooting Manual.
4 If the voltage is OK, check any other error log messages coinciding in time with this one for clues.

## 39473, All Incoming Mains Phases Missing

**Description**

The rectifier connected to communication link *arg* in drive module *arg* detects a power loss in one or more phases.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

**Consequences**

No operation will be possible until after correcting the fault. The system goes to status SYS HALT.

**Probable causes**

This may be caused by an actual mains power loss, some malfunction in the Motors ON contactors or its cabling or in another part of the three phase chain inside the cabinet. On rare occasions, this fault may occur in combination with other faults, in which case this may be found in the error log.

**Recommended actions**

1 Make sure the mains switch is closed and that there is mains voltage present. No volts means the problem is in mains cable connector or the factory power supply.
2 If the voltage is OK, disconnect the input mains cable and measure the resistance of all three phases across all the components in the 3 phase supply chain. Start from the contactor closest to the rectifier and work backwards towards the mains switch. The contactors can be closed manually to perform the test. Refer to the electrical drawings for the cabinet.
3 Check the indication LEDs on the rectifier unit. The significance of these is described in the Trouble Shooting Manual.
4 If the voltage is OK, check any other error log messages coinciding in time with this one for clues.

## 39474, Rectifier Current Warning

**Description**

The rectifier connected to drive communication link *arg* in drive module *arg* is approaching overload.

**Consequences**

No operation will be possible until after correcting the fault. The system goes to status SYS HALT.

**Probable causes**

The total motor current may be greater than that which the rectifier can supply.

**Recommended actions**

1 If possible, rewrite the user program to reduce the amount of hard acceleration.

## 39475, Rectifier Current Error

**Description**

The rectifier connected to drive communication link *arg* in drive module *arg* has reached overload.

**Consequences**

No operation will be possible until after correcting the fault. The system goes to status SYS HALT.

**Probable causes**

The total motor current may be greater than that which the rectifier can supply.

**Recommended actions**

1 If possible, rewrite the user program to reduce the amount of hard acceleration.

## 39476, Rectifier Temperature Warning

**Description**

The temperature in the rectifier unit connected to drive communication link *arg* in drive module *arg* is approaching a too high a level.

**Consequences**

No operation will be possible until after correcting the fault. The system goes to status SYS HALT.

**Probable causes**

The cooling fans may be faulty or the air flow may be obstructed. The ambient temperature may be too high or the system may be running with a too high load for extended periods.

**Recommended actions**

1 Check that the fans are running and that the air flow is not obstructed.
2 Check that the ambient temperature does not exceed the cabinet rating.
3 If the system contains additional axes then check that motors are not too large for the drive units.
4 If possible, rewrite the user program to reduce the amount of hard acceleration.

## 39477, Rectifier Temperature Error

**Description**

The temperature in the rectifier unit connected to drive communication link *arg* in drive module *arg* has reached a too high a level.

**Consequences**

No operation will be possible until after correcting the fault. The system goes to status SYS HALT.

**Probable causes**

The cooling fans may be faulty or the air flow may be obstructed. The ambient temperature may be too high or the system may be running with a too high load for extended periods.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

**Recommended actions**

1 Check that the fans are running and that the air flow is not obstructed.
2 Check that the ambient temperature does not exceed the cabinet rating.
3 If the system contains additional axes then check that motors are not too large for the drive units.
4 If possible, rewrite the user program to reduce the amount of hard acceleration.

## 39478, Internal Motor PTC Temperature Error

**Description**

The temperature in one or more robot motors connected to drive module *arg* is has reached a too high a level.

**Consequences**

No operation will be possible until after correcting the fault. The system goes to status SYS HALT.

**Probable causes**

The motor may have stalled (possibly due to a collision), the motor may be overloaded or the ambient temperature may be higher than the rated level for the robot.

**Recommended actions**

1 Check that the robot has not collided.
2 Check that the ambient temperature does not exceed the robot rating.
3 Allow the robot to cool down, and then run the system again. Replace any motors damaged by the excessive heat.
4 If possible, rewrite the user program to reduce the amount of hard acceleration.

## 39479, External Motor PTC Temperature Error

**Description**

One or more additional axis motors connected to drive module *arg* is has reached a too high a level.

**Consequences**

No operation will be possible until after correcting the fault. The system goes to status SYS HALT.

**Probable causes**

The motor may have stalled (possibly due to a collision), the motor may be overloaded or the ambient temperature may be higher than the rated level for the robot.

**Recommended actions**

1 Check that the additional axis has not collided.
2 Check that the ambient temperature does not exceed the rating.
3 Allow the motor to cool down, and then run the system again. Replace any motors damaged by the excessive heat.
4 If possible, rewrite the user program to reduce the amount of hard acceleration.

## 39482, Mains Voltage Too High

**Description**

The mains voltage detected in drive module *arg* is too high.

**Consequences**

The robot cannot be operated.

**Probable causes**

The mains transformer may be incorrectly wired or the external supply voltage may be too high.

**Recommended actions**

1 Measure the incoming mains voltage at the main contactor in the drive module. Make sure it is within the range specified for this module.
2 Check the wiring of the mains transformer as detailed in the robot Product Manual.

## 39483, DC Link Short Circuit

**Description**

A short circuit has been detected on the DC link of drive module *arg*.

**Consequences**

The robot cannot be operated.

**Probable causes**

The DC bus bar may be badly connected or its contact surfaces may be contaminated causing a short circuit.

**Recommended actions**

1 Check that all DC link bus bars have been correctly connected.
2 Check that all contacts are free from contamination.

## 39484, Run chain open in motor on state

**Description**

Run chain *arg* is open when system is in motor on state. The problem occurred in drive system *arg*.

**Consequences**

System goes to SYS_HALT.

**Probable causes**

1 Cables and connections on the safety system are unplugged or damaged.

*Continues on next page*


© Copyright 2005-2020 ABB. All rights reserved.

2 The contactor for this run chain in the drive module may be stuck due to mechanical problem in contactor itself.
3 The help contactor on the contactor can suffer from bad galvanic behavior or faulty cable to the safety system.

**Recommended actions**

1 Check if a motor contactor is stuck.
2 Replace faulty motor contactor.

## 39485, Run chain close in motor off state

**Description**

Run chain *arg* is open when system is in motor on state. The problem occurred in drive system *arg*.

**Consequences**

System goes to SYS_HALT.

**Probable causes**

1 The contactor for this run chain placed in the drive module has been pulled down manually.
2 The contactor has been welded in close position.

**Recommended actions**

1 If the contactor is not released and stays in pulled position, shut down the system and replace the contactor.
2 If the contactor has been pulled down manually, take this message as a warning only.

## 39486, DC Link Not Connected

**Description**

The DC Link connection to the drive serving joint *arg* in drive module *arg*, drive unit number *arg* is missing or is not properly connected.

**Consequences**

The system goes to SYS_HALT.

**Probable causes**

1 The DC bus bar is either missing or is not properly connected.
2 If the bus bar is correctly connected. The drive unit reporting the error may have a fault.

**Recommended actions**

1 Check the DC bus bar is properly connected to all the drive units

## 39500, Logic Voltage to Drive Unit Warning

**Description**

The 24V supply from the drive module power supply to the main drive unit in drive module *arg* is out of range.

**Consequences**

**Probable causes**

The 24V supply from the drive module power supply may be out of range.

**Recommended actions**

1 Make sure the power cable from the drive module power supply to the main drive unit is connected correctly.
2 Check if the power supply unit LED is red. The full meaning of all LED indications are described in the Trouble Shooting Manual, IRC5.

## 39501, Logic Voltage to Drive Unit Error

**Description**

The 24V supply to the main drive unit in drive module *arg* is out of range.

**Consequences**

No operation will be possible until after correcting the fault. The system goes to status SYS HALT.

**Probable causes**

The 24V supply from the power supply unit may be out of range.

**Recommended actions**

1 Make sure the power cable from the power supply unit to the main drive unit is connected correctly.
2 Check if the power supply unit LED is red. The full meaning of all LED indications are described in the Trouble Shooting Manual, IRC5.

## 39502, Logic Voltage to Rectifier Error

**Description**

The 24V to the rectifier in drive module *arg* is out of range.

**Consequences**

**Probable causes**

The cable between the drive unit and the rectifier may be badly connected, or the power supply voltage to the drive unit may be out of range.

**Recommended actions**

1 Check that the power cable between the power supply unit and the rectifier unit has been connected correctly.
2 Check the 24 V voltage in the power cable to the drive unit.

## 39503, Power Supply Overtemperature

**Description**

The temperature in the drive module power supply of drive module *arg* has reached a critical level.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

**Consequences**

No operation will be possible until after correcting the fault. The system goes to status SYS HALT.

**Probable causes**

The fan unit may be faulty, the cooling air flow may be obstructed or the ambient temperature may be too high.

**Recommended actions**

1 NOTE! Do not try to restart the controller for approx. ten minutes to let it cool down.
2 Make sure the fans are running and that the air flow is not obstructed.
3 Make sure the ambient temperature does not exceed the drive module rating.
4 Make sure the power supply connectors are correctly connected to the axis computer.

## 39504, Power Supply to Brakes Overload

**Description**

The brake power circuit in drive module *arg* draws too much current.

**Consequences**

No operation will be possible until after correcting the fault. The system goes to status SYS HALT.

**Probable causes**

The brake power cable may be faulty (short circuit), or additional axis motors with brakes consuming too much power may be used. The fault may also occur if the cable from the power supply unit is not correctly connected to the drive module.

**Recommended actions**

1 Make sure the power supply cable is correctly connected to the drive module.
2 Check the brake supply cable for short circuits.
3 Make sure the total current consumed by additional axes' motors does not exceed the specification for the drive module.
4 Make sure the power supply connectors are correctly connected to the axis computer.
5 Make sure the 24 V BRAKE voltage is within specified limits. See the circuit diagram for the controller.

## 39505, Mains Voltage to Power Supply Lost

**Description**

The mains power supply to the power supply unit in drive module *arg* is missing.

**Consequences**

No operation will be possible until after correcting the fault. The system goes to system failure state.

**Probable causes**

The main power switch on the drive module may be turned off. The incoming mains cable may be faulty (break), or the circuit breaker for the power supply may have tripped. The fault may also occur if the connector from the power supply unit is not correctly connected to the axis computer.

**Recommended actions**

1 Check that the main power switch in turned on for the drive module and restart the controller.
2 Check that the connector from the power supply unit is correctly connected to the axis computer.
3 Measure the voltage at the mains contactor to ensure that the mains is present.
4 Check that the power supply fuses/circuit breakers in the drive module have not tripped.

## 39506, DC bus status not ok

**Description**

The DC bus off one or more drive units connected to drive module *arg* has been unexpectedly switched off.

**Consequences**

System goes to status SYS HALT.

**Probable causes**

This may be due to bad cables or internal errors in the drive unit.

**Recommended actions**

1 Check all cables connected to the drive unit.
2 Restart the controller.
3 Replace the drive unit if faulty.

## 39520, Communication lost with Drive Module

**Description**

The main computer has lost contact with drive module *arg*.

**Consequences**

The system goes to status SYS HALT No operation will be possible until the fault has been corrected.

**Probable causes**

This may be due to a cable break, badly connected connector or high levels of interference in the cable.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

**Recommended actions**

1 Make sure the cable between control module and drive module is not damaged and that both connectors are correctly connected.
2 Make sure no extreme levels of electromagnetic interference are emitted close to the robot cabling.

## 39521, Drive Module Communication Warning

**Description**

There are a large number of communication errors being detected on the Ethernet link to drive module *arg*.
This can be due to external noise sources interfering with the cable.

**Recommended actions**

Check that there are no electromagnetic interference sources running near the cable or the drive or computer modules.

## 39522, Axis computer not found

**Description**

The axis computer in drive module *arg* is not connected to the main computer.

**Consequences**

The system goes to system failure state. No operation will be possible until the fault has been corrected.

**Probable causes**

This may be due to a cable break, badly connected connectors, or loss of power supply.

**Recommended actions**

1 Make sure that the cable between the main computer and the axis computer is not damaged and that both connectors are correctly connected.
2 Make sure that the power supply to the axis computer is working correctly.
3 Restart the controller.

## 39523, Unused Axis computer connected

**Description**

Axis computer in the drive module *arg* is connected to the main computer but not in use.

**Probable causes**

This can be due to configuration problem.

**Recommended actions**

1 Disconnect the unused axis computer or setup the system to use the axis computer.
2 Restart the controller.

## 39524, Drive Module Command timeout

**Description**

Drive module *arg* does not respond to command *arg*. The system has stopped the program for safety reasons.

**Recommended actions**

1 Check that drive module is powered on.
2 Check the cable between the main computer and axis computer.
3 Restart the controller.

## 39525, Drive Module startup error

**Description**

The system has failed to complete the initialization phase of drive module *arg* .

**Consequences**

The system goes to system failure state.

**Probable causes**

The system has failed to complete the initialization phase of the drive module.

**Recommended actions**

1 Retry by restarting the controller using the main power switch.
2 Check for other hardware event log messages.

## 39526, Axis computer not found in Multi Move system

**Description**

The axis computer in drive module *arg* is not connected to the main computer.

**Consequences**

The system goes to system failure state. No operation will be possible until the fault has been corrected.

**Probable causes**

This may be due to a cable break, badly connected connectors, missing axis computer switch, or loss of power supply.

**Recommended actions**

1 Make sure that the main power switch on drive module has been switched ON.
2 Make sure that the cable from the main computer through the switch to the drive module is not damaged and that both connectors are correctly connected.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

3 Make sure that the cable is connected to the correct port on the axis computer switch.
4 Make sure that the power supply unit in drive module is working correctly.
5 Restart the controller.

## 39527, Axis computer not found in single Multi Move system

**Description**

The axis computer in drive module *arg* is not connected to the main computer.

**Consequences**

The system goes to system failure state. No operation will be possible until the fault has been corrected.

**Probable causes**

This may be due to a cable break, badly connected connectors, missing axis computer switch, or loss of power supply.

**Recommended actions**

1 Make sure that the cable from the main computer through the switch to the axis computer is not damaged and that all connectors are correctly connected.
2 Make sure that the power supply to the axis computer is working correctly.
3 Restart the controller.

## 39530, Axis Computer Lost Communication With Safety System

**Description**

Communication has been lost between axis computer and the safety system in drive module *arg*.

**Consequences**

System goes to system failure state.

**Probable causes**

This may be due to a faulty communication cable or connection between the axis computer and the safety system. It may also be due to severe interference or if the safety system has lost its power.

**Recommended actions**

1 Check cable between the axis computer and the safety system is intact and correctly connected.
2 Check power supply connected to the safety system.
3 Make sure no extreme levels of electromagnetic interference are emitted close to the robot cabling.

## 39531, Run chain glitch test not running

**Description**

The glitch test of the run chain has not been performed. The problem was discovered by the safety system connected to the axis computer in drive module *arg*.

**Consequences**

System goes to status SYS HALT.

**Probable causes**

This may be due internal errors.

**Recommended actions**

Contact your local ABB support office.


© Copyright 2005-2020 ABB. All rights reserved.

## 4.6 4 xxxx

### 40001, Argument error

**Description**

The optional argument *arg* has been used more than once in the same routine call.

**Recommended actions**

1 Make sure the optional parameter is not used more than once in the same routine call.

### 40002, Argument error

**Description**

The argument *arg* has been specified for more than one parameter.

**Recommended actions**

The parameter list, from which the parameter is selected, contains parameters mutually exclusive.

1 Make sure the argument is used for one parameter only.

### 40003, Argument error

**Description**

An argument for the required parameter *arg* was expected, but the optional argument *arg* was found.

**Recommended actions**

1 Make sure all arguments are specified in the same order as the parameters for the routine called.

### 40004, Argument error

**Description**

The argument for REF parameter *arg* is not a data reference.

**Recommended actions**

1 Make sure the argument is a data or a parameter reference.

### 40005, Argument error

**Description**

The argument for INOUT parameter *arg* is not a variable or persistent reference, or it is read-only.

**Recommended actions**

1 Make sure the argument is a variable or a persistent variable parameter or a persistent parameter reference and that it is NOT read-only.
2 Also make sure the argument is NOT written within brackets ().

### 40006, Argument error

**Description**

Parameter *arg* is missing an optional argument value.

**Recommended actions**

The only parameters that may be specified by a name only are "switch" parameters. All others must be assigned a value.

1 Make sure parameter has a value.

### 40007, Argument error

**Description**

The optional argument *arg* is not found in its correct position in the argument list.

**Recommended actions**

1 Make sure all arguments are specified in the same order as the parameters for the routine called.

### 40008, Argument error

**Description**

A reference to the optional parameter *arg* is missing.

**Recommended actions**

Each optional parameter must have a reference argument, specified with a leading backslash character (\).

1 Change the required argument into an optional argument.

### 40009, Argument error

**Description**

A reference to the required parameter *arg* in a conditional argument is missing.

**Recommended actions**

Each conditional value for an optional parameter must refer to an optional parameter in the calling routine.

1 Change the conditional value.

### 40010, Argument error

**Description**

A reference to the required parameter *arg* in an optional argument is missing.

**Recommended actions**

Each required parameter must have a reference argument, specified with a leading backslash character (\).

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

1 Change the optional argument into a required argument.

## 40011, Argument error

**Description**

The required argument *arg* is not found in its correct position in the argument list.

**Recommended actions**

Make sure all arguments are specified in the same order as the parameters for the routine called.

## 40012, Argument error

**Description**

The "switch" argument *arg* has a value.

**Probable causes**

An argument corresponding to a "switch" parameter may not be assigned a value.

**Recommended actions**

1 Remove the value.

## 40013, Argument error

**Description**

The call to routine *arg* has too few arguments.

**Recommended actions**

A routine call must supply values for all required parameters of the routine being called. The argument list must have as many arguments, as the parameter list has parameters.

1 Add more arguments to fit the parameter list.

## 40014, Argument error

**Description**

The call to routine *arg* has too many arguments.

**Recommended actions**

No arguments, more than those defined by the called routine parameter list, must be supplied. The argument list must have as many arguments, as the parameter list has parameters.

1 Remove excessive arguments from the argument list.

## 40015, Data declaration error

**Description**

The number of array dimensions is *arg*, but may be 1, 2 or 3 only.

**Recommended actions**

1 Change the dimension expression.

## 40016, Data declaration error

**Description**

Too many dimensions in array definition.

**Recommended actions**

An array may have at most 3 dimensions. Rewrite the program so that no more than 3 dimensions are needed.

## 40017, Type error

**Description**

Indexed data *arg*, *arg* is not of array type.

**Recommended actions**

Only data that have been declared to be arrays may be indexed.

1 Remove the index or indices.

2 Declare the data to be an array.

## 40018, Type error

**Description**

Data *arg*, *arg* is not of record type.

**Recommended actions**

Components are only available for data of record type.

1 Check the type and name of the referenced data.

## 40019, Limit error

**Description**

Task *arg*: Error when creating the persistent variable *arg*. The error occurred when the persistent variable was to be inserted into the database.

Program ref: *arg*.

**Consequences**

The created persistent variable cannot be used in a RAPID program.

**Probable causes**

The program memory is full or fragmented.

**Recommended actions**

Check if large data structures could be split into smaller blocks. Use of installed modules can save program memory.

## 40020, Data declaration error

**Description**

Expression *arg* is not a constant expression.

**Recommended actions**

Any expression contained within a data declaration must be a constant expression.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

1 Make sure no expression contains variables or persistent references, or function calls.

### 40021, Instruction error

**Description**

Missing expression in RETURN instruction.

**Probable causes**

A RETURN instruction within a function must specify a value to be returned.

**Recommended actions**

1 Add a value expression.

### 40022, Type error

**Description**

Illegal combination of operand types *arg* and *arg* for the '*' operator.

**Recommended actions**

Allowed operand type combinations are: "num"*"num", "num"*"pos", "pos"*"num", "pos"*"pos" and "orient"*"orient".

1 Check the operand types.

### 40023, Instruction error

**Description**

Cannot transfer control into another instruction list.

**Recommended actions**

It is not possible to jump into a program flow instruction.

1 Make sure that the label is located in the same instruction list as the GOTO instruction, at the same or an outer level.

### 40024, Type error

**Description**

Illegal type *arg* for left operand of binary '+' or '-' operator.

**Recommended actions**

Allowed operand types for the binary "+" operator are "num", "pos" and "string", and for the binary "-" operator "num" and "pos".

1 Check the operand types.

### 40025, Type error

**Description**

Illegal type *arg* for operand of unary '+' or '-' operator.

**Recommended actions**

Allowed operand types for the unary "+" and "-" operators are "num" and "pos".

1 Check the operand types.

### 40026, Type error

**Description**

Illegal type *arg* for right operand of binary '+' or '-' operator.

**Recommended actions**

Allowed operand types for the binary "+" operator are "num", "pos" and "string", and for the binary "-" operator "num" and "pos".

1 Check the operand types.

### 40027, Type error

**Description**

Illegal type *arg* for left operand of '/', 'DIV' or 'MOD' operator.

**Recommended actions**

Allowed operand type for the "/", "DIV" or "MOD" operators is "num".

1 Check the operand types.

### 40028, Type error

**Description**

Illegal type *arg* for right operand of '/', 'DIV' or 'MOD' operator.

**Recommended actions**

Allowed operand type for the "/", "DIV" or "MOD" operators is "num".

1 Check the operand types.

### 40029, Type error

**Description**

Illegal type *arg* for left operand of '<', '<=', '>' or '>=' operator.

**Recommended actions**

Allowed operand type for the "<", "<=", ">" or ">=" operators is "num".

1 Check the operand types.

### 40030, Type error

**Description**

Illegal type *arg* for right operand of '<', '<=', '>' or '>=' operator.

**Recommended actions**

Allowed operand type for the "<", "<=", ">" or ">=" operators is "num".

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

1 Check the operand types.

## 40031, Type error

**Description**

Illegal type *arg* for left operand of '*' operator.

**Recommended actions**

Allowed operand types for the "*" operator are "num", "pos" or "orient".

1 Check the operand types.

## 40032, Type error

**Description**

Illegal type *arg* for right operand of '*' operator.

**Recommended actions**

Allowed operand types for the "*" operator are "num", "pos" or "orient".

1 Check the operand types.

## 40033, Type error

**Description**

Illegal type *arg* for operand of 'NOT' operator.

**Recommended actions**

Allowed operand type for the "NOT" operator is "bool".

1 Check the operand types.

## 40034, Type error

**Description**

Illegal type *arg* for left operand of 'OR', 'XOR' or 'AND' operator.

**Recommended actions**

Allowed operand type for the "OR", "XOR" or "AND" operators is "bool".

1 Check the operand types.

## 40035, Type error

**Description**

Illegal type *arg* for right operand of 'OR', 'XOR' or 'AND' operator.

**Recommended actions**

Allowed operand type for the "OR", "XOR" or "AND" operators is "bool".

1 Check the operand types.

## 40036, Type error

**Description**

Incorrect number of indices in index list for array *arg* with *arg* dimension(s).

**Recommended actions**

1 Make sure that the number of indices in the index list corresponds to the number of dimensions of the indexed data array.

## 40037, Data declaration error

**Description**

LOCAL illegal in routine constant declaration.

**Recommended actions**

Only program data declarations may have the LOCAL attribute. Remove the LOCAL attribute or move the declaration outside of the routine.

## 40038, Data declaration error

**Description**

LOCAL illegal in routine variable declaration.

**Recommended actions**

Only program data declarations may have the LOCAL attribute. Remove the LOCAL attribute or move the declaration outside of the routine.

## 40039, Name error

**Description**

Constant name *arg* ambiguous.

**Recommended actions**

Routine data must have names that are unique within the routine. Program data must have names that are unique within the module. Rename the data or change the conflicting name.

## 40040, Name error

**Description**

Global constant name *arg* ambiguous.

**Recommended actions**

Global data must have names that are unique among all the global types, data, global routines and modules in the entire program. Rename the data or change the conflicting name.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 40041, Name error

**Description**

Global persistent name *arg* ambiguous.

**Recommended actions**

Global data must have names that are unique among all the global types, data, global routines and modules in the entire program. Rename the data or change the conflicting name.

### 40042, Name error

**Description**

Global routine name *arg* ambiguous.

**Recommended actions**

Global routines must have names that are unique among all the global types, data, global routines and modules in the entire program. Rename the routine or change the conflicting name.

### 40043, Name error

**Description**

Global variable name *arg* ambiguous.

**Recommended actions**

Global data must have names that are unique among all the global types, data, global routines and modules in the entire program. Rename the data or change the conflicting name.

### 40044, Name error

**Description**

Label name *arg* ambiguous.

**Recommended actions**

Labels must have names that are unique within the routine. Rename the label or change the conflicting name.

### 40045, Name error

**Description**

Module name *arg* ambiguous.

**Recommended actions**

Modules must have names that are unique among all the global types, global data, global routines and modules in the entire program. Rename the module or change the conflicting name.

### 40046, Name error

**Description**

Parameter name *arg* ambiguous.

**Recommended actions**

Parameters must have names that are unique within the routine. Rename the parameter or change the conflicting name.

### 40047, Name error

**Description**

Persistent name *arg* ambiguous.

**Recommended actions**

Program data must have names that are unique within the module. Rename the data or change the conflicting name.

### 40048, Name error

**Description**

Routine name *arg* ambiguous.

**Recommended actions**

Routines must have names that are unique within the module. Rename the routine or change the conflicting name.

### 40049, Name error

**Description**

Variable name *arg* ambiguous.

**Recommended actions**

Routine data must have names that are unique within the routine. Program data must have names that are unique within the module. Rename the data or change the conflicting name.

### 40050, Type error

**Description**

Operand types *arg* and *arg* for binary '+' or '-' operator not equal.

**Recommended actions**

The two operands of the '+' and '-' operators must have equal type. Check the operand types.

### 40051, Type error

**Description**

Operand types *arg* and *arg* for '=' or '<>' operator not equal.

**Recommended actions**

The two operands of the '=' and '<>' operators must have equal type. Check the operand types.

### 40052, Instruction error

**Description**

RETURN with expression only allowed in function.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

**Recommended actions**
In a procedure or trap the return instruction must not specify a return value expression. Remove the expression.

## 40054, Type error

**Description**
Different dimension of array type (*arg*) and aggregate (*arg*).

**Recommended actions**
Make sure that the number of expressions in the aggregate is the same as the dimension of the data array.

## 40055, Type error

**Description**
Assignment target type *arg* is not value or semi-value type.

**Recommended actions**
The type, of the data to be assigned a value, must be a value or semi-value type. Data of non-value types may only be set by special type specific predefined instructions or functions.

## 40056, Type error

**Description**
Type *arg* for left operand of '=' or '<>' operator not value or semi-value type.

**Recommended actions**
The '=' and '<>' operators may only be applied to expressions of value or semi-value type. If comparisons are to be made, special type specific predefined functions are needed.

## 40057, Type error

**Description**
Type *arg* for right operand of '=' or '<>' operator not value or semi-value type.

**Recommended actions**
The '=' and '<>' operators may only be applied to expressions of value or semi-value type. If comparisons are to be made, special type specific predefined functions are needed.

## 40058, Type error

**Description**
TEST expression type *arg* not value or semi-value type.

**Recommended actions**
The TEST instruction may only be applied to an expression of value or semi-value type. If comparisons are to be made, special type specific predefined functions are needed.

## 40059, Data declaration error

**Description**
Place holder for value expression not allowed in definition of named constant.

**Recommended actions**
Complete the data declaration or change the data name to a place holder.

## 40060, Data declaration error

**Description**
Place holder for array dimension not allowed in definition of named constant or variable.

**Recommended actions**
Complete the data declaration or change the data name to a place holder.

## 40061, Routine declaration error

**Description**
Place holder for parameter array dimensions not allowed in definition of named routine.

**Recommended actions**
Complete the parameter declaration or change the routine name to a place holder.

## 40062, Name error

**Description**
Place holder for parameter name not allowed in definition of named routine.

**Recommended actions**
Complete the routine declaration or change the routine name to a place holder.

## 40063, Data declaration error

**Description**
Place holder for initial value expression not allowed in definition of named persistent.

**Recommended actions**
Complete the data declaration or change the data name to a place holder.

*Continues on next page*


© Copyright 2005-2020 ABB. All rights reserved.

### 40064, Routine declaration error

**Description**

Place holder for parameter not allowed in definition of named routine.

**Recommended actions**

Complete the parameter declaration, remove the place holder or change the routine name to a place holder.

### 40065, Reference error

**Description**

Place holder for type not allowed in definition of named data, record component or routine.

**Recommended actions**

Complete the data or routine declaration or change the data or routine name to a place holder.

### 40066, Data declaration error

**Description**

Place holder for initial value expression not allowed in definition of named variable.

**Recommended actions**

Complete the data declaration or change the data name to a place holder.

### 40067, Type error

**Description**

Too few components in record aggregate of type *arg*.

**Recommended actions**

Make sure that the number of expressions in the aggregate is the same as the number of components in the record type.

### 40068, Type error

**Description**

Too many components in record aggregate of type *arg*.

**Recommended actions**

Make sure that the number of expressions in the aggregate is the same as the number of components in the record type.

### 40069, Reference error

**Description**

Data reference *arg* is ambiguous.

**Recommended actions**

At least one other object sharing the same name as the referred data is visible from this program position. Make sure that all object names fulfill the naming rules regarding uniqueness.

### 40070, Reference error

**Description**

Function reference *arg* is ambiguous.

**Recommended actions**

At least one other object sharing the same name as the referred function is visible from this program position. Make sure that all object names fulfill the naming rules regarding uniqueness.

### 40071, Reference error

**Description**

Label reference *arg* is ambiguous.

**Recommended actions**

At least one other object sharing the same name as the referred label is visible from this program position. Make sure that all object names fulfill the naming rules regarding uniqueness.

### 40072, Reference error

**Description**

Procedure reference *arg* is ambiguous.

**Recommended actions**

At least one other object sharing the same name as the referred procedure is visible from this program position. Make sure that all object names fulfill the naming rules regarding uniqueness.

### 40073, Reference error

**Description**

Trap reference *arg* is ambiguous.

**Recommended actions**

At least one other object sharing the same name as the referred trap is visible from this program position. Make sure that all object names fulfill the naming rules regarding uniqueness.

### 40074, Reference error

**Description**

*arg* not entire data reference.

**Recommended actions**

The specified name identifies an object other than data. Check if the desired data is hidden by some other object with the same name.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 40075, Reference error

**Description**

*arg* not function reference.

**Recommended actions**

The specified name identifies an object other than a function. Check if the desired function is hidden by some other object with the same name.

### 40076, Reference error

**Description**

*arg* not label reference.

**Recommended actions**

The specified name identifies an object other than a label. Check if the desired label is hidden by some other object with the same name.

### 40077, Reference error

**Description**

*arg* not optional parameter reference in conditional argument value.

**Recommended actions**

The specified name identifies an object other than an optional parameter. Change the name to refer to an optional parameter.

### 40078, Reference error

**Description**

*arg* not optional parameter reference.

**Recommended actions**

The specified name identifies an object other than an optional parameter. Change the name to refer to an optional parameter.

### 40079, Reference error

**Description**

Task *arg*: *arg* is not a procedure reference.

**Recommended actions**

The specified name identifies an object other than a procedure. Check if the desired procedure is hidden by some other object with the same name.

### 40080, Reference error

**Description**

*arg* not required parameter reference.

**Recommended actions**

The specified name identifies an object other than a required parameter. Change the name to refer to a required parameter.

### 40081, Reference error

**Description**

*arg* not trap reference.

**Recommended actions**

The specified name identifies an object other than a trap. Check if the desired trap is hidden by some other object with the same name.

### 40082, Reference error

**Description**

*arg* not type name.

**Recommended actions**

The specified name identifies an object other than a type. Check if the desired type is hidden by some other object with the same name.

### 40083, Type error

**Description**

*arg* not value type.

**Recommended actions**

Only variables that lack initial value, and 'VAR' mode parameters may be of semi-value or non-value type.

### 40086, Reference error

**Description**

Reference to unknown label *arg*.

**Recommended actions**

The routine contains no label (or other object) with the specified name.

### 40087, Reference error

**Description**

Reference to unknown optional parameter *arg*.

**Recommended actions**

The called routine contains no optional parameter (or other object) with the specified name.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 40089, Reference error

**Description**

Reference to unknown record component *arg*.

**Recommended actions**

The record type contains no record component with the specified name.

### 40090, Reference error

**Description**

Reference to unknown required parameter *arg*.

**Recommended actions**

The called routine contains no required parameter (or other object) with the specified name.

### 40092, Reference error

**Description**

Unknown type name *arg*.

**Recommended actions**

No data type (or other object) with the specified name is visible from this program position.

### 40093, Instruction error

**Description**

Assignment target is read only.

**Recommended actions**

The data to be assigned a value may not be a constant, read only variable or read only persistent.

### 40094, Data declaration error

**Description**

Persistent declaration not allowed in routine.

**Recommended actions**

Persistents may only be declared at module level. Move the persistent declaration from the routine.

### 40095, Instruction error

**Description**

RAISE without expression only allowed in error handler.

**Recommended actions**

Add an error number expression to the RAISE instruction.

### 40096, Instruction error

**Description**

RETRY only allowed in error handler.

**Recommended actions**

The RETRY instruction may only be used in error handlers. Remove it.

### 40097, Instruction error

**Description**

TRYNEXT only allowed in error handler.

**Recommended actions**

The TRYNEXT instruction may only be used in error handlers. Remove it.

### 40098, Parameter error

**Description**

'switch' parameter must have transfer mode IN.

**Recommended actions**

Remove the parameter transfer mode specifier. If IN transfer mode is not sufficient, change the data type of the parameter.

### 40099, Parameter error

**Description**

'switch' parameter cannot be dimensioned.

**Recommended actions**

Remove the array dimension specification, or change the data type of the parameter.

### 40100, Parameter error

**Description**

'switch' only allowed for optional parameter.

**Recommended actions**

Change the parameter into an optional parameter, or change the data type of the parameter. If the object is not a parameter, change the data type.

### 40101, Type error

**Description**

Type mismatch of expected type *arg* and found type *arg*.

**Recommended actions**

The expression is not of the expected data type.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 40102, Type error

**Description**

Type mismatch of aggregate, expected type *arg*.

**Recommended actions**

The aggregate does not match the expected data type.

### 40103, Type error

**Description**

Persistent *arg*, *arg* type mismatch.

**Recommended actions**

There is already a persistent data with the same name but with another data type. Rename the persistent, or change its data type.

### 40104, Data declaration error

**Description**

Cannot determine array dimensions (circular constant references?).

**Recommended actions**

Check that any referred constants are correctly defined. If so, the program is too complex. Try to rewrite the declarations.

### 40105, Data declaration error

**Description**

Cannot determine type of constant value (circular constant references?).

**Recommended actions**

Check that any referred constants are correctly defined. If so, the program is too complex. Try to rewrite the declarations.

### 40106, Data declaration error

**Description**

Cannot evaluate constant value expression (circular constant references?).

**Recommended actions**

Check that any referred constants are correctly defined. If so, the program is too complex. Try to rewrite the declarations.

### 40107, Data declaration error

**Description**

Cannot determine type of variable value (circular constant references?).

**Recommended actions**

Check that any referred constants are correctly defined. If so, the program is too complex. Try to rewrite the declarations.

### 40108, Type error

**Description**

Unknown aggregate type.

**Recommended actions**

An aggregate may not be used in this position since there is no expected data type. Declare data with the desired data type and aggregate value. Use the name of the data instead of the aggregate.

### 40109, Type definition error

**Description**

Cannot determine type of record component *arg* (circular type definitions?).

**Recommended actions**

Check that the type of the component is correctly defined. If so, it could be a circular definition, the type of a component could not refer to its own record type.

### 40110, Reference error

**Description**

Record name *arg* is ambiguous.

**Recommended actions**

At least one other object sharing the same name as the referred record name is visible from this program position. Make sure that all object names fulfill the naming rules regarding uniqueness.

### 40111, Name error

**Description**

Global record name *arg* ambiguous.

**Recommended actions**

Global type must have names that are unique among all the global types, data, global routines and modules in the entire program. Rename the record or change the conflicting name.

### 40112, Reference error

**Description**

Alias name *arg* is ambiguous.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

**Recommended actions**

At least one other object sharing the same name as the referred alias name is visible from this program position. Make sure that all object names fulfill the naming rules regarding uniqueness.

## 40113, Name error

**Description**

Global alias name *arg* ambiguous.

**Recommended actions**

Global type must have names that are unique among all the global types, data, global routines and modules in the entire program. Rename the alias or change the conflicting name.

## 40114, Type definition error

**Description**

Type reference of alias name *arg* is an alias type.

**Recommended actions**

Check that the type of the component is correctly defined. If so, it could be a circular definition. The type of a component could not refer to its own record type.

## 40115, Type definition error

**Description**

Cannot determine type of alias *arg* (circular type definitions?).

**Recommended actions**

Check that the type of the alias is correctly defined. If so, it could be a circular definition, the type of an alias could not refer to a record that use this alias as a component.

## 40116, Reference error

**Description**

Record component name *arg* is ambiguous.

**Recommended actions**

At least one other object sharing the same name as the referred component is visible from this program position. Make sure that all object names fulfill the naming rules regarding uniqueness.

## 40117, Type definition error

**Description**

Place holder for record component not allowed in definition of named record.

**Recommended actions**

Complete the definition or change the data name to a place holder.

## 40119, Reference error

**Description**

Cannot use the semi-value type *arg* for record components.

**Recommended actions**

## 40120, Reference error

**Description**

Illegal reference to installed task object *arg* from shared object.

**Recommended actions**

Install the referred object shared, or install the referring ReaL object/ archive or RAPID module in each task (not shared).

## 40121, Reference error

**Description**

Cannot use semi-value type for arrays.

**Recommended actions**

## 40122, Reference error

**Description**

*arg* not procedure reference.

**Recommended actions**

The specified name identifies an object other than a procedure. Check if the desired procedure is hidden by some other object with the same name.

## 40123, Argument error

**Description**

Argument for 'PERS' parameter *arg* is not a persistent reference or is read only.

**Recommended actions**

Make sure the argument is just a persistent or persistent parameter reference and that it is writable. Do not use () around the argument.

## 40124, Argument error

**Description**

Argument for 'VAR' parameter *arg* is not variable reference or is read only.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

**Recommended actions**

Make sure the argument is just a variable or variable parameter reference and that it is writable. Do not use () around the argument.

## 40125, Instruction error

**Description**

The Interrupt number is not static variable reference, or it is shared, or it is read only.

**Recommended actions**

Make sure the interrupt number is just a variable or variable parameter reference. The variable must be static and not shared. The variable may not be read only.

## 40126, Value error

**Description**

Integer value *arg* is too large.

**Recommended actions**

The value of the expression must be an integer value. The current value is outside the integer range.

## 40127, Value error

**Description**

*arg* is not an integer value.

**Recommended actions**

The value of the expression must be an exact integer value. The current value has a fraction part.

## 40128, Reference error

**Description**

Reference to unknown entire data *arg*.

**Recommended actions**

No data (or other object) with the specified name is visible from this program position.

## 40129, Reference error

**Description**

Reference to unknown function *arg*.

**Recommended actions**

No function (or other object) with the specified name is visible from this program position.

## 40130, Reference error

**Description**

Reference to unknown procedure *arg*.

**Recommended actions**

No procedure (or other object) with the specified name is visible from this program position.

## 40131, Reference error

**Description**

Reference to unknown trap *arg*.

**Recommended actions**

No trap (or other object) with the specified name is visible from this program position.

## 40135, Syntax error

**Description**

Expected *arg*.

**Recommended actions**

## 40136, Syntax error

**Description**

Unexpected *arg*.

**Recommended actions**

## 40137, Syntax error

**Description**

Expected *arg* but found *arg*.

**Recommended actions**

## 40138, Syntax error

**Description**

Syntax error, stack backed up.

**Recommended actions**

## 40139, Syntax error

**Description**

Syntax error, parsing terminated.

**Recommended actions**

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 40140, Numerical value for symbol *arg* is out of range

**Description**

Numerical value for symbol *arg* is out of range.

**Recommended actions**

Make the value smaller.

### 40141, String too long

**Description**

The string *arg* is too long.

**Recommended actions**

Make the string shorter.

### 40142, TxId is out of range

**Description**

The Text identifier *arg* is out of range.

**Recommended actions**

### 40143, Aggregate is out of range

**Description**

The aggregate *arg* is out of range.

**Recommended actions**

Make the aggregate smaller.

### 40144, Integer out of range

**Description**

The integer *arg* is out of range.

**Recommended actions**

Make the integer smaller.

### 40145, Parser stack is full

**Description**

The parser stack is full.

**Recommended actions**

Reduce program complexity.

### 40146, Not enough heap space

**Description**

There is not enough heap space to fulfill the action.

**Recommended actions**

Rewrite your program.

### 40147, Identifier is reserved word in current language

**Description**

The identifier *arg* is a reserved word in current language.

**Recommended actions**

Change the name of the identifier.

### 40148, Identifier too long

**Description**

The name of the identifier *arg* is too long.

**Recommended actions**

Rename the identifier with a shorter name.

### 40149, Placeholder too long

**Description**

The placeholder *arg* is too long.

**Recommended actions**

Rename the placeholder with a shorter name.

### 40150, Unexpected unknown token

**Description**

Unexpected unknown token.

**Recommended actions**

Remove the unknown token.

### 40152, Data declaration error

**Description**

TASK illegal in routine variable declaration.

**Recommended actions**

Only program data declarations may have the TASK attribute. Remove the TASK attribute or move the declaration outside of the routine.

### 40155, Argument error

**Description**

Task *arg*: Argument for 'PERS' parameter *arg* is not persistent reference or is read only.

**Recommended actions**

Make sure the argument is just a persistent or persistent parameter reference and that it is writable. Do not use () around the argument. To avoid run time errors like this, add code in error handler to handle this. ERRNO will be set to "ERR_ARGNOTPER".

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 40156, Argument error

**Description**

Task *arg*: Argument for 'VAR' parameter *arg* is not variable reference or is read only.

**Recommended actions**

Make sure the argument is just a variable or variable parameter reference and that it is writable. Do not use () around the argument. To avoid run time errors like this, add code in error handler to handle this. ERRNO will be set to "ERR_ARGNOTVAR".

### 40157, Instruction error

**Description**

Task *arg*: Interrupt number is not a static variable reference, is shared, or is read only.

**Recommended actions**

Make sure the interrupt number is just a variable or variable parameter reference. The variable must be static and not shared. The variable may not be read only. To avoid run time errors like this, add code in error handler to handle this. ERRNO will be set to "ERR_CNTNOTVAR".

### 40158, Value error

**Description**

Task *arg*: Integer value *arg* too large.

**Recommended actions**

The value of the expression must be an integer value. The current value is outside the integer range. To avoid run time errors like this, add code in error handler to handle this. ERRNO will be set to "ERR_MAXINTVAL".

### 40159, Value error

**Description**

Task *arg*: *arg* not integer value.

**Recommended actions**

The value of the expression must be an exact integer value. The current value has a fraction part. To avoid run time errors like this, add code in error handler to handle this. ERRNO will be set to "ERR_NOTINTVAL".

### 40160, Errors in RAPID program

**Description**

Task *arg*: There are errors in the RAPID program.

**Recommended actions**

Check for RAPID errors using Check program in the Program editor and correct the program.

### 40161, Option is missing

**Description**

The instruction *arg* requires the option *arg*.

**Consequences**

The program will not execute properly.

**Probable causes**

The system image doesn't include the required option.

**Recommended actions**

Update the system image with the required option.

### 40162, Errors in RAPID program

**Description**

Task *arg*: There are errors in the RAPID program.

**Recommended actions**

Take the following actions to be able to debug the program:

1 Change the type of the task to NORMAL.
2 Restart the controller.
3 Check for RAPID errors and correct the program.

### 40163, Module error

**Description**

The module *arg* has too many lines to be loaded. Maximum number of lines allowed in a module is *arg*.

**Consequences**

Module (or program if the module was part of a program) cannot be loaded.

**Probable causes**

The module has too many lines.

**Recommended actions**

Split the module in two or several smaller modules.

### 40165, Reference error

**Description**

Task *arg*: Reference to unknown entire data *arg*.

**Recommended actions**

No data (or other object) with the specified name is visible from this program position. To avoid run time errors like this, add code in error handler to handle this. ERRNO will be set to "SYS_ERR_ARL_REFUNKDAT".

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 40166, Reference error

**Description**

Task *arg*: Reference to unknown function *arg*.

**Recommended actions**

No function (or other object) with the specified name is visible from this program position. To avoid run time errors like this, add code in error handler to handle this. ERRNO will be set to "ERR_REFUNKFUN".

### 40168, Reference error

**Description**

Task *arg*: Reference to unknown procedure *arg*.

**Recommended actions**

No procedure (or other object) with the specified name is visible from this program position. To avoid run time errors like this, add code in error handler to handle this. ERRNO will be set to "ERR_REFUNKPRC".

### 40170, Reference error

**Description**

Task *arg*: Reference to unknown trap *arg*.

**Recommended actions**

No trap (or other object) with the specified name is visible from this program position. To avoid run time errors like this, add code in error handler to handle this. ERRNO will be set to "ERR_REFUNKTRP".

### 40171, Reference error

**Description**

Task *arg*: Reference to unknown data (or other object) found during execution of module *arg*.

**Recommended actions**

Check the program for unresolved references.

### 40172, Reference error

**Description**

Task *arg*: Reference to unknown module *arg*.

**Recommended actions**

No module (or other object) with the specified name is visible from this program position. Check the program for incorrect module reference or if the module is missing.

### 40173, Reference error

**Description**

Task *arg*: Reference to object *arg* that is not a module.

**Recommended actions**

The specified name identifies an object other than a module. Check the program for incorrect module reference.

### 40174, Reference error

**Description**

Task *arg*: Reference to module *arg* is ambiguous.

**Recommended actions**

At least one other object sharing the same name as the referred module is visible from this program position. Make sure that all object names fulfill the naming rules regarding uniqueness.

### 40175, Reference error

**Description**

Task *arg*: Reference to procedure *arg* is ambiguous.

**Recommended actions**

At least one other object sharing the same name as the referred procedure is visible from this program position. Make sure that all object names fulfill the naming rules regarding uniqueness.

### 40191, Instruction error

**Description**

Task *arg*: Variable and trap routine already connected.

**Recommended actions**

It is not legal to connect a specific variable with a trap routine more than once. To avoid run time errors like this, add code in error handler to handle this. ERRNO will be set to "ERR_ALRDYCNT".

### 40192, Argument error

**Description**

Task *arg*: *arg* is second present conditional argument for excluding parameters.

**Recommended actions**

Arguments may not be present for more than one parameter from a list of parameters that exclude each other. To avoid run time errors like this, add code in error handler to handle this. ERRNO will be set to "ERR_ARGDUPCND".

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

## 40193, Execution error

**Description**

Task *arg*: Late binding procedure call error *arg*.

**Recommended actions**

There is an error in the procedure call instruction. See previous message for the actual cause. To avoid run time errors like this, add code in error handler to handle this. ERRNO will be set to "ERR_CALLPROC".

## 40194, Value error

**Description**

Task *arg*: Division by zero.

**Recommended actions**

Cannot divide by 0. Rewrite the program so that the divide operation is not executed when the divisor is 0. To avoid run time errors like this, add code in error handler to handle this. ERRNO will be set to "ERR_DIVZERO".

## 40195, Limit error

**Description**

Task *arg*: The configured maximum number of RETRYs (*arg* retries) is exceeded.

**Recommended actions**

The error correction performed before the RETRY instruction is executed, is probably not enough to cure the error. Check the error handler. To avoid run time errors like this, add code in error handler to handle this. ERRNO will be set to "ERR_EXCRTYMAX".

## 40196, Instruction error

**Description**

Task *arg*: Attempt to execute place holder.

**Recommended actions**

Remove the place holder or the instruction containing it, or make the instruction complete. Then continue execution. To avoid run time errors like this, add code in error handler to handle this. ERRNO will be set to "ERR_EXECPHR".

## 40197, Execution error

**Description**

Task *arg*: Function does not return any value.
Program ref: *arg*.

**Recommended actions**

The end of the function has been reached without a RETURN instruction being executed. Add a RETURN instruction specifying a function return value. To avoid run time errors like this, add code in error handler to handle this. ERRNO will be set to "ERR_FNCNORET".

## 40198, Value error

**Description**

Task *arg*: Illegal orientation value *arg*.

**Recommended actions**

Attempt to use illegal orientation (quaternion) value. To avoid run time errors like this, add code in error handler to handle this. ERRNO will be set to "ERR_ILLQUAT".

## 40199, Value error

**Description**

Task *arg*: Illegal error number *arg* in *arg*.

**Recommended actions**

Use error numbers in the range 1-90 or book error numbers with the instruction BookErrNo. To avoid run time errors like this, add code in error handler to handle this. ERRNO will be set to "ERR_ILLRAISE".

## 40200, Limit error

**Description**

Task *arg*: No more interrupt number available.

**Recommended actions**

There is a limited number of interrupt numbers available. Rewrite the program to use fewer interrupt numbers. This message may also occur as a consequence of a system error. To avoid run time errors like this, add code in error handler to handle this. ERRNO will be set to "ERR_INOMAX".

## 40202, Type error

**Description**

Task *arg*: Dimensions *arg* and *arg* of conformant array dimension number *arg* are incompatible.

**Recommended actions**

The array is not of the expected size. Array assignment may only be performed on arrays of identical size. To avoid run time errors like this, add code in error handler to handle this. ERRNO will be set to "ERR_NOTEQDIM".

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 40203, Reference error

**Description**

Task *arg*: Optional parameter *arg* not present.

**Recommended actions**

The value of a non-present optional parameter may not be referred. Use the predefined function 'Present' to check the presence of the parameter before using its value. To avoid run time errors like this, add code in error handler to handle this. ERRNO will be set to "ERR_NOTPRES".

### 40204, Value error

**Description**

Task *arg*: Array index *arg* for dimension number *arg* out of bounds (1-*arg*).

**Recommended actions**

The array index value is non-positive or violates the declared size of the array. To avoid run time errors like this, add code in error handler to handle this. ERRNO will be set to "ERR_OUTOFBND".

### 40205, Value error

**Description**

Task *arg*: RAPID String *arg* too long.

**Recommended actions**

String value exceeds the maximum allowed length. Rewrite the program to use strings of less length. To avoid run time errors like this, add code in error handler to handle this. ERRNO will be set to "ERR_STRTOOLNG".

### 40206, Interrupt queue full

**Description**

Execution of all normal tasks has stopped. Too many interrupts has occurred in *arg* while executing a trap routine.

**Consequences**

The system goes to blocked state and cannot be restarted before moving the program pointer to an arbitrary position.

**Probable causes**

Too many interrupts has occurred while executing a trap routine. This can be caused by heavy CPU load.

**Recommended actions**

1 Minimize execution time in the trap routine.
2 Disable/enable interrupts while executing a trap routine using the Isleep or Iwatch commands.

### 40207, Value error

**Description**

Task *arg*: Illegal error number *arg* in *arg*.

**Recommended actions**

Error numbers used in an ERROR handler must be positive.

### 40208, Error event queue full

**Description**

Task *arg*: The program was already executing an error event when a new event occurred.

**Recommended actions**

Attend the cause of the error event and restart the program.

### 40209, Error handler already executed

**Description**

An error event in task *arg* has occurred while executing the error handler. The context of the RAPID instruction that has generated this event is however already consumed. No error handling is therefore possible to execute.

**Recommended actions**

Attend the cause of the error event and restart the program.

### 40210, Interrupt removed from queue

**Description**

All interrupts have been deleted from the interrupt queue in task *arg*.

**Consequences**

No trap routines, connected with the interrupt, may be executed.

**Probable causes**

- The program has been stopped.
- A service routine or an event routine may be executing.
- The program is executing in step mode.

**Recommended actions**

### 40221, Execution error

**Description**

Task *arg*: Execution aborted.

**Recommended actions**

Execution was aborted due to a fatal error.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 40222, Limit error

**Description**

Task *arg*: Execution stack overflow.

**Recommended actions**

The program is too complex to execute. Probably the program contains recursive routines.

### 40223, Execution error

**Description**

The execution of task *arg* has been stopped by a runtime error.

**Consequences**

The program execution is immediately halted.

**Probable causes**

The program error is considered UNRECOVERABLE so no error recovery attempt by an error handler routine (if used) was allowed. The actual cause of the error may vary, and is likely to be specified in an event log message logged simultaneously as this one.

**Recommended actions**

1 Check other event log messages logged simultaneously to determine the actual cause.

### 40224, Execution error

**Description**

Task *arg*: Illegal return code *arg* from ReaL routine. This is always caused by an internal error in the ReaL routine.

**Recommended actions**

### 40225, Execution error

**Description**

Task *arg*: Execution could not be restarted. Execution of the program could not be continued after power failure.

**Recommended actions**

Restart the program.

### 40226, Name error

**Description**

Task *arg*: Procedure name *arg* is not a RAPID identifier excluding reserved words.

**Recommended actions**

The procedure name, must be a legal RAPID identifier not equal to any of the reserved words of the RAPID language. Change the name expression.

### 40227, Limit error

**Description**

Task *arg*: Runtime stack overflow. The program is too complex to execute. Probably the program contains recursive routines.

**Recommended actions**

### 40228, Execution error

**Description**

The execution of task *arg* has been stopped by a runtime error *arg*.

**Consequences**

The program execution is immediately halted.

**Probable causes**

The program error is considered RECOVERABLE but the error was not recovered. The actual cause of the error may vary, and is likely to be specified in an event log message logged simultaneously as this one.

**Recommended actions**

1 Check other event log messages logged simultaneously to determine the actual cause.

### 40229, Execution error

**Description**

Task *arg*: Unhandled error.

**Recommended actions**

An error occurred in called instruction but was not handled by any ERROR clause in the program. Check the previous error or warning in the common log for the cause.

### 40230, Execution error

**Description**

Task *arg*: Unhandled non-fatal runtime error.

**Recommended actions**

A non-fatal runtime error has occurred but was not handled by any ERROR clause.

### 40241, Value error

**Description**

Task *arg*: Array dimension number *arg* out of range (1-*arg*).

**Recommended actions**

The value of the 'DimNo' parameter of the 'Dim' function must be an integer value in the specified range. To avoid run time

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

errors like this, add code in error handler to handle this. ERRNO will be set to "ERR_ILLDIM".

### 40242, Type error

**Description**

Task *arg*: Data is not an array.

**Recommended actions**

The 'DatObj' parameter of the 'Dim' function must be an array. To avoid run time errors like this, add code in error handler to handle this. ERRNO will be set to "ERR_NOTARR".

### 40243, Value error

**Description**

Task *arg*: Unknown interrupt number.

**Recommended actions**

Check that the specified interrupt variable has been initialized by CONNECT, and that the interrupt has been defined using the ISignalDI or other interrupt definition instruction. To avoid run time errors like this, add code in error handler to handle this. ERRNO will be set to "ERR_UNKINO".

### 40244, Value error

**Description**

Task *arg*: Object *arg* is of non-value type.

**Recommended actions**

Use expression or data object of value or semi-value type.

### 40245, Parameter error

**Description**

Parameters in *arg* and *arg* is not matching (late binding).

**Recommended actions**

Make sure that all procedures that are called from the same late binding node have matching parameters. I.e. they should be matching concerning base type, mode and required/optional parameters.

### 40246, Cannot Deactivate Safe Interrupt

**Description**

Task: *arg*: It is not possible to deactivate a Safe Interrupt with the instruction ISleep.
Program ref: *arg*.

**Recommended actions**

Recovery: *arg*. To avoid run time errors like this, add code in error handler to handle this. ERRNO will be set to "ERR_INOISSAFE".

### 40247, Persistent variable size error

**Description**

Task *arg*: Persistent variable *arg*: has changed size and must be reinitialized.

**Recommended actions**

Reload all modules in all tasks accessing the persistent variable.

### 40251, Name error

**Description**

Task *arg*: Ambiguous symbol name *arg*.

**Recommended actions**

Installed objects must have names that are unique. Rename the object or change the conflicting name.

### 40252, Limit error

**Description**

Task *arg*: Error *arg* when creating sdb entry for *arg*.

**Recommended actions**

An error occurred when the persistent was to be inserted into the shared database. Probably the database is full.

### 40253, Type definition error

**Description**

Task *arg*: Alias *arg* of alias *arg* not allowed.

**Recommended actions**

It is not possible to define an alias type equal to another alias type. Instead, define two alias types equal to the same atomic or record type.

### 40254, Symbol definition error

**Description**

Task *arg*: 'ANYTYPE#' parameter *arg* cannot be dimensioned.

**Recommended actions**

Remove the dimension specification. 'ANYTYPE#' includes array types.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 40255, Symbol definition error

**Description**

Task *arg*: 'ANYTYPE#' only allowed for parameter (not for *arg*).

**Recommended actions**

Use another type.

### 40256, Parameter error

**Description**

Task *arg*: 'alt' must not be set for first optional parameter *arg* in alternatives list.

**Recommended actions**

Make sure that only the second and following in each list of excluding optional parameters are marked as alternatives.

### 40257, Parameter error

**Description**

Task *arg*: REF mode parameter *arg* cannot be dimensioned.

**Recommended actions**

Remove the array dimension specification, or change the mode of the parameter.

### 40258, Parameter error

**Description**

Task *arg*: 'switch' parameter *arg* cannot be dimensioned.

**Recommended actions**

Remove the array dimension specification, or change the data type of the parameter.

### 40259, Parameter error

**Description**

Task *arg*: 'switch' parameter *arg* must have transfer mode IN (specified value *arg*).

**Recommended actions**

Remove the parameter transfer mode specifier. If IN transfer mode is not sufficient, change the data type of the parameter.

### 40260, Symbol definition error

**Description**

Task *arg*: 'switch' only allowed for optional parameter (not for *arg*).

**Recommended actions**

Change the parameter into an optional parameter, or change the data type of the parameter. If the object is not a parameter, change the data type.

### 40261, Type definition error

**Description**

Task *arg*: Value type class for *arg* must be one of REAL_SYMVALTYP_VAL, _SEMIVAL, _NONVAL or _NONE (specified value *arg*).

**Recommended actions**

Change the value type class.

### 40262, Data declaration error

**Description**

Task *arg*: Too many array dimensions for *arg* (specified value *arg*).

**Recommended actions**

An array may have at most 3 dimensions.

### 40263, Name error

**Description**

Task *arg*: Symbol name *arg* is not a RAPID identifier excluding reserved words.

**Recommended actions**

The names of installed objects, including parameters and components, must be legal RAPID identifiers not equal to any of the reserved words of the RAPID language. Change the name.

### 40264, Symbol definition error

**Description**

Task *arg*: Missing C function for *arg*.

**Recommended actions**

A C-function that executes the ReaL function being defined, must be specified.

### 40265, Symbol definition error

**Description**

Task *arg*: Missing value initialization function for *arg*.

**Recommended actions**

A value initialization function must be specified.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 40266, Reference error

**Description**

Task *arg*: *arg* is not a data type name (object *arg*). The specified name identifies an object other than a type.

**Recommended actions**

### 40267, Reference error

**Description**

Task *arg*: *arg* is not a value data type (object *arg*). Only record components, alias types, variables and 'VAR' mode parameters may be of semi-value or non-value type.

**Recommended actions**

### 40268, Symbol definition error

**Description**

Task *arg*: Missing value conversion function for *arg*.

**Recommended actions**

A value conversion function must be specified for a semi-value type.

### 40269, Symbol definition error

**Description**

Task *arg*: Not enough memory for value of data *arg*.

**Recommended actions**

More memory required.

### 40270, Type definition error

**Description**

Task *arg*: Private type *arg* can only be semi-value or non-value type (specified value *arg*).

**Recommended actions**

Change the value type class.

### 40271, Type definition error

**Description**

Task *arg*: Private type *arg* size must be multiple of 4 (specified value *arg*).

**Recommended actions**

All RAPID types must have a size that is a multiple of four. Change the specified type size.

### 40272, Type error

**Description**

Task *arg*: Persistent type mismatch for *arg*.

**Recommended actions**

There is already a persistent data with the same name but with another data type. Rename the persistent, or change its data type.

### 40273, Reference error

**Description**

Task *arg*: Unknown data type name *arg* for *arg*.

**Recommended actions**

There is no data type (or other object) with the specified name.

### 40274, Parameter error

**Description**

Task *arg*: Unknown parameter transfer mode *arg* for *arg*.

**Recommended actions**

The specified parameter transfer mode is not one of IN, 'VAR', 'PERS', 'INOUT' or REF. Use corresponding REAL_SYMPARMOD_x.

### 40275, Symbol definition error

**Description**

Task *arg*: Unknown symbol definition type *arg*. The symbol definition type tag does not specify one of the allowed symbol types (REAL_SYMDEF_x).

**Recommended actions**

### 40277, Undo Aborted

**Description**

Task *arg*: The program execution was stopped while processing the UNDO statements. UNDO was not fully executed. The routine *arg* was executing when UNDO was stopped.

**Recommended actions**

If the processing of UNDO takes too long, try to remove time-consuming instructions such as TPWrite from the UNDO-clause. If the undo processing never seems to finish, make sure any loops in the undo-statements are correct.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

## 40278, Undo Aborted

**Description**

Task *arg*: The processing of UNDO was aborted due to an EXIT-statement in the routine *arg*. UNDO was not fully executed.

**Recommended actions**

## 40279, Undo Aborted

**Description**

Task *arg*: The processing of UNDO was aborted due to a run-time error in routine *arg*. UNDO was not fully executed.

**Recommended actions**

Investigate the cause of the error.

## 40280, Undo Aborted

**Description**

Task *arg*: The instructions BREAK, RAISE, RETURN and STOP are not allowed to use in an undo-clause or any routine that is called from an undo-clause. The instruction *arg* was found in UNDO context when executing the routine *arg*.

**Recommended actions**

Avoid executing the instruction when in undo-context.

## 40281, Undo Aborted

**Description**

Task *arg*: The program execution of UNDO statements was aborted due to edit operation.

## 40301, File access error

**Description**

Task *arg* is trying to access file *arg*, but failing.

**Consequences**

No data in the file may be accessed.

**Probable causes**

File may be write protected.

**Recommended actions**

1 Check if the file is write protected, and in such case change the setting.

## 40302, File access error

**Description**

Task *arg* is trying to access file *arg*, but does not find file or directory.

**Consequences**

If the missing file is a module, no automatic loading to a task is possible.

**Probable causes**

- File may not have been correctly copied to the target directory.
- File or directory may have incorrect name.

**Recommended actions**

1 Make sure the file and directory names are correct.

## 40303, File access error

**Description**

Task *arg* is trying to access file *arg*, but failing.

**Consequences**

No data in the file may be accessed.

**Probable causes**

No storage space available on device.

**Recommended actions**

1 Make sure there is enough storage space available.

## 40304, File access error

**Description**

Task *arg* is trying to access file *arg*, but failing.

**Consequences**

No data in the file may be accessed.

**Probable causes**

- File may be write protected.
- File or directory may have incorrect name.
- No storage space available on device.

**Recommended actions**

1 Check if the file is write protected, and in such case change the setting.
2 Make sure the file and directory names are correct.
3 Make sure there is enough storage space available.

## 40322, Load error

**Description**

Task *arg*: RAPID syntax error(s) in file *arg*.

**Recommended actions**

The source file to be loaded contains RAPID syntax errors. Correct the source file.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 40323, Load error

**Description**

Task *arg*: Syntax error(s) in header in file *arg*.

**Recommended actions**

The source file to be loaded contains syntax error in the file header. Correct the source file. The syntax errors are logged in a separate file.

### 40324, Load error

**Description**

Task *arg*: Keywords not defined in specified language (file *arg*).

**Recommended actions**

Cannot load RAPID source code in the national language specified in the file header.

### 40325, Load error

**Description**

Task *arg*: A big enough free program memory block is not available. The ordered operation could not be completed.

**Probable causes**

The program memory is full or fragmented.

**Recommended actions**

Check if large data structures could be split into smaller blocks. Use of installed modules can save program memory.

### 40326, Load error

**Description**

Task *arg*: Parser stack full (file *arg*).

**Recommended actions**

The program is too complex to load.

### 40327, Load error

**Description**

Task *arg*: Not current RAPID version (file *arg*).

**Recommended actions**

Cannot load RAPID source code of the version specified in the file header.

### 40328, Load error

**Description**

Task: *arg*.

Program memory is full. *arg*.

**Recommended actions**

The module *arg* could not be loaded because the program memory is full.

Recovery: *arg*.

### 40329, Module installation failure

**Description**

Task: *arg*.

It is not possible to install a module from file *arg*.

**Consequences**

The module will not be installed.

**Probable causes**

There can be several different reasons.

1 The RAPID module may have RAPID errors.
2 The file might not exist.

**Recommended actions**

1 Check the event messages in the Elog domain RAPID. Correct the RAPID errors and Reset RAPID.
2 Or make sure the correct file is available to load. Reset RAPID.

### 40330, RAPID errors in installed module

**Description**

Task: *arg*. Module (line/column): *arg*. There is an error with symbol: *arg*.

**Consequences**

The module will not be installed.

### 40331, Type error

**Description**

Operand types *arg* and *arg* for the '/', 'DIV' or 'MOD' operator not equal.

**Recommended actions**

The two operands of the '/', 'DIV' or 'MOD' operators must have equal type. Check the operand types.

### 40332, Type error

**Description**

Operand types *arg* and *arg* for the '<', '<=', '>' or '>=' operator not equal.

**Recommended actions**

The two operands of the '<', '<=', '>' or '>=' operators must have equal type. Check the operand types.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

## 40351, Memory allocation error

**Description**

Task *arg*: Failed to allocate hash table, use linear list.

**Recommended actions**

## 40352, Memory allocation error

**Description**

Task *arg*: Failed to update persistent expression, keep old one.

**Recommended actions**

## 40353, Mechanical Unit *arg* Missing!

**Description**

The mechanical unit component of the workobject *arg* is faulty.

**Probable causes**

- No mechanical unit is defined.
- The mechanical unit defined cannot be found.
- The robot cannot move the workobject by itself.

**Recommended actions**

Check the mechanical unit component of the workobject.

## 40354, A copy of a dynamic loaded module has been saved

**Description**

Task: *arg*.

A dynamic loaded module *arg* has been changed. The module is lost when PP is set to main. A copy of the changed module is saved on *arg*.

**Probable causes**

- A dynamic loaded module has been changed.
- PP is set to main.
- The dynamic loaded module is removed.
- A copy of the changed module is saved.

**Recommended actions**

If the changes shall be saved, replace the original file with the copy.

## 40355, A Stop/QStop event routine has been stopped

**Description**

Task: *arg*.

A *arg* event routine has been stopped by an external stop command. Any running Stop/QStop event routines will be stopped after *arg* ms when controller receives second stop command.

**Recommended actions**

Keep all event routines short and free from RAPID instructions of type WaitTime, WaitDI, etc.

## 40357, Missing Error Handler

**Description**

There is no error handler that deals with the process error for task *arg*.

**Consequences**

The program will not be able to execute past the next move instruction.

**Probable causes**

The error handler is missing.

**Recommended actions**

Add an error handler. The error handler should include the StartMove (StartMoveRetry) instruction.

## 40358, RMQ message discarded

**Description**

A RMQ message was discarded in task *arg*. *arg* received a RMQ message that couldn't be handled.

**Consequences**

The RMQ message was discarded without any notification to the sender.

**Probable causes**

There can be several different reasons.

1 No interrupt is connected to the type of the received message.
2 No interrupt could be created because the interrupt queue was full.
3 The received message was corrupt.

**Recommended actions**

Make sure that the task has connected an interrupt to all types of messages that is possible to receive. Read about IRMQMessage in the RAPID reference manual.

## 40359, An event routine has been stopped

**Description**

Task: *arg*.

A *arg* event routine has been stopped by an external stop command.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

**Recommended actions**

Keep all event routines short and free from RAPID instructions of type WaitTime, WaitDI, etc.

## 40502, Digital Input Break

**Description**

Task: *arg*.

A digital input interrupted the execution.

Program ref: *arg*.

**Recommended actions**

Recovery: *arg*.

## 40504, Parameter error

**Description**

Task: *arg*

*arg*

*arg*

*arg*.

**Recommended actions**

Recovery: *arg*.

## 40506, System Access Error

**Description**

Task: *arg*.

*arg*

*arg*

*arg*.

**Recommended actions**

Recovery: *arg*.

## 40507, Limit Error

**Description**

Task: *arg*.

Cannot step further back on path *arg*.

Program ref: *arg*.

**Recommended actions**

Recovery: *arg*.

## 40508, Orientation Value Error

**Description**

Task: *arg*.

Wrong orientation value in *arg*.

Program ref: *arg*.

**Recommended actions**

All used orientations must be normalized, i.e. the sum of the quaternion elements squares must equal 1.

## 40511, Parameter Error

**Description**

Task: *arg*.

The parameter *arg* in *arg* is specified with a negative value.

Program ref: *arg*.

**Recommended actions**

The parameter must be set to a positive value.

## 40512, Missing External Axis Value

**Description**

Some active external axis have incorrect or no order value.

**Recommended actions**

Reprogram the position.

## 40513, Mechanical Unit Error

**Description**

Task: *arg*.

Not possible to activate or deactivate mechanical unit. Previous message may contain more information.

Program ref: *arg*.

## 40514, Execution Error

**Description**

Task: *arg*.

The robot is too far from path to perform StartMove of the interrupted movement.

Program ref: *arg*.

**Recommended actions**

Position the robot to the interrupted position in the program.

Recovery: *arg*.

## 40515, Type Error

**Description**

Task: *arg*.

Illegal data type of argument for parameter *arg*.

**Recommended actions**

Change the parameter to a legal type. Make sure the value type is value or semi-value.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 40518, Type Error

**Description**

Task: *arg*.

Expected type differs from read type in *arg*.

Program ref: *arg*.

**Recommended actions**

Check the type in the argument.

### 40519, End Of File

**Description**

Task: *arg*.

End of file was found before all bytes were read in *arg*.

Program ref: *arg*.

**Recommended actions**

Recovery: *arg*.

### 40522, Limit Error

**Description**

Task: *arg*.

Stop watch overflow.

Program ref: *arg*.

**Recommended actions**

Recovery: *arg*.

### 40523, Mechanical Unit Conflict

**Description**

Not possible to activate mechanical unit *arg* since mechanical unit *arg* is already active.

**Recommended actions**

Check the Motion Configuration. Active mechanical units cannot have the same *arg*:

1 Physical Axis.

2 Logical Axis.

3 Drive Unit Configuration.

### 40524, Conveyor Access Error

**Description**

Task: *arg*.

The conveyor is not activated.

Program ref: *arg*.

**Recommended actions**

Recovery: *arg*.

### 40525, Conveyor Access Error

**Description**

Task: *arg*.

No single number defined.

Program ref: *arg*.

### 40526, Conveyor Access Error

**Description**

Task: *arg*.

The mechanical unit *arg* is not a single.

Program ref: *arg*.

### 40527, File Access Error

**Description**

Task: *arg*.

Unable to open *arg*.

Program ref: *arg*.

**Probable causes**

- The I/O device reference is already in use.

**Recommended actions**

- If the I/O device reference is already in use, close it or use another.

Recovery: *arg*.

### 40528, File Access Error

**Description**

Task: *arg*.

File or serial channel is not open.

Program ref: *arg*.

**Probable causes**

- The I/O device reference is not open, or has already been closed.

**Recommended actions**

- Check that device is open.

Recovery: *arg*.

### 40529, File Access Error

**Description**

Task: *arg*.

Could not access the file *arg*.

Program ref: *arg*.

**Probable causes**

- The path or filename is wrong.
- The I/O device reference is already in use.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

- The maximum number of simultaneously opened files is exceeded.
- The disk is full.

**Recommended actions**

- Check the path or filename.
- If the I/O device reference is already in use, close it or use another.
- Check the disk space.

Recovery: *arg*.

### 40530, Parameter Error

**Description**

Task: *arg*.

The number of characters, parameter *arg* in WriteBin, you want to write to the serial channel is greater than the size of the array containing the characters to be written.

Program ref: *arg*.

**Recommended actions**

Make the array bigger or decrease the parameter.

### 40531, Parameter Error

**Description**

Task: *arg*.

The array *arg* in WriteBin is smaller than 0 or greater than 255.

Program ref: *arg*.

**Recommended actions**

Change the size of the array to be 0 - 255.

### 40534, Timeout

**Description**

Task: *arg*.

A timeout interrupted the execution.

Program ref: *arg*.

**Recommended actions**

Recovery: *arg*.

### 40535, Type Error

**Description**

Task: *arg*.

The data you was trying to read in the file was not a numeric type.

Program ref: *arg*.

**Recommended actions**

Recovery: *arg*.

### 40536, System Access Error

**Description**

Task: *arg*.

Too many pending read requests.

Program ref: *arg*.

### 40537, File Access Error

**Description**

Task: *arg*.

The serial channel is not open, or you are trying to use the instruction on a file.

Program ref: *arg*.

**Recommended actions**

- Open the serial channel.
- Check that the instruction is used on a serial channel.

Recovery: *arg*.

### 40538, Max Time Expired

**Description**

Task: *arg*.

The programmed waiting time has expired.

Program ref: *arg*.

**Recommended actions**

Recovery: *arg*.

### 40539, System Access Error

**Description**

Task: *arg*.

Not allowed option in this task.

Program ref: *arg*.

### 40540, File Access Error

**Description**

Task: *arg*.

*arg* is not a directory.

Program ref: *arg*.

**Recommended actions**

Check that the path is the correct path to the directory you want to open.

Recovery: *arg*.

### 40541, File Access Error

**Description**

Task: *arg*.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

Directory *arg* is not accessible.
Program ref: *arg*.

**Recommended actions**
Check the directory you are trying to open.
Recovery: *arg*.

## 40542, File Access Error

**Description**
Task: *arg*.
Could not access the file system *arg*.
Program ref: *arg*.

**Recommended actions**
- Check the path and filename.

Recovery: *arg*.

## 40543, File Access Error

**Description**
Task: *arg*.
You cannot open *arg*.
Program ref: *arg*.

**Probable causes**
There are too many directories already open.

**Recommended actions**
Close one of the already open directories.
Recovery: *arg*.

## 40544, File Access Error

**Description**
Task: *arg*.
Could not create the directory *arg*.
Program ref: *arg*.

**Recommended actions**
- Check the path.
- Check write and execute permission for the directory under which the new directory should be created.

Recovery: *arg*.

## 40545, File Access Error

**Description**
Task: *arg*.
Could not remove the directory *arg*.
Program ref: *arg*.

**Recommended actions**
- Check the path.
- Check write and execute permission for the directory under which the directory you want to remove is located.

Recovery: *arg*.

## 40546, File Access Error

**Description**
Task: *arg*.
Could not remove the file *arg*.
Program ref: *arg*.

**Recommended actions**
- Check the path.
- Check if you have write permission for the file.
- Check write and execute permission for the directory under which the file you want to remove is located.

Recovery: *arg*.

## 40547, File Access Error

**Description**
Task: *arg*.
Could not rename the file *arg*.
Program ref: *arg*.

**Recommended actions**
- Check the path.
- Check write permission for the file you want to rename.
- Check write and execute permission for the directory under which the file you want to rename is located.

Recovery: *arg*.

## 40548, File Access Error

**Description**
Task: *arg*.
Could not copy the file *arg*.
Program ref: *arg*.

**Recommended actions**
- Check the path.
- Check write permission for the directory that you want to copy the file to.
- Check the available space.

Recovery: *arg*.

## 40549, System Access Error

**Description**
Task: *arg*.
Unknown mechanical unit *arg*. The data of type mecunit is unknown for the system.

*Continues on next page*


© Copyright 2005-2020 ABB. All rights reserved.

Program ref: *arg*.

**Probable causes**

Data of type mecunit has been declared in the program.

**Recommended actions**

Remove the declaration of mecunit data in the program and use one of the predefined data of type mecunit (automatic defined by the system).

### 40555, I/O Error

**Description**

Task: *arg*.

Unable to read I/O signal.

Program ref: *arg*.

### 40556, I/O Error

**Description**

Task: *arg*.

Unable to write I/O signal.

Program ref: *arg*.

### 40557, I/O Error

**Description**

Task: *arg*.

Configuration error for I/O signal.

Program ref: *arg*.

**Recommended actions**

Check the I/O signal configuration or alias definition.

### 40558, I/O Error

**Description**

Task: *arg*.

Unable to read the I/O signal *arg* in I/O device *arg*.

Program ref: *arg*.

### 40559, I/O Error

**Description**

Task: *arg*.

Unable to write to the I/O signal *arg* in I/O device *arg*.

Program ref: *arg*.

### 40560, System Access Error

**Description**

Task: *arg*.

Can't save program module *arg*.

Program ref: *arg*.

### 40561, System Access Error

**Description**

Task: *arg*.

*arg* is not a module name.

Program ref: *arg*.

**Consequences**

You cannot unload, save or erase this module.

**Recommended actions**

Check the name of the module.

### 40562, Parameter Error

**Description**

Task: *arg*.

Unknown axis number for the mechanical unit *arg*.

Program ref: *arg*.

**Recommended actions**

Check the value for argument AxisNo.

Recovery: *arg*.

### 40563, System Access Error

**Description**

Task: *arg*.

Mechanical unit *arg* is not active.

Program ref: *arg*.

**Recommended actions**

Activate the mechanical unit.

Recovery: *arg*.

### 40564, Argument Error

**Description**

Task: *arg*.

Orientation definition error. GripLoads attach frame in tool or work object (user + object) is unnormalized.

Program ref: *arg*.

**Recommended actions**

Check the orientation. All used orientations must be normalized i.e. the sum of the quaternion elements squares must equal 1.

### 40565, Parameter Error

**Description**

Task: *arg*.

Both arguments must be > 0.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

Program ref: *arg*.

**Recommended actions**

Check the value of the arguments.

## 40566, Parameter Error

**Description**

Task: *arg*.

All arguments must be > *arg* and <= *arg*.

Program ref: *arg*.

**Recommended actions**

Check the value of the arguments.

## 40567, Parameter Error

**Description**

Task: *arg*.

Quaternion error.

Program ref: *arg*.

**Recommended actions**

Check the aom component of loaddata.

## 40568, Parameter Error

**Description**

Task: *arg*.

Axis may not have a value less than 0.

Program ref: *arg*.

**Recommended actions**

Change to a positive value.

## 40569, Argument Error

**Description**

Task: *arg*.

The argument AccMax must be set if the argument AccLim is set to TRUE.

Program ref: *arg*.

**Recommended actions**

Set a value to argument AccMax.

## 40570, Argument Error

**Description**

Task: *arg*.

The argument DecelMax must be set if argument DecelLim is set to TRUE.

Program ref: *arg*.

**Recommended actions**

Set a value to argument DecelMax.

## 40571, Argument Error

**Description**

Task: *arg*.

The value of parameter AccMax is too low.

Program ref: *arg*.

**Recommended actions**

Increase the value of parameter AccMax.

Recovery: *arg*.

## 40572, Argument Error

**Description**

Task: *arg*.

The value of parameter DecelMax is too low.

Program ref: *arg*.

**Recommended actions**

Increase the value of parameter DecelMax.

Recovery: *arg*.

## 40573, Argument Error

**Description**

Task: *arg*.

The value of argument On is too low.

Program ref: *arg*.

**Recommended actions**

Increase the value of argument On.

Recovery: *arg*.

## 40574, Search Warning

**Description**

Task: *arg*.

Number of hits during search was *arg*. Before performing next search, make sure that TCP is moved back to the start position of the search path.

Program ref: *arg*.

**Consequences**

If no repositioning is done, before restart of circular search, movement that can cause damage might occur.

**Recommended actions**

Recovery: *arg*.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 40576, ParId Error

**Description**

Task: *arg*.

The array size of argument AxValid is not equal to number of axes.

Program ref: *arg*.

**Recommended actions**

Check the size of the array.

### 40577, ParId Error

**Description**

Task: *arg*.

Function ParIdRobValid needs to be executed before function ParIdPosValid.

Program ref: *arg*.

**Probable causes**

Function ParIdRobValid needs to be executed before function ParIdPosValid.

**Recommended actions**

Check that function ParIdRobValid has been executed before ParIdPosValid.

### 40578, ParId Error

**Description**

Task: *arg*.

The optional argument PayLoad is missing. For PayLoad identification the argument must be given.

Program ref: *arg*.

**Recommended actions**

Give a value to the argument PayLoad.

### 40579, ParId Error

**Description**

Task: *arg*.

The optional argument PayLoad may only be used for PayLoad identification.

Program ref: *arg*.

**Recommended actions**

Remove the argument PayLoad.

### 40580, ParId Error

**Description**

Task: *arg*.

Faulty state for LoadIdInit.

Program ref: *arg*.

**Recommended actions**

Check the whole ParId sequence.

### 40581, ParId Error

**Description**

Task: *arg*.

Faulty state for ParIdMoveSeq.

Program ref: *arg*.

**Recommended actions**

Check the whole ParId sequence.

### 40582, ParId Error

**Description**

Task: *arg*.

Faulty state for LoadIdInit.

Program ref: *arg*.

**Recommended actions**

Check the whole ParId sequence.

### 40583, ParId Error

**Description**

Task: *arg*.

Backward execution not allowed.

Program ref: *arg*.

### 40584, ParId Error

**Description**

Task: *arg*.

ParIdMoveSeq / Parameter NextMove: Faulty array size.

Program ref: *arg*.

**Recommended actions**

Check the size of the array.

### 40585, ParId Error

**Description**

Task: *arg*.

Missed argument WObj in LoadId for PayLoad with roomfix TCP.

Program ref: *arg*.

**Recommended actions**

Add argument WObj.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 40586, ParId Error

**Description**

Task: *arg*.

Not allowed argument WObj. The argument is only to be used for PayLoad with roomfix TCP.

Program ref: *arg*.

**Recommended actions**

Remove argument WObj.

### 40587, ParId error

**Description**

Task: *arg*.

ParIdMoveSeq / Parameter MoveData: Faulty array size.

Program ref: *arg*.

**Recommended actions**

Check the size of the array.

### 40588, ParId Error

**Description**

Task: *arg*.

ParIdMove / Parameter StartIndex: Faulty StartIndex.

Program ref: *arg*.

**Recommended actions**

Check the StartIndex.

### 40589, ParId Error

**Description**

Task: *arg*.

ParIdMove / Parameter StartIndex: Point at negative move type.

Program ref: *arg*.

### 40590, ParId error

**Description**

*arg*

*arg*.

**Recommended actions**

*arg*.

### 40591, Argument Error

**Description**

Task: *arg*.

Unknown type of parameter identification.

Program ref: *arg*.

**Recommended actions**

Check the argument ParIdType.

### 40592, Program Stop During Load Identification

**Description**

Task: *arg*.

No type of program stop is allowed during load identification.

Program ref: *arg*.

**Recommended actions**

Start the identification procedure from the beginning again.

Recovery: *arg*.

### 40593, Power Fail During Load Identification

**Description**

Task: *arg*.

A Power Fail during load identification results in faulty load result.

Program ref: *arg*.

**Recommended actions**

Restart the program execution again with the same run mode (without PP move) for load identification from the beginning.

Recovery: *arg*.

### 40594, User Error During Load Identification

**Description**

Task: *arg*.

Error resulting in raise of PP to the beginning of the load identification procedure.

Program ref: *arg*.

**Recommended actions**

Start the identification procedure from the beginning again.

Recovery: *arg*.

### 40595, Argument Error

**Description**

Task: *arg*.

Unknown type of load identification.

Program ref: *arg*.

**Recommended actions**

Check the argument LoadIdType.

### 40596, Program Stop During Load Identification

**Description**

Task: *arg*.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

Any type of program stop during load identification is not allowed.
Program ref: *arg*.

**Recommended actions**
Restart the program execution again for load identification from beginning.

## 40597, Speed Override

**Description**
Task: *arg*.
Speed override is not 100 percent.
Program ref: *arg*.

**Recommended actions**
- Change the speed override to 100.
- Restart the program execution again for load identification from beginning.

## 40598, Program Stop during Load Identification

**Description**
No type of Program Stop is allowed during the Load Identification movements.

**Consequences**
It is not possible to complete the Load Identification sequence. Note that some axes for the actual mechanical unit are now in independent mode.

**Probable causes**
Interrupt of the Load Identification sequence with Program Stop or release of the Enable Device.

**Recommended actions**
1 Restart the program. It will then be possible to return to the Load Identification start position. Then the movement sequence can be started again.
2 Also possible to cancel the Service Routine to completely skip the Load Identification.

## 40599, Program Stop during Load Identification

**Description**
No type of Program Stop is allowed during the Load Identification movements.

**Consequences**
It is not possible to complete the Load Identification sequence. Note that some axes for the actual mechanical unit are now in independent mode.

**Probable causes**
A program stop caused errors in the measurements, and this was detected when restarting the Load Identification movements.

**Recommended actions**
1 Restart the program. It will then be possible to return to the Load Identification start position. Then the movement sequence can be started again.
2 Also possible to cancel the Service Routine to completely skip the Load Identification.

## 40603, Argument Error

**Description**
Argument *arg* may not have a negative value.

**Recommended actions**
Set argument *arg* to a positive value.

## 40607, Execution Error

**Description**
Task: *arg*.
Not allowed to change run mode from forward to backward or vice versa when running a circular movement.
Program ref: *arg*.

**Recommended actions**
If possible, select the original run mode and press start to continue the stopped circular movement. If this is not possible, move robot and program pointer for a new start.

## 40609, Argument Error

**Description**
Task: *arg*.
Argument \WObj specifies a mechanical unit with too long name.
Program ref: *arg*.

**Recommended actions**
Use max. 16 characters to specify the name of a mechanical coordinated unit.

## 40611, Execution Error

**Description**
Task: *arg*.
Not allowed to step backwards with this move instruction.
Program ref: *arg*.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

**Consequences**
Step backwards to a position defined with another tool or work object could result in faulty path.

**Recommended actions**
Check tool and work object.

## 40612, Argument Error

**Description**
Task: *arg*.
No argument programmed for the name of the output signal.
Program ref: *arg*.

**Recommended actions**
Possible to set one position fix I/O such as digital, group of digital or analog output signals during the robot movement.

## 40613, Argument Error

**Description**
Task: *arg*.
Optional argument *arg* can only be combined with output signal argument *arg*.
Program ref: *arg*.

**Recommended actions**
Check and change the arguments.

## 40614, Argument Error

**Description**
Task: *arg*.
Argument *arg* is not 0 or 1.
Program ref: *arg*.

**Recommended actions**
Digital signals can only be set or checked to 0 or 1.

## 40615, Argument Error

**Description**
Task: *arg*.
Argument *arg* is not an integer value.
Program ref: *arg*.

**Recommended actions**
Digital group of in/out signals, process identity or process selector can only have an integer value.

## 40616, Argument Error

**Description**
Task: *arg*.
Argument *arg* is outside allowed limits.
Program ref: *arg*.

**Recommended actions**
Used group of digital in/out signals can only be set or checked within 0 to *arg* according to configuration in system parameters.
Recovery: *arg*.

## 40617, Argument Error

**Description**
Task *arg*: One of the arguments SetValue, SetDvalue, CheckValue or CheckDvalue is outside allowed limits.
Program ref: *arg*.

**Probable causes**
The analog signal can only be set/checked within *arg* and *arg* according to the I/O system parameter configuration.

**Recommended actions**
Check the RAPID program or the I/O configuration.
Recovery: *arg*.

## 40620, Argument Error

**Description**
Task: *arg*.
Argument *arg* have too large negative value.
Program ref: *arg*.

**Recommended actions**
Set argument *arg* to *arg* or more.

## 40622, Argument Error

**Description**
Task: *arg*.
The value of argument Time is too low for cyclic interrupts.
Program ref: *arg*.

**Recommended actions**
Change the value for Time, to a value greater than or equal to 0.1 s.

## 40623, Argument Error

**Description**
Task: *arg*.
The value of argument Time is too low for single interrupts.
Program ref: *arg*.

**Recommended actions**
Change the value for Time to a value greater than or equal to 0.01 s.

*Continues on next page*


© Copyright 2005-2020 ABB. All rights reserved.

## 40624, Argument Error

**Description**

Task: *arg*.

Argument *arg* is not between 0 and 2.

Program ref: *arg*.

**Recommended actions**

Specify the flank to generate the interrupt.

0 = Negative flank (high -> low).

1 = Positive flank (low -> high).

2 = Both negative and positive flank.

## 40625, Limit Error

**Description**

Task: *arg*.

The robot is outside its limits.

Program ref: *arg*.

**Probable causes**

- Axis outside working area.
- Limits exceeded for at least one coupled joint.

**Recommended actions**

Recovery: *arg*.

## 40631, Instruction Error

**Description**

Task: *arg*.

Too many move instructions in sequence with concurrent RAPID program execution.

Program ref: *arg*.

**Recommended actions**

Edit the program to max. 5 MoveX \Conc in sequence on the basic execution level of the program.

Recovery: *arg*.

## 40632, Instruction Error

**Description**

Task: *arg*.

No move instructions with concurrent RAPID program execution are allowed within the StorePath-RestoPath part of the program.

Program ref: *arg*.

**Recommended actions**

Edit the program so it does not contain any MoveX \Conc instructions within the StorePath-RestoPath part of the program.

## 40634, Reference Error

**Description**

Task: *arg*.

The signal *arg* is unknown in the system.

Program ref: *arg*.

**Probable causes**

If the signal is defined in the RAPID program, it must be connected to the configured signal with instruction AliasIO.

**Recommended actions**

All signals (except AliasIO signals) must be defined in the system parameters and cannot be defined in the RAPID program.

Recovery: *arg*.

## 40636, Sensor Error

**Description**

Task: *arg*.

No measurement from sensor.

Program ref: *arg*.

**Recommended actions**

Requested data is not available.

Recovery: *arg*.

## 40637, Sensor Error

**Description**

Task: *arg*.

Not ready yet.

Program ref: *arg*.

**Recommended actions**

Requested function is not ready yet.

Recovery: *arg*.

## 40638, Sensor Error

**Description**

Task: *arg*.

General error.

Program ref: *arg*.

**Recommended actions**

General error has occurred which is not specifically connected to the requested action. Read the block "Error log" if the function is available.

Recovery: *arg*.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 40639, Sensor Error

**Description**

Task: *arg*.

Sensor busy, try later.

Program ref: *arg*.

**Recommended actions**

The sensor is busy with another function.

Recovery: *arg*.

### 40640, Sensor Error

**Description**

Task: *arg*.

Unknown command.

Program ref: *arg*.

**Recommended actions**

The function requested from the sensor is unknown.

Recovery: *arg*.

### 40641, Sensor Error

**Description**

Task: *arg*.

Illegal variable or block number.

Program ref: *arg*.

**Recommended actions**

Requested variable or block is not defined in the sensor.

Recovery: *arg*.

### 40642, Sensor Error

**Description**

Task: *arg*.

External alarm.

Program ref: *arg*.

**Recommended actions**

Alarm from external equipment.

Recovery: *arg*.

### 40643, Sensor Error

**Description**

Task: *arg*.

Camera alarm.

Program ref: *arg*.

**Recommended actions**

Some error has been detected in the camera. Run Camcheck to test if the camera is OK.

Recovery: *arg*.

### 40644, Sensor Error

**Description**

Task: *arg*.

Temperature alarm.

Program ref: *arg*.

**Recommended actions**

The camera is overheated it needs more cooling air or water.

Recovery: *arg*.

### 40645, Sensor Error

**Description**

Task: *arg*.

Value out of range.

Program ref: *arg*.

**Recommended actions**

The value of the data sent to the sensor is out of range.

Recovery: *arg*.

### 40646, Sensor Error

**Description**

Task: *arg*.

Camera check failed.

Program ref: *arg*.

**Recommended actions**

The CAMCHECK function failed. The camera is broken. Send it for repair.

Recovery: *arg*.

### 40647, Sensor Error

**Description**

Task: *arg*.

Communication time out.

Program ref: *arg*.

**Recommended actions**

Increase the time out time and check the connections to the sensor.

Recovery: *arg*.

### 40648, Search Error

**Description**

Task: *arg*.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

Not allowed to do StorePath while searching is active on motion base path level.
Program ref: *arg*.

**Consequences**
Program is stopped.

**Probable causes**
Executing of instruction StorePath while searching is active.

**Recommended actions**
Not possible to use StorePath in TRAP, event or service routine while searching is active on motion base path level. If using interrupts in the program for execution of TRAPs, such interrupt must be deactivated during any search. E.g. ISleep - SearchL - IWatch.

## 40649, Path Limitation

**Description**
Task: *arg*.
*arg* is already done or executing. Instruction *arg* must first be executed, before a new *arg* can be done.
Program ref: *arg*.

**Recommended actions**
Check the RAPID program.

## 40650, Wrong Combination Of Parameters

**Description**
Task: *arg*.
Optional parameters and switches are not used in a correct combination.
Program ref: *arg*.

**Recommended actions**
- No optional parameters and no switch keep the old coordinate system.
- The switch Old has the same function.
- RefPos or RefNum has to be defined with Short, Fwd or Bwd.

## 40651, Use Numeric Input

**Description**
Task: *arg*.
Use numeric input for the position instead of a robtarget.
Program ref: *arg*.

**Recommended actions**
The position cannot be defined with a robtarget for robot axes. Use the optional parameter for numeric input of the position.

## 40652, Axis Is Moving

**Description**
Task: *arg*.
A Robot axis, an external axis or an independent axis is moving.
Program ref: *arg*.

**Recommended actions**
All Robot axes, external axes and independent axes have to stand still. Use MoveL with Fine argument for the Robot and external axes. Use IndRMove for the independent axes.
Recovery: *arg*.

## 40654, Axis Not Active

**Description**
Task: *arg*.
The axis destination position to move to is undefined (9E9) or the axis to move is not active at present.
Program ref: *arg*.

**Probable causes**
1 The position to move to has been programmed with no active mechanical unit.
2 The position to move to has been modified with the mechanical unit deactivated.
3 The mechanical unit is not active at present.

**Recommended actions**
The mechanical unit has to be activated before modifying or moving to the destination position.
Recovery: *arg*.

## 40655, Axis Is Not Independent

**Description**
Task: *arg*.
The axis is not in independent mode.
Program ref: *arg*.

**Consequences**
It is only possible to get the status from an axis in independent mode.

**Recommended actions**
Set the axis to independent.
Recovery: *arg*.

## 40658, Parameter Error

**Description**
Task: *arg*.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

Parameter *arg* can only be used, if parameter *arg* is greater than zero.
Program ref: *arg*.

**Recommended actions**
Parameter *arg* has effect only in the first TriggX instruction, in a sequence of several TriggX instructions, that controls the speed proportional AO signal.

## 40661, Search Error

**Description**
Task: *arg*.
The signal *arg* for the SearchX instruction is already set to the specified value (high or low) at the start of searching, or the I/O-device for the signal isn't up and running for the occasion.
Before performing next search, make sure that TCP is moved back to the start position of the search path.
Program ref: *arg*.

**Consequences**
If no repositioning is done, before restart of circular search, movement that can cause damage might occur.

**Recommended actions**
Recovery: *arg*.

## 40662, Invalid Worldzone Type

**Description**
Task: *arg*.
The switch *arg* must be associated with a *arg* worldzone.
Program ref: *arg*.

**Recommended actions**
If use of switch \Temp, the datatype must be wztemporary in WorldZone. If use of switch \Stat, the datatype must be wzstationary in WorldZone.

## 40663, World Zone Not In Use

**Description**
Task: *arg*.
The argument *arg* of the instruction *arg* refers to a not used worldzone.
Program ref: *arg*.

**Recommended actions**
The worldzone must have been defined and activated by a WZLimSup or WZDOSet instruction.

## 40664, World Zone Already In Use

**Description**
Task: *arg*.
The '*arg*' worldzone has already been defined and activated. A world zone can only be defined once.
Program ref: *arg*.

**Recommended actions**
Use a worldzone with another name.

## 40665, Too Many World Zones

**Description**
Task: *arg*.
It is not possible to add the world zone *arg*. The world zone table is full.
Program ref: *arg*.

**Recommended actions**
Check the RAPID program to see if any word zone might be removed.

## 40666, Illegal World Zones

**Description**
Task: *arg*.
Worldzone '*arg*' is defined locally in current routine.
Program ref: *arg*.

**Recommended actions**
Define the world zone as global or local in module.

## 40667, Illegal World Zones

**Description**
Task: *arg*.
WorldZone *arg* is not entire data reference.
Program ref: *arg*.

**Recommended actions**
Check the value of argument WorldZone.

## 40668, Shapedata Not In Use

**Description**
Task: *arg*.
The '*arg*' argument of the instruction *arg* must refer to a defined shapedata.
Program ref: *arg*.

*Continues on next page*


© Copyright 2005-2020 ABB. All rights reserved.

**Recommended actions**

A shapedata is used to store a volume definition. It must have been defined by WZBoxDef, WZSphDef or WZCylDef before it can be used by WZLimSup or WZDOSet.

### 40669, World Zone Too Small

**Description**

Task: *arg*.

At least one side or radius is less than the minimal allowed in instruction *arg*.

Program ref: *arg*.

**Recommended actions**

Check previous volume definition instruction.

### 40670, Invalid World Zone

**Description**

Task: *arg*.

The index of the world zone argument *arg* in *arg* is not a valid index defined by WZLimSup or WZDOSet.

Program ref: *arg*.

**Recommended actions**

Check the RAPID program.

### 40671, Illegal Use Of World Zone

**Description**

Task: *arg*.

The argument '*arg*' for *arg* must be a temporary world zone.

Program ref: *arg*.

**Recommended actions**

Check the argument.

### 40672, World Zone Already In Use

**Description**

Task: *arg*.

It is not possible to add the world zone *arg*. Another world zone with the same name is already defined in the system.

Program ref: *arg*.

**Recommended actions**

Check the name of the world zone.

### 40673, I/O Access Error

**Description**

Task: *arg*.

The signal given in parameter *arg* is write protected for RAPID access.

Program ref: *arg*.

**Recommended actions**

Select other user signal or change the access mode for the signal.

### 40674, I/O Access Error

**Description**

Task: *arg*.

The I/O signal *arg* is not write protected for user access from FlexPendant or RAPID.

Program ref: *arg*.

**Recommended actions**

Change the access mode to type ReadOnly for the signal in the I/O configuration.

### 40675, Execution Error

**Description**

Not allowed changing the run mode from forward to backward or vice versa when running an invisible trap routine.

**Recommended actions**

If possible, select the original run mode and press start to continue.

### 40676, Parameter Error

**Description**

Task: *arg*.

The DeltaJointVal for robot axis *arg* is <= 0.

Program ref: *arg*.

**Recommended actions**

Check the value for DeltaJointVal. The DeltaJointVal for all axes to supervise must be > 0 mm or degrees.

### 40677, Parameter Error

**Description**

Task: *arg*.

The DeltaJointVal for external axis *arg* is <= 0.

Program ref: *arg*.

**Recommended actions**

Check the value for DeltaJointVal. The DeltaJointVal for all axes to supervise must be > 0 mm or degrees.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

## 40678, Parameter Error

**Description**

Task: *arg*.
LowJointVal is higher than or equal to HighJointVal for robot axis *arg*.
Program ref: *arg*.

**Recommended actions**

Check the values for HighJointVal and LowJointVal. The HighJointVal must be higher than the LowJointVal for all axes with defined high or/and low limits.

## 40679, Parameter Error

**Description**

Task: *arg*.
LowJointVal is higher than or equal to HighJointVal for external axis *arg*.
Program ref: *arg*.

**Recommended actions**

Check the values for HighJointVal and LowJointVal. The HighJointVal must be higher than the LowJointVal for all axes with defined high or/and low limits.

## 40680, Parameter Error

**Description**

Task: *arg*.
Error in used WZHomeJointDef. It is not allowed to specify supervision of not active axis *arg*.
Program ref: *arg*.

**Recommended actions**

Set the argument MiddleJointVal to 9E9 for the actual axis.

## 40681, Parameter Error

**Description**

Task: *arg*.
Error in used WZLimJointDef. It is not allowed to specify limitation of not active axis *arg*.
Program ref: *arg*.

**Recommended actions**

Set the argument LowJointVal and HighJointVal to 9E9 for the actual axis.

## 40698, Read error

**Description**

Task *arg* is trying to read file *arg*, but is failing.

**Consequences**

It was not possible to read/load *arg*.

**Probable causes**

If trying to access file on FTP mounted disc, make sure that the size of *arg* isn't larger than the maximum file size configured in the FTP protocol settings.

## 40699, Program Memory Full

**Description**

The task *arg*, has only *arg* bytes in its program memory.

**Consequences**

It was not possible to load module *arg*.

**Recommended actions**

1 Remove some other module and try again.
2 Check if large data structures could be split into smaller blocks.
3 Use of installed modules can save program memory.

## 40700, Syntax Error

**Description**

Task: *arg*.
Syntax error. *arg*.

## 40701, Program Memory Full

**Description**

The task *arg* , has only *arg* free bytes in its user space.

**Consequences**

The ordered operation could not be completed.

**Recommended actions**

1 Remove some modules and try again.
2 Check if large data structures could be split into smaller blocks.
3 Use of installed modules can save program memory.

## 40702, File Not Found

**Description**

Task: *arg*.
The file *arg* was not found.
Program ref: *arg*.

**Recommended actions**

- Check the file path and the file name.
- Check if the file exists.

Recovery: *arg*.

*Continues on next page*


© Copyright 2005-2020 ABB. All rights reserved.

### 40703, Unload Error

**Description**

Task: *arg*.

The program module could not be unloaded. The reason is that the module is changed but not saved.

Program ref: *arg*.

**Recommended actions**

The instruction UnLoad: Use the optional switch ErrIfChanged, without recover from this situation, in an Error handler.

Recovery: *arg*.

### 40704, UnLoad Error

**Description**

Task: *arg*.

*arg*. The program module couldn't be unloaded.

Program ref: *arg*.

**Probable causes**

- Module not loaded with Load instr.
- Not same file path as used for Load.

**Recommended actions**

- Check if the program module has been loaded with the instruction Load.
- Check if the file path and name are the same in the UnLoad and Load instruction.

Recovery: *arg*.

### 40705, Syntax Error

**Description**

Task: *arg*.

Syntax error *arg*.

**Recommended actions**

More syntax errors will follow this.

### 40706, Load Error

**Description**

Task: *arg*.

The program module is already loaded.

Program ref: *arg*.

**Probable causes**

The module name in the head of the file *arg* already exists in the program memory.

**Recommended actions**

Recovery: *arg*.

### 40707, I/O Device Name Invalid

**Description**

Task: *arg*.

The I/O device name *arg* does not exist.

Program ref: *arg*.

**Recommended actions**

- Check if the I/O device name is misspelled.
- Check if the I/O device is defined.

Recovery: *arg*.

### 40708, I/O Device Is Not Enabled

**Description**

Task: *arg*.

I/O device *arg* was not enabled.

Program ref: *arg*.

**Probable causes**

The maximum period of waiting time was too short.

**Recommended actions**

Increase the waiting time or make a retry.

Recovery: *arg*.

### 40709, I/O Device Is Not Deactivated

**Description**

Task: *arg*.

I/O device *arg* was not deactivated.

Program ref: *arg*.

**Probable causes**

The maximum period of waiting time was too short.

**Recommended actions**

Increase the waiting time or make a retry.

Recovery: *arg*.

### 40710, Argument Error

**Description**

Task: *arg*.

The argument *arg* is an expression value, is not present or is of the type switch.

Program ref: *arg*.

**Recommended actions**

Change the parameter *arg* to a valid one.

Recovery: *arg*.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

## 40711, Alias Type Error

**Description**

Task: *arg*.
The data types for the arguments FromSignal and ToSignal must be the same and must be of signalxx type.
Program ref: *arg*.

**Recommended actions**

Change the type to a valid one (signalai/ao, signaldi/do, signalgi/go).
Recovery: *arg*.

## 40712, Event Routine Error

**Description**

Task: *arg*.
Too many event routines, the routine *arg* will not be executed.

**Recommended actions**

Encapsulate the routine in one of the others that are specified for the same event.

## 40713, Alias Define Error

**Description**

Task: *arg*.
The signal in argument FromSignal: *arg*, must be defined in the I/O configuration and the signal in argument ToSignal: *arg*, must be declared in the RAPID program and not defined in the I/O configuration.
Program ref: *arg*.

**Recommended actions**

Check the I/O configuration and the RAPID program.
Recovery: *arg*.

## 40714, Argument Error

**Description**

Task: *arg*.
Orientation definition error in *arg*.
Program ref: *arg*.

**Recommended actions**

This is probably an off-line generated "dummy" position (undefined orientation), which needs to be modified with modpos.

## 40720, Alias I/O Installation

**Description**

The system could not refresh all I/O signals as RAPID symbols.

**Consequences**

No I/O signals can be used in a RAPID program.

**Probable causes**

- Incorrect I/O configuration.
- Incorrect task configuration.

**Recommended actions**

Restart the controller.

## 40721, I/O Installation

**Description**

Task *arg*: The system could not refresh all I/O signals as RAPID symbols.

**Consequences**

No I/O signals can be used in a RAPID program.

**Probable causes**

- Incorrect I/O configuration.
- Incorrect task configuration.

**Recommended actions**

Restart the controller.

## 40722, Mechanical Units

**Description**

The system could not refresh all mechanical units as RAPID symbols.

**Consequences**

No mechanical units can be used in a RAPID program.

**Probable causes**

- Incorrect Motion configuration.
- Incorrect task configuration.

**Recommended actions**

Restart the controller.

## 40723, Camera Installation

**Description**

Task *arg*: The system could not refresh all camera units as RAPID symbols.

**Consequences**

No camera units can be used in a RAPID program.

**Probable causes**

- Incorrect camera configuration.
- Incorrect task configuration.

**Recommended actions**

Restart the controller.

*Continues on next page*


© Copyright 2005-2020 ABB. All rights reserved.

### 40724, Save or Erase Error

**Description**

Task: *arg*.

The program module *arg* could not be saved or could not be erased.

Program ref: *arg*.

**Recommended actions**

- Check the spelling of the module name.
- Check if the module is loaded.

Recovery: *arg*.

### 40726, Reference Error

**Description**

Task: *arg*.

The reference to the load session is not valid.

Program ref: *arg*.

**Recommended actions**

Check if the specified reference is the same as in StartLoad.

Recovery: *arg*.

### 40727, Save Error

**Description**

Task: *arg*.

Missing file source *arg*.

Program ref: *arg*.

**Recommended actions**

Use FilePath argument to specify the file destination.

Recovery: *arg*.

### 40728, Frame Error

**Description**

Task: *arg*.

Unable to calculate new frame.

Program ref: *arg*.

**Probable causes**

The positions have not the required relations or are not specified with enough accuracy.

**Recommended actions**

Check if the positions are too close or not specified with enough accuracy.

Recovery: *arg*.

### 40731, Value Error

**Description**

Task: *arg*.

The value of the argument *arg* for signal *arg* is above its maximum logical value.

Program ref: *arg*.

**Recommended actions**

Change the argument or change the maximum logical value parameter for the signal.

Recovery: *arg*.

### 40732, Value Error

**Description**

Task: *arg*.

The value of the argument *arg* for signal *arg* is below its minimum logical value.

Program ref: *arg*.

**Recommended actions**

Change the argument or change the min logical value parameter for the signal.

Recovery: *arg*.

### 40733, Value Error

**Description**

Task: *arg*.

The value of the argument *arg* for signal *arg* is below the value for argument *arg*.

Program ref: *arg*.

**Recommended actions**

Change the values of the arguments.

### 40734, Symbol Definition Error

**Description**

Task: *arg*.

The string in text table *arg* at index *arg* is too long.

Program ref: *arg*.

**Recommended actions**

Change the file for the text table and perform a system reset.

### 40735, Argument Error

**Description**

The axis is not defined.

**Recommended actions**

The axis has to be defined, before this instruction is executed.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

## 40736, Mechanical Unit Error

**Description**

Task: *arg*.

It is not possible to define a payload on the robot with this instruction.

Program ref: *arg*.

**Recommended actions**

Use the instruction GripLoad instead of MechUnitLoad.

## 40737, Symbol Definition Error

**Description**

Task: *arg*.

The requested text or text package does not exist. Text table *arg*, Index *arg*.

Program ref: *arg*.

**Recommended actions**

Check the arguments.

Recovery: *arg*.

## 40738, I/O Error

**Description**

Unable to access the I/O signal *arg* on I/O device *arg*.

Impossible to restart.

**Probable causes**

The connection with the I/O module is broken.

**Recommended actions**

Re-establish the connection with the I/O device. To make it possible to restart the program move PP to a safe restart position.

## 40739, Parameter Error

**Description**

Task: *arg*.

None of the option arguments DO1, GO1, GO2, GO3 or GO4 are specified.

Program ref: *arg*.

**Recommended actions**

Specify at least one of the arguments.

## 40740, Execution Error

**Description**

The PERS variable specified in the instruction TriggStopProc cannot be updated, because it does not exist anymore.

**Probable causes**

The program module with the PERS variable is probably removed from the program memory.

**Recommended actions**

Check if the module with the PERS variable is removed, if so put it back.

## 40741, Context Error

**Description**

Task: *arg*.

Instruction *arg* may only be used in an event routine.

Program ref: *arg*.

**Recommended actions**

Remove the instruction.

## 40742, Parameter Error

**Description**

Task: *arg*.

The timing parameter DipLag is larger than the system parameter Event preset time.

Program ref: *arg*.

**Recommended actions**

Increase the system parameter Event preset time or check the equipment dip lag (delay) compensation.

Recovery: *arg*.

## 40743, Parameter Error

**Description**

Task: *arg*.

Not a valid subtype in argument *arg*.

Program ref: *arg*.

**Recommended actions**

Check the argument.

## 40744, Parameter Error

**Description**

Task: *arg*.

Invalid value in *arg* in argument *arg*.

Program ref: *arg*.

**Recommended actions**

Check the argument.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 40745, Parameter Error

**Description**

Task: *arg*.

*arg* is less than *arg* in argument *arg*.

Program ref: *arg*.

**Recommended actions**

Check the argument.

### 40746, Parameter Error

**Description**

Task: *arg*.

*arg* TRUE in parameter *arg* in combination with conveyor coordination.

Program ref: *arg*.

**Recommended actions**

Cannot use fine points when leaving conveyors after coordinated stop point. Use a zone instead.

### 40747, Access Error

**Description**

Task: *arg*.

Cannot read or write to the system parameter *arg*. The parameter is internal and protected from reading and writing.

Program ref: *arg*.

**Recommended actions**

Recovery: *arg*.

### 40748, Value Error

**Description**

Task: *arg*.

The data to write from parameter CfgData to the system parameter, is outside valid limits.

Program ref: *arg*.

**Recommended actions**

Recovery: *arg*.

### 40749, Execution Error

**Description**

Task: *arg*.

It is not possible to execute StartMove when the robot is moving.

Program ref: *arg*.

**Recommended actions**

Recovery: *arg*.

### 40752, Argument Error

**Description**

Task: *arg*.

Some load session with StartLoad - WaitLoad has not been finished.

Program ref: *arg*.

**Recommended actions**

Finish the load session with WaitLoad, cancel it with CancelLoad or set PP to main.

Recovery: *arg*.

### 40753, Memory Fault

**Description**

Task: *arg*.

Because of power fail in executed Load or StartLoad ... WaitLoad instruction, the RAPID program memory is inconsistent. *** TO REPAIR DO ADVANCED RESTART "Reset RAPID" ***.

Program ref: *arg*.

**Recommended actions**

Important to do Reset RAPID, because the RAPID program memory is destroyed:

- Faulty init value of PERS variables.
- Reduction of the available program memory size.

### 40754, Argument Error

**Description**

Task: *arg*.

There are no arguments given.

Program ref: *arg*.

**Recommended actions**

If you want a limitation set the optional argument On with a value, otherwise set to Off.

### 40755, Context Error

**Description**

Task: *arg*.

Instruction *arg* may only be used in a trap routine.

Program ref: *arg*.

**Recommended actions**

Remove the instruction.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 40756, Context Error

**Description**

Task: *arg*.
Instruction *arg* may only be used in a trap routine ordered through instruction *arg*.
Program ref: *arg*.

**Recommended actions**

Check that INTNO has the interrupt number used by *arg*.

### 40757, Argument Error

**Description**

Task: *arg*.
The load session you are trying to cancel is not in use.
Program ref: *arg*.

**Recommended actions**

Recovery: *arg*.

### 40758, I/O Error

**Description**

Unable to access the I/O signal *arg* I/O device *arg*.

**Probable causes**

The connection with the I/O module is broken.

**Recommended actions**

Re-establish the connection with the I/O device.

### 40759, Parameter Error

**Description**

Task: *arg*.
The argument Data in *arg* has improper data type.
Program ref: *arg*.

**Recommended actions**

Check the data type. Non-value and semi-value types may not be used.

### 40761, Parameter Error

**Description**

Task: *arg*.
The argument *arg* has a negative value.
Program ref: *arg*.

**Recommended actions**

Set the value positive or to zero.

### 40762, Value Error

**Description**

Task: *arg*. The value of argument *arg* forces the robot out of workspace.
Program ref: *arg*.

**Recommended actions**

Decrease the value.

### 40763, Execution Error

**Description**

Task: *arg*. The instruction *arg* cannot be executed while the system is in a stop state.
Program ref: *arg*.

### 40764, Switch Argument Error

**Description**

Task: *arg*. The instruction *arg* must be used with one switch argument.
Program ref: *arg*.

**Recommended actions**

Use one of the switch Total or Free.

### 40765, Argument Error

**Description**

Task: *arg*.
In the instruction *arg* the argument *arg* is not an open directory.
Program ref: *arg*.

**Recommended actions**

Open the directory before trying to read it.
Recovery: *arg*.

### 40766, Parameter Error

**Description**

Task: *arg*.
In the instruction *arg* the argument *arg* can't be used without the argument *arg*.
Program ref: *arg*.

**Recommended actions**

Check the RAPID program.

### 40767, Search Error

**Description**

Task: *arg*.

*Continues on next page*


© Copyright 2005-2020 ABB. All rights reserved.

Object of the type *arg* could not be searched for.
Program ref: *arg*.

**Recommended actions**
Check the RAPID program.

### 40768, Symbol Access Error

**Description**
Task: *arg*.
No system symbol *arg* is accessible in the system.
Program ref: *arg*.

**Recommended actions**
Recovery: *arg*.

### 40769, Symbol Read Access Error

**Description**
Task: *arg*.
The symbol *arg* is not a readable object.
Program ref: *arg*.

**Recommended actions**
Recovery: *arg*.

### 40770, Symbol Type Error

**Description**
Task: *arg*.
The symbol *arg* is of type *arg* and not the expected type *arg*.
Program ref: *arg*.

**Recommended actions**
Check the RAPID program.
Recovery: ERR_SYMBOL_TYPE.

### 40771, Symbol Access Error

**Description**
Task: *arg*.
The symbol *arg* is not accessible in this scope.
Program ref: *arg*.

**Recommended actions**
Recovery: *arg*.

### 40772, I\O Error

**Description**
Task: *arg*.
The *arg* instruction has lost contact with the conveyor.
Program ref: *arg*.

### 40773, Instruction Interrupted

**Description**
Task: *arg*.
The instruction *arg* was interrupted, reason unknown.
Program ref: *arg*.

### 40774, Object Dropped

**Description**
Task: *arg*.
The object that the instruction *arg* was waiting for has been dropped.
Program ref: *arg*.

**Probable causes**
Start window passed or Checkpoint not satisfied.

**Recommended actions**
If Checkpoint not used, Checkpoint Distance and Checkpoint Window Width must be set to zero. Rerun the instruction.
Recovery: *arg*.

### 40775, Conveyor Error

**Description**
Task: *arg*.
Another *arg* instruction is waiting for a distance to the object.
Program ref: *arg*.

### 40776, Conveyor Error

**Description**
Task: *arg*.
Another *arg* instruction is waiting for the object.
Program ref: *arg*.

### 40777, Conveyor Error

**Description**
Task: *arg*.
The *arg* instruction is already connected.
Program ref: *arg*.

**Recommended actions**
Recovery: *arg*.

### 40778, Value Error

**Description**
Task: *arg*.
Booking of the new error number *arg* failed. The init value must be -1 or the old number.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

Program ref: *arg*.

**Recommended actions**

Check the init value of the new errnum variable.

## 40779, Error Number Local

**Description**

Task: *arg*.

The RAPID user error number *arg* must not be declared as local in routine.

Program ref: *arg*.

**Recommended actions**

Check the errnum declaration.

## 40780, Data Object Error

**Description**

Task: *arg*.

There is no valid data object for the argument *arg* of the instruction *arg*.

Program ref: *arg*.

**Recommended actions**

Check if there is a right data object.

## 40781, File Error

**Description**

Task: *arg*.

The parameter *arg* does not correspond to any loaded text file.

Program ref: *arg*.

**Recommended actions**

Check if the text file is (correct) installed.

## 40782, Mode Error

**Description**

Task: *arg*.

File or serial channel is not opened for writing.

Program ref: *arg*.

**Recommended actions**

Check how the file or serial channel was opened.

## 40783, Mode Error

**Description**

Task: *arg*.

File or serial channel is not opened in a character-based mode.

Program ref: *arg*.

**Recommended actions**

Check how the file or serial channel was opened.

## 40784, Mode Error

**Description**

Task: *arg*.

File or serial channel is not opened in a binary mode.

Program ref: *arg*.

**Recommended actions**

Check how the file or serial channel was opened.

## 40785, Mode Error

**Description**

Task: *arg*.

File or serial channel is not opened for reading.

Program ref: *arg*.

**Recommended actions**

Check how the file or serial channel was opened.

## 40786, Read Error

**Description**

Task: *arg*.

One or more bytes is not read properly. The value of the read data might be inconsistent.

Program ref: *arg*.

**Consequences**

Because the checksum for the received message is not the same as calculated at sending, the message data cannot be used.

**Probable causes**

The reason can be:

- Communication problem.
- Different WriteAnyBin.
- ReadAnyBin software version between the sending WriteAnyBin and the receiving ReadAnyBin.

**Recommended actions**

Error Recovery for communication problem: *arg*.

## 40787, User Frame Error

**Description**

Task: *arg*.

Not possible to get the coordinated user frame.

Program ref: *arg*.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 40788, Axis Error

**Description**

Task: *arg*.

The single axis is not init correctly.

Program ref: *arg*.

### 40789, Limitation Error

**Description**

Task: *arg*.

The string length of the argument for the file path is too long.

Program ref: *arg*.

**Probable causes**

The maximum allowed string length for the full system file path is *arg* characters.

**Recommended actions**

Shorten the length of the path.

### 40790, Value Error

**Description**

Task: *arg*.

The RAPID string is too long.

Program ref: *arg*.

**Probable causes**

String value exceeds the maximum allowed length.

**Recommended actions**

Rewrite the program to use strings of less length.

Recovery: *arg*.

### 40791, I/O Error

**Description**

Task: *arg*.

No space left on device (file name *arg*).

Program ref: *arg*.

**Recommended actions**

Recovery: *arg*.

### 40792, I/O Error

**Description**

Task: *arg*.

File open/access error for path *arg*.

Program ref: *arg*.

**Recommended actions**

- Check permission, is the file write protected?
- Check if the file or directory exists.
- Check if there is any space left on device.

Recovery: *arg*.

### 40793, Error Installing Text Table

**Description**

Task: *arg*.

No or faulty text resource name or index number in the text file.

Program ref: *arg*.

**Consequences**

The contents of some of the text tables may have been destroyed.

**Recommended actions**

Correct the error, reset the system and try again.

### 40794, Error Installing Text Table

**Description**

Task: *arg*.

The specified index within the text resource already exists in the system.

Program ref: *arg*.

**Probable causes**

- Error in the index numbering.
- The file has been installed twice.

**Recommended actions**

If error in the index, correct it, reset the system and try again.

### 40795, Error Installing Text Table

**Description**

Task: *arg*.

System memory for text tables is full.

Program ref: *arg*.

**Recommended actions**

Reduce the amount of user defined text string installed from RAPID. Reset the system and try again.

### 40796, Overload Error

**Description**

Task: *arg*.

The system is overloaded so the actual order cannot be ready in time.

Program ref: *arg*.

**Recommended actions**

Reduce the main computer load, for example by:

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

- Add WaitTime in RAPID loops.
- Increase filter time for I/O signals.
- Avoid cyclic interrupts.

### 40797, I/O Error

**Description**

Unable to access the I/O signal *arg* on I/O device *arg*.

**Probable causes**

The connection with the I/O module is broken.

**Recommended actions**

Re-establish the connection with the I/O device.

### 40798, System Access Error

**Description**

*arg*.

### 40799, Execution Error

**Description**

Task: *arg*.
TestSignRead is using a channel without a defined signal.
Program ref: *arg*.

**Recommended actions**

Use TestSignDefine to define a signal to the channel.

### 40800, Tool Error

**Description**

Task: *arg*.
The component robhold in the tool has not got the correct value.
Program ref: *arg*.

**Recommended actions**

Change the value of robhold. If the robot is holding the tool the value should be TRUE. If the robot is not holding the tool, i.e. a stationary tool, the value should be FALSE.

### 40801, Calculation error

**Description**

Task: *arg*.
Cannot calculate the tool frame.
Program ref: *arg*.

**Probable causes**

It is not possible to calculate the tool frame with the selected approach points.

**Recommended actions**

Select new approach points as accurate as possible.

### 40802, Execution Error

**Description**

Task: *arg*.
Not possible to do subscribe.
Program ref: *arg*.

**Probable causes**

There is no memory left to make another subscription on this variable.

**Recommended actions**

To continue, PP must be moved to main!

### 40803, Error message too long

**Description**

The length of the following error message was too long and has been cut. This means you will not be able to read the whole message.

### 40804, Argument Error

**Description**

Task: *arg*.
The argument "type" in stoppointdata may not be followtime in the instructions MoveJ, MoveAbsJ and MoveExtJ.
Program ref: *arg*.

**Recommended actions**

Change "type" to inpos or stoptime.

### 40805, Motion Error

**Description**

Task: *arg*.
Error from MocGenInstr. Ref to former message for reason.
Program ref: *arg*.

### 40806, IOF Error

**Description**

Task: *arg*.
Error from IofGenInstr. Ref to former message for reason.
Program ref: *arg*.

### 40807, File Error

**Description**

Task: *arg*.

*Continues on next page*


© Copyright 2005-2020 ABB. All rights reserved.

The file *arg* already exists.
Program ref: *arg*.

**Recommended actions**

To be able to rename or copy: Change the file name or remove the existing file.
Recovery: *arg*.

### 40811, No Contact With I/O Device

**Description**

Task: *arg*.
There is no contact with I/O device.
Program ref: *arg*.

**Probable causes**

- The device may have been deactivated.
- No power to the I/O device.

### 40812, Execution Error

**Description**

Task: *arg*.
Not allowed to run this program in non_motion_execution_mode.
Program ref: *arg*.

**Recommended actions**

Change mode.

### 40813, Execution Error

**Description**

Task: *arg*.
The task is not allowed to execute the instruction *arg*.
Program ref: *arg*.

**Probable causes**

The task is not configured to control mechanical units.

**Recommended actions**

Change the configuration or remove the instruction.

### 40814, Execution Error

**Description**

Task: *arg*.
StartMove could not get the regain distance.
Program ref: *arg*.

**Probable causes**

Application error.

**Recommended actions**

Please restart the path.
Recovery: *arg*.

### 40815, Non Existing Axis Number

**Description**

Task: *arg*.
Unknown axis number for the mechanical unit *arg*.
Program ref: *arg*.

**Recommended actions**

Check the value for the argument Axis.

### 40816, RolGenInstr Error

**Description**

Task: *arg*.
Error from instruction RolGenInstr. Ref. to former user or internal error message for reason.
Program ref: *arg*.
Recovery: *arg*.

### 41000, Item source exists

**Description**

Item source *arg* already exists. Two item sources may not have the same name.

### 41001, Not a valid name

**Description**

Choose *arg* or *arg*.

### 41002, Buffer size exceeded

**Description**

Fatal internal error for item source *arg*. Try first by restarting the controller or second by resetting the system. Please report this error.

### 41003, Item source not defined

**Description**

The item source object has not been defined.

### 41004, Itmsrc internal error

**Description**

Internal error for item source *arg*. Error type: *arg*.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 41005, Flush item source first

**Description**

Item source *arg* must be flushed before it is used.

### 41006, Ack item target first

**Description**

Item target must be acknowledged before executing the GetItmTgt(s) instruction again. Error occurred for item source *arg*.

### 41007, Item target buffer full

**Description**

Item target buffer full for item source *arg*.

### 41008, Conveyor I/O init error

**Description**

Error in the initialization of the I/O signal for item source *arg*, for conveyor *arg*. I/O signal name *arg*.

### 41009, Conveyor does not exist

**Description**

Error for item source *arg*. The conveyor *arg* does not exist.

### 41010, No conveyor name given

**Description**

Error for item source *arg*. No conveyor name specified.

### 41011, Conveyor limits error

**Description**

Error for item source *arg*, conveyor *arg*. The limits are incorrectly specified.

### 41012, Conveyor data are defined late

**Description**

Error for item source *arg*, conveyor *arg*. The ItmSrcCnvDat instruction must be called before the ItmSrcFlush instruction.

### 41050, Profile not activated

**Description**

Profile record not ready.

**Consequences**

Profile data not activated.

**Probable causes**

Try to activate recorded profile too early.

**Recommended actions**

Instruction RecordProfile must be called before ActivateProfile.

### 41051, Recorded profile not stored

**Description**

No valid profile data to store.

**Consequences**

Nothing stored.

**Probable causes**

Try to store a recorded profile not existing or not activated.

**Recommended actions**

Instruction ActivateProfile must be called before StoreProfile.

### 41052, Can't use this profile data file

**Description**

File not found or data not valid.

**Consequences**

Profile not used.

**Probable causes**

File not found or data not valid.

**Recommended actions**

Check file directory and name and profile data.

### 41100, Too Many Corrections

**Description**

Task: *arg*.
Max 5 correction descriptors are allowed to be connected.
Program ref: *arg*.

**Recommended actions**

Check number of connected descriptors.
Recovery: *arg*.

### 41101, Correction Not Connected

**Description**

Task: *arg*.
Cannot write to correction descriptor.
Program ref: *arg*.

**Recommended actions**

Check that the current correction descriptor is connected.
Recovery: *arg*.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 41102, No Corrections Connected

**Description**

Task: *arg*.

Correction unable to be read.

Program ref: *arg*.

**Probable causes**

No correction descriptor connected.

**Recommended actions**

Check if any correction generator is connected.

Recovery: *arg*.

### 41200, Servo Tool Open Error

**Description**

Task: *arg*.

Not possible to open servo gun in motors off state.

Program ref: *arg*.

**Recommended actions**

Retry after setting motors on.

Recovery: *arg*.

### 41201, Servo Tool Close Error

**Description**

Task: *arg*.

Not possible to close servo gun in motors off state.

Program ref: *arg*.

**Recommended actions**

Retry after setting motors on.

Recovery: *arg*.

### 41202, Servo Tool Calibration Error

**Description**

Task: *arg*.

Not possible to calibrate servo gun in motors off state.

Program ref: *arg*.

**Recommended actions**

Retry after setting motors on.

Recovery: *arg*.

### 41203, Servo Tool Error

**Description**

Task: *arg*.

Servo tool *arg* does not exist.

Program ref: *arg*.

**Recommended actions**

Check mechanical unit name.

Recovery: *arg*.

### 41204, Servo Tool error

**Description**

Task: *arg*.

Emergency stop when executing instruction in background task.

Program ref: *arg*.

**Recommended actions**

Retry after emergency stop reset.

Recovery: *arg*.

### 41205, Servo Tool Error

**Description**

Task: *arg*.

Not possible to close servo gun. The gun is not open.

Program ref: *arg*.

**Recommended actions**

Retry after opening the gun.

Recovery: *arg*.

### 41206, Servo Tool Parameter Error

**Description**

Task: *arg*.

The parameter PrePos must be a positive value.

Program ref: *arg*.

**Recommended actions**

Change the parameter value.

Recovery: *arg*.

### 41207, Servo Tool Init Error

**Description**

Task: *arg*.

The position for servo tool *arg* is not initialized.

Program ref: *arg*.

**Recommended actions**

Change the parameter value or perform a tip change calibration.

Recovery: *arg*.

### 41208, Servo Tool Synchronization Error

**Description**

Task: *arg*.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

The tips for servo tool *arg* are not synchronized.
Program ref: *arg*.

**Recommended actions**
Synchronize via ManServiceCalib or perform a tool change calibration.
Recovery: *arg*.

### 41209, Servo Tool Activation Error

**Description**
Task: *arg*.
Servo tool *arg* is not activated.
Program ref: *arg*.

**Recommended actions**
Use ActUnit to activate.
Recovery: *arg*.

### 41210, Servo Tool Error

**Description**
Task: *arg*.
Not possible to execute instruction in motors off state for servo tool *arg*.
Program ref: *arg*.

**Recommended actions**
Retry after setting motors on.
Recovery: *arg*.

### 41211, Servo Tool Error

**Description**
Task: *arg*.
Not possible to perform a recalibration of the gun *arg*.
Program ref: *arg*.

**Recommended actions**
Retry after checking values.
Recovery: *arg*.

### 41212, Servo Tool Error

**Description**
Task: *arg*.
Not possible to change force. The gun is not closed.
Program ref: *arg*.

**Recommended actions**
Retry after closing the gun.
Recovery: *arg*.

### 41300, Argument Error

**Description**
The argument Joint must be between 1 and *arg*.

**Recommended actions**
Check and change the value.

### 41301, Argument Error

**Description**
The argument Type doesn't correspond to a service value.

### 41302, Argument Error

**Description**
The argument Type does not correspond to a service value.

### 41303, Argument Error

**Description**
The argument Robot must be between 1 and *arg*.

**Recommended actions**
Check and change the value.

### 41304, Argument Error

**Description**
The argument Level doesn't correspond to a service level.

### 41400, Parameter Error

**Description**
Task: *arg*.
Faulty AxisNo.
Program ref: *arg*.

**Recommended actions**
Check and change the value. Press Start to continue.

### 41401, I/O Error

**Description**
Unable to access the I/O signal. Signal and I/O device unknown.

**Probable causes**
The connection with the I/O module is broken.

**Recommended actions**
Re-establish the connection with the I/O device.

*Continues on next page*


© Copyright 2005-2020 ABB. All rights reserved.

### 41404, Parameter Error

**Description**

Task: *arg*.
Argument On or Off missing.
Program ref: *arg*.

**Recommended actions**

Check the RAPID program. One of the switch On or Off must be given.

### 41405, Parameter Error

**Description**

Task: *arg*.
Argument *arg* not allowed together with argument Off.
Program ref: *arg*.

**Recommended actions**

Check and change the RAPID program.

### 41406, Parameter Error

**Description**

Task: *arg*.
This TuneType is only valid for option Advanced Shape Tuning.
Program ref: *arg*.

**Recommended actions**

Change TuneType or install option.

### 41407, Parameter Error

**Description**

Task: *arg*.
Symbol *arg* is read-only.
Program ref: *arg*.

**Recommended actions**

Recovery: *arg*.

### 41408, Parameter Error

**Description**

Task: *arg*.
The symbol *arg* was not found.
Program ref: *arg*.

**Recommended actions**

Recovery: *arg*.

### 41409, Parameter Error

**Description**

Task: *arg*.
Ambiguous symbol *arg*.
Program ref: *arg*.

**Recommended actions**

Check and change the RAPID program.

### 41410, Parameter Error

**Description**

Task: *arg*.
Search error for symbol *arg*.
Program ref: *arg*.

**Recommended actions**

Recovery: *arg*.

### 41411, Parameter Error

**Description**

Task: *arg*.
Unknown module name *arg*.
Program ref: *arg*.

**Probable causes**

The module does not exist.

**Recommended actions**

Check and change the RAPID program.

### 41412, Parameter Error

**Description**

Task: *arg*.
Ambiguous module *arg*.
Program ref: *arg*.

**Recommended actions**

Check and change the RAPID program.

### 41413, Parameter Error

**Description**

Task: *arg*.
Ambiguous routine name *arg*.
Program ref: *arg*.

**Recommended actions**

Check and change the RAPID program.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 41414, Parameter Error

**Description**

Task: *arg*.

Unknown routine name *arg*.

Program ref: *arg*.

**Probable causes**

The routine does not exist.

**Recommended actions**

Check and change the RAPID program.

### 41415, Parameter Error

**Description**

Task: *arg*.

The module name *arg* does not exist.

Program ref: *arg*.

**Recommended actions**

Check and change the RAPID program.

Recovery: *arg*.

### 41416, Parameter Error

**Description**

Task: *arg*.

The symbol *arg* is not a module.

Program ref: *arg*.

**Recommended actions**

Check and change the RAPID program.

Recovery: *arg*.

### 41417, System Access Error

**Description**

Task: *arg*.

Cannot convert date.

Program ref: *arg*.

**Recommended actions**

Restart the controller and retry.

### 41419, Parameter Error

**Description**

Task: *arg*.

*arg* must be num, bool, string or dnum.

Program ref: *arg*.

**Recommended actions**

Check and change the RAPID program.

### 41420, Parameter Error

**Description**

Task: *arg*.

The argument type of *arg* is not compatible with cfg type.

Expected *arg*.

Program ref: *arg*.

**Recommended actions**

Recovery: *arg*.

### 41421, Parameter Error

**Description**

Task: *arg*.

Unknown cfg domain in argument *arg*.

Program ref: *arg*.

**Recommended actions**

Check and change the RAPID program.

Recovery: *arg*.

### 41422, Parameter error

**Description**

Task: *arg*.

Unknown cfg type in argument *arg*.

Program ref: *arg*.

**Recommended actions**

Check and change the RAPID program.

Recovery: *arg*.

### 41423, Parameter Error

**Description**

Task: *arg*.

Unknown cfg instance in argument *arg*.

Program ref: *arg*.

**Recommended actions**

Check and change the RAPID program.

Recovery: *arg*.

### 41424, Parameter Error

**Description**

Task: *arg*.

Unknown cfg attribute in argument *arg*.

Program ref: *arg*.

**Recommended actions**

Check and change the RAPID program.

Recovery: *arg*.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 41425, Parameter Error

**Description**

Task: *arg*.
The path '*arg*' in argument *arg* is incorrect.
Program ref: *arg*.

**Recommended actions**

Check and change the path.
Recovery: *arg*.

### 41426, I/O Error

**Description**

Unable to access the I/O signal. Signal and I/O device unknown.

**Consequences**

Impossible to restart.

**Probable causes**

The connection with the I/O module is broken.

**Recommended actions**

Re-establish the connection with the I/O device. To make it possible to restart the program move PP to a safe restart position.

### 41427, Argument Error

**Description**

Task *arg*: The delaytime has to be positive.
Program ref: *arg*.

**Recommended actions**

Change the value of delaytime.

### 41428, Axis Error

**Description**

Task: *arg*.
The single axis is not init correctly. The sensor is not activated.
Program ref: *arg*.

### 41429, Axis Error

**Description**

Task: *arg*.
The single axis is not init correctly. The sensor process is not init correctly.
Program ref: *arg*.

### 41431, System Access Error

**Description**

Task: *arg*.
Unknown LOGSRV instance.
Program ref: *arg*.

**Recommended actions**

Restart the controller and retry.

### 41432, System Access Error

**Description**

Task: *arg*.
Cannot set test signals.
Program ref: *arg*.

**Recommended actions**

Restart the controller and retry.

### 41433, Parameter Error

**Description**

Task: *arg*.
Unknown mechanical unit.
Program ref: *arg*.

**Recommended actions**

Check if the mechanical unit exists in the system.
Recovery: *arg*.

### 41434, Parameter Error

**Description**

Task: *arg*.
Argument Axis is out of range.
Program ref: *arg*.

**Recommended actions**

Check and change the value of the argument axis.
Recovery: *arg*.

### 41435, Parameter Error

**Description**

Task: *arg*.
Argument Channel is out of range.
Program ref: *arg*.

**Recommended actions**

Check and change the value of argument Channel.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 41437, System Access Error

**Description**

Task: *arg*.

Cannot reset all test signals.

Program ref: *arg*.

**Recommended actions**

Restart the controller and retry.

### 41438, Undefined Load

**Description**

Task: *arg*.

WARNING! Argument *arg* has undefined load (mass=0).

Program ref: *arg*.

**Consequences**

IMPORTANT TO DEFINE CORRECT LOAD to avoid mechanical damages of the robot.

**Recommended actions**

Define the actual load for the tool or the grip load before program movement or jogging. A good motion performance requires a correctly defined load.

### 41439, Undefined Load

**Description**

Task: *arg*.

WARNING! Argument *arg* has undefined load center of gravity.

Program ref: *arg*.

**Consequences**

IMPORTANT TO DEFINE CORRECT LOAD to avoid mechanical damage of the robot.

**Recommended actions**

Define the actual center of gravity for the tool load or the grip load before program movement or jogging (cog.x, cog.y and cog.z cannot be 0 mm at the same time). Load identification can be done with the service routine LoadIdentify.

### 41440, Argument Is Missing

**Description**

Task: *arg*.

One of the switch parameter *arg* or *arg* has to be defined.

Program ref: *arg*.

**Consequences**

The called RAPID routine could not be executed.

**Recommended actions**

An argument of the data type switch must be specified.

### 41441, UnLoad Error

**Description**

Task: *arg*.

Module loaded with path *arg* is active and therefore cannot be erased.

Program ref: *arg*.

**Probable causes**

Instruction UnLoad or WaitLoad is executed in the same module as the module that should be removed. Instruction UnLoad or WaitLoad is in a trap that is executed earlier than expected. If there is a CONNECT to a trap routine in the module, an IDelete on the trap has to be done before the module can be unloaded.

**Recommended actions**

Check that the module does not contain routines or data that are still active, for example CONNECT.

Recovery: *arg*.

### 41442, Reference Error

**Description**

Task: *arg*.

The reference in argument *arg* is not an entire persistent variable.

Program ref: *arg*.

**Recommended actions**

It is not possible to use record component or array element in arg. *arg*. It is only possible to use entire persistent variables for Tool, WObj or Load in any motion instruction.

### 41443, Argument Error

**Description**

Task: *arg*.

Argument Tool has negative load of the tool.

Program ref: *arg*.

**Recommended actions**

Define the correct load of the tool before use of the tool for jogging or program movement. Load identification of the tool can be done with the service routine LoadIdentify.

### 41444, Argument Error

**Description**

Task: *arg*.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

Argument Tool has at least one inertia data component with negative value.
Program ref: *arg*.

**Recommended actions**
Define all inertia data components (ix, iy or iz) to actual positive values.

## 41445, Argument Error

**Description**
Task: *arg*.
No \WObj specified for movement with stationary TCP.
Program ref: *arg*.

**Recommended actions**
Add argument \WObj for actual work object. If not movement with stationary TCP, change the component "robhold" in argument Tool to TRUE (robot holds the tool).

## 41446, Argument Error

**Description**
Task: *arg*.
It is undefined if the robot holds the tool or the work object.
Program ref: *arg*.

**Consequences**
The program execution is stopped immediately.

**Probable causes**
Mismatch of component robhold in the tool and the work object.

**Recommended actions**
Check if mismatch between argument Tool and argument \WObj for data component robhold.

## 41447, Argument Error

**Description**
Task: *arg*.
Argument *arg* has at least one data component with negative value.
Program ref: *arg*.

**Recommended actions**
Set all data components in argument *arg* to positive values.

## 41448, Argument Error

**Description**
Task: *arg*.
Argument *arg* may not have a negative value.
Program ref: *arg*.

**Recommended actions**
Set argument *arg* to a positive value.

## 41449, Value Error

**Description**
Task: *arg*.
Illegal value in argument *arg*.
Program ref: *arg*.

**Recommended actions**
Check the RAPID program.

## 41450, Argument Error

**Description**
Task: *arg*.
Argument \WObj specifies a mechanical unit name, which is not activated or is unknown in the system.
Program ref: *arg*.

**Recommended actions**
The mechanical unit name defined in \WObj must correspond to the name earlier defined in the system parameters and must be activated.

## 41451, Argument Error

**Description**
Task: *arg*.
Argument *arg* contains an illegal interrupt number.
Program ref: *arg*.

**Probable causes**
Input interrupt number is illegal because it has not been allocated by the instruction CONNECT.

**Recommended actions**
Use the instruction CONNECT to allocate and connect an interrupt number to a trap routine.

## 41452, Argument Error

**Description**
Task: *arg*.
Argument *arg* contains an interrupt number, which is already in use for other purposes.
Program ref: *arg*.

**Recommended actions**
Before reuse of an interrupt variable in the program, it must have been cancelled with the instruction IDelete.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 41453, Type Error

**Description**

Task: *arg*.

Illegal data type of argument *arg*.

Program ref: *arg*.

**Recommended actions**

Check the RAPID program.

### 41454, Reference Error

**Description**

Task: *arg*.

Trigg parameter number *arg*, reference to undefined trigg data.

Program ref: *arg*.

**Recommended actions**

Define trigg data by executing instruction TriggIO, TriggInt, TriggEquip, TriggSpeed or TriggCheckIO before current instruction.

### 41455, System Access Error

**Description**

Task: *arg*.

Operative system get time failed.

Program ref: *arg*.

**Recommended actions**

Restart the controller and retry.

### 41456, Argument Error

**Description**

Task: *arg*.

Argument *arg* not within range.

Program ref: *arg*.

**Recommended actions**

The argument must be in range *arg*.

### 41457, Argument Error

**Description**

Task: *arg*.

Missing optional argument.

Program ref: *arg*.

**Recommended actions**

Add one of the optional arguments *arg* or *arg*.

### 41458, Argument Error

**Description**

Task: *arg*.

Argument *arg* or *arg* not within range.

Program ref: *arg*.

**Recommended actions**

Check and change the value of the argument.

### 41459, Argument Error

**Description**

Task: *arg*.

Argument *arg* not within range.

Program ref: *arg*.

**Recommended actions**

Check and change the value of the argument.

### 41460, Argument Error

**Description**

Task: *arg*.

Argument *arg* or *arg* or *arg* not within range.

Program ref: *arg*.

**Recommended actions**

Check and change the argument.

### 41461, Value Error

**Description**

Task: *arg*.

Illegal value of argument *arg*.

Program ref: *arg*.

**Recommended actions**

The index must be an integer and in range 1 to 1024.

### 41462, Value Error

**Description**

Task: *arg*.

Illegal value of argument for parameter *arg*.

Program ref: *arg*.

**Recommended actions**

The value must be an integer and in the correct range.

### 41463, Argument Switch Is Missing

**Description**

Task: *arg*.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

There is an argument missing.
Program ref: *arg*.

**Recommended actions**
One of the switch parameters \Hex1, \Long4, \Float4 or \ASCII has to be defined.

### 41464, Index Too High

**Description**
Task: *arg*.
Illegal value in argument *arg*.
Program ref: *arg*.

**Recommended actions**
Check the RAPID program.

### 41465, The String Is Empty

**Description**
Task: *arg*.
Illegal value in argument *arg*.
Program ref: *arg*.

**Recommended actions**
Check the argument, and use a non-empty string.

### 41466, The Variables Are Equal

**Description**
Task: *arg*.
The argument FromRawData and ToRawData are equal.
Program ref: *arg*.

**Recommended actions**
Check and change the RAPID program.

### 41467, Value Error

**Description**
Task: *arg*.
Illegal value in argument *arg*.
Program ref: *arg*.

**Recommended actions**
Check and change the value. It must be an integer and in range 0 to 255.

### 41468, Value Error

**Description**
Task: *arg*.
Illegal value in argument *arg*.
Program ref: *arg*.

**Recommended actions**
Check and change the value. NoOfBytes must be an integer and in range 1 to 1024, and not higher than RawData length.

### 41469, Value Error

**Description**
Task: *arg*.
Illegal value in argument *arg*.
Program ref: *arg*.

**Recommended actions**
Check the value. NoOfBytes must not be higher than RawData length.

### 41470, Argument Error

**Description**
Task: *arg*.
Argument *arg* or *arg* not within range.
Program ref: *arg*.

**Recommended actions**
Check and change the value of the argument.

### 41471, Instruction Error

**Description**
Task: *arg*.
You are not allowed to deactivate I/O device *arg*.
Program ref: *arg*.

**Recommended actions**
Recovery: *arg*.

### 41472, Instruction Error

**Description**
Task: *arg*.
There is no client e.g. a FlexPendant taking care of instruction.
Program ref: *arg*.

**Recommended actions**
Recovery: *arg*.

### 41473, System Access Error

**Description**
It was not possible to send data using SCWrite to external computer. Failed to send variable *arg*.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 41474, Value Error

**Description**

Task: *arg*.
Illegal value in argument *arg*.
Program ref: *arg*.

**Recommended actions**

Check the value: *arg arg* must be a positive integer.

### 41475, Wrong size of task list

**Description**

Task: *arg*.
The task list has wrong number of elements. It must not have less than 1 or more than *arg*.
Program ref: *arg*.

**Recommended actions**

Check and change the number of arguments in the task list.

### 41476, Non-consistent task list

**Description**

Task: *arg*.
*arg* in the task list is not one of the tasks that are configured in the system (max *arg* tasks can be configured).
Program ref: *arg*.

**Recommended actions**

Add the task to the system (in Controller configuration) or remove it from the task list.

### 41477, TimeOut

**Description**

Task: *arg*.
The time set in argument *arg* in instruction WaitSyncTask has expired.
Program ref: *arg*.

**Recommended actions**

Recovery: *arg*.

### 41480, UnpackRawBytes Error

**Description**

Task: *arg*.
The number of bytes to unpack is too high, and has been reduced. Length: *arg*.
Program ref: *arg*.

**Consequences**

The string has been filled with data, but only the valid amount.

**Probable causes**

The value used in *arg* optional argument is too high.

**Recommended actions**

Check the RAPID program. Use function *arg* to get the current length of valid bytes in the rawbytes variable.

### 41483, Argument Error

**Description**

Task: *arg*.
The value of the ID is negative or is not an integer.
Program ref: *arg*.

**Recommended actions**

Check the value of the optional argument ID. The value must be a nonnegative integer.

### 41484, TimeOut

**Description**

Task: *arg*.
The time set in argument *arg* in instruction SyncMoveOn has expired.
Program ref: *arg*.

**Recommended actions**

Recovery: *arg*.

### 41486, Instruction Error

**Description**

Task: *arg*.
The instruction *arg* is only available if there is a TCP-robot defined in the program task.
Program ref: *arg*.

**Recommended actions**

- Check the configuration.
- The instruction must be removed, if the task is not supposed to have a TCP-robot.

### 41487, Instruction Error

**Description**

Task: *arg*.
The instruction *arg* only works if the TCP-robot is active.
Program ref: *arg*.

**Recommended actions**

Activate the TCP-robot in the task.

*Continues on next page*


© Copyright 2005-2020 ABB. All rights reserved.

### 41488, Value Error

**Description**

Task: *arg*.

There is no TCP-robot defined in the program task. One or several robot axis value input is not equal to 9E9.

Program ref: *arg*.

**Recommended actions**

Change the robot axis value to 9E9.

### 41489, Value error

**Description**

Task: *arg*.

The robot axis *arg* is not moveable and therefore must not be supervised.

Program ref: *arg*.

**Recommended actions**

Change the value of axis *arg* to 9E9.

### 41490, TimeOut

**Description**

Task: *arg*.

The time set in argument *arg* in instruction SyncMoveOff has expired.

Program ref: *arg*.

**Recommended actions**

Recovery: *arg*.

### 41491, Instruction Error

**Description**

Task: *arg*.

The instruction *arg* is not available if there is a TCP-robot defined in the program task.

Program ref: *arg*.

**Recommended actions**

- Check the configuration.
- The instruction must be removed, if the task is supposed to have a TCP-robot.

### 41492, Instruction Error

**Description**

Task: *arg*.

The instruction *arg* only works if the mechanical unit is active.

Program ref: *arg*.

**Recommended actions**

Activate the mechanical unit in the task.

### 41493, Execution Error

**Description**

Task: *arg*.

There is no TCP-robot available in the task.

Program ref: *arg*.

**Recommended actions**

To be able to run the instruction a TCP-robot must be available in the task.

### 41494, Instruction error

**Description**

Task: *arg*.

The task does not control mechanical unit: *arg*.

Program ref: *arg*.

**Recommended actions**

Check the configuration.

### 41495, Move PP Error

**Description**

Task: *arg*.

Not ready with the switch from independent to synchronized mode.

Program ref: *arg*.

**Consequences**

Restart of current instruction is blocked. The system can either be in synchronized motion mode or still in independent motion mode.

**Probable causes**

Stop of program when having an active instruction. Then a PP movement within program has been done.

**Recommended actions**

Move PP to start the program again. PP must be moved in all program tasks. To have a well-defined state of the system you should move PP to main.

### 41496, Move PP Error

**Description**

Task: *arg*.

Not ready with the switch from synchronized to independent mode.

Program ref: *arg*.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

**Consequences**
Restart of current instruction is blocked. The system can either be in synchronized motion mode or still in independent motion mode.

**Probable causes**
Stop of program when having an active instruction. Then a PP movement within program has been done.

**Recommended actions**
Move PP to start the program again. PP must be moved in all program tasks. To have a well-defined state of the system you should move PP to main.

## 41497, Move PP Notification

**Description**
Task: *arg*.
Instruction *arg* was active in this task. Moving PP within the program can be dangerous in some cases.
Program ref: *arg*.

**Consequences**
Moving PP in the RAPID program can result in unsynchronized RAPID tasks or/and collision between robots.

**Probable causes**
PP movement within RAPID program when having active *arg* instruction.

**Recommended actions**
Move PP to suitable position in this program task.

## 41498, No Defined UserFrame In Mechanical Unit *arg*!

**Description**
The workobject *arg* contains a coordinated mechanical unit which has no defined user frame.

**Recommended actions**
Check the mechanical unit component of the workobject.

## 41499, Synchronized Mode

**Description**
Task: *arg*.
System is in synchronized mode. Instruction must have an ID.
Program ref: *arg*.

**Recommended actions**
Add switch \ID with an identification number to the instruction.

## 41500, Independent Mode

**Description**
Task: *arg*.
System is in independent mode. Instruction must not have an ID.
Program ref: *arg*.

**Recommended actions**
Remove switch \ID from the instruction.

## 41501, Illegal Id

**Description**
Task: *arg*.
ErrorId has wrong value. It must be an integer in interval *arg* - *arg*.
Program ref: *arg*.

**Recommended actions**
Change the value.

## 41502, Illegal Domain

**Description**
Task: *arg*.
Domain *arg* cannot be used.
Program ref: *arg*.

**Recommended actions**
Choose another Elog Domain.

## 41503, Illegal Error Type

**Description**
Task: *arg*.
Error type TYPE_ALL cannot be used.
Program ref: *arg*.

**Recommended actions**
Use another Error Type.

## 41504, No Mechanical Unit Stated

**Description**
Task: *arg*.
No TCP in the system and no mechanical unit added to the instruction.
Program ref: *arg*.

**Recommended actions**
Add a mechanical unit that exists in the task, to the instruction.

*Continues on next page*


© Copyright 2005-2020 ABB. All rights reserved.

### 41505, Mechanical Unit Not In Task

**Description**

Task: *arg*.
The mechanical unit stated does not exist in the task.
Program ref: *arg*.

**Recommended actions**

Add another mechanical unit to the instruction.

### 41506, Task Does Not Read a TCP Robot

**Description**

Task: *arg*.
The read task does not read a tcp robot.
Program ref: *arg*.

**Recommended actions**

Change the configuration or add a mechanical unit, that exists in the task, to the instruction.

### 41507, Task Reads Other Mechanical Unit

**Description**

Task: *arg*.
Task reads another mechanical unit than the one stated in the instruction.
Program ref: *arg*.

**Recommended actions**

Change mechanical unit in the instruction.

### 41508, LoadId Error

**Description**

Task: *arg*.
Load Identification is not available for this robot type.
Program ref: *arg*.

**Recommended actions**

Check next Event Log message, for the next user action to do.

### 41509, LoadId Error

**Description**

Task: *arg*.
Not valid load identification position.
Program ref: *arg*.

**Recommended actions**

Change the position for the robot. Check next Event Log message, for the next user action to do.

### 41510, LoadId Error

**Description**

Task: *arg*.
Not allowed to identify (or use) tool0.
Program ref: *arg*.

**Recommended actions**

Set the tool that should be identified, active in the jogging window. Check next Event Log message, for the next user action to do.

### 41511, LoadId Error

**Description**

Task: *arg*.
Not allowed to identify load0.
Program ref: *arg*.

**Recommended actions**

Use another load for identification. Check next Event Log message, for the next user action to do.

### 41512, Internal Error

**Description**

Task: *arg*.
Measurement axes > 2 at the same time.
Program ref: *arg*.

**Recommended actions**

Check next Event Log message, for the next user action to do.

### 41513, LoadId Error

**Description**

Task: *arg*.
Selection of PayLoad out of limits.
Program ref: *arg*.

**Recommended actions**

Select a PayLoad in the system. Press Start to continue.

### 41514, LoadId Error

**Description**

Task: *arg*.
wobj0 cannot be active for roomfix TCP.
Program ref: *arg*.

**Recommended actions**

Select another Work Object. Check next Event Log message, for the next user action to do.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

## 41515, LoadId Error

**Description**

Task: *arg*.

Selection of method out of limits.

Program ref: *arg*.

**Recommended actions**

Select one of the identification methods given. Press Start to continue.

## 41516, LoadId Error

**Description**

Task: *arg*.

The configuration angle is not adequate.

Program ref: *arg*.

**Consequences**

It is not possible to run the identification.

**Probable causes**

The selected value of the configuration angle is less than 30, or has another value that is not possible to use for identification.

**Recommended actions**

Select a configuration angle between +/- 30 and +/- 90 degrees. Press Start to continue.

## 41517, LoadId Error

**Description**

Task: *arg*.

PP has been moved to the beginning of the Load Identification routine and is now ready for a new restart.

Program ref: *arg*.

**Probable causes**

Service routine was stopped during measurement, interrupted with cancel by the user or interrupted because some type of other error. Check former Event Log message for reason.

**Recommended actions**

1 Start service routine again
2 Use Debug - Cancel Call Routine to quit execution of service routine. NOTE: Cancel Call Routine will result in a lost Program Pointer. Use Debug - PP to Main to get a new Program Pointer.

## 41518, LoadId Error

**Description**

Task: *arg*.

Selection of MechUnit out of limits.

Program ref: *arg*.

**Recommended actions**

Select one of the Mechanical Units displayed. Press Start to continue.

## 41519, LoadId Error

**Description**

Task: *arg*.

Mass must be > 0 kg.

Program ref: *arg*.

**Recommended actions**

Specify the mass to something greater than 0. Press Start to continue.

## 41520, Error Recovery Constant Not Booked

**Description**

Task: *arg*.

Error recovery constant *arg* is not booked.

Program ref: *arg*.

**Recommended actions**

Use instruction BookErrNo to book the constant or use an error recovery constant booked by the system (cannot be used with ErrRaise).

## 41521, Task Status Error

**Description**

Task: *arg*.

None of the tasks in the task list is a NORMAL, activated task.

Program ref: *arg*.

**Recommended actions**

Check in the Task Selection Panel that at least one of the tasks in the task list are selected = activated. Check in the .cfg-file that at least one of the tasks selected is NORMAL.

## 41522, Wrong Error Recovery Constant Used

**Description**

Task: *arg*.

Error recovery constant *arg* has been booked by the system. The constant cannot be used with instruction ErrRaise.

Program ref: *arg*.

**Recommended actions**

Book a new error recovery constant with instruction BookErrNo.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 41523, Argument Error

**Description**

Task: *arg*.

Argument *arg* is not an integer or is negative.

Program ref: *arg*.

**Recommended actions**

Change the value of the argument to a non-negative integer.

### 41524, Instruction Error

**Description**

Task: *arg*.

The program is executing in an UNDO handler. It is not allowed to execute the instruction *arg* in an UNDO handler.

Program ref: *arg*.

**Recommended actions**

Remove the instruction.

### 41525, Instruction Error

**Description**

Task: *arg*.

The program is executing in an EVENT routine. It is not allowed to execute the instruction *arg* in an EVENT routine.

Program ref: *arg*.

**Recommended actions**

Remove the instruction.

### 41526, Instruction Error

**Description**

Task: *arg*.

Instruction *arg* may only be used in an ERROR handler.

Program ref: *arg*.

**Recommended actions**

Remove the instruction or move it to an ERROR handler.

### 41527, Argument Switch Is Missing

**Description**

Task: *arg*.

There is an argument missing.

Program ref: *arg*.

**Recommended actions**

One of the switch parameters \Continue or \BreakOff in *arg* has to be defined.

### 41528, Instruction Error

**Description**

Task: *arg*.

Instruction *arg* may only be used in a no-stepin routine.

**Recommended actions**

Remove the instruction or move it to a no-stepin routine.

### 41529, Instruction Error

**Description**

Task: *arg*.

The switch \Inpos is only allowed when the task is in control of a mechanical unit.

Program ref: *arg*.

**Recommended actions**

Remove the switch \Inpos from the instruction.

### 41530, Instruction error

**Description**

Task: *arg*.

It is not possible to execute the instruction *arg*, while the coordinated workobject has a reference to the mechanical unit *arg*, located in another task.

Program ref: *arg*.

**Recommended actions**

Change to a workobject with reference to a mechanical unit located in the same task as the TCP robot. Function CalcJointT can be used even when the coordinated workobject is located in another task if:

- Switch \UseCurWObjPos is used.
- The coordinated workobject is standing still.

### 41531, Task Not In TaskList

**Description**

Task: *arg*.

*arg* is not one of the tasks in the TaskList, or there is a mismatch between the task lists in the different tasks.

Program ref: *arg*.

**Recommended actions**

- Add current task to the TaskList.
- Check that the task lists in the different tasks are similar. When using PERS variables, it might be necessary to unload the modules containing the task lists, and then reload them again.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

## 41532, Mismatch of task list

**Description**

Task: *arg*.

Failed to synchronize because of:

1 The task list, , does not match with the task lists with the same SyncID in the other tasks, or a task name is used multiple times in the task list.
2 Not the same active tasks in task selection panel in the first executed instruction as in the following instructions.

Program ref: *arg*.

**Consequences**

The program execution is immediately halted.

**Probable causes**

The reason for this error is one of the following:

1 Task lists do not have the same content for the same SyncID or a task name is used multiple times.
2 One or several tasks has been enabled/disabled in the task selection panel after first instruction was executed.

**Recommended actions**

1 Check and modify task lists and SyncIDs, or the same error will occur again.
2 Start again. The instructions will be executed with the current status of the task selection panel.

## 41533, Mismatch Of SyncID

**Description**

Task: *arg*.

SyncID *arg* does not match with SyncID in the other task/tasks.

Program ref: *arg*.

**Probable causes**

Use of task lists that are non-global can cause this error.

**Recommended actions**

Change SyncID and check the task lists. PP must be moved to main in all tasks before you can continue.

## 41534, Inconsistent Synch Data

**Description**

Task: *arg*.

Inconsistent synchdata in TaskList *arg*.

Program ref: *arg*.

**Recommended actions**

Change content of the TaskList. PP must be moved to main in all tasks before you can continue.

## 41535, Unexpected SyncMoveOn

**Description**

Task: *arg*.

Unexpected SyncMoveOn (SyncID *arg*). The system is already in synchronized mode.

Program ref: *arg*.

**Probable causes**

The program task is already in synchronized mode because SyncMoveOn has already been executed. Use of task lists that are non-global can cause this error.

**Recommended actions**

PP must be moved to main in all task before you can continue the program execution. Remove the SyncMoveOn instruction. Every SyncMoveOn must be followed by a SyncMoveOff instruction. Check your task lists.

## 41536, Unexpected SyncMoveOn

**Description**

Task: *arg*.

Unexpected SyncMoveOn (SyncID *arg*). The system is waiting for a SyncMoveOff.

Program ref: *arg*.

**Recommended actions**

Remove the SyncMoveOn instruction. Every SyncMoveOn must be followed by a SyncMoveOff instruction.

## 41537, Unexpected SyncMoveOff

**Description**

Task: *arg*.

Unexpected SyncMoveOff (SyncID *arg*). The system is waiting for a SyncMoveOn.

Program ref: *arg*.

**Recommended actions**

Remove the SyncMoveOff instruction. Every SyncMoveOn must be followed by a SyncMoveOff instruction.

## 41538, Wrong TaskList

**Description**

Task: *arg*.

The task, *arg*, in the TaskList is a read task and cannot be synchronized.

Program ref: *arg*.

**Recommended actions**

Change the TaskList or the configuration.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 41539, Speed Too High

**Description**

Task: *arg*.

Speed is over *arg* mm/s. This is too fast when Stiff Stop (switch \Stop) is used.

Program ref: *arg*.

**Consequences**

The program execution is stopped immediately.

**Recommended actions**

Change the speed, or change type of stop.

### 41540, Wrong Mechanical Unit

**Description**

Task: *arg*.

The task reads the control task, *arg*, which does not control the mechanical unit *arg*.

Program ref: *arg*.

**Recommended actions**

Change \MechUnit or the configuration.

### 41541, Not Allowed From a Read Task

**Description**

Task: *arg*.

The instruction is not allowed to execute in a read task.

Program ref: *arg*.

**Recommended actions**

Remove the instruction.

### 41542, Program Stop

**Description**

Task: *arg*.

Not possible to regain to path because of program stop in the system.

Program ref: *arg*.

**Recommended actions**

Recovery: *arg*.

### 41543, Argument Error

**Description**

Task: *arg*.

A loaddata has been defined, but is no longer available in the system.

Program ref: *arg*.

**Probable causes**

The reason for this error is one of the following:

1 The instruction GripLoad might have been run in a module that is no longer available in the system.
2 A movement instruction with an optional argument Tload might have been run in a module that is no longer available in the system.

**Recommended actions**

Be sure to run GripLoad load0, to reset loaddata. If using Tload optional argument in movement instructions, run SetSysData load0 to reset loaddata.

### 41544, Obsolete Instruction

**Description**

Task: *arg*.

The procedure *arg* is obsolete. It will work for now, but might be removed in a later release. Use *arg* instead and you will have the same functionality.

Program ref: *arg*.

### 41545, Argument Error

**Description**

Task: *arg*.

The argument *arg* may not be of type LOCAL PERS.

Program ref: *arg*.

**Recommended actions**

Remove the directive LOCAL from the data declaration.

### 41546, Argument Error

**Description**

Task: *arg*.

The object *arg* does not exist in the system or is of type LOCAL PERS.

Program ref: *arg*.

**Recommended actions**

- Declare the object.
- Remove the directive LOCAL from the data declaration.

### 41547, Argument Error

**Description**

Task: *arg* The \Corr switch cannot be used without the option Path Offset.

Program ref: *arg*.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

**Recommended actions**

Remove the argument or install the option.

## 41548, Module Error

**Description**

Task: *arg*.

The module you are trying to erase, *arg*, is active and thus cannot be removed.

Program ref: *arg*.

**Recommended actions**

Check that the module you want to erase is not active.

## 41549, Unexpected SyncMoveOn or SyncMoveOff

**Description**

Task: *arg*.

Wrong path level. It is not possible to use SyncMoveOn or SyncMoveOff on StorePath level. Used *arg*: *arg*.

Program ref: *arg*.

**Recommended actions**

Check the RAPID program.

## 41550, PathRecorder Start/Stop Error

**Description**

Task: *arg*.

Unable to execute *arg*.

Program ref: *arg*.

**Recommended actions**

Ensure that a backward motion has not been initiated with PathRecMoveBwd without being terminated with PathRecMoveFwd.

## 41551, PathRecorder Move Error

**Description**

Task: *arg*.

Unable to execute *arg*. The given identifier cannot be reached.

Program ref: *arg*.

**Consequences**

The program execution is stopped immediately.

**Probable causes**

The reason for this error is one of the following:

1 The PathRecorder has not been started.
2 The program pointer has been moved manually.
3 The limit of recorded move instructions has been exceeded.
4 Program execution has been limited by a WaitSyncTask or SyncMoveOff.

**Recommended actions**

Check RAPID program.

## 41552, PathRecorder Path Level Error

**Description**

Task: *arg*.

Cannot execute *arg* on current path level.

Program ref: *arg*.

**Recommended actions**

- Switch to trap-level.
- Execute StorePath to switch path level.

## 41553, Destroyed Data

**Description**

System data *arg* in one of the tasks has been changed. It is NOT allowed to change this data.

**Recommended actions**

The system has restored the data when it was started, but the program has to be checked. Remove where *arg* has been assigned a value.

## 41554, Synchronized Mode

**Description**

Task: *arg*.

It is not possible to use the optional parameter \Conc when the system is in synchronized mode.

Program ref: *arg*.

**Recommended actions**

Remove the optional parameter \Conc from any move instruction used in synchronized mode.

## 41555, No Contact With I/O Device

**Description**

Task: *arg*.

There is no contact with the I/O device *arg*.

Program ref: *arg*.

**Probable causes**

The I/O device may have been deactivated. No power to the I/O device.

**Recommended actions**

Recovery: *arg*.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 41556, No Contact With I/O Device

**Description**

Task: *arg*.

There is no contact with I/O device.

Program ref: *arg*.

**Probable causes**

The I/O device may have been deactivated. No power to the I/O device.

**Recommended actions**

Recovery: *arg*.

### 41557, Mechanical Unit not stopped

**Description**

Task: *arg*.

Not allowed to change run mode, if not all Motion tasks are stopped.

Program ref: *arg*.

**Recommended actions**

Do program stop and try again.

### 41558, Argument Switch Missing

**Description**

Task: *arg*.

An argument is missing to instruction *arg*.

Program ref: *arg*.

**Recommended actions**

Add switch SyncOrgMoveInst or SyncLastMoveInst to the instruction.

### 41559, Not PERS variable

**Description**

Task: *arg*.

The task list, *arg*, is either LOCAL or TASK persistent. It is not allowed. It has to be global.

Program ref: *arg*.

**Recommended actions**

Change the task list to PERS.

### 41560, No Start of Movement

**Description**

Task: *arg*.

It was not possible to start the movement.

Program ref: *arg*.

**Probable causes**

1 There has been an emergency stop.

2 There was another error in the system.

**Recommended actions**

1 Reset the emergency stop, if there has been one.

2 Check former error messages for reason.

Recovery: *arg*.

### 41561, No Text in Function Key

**Description**

Task: *arg*.

The instruction TPReadFK has no text in either of the function keys.

Program ref: *arg*.

**Consequences**

When the instruction is executing there will be no button available to press.

**Recommended actions**

Put a text in at least one of the function keys TPFK1 .. TPFK5.

### 41562, Risk for faulty circular movement

**Description**

Task: *arg*.

Risk for faulty circular movement because of:

1 An asynchronous process error has occurred and was not handled in any error handler.

2 Program Pointer at circular instruction in combination with done MODPOS of any previous move instruction.

Program ref: *arg*.

**Consequences**

The Program may not be started from the current position, because there is a risk that the robot might perform an unexpected movement.

**Probable causes**

One of following:

1 The RAPID program is missing an error handler or the error handler does not handle this specific error.

2 MODPOS operation done when not running in step or move step mode.

**Recommended actions**

One of following:

1 Edit the program.

2 Move the program pointer to be able to start the program.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 41563, Argument Error

**Description**

Task: *arg*.

The mechanical unit *arg* specified in the WObj for this MOVE instruction is the same mechanical unit *arg* as the robot for this program task.

Program ref: *arg*.

**Consequences**

It is not possible that the robot moves the work object itself.

**Recommended actions**

Edit the used wobjdata.

### 41564, Not allowed to run from a Motion Task

**Description**

Task: *arg*.

The instructions StopMove, StartMove and StopMoveReset with the option parameter \AllMotionTasks are not allowed to run from a Motion task.

Program ref: *arg*.

**Probable causes**

It is only allowed to do stop and restart of all movements in the system from a supervision program task running as a read (or background) program task.

**Recommended actions**

Remove the instruction.

### 41565, Not allowed value

**Description**

Task: *arg*.

Illegal value in argument *arg*.

Program ref: *arg*.

**Recommended actions**

Check and change the value. It must be an integer between *arg* and *arg*.

### 41566, Signal exceeds max number of allowed bits

**Description**

Task: *arg*.

The signal *arg* is too big.

Program ref: *arg*.

**Recommended actions**

Group signals consisting of 23 bits or less can be represented by the num data type, and group signals of 32 bits or less can be represented by the dnum data type, if they are used in a RAPID program.

### 41567, Digital Output Break

**Description**

Task: *arg*.

A digital output interrupted the execution.

Program ref: *arg*.

**Recommended actions**

Recovery: *arg*.

### 41568, Specified name is not a network

**Description**

Task: *arg*.

The network name *arg* doesn't exist.

Program ref: *arg*.

**Probable causes**

The I/O device name is misspelled or not defined.

**Recommended actions**

Recovery: *arg*.

### 41569, Socket error

**Description**

Task: *arg*.

The socket is already connected and cannot be used to listen for incoming connections.

Program ref: *arg*.

**Recommended actions**

Use another socket to listen for incoming connections.

Recovery: *arg*

### 41570, Socket error

**Description**

Task: *arg*.

The socket cannot accept incoming connection requests since it is not set to listen state.

Program ref: *arg*.

**Probable causes**

SocketAccept is used before SocketListen.

**Recommended actions**

Set socket to listen for incoming connections before trying to accept.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 41571, Socket error

**Description**

Task: *arg*.

The address and port is already in use and cannot be used by this socket.

Program ref: *arg*.

**Recommended actions**

Recovery: *arg*.

### 41572, Socket error

**Description**

Task: *arg*.

Unexpected error creating socket. Check log for further messages of possible cause.

Program ref: *arg*.

**Recommended actions**

Move program pointer to main and restart program.

Recovery: *arg*

### 41573, Socket error

**Description**

Task: *arg*.

No more sockets can be created. The maximum number of concurrent sockets is 32.

Program ref: *arg*.

**Recommended actions**

Close one or more sockets, to allow a new socket to be created.

### 41574, Socket error

**Description**

Task: *arg*.

The socket must be created before it can be used in any socket instruction.

Program ref: *arg*.

**Probable causes**

The reason for this error is one of the following:

1 Socket not created at all.
2 PP movements has been done.
3 Start of program after power fail.
4 The socket has been closed after SocketCreate.

**Recommended actions**

Insert a SocketCreate instruction at a suitable place in the program before the socket is used.

Recovery: *arg*.

### 41575, Socket error

**Description**

Task: *arg*.

The specified address is invalid. The only valid addresses are the LAN address of the controller or the service port address, 192.168.125.1.

Program ref: *arg*.

**Recommended actions**

Specify the LAN address or the service port address.

Recovery: *arg*

### 41576, Socket error

**Description**

Task: *arg*.

The specified port is invalid.

Program ref: *arg*.

**Recommended actions**

It is recommended that a port number in the range 1025-4999 is used.

### 41577, Socket error

**Description**

Task: *arg*.

The timeout specified in the instruction is too low. The timeout is specified in seconds and must not be zero.

Program ref: *arg*.

**Recommended actions**

Use a timeout value greater than zero.

### 41578, Socket error

**Description**

Task: *arg*.

Unexpected error when connecting socket. Check event log for other messages for possible cause.

Program ref: *arg*.

**Recommended actions**

Move program pointer to Main and restart program.

Recovery: *arg*

### 41579, Socket error

**Description**

Task: *arg*.

The connection was refused by the remote host.

Program ref: *arg*.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 41580, Socket error

**Description**

Task: *arg*.

The socket is already connected and cannot be connected again.

Program ref: *arg*.

**Probable causes**

SocketConnect has already been executed for the specified socket.

**Recommended actions**

Close the socket and recreate before connecting.

Recovery: *arg*

### 41581, Socket error

**Description**

Task: *arg*.

The instruction was not finished within the timeout period.

Program ref: *arg*.

**Recommended actions**

Use a higher timeout value or use an error handler to retry the instruction.

Recovery: *arg*.

### 41582, Socket error

**Description**

Task: *arg*.

Empty data was specified to be sent or as storage in receive.

Program ref: *arg*.

**Recommended actions**

Use a string, rawbyte or byte array with size greater than zero.

### 41583, Socket error

**Description**

Task: *arg*.

The specified data is too big.

Program ref: *arg*.

**Recommended actions**

A socket can handle at most 1024 bytes in one instruction.

### 41584, Socket error

**Description**

Task: *arg*.

The specified string or data to be sent is empty.

Program ref: *arg*.

**Recommended actions**

Check that the data is correct.

### 41585, Socket error

**Description**

Task: *arg*.

The number of bytes to send has to be a value bigger than zero.

Program ref: *arg*.

**Recommended actions**

Change the value for the optional parameter NoOfBytes to a value bigger than zero.

### 41586, Socket error

**Description**

Task: *arg*.

The specified number of bytes to be sent is longer than the length of the actual data.

Program ref: *arg*.

**Recommended actions**

Change the value for the optional parameter NoOfBytes to be less than or equal to the actual data. If all data should be sent remove the optional parameter.

### 41587, Socket error

**Description**

Task: *arg*.

An unexpected error occurred when sending data. Check the event log for other messages for the possible cause.

Program ref: *arg*.

**Recommended actions**

Move the program pointer to Main and restart the program.

Recovery: *arg*

### 41588, Socket error

**Description**

Task: *arg*.

Network is unreachable.

A socket operation was attempted to an unreachable network. This usually means the local software knows no route to reach the remote host.

Program ref: *arg*.

**Consequences**

The operation was aborted.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

**Recommended actions**

Check your connection and network settings.

Recovery: *arg*

## 41590, Socket error

**Description**

Task: *arg*.

The byte array is invalid. A byte array can only contain integers between 0 and 255.

Program ref: *arg*.

**Recommended actions**

Change the byte array to contain valid data or use rawbytes to send complex data.

## 41591, Socket error

**Description**

Task: *arg*.

Unexpected error when trying to get socket state.

Program ref: *arg*.

**Recommended actions**

Move program pointer to Main and restart program.

## 41592, Socket error

**Description**

Task: *arg*.

No data was received.

Program ref: *arg*.

**Probable causes**

The connection may have been closed by the remote host.

**Recommended actions**

Move program pointer to Main and restart program.

## 41593, Socket error

**Description**

Task: *arg*.

The data received is too long to be stored in a string. The maximum length of data that can be stored in a string is 80 characters.

Program ref: *arg*.

**Recommended actions**

Use a byte array or rawbytes to receive data longer than 80 bytes.

## 41594, Socket error

**Description**

Task: *arg*.

The socket is not connected.

Program ref: *arg*.

**Probable causes**

For client, use SocketConnect before receiving/sending/peeking data. For server, use SocketAccept before receiving/sending/peeking data.

**Recommended actions**

Use SocketConnect or SocketAccept to connect socket before trying to receive/send/peek.

Recovery: *arg*

## 41595, Socket error

**Description**

Task: *arg*.

The connection has been closed by the remote host.

Program ref: *arg*.

**Recommended actions**

Use error handler to re-establish connection before retrying to send/receive/peek.

Recovery: *arg*.

## 41596, Socket error

**Description**

Task: *arg*.

Unexpected error binding socket.

Program ref: *arg*.

**Recommended actions**

Move program pointer to Main and restart program.

Recovery: *arg*

## 41597, Socket error

**Description**

Task: *arg*.

The socket has already been bound to an address and cannot be bound again.

Program ref: *arg*.

**Recommended actions**

Close socket and recreate before trying to bind socket to a new address.

Recovery: *arg*

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

## 41598, Socket error

**Description**

Task: *arg*.

Unexpected error trying to listen for connections.

Program ref: *arg*.

**Recommended actions**

Move program pointer to Main and restart program.

Recovery: *arg*

## 41599, Socket error

**Description**

Task: *arg*.

The socket has not been bound to an address.

Program ref: *arg*.

**Recommended actions**

Use SocketBind to specify which address to listen for incoming connections.

Recovery: *arg*

## 41600, Socket error

**Description**

Task: *arg*.

The specified client socket is already in use. The client socket must not be created before calling SocketAccept.

Program ref: *arg*.

**Probable causes**

SocketAccept has already been executed for the specified socket.

**Recommended actions**

Close the client socket before using it in the call to SocketAccept, or remove multiple SocketAccept with same client socket.

## 41601, Socket error

**Description**

Task: *arg*.

Unexpected error accepting connection.

Program ref: *arg*.

**Recommended actions**

Move program pointer to Main and restart program.

Recovery: *arg*

## 41602, Socket error

**Description**

Task: *arg*.

Unexpected error receiving data.

Program ref: *arg*.

**Recommended actions**

Move program pointer to Main and restart program.

## 41603, Socket error

**Description**

Task: *arg*.

The socket has already been created. A socket can only be created once and must be closed before it can be created again.

Program ref: *arg*.

**Recommended actions**

Use another socket or close socket before creating.

## 41604, Socket error

**Description**

Task: *arg*.

The socket is already listening for incoming connections. A socket can only be used once to listen for incoming connections.

Program ref: *arg*.

**Probable causes**

Multiple use of SocketListen with same socket.

**Recommended actions**

Use another socket or close socket before using it again.

## 41605, Socket error

**Description**

Task: *arg*.

The socket is not valid anymore.

Program ref: *arg*.

**Consequences**

The program execution is immediately halted.

**Probable causes**

The socket used is not valid.

1 The has probably been copied with instruction . Then the original has been closed with . If using the copied you will have this problem.
2 A module that has been installed shared has a declaration of a variable of the data type socketdev. The variable has been used when creating a new socket. When moving PP

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

to main, the socketdev variable keeps it value, but is not valid anymore.

**Recommended actions**

Use socket instructions when handling data types of *arg*. Do not declare and use socketdev variables in a shared module.

## 41606, Socket error

**Description**

Task: *arg*.

The socket type is of the type datagram protocol UDP/IP. Current instruction *arg* is only supported for stream type protocol TCP/IP.

Program ref: *arg*.

**Consequences**

The program execution is immediately halted.

**Probable causes**

The socket type used is not valid.

**Recommended actions**

Check how the socket was created.

## 41607, Socket error

**Description**

Task: *arg*.

The socket type is of the type stream type protocol TCP/IP. Current instruction *arg* is only supported for datagram protocol UDP/IP.

Program ref: *arg*.

**Consequences**

The program execution is immediately halted.

**Probable causes**

The socket type used is not valid.

**Recommended actions**

Check how the socket was created.

## 41611, UIMsgBox - No user or program action defined

**Description**

Task: *arg*.

The instruction UIMsgBox or function UIMessageBox has no user or program action defined. None of the option arguments \Buttons, \BtnArray,\MaxTime, \DIBreak or \DOBreak are used.

Program ref: *arg*.

**Consequences**

The RAPID program will be executed for ever.

**Recommended actions**

Use one or several of the arguments \Buttons, \BtnArray, \MaxTime, \DIBreak or \DObreak.

Recovery: *arg*.

## 41612, MinValue greater than MaxValue

**Description**

Task: *arg*.

In function *arg*, the argument \MinValue is greater than \MaxValue.

Program ref: *arg*.

**Consequences**

Not possible to continue the program execution.

**Recommended actions**

Change the RAPID program so argument \MaxValue is greater than \MinValue.

Recovery: *arg*.

## 41613, InitValue not within specified value range

**Description**

Task: *arg*.

In function *arg*, the argument \InitValue is not specified within the range \MaxValue ... \MinValue.

Program ref: *arg*.

**Consequences**

Not possible to continue the program execution.

**Recommended actions**

Change the argument \InitValue so it's inside the value range.

Recovery: *arg*.

## 41614, InitValue is not an integer

**Description**

Task: *arg*.

In function *arg*, the argument \InitValue is not an integer value as specified in argument \AsInteger.

Program ref: *arg*.

**Consequences**

The program execution cannot continue.

**Recommended actions**

Change the argument \InitValue to an integer.

Recovery: *arg*.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

## 41615, Reference Error

**Description**

Task: *arg*.

The datapos *arg* is undefined.

Program ref: *arg*.

**Recommended actions**

All datapos is retrieved with the function GetNextSym.

## 41616, Reference Error

**Description**

Task: *arg*.

The taskid *arg* is unknown in the system.

Program ref: *arg*.

**Recommended actions**

Program tasks must be defined in the system parameter and not in the RAPID program. (Taskid can be used as a parameter when declaring a routine).

## 41617, Too intense frequency of Write Instructions

**Description**

A high usage frequency of user interface write instructions, such as TPWrite, has forced the program execution to slow down.

**Recommended actions**

Decrease the usage frequency of user interface write instructions. Add wait instructions, such as WaitTime, when many write instructions are used in conjunction.

## 41618, Argument error buttondata

**Description**

Task: *arg*.

The argument Buttons of type buttondata has not allowed value. Only allowed to use the predefined data of type buttondata.

Program ref: *arg*.

**Probable causes**

Buttondata must be:

- an integer,
- have a value within the predefined range.

**Recommended actions**

Edit the program.

## 41619, Argument error icondata

**Description**

Task: *arg*.

The argument Icon of type icondata has not allowed value. Only allowed to use the predefined data of type icondata.

Program ref: *arg*.

**Probable causes**

Icondata must be:

- an integer,
- have a value within the predefined range.

**Recommended actions**

Edit the program.

## 41620, Socket Error

**Description**

Task: *arg*.

The Socket Messaging subsystem is overloaded.

Program ref: *arg*.

**Probable causes**

This can happen if sockets are created and closed frequently and very rapidly.

**Recommended actions**

Try to rewrite the program in such a way that sockets are reused instead of closed and then recreated.

## 41621, StorePath Error

**Description**

Task: *arg*.

Instruction *arg* is used with *arg* switch in one or several tasks together with *arg* without *arg* switch.

Program ref: *arg*.

**Consequences**

The program execution is immediately halted.

**Probable causes**

Error in the RAPID programs.

**Recommended actions**

Check that no mix of StorePath and StorePath \KeepSync is used. Change the program. PP must be moved in all tasks before you can continue.

## 41622, Unexpected instruction

**Description**

Task: *arg*.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

The instruction *arg* can only be used in between instruction *arg* and instruction *arg* (on store path level).
Program ref: *arg*.

**Consequences**
The program execution is immediately halted.

**Probable causes**
Error in the RAPID program.

**Recommended actions**
Check and change the RAPID program. PP must be moved in all tasks before you can continue.

## 41623, Faulty use of *arg*

**Description**
Task: *arg*.
Instruction *arg* is used multiple times, or the instruction is used when already in synchronized motion mode. *arg* suspends synchronized coordinated movements. *arg* resumes synchronized coordinated movements.
Program ref: *arg*.

**Consequences**
The program execution is immediately halted.

**Probable causes**
Error in the RAPID program.

**Recommended actions**
Check and change the RAPID program. PP must be moved in all tasks before you can continue.

## 41625, Unexpected *arg*

**Description**
Task: *arg*.
Instruction *arg* is used directly after instruction *arg*, or the system is not in synchronized motion mode. A change to independent motion mode cannot be done.
Program ref: *arg*.

**Consequences**
The program execution is immediately halted.

**Probable causes**
Error in the RAPID program.

**Recommended actions**
Check and change the RAPID program. PP must be moved in all tasks before you can continue.

## 41626, Unexpected *arg \arg*

**Description**
Task: *arg*.
Instruction *arg \arg* is used in independent motion mode.
Program ref: *arg*.

**Consequences**
The program execution is immediately halted.

**Probable causes**
Error in the RAPID program.

**Recommended actions**
Check and change the RAPID program. PP must be moved in all tasks before you can continue.

## 41627, Faulty use of *arg*

**Description**
Task: *arg*.
*arg* is used on store path level and system was not in synchronized motion mode before *arg*.
Program ref: *arg*.

**Consequences**
The program execution is immediately halted.

**Probable causes**
Error in the RAPID program.

**Recommended actions**
Check and change the RAPID program. PP must be moved in all tasks before you can continue.

## 41630, Unsafe Synchronization

**Description**
Task: *arg*.
To reach safe synchronization functionality, variable *arg* should be used only one time, not in several *arg* or *arg* instructions.
Program ref: *arg*.

**Consequences**
Program tasks/movements may not always be synchronized.

**Probable causes**
Use of *arg* several times in the same program.

**Recommended actions**
Check and change the RAPID program.

## 41631, Instruction Error

**Description**
Task: *arg*.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

The program is executing in an EVENT routine. It is not allowed to execute the current instruction in an EVENT routine with shelf *arg*.
Program ref: *arg*.

**Recommended actions**
Remove the instruction.

## 41632, Argument does not exist

**Description**
Task: *arg*.
Only TP_LATEST is supported in TPShow instruction.
Program ref: *arg*.

**Consequences**
Using other argument than TP_LATEST, nothing will happen.

**Recommended actions**
Remove the instruction.

## 41633, Can only be used in an UNDO handler

**Description**
Task: *arg*.
The instruction *arg* can only be used in an UNDO handler.
Program ref: *arg*.

**Consequences**
Program execution will be stopped.

**Recommended actions**
Use another instruction and/or move this instruction to the UNDO handler.

## 41634, Unknown Task Name

**Description**
Task: *arg*.
The task name *arg* is unknown in the system.
Program ref: *arg*.

**Consequences**
It is not possible to execute this instruction with a task name that is not found in the system.

**Probable causes**
1 The program task is not defined in the system parameters.
2 The task name is wrong spelled.

**Recommended actions**
Recovery: *arg*.

## 41635, Unexpected SyncMoveOff

**Description**
Task: *arg*.
Unexpected SyncMoveOff (SyncID *arg*). The system is already in unsynchronized mode.
Program ref: *arg*.

**Probable causes**
Use of task lists that are non-global can cause this error.

**Recommended actions**
Remove the SyncMoveOff instruction. Every SyncMoveOn must be followed by one SyncMoveOff instruction. Check your task lists.

## 41636, Unexpected SyncMoveOff

**Description**
Task: *arg*.
Unexpected SyncMoveOff (SyncId *arg*) from Task not included in synchronized group.
Program ref: *arg*.

**Probable causes**
Use of task lists that are non-global can cause this error.

**Recommended actions**
Remove the SyncMoveOff instruction. Every SyncMoveOn must be followed by one SyncMoveOff instruction. Check your task lists.

## 41637, Task not active in task selection panel anymore

**Description**
Task: *arg*.
The task *arg* is not active in the task selection panel anymore. The task *arg* was active in task selection panel at start from main. Because of that not possible to pass this *arg* instruction.
Program ref: *arg*.

**Consequences**
The program execution is stopped immediately.

**Probable causes**
The task *arg* has been deactivated in the task selection panel.

**Recommended actions**
1 Activate task in the task selection panel.
2 To permanent skip task for the rest of this cycle run the service routine SkipTaskExec. After that restart the instruction .

*Continues on next page*


© Copyright 2005-2020 ABB. All rights reserved.

## 41638, Not allowed task activation

**Description**

Task: *arg*.

The task *arg* is active in the task selection panel. This task was not active in the task selection panel when start from main was done. It is not allowed to add tasks in the task selection panel after start from main.

Program ref: *arg*.

**Consequences**

The program execution is stopped immediately.

**Probable causes**

1 The task was not active when start from main was done.
2 Deactivation of task with service routine , but not deactivating the task in the task selection panel.
3 Activation of task that earlier was deactivated in task selection panel and deactivated with service routine .

**Recommended actions**

Move PP to main to reset tasks used at start from main. Then use the task selection panel to select which tasks that you want to execute.

## 41640, Move PP Warning

**Description**

Task: *arg*.

Move of program pointer when path is stored may cause problems if moved to a place after the path restore.

**Consequences**

Path may unintentionally stay in a stored state.

**Probable causes**

Stop of program when having a stored path. Then a PP movement within the program has been done.

**Recommended actions**

Ensure that restore of path is not skipped by moving PP to a RestoPath instruction if necessary.

## 41641, Move PP Warning

**Description**

Task: *arg*.

Move of program pointer when stop motion is active may cause problems if moved to a place after stop motion deactivation.

**Consequences**

Restart of motion may be blocked. Program execution may be waiting at motion instructions.

**Probable causes**

Stop of program when stop motion is active. Then a PP movement within the program has been done.

**Recommended actions**

Ensure that stop motion deactivation is not skipped.

## 41642, Argument Error

**Description**

Task: *arg*.

Argument *arg* not within range.

Program ref: *arg*.

**Recommended actions**

*arg* must be > 0 when *arg* = 0.

## 41643, Argument Error

**Description**

Task: *arg*.

Argument *arg* not within range.

Program ref: *arg*.

**Recommended actions**

*arg* must be an integer when *arg* < 0.

## 41644, Argument Error

**Description**

Task: *arg*.

Argument *arg* not within range.

Program ref: *arg*.

**Recommended actions**

*arg* must greater or equal to 0.

## 41645, Program Stopped from RAPID

**Description**

Task: *arg*.

Program and movement are stopped with System Stop from RAPID.

Program ref: *arg*.

**Consequences**

Due to a programmed System Stop in RAPID both program execution and movements are stopped. The problem causing the stop has preferable been presented in another log.

**Recommended actions**

Find out why the program has been stopped (maybe in other logs), correct the problem and restart the program.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

## 41646, Program Blocked from RAPID

**Description**

Task: *arg*.

Program and movement are stopped and blocked with System Stop RAPID Block from RAPID.

Program ref: *arg*.

**Consequences**

Due to a programmed System Stop RAPID Block in RAPID both program execution and movements are stopped. The problem causing the stop has preferable been presented in another log. If the robot is performing a circular movement, the robot has to be moved to the beginning of the circular movement before restarting the program.

**Recommended actions**

Find out why the program has been blocked (maybe in other logs), correct the problem and move program pointer in all Motion tasks before restarting the program.

## 41647, Program Halted from RAPID

**Description**

Task: *arg*.

Program and movement are halted with System Halt from RAPID.

Program ref: *arg*.

**Consequences**

Due to a programmed System Halt in RAPID both program execution and movements are stopped. The problem causing the stop has preferable been presented in another log.

**Recommended actions**

Find out why the program has been halted (maybe in other logs), correct the problem and turn motors on before restarting the program.

## 41648, Execution Error

**Description**

Task: *arg*.

Not allowed to change run mode from forward to backward, from continues to stepwise or vice versa.

Program ref: *arg*.

**Recommended actions**

Select the original run mode and continue program execution.

## 41649, Incorrect Error Message

**Description**

Task: *arg*.

At least one of the arguments in the instruction *arg* exceeds the limitations described in the manual.

Program ref: *arg*.

**Probable causes**

The arguments to instruction *arg* contain limitations both on each string and the total amount of characters used in the instruction. This is described in the manual.

**Recommended actions**

Consult the manual and correct the arguments.

## 41650, Task already stopped by another task

**Description**

The non-Motion task *arg* has executed a StopMove instruction. No stop action has, however, been taken because the Motion task *arg* was already stopped by task *arg*.

Program ref: *arg*.

**Consequences**

The Motion task must be started, with the instruction StartMove, from the task that stopped it or the switch \AllMotionTasks has to be used in StartMove from this task.

## 41651, Ignored StartMove actions for task

**Description**

The non-Motion task *arg* has executed a StartMove instruction. The Motion task *arg* has, however, not been started.

Program ref: *arg*.

**Consequences**

No movements can be performed if the Motion task has been stopped by another non-Motion task.

**Probable causes**

1 The Motion task has not been stopped.

2 The Motion task was stopped by another non-Motion task . This time the cause was *arg*.

**Recommended actions**

Use the switch \AllMotionTasks in StartMove if this instruction should start a movement that is stopped by another non-Motion task.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

## 41652, Forced StartMove action

**Description**

The non-Motion task *arg* has executed a StartMove instruction. The instruction discovered that the Motion task *arg* has been stopped by this task. That Motion task will be started to prevent inexplicable stopped movements.
Program ref: *arg*.

**Probable causes**

1 The Motion task has been stopped with the switch \AllMotionTasks active in the StopMove instruction but not in the StartMove instruction.
2 The StopMove instruction has been executed in synchronized mode and the StartMove in independent mode.

## 41653, Argument error CalcJointT

**Description**

Task: *arg*.
It is not possible to execute the function CalcJointT with argument \UseCurWObjPos, if the coordinated workobject moved by some mechanical unit is located in the same task as the TCP robot or if the workobject is not moved by any mechanical unit at all.
Program ref: *arg*.

**Recommended actions**

Remove the argument \UseCurWObjPos, so can the function CalcJointT be executed and the calculation can be done with data solely from the RAPID program.

## 41654, Execution error CalcJointT

**Description**

Task: *arg*.
It was not possible to execute the function CalcJointT with argument \UseCurWObjPos, because the mechanical unit *arg* was moving at the time of execution of CalcJointT.
Program ref: *arg*.

**Recommended actions**

Function CalcJointT with argument \UseCurWObjPos can only be executed without error, if the coordinated workobject moved by another task is standing still.
Recovery: *arg*.

## 41655, Argument not a Motion task

**Description**

Task: *arg*.
The function/instruction *arg* has been used with an argument that refer to a task, *arg*. That task is not a Motion task (controlling mechanical units) and can therefore not be used.
Program ref: *arg*.

**Probable causes**

*arg* with argument \TaskRef or \TaskName can only be used without errors if the task that the arguments refer to is a Motion task.

**Recommended actions**

Change the argument \TaskRef or \TaskName or remove it and restart the program execution.
Recovery: *arg*.

## 41656, Not allowed value

**Description**

Task: *arg*.
Illegal value in argument *arg*.
Program ref: *arg*.

**Recommended actions**

Check and change the value. It must be between *arg* and *arg*.

## 41657, File Access Error

**Description**

Task: *arg*.
Could not access the file/device *arg*.
Program ref: *arg*.

**Probable causes**

- The path or filename is wrong.
- The maximum number of simultaneously opened files is exceeded.
- The disk is full.
- Function does not support check of selected device.

**Recommended actions**

- Check the path or filename.
- Check the disk space.

Recovery: *arg*.

## 41658, Program task is in StopMove state

**Description**

Task: *arg*.
No movement will be performed in this Motion task, because the task is currently set in StopMove state ordered by some non-Motion task.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

**Consequences**

Not possible to start any movements.

**Probable causes**

Some non-Motion task connected to this Motion task has set the task in StopMove state.

**Recommended actions**

To perform movements in this Motion task, the StopMove state must be reset by the responsible non-Motion task with one of the following actions:

1 Execute StartMove.
2 Start the non-Motion task from main. a) Do power off-on if semi static non-Motion task. b) Do installation start if static non-Motion task. c) Set PP to main if normal non-Motion task.

## 41660, No space left for the new view

**Description**

Task: *arg*.

Maximum number of views has been exceeded. There is no space left on the FlexPendant for the new view.

Program ref: *arg*.

**Consequences**

The view will not be launched.

**Probable causes**

Too many open views.

**Recommended actions**

Close one view and try again.

Recovery: *arg*.

## 41661, Assembly could not be found

**Description**

Task: *arg*.

1 The assembly could not be found, or does not exist.
2 The FlexPendant Interface option is missing.

Status *arg*.

Program ref: *arg*.

**Consequences**

The view will not be launched.

**Probable causes**

1 The assembly could not be found.
2 The system image does not include the required option FlexPendant Interface.

**Recommended actions**

1 Check inparameters. Make sure that the modules been loaded correctly to the robot controller.
2 Check that FlexPendant Interface option is used.

Recovery: *arg*.

## 41662, Assembly could not be loaded

**Description**

Task: *arg*.

The assembly was found but could not be loaded. Status *arg*.

Program ref: *arg*.

**Consequences**

The view will not be launched.

**Recommended actions**

Make sure that the loaded modules are executable files for the FlexPendant.

Recovery: *arg*.

## 41663, Instance could not be created

**Description**

Task: *arg*.

The assembly exist but no new instance could be created.

Status *arg*.

Program ref: *arg*.

**Consequences**

The view will not be launched.

**Recommended actions**

Make sure that the loaded modules are executable files for the FlexPendant.

Recovery: *arg*.

## 41664, The typename is invalid for this assembly

**Description**

Task: *arg*.

The inparameter *arg* is invalid. The typename does not match the assembly. Status *arg*.

Program ref: *arg*.

**Consequences**

The view will not be launched.

**Recommended actions**

Check the inparameters.

Recovery: *arg*.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 41665, *arg* does not match assembly to load

**Description**

Task: *arg* The type or name of the assembly does not match with the used *arg*. Status *arg*.

Program ref: *arg*.

**Consequences**

The view will not be launched.

**Probable causes**

Use of *arg* without setting it to 0 first.

**Recommended actions**

Set *arg* to 0 before using it.

Recovery: *arg*.

### 41666, Fatal UIShow error

**Description**

Task: *arg*.

Unknown error code *arg* received.

Program ref: *arg*.

**Consequences**

The program execution is stopped immediately.

**Recommended actions**

Report this to ABB Robotics.

### 41667, Fatal UI error

**Description**

Task: *arg*.

Instruction or function used with switch *arg* and without optional argument *arg*.

Program ref: *arg*.

**Consequences**

The program execution is stopped immediately.

**Probable causes**

An illegal combination of optional arguments and switches was used.

**Recommended actions**

Correct the RAPID program.

### 41670, Entire Array Not Allowed As Argument

**Description**

Task: *arg*.

The argument *arg* is of data type 'any type' and can for that reason only be checked during runtime. An entire array cannot be used as argument even if the array is of right data type.

Program ref: *arg*.

**Consequences**

The program execution is stopped immediately.

**Recommended actions**

Replace the array with a valid argument.

### 41671, Too high poll rate

**Description**

Task: *arg*.

The specified poll rate is too high for the robot system.

Program ref: *arg*.

**Consequences**

The system can be overloaded.

**Recommended actions**

Change instruction WaitUntil, argument \PollRate to a value greater than or equal to 0.01 s.

### 41672, Invalid Combination

**Description**

Task: *arg*.

Invalid combination of parameters in Trigg.

Program ref: *arg*.

**Recommended actions**

Either run Trigg without \Time optional argument, or use TriggRampAO with optional argument \Time to specify that the RampLength is seconds instead of distance.

### 41673, Index Out Of Bounds

**Description**

Task: *arg*.

Index for cfg instance was out of bounds.

Program ref: *arg*.

**Recommended actions**

Check and change the RAPID program.

Recovery: *arg*.

### 41674, Value Out Of Bounds

**Description**

Task: *arg*.

Parameter *arg* is not in the range of 0 to 100.

Program ref: *arg*.

**Recommended actions**

Check and change the RAPID program.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

Recovery: *arg*.

### 41675, Not Integer

**Description**

Task: *arg*.

Parameter *arg* is not an integer.

Program ref: *arg*.

**Recommended actions**

Check the RAPID program, or use ERROR handler.

Recovery: *arg*.

### 41676, Device access error

**Description**

Task:*arg* Unable to open File or Serial channel, '*arg*' does not exist.

Program ref: *arg*.

**Recommended actions**

Check file or serial channel name.

Recovery: *arg*.

### 41677, Device access error

**Description**

Task: *arg*.

Unable to write to file: *arg*, the disc is full.

Program ref: *arg*.

**Recommended actions**

Make sure there are enough free space on the disc.

Recovery: *arg*.

### 41678, Device access error

**Description**

Task: *arg*.

Unable to write to file: *arg*, the file is write-protected.

Program ref: *arg*.

**Recommended actions**

Remove the write protection of the file or select a different filename.

Recovery: *arg*.

### 41679, Device access error

**Description**

Task: *arg*.

The maximum number of simultaneously opened files is exceeded.

Program ref: *arg*.

**Recommended actions**

Close one or more I/O devices and try again.

Recovery: *arg*.

### 41680, String too long

**Description**

Task: *arg*.

The string *arg* exceeds the maximum number of characters allowed for a module.

Program ref: *arg*.

**Recommended actions**

Change the string for module name.

Recovery: *arg*.

### 41682, Too many subscriptions from I/O

**Description**

Task: *arg*.

The number of simultaneous subscriptions on signal events has been exceeded.

Program ref: *arg*.

**Recommended actions**

Remove some subscriptions on signals or change the time for the event. (i.e. any ISignalXX or TriggIO).

### 41683, Argument Error

**Description**

Task: *arg*.

The argument *arg* must be given when searching for a not named parameter.

Program ref: *arg*.

**Recommended actions**

Add the parameter *arg* to the instruction.

### 41684, Value Error

**Description**

Task: *arg*.

The argument *arg* is outside the range of value type unsigned long.

Program ref: *arg*.

**Probable causes**

The value is too large.

**Recommended actions**

Use a smaller value for *arg*.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 41685, Not valid value

**Description**

Task: *arg*.

A wrong combination of switch and value is used. The signal can have values between:

Min: *arg*.

Max: *arg*.

Switch and value used: *arg*.

Program ref: *arg*.

**Consequences**

The program execution is stopped immediately.

**Probable causes**

Wrong value used, or wrong switch used.

**Recommended actions**

Change the value used, or change the switch argument.

### 41687, File Open Error

**Description**

Task: *arg*.

Unable to open *arg*.

Program ref: *arg*. An unknown error occurred while opening the file.

**Probable causes**

- If the file was located on an USB disk, check that the disk is not removed, or has too many files in root folder.
- Check that the given file is not a directory.

**Recommended actions**

Do a check of Probable Causes.

Recovery: *arg*.

### 41688, Invalid Argument

**Description**

Task: *arg*.

Inparameter *arg* is declared as a PERS.

Program ref: *arg*.

**Consequences**

The program execution is stopped immediately.

**Probable causes**

Using a PERS in argument *arg* to instruction *arg*.

**Recommended actions**

Replace the PERS with a valid argument.

### 41690, Parameter Error

**Description**

Task: *arg*.

The argument *arg* is of the type *arg* and is not valid to use.

Program ref: *arg*.

**Consequences**

The program execution is stopped immediately.

**Recommended actions**

Check the data type. Non-value, semi-value types or motsetdata data type cannot be used.

### 41691, RMQ Error - Client name not valid

**Description**

Task: *arg*.

The name *arg* cannot be found. It is not a valid RMQ client name.

Program ref: *arg*.

**Probable causes**

A non-valid name is used.

**Recommended actions**

Change name to search for.

Recovery: *arg*.

### 41692, RMQ Error - Not valid Slot

**Description**

Task: *arg*.

The *arg* used is not valid.

Program ref: *arg*.

**Consequences**

Communication with client with current *arg* is no longer possible.

**Probable causes**

1 The has not been initialized.
2 The destination slot is not valid anymore. This can happen if a remote client has disconnected from the controller.
3 Instruction RMQSendWait was restarted after a power fail. When the instruction is restarted, the is set to 0.

**Recommended actions**

Recovery: *arg*.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

## 41693, RMQ Error - Max size for message exceeded

**Description**

Task: *arg*.

The size of the data in *arg* exceeds maximum size.

Program ref: *arg*.

**Consequences**

The message will not be sent.

**Probable causes**

Trying to send larger messages then *arg*. Due to limitations in RMQ, such big messages cannot be sent.

**Recommended actions**

Send smaller messages.

Recovery: *arg*.

## 41694, RMQ Error - Not equal data types

**Description**

Task: *arg*.

The data type in the rmqmessage is of the type *arg* and the data type in argument Data is of the type *arg*.

Program ref: *arg*.

**Consequences**

No data can be fetched.

**Probable causes**

1 The data type in the rmqmessage is of type and the data type used in argument Data is of type .
2 If the data types has equal names, the structure of the data can be different.

**Recommended actions**

1 Use data type in argument Data.
2 Check that the data types are equal defined in both sender and receiver code.

Recovery: *arg*.

## 41695, RMQ Error - Not equal dimensions on data

**Description**

Task: *arg*.

The data types are equal, but the dimensions differs between the data in the message and the parameter used in argument *arg*.

Program ref: *arg*.

**Consequences**

The data could not be copied.

**Recommended actions**

Use a parameter in argument *arg* with equal dimensions as the data in the message.

Recovery: *arg*.

## 41696, RMQ Error - Not valid use of instruction

**Description**

Task: *arg*.

The instruction *arg* is only supported on TRAP level.

Program ref: *arg*.

**Consequences**

The program execution is stopped immediately.

**Probable causes**

Instruction *arg* is used either on user execution level or normal execution level.

**Recommended actions**

Remove instruction, or move it to a TRAP routine.

## 41697, RMQ Error - No RMQ configured

**Description**

Task: *arg*.

No RMQ is configured for task *arg*.

Program ref: *arg*.

**Consequences**

The program execution is stopped immediately.

**Probable causes**

No configuration has been added for the RAPID Message Queue.

**Recommended actions**

Add configuration for the RAPID Message Queue.

## 41698, RMQ Error - Faulty use of instruction

**Description**

Task: *arg*.

Instruction *arg* can only be used on normal level, not in a TRAP routine or service routine.

Program ref: *arg*.

**Consequences**

The program execution is stopped immediately.

**Probable causes**

Instruction *arg* used on wrong level.

**Recommended actions**

Use instruction on normal level.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 41699, RMQ Error - Max size for message exceeded

**Description**

Task: *arg*.

The size of the data in *arg* exceeds maximum size.

Program ref: *arg*.

**Consequences**

The message will not be sent.

**Probable causes**

Trying to send larger messages then allowed. The receiving client is not configured to receive the size of the message sent.

**Recommended actions**

Change the size of the RMQ for the receiver, or send smaller messages.

Recovery: *arg*.

### 41700, RMQ Error - Interrupt setup failed

**Description**

Task: *arg*.

Two different interrupt identities cannot be used for the same data type in instruction *arg*. Each data type need a unique interrupt identity and unique TRAP routine.

Program ref: *arg*.

**Consequences**

The program execution is stopped immediately.

**Probable causes**

Same data type is used in two *arg* instructions with two different interrupt identities.

**Recommended actions**

A unique interrupt identity is needed for each data type when order and enable interrupts for a specific data type.

### 41701, RMQ Error - No message to collect

**Description**

Task: *arg*.

Instruction *arg* failed. There was no message to collect.

Program ref: *arg*.

**Consequences**

No message was collected.

**Probable causes**

1 This can happen if the power fail occur between the trap was ordered and the instruction was executed.
2 If multiple use of in a TRAP routine.
3 If using in a TRAP routine that execute without any new message in the RMQ.

**Recommended actions**

Recovery: *arg*.

### 41702, RMQ Error - *arg* not valid

**Description**

Task: *arg*.

Use of non-valid data in argument *arg*.

Program ref: *arg*.

**Consequences**

The program execution is immediately stopped.

**Probable causes**

Use of a variable *arg* that not contain any valid data. The variable has only been initialized, no valid data has been copied to the variable.

**Recommended actions**

Check the RAPID program.

### 41703, RMQ Error - Data could not be copied

**Description**

Task: *arg*.

The data type *arg* exceeds the maximum size supported for the RMQ configured for task *arg*.

Program ref: *arg*.

**Consequences**

No message has been received.

**Probable causes**

The RMQ of the receiving task is not configured for the size of the data sent. The sending client have sent data that is bigger than the size the RMQ for task *arg* can receive.

**Recommended actions**

Increase the size of the RMQ for task *arg*. Or, send less data.

Recovery: *arg*.

### 41704, RMQ Error - Full Queue

**Description**

Task: *arg*.

The client named *arg* cannot receive more messages.

Program ref: *arg*.

**Consequences**

The sent message will be thrown.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

**Probable causes**

The client does not receive in the same pace as the sender is sending messages. If using instruction *arg*, you might need a wait time between each *arg* instruction.

**Recommended actions**

The client should receive messages to make room for new messages. Or the sender should limit the number of messages sent.

Recovery: *arg*.

## 41705, RMQ Error - Max Time Expired

**Description**

Task: *arg*.

The programmed waiting time has expired.

Program ref: *arg*.

**Consequences**

There is no guarantee that the message has arrived to the client.

**Probable causes**

1 The client that should receive the message is not interested of receiving data of the specified data type. The message has been discarded.
2 The client has received the message, and in the answer sent a data type not matching with the specified data type used in of instruction .
3 The client has received the message. The answer is delayed so the time out time for instruction expired.

**Recommended actions**

1 Check the client program.
2 Increase the waiting time for instruction .

Recovery: *arg*.

## 41706, RMQ Error - Max Time Expired

**Description**

Task: *arg*.

The programmed waiting time has expired.

Program ref: *arg*.

**Consequences**

No message has been received.

**Probable causes**

The time out time for instruction *arg* expired.

**Recommended actions**

Increase the waiting time for instruction *arg*.

Recovery: *arg*.

## 41707, RMQ Error - Instruction invalid in current mode

**Description**

Task: *arg*.

*arg* is only allowed when RMQ is configured in *arg* mode.

Program ref: *arg*.

**Consequences**

The program execution is immediately stopped.

**Probable causes**

The RMQ is configured in *arg* mode.

**Recommended actions**

Change the configuration of the RAPID Message Queue in *arg* to *arg* mode, or use an instruction that is allowed in the current mode.

## 41708, RMQ Error - Invalid message

**Description**

Task: *arg*.

The received RMQ message was invalid.

Program ref: *arg*.

**Consequences**

The received RMQ message was discarded.

**Probable causes**

A received RMQ message had a corrupt header or data part.

**Recommended actions**

Recovery: *arg*.

## 41711, Value is not percent

**Description**

Task: *arg*.

The value of argument *arg* is not a valid percent.

Program ref: *arg*.

**Recommended actions**

Check that the value is in the range of 0 to 100.

## 41712, Argument Error

**Description**

Task: *arg*.

Tooldata *arg* has been defined, but is no longer available in the system.

Program ref: *arg*.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

**Probable causes**
Tooldata might have been defined in a module that is no longer available in the system.

## 41713, Argument Error

**Description**
Task: *arg*.
Wobjdata *arg* has been defined, but is no longer available in the system.
Program ref: *arg*.

**Consequences**
Wobjdata might have been defined in a module that is no longer available in the system.

## 41714, Too many error events

**Description**
Execution of task *arg* has stopped. There are too many unhandled error events in queue. The system can only handle one error event at a time.

**Consequences**
The system goes to blocked state and cannot be restarted before moving the program pointer to an arbitrary position.

**Probable causes**
A power off or restart of the controller occurred while handling a process error.

**Recommended actions**
Never restart the controller while handling a process error. If a restart is needed, first move PP to Main in all tasks to reset the process error.

## 41715, Invalid Direction

**Description**
Task: *arg*.
The argument *arg* must be either CSS_X, CSS_Y, CSS_Z, CSS_XY, CSS_XZ, CSS_YZ, CSS_XYZ, CSS_XYRZ.
Program ref: *arg*.

**Recommended actions**
Check the value of *arg*.

## 41716, Invalid Offset Direction

**Description**
Task: *arg*.
The argument *arg* must be either CSS_POSX, CSS_NEGX, CSS_POSY, CSS_NEGY, CSS_POSZ, CSS_NEGZ.
Program ref: *arg*.

**Recommended actions**
Check the value of *arg*.

## 41717, Too Low Value

**Description**
Task: *arg*.
The value of argument *arg* is too low.
Program ref: *arg*.

**Recommended actions**
Increase the value of *arg*.

## 41718, Invalid Dimensions

**Description**
Task: *arg*.
Dimension *arg* on searched symbol is incompatible with dimension *arg* in argument.
Program ref: *arg*. A dimension of '{0}' means given symbol is of non-array type.

**Recommended actions**
Recovery: *arg*.

## 41719, Illegal Parameter

**Description**
Task: *arg*.
The symbol in argument *arg* is an array from a parameter. Arrays from parameters are illegal to use in SetDataVal/GetDataVal.
Program ref: *arg*.

## 41720, Path Not In Stop Point

**Description**
Task: *arg*.
The path did not finish for the following task(s): *arg* make sure the task is running.
Program ref: *arg*.

**Probable causes**
The task is not running, the movement has been stopped, or a movement use low speed.

**Recommended actions**
Recovery: *arg*.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

## 41721, Invalid Argument

**Description**

Task: *arg*.

The type *arg* in argument *arg* is invalid.

Program ref: *arg*.

**Recommended actions**

Change the type to a valid one (*arg*).

## 41722, Too High Value

**Description**

Task: *arg*.

The value of argument *arg* is too high. The value must be between *arg* and *arg*.

Program ref: *arg*.

## 41723, Network is in error state

**Description**

Task: *arg*.

The I/O device *arg* cannot be activated. The network *arg* is in error state.

Program ref: *arg*.

**Consequences**

Device *arg* could not be activated.

**Probable causes**

Network is in error state.

**Recommended actions**

Recovery: *arg*.

## 41724, Current Work Object is Invalid

**Description**

Task: *arg*.

Cartesian Soft Servo Activation is not allowed with a moving work object. Only a programmed user frame is allowed.

Program ref: *arg*.

## 41725, Invalid Configuration Settings

**Description**

Task: *arg*.

The configuration parameters for Cartesian Soft Servo are invalid. The current combination can lead to unstable behavior.

Program ref: *arg*.

**Recommended actions**

Change the configuration for Cartesian Soft Servo.

## 41726, Ignored StopMoveReset actions for task

**Description**

Task: *arg*.

The StopMoveReset instruction had no impact on the system.

Program ref: *arg*.

**Consequences**

The StopMove was not reset.

**Probable causes**

1 The Motion task has not been stopped.
2 The Motion task was stopped by another non-Motion task: .

This time the cause was *arg*.

**Recommended actions**

Use the switch \AllMotionTasks in StopMoveReset if this instruction should reset a StopMove from another non-Motion task.

## 41727, The size cannot be represented in a num

**Description**

Task: *arg*.

When using instruction *arg* to read the size of the file system, it was detected that the value is too big to be set in a num.

Program ref: *arg*.

**Consequences**

The size cannot be read.

**Probable causes**

The value cannot be represented in a num.

**Recommended actions**

Use a switch to specify another unit to show the size in.

Recovery: *arg*.

## 41730, Signal exceeds max number of allowed bits

**Description**

Task: *arg*.

The signal *arg* is too big. If using signals over 23 bits, use the data type triggiosdnum that accept signals up to 32 bits.

Program ref: *arg*.

**Recommended actions**

Group signals can have 23 bits or less if using datatype triggios in *arg* instruction.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 41731, Signal name undefined

**Description**

Task: *arg*.

The signal *arg* is unknown in the system.

Program ref: *arg*.

**Consequences**

The program execution is stopped immediately.

**Probable causes**

The signal must be defined in the system parameters.

**Recommended actions**

Define the signal in the system parameters.

### 41732, Too many trigs used

**Description**

Task: *arg*.

Too many trigs has been set up for instruction *arg*. The limit is *arg*.

Program ref: *arg*.

**Consequences**

The program execution is stopped immediately.

**Recommended actions**

Remove some trig actions in *arg* instruction.

### 41737, Instruction order Error

**Description**

Task: *arg*.

The instruction *arg* needs to be executed before instruction *arg*.

Program ref: *arg*.

**Probable causes**

Instruction *arg* was executed before instruction *arg*.

**Recommended actions**

Execute instructions in right order.

Recovery: *arg*.

### 41738, Wrist Interpolation option needed

**Description**

Task: *arg*.

Instruction *arg* is used with a switch that requires option Wrist Interpolation.

Program ref: *arg*.

**Consequences**

The program execution is immediately stopped.

**Probable causes**

Missing a RobotWare option.

**Recommended actions**

Do not use any of the following switches: *arg*.

### 41739, StorePath required

**Description**

Task: *arg*.

Instruction *arg* is executing in an error handler or a trap routine. Use *arg* before using a movement instruction on other level than base.

Program ref: *arg*.

**Probable causes**

A movement instruction executed without having the path stored.

**Recommended actions**

Execute *arg* before using movement instruction *arg*. Read Programming type examples in the RAPID manual to see how to use movement instructions in TRAP routines and error handlers.

### 41740, Load Identification failed

**Description**

Task: *arg*.

WARNING! Not possible to identify the mass for the *arg* because of too small weight for automatic load identification.

Program ref: *arg*.

**Recommended actions**

Do a manually estimation of the actual load and manually edit the RAPID program.

### 41741, Calculation overflow

**Description**

Task: *arg*.

The calculation result is not within the range 0 - 4294967295.

Program ref: *arg*.

**Consequences**

The calculation will return error.

**Probable causes**

The values in the operation is probably too big.

**Recommended actions**

Recovery: *arg*.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 41742, Negative subtraction

**Description**
Task: *arg*.
The subtraction result is negative.
Program ref: *arg*.

**Consequences**
The calculation will return error.

**Probable causes**
The first value in the subtraction is smaller than the second value.

**Recommended actions**
Make sure the first value is larger than the second upon subtraction.
Recovery: *arg*.

### 41743, Division with zero

**Description**
Task: *arg*.
Division with zero.
Program ref: *arg*.

**Consequences**
Calculation will return error.

**Probable causes**
Division with zero.

**Recommended actions**
Recovery: *arg*.

### 41744, Instruction Error

**Description**
Task: *arg*.
The program is executing in an ERROR handler. It is not allowed to execute the instruction *arg* in an ERROR handler.
Program ref: *arg*.

**Recommended actions**
Remove the instruction.

### 41745, Instruction Error

**Description**
Task: *arg*.
The program is executing in a BACKWARD handler. It is not allowed to execute the instruction *arg* in a BACKWARD handler.
Program ref: *arg*.

**Recommended actions**
Remove the instruction.

### 41746, Instruction Error

**Description**
Task: *arg*.
The program is executing at USER level, i.e. in an event routine or a service routine. It is not allowed to execute the instruction *arg* at USER level.
Program ref: *arg*.

**Recommended actions**
Remove the instruction.

### 41747, Process signal off

**Description**
Task: *arg*.
The process signal *arg* is set to off (0).
Program ref: *arg*.

**Consequences**
A recoverable error ERR_PROCSIGNAL_OFF is thrown.

**Probable causes**
The optional argument \ProcSignal has been used for the instruction ProcerrRecovery. The signal makes it possible for the user to turn on/off the instruction ProcerrRecovery.

**Recommended actions**
Add an error handler for ERR_PROCSIGNAL_OFF error or remove the optional argument \ProcSignal from the instruction call.

### 41748, Value Error

**Description**
Task: *arg*.
Illegal value in argument *arg*.
Program ref: *arg*.

**Recommended actions**
Check the RAPID program.
Recovery: *arg*.

### 41749, Value Error

**Description**
Task: *arg*.
The value for parameter *arg* is out of limit.
Program ref: *arg*.

*Continues on next page*


© Copyright 2005-2020 ABB. All rights reserved.

**Probable causes**

The value is too large.

**Recommended actions**

Use a smaller value for *arg*.

Recovery: *arg*.

## 41750, Not allowed value

**Description**

Task: *arg*.

Illegal value in argument *arg*.

Program ref: *arg*.

**Probable causes**

1 The system has interpreted the expression as a num data type, and the value is above the maximum integer value for num (value 8388608).
2 The system has interpreted the expression as a dnum data type, and the value is above the maximum integer value for a dnum (value 4503599627370496).

**Recommended actions**

Check and change the value. The parameter name *arg* can give you information about how the system interpreted the indata.

## 41751, Array size error

**Description**

Task: *arg*.

The array *arg* is not big enough to fit *arg* number of elements.

Program ref: *arg*.

**Consequences**

The program execution is stopped immediately.

**Recommended actions**

Change the size of the array to fit all elements.

## 41752, Num Limit Error

**Description**

Task: *arg*.

The value for parameter *arg* is out of limit.

Program ref: *arg*.

**Recommended actions**

Recovery: *arg*.

## 41753, Invalid path level

**Description**

Task: *arg*.

Program ref: *arg arg* requires the robot to run at the first path level.

**Consequences**

The program execution is stopped immediately.

**Probable causes**

Executing *arg* on wrong path level.

**Recommended actions**

Check the RAPID program.

## 41754, Path Recorder cleared

**Description**

Task: *arg*.

WARNING! Path Recorder is cleared. The stored path is cleared before doing friction identification.

Program ref: *arg*.

## 41755, Path time too long

**Description**

Task: *arg*.

Execution time is too long for friction tuning. *arg* > *arg*, which is the maximum time in seconds.

Program ref: *arg*.

**Consequences**

The program execution is stopped immediately.

**Recommended actions**

Increase speed or shorten the length of the path.

## 41756, Missing FricIdInit

**Description**

Task: *arg*.

*arg* must be executed before *arg*.

Program ref: *arg*.

**Consequences**

The program execution is stopped immediately.

## 41757, Mechanical unit not found

**Description**

Task: *arg*.

Mechanical unit *arg* not found.

Program ref: *arg*.

**Consequences**

The program execution is stopped immediately.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

**Recommended actions**
Specify another mechanical unit.

## 41758, Array too small

**Description**
Task: *arg*.
The array used is too small. The size of the array *arg* must be equal to *arg*, the number of robot axes.
Program ref: *arg*.

**Consequences**
The program execution is stopped immediately.

**Recommended actions**
Increase the size of the array *arg*.

## 41759, Signal exceeds max number of allowed bits

**Description**
Task: *arg*.
The signal *arg* is too big.
Program ref: *arg*.

**Recommended actions**
Group signals consisting of 23 bits or less can be used in IF statements and assigned to the num datatype. Group signals consisting of 24 - 32 bits cannot be used in IF statements. Instead use the functions *arg* or *arg*.

## 41760, *arg* when in synchronized mode

**Description**
Task: *arg arg* cannot be used together with synchronized movement.
Program ref: *arg*.

**Consequences**
The program execution is stopped immediately.

**Recommended actions**
Remove any SyncMoveOn between *arg* and *arg*.

## 41761, Value out of range

**Description**
Task: *arg*.
The integer value *arg* cannot be copied to a *arg* datatype. The value is out of limit for the data type *arg*.
Program ref: *arg*.

**Consequences**
The program execution is stopped immediately.

**Recommended actions**
Use a variable of the type *arg* instead of a variable of type *arg*.

## 41762, The argument string value is invalid

**Description**
Task: *arg*.
The argument string *arg* is invalid and cannot be converted.
Program ref: *arg*.

**Consequences**
The program execution is stopped immediately.

**Probable causes**
1 The only valid letter characters is a-f and A-F and only for HexToDec.
2 The ., - and + characters is not valid for HexToDec.
3 The - character is not valid for DecToHex.
4 The value is not a valid integer.

**Recommended actions**
Edit the argument value string so it gets valid and can be converted.

## 41763, The argument string value is too high

**Description**
Task: *arg*.
The argument string *arg* value exceeds the highest supported value in the system.
Program ref: *arg*.

**Consequences**
The argument value string is converted but it is set to the highest supported value (9223372036854775807).

**Probable causes**
The argument string value exceeds the highest supported value.

**Recommended actions**
Edit the argument value string so it do not exceed the highest supported value.

## 41764, Wrong combination in *arg*

**Description**
Task: *arg*.
When using instruction *arg*, you cannot add a dnum variable/persistent to a num variable/persistent.
Program ref: *arg*.

**Probable causes**
The value to be added is of the type dnum, and the variable/persistent that should be changed is a num.

*Continues on next page*


© Copyright 2005-2020 ABB. All rights reserved.

**Recommended actions**

Read about *arg* in RAPID reference manual.

## 41765, The argument value is too high

**Description**

Task: *arg*.

Too high value in argument *arg*.

Program ref: *arg*.

**Probable causes**

The argument value exceeds the highest supported value. (*arg*).

**Recommended actions**

Decrease the value for argument *arg*.

Recovery: *arg*.

## 41766, The precision will be lost

**Description**

Task: *arg*.

Optional argument *arg* is used, and the group signal has *arg* bits. This can cause loss of precision in the variable used in optional argument *arg*.

Program ref: *arg*.

**Consequences**

The program execution is stopped immediately.

**Probable causes**

Argument *arg* is used, and it is a risk that the precision of the value is lost. Group signals consisting of 23 bits or less can be represented by the num data type, and group signals of 32 bits or less can be represented by the dnum data type, if they are used in a RAPID program.

**Recommended actions**

To avoid loss of precision in the used variable in *arg*, use optional argument *arg* instead.

## 41767, Instruction Error

**Description**

Task: *arg*.

The instruction *arg* is used from a non-Motion task, and the Motion task that task *arg* is connected to does not control a TCP-robot.

Program ref: *arg*.

**Consequences**

The program execution is stopped immediately.

**Probable causes**

*arg* is used in a non-Motion task that is connected to a Motion task that does not control a TCP-robot.

**Recommended actions**

- Check the configuration.
- The instruction must be removed. The non-Motion task is connected to a Motion task that does not control a TCP-robot.

## 41768, Switch is missing

**Description**

Task: *arg*.

The switch *arg* is required when executing instruction/function.

Program ref: *arg*.

**Consequences**

The program execution is stopped immediately.

**Recommended actions**

Add switch when using instruction/function.

## 41769, Service data not found

**Description**

Task: *arg*.

The service data for the mechanical unit *arg* could not be found.

Program ref: *arg*.

**Consequences**

No service data is read.

**Probable causes**

There is no such service data present for this mechanical unit.

**Recommended actions**

Check that the specified service data is defined for the mechanical unit.

## 41770, System Access Error

**Description**

Task: *arg*.

Unknown camera unit *arg*. The data of type cameradev is unknown for the system.

Program ref: *arg*.

**Probable causes**

Data of type cameradev has been declared in the program.

**Recommended actions**

Remove the declaration of cameradev data in the program and use one of the predefined data of type cameradev (automatically defined by the system).

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

## 41771, Cancel load of job

**Description**

The ongoing loading of the job *arg* for camera *arg* has been cancelled.

**Consequences**

The job may or may not have been successfully loaded into the camera.

**Probable causes**

There has been a PP movement in the RAPID program before the job was loaded correctly into the camera. A job is not completely loaded into the camera before the instruction *arg* has been executed.

**Recommended actions**

Load a new job into the camera named *arg*.

## 41772, Parameter Error

**Description**

Task: *arg*.
None of the optional arguments listed below are specified in instruction.
Program ref: *arg*. Missing one of these optional arguments:
*arg*
*arg*
*arg*.

**Consequences**

The program execution is stopped immediately.

**Recommended actions**

Specify at least one of the arguments.

## 41773, Timeout

**Description**

Task: *arg*.
A timeout interrupted the execution of instruction using camera *arg*.
Program ref: *arg*.

**Recommended actions**

Use a higher timeout value or use an error handler to retry instruction.
Recovery: *arg*.

## 41774, Type error

**Description**

Task: *arg*.
It is not possible to set value *arg* into a variable of current type (*arg*). Check the used optional argument, and use an argument with proper type.
Program ref: *arg*.

**Probable causes**

Wrong argument type used.

**Recommended actions**

Check the RAPID program, and use other type of variable to store the data in.
Recovery: *arg*.

## 41775, Ongoing request towards camera

**Description**

Task: *arg*.
It is not allowed to have several parallel requests towards a camera.
Program ref: *arg*.

**Consequences**

The request was not performed.

**Probable causes**

There are more than one request towards the camera named *arg*.

**Recommended actions**

Wait for a while, and then try again. If trying to access the same camera from different tasks, instruction WaitTestAndSet can be used to prevent access of the camera at the same time.
Recovery: *arg*.

## 41776, No more data available

**Description**

Task: *arg*.
No more data available for camera *arg*.
Program ref: *arg*.

**Consequences**

No data could be read.

**Probable causes**

The reasons are:

1 No more data is available.
2 There is no result matching the used .

**Recommended actions**

1 Check that the camera has requested an image.
2 Check that the result map configured from "output to RAPID" is complete. If a is used, check that it is the correct variable that is used.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

Recovery: *arg*.

## 41777, The camera is not connected

**Description**

Task: *arg*.

The camera *arg* is not connected.

Program ref: *arg*.

**Consequences**

The program execution is stopped immediately.

**Probable causes**

The reasons for this error can be:

1 The camera is not connected to the controller.
2 There is no power to the camera.
3 The camera's IP address is not valid.
4 The camera does not have a name.
5 The camera is not connected to the proper network interface. Normally only the service port is supported.

**Recommended actions**

1 Check cabling between robot controller and camera.
2 Check that the LED power and link indicators on the camera are active.
3 Use RobotStudio to check that the IP address has been configured correctly.
4 Set a valid name to the camera.

## 41778, Failed to load job

**Description**

Task: *arg*.

Failed to load the job named *arg* for camera *arg*.

Program ref: *arg*.

**Consequences**

The program execution is stopped immediately.

**Probable causes**

1 The job is incorrect or unavailable.
2 The camera is out of memory.

**Recommended actions**

Check that the job named *arg* exists on the camera.

## 41779, Parameter cannot be modified

**Description**

Task: *arg*.

The parameter written to the camera *arg* with instruction *arg* cannot be modified, the parameter is not recognized or RAPID data used is of wrong data type.

Program ref: *arg*.

**Consequences**

Parameter not modified.

**Probable causes**

The reasons are:

1 Wrong optional RAPID argument used.
2 Value is out of range.
3 A cell with specified name does not exist.
4 The cells needs to be of type EditInt, EditFloat or EditString.
5 Trying to set wrong type to the cell, e.g. setting a string value to a parameter that is not a string.

**Recommended actions**

Check the RAPID program, and use an optional argument of correct data type and a value within the supported range.

Recovery: *arg*.

## 41780, Camera is in program mode

**Description**

Task: *arg*.

The operation failed because the camera *arg* is in program mode.

Program ref: *arg*.

**Probable causes**

The function or instruction can only be used if the camera is in running mode.

**Recommended actions**

To change to running mode, use instruction *arg*.

Recovery: *arg*.

## 41781, Camera is in running mode

**Description**

Task: *arg*.

The operation failed because the camera *arg* is in running mode.

Program ref: *arg*.

**Probable causes**

The function or instruction can only be used if the camera is in program mode.

**Recommended actions**

To change to program mode, use instruction *arg*.

Recovery: *arg*.

## 41782, Camera does not support this

**Description**

Task: *arg*.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

The operation failed because the camera does not support current action (used switch *arg*).
Program ref: *arg*.

**Consequences**
The program execution is stopped immediately.

**Probable causes**
Using functionality not supported by this camera type.

**Recommended actions**
Check what functionality the camera support.

## 41783, Communication timeout

**Description**
Task: *arg*.
The communication towards the camera *arg* timed out.
Program ref: *arg*.

**Consequences**
The camera is in an undefined state. The order against the camera may or may not have been performed.

**Probable causes**
The camera is not responding.

**Recommended actions**
Check the connection between the camera and controller.
Restart the camera and try again.
Recovery: *arg*.

## 41784, Communication error

**Description**
Task: *arg*.
Communication error with camera *arg*. The camera is probably disconnected.
Program ref: *arg*.

**Recommended actions**
Recovery: *arg*.

## 41785, Failed to request image

**Description**
Task: *arg*.
Failed to request image from camera *arg*.
Program ref: *arg*.

**Consequences**
The program execution is stopped immediately.

**Probable causes**
1 When using optional argument \AwaitComplete, the Trigger setting of the camera job has to be set to External.
2 The camera has to be set to Run Mode.
3 The camera has no job loaded.

**Recommended actions**
1 Go to RobotStudio -> Integrated Vision tab -> Setup Image and change the Trigger property to External and save the job.
2 Run the instruction CamSetRunMode.
3 Load a job into the camera.
Recovery: *arg*.

## 41786, Parameter out of range

**Description**
Task: *arg*.
The value used for the parameter *arg* for camera *arg* is out of range.
Program ref: *arg*.

**Consequences**
The program execution is stopped immediately.

**Probable causes**
The parameter value cannot be set.

**Recommended actions**
Check the value used.

## 41787, Parameter cannot be read

**Description**
Task: *arg*.
The parameter *arg* cannot be read or recognized.
Program ref: *arg*.

**Probable causes**
The parameter cannot be accessed. A parameter with the specified name does not exist.

**Recommended actions**
Check that the name *arg* is a proper one.
Recovery: *arg*.

## 41788, No ongoing load of camera task

**Description**
Task: *arg*.
There is no ongoing loading of a task to camera *arg*.
Program ref: *arg*.

*Continues on next page*


© Copyright 2005-2020 ABB. All rights reserved.

**Consequences**

The program execution is stopped immediately.

**Probable causes**

No load order has been requested for camera *arg*.

**Recommended actions**

Check that *arg* has been used before current instruction.

## 41789, No more data available

**Description**

Task: *arg*.

No more data available for camera *arg*.

Program ref: *arg*.

**Consequences**

No data could be read.

**Probable causes**

There is no result matching the used *arg*.

**Recommended actions**

Recovery: *arg*.

## 41790, No results in image

**Description**

Task: *arg*.

An image was acquired with camera *arg* but the output contained no result.

Program ref: *arg*.

**Probable causes**

1 The part is not present, not sufficiently visible or otherwise not detectable in the field of view of the camera.
2 The Output to Rapid configuration is not setup correctly.

**Recommended actions**

Check the following and acquire a new image:

1 Verify that the part is in the field of view.
2 Check that the image settings and vision tool settings contained in the active vision job are ok.
3 Verify that the lighting has not changed since setting up the vision job.
4 Verify that the desired vision outputs have been configured in RobotStudio -> Integrated Vision tab -> Output to Rapid.

Recovery: *arg*.

## 41791, SoftMove is not allowed with zero mass

**Description**

Task: *arg*.

The current load data that is used when CSSAct is called has a mass of *arg* Kg. SoftMove need to have an accurate load definition. This is normally set by the load definition that is part of the tool definition.

Program ref: *arg*.

**Consequences**

When SoftMove detects a mass less or equal to 0.001 Kg it will not allow activation. Hence CSSAct instruction will not be possible to run with tool0.

**Probable causes**

Current tool when the instruction CSSAct was run is tool0 or another tool with too small mass. The current tool is set by a move instruction or by jogging prior to the CSSAct instruction.

**Recommended actions**

Use as accurate tool definition as possible. Use the load identification. If simple tests of SoftMove is done with only the mounting flange as tool then a tool definition similar to tool0 needs to be created but with a mass greater than 0.002 Kg.

## 41792, Instruction not allowed

**Description**

Task: *arg*.

The instruction *arg* can only be executed on normal level in a Motion task.

**Consequences**

Program execution will stop.

**Probable causes**

Instruction *arg* is used from a TRAP or a background task.

## 41793, TriggInt stop error

**Description**

No more trig restart actions can be stored. Instructions that can cause this problem is: *arg*.

**Consequences**

The program execution is stopped immediately.

**Probable causes**

When using movement instructions that use interrupts at a specified position on the robot's movement path, and the events received after a stop is more than the system can handle, this error stops the execution.

**Recommended actions**

Try to increase the length of the movements, or reduce the speed on the movement can be a solution to this problem. Report this problem to ABB Robotics if this happens.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

## 41794, Search error

**Description**

Task: *arg*.

The search instruction *arg* has detected that the path and the search object has been removed.

Program ref: *arg*.

**Consequences**

The position cannot be read by the instruction *arg*. The program execution is stopped immediately.

**Probable causes**

1 A TRAP executes a instruction just before the signal change.
2 A TRAP executes a instruction, and when the instruction is ready (no signal detection occurred), detects that the search object has been removed.

**Recommended actions**

Use error handling with long jump in the TRAP to brake off the *arg* instruction, or rewrite the RAPID program. See documentation of instruction *arg* how to implement error handling with long jump.

## 41795, Wrong payload mode

**Description**

Task: *arg*.

Wrong payload mode.

Program ref: *arg*.

**Consequences**

The program execution is stopped immediately.

**Probable causes**

1 If using \TLoad optional argument in a movement instruction, the configuration parameter ModalPayloadMode should be set to NO.
2 If using GripLoad instruction, the configuration parameter ModalPayloadMode should be set to YES.
3 If using LoadId instruction and the configuration parameter ModalPayloadMode is set to NO, PayLoad identification is not possible.

**Recommended actions**

Check the value of the configuration parameter ModalPayLoadMode for domain SYS, type SYS_MISC.

## 41796, Argument Error

**Description**

Task: *arg*.

The mass is negative in used loaddata.

Program ref: *arg*.

**Recommended actions**

Define the correct load of the load before use of it for jogging or program movement. Load identification of the load can be done with the service routine LoadIdentify.

## 41797, Signal not accessible

**Description**

Task: *arg*.

The I/O signal *arg* is not accessible.

Program ref: *arg*.

**Probable causes**

The reason for this error is one of the following:

- The real input or output, on the I/O device, represented by the I/O signal is not valid.
- The I/O device is not running.
- Error in the configuration of the I/O signal.

**Recommended actions**

Recovery: *arg*.

## 41798, No TCP robot found

**Description**

Task: *arg*.

This task does not control a mechanical unit that is a TCP robot.

Program ref: *arg*.

**Consequences**

The program execution is stopped immediately.

**Probable causes**

No TCP robot found for this task.

**Recommended actions**

Check the RAPID program. Instruction *arg* can only be used in a RAPID task that controls a TCP robot.

## 41799, Speed value too low

**Description**

Task: *arg*.

The speed value (*arg*) used in argument *arg* is too low.

Program ref: *arg*.

**Consequences**

It is not possible to use current speed value.

**Probable causes**

A value that is below the minimum value for speed has been used.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

**Recommended actions**
Increase the speed value in argument *arg*.
Recovery: *arg*.

## 41800, Manual action needed

**Description**
Task: *arg*.
Start of robot movements has been ordered from task *arg*.
Reactivation of the enable device is needed when in manual reduced or manual full speed mode.

**Probable causes**
An order to activate robot movements has been executed in manual reduced or manual full speed mode.

**Recommended actions**
Release and reactivate enable device. Start RAPID program execution again. NOTE: If using a MultiMove system, all robots and external axis will start their movements after next program start.

## 41801, In synchronized mode

**Description**
Task: *arg*.
Not possible to execute *arg* in synchronized mode.
Program ref: *arg*.

**Consequences**
The program execution is stopped immediately.

**Probable causes**
The system is in synchronized mode on basic path level or on store path level.

**Recommended actions**
Remove synchronization before executing current instruction.

## 41802, Not supported instruction or function

**Description**
Task: *arg*.
The RAPID instruction or function *arg* is not supported in this release of RobotWare.
Program ref: *arg*.

**Probable causes**
Use of a function or instruction that is not supported in current release of RobotWare.

**Recommended actions**
Remove RAPID instruction or function *arg* from your RAPID program.

## 41803, Argument Error

**Description**
Task: *arg*.
The logical output value calculated by the argument ScaleValue in TriggSpeed instruction and the programmed speed in current instruction exceeds the maximum physical output value for the analog signal used in AOp argument in TriggSpeed instruction.
Program ref: *arg*.

**Probable causes**
Logical analog output exceeds physical output value.
Logical output value = Scale value * programmed TCP speed in mm/s.
Physical output value for analog signal = According definition in configuration for actual analog output signal. The analog signal can only be set within *arg* and *arg* according to the I/O system parameter configuration.

**Recommended actions**
Decrease the value used in ScaleValue or decrease the programmed speed in current instruction. Another solution is to change configured value for the analog output signal.
Recovery: *arg*.

## 41804, Not allowed command

**Description**
Task: *arg*.
Not allowed to change non-motion execution setting in Manual full speed mode.
Program ref: *arg*.

**Consequences**
The system remains in the same status, and the requested action will not be performed.

**Recommended actions**
Make sure that change of non-motion execution setting is not done in Manual full speed Mode.

## 41805, Illegal dimension

**Description**
Task: *arg*.
The dimension *arg* used for argument *arg* is not valid. Required dimension: *arg*.
Program ref: *arg*.

**Probable causes**
Wrong dimensions or wrong values on optional arguments are used.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

**Recommended actions**
Check and change the RAPID program.
Recovery: ERR_ARRAY_SIZE.

## 41806, The matrix A is singular

**Description**
Task: *arg*.
The matrix used in argument A is singular, and the linear equation system cannot be solved.
Program ref: *arg*.

**Recommended actions**
Modify the matrix A.
Recovery: *arg*.

## 41807, Not enough memory

**Description**
Task: *arg*.
The memory allocated is not enough to complete the current calculation.
Program ref: *arg*.

**Consequences**
The program execution is stopped immediately.

**Probable causes**
The memory allocated at startup is too small to handle the calculation.

**Recommended actions**
Use smaller sizes of the matrix used in the instruction. If this is not possible, report the problem to ABB Robotics.

## 41810, Only allowed for 6 axis robot

**Description**
Task: *arg*.
The instruction *arg* with switch *arg* is only allowed for a 6 axis robot.
Program ref: *arg*.

**Consequences**
The program execution is stopped immediately.

**Probable causes**
Instruction *arg* used with switch *arg*.

**Recommended actions**
Remove *arg* or the switch *arg*.

## 41811, Not allowed to reset signal

**Description**
Task: *arg*.
The instruction *arg* can only be used to reset a signal that has been connected to a configured signal with instruction *arg*.
Program ref: *arg*.

**Consequences**
The program execution is stopped immediately.

**Probable causes**
The signal named *arg* is configured in the I/O configuration and cannot be reset.

**Recommended actions**
Check the RAPID program and the argument used in instruction *arg*.

## 41812, Domain not valid or not in use

**Description**
Task: *arg*.
The domain *arg* used in instruction *arg* is not valid or is not in use.
Program ref: *arg*.

**Probable causes**
A domain that is not valid or a domain not in use has been used in instruction *arg*.

**Recommended actions**
Recovery: *arg*.

## 41813, File or directory access error

**Description**
Task: *arg*.
Unable to open file *arg* for writing, or directory specified does not exist.
Program ref: *arg*.

**Probable causes**
File may be write protected. File or directory may have incorrect name. The directory specified does not exist. No storage space available on device.

**Recommended actions**
1 Check if the file is write protected, and in such case change the setting.
2 Make sure the file and directory names are correct.
3 Make sure that the directory exist.
4 Make sure there is enough storage space available.

Recovery: *arg*.

*Continues on next page*


© Copyright 2005-2020 ABB. All rights reserved.

### 41814, Reference Error

**Description**

Task: *arg*.

The reference in argument *arg* is not an entire persistent variable.

Program ref: *arg*.

**Consequences**

The program execution is stopped immediately.

**Recommended actions**

It is not possible to use record component or array element in arg. *arg*. It is only possible to use entire persistent variables for *arg*.

### 41815, Reference error in Cyclic bool

**Description**

Task: *arg*.

The argument *arg* is not valid as a condition.

Program ref: *arg*.

**Consequences**

The program execution is stopped immediately.

**Probable causes**

An invalid argument has been used in the condition part of SetupCyclicBool.

**Recommended actions**

Consult the manual and replace *arg* with a valid argument.

### 41816, Too many connected Cyclic bool

**Description**

Task: *arg*.

It is only allowed to setup *arg* number of cyclic bools.

**Consequences**

The program execution is stopped immediately. The given condition will not be connected to *arg*.

**Probable causes**

The maximum number of cyclic bools (*arg*) has already been setup.

**Recommended actions**

Remove all cyclic bools not used for the moment and try again.

### 41817, I/O Error in Cyclic bool

**Description**

Failure while evaluating a logical expression setup with RAPID instruction SetupCyclicBool. The signal *arg* is unknown to the system.

**Consequences**

The program execution is stopped immediately.

**Probable causes**

1 Connection has been lost with the I/O device.
2 If the signal is defined in the RAPID program, it must be connected to the configured signal with instruction AliasIO.

**Recommended actions**

1 Re-establish the connection with the I/O device.
2 Re-connect the RAPID program defined signal using AliasIO.

### 41818, SDB Error in Cyclic bool

**Description**

Failure while evaluating a logical expression setup with RAPID instruction SetupCyclicBool. The persistent variable *arg* is unknown to the system.

**Consequences**

The program execution is stopped immediately.

**Probable causes**

The module containing the declaration of *arg* has probably been unloaded.

**Recommended actions**

1 Reload the module containing the declaration of .
2 Disconnect the logical expression containing using RemoveCyclicBool.

### 41819, Integer Error in Cyclic bool

**Description**

Failure while adding or evaluating a logical expression, setup with RAPID instruction SetupCyclicBool. The persistent variable *arg* doesn't have an integer value.

**Consequences**

The program execution is stopped immediately.

**Probable causes**

*arg* doesn't have an integer value.

**Recommended actions**

Make sure that *arg* has an integer value.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

## 41820, Invalid EGM identity

**Description**

Task: *arg*.

The EGM identity *arg* is not valid.

Program ref: *arg*.

**Consequences**

The program execution is stopped immediately.

**Probable causes**

The EGM identity *arg* had not been initialized by means of the RAPID instruction EGMGetId.

**Recommended actions**

Initialize the EGM identity *arg* using the RAPID instruction EGMGetId.

## 41821, No EGM signals specified

**Description**

Task: *arg*.

No EGM input signal was specified in *arg*.

Program ref: *arg*.

**Consequences**

The program execution is stopped immediately.

**Probable causes**

**Recommended actions**

At least one signal has to be specified in *arg*.

## 41822, No data from the UdpUc device

**Description**

Task: *arg*.

No expected data packets have been received for the EGM instance *arg* during *arg* seconds. Rapid Ref: *arg*.

**Consequences**

The program execution is stopped immediately.

**Recommended actions**

1 Check the connection between the controller and the UdpUc device "".
2 Check that the UdpUc device "" is working properly.
3 Increase the value () for \CommTimeout in EGMSetupUC.

Recovery: ERR_UDPUC_COMM.

## 41823, Invalid frame type

**Description**

Task: *arg*.

The frame type *arg* is not allowed together with the RAPID instruction *arg*.

Program ref: *arg*.

**Consequences**

The program execution is stopped immediately.

**Recommended actions**

Correct the used frame type.

## 41824, Not possible to open the UdpUc device

**Description**

It was not possible to open the external device *arg* that was specified in the RAPID instruction *arg*.

**Consequences**

The program execution is stopped immediately.

**Recommended actions**

Check if:

1 The device name is spelled correctly.
2 The device is connected.
3 The device is up and running.

## 41825, EGM not connected

**Description**

The state of the EGM instance with EGM identity *arg* is not connected.

**Consequences**

The program execution is stopped immediately.

**Recommended actions**

Use the instructions EGMGetId and/or EGMSetupAI, EGMSetupAI, EGMSetupGI or EGMSetupUC, to connect EGM. For more information see the User Manual for EGM.

## 41826, EGM mode mismatch

**Description**

There is an EGM mode mismatch for EGM identity *arg*. It is important to use the same EGM mode (Joint or Pose) for EGMSetupAI, EGMSetupAO, EGMSetupGI, EGMSetupUdpUc, EGMActXX and EGMRunXX.

**Consequences**

The program execution is stopped immediately.

**Recommended actions**

Use EGMSetupAI, EGMSetupAO, EGMSetupGI and EGMSetupUdpUc with the \Joint switch together with EGMActJoint and EGMRunJoint. Use EGMSetupAI,

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

EGMSetupAO, EGMSetupGI and EGMSetupUdpUc with the \Pose switch together with EGMActPose and EGMRunPose.

## 41827, TCP robot missing

**Description**

It is not allowed to use EGM in a RAPID task without TCP robot.

**Consequences**

The program execution is stopped immediately.

**Recommended actions**

Use EGM in RAPID tasks with TCP robot only.

## 41828, Too many EGM instances

**Description**

Task: *arg*.

There are no more EGM instances available. The maximum number per RAPID task is *arg*.

Program ref: *arg*.

**Consequences**

The program execution is stopped immediately.

**Recommended actions**

You have to disconnect an EGM instance using EGMReset before you can connect another.

## 41829, EGM state change error

**Description**

The state of the EGM instance with EGM identity *arg* could not be changed to *arg*.

**Consequences**

The program execution is stopped immediately.

**Recommended actions**

1 Try to reset the EGM instance using the RAPID instruction EGMReset.
2 Move PP to Main to reset all EGM instances.

## 41830, Error sending EGM UdpUc message

**Description**

It was not possible to write the whole UdpUc message to the external device *arg* that is connected to EGM. *arg* of *arg* were sent.

**Consequences**

The program execution is stopped immediately.

**Recommended actions**

1 Check the connection between the controller and the external device .
2 Check the UDP server application on the external device .
3 Restart the controller and/or the external device .

## 41831, ContactL Warning

**Description**

Task: *arg*.

No hit during ContactL. Before performing next instruction, make sure that TCP is moved back to the start position of the ContactL path.

Program ref: *arg*.

**Consequences**

If no repositioning is done, before restart of ContactL, movement that can cause damage might occur.

**Recommended actions**

Recovery: *arg*.

## 41832, EGM UdpUc inbound message contains invalid data

**Description**

The UdpUc server application on the external device *arg* that is feeding EGM with position data, sent invalid data.

**Consequences**

The program execution is stopped immediately.

**Recommended actions**

1 Check that the UDP server application on the external device sends data according to the specification in egm.proto.
2 Check that the UDP server application on the external device sends data is suitable for the mechanical unit it is aimed for.

## 41833, EGM input data from signals is invalid

**Description**

The signal *arg* that is feeding EGM with position data, sent invalid data.

**Consequences**

The program execution is stopped immediately.

**Recommended actions**

1 Check that the input data from the signal sends data that are suitable for the mechanical unit it is aimed for.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 41834, ALXT General error

**Description**

There was a general error in the communication with the ALXT Power Source connected to device *arg*. The message with identity *arg* got an error status *arg*.

**Consequences**

Welding might not work.

**Recommended actions**

You might want to handle errno *arg* in your error handler

### 41835, ALXT timeout

**Description**

There was a timeout error in the communication with the ALXT Power Source connected to device *arg*. The message with identity *arg* was not answered in time.

**Consequences**

Welding might not work.

**Recommended actions**

You might want to handle errno *arg* in your error handler.

### 41840, Argument error

**Description**

Task: *arg*.
No valid triggdata in TriggArray argument.
Program ref: *arg*.

**Consequences**

The program execution is stopped immediately.

**Recommended actions**

Define triggdata by executing instruction TriggIO, TriggInt, TriggEquip, TriggSpeed or TriggCheckIO before current instruction.

### 41841, Argument error

**Description**

Task: *arg*.
The size of the array used in argument *arg* is *arg*. The max size of the array is limited to *arg* elements.
Program ref: *arg*.

**Consequences**

The program execution is stopped immediately.

**Recommended actions**

Check and change the RAPID program.

### 41842, Argument error

**Description**

Task: *arg*.
Instruction *arg* used with argument *arg* and one of the optional arguments T2, T3, T4, T5, T6, T7 or T8.
Program ref: *arg*.

**Consequences**

The program execution is stopped immediately.

**Probable causes**

An illegal combination of arguments was used.

**Recommended actions**

Correct the RAPID program.

### 41843, Instruction not allowed in TRAP or service routine

**Description**

Task:*arg*. It is not allowed to use the RAPID instruction *arg* in a TRAP or a service routine.
Program ref: *arg*.

**Consequences**

The program execution is stopped immediately.

**Recommended actions**

Remove the instruction from your RAPID program.

### 41844, Search Error

**Description**

Task: *arg*.
The persistent variable *arg* for the SearchX instruction is already set to the specified value (high or low) at the start of searching. Before performing next search, make sure that TCP is moved back to the start position of the search path.
Program ref: *arg*.

**Consequences**

If no repositioning is done, before restart of circular search, movement that can cause damage might occur.

**Recommended actions**

Recovery: *arg*.

### 41845, Outside reach Error

**Description**

Task: *arg*.
The position (robtarget) is outside the robot's working area.
Program ref: *arg*.

*Continues on next page*


© Copyright 2005-2020 ABB. All rights reserved.

**Probable causes**

- The robtarget used is outside reach.

**Recommended actions**

Use a robtarget that is within the robot's working area.

Recovery: *arg*.

## 41846, Signal not writeable

**Description**

Task: *arg*.

The I/O signals bit(s) is set by a device transfer operation. The signal *arg* is read only.

Program ref: *arg*.

**Consequences**

The program execution is stopped immediately.

**Probable causes**

The I/O signals bit(s) is set by a device transfer operation.

**Recommended actions**

Check the I/O configuration for I/O signals and device transfer.

Change signal used in RAPID program.

## 41847, Signal not writeable

**Description**

The I/O signals bit(s) is set by a device transfer operation. The signal *arg* is read only.

**Consequences**

The program execution is stopped immediately.

**Probable causes**

The I/O signals bit(s) is set by a device transfer operation.

**Recommended actions**

Check the I/O configuration for I/O signals and device transfer.

Change signal used in RAPID program.

## 41848, Too low visualization time

**Description**

Task: *arg*.

The specified visualization time is too low.

Program ref: *arg*.

**Consequences**

The program execution is stopped immediately.

**Recommended actions**

Check the RAPID documentation regarding the minimum visualization time. Increase the visualization time used in the RAPID program.

## 41849, Bad combination of values used in arguments

**Description**

Task: *arg*.

The specified visualization time *arg* is equal or higher than the timeout *arg* for the instruction.

Program ref: *arg*.

**Consequences**

The program execution is stopped immediately.

**Recommended actions**

Change the visualization time used in the RAPID program, or change the maximum period of waiting time permitted.

## 41850, User interface already active

**Description**

Task: *arg*.

A message is already active on the FlexPendant. A message launched by instruction *arg* must be aborted before launching a new message.

Program ref: *arg*.

**Consequences**

The message will not be presented on the FlexPendant. This error can be handled in an error handler.

**Probable causes**

A *arg* message is already active on the FlexPendant.

**Recommended actions**

Recovery: *arg*. The current active *arg* message can be deactivated with instruction *arg*.

## 41851, Wrong value type used

**Description**

Task: *arg*.

Wrong value type used in optional argument *arg*. The only valid types are bool, num or dnum, or any alias type of those three base types.

Program ref: *arg*.

**Consequences**

The program execution is stopped immediately.

**Probable causes**

Wrong value type used.

**Recommended actions**

Change type used in optional argument *arg*.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

## 41852, Wrong signal value for signal *arg*

**Description**

It is not possible to set the I/O signal *arg* to value *arg*.

**Consequences**

The program execution is stopped immediately.

**Probable causes**

The I/O signal *arg* is configured wrong, or the value that should be set is wrong. The signal value that is used has been read from a persistent variable specified in one of the setup instructions used for Trigg defining conditions and actions for setting a digital, a group of digital, or an analog output signal at a fixed position. The error is detected when the actual signal setting should be done.

**Recommended actions**

Check the I/O configuration for I/O signal. Check the value of the persistent variable that is used in *arg* for the setup instruction(s) for Trigg.

## 41860, Evaluation error in Cyclic bool

**Description**

Failure while evaluating the Cyclic bool *arg*.

**Consequences**

The evaluation of *arg* has been stopped immediately.

**Probable causes**

1 The module containing the declaration of has been unloaded.
2 An I/O signal needed to evaluate the logical expression connected to has been lost (see earlier error logs).
3 The I/O signal that is updated with the cyclic bool value has been lost.

**Recommended actions**

1 Reload the module containing the declaration of .
2 Re-establish the connection with the I/O device.
3 Re-connect the RAPID program defined signal using AliasIO.

## 41861, Cyclic bool has been removed

**Description**

Failure while evaluating the Cyclic bool *arg*.

**Consequences**

The evaluation of *arg* has beem stopped immediately and the Cyclic bool has been removed.

**Probable causes**

1 The module containing the declaration of has been unloaded.
2 An I/O signal needed to evaluate the logical expression connected to has been lost (see earlier error logs).
3 The I/O signal that is updated with the cyclic bool value has been lost.

**Recommended actions**

1 Reload the module containing the declaration of .
2 Re-establish the connection with the I/O device.
3 Re-connect the RAPID program defined signal using AliasIO.
4 Re-connect the logical expression.

## 41862, ASCII log setup failed

**Description**

Not possible to setup ASCII log for the cyclic bool *arg*.

**Probable causes**

The cyclic bool is not active when activation of ASCII log is done with RAPID instruction StartAsciiLog.

**Recommended actions**

Use RAPID instruction SetupCyclicBool using cyclic bool *arg* before using StartAsciiLog.

## 41863, Mechanical unit not TCP robot

**Description**

Task: *arg*.
The mechanical unit *arg* is not a TCP robot. *arg* can only be used if the mechanical unit is a TCP robot.
Program ref: *arg*.

**Consequences**

The program execution is stopped immediately.

**Recommended actions**

Use *arg* with TCP robot only.

## 41864, Argument error

**Description**

Task: *arg*.
Bad combination of switches.
The switch *arg* can only be combined with switch *arg*.
Program ref: *arg*.

**Consequences**

The program execution is stopped immediately.

**Recommended actions**

Correct the RAPID program.

## 41865, Invalid MAC address

**Description**

Task: *arg*.

*Continues on next page*


© Copyright 2005-2020 ABB. All rights reserved.

Invalid MAC address *arg*.
Program ref: *arg*.

**Consequences**
The program execution is stopped immediately.

**Probable causes**
The format might be wrong.

**Recommended actions**
Check the MAC address and correct the address used.
The length of the MAC-address in format XX:XX:XX:XX:XX:XX.

### 41880, AliasCamera Define Error

**Description**
Task: *arg*.
The camera in argument CameraName or FromCamera: *arg*, must be defined in the Communication configuration (SIO,cfg) and the camera in argument ToCamera: *arg*, must be declared in the RAPID program and not defined in the Communication configuration (SIO,cfg).
Program ref: *arg*.

**Recommended actions**
Check the Communication configuration and the RAPID program.
Recovery: *arg*.

### 41881, Persistent boolean Break

**Description**
Task: *arg*.
A value change on a persistent boolean variable interrupted the execution.
Program ref: *arg*.

**Recommended actions**
Recovery: *arg*.

### 41882, Error in Cyclic bool

**Description**
Task: *arg*.
The condition used in SetupCyclicBool is too complex.
Program ref: *arg*.

**Consequences**
The program execution is stopped immediately.

**Probable causes**
The condition used in SetupCyclicBool in SetupCyclicBool is too complex.

**Recommended actions**
Divide the expression into two subexpressions to make each subexpression less complex than the original expression.

### 41883, *arg* file is corrupted

**Description**
Task: *arg*.
The file has been edited or a previous *arg* has been interrupted, and then the file was corrupted.
Program ref: *arg*.

**Consequences**
The file has been renamed to *arg*.
The *arg* will be created again next time the routine is executed. All history will be lost in *arg*, but can be found in the file *arg* in the HOME: directory.

**Probable causes**
File edited or corrupted by a previous interrupted run of the routine.

### 41884, CyclicBrakeCheck Error

**Description**
Task: *arg*.
SafeMove option or the EPS option is a requirement if running CyclicBrakeCheck.
Program ref: *arg*.

**Consequences**
The program execution is stopped immediately.

**Probable causes**
Using CyclicBrakeCheck without required options.

**Recommended actions**
Use BrakeCheck to test brakes when not having any SafeMove option or EPS option.

### 41885, BrakeCheck Error

**Description**
Task: *arg*.
When having a SafeMove option or the EPS option, CyclicBrakeCheck should be used to test brakes.
Program ref: *arg*.

**Consequences**
The program execution is stopped immediately.

**Probable causes**
Use of BrakeCheck routine when CyclicBrakeCheck should be used.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

**Recommended actions**

Use CyclicBrakeCheck to test brakes.

## 41886, CyclicBrakeCheck Error

**Description**

Task: *arg*.

CyclicBrakeCheck is already active.

The CyclicBrakeCheck routine cannot be executed from several tasks or execution levels at the same time.

Currently task *arg* is executing CyclicBrakeCheck on execution level *arg* (LEVEL_NORMAL=0, LEVEL_SERVICE=2).

Program ref: *arg*.

**Consequences**

The program execution is stopped immediately.

**Probable causes**

More than one call to procedure CyclicBrakeCheck.

**Recommended actions**

1 Check that only one task is executing CyclicBrakeCheck routine if using a multimove system.
2 If calling CyclicBrakeCheck from a service routine, check that the execution of CyclicBrakeCheck on normal level has been ended.

To cancel an active CyclicBrakeCheck, move program pointer to cursor or move program pointer to main.

## 41887, BrakeCheck Error

**Description**

Task: *arg*.

BrakeCheck is already active.

The BrakeCheck routine cannot be executed from several tasks or execution levels at the same time.

Currently task *arg* is executing BrakeCheck on execution level *arg* (LEVEL_NORMAL=0, LEVEL_SERVICE=2).

Program ref: *arg*.

**Consequences**

The program execution is stopped immediately.

**Probable causes**

More than one call to procedure BrakeCheck.

**Recommended actions**

1 Check that only one task is executing BrakeCheck routine if using a multimove system.
2 If calling BrakeCheck from a service routine, check that the execution of BrakeCheck on normal level has been ended.

To cancel an active BrakeCheck, move program pointer to cursor or move program pointer to main.

## 41888, Not allowed command

**Description**

Task: *arg*.

The instruction/function *arg* cannot be used when you have an ongoing brake check.

Program ref: *arg*.

**Consequences**

The program execution is stopped immediately. Move PP to main.

**Probable causes**

A brake check is currently running, and then it is not allowed to use *arg*.

**Recommended actions**

End execution of CyclicBrakeCheck or BrakeCheck routine before using *arg*.

## 41889, Value error

**Description**

Task: *arg*.

The value read is an integer and above the maximum integer value for num, 8388608. Value read: *arg*.

Program ref: *arg*.

**Consequences**

The program execution is stopped immediately.

**Probable causes**

A num variable is used to store the read integer value, and that value is above the maximum integer value for a num.

**Recommended actions**

Change datatype used in *arg* to a dnum variable.

## 41890, Parameter error

**Description**

Task: *arg*.

The value used in argument NumPoints (*arg*) is larger than the array size of argument Points (*arg*).

Program ref: *arg*.

**Consequences**

The program execution is stopped immediately.

**Recommended actions**

Correct the RAPID program.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 41891, Too few points

**Description**

Task: *arg*.

Need at least two points to identify line.

Used points: *arg*.

Program ref: *arg*.

**Consequences**

The program execution is stopped immediately.

**Recommended actions**

Correct the RAPID program.

### 41892, Too few points

**Description**

Task:*arg*.

Need at least three points to identify plane.

Used points: *arg*.

Program ref: *arg*.

**Consequences**

The program execution is stopped immediately.

**Recommended actions**

Correct the RAPID program.

### 41893, Too few points

**Description**

Task:*arg*.

Need at least three points to identify circle.

Used points: *arg*.

Program ref: *arg*.

**Consequences**

The program execution is stopped immediately.

**Recommended actions**

Correct the RAPID program.

### 41894, Too few points

**Description**

Task:*arg*.

Need at least four points to identify sphere.

Used points: *arg*.

Program ref: *arg*.

**Consequences**

The program execution is stopped immediately.

**Recommended actions**

Correct the RAPID program.

### 41895, Too many points

**Description**

Task: *arg*.

Can handle at most 100 points.

Used points: *arg*.

Program ref: *arg*.

**Consequences**

The program execution is stopped immediately.

**Recommended actions**

Correct the RAPID program.

### 41896, Argument error

**Description**

Task: *arg*.

Cannot calculate a plane because the three points are collinear.

Program ref: *arg*.

**Consequences**

The program execution is stopped immediately.

**Recommended actions**

Correct the RAPID program.

### 41897, Argument error

**Description**

Task: *arg*.

Cannot calculate a line because the two points are too close.

Program ref: *arg*.

**Consequences**

The program execution is stopped immediately.

**Recommended actions**

Correct the RAPID program.

### 41898, Argument error

**Description**

Task: *arg*.

The point distribution is not a plane.

Program ref:*arg*

*arg*

*arg*

*arg*

**Consequences**

The program execution is stopped immediately.

**Recommended actions**

Correct the RAPID program.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 41899, Argument error

**Description**

Task: *arg*.
The point distribution is not a line.
Program ref:*arg*
*arg*
*arg*
*arg*.

**Consequences**

The program execution is stopped immediately.

**Recommended actions**

Correct the RAPID program.

### 41900, Orientation Value Error

**Description**

Task: *arg*.
Wrong orientation value in *arg*.
Program ref: *arg*.

**Recommended actions**

All used orientations must be normalized, i.e. the sum of the quaternion elements squares must equal 1.
Recovery: *arg*.

### 41901, Text Table Name not valid

**Description**

Task: *arg*.
The text table name is too long. Max *arg* characters can be used in the name.
Program ref: *arg*.

**Consequences**

The text table name is not valid.

**Probable causes**

Too long name used as text table name.

**Recommended actions**

Change the name on the text table.

### 41902, Speed override changed

**Description**

Task: *arg*.
The speed override set by the operator from the FlexPendant has been changed. To get right performance, the speed override has to be set to 100%.
Current setting: *arg*.

**Consequences**

The program execution is stopped immediately.

**Probable causes**

The speed override has been changed during execution of routine.

**Recommended actions**

Move PP, change the speed to 100%, and restart the routine.

### 41903, Brake Check, *arg* file renamed

**Description**

Task: *arg*.
The Brake Check program has detected that tuning is used or has been used. Current file *arg* cannot be modified with the new entry *arg*.
Program ref: *arg*.

**Consequences**

*arg* will be renamed to *arg*. A new file *arg* will be created.

**Probable causes**

Tuning is used or has been used for Brake Check program. The file zzz_internal_cbc_tuning.mod exist in the HOME: directory, or has been used earlier.

**Recommended actions**

No action needed.

### 41904, Brake Check, task *arg* deactivated

**Description**

Task: *arg*.
The Brake Check program has detected that motion task *arg* is deactivated in the task selection panel.
Program ref: *arg*.

**Consequences**

The program execution is stopped immediately.

**Probable causes**

Task has been deactivated in the task selection panel.

**Recommended actions**

Activate the task *arg* in the task selection panel, and execute the brake check program again.

### 41905, Argument error

**Description**

Task: *arg*.
Cannot calculate a sphere because the points are distributed along a line.
Program ref:*arg*.

*Continues on next page*


© Copyright 2005-2020 ABB. All rights reserved.

**Consequences**

The program execution is stopped immediately.

**Recommended actions**

Correct the RAPID program.

## 41906, Path Not In Stop Point

**Description**

Task: *arg*.

One or several mechanical units connected to task *arg* is not in a stop point. A path is currently active.

Program ref: *arg*.

**Consequences**

The program execution is stopped immediately.

**Probable causes**

A mechanical unit is not in a stop point.

The reason for this error is one of the following:

1 The break check program is executed as a service routine. The mechanical units connected to other tasks than the one executing the service routine will not be forced into a fine point.
2 One or several tasks is deactivated in the task selection panel, and then the paths cannot be finished for all mechanical units.

**Recommended actions**

Before executing the brake check program, end the ongoing path for all mechanical units in all tasks. This is done by stepping the movements forward.

## 41907, Too far from path

**Description**

Task: *arg*.

One or several mechanical units connected to task *arg* is too far from the path to perform a regain movement.

Program ref: *arg*.

**Consequences**

The execution of the routine *arg* has been stopped.

**Probable causes**

The mechanical unit has been jogged from the path.

**Recommended actions**

1 Start execution again and choose if regain or remove path.
2 Cancel call routine to end .

## 41908, Instruction Error

**Description**

Task: *arg*.

No user logged on from FlexPendant.

Program ref: *arg*.

**Probable causes**

Not using any FlexPendant, or running without a Virtual FlexPendant in RobotStudio.

**Recommended actions**

Recovery: *arg*.



© Copyright 2005-2020 ABB. All rights reserved.

## 4.7 5 xxxx

### 50021, Joint position error

**Description**

Actual position of joint *arg* is too far away from the ordered position.

**Recommended actions**

Check tuning parameters, external forces or hardware.

### 50024, Corner path failure

**Description**

Task: *arg*.

Corner path executed as stop point due to some of the following reasons:

- Time delay.
- Closely programmed points.
- System requires high CPU load.

Program ref. *arg*.

**Recommended actions**

- Reduce the number of instructions between consecutive move instructions.
- Reduce speed, use wider spaced points, use /CONC option.
- Increase system parameter 'Prefetch Time' in topic Motion and type Motion Planner.
- If the stop comes at the first movement after a finepoint, increase the system parameter 'Interpolation Buffer Startup Adjust' in topic Motion and type Motion Planner.
- The warning can be suppressed using the RAPID instruction CornerPathWarning.

### 50025, Restart interrupted

**Description**

Current position is too far from path.

**Recommended actions**

Make a new restart with regain.

### 50026, Close to singularity

**Description**

Task: *arg*.

Robot too close to singularity.

Program ref. *arg*.

(Internal status: *arg*).

**Recommended actions**

Modify the robot path away from the singularity or change the jogging mode for the robot to joint/axis jogging.

In the case when the robot position is dependent on an additional axis being jogged then that dependency may also need to be relaxed, that is by changing the jogging coordinate system for the robot from world to base.

### 50027, Joint Out of Range

**Description**

Position for *arg* joint *arg* is out of working range.

**Recommended actions**

Use the joystick to move the joint into its working range.

### 50028, Jog in wrong direction

**Description**

Position for *arg* joint *arg* is out of working range.

**Recommended actions**

Use the joystick to move the joint in opposite direction.

### 50031, Command not allowed

**Description**

System parameters cannot be changed in Motors On state.

**Recommended actions**

Change to Motors Off.

### 50032, Command not allowed

**Description**

An attempt was made to calibrate while in Motors On.

**Recommended actions**

Change to Motors Off.

### 50033, Command not allowed

**Description**

An attempt was made to commutate the motors in Motors On.

**Recommended actions**

Change to Motors Off.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 50035, Command not allowed

**Description**

An attempt was made to synchronize in Motors On.

**Recommended actions**

Change to Motors Off.

### 50036, Correct regain impossible

**Description**

A stop occurred with too many close points with corner zones. At restart the robot will move to a point farther forward in the program.

**Recommended actions**

Reduce the number of close points, increase the distance between them or reduce the speed.

### 50037, Motors On order ignored

**Description**

Motors On order ignored since the previous stop was not yet acknowledged.

**Recommended actions**

Order Motors On again.

### 50042, Could not create path

**Description**

The path could not be created.

**Recommended actions**

- Increase the distance between close points.
- Decrease speed.
- Change acceleration.

### 50050, Position outside reach

**Description**

Position for *arg* joint *arg* is outside working area.

Joint 1-6 : Number of the axis which causes the error.

Joint 23: Combination of axis 2 and 3 causes the error.

**Probable causes**

The reason may be that ConfL_Off is used and a movement is too large, more than 90 degrees for an axis.

**Recommended actions**

- Check work object or working range.
- Move the joint in joint coordinates.
- Check Motion system parameters.
- Insert intermediate points on large movements.

### 50052, Joint speed error

**Description**

The speed of joint *arg* is wrong relative the ordered speed due to error in system or collision.

**Recommended actions**

- Check the tune parameters, external forces on the joint and hardware.
- Reduce programmed speed.

### 50053, Too large revolution counter difference

**Description**

Too large revolution counter difference for joint *arg*. The system has detected too large a difference between the actual revolution counter value on the serial measurement board and the value anticipated by the system.

**Consequences**

The robot is not calibrated and may be jogged manually, but no automatic operation is possible.

**Probable causes**

The position of the robot arm may have been changed manually while the power supply was switched off. The serial measurement board, resolver or cables may also be faulty.

**Recommended actions**

1 Update the revolution counter.
2 Check resolver and cables.
3 Check the serial measurement board to determine whether it is faulty. Replace the unit if faulty.

### 50055, Joint load too high

**Description**

Actual torque on joint *arg* too high. Might be caused by incorrect load data, too high acceleration, high external process forces, low temperature or hardware error.

**Recommended actions**

- Check load data.
- Reduce acceleration or speed.
- Check hardware.

### 50056, Joint collision

**Description**

Actual torque on joint *arg* is higher than ordered while at low or zero speed. Might be caused by jam error (the arm has got stuck) or hardware error.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

**Recommended actions**

Check that arm is not stuck.

Check hardware.

Check for other hardware event logs.

## 50057, Joint not synchronized

**Description**

The position of joint *arg* after power down/failure is too far away from the position before the power down/failure.

**Recommended actions**

Make a new update of the revolution counter.

## 50058, Tool coordinate system error

**Description**

The z-direction of the tool coordinate system is almost parallel with the path direction.

**Recommended actions**

Change the tool coordinate system to achieve at least 3 degrees deviation between z-direction and path direction.

## 50063, Circle uncertain

**Description**

Task: *arg*.

The points are misplaced, reason *arg*:

1 End point too close to start point.

2 Circle point too close to start point.

3 Circle point too close to end point.

4 Uncertain reorientation.

5 Circle too large > 240 degrees.

Program ref. *arg*.

**Recommended actions**

Check the points of the circle and the end point of the move instruction before. The points of the circle can be verified by stepping trough the circle in manual mode.

## 50065, Kinematics error

**Description**

The destination of the movement is outside the reach of the robot or too close to a singularity. Robot *arg*.

**Recommended actions**

Change the destination position.

## 50066, Robot not active

**Description**

Attempt to coordinate motion or calculate position of deactivated robot *arg*.

**Recommended actions**

Activate robot from the Jogging window, or program. Check work object and program.

## 50067, Unit not active

**Description**

Attempt to coordinate motion or calculate position of deactivated single unit *arg*.

**Recommended actions**

Activate robot from the Jogging window, or program. Check work object and program.

## 50076, Orientation not correct

**Description**

Orientation is incorrectly defined.

**Recommended actions**

Make an accurate normalization of the quaternion elements.

## 50078, Too many close positions

**Description**

Too many consecutive closely spaced positions.

**Recommended actions**

Increase the distance between consecutive close positions.

## 50079, Cannot use wrist weaving

**Description**

Wrist weaving not possible.

**Recommended actions**

Use smaller weaving amplitude or a larger TCP.

## 50080, Position not compatible

**Description**

The desired position cannot be reached with the given robot configuration. Robot *arg*.

**Recommended actions**

Modify the robot position in the program.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

## 50082, Path calculation time exceeded

**Description**

The path calculation time for mechanical units running in motion planner *arg* exceeds internal limit. The motion task did not execute within its time limit.

**Probable causes**

The CPU load is too high. Could for example be generated by too frequent I/O communication.

**Recommended actions**

1 Set system parameter 'High Interpolation Priority' for the affected motion planner.
2 Try to reduce the CPU load by one or more of the following actions:
3 Reduce speed.
4 Change AccSet.
5 Avoid singularity (SingArea\Wrist).
6 If the error comes directly after start from finepoint, increase the system parameter 'Interpolation Buffer Startup Adjust' in topic Motion and type Motion Planner.

## 50085, Too many user frames

**Description**

For mechanical unit *arg* more than one user frame has been defined.

**Recommended actions**

Take away one user frame or define one more mechanical unit.

## 50086, Singularity problem

**Description**

Too close to wrist singularity with respect to numerical resolution for joint 4 of *arg*.

**Recommended actions**

Change destination position a few increments.

## 50087, Singularity problem

**Description**

Too close to wrist singularity with respect to numerical resolution for joint 6 of *arg*.

**Recommended actions**

Change destination position a few increments.

## 50088, Restart not possible

**Description**

It is not possible to restart the path due to a previous error.

**Recommended actions**

Move the program pointer to clear the path and start a new movement.

## 50089, Weaving changed

**Description**

Task: *arg*.

The ordered weaving is not achieved due to:

- High weaving frequency.
- Not allowed shift of weave method or
- that SingArea/Wrist is used with wrist weave.

Program ref. *arg*.

**Recommended actions**

Increase weave length or period time.

Don't shift between arm and wrist weave.

Use SingArea/Off with wrist weave.

## 50091, Restart not possible

**Description**

Restart no longer possible. Change of mechanical unit state made restart of program impossible.

**Recommended actions**

Move the program pointer and start a new movement.

## 50092, Axis computer response

**Description**

Incorrect response from the axis computer.

**Recommended actions**

Check Motion system parameters.

Check the axis computer hardware.

## 50094, TuneServo not possible

**Description**

Tuning is not implemented for the specified joint.

**Recommended actions**

Verify that a parameter and/or joint that can be used with TuneServo is chosen.

## 50096, TuneServo not allowed

**Description**

Tuning is not allowed for the specified joint.

**Recommended actions**

Verify that a parameter and/or joint that can be used with TuneServo is chosen.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 50124, Zone converted to fine point

**Description**

Task: *arg*.

Corner path executed as stop point because the calculated time margin for next segment is 0.

This can be caused by:

- Closely programmed points.
- System requires high CPU load.

Program ref. *arg*.

**Recommended actions**

- Reduce the number of instructions between consecutive move instructions.
- Reduce speed, use wider spaced points, use /CONC option.
- Increase system parameter 'Prefetch Time' in topic Motion and type Motion Planner.
- If the stop comes at the first movement after a finepoint, increase the system parameter 'Interpolation Buffer Startup Adjust' in topic Motion and type Motion Planner.
- The warning can be suppressed using the RAPID instruction CornerPathWarning.

### 50132, Commutation failed

**Description**

Commutation failed for joint *arg*.

**Recommended actions**

- Make a new commutation.
- Restart the controller.

### 50133, No signals available

**Description**

No signals are available for robot *arg*.

**Recommended actions**

Verify that correct signals are defined.

### 50134, Correction vector failed

**Description**

Sensor correction vector calculations failed due to previous error.

**Recommended actions**

### 50135, SoftAct not possible

**Description**

Soft servo is not possible to activate.

**Recommended actions**

Verify that a joint that can be used with SoftAct is chosen.

### 50138, Arm check point limit

**Description**

The robot *arg* has reached the limit for arm check point.

**Recommended actions**

Use the joystick to move the involved joint into the working range again.

### 50139, Arm check point limit

**Description**

Jogging was made in wrong direction when arm check point was out of working range for robot *arg*.

**Recommended actions**

Use the joystick to move the joint in opposite direction.

### 50140, Payload too large

**Description**

Heavy payload caused static torque limit to be exceeded on joint *arg*.

**Recommended actions**

Check and reduce payload for arm and/or wrist. Reduce joint working range to decrease static torque due to gravity.

### 50142, Motion configuration

**Description**

Configuration of the manipulator failed.

*arg*

*arg*.

**Recommended actions**

Check system parameters in topic Motion.

Use correct parameters and reset the system.

### 50143, Robot axes configuration

**Description**

Actual configuration is not the same as ordered and/or movement of any robot axis is larger than 90 degrees. Robot *arg*, axis *arg*.

**Recommended actions**

Use SingArea_Wrist, ConfL_Off, modify position or insert intermediary point.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

Proceeding in automatic mode will not be possible without correcting the configuration. To be able to move to the position anyway change to manual mode and repeat start.

### 50144, Displacement frame uncertain

**Description**

Calibration of displacement frame uncertain for robot *arg*, due to one or several of:

- Wrong TCP.
- Reference points inaccurate.
- Reference points badly spaced.

**Recommended actions**

If estimated error is unacceptable:

- Verify that correct TCP is used.
- Try more than 3 reference points.
- Be careful when positioning robot to reference points.

### 50145, Kinematic limitation

**Description**

Kinematic limitation for robot *arg*, no solution found.

- Long segment.
- Position close to singularity.
- Joint 1, 2 or 3 out of range.
- Position outside reach.

**Recommended actions**

- Insert an intermediary point to reduce the length of the segment.
- Use MoveAbsJ.
- Check working range.

### 50147, Power fail restart failed

**Description**

Re-creation of the path failed.

**Recommended actions**

Move the program pointer and start a new movement.

### 50153, Command not allowed

**Description**

Task: *arg*.

The given instruction, or command, was not allowed since the robot program was executing in a hold state.

(Internal status: *arg arg*).

Program ref. *arg*.

**Recommended actions**

Modify program or stop program execution before issuing command.

### 50156, Not an Independent Joint

**Description**

Joint *arg* is not configured as an Independent Joint.

**Recommended actions**

Modify the program or configure the joint as an Independent Joint in topic Motion and type Arm.

### 50157, Correction vector X failed

**Description**

Sensor correction vector X calculations failed due to previous error.

**Recommended actions**

### 50158, Sensor process missing

**Description**

Sensor process missing during initialization. Named sensor process *arg* could not be found or initialized.

**Recommended actions**

Check process name in topic Motion and type Process.

### 50159, No external process

**Description**

Attempt to coordinate motion or calculate position of single *arg* without an external process.

**Recommended actions**

Check process name in topic Motion and type Process configuration files.

### 50160, Cannot reach position

**Description**

Programmed position of independent joint *arg* is outside working range and thus cannot be reached.

**Recommended actions**

- Change the position.
- Check the joint working area limits.
- Check the used work object.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 50163, Position adjustment

**Description**

External position adjustment too large. TCP speed, orientation speed, or external position speed exceed allowed robot performance.

**Recommended actions**

- Reduce programmed TCP- and orientation speeds.
- Modify the path.
- WaitWObj closer to sync.
- Run in automatic mode.

### 50164, Deactivation not possible

**Description**

Deactivation of mechanical unit may not be done while in independent mode.

**Recommended actions**

Make sure that independent mode is not used and try to deactivate again.

### 50167, New sync

**Description**

New object sync signal has arrived while conveyor is active and program is running.

**Recommended actions**

### 50168, New sync on *arg*

**Description**

New object sync arrived while conveyor was tracking the previous object. Cannot track two objects simultaneously.

**Recommended actions**

Reduce speed of conveyor. Increase programmed speed.

### 50172, MoveJ not allowed

**Description**

MoveJ not allowed with work object coordinated with external position mechanical unit.

**Recommended actions**

Change to linear movement or work object.

### 50174, WObj not connected

**Description**

The WObj is not connected to the conveyor *arg*. Robot TCP cannot be coordinated to work object. Object can be dropped because of time synchronization fault on conveyor node.

**Recommended actions**

Check for missing WaitWObj.
Check for DropWObj occurring before end of coordination.
Check for time synchronization fault, see status on conveyor node.

### 50175, Conveyor moving

**Description**

Conveyor *arg* moving while attempt to coordinate robot TCP to conveyor work object while in prohibited mode or create objects for calibration while conveyor moving.

**Recommended actions**

It is not possible to coordinate to conveyor while in manual reduced speed, or stepping in automatic mode, and the conveyor is moving. Do not use signal NewObjStrobe to create normal objects.

### 50176, Conveyor not active

**Description**

Conveyor *arg* was not active when attempt to coordinate robot TCP to conveyor work object.

**Recommended actions**

Make sure conveyor mechanical unit is active. Check for finepoint for last coordinated motion before DeactUnit.

### 50177, Unable to restart

**Description**

Conveyor *arg* moving while attempting to restart or before pressing Stop or stepping through program.

**Recommended actions**

Make sure conveyor is standing still. Move the program pointer and start a new movement.

### 50181, Out of coupled range

**Description**

Joint *arg* and *arg* are out of coupled working range.

**Recommended actions**

Use the joystick to move joints into their coupled working range.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 50182, Jog in wrong direction

**Description**

Joint *arg* and *arg* are out of coupled working range.

**Recommended actions**

Use the joystick to move joints into their coupled working range.

### 50183, Robot outside work area

**Description**

The robot has reached the World Zone *arg*, *arg*.

**Recommended actions**

Check the reason of the World Zone. Use the joystick to move the robot out of the World Zone if needed.

### 50184, Correction vector Y failed

**Description**

Sensor correction vector calculations failed due to previous error.

**Recommended actions**

### 50189, Relay signal not found

**Description**

The signal *arg* for relay *arg* is not found in the I/O configuration. The mechanical unit using this relay is ignored.

**Recommended actions**

Check I/O signal definitions and system parameters definition in topic Motion and type Relay.

### 50190, Permanent interpolator lock error

**Description**

Scanned number of active joints not equal to expected number of joints.

**Recommended actions**

Check configuration of the unit that is using general kinematics.

### 50192, Jogging error

**Description**

Jogging is started too soon after program stop.

**Recommended actions**

Try to jog the robot again.

### 50193, Joint not synchronized

**Description**

The speed of joint *arg* before power down/failure was too high.

**Recommended actions**

Make a new update of the revolution counter.

### 50194, Internal position error

**Description**

Error caused by internal numerical limitation. Joint number *arg*. Calculated reference position = *arg*.

**Recommended actions**

- Adjust the system parameters in topic Motion and type Uncalibrated Control Master 0.
- If TuneServo is used, adjust parameter 'TUNE_DF'.

### 50195, Cannot move independent

**Description**

Joint *arg* cannot be moved in independent mode.

**Recommended actions**

Make sure that independent mode is not used when trying to move joint.

### 50196, Calibration failed

**Description**

Points 0 and 1 too close.

**Recommended actions**

Make a new calibration with larger distance between points 0 and 1.

### 50197, Calibration failed

**Description**

Points 0, 1 and 2 on a line or point 2 too close to points 0 or 1.

**Recommended actions**

Make a new calibration with points moved so that 0, 1 and 2 are not on a line or with larger distance between point 2 and points 0 and 1.

### 50198, Calibration failed

**Description**

Internal error during calibration due to unknown origin switch.

**Recommended actions**

- Report the occurrence to ABB.
- Make a new calibration.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

## 50200, Torque error

**Description**

Torque calculation error due to high speed for mechanical unit *arg*. Internal status *arg*.

**Recommended actions**

- Check load data.
- Reduce speed.

## 50201, Orientation outside reach

**Description**

The error of the programmed orientation exceeds the acceptance limit.

**Recommended actions**

- Adjust robtarget orientation.
- Adjust/check orientations of currently used frames: tool frame, base frame, user frame, object frame.
- It is possible (but not recommendable) to switch off the orientation supervision using the corresponding system parameter. Please see system parameters documentation for details (topic Motion and type Robot).

## 50203, Measurement node used

**Description**

The measurement node for joint *arg* is already used.

**Recommended actions**

Select another node.

## 50204, Motion supervision

**Description**

Motion supervision triggered for axis *arg* on mechanical unit *arg*.

**Consequences**

The movement of mechanical unit *arg* is halted immediately. It then returns to a position on the path on which it was running. If Collision Error Handling is not configured, the execution will stop and it will remain in Motors On, awaiting a start request. If Collision Error Handling is configured, the execution will continue into an error handler.

**Probable causes**

Triggering of the motion supervision may be caused by a collision, incorrect load definition or forces in external process.

**Recommended actions**

1. If execution is stopped, acknowledge the fault, and resume operation by pressing the Start button on the FlexPendant.
2. Make sure any loads are defined and identified correctly.
3. If the mechanical unit is exposed to forces from the external processes, use RAPID command or system parameters to raise the supervision level.
4. Consider to configure Collision Error Handling in topic Controller, type General Rapid and add an error handler for collision errors.

## 50205, Data logger error

**Description**

*arg*.

**Recommended actions**

Solution:
*arg*.

## 50208, Missing function

**Description**

Friction compensation cannot be activated for joint *arg*.

**Recommended actions**

Install the option Advanced Robot Motion.

## 50209, Kinematic limitation

**Description**

No acceptable solution found. Residual: *arg* deg in orientation, *arg* mm in x,
*arg* mm in y, *arg* mm in z.

**Recommended actions**

Insert an intermediary point. Check singularity. Increase position and orientation tolerance. Use MoveAbsJ. Check working range.

## 50210, Load identification fail

**Description**

Cannot perform load identification because configuration angle is too small.

**Recommended actions**

- Increase configuration angle.

## 50214, Work area configuration failed

**Description**

Possibly the defined work area is larger than max allowed area for robot *arg*.

**Recommended actions**

Adjust the work area parameters in topic Motion and type Robot system parameters and try again.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 50215, Load identification fail

**Description**

Axis *arg* will move outside working range.

**Recommended actions**

Move the axis to a position further from the working range limit.

### 50218, Path not finished

**Description**

Task: *arg*.

Previous motion path was not finished before new motion was sent.

Program ref. *arg*.

**Recommended actions**

Use StorePath when in Trap routines. Move the program pointer and start a new movement.

### 50220, No input signal

**Description**

No input signal to the contactor relay for mechanical unit *arg*.

**Recommended actions**

Ensure that an input signal is connected and configured.

### 50221, Object outside limit

**Description**

Object on conveyor *arg* is outside maximum distance or minimum distance limits. Object Dropped.

**Recommended actions**

Check limits or reduce conveyor speed.

### 50222, Mismatch type - MechUnit

**Description**

Mismatch between selected identification type and selected mechanical unit.

**Recommended actions**

Make sure that selected type corresponds to selected mechanical unit and try again.

### 50224, Cannot define load

**Description**

It is not allowed to define a load on axis *arg* for mechanical unit *arg* or the interpolation is not stopped in a finepoint.

**Recommended actions**

Change axis number, mechanical unit or change the move before to finepoint.

### 50225, Synchronization failed

**Description**

Error in synchronization data.

- Controller updated with new data.
- System unsynchronized.

**Recommended actions**

Update all revolution counters.

### 50226, Motor reference error

**Description**

Calculation time for motor references exceeds internal limits.

**Recommended actions**

- Reduce load on the main computer.
- Restart the controller.

### 50227, Invalid log signal channel

**Description**

Invalid channel number *arg*.

**Recommended actions**

Test next channel number.

### 50228, Unknown log signal number

**Description**

Unknown signal number *arg*.

**Recommended actions**

Make sure that a valid signal number is defined.

### 50229, Unknown log signal unit

**Description**

Unknown mechanical unit *arg*.

**Recommended actions**

Check spelling or configuration.

### 50230, Invalid log signal axis

**Description**

Invalid axis number *arg* for mechanical unit *arg*.

**Recommended actions**

Check mechanical unit and axis number.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 50231, Log signal unit not active

**Description**

Mechanical unit *arg* not active.

**Consequences**

Logged signals for deactivated units may be invalid.

**Recommended actions**

Activate mechanical unit to avoid this event message.

### 50234, Overflow during logging

**Description**

An overflow occurred when logging signals.

**Recommended actions**

- Define fewer signals.
- Reduce load on the main computer.
- Reduce network load.

### 50235, No Motion interrupts received

**Description**

The system has not generated motion interrupts within timeout.

**Consequences**

The system goes to system failure state.

**Probable causes**

High system interrupt load or in rare cases hardware error.

**Recommended actions**

1 Restart the controller to resume operation.
2 Check any other error log messages coinciding in time with this one for clues.
3 Replace the main computer if faulty.

### 50239, Emergency Stop change

**Description**

Emergency Stop changed brake mode because of acceleration limitation.

**Recommended actions**

Limit acceleration in the program.

### 50240, Emergency Stop change

**Description**

Emergency Stop changed to brake mode because of torque limitation.

**Recommended actions**

Check load data.

### 50241, Missing function

**Description**

Absolute Accuracy not purchased.

**Recommended actions**

Change Robot system parameter 'Use Robot Calibration' in topic Motion to r#_uncalib.

### 50242, Unsync due to system parameters

**Description**

- Mismatch between controller and system parameters for joint (calibration offset or calibration position), or
- Valid flags for 'Calibration offset' or 'Commutation offset' not set to 'Yes' in system parameters.

**Recommended actions**

Update measurement system:

- Update revolution counter.
- Recalibrate joint.
- Change system parameters.

### 50243, No acceleration limit

**Description**

Acceleration limitation is not implemented for robot *arg*.

### 50244, Absolute Accuracy calibration failed

**Description**

Could not perform an Absolute Accuracy calibration for robot *arg*, returned status *arg*.

**Recommended actions**

- Restart the controller.
- Check that the hard drive isn't full.
- Install more memory.

### 50245, Command not allowed

**Description**

Cannot set non motion execution mode when in Motors On.

**Recommended actions**

Change to Motors Off.

### 50246, Linked motor error

**Description**

Large position offset between follower axis and master axis.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

**Recommended actions**

Start linked motor service routine. Jog the follower axis to same position as the master axis.

## 50247, Clear of Path failed

**Description**

The movement has to be stopped when the path is to be cleared.

**Recommended actions**

Use StopMove before the ClearPath instruction. Move the program pointer and start a new movement.

## 50248, Servo Tool error

**Description**

Error for tool *arg* in state *arg*

*arg*

*arg*

*arg*.

## 50249, Programmed force reduced

**Description**

Programmed tip force too high for tool *arg*. Requested motor torque (Nm) = *arg*. Force was reduced to max motor torque.

**Recommended actions**

1 Reduce programmed tip force.
2 Check force vs torque calibration in system parameters.
3 Check 'Max Force Control Motor Torque' in system parameters.

## 50250, Calibration force reduced

**Description**

Requested calibration force too high for tool *arg*. Requested motor torque (Nm) = *arg*. Force was reduced to max motor torque.

**Recommended actions**

1 Check calibration forces in system parameters.
2 Check force vs torque calibration in system parameters.
3 Check 'Max Force Control Motor Torque' in system parameters.

## 50251, Tool opening failed

**Description**

An ordered tool axis movement of *arg* was detected during tool opening.

**Recommended actions**

Make sure the tool opening is ready before executing next tool axis movement. Decrease the system parameter 'Post-synchronization Time'.

## 50252, Tool opening failed

**Description**

An ordered tool axis movement of *arg* was detected during tool opening in calibration.

**Recommended actions**

Make sure no movements of the tool axis are ordered during calibration.

## 50253, Cannot deactivate unit

**Description**

Deactivation of mechanical unit may not be done while in process mode.

**Recommended actions**

Make sure to leave process mode before deactivating mechanical unit.

## 50254, Linked motor error

**Description**

Too large speed for follower axis when follower axis is in jog mode.

**Recommended actions**

Start linked motor service routine. Reset jog mode.

## 50256, Sync pos outside limits

**Description**

Sensor movement outside limits. The sensor start pos should be *arg* than *arg* and found *arg*.

**Recommended actions**

Check programmed sensor position in robtarget. Start sync earlier or change robtarget.

## 50257, Sync speed outside limits

**Description**

Programmed speed outside limits. The speed should be *arg* than *arg* and found *arg*.

**Recommended actions**

- Check programmed robot speed.
- Check sensor teach pos.
- Check sensor nominal speed.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 50258, Sensor direction error

**Description**

Programmed sensor pos speed *arg* and found sensor speed *arg* in opposite direction.

**Recommended actions**

- Check programmed sensor positions in robtarget.
- Start sync earlier or reduce waitsensor distance.

### 50259, Sensor max distance error

**Description**

Distance between sensor position and programmed position too large. *arg*.

**Recommended actions**

- Check programmed sensor positions in robtarget.
- Check sensor speed.
- Start sync earlier or reduce waitsensor distance.

### 50260, Sensor Check dist error

**Description**

Distance sensor pos to programmed pos *arg* too large *arg*.

**Recommended actions**

- Check programmed sensor positions in robtarget.
- Check sensor speed.
- Increase max deviation.

### 50261, WZone outside work area

**Description**

The definition of minimum limit for the World Zone *arg* is outside work area for: *arg arg arg*...

**Recommended actions**

Change the definition of the World Zone so the limit will be inside work area or insert 9E9 to remove an axis from test by the WZone.

### 50262, WZone outside work area

**Description**

The definition of maximum limit for the World Zone *arg* is outside work area for: *arg arg arg*...

**Recommended actions**

Change the definition of the World Zone so the limit will be inside work area or insert 9E9 to remove an axis from test by the WZone.

### 50263, Duty factor is too high

**Description**

The duty factor for the gearbox of joint *arg* of robot *arg* is too high. Continued running without adjustment may cause damage to motor and gearbox. Contact your local ABB service support center.

**Recommended actions**

Reduce the speed or increase the wait time.

### 50265, Thickness out of reach

**Description**

Servo tool: *arg* Programmed thickness *arg* mm is out of reach.

**Recommended actions**

- Adjust programmed thickness.
- Check working range (min. stroke)

### 50266, Close request failed

**Description**

Not allowed to close servo tool: *arg* in reverse direction.
Pre-close position: *arg* mm.
Programmed thickness: *arg* mm.

**Recommended actions**

- Adjust pre-close position.
- Adjust programmed thickness.

### 50267, Open request failed

**Description**

Not allowed to open servo tool: *arg* in reverse direction.

**Recommended actions**

Check that programmed robtarget positions of the servo tool are larger than programmed thickness.

### 50268, Calibration failed

**Description**

Not allowed to calibrate servo tool: *arg* from negative position.

**Recommended actions**

Adjust servo tool position before calibration.

### 50269, Tune value out of limit

**Description**

Tune value for servo tool: *arg* is out of limit. Parameter: *arg*.

**Recommended actions**

Adjust tune value.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

## 50271, Poor event accuracy

**Description**

Task: *arg*.

The system is presently configured with time event supervision, and now an event could not be accurately activated.

Program ref. *arg*.

**Recommended actions**

Decrease the programmed speed or increase the distance between the programmed positions. Turn off this check by changing the system parameters.

## 50272, Motion configuration

**Description**

Failed to read *arg* data for *arg*.

**Recommended actions**

Check the configuration file.

Use correct parameters and reset the system.

Check both system parameters for the current instance and any instances below in the structure.

## 50273, Motion configuration

**Description**

Incorrect system parameter *arg* for *arg*. The system parameter could for instance be an unknown type or a numerical value that is out of range.

**Recommended actions**

Check the configuration file.

Use correct parameters and reset the system.

## 50274, Motion configuration

**Description**

Failed to read or create *arg* with the name: *arg*. If the current instance exists it is read, else it is created. In other words, the instance could not be read or created.

**Recommended actions**

Check the configuration file.

Use correct parameters and reset the system.

## 50275, Motion configuration

**Description**

Failed to read next *arg* name, previous name is *arg*. The previous instance is ok, but the next instance cannot be read. Check also the configuration error log for more details.

**Recommended actions**

Check the configuration file.

Use correct parameters and reset the system.

## 50276, Motion configuration

**Description**

Standard servo queue length (*arg*) out of range (min=1, max=*arg*).

**Recommended actions**

Check std_servo_queue_length in the configuration file.

Use correct parameters and reset the system.

## 50277, Motion configuration

**Description**

Number of joints (*arg*) in dynamic group override. Allowed number is *arg*.

**Recommended actions**

Check the configuration file.

Use correct parameters and reset the system.

## 50278, Motion configuration

**Description**

Failed to configure servo gun (*arg*).

**Recommended actions**

Check the servo gun data in the configuration file.

Use correct parameters and reset the system.

## 50279, Motion configuration

**Description**

Servo tool change requires option Servo Tool Change. Without this option, installation of this mechanical unit is not allowed.

Mechanical unit *arg* and *arg* have the same configured connection.

**Recommended actions**

Check the configuration file.

Use correct parameters and reset the system.

## 50280, System configuration

**Description**

Mechanical unit *arg* is defined in more than one RAPID program.

**Recommended actions**

Check the configuration file.

Use correct parameters and reset the system.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

## 50281, Process failed

**Description**

Task: *arg*.

A process in the task *arg* has failed. This is caused by a failure of a process in this task or a synchronized task if MultiMove is used.

*arg*.

**Recommended actions**

Check other messages occurring at the same time for the reason.

Recovery: *arg*.

## 50282, Record not ready

**Description**

Record not ready to activate.

**Recommended actions**

Make sure that record is finished before activating.

Check sensor_start_signal.

## 50283, Unknown record file name

**Description**

Record file name: *arg* is unknown.

**Recommended actions**

Check file name or existence with file manager.

Record a new file.

## 50284, Cannot activate Mechanical Unit

**Description**

The mechanical unit *arg* cannot be activated because it is not connected to a RAPID task.

**Recommended actions**

Check that the connection between mechanical unit and RAPID task is done correctly in the Controller topic.

## 50285, DitherAct not possible

**Description**

Dithering is not possible to activate.

**Recommended actions**

Verify that a joint that can be used with DitherAct is chosen.

## 50286, Mix of coordinated frames

**Description**

Task: *arg*.

More than one unit move frames, reason *arg*:

1 It is not allowed to have a chain of coordinated frames.
2 It is not allowed to exchange the unit that control the frame in a corner zone.

Program ref. *arg*.

**Recommended actions**

1 Rearrange the units so that all units, which perform coordinated movements, are following the same unit.
2 Insert a finepoint or a not coordinated movement between the two coordinated movements.

## 50287, Unit not stopped in a controlled position

**Description**

The robot *arg* is semi coordinated to unit *arg* from another task and the unit has been moved or the regain to the path failed.

**Consequences**

Program run or restart will be interrupted.

**Recommended actions**

Check all programs that the semi coordinated movement is separated with finepoints and WaitSyncTask instructions before and after the movement and that the unit is not moved between. Note that WaitSyncTask also is needed after the semi coordination before SyncMoveOn and SyncMoveResume.
Check that the unit is moved to the wanted position before the semi coordinated movement. After SyncMoveOff, SyncMoveSuspend, ActUnit, DeactUnit or ClearPath the unit must be moved (with a new movement instruction) to a position to define the frame so the other task can read it. The position can be a new position, or the current position of the unit.
Check if the program for the unit is active in the task selection panel.

## 50288, Sync ID mismatch

**Description**

The specified id number for the move instruction has to be equal for all cooperating program tasks.

Current id number mismatch *arg*, *arg*.

**Recommended actions**

Verify that the specified id numbers are equal and that all program pointers are synchronized before program start.

## 50289, Point type mismatch at sync

**Description**

The move instructions with syncId = *arg*, have a mix between finepoints and zonepoints.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

**Recommended actions**
Make sure that the move instruction in all cooperating program tasks specifies the same kind of point type, either finepoints or zonepoints.

## 50290, Service unavailable

**Description**
Unable to obtain correct license.

**Recommended actions**
Please check the license settings.

## 50294, Transmission error of data

**Description**
Transmission of data between controller and robot memory has failed.

**Probable causes**
Cable, or transmission electronics failed. Electrical interference high.

**Recommended actions**
- Restart try once more.
- Check cables.
- Check the SMB-board.
- Check the drive module.

## 50295, Motion data missing

**Description**
Data in robot and controller memory missing for mechanical unit *arg*.

**Probable causes**
Configuration file missing. New SMB-board together with new controller.

**Recommended actions**
- Load new configuration files.

## 50296, Robot memory data difference

**Description**
Data in robot memory is not same as in controller for mechanical unit *arg*.

**Probable causes**
Not the same data or serial number in robot and controller memory. Robot (SMB-board) or controller exchanged or system parameters changed.

**Recommended actions**
Check status via the FlexPendant and check if right system parameters (serial number) loaded in controller. Check that serial number belongs to the robot connected to the controller. If not, replace configuration files or manually transfer data from robot to controller memory if controller has been exchanged. If the serial measurement board is replaced with board from another robot (serial numbers not the same), clear first robot memory via the FlexPendant and then transfer data from controller to robot.

## 50297, Memory updated in robot

**Description**
Data for mechanical unit *arg* is moved from controller to robot memory.

## 50298, Memory updated in controller

**Description**
Data for mechanical unit *arg* is moved from robot to controller memory.

## 50299, Speed is reduced

**Description**
Speed for unit *arg* is reduced due to limiting unit *arg*.
Task: *arg* Instruction line: *arg*.

**Probable causes**
Programmed speed too high on this unit or movement too long on limiting unit.

**Recommended actions**
Change path or programmed speed.
Set speed control off.

## 50300, Robot memory not used

**Description**
Robot memory is not used for this mechanical unit.

**Probable causes**
Additional axes can't and should not use the robot memory.

## 50301, All robot data missing

**Description**
All data is missing in robot memory at SMB-board *arg*, link *arg*, drive module *arg*.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

**Probable causes**
An error in robot memory or communication has occurred. The data has been cleared.

**Recommended actions**
If proper data exists in controller - transfer the data to robot memory. If still problem - check communication cable to the SMB-board. Replace the SMB-board.

## 50302, Sensor data missing

**Description**
No serial number is defined for mechanical unit *arg* in robot memory.

**Probable causes**
The robot memory has been cleared or new SMB-board has been installed.

**Recommended actions**
If proper data exists in controller - transfer the data to robot memory.

## 50303, Controller data missing

**Description**
No serial number is defined for mechanical unit *arg* in controller.

**Probable causes**
The controller memory has been cleared or new controller has been installed.

**Recommended actions**
If proper data exists in robot memory - transfer the data to controller memory.

## 50305, Old SMB board used

**Description**
Old SMB board used without data memory.

**Recommended actions**
Replace board with a new with data memory or set system parameter 'Use old SMB' in topic Motion and type Robot.

## 50306, Load identification error

**Description**
Cannot perform load identification because configuration angle makes inertia matrix singular.

**Recommended actions**
- Move axis 6 on the robot about 30 degrees in any direction.

## 50307, Extended working range

**Description**
The option Extended working range has been installed.
Make sure that the mechanical stop has been removed.

## 50308, In Position timeout

**Description**
Task: *arg*.
Program ref. *arg*.
Condition for finepoint not fulfilled within *arg* seconds.

**Recommended actions**
Check tuning of additional axes, In Position Conditions (In Position Range, Zero Speed) and check if disturbance of resolver cables.

## 50309, Absolute Accuracy error

**Description**
Data moved from robot to controller memory. Absolute Accuracy data not valid in robot memory. Absolute Accuracy cleared in controller for mechanical unit *arg*.

**Recommended actions**
Load new Absolute Accuracy data if data available.

## 50310, Independent joint not active

**Description**
Mechanical unit *arg* with independent joint is not active.

**Recommended actions**
Activate the mechanical unit before executing the independent joint instruction.

## 50311, Cannot activate Mechanical Unit in task

**Description**
The mechanical unit *arg* cannot be activated in specified task.

**Recommended actions**
Check the connection between mechanical unit and RAPID task in the configuration, topic Controller.

## 50312, Mechanical Unit already active in other task

**Description**
Cannot activate mechanical unit *arg*, since it is already active in another RAPID task.

*Continues on next page*


© Copyright 2005-2020 ABB. All rights reserved.

## 50313, Independent move reset failed

**Description**

Independent reset movement failed for *arg*, a synchronized movement (MoveL/MoveJ) of the servo tool occurred during the independent reset movement.

**Recommended actions**

Make sure the synchronized speed of the servo tool is zero during execution of independent reset movements.

## 50314, Independent move outside reach

**Description**

Programmed independent move position for *arg* is outside reach. Programmed position = *arg* mm.

**Recommended actions**

Adjust independent move position.
Check working range of the servo tool.

## 50316, Absolute accuracy not activated

**Description**

Absolute accuracy function not activated for robot *arg*.

**Consequences**

Robot positioning will not be absolute accurate.

**Recommended actions**

Switch Absolute Accuracy on by changing Robot system parameter 'Use Robot Calibration' in topic Motion to r#_calib.
Verify status in jogging window.

## 50317, Disconnecting the drive module not allowed

**Description**

An attempt was made to disconnect drive module *arg*, which is not allowed.

**Consequences**

The system goes to state Motors Off, and then disconnects the drive module.

**Probable causes**

Disconnecting the drive module is only allowed in Motors Off state.

**Recommended actions**

Make sure that the system is in Motors Off state before disconnecting the drive module.

## 50318, Reconnecting the drive module not allowed

**Description**

The drive module should not be reconnected since the system is not in the state Motors Off.

**Consequences**

An attempt was made to reconnect drive module *arg*, which is not allowed.

**Probable causes**

Reconnecting the drive module is only allowed in Motors Off.

**Recommended actions**

Make sure that the system is in Motors Off state before reconnecting the drive module.

## 50319, Cannot activate Mechanical Unit

**Description**

An attempt was made to activate mechanical unit *arg*, which failed.

**Consequences**

The mechanical unit remains deactivated.

**Probable causes**

The mechanical unit is connected to the drive module *arg* which is disconnected.

**Recommended actions**

1 Reconnect the drive module.
2 Retry to activate the mechanical unit.

## 50320, Drive Module has been disconnected

**Description**

Drive module *arg* has been disconnected.

**Consequences**

No mechanical units connected to the drive module may be operated.

## 50321, Drive Module has been reconnected

**Description**

Drive module *arg* has been reconnected after being disconnected.

**Consequences**

All mechanical units connected to drive module *arg* may be operated.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 50322, Mechanical Unit not connected to Motion task

**Description**

Cannot activate mechanical unit *arg*, since it is not connected to any motion task.

**Recommended actions**

Check the connection between mechanical unit and RAPID task in the configuration, topic Controller.

### 50323, Failed to read force sensor

**Description**

Failed to return calibrated force sensor reading.

**Probable causes**

Force control system not calibrated.

**Recommended actions**

Use the instruction FCCalib before using this instruction.

### 50324, Force control calibration failed

**Description**

Failed to calibrate the force control system.

**Probable causes**

The system is not in position control.

**Recommended actions**

Make sure the robot is in position control mode before using the FCCalib instruction.

### 50325, Failed to activate force control

**Description**

Activation of force control failed.

**Probable causes**

The system is either not calibrated or we are already in force control. Another reason for this could be incorrect arguments.

**Recommended actions**

Only use the FCAct or FCPress1LStart instruction when the force control system is calibrated and we are in position control. Check all arguments to the activation instruction.

### 50326, Failed to deactivate force control

**Description**

Failed to return to position control.

**Probable causes**

Cannot set position control if the robot is moving due to external forces or ordered references.

**Recommended actions**

Stop any active references and remove any external forces and try again.

### 50327, Failed to start references

**Description**

Failed to start the user specified references.

**Probable causes**

Only allowed to start references when in force control.

**Recommended actions**

Must activate force control before trying to start references.

### 50328, Parameter error in FCRefSprForce or FCRefSprTorque

**Description**

Error in parameter 'Stiffness' in instruction FCRefSprForce or FCRefSprTorque.

**Recommended actions**

Change the parameter 'Stiffness' in instruction FCRefSprForce or FCRefSprTorque to a value larger than zero.

### 50329, Parameter error in FCRefSprForce

**Description**

Error in parameter 'MaxForce' in instruction FCRefSprForce.

**Recommended actions**

Change the parameter 'MaxForce' in instruction FCRefSprForce to a value larger than zero.

### 50330, Parameter error in FCRefSprTorque

**Description**

Error in parameter 'MaxTorque' in instruction FCRefSprTorque.

**Recommended actions**

Change the parameter 'MaxTorque' in instruction FCRefSprTorque to a value larger than zero.

### 50333, Error FCRefLine, FCRefRot or FCRefCircle

**Description**

The parameter 'Distance' in instruction FCRefLine or instruction FCRefRot and the parameters Radius and Speed in instruction FCRefCircle have to be larger than zero.

**Recommended actions**

Change the parameters above according to the manual.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 50335, Parameter error in FCRefSpiral

**Description**

Not allowed parameter value used in function FCRefSpiral.

**Probable causes**

Error in parameter values of function FCRefSpiral.

**Recommended actions**

Modify the parameter values in function FCRefSpiral.

### 50336, Parameter error in FCGetProcessData

**Description**

Failed to retrieve process information.

**Probable causes**

Using the optional argument 'DataAtTrigTime' in instruction FCGetProcessData. If no trig has occurred this error is reported.

**Recommended actions**

Remove the optional argument.

### 50337, Force sensor not setup

**Description**

Error in the force sensor parameters.

**Recommended actions**

Check the force sensor system parameters.

### 50338, Parameter error in FCCondAdvanced

**Description**

Error in parameter 'LogicCond' in instruction FCCondAdvanced.

**Recommended actions**

Modify the parameter 'LogicCond' in instruction FCCondAdvanced.

### 50339, Parameter error in FCCondTime

**Description**

Error in parameter 'Time' in instruction FCCondTime.

**Recommended actions**

Change the parameter 'Time' in instruction FCCondTime to a value larger than zero.

### 50340, Error in force control box definition

**Description**

An error in the parameter 'Box' in either FCCondPos or FCSupvPos.

**Recommended actions**

Change the parameter 'Box' in either FCCondPos or FCSupvPos.

### 50341, Error in force control cylinder definition

**Description**

An error in the parameter 'Cylinder' in either FCCondPos or FCSupvPos.

**Recommended actions**

Change the parameter 'Cylinder' in either FCCondPos or FCSupvPos.

### 50342, Error in force control sphere definition

**Description**

An error in the parameter 'Sphere' in either FCCondPos or FCSupvPos.

**Recommended actions**

Change the parameter 'Sphere' in either FCCondPos or FCSupvPos.

### 50343, Error in force control cone definition

**Description**

An error in the parameters for either FCCondOrient or FCSupvOrient.

**Recommended actions**

Change the parameters in either FCCondOrient or FCSupvOrient.

### 50344, Joints outside limits in force control

**Description**

One or more joints are outside their working range in force control.

**Recommended actions**

Modify the program to avoid the physical joint limits.

### 50345, Force control supervision error

**Description**

The user specified supervision has trigged. The type is *arg*.

Types:

1 TCP position.

2 Tool orientation.

3 TCP speed.

4 Reorientation speed.

5 Force.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

6 Torque.
7 Teach TCP speed.
8 Teach Reorientation speed.

**Consequences**
The robot will stop.

**Recommended actions**
Deactivate force control.
Modify the supervision or the program.

## 50346, Motor temperature error

**Description**
Motor temperature for joint *arg* is too high.

**Consequences**
It is not possible to continue until the motor has cooled down.

## 50348, Log signal definition failed

**Description**
Definition of a signal failed for *arg*, axis *arg* on channel *arg*.

**Probable causes**
The signal number does not correspond to an actual log signal.

## 50349, Same synchronization ID

**Description**
Two consecutive synchronized move instructions in *arg* have the same synchronization ID value *arg*.

**Consequences**
If the ID value is repeated for more than one move instruction it can be very difficult to keep track of which move instructions are synchronized. This can, for example, cause problems when modifying positions.

**Recommended actions**
Change the synchronized move instruction *arg* in *arg* so that it has a unique synchronization ID value.

## 50350, Software Equalizing Not Allowed

**Description**
It is not possible to run Software Equalizing since Independent Move is active.

**Recommended actions**
Make sure independent move is not active when executing a Software Equalizing servo spot.

## 50351, Independent Move not allowed

**Description**
It is not possible to execute an Independent Move when Software Equalizing is active.

**Recommended actions**
Make sure Software Equalizing is off when executing an Independent Gun Move.

## 50352, Number of move instruction mismatch

**Description**
Using the path recorder within synchronized motion requires:
That Tool offset must be present for all or none cooperating program tasks.
That all cooperating program tasks move backwards/forwards the same number of move instructions.

**Recommended actions**
Verify that the all tasks or none of the tasks use the optional argument Tool Offset.
Verify that the path recorder identifier moving towards are at the same position in all tasks within the synchronized block.

## 50353, Failed to read data from encoder card

**Description**
The system has failed to read data from one encoder card.

**Consequences**
The tracking accuracy during acceleration and deceleration might be reduced.

**Probable causes**
Wrong unit name has probably been specified in the process parameter for
*arg*.

**Recommended actions**
1 Check that the correct unit name is specified in the process parameter I/O unit name for .

## 50354, Ordered force reference is too large

**Description**
The ordered force reference is larger than the configured maximum value.

**Consequences**
The ordered force reference has been reduced to the configured value.

*Continues on next page*


© Copyright 2005-2020 ABB. All rights reserved.

**Recommended actions**

To allow a larger reference force the system parameters need to be updated. Note that there is an absolute limit of force reference size that depends on the robot type.

## 50355, Ordered torque reference is too large

**Description**

The ordered torque reference is larger than the configured maximum value.

**Consequences**

The ordered torque has been reduced to the configured maximum value.

**Recommended actions**

To allow a larger reference torque the system parameters need to be updated.

## 50356, Ordered MaxForce is too large

**Description**

The parameter 'MaxForce' in instruction FCRefSprForce is larger than the configured maximum value.

**Consequences**

The parameter 'MaxForce' has been reduced to the configured maximum value.

**Recommended actions**

To allow a larger value the system parameters need to be updated.

## 50357, Ordered MaxTorque is too large

**Description**

The parameter 'MaxTorque' in instruction FCRefSprTorque is larger than the configured maximum value.

**Consequences**

The parameter 'MaxTorque' has been reduced to the configured maximum value.

**Recommended actions**

To allow a larger value the system parameters need to be updated.

## 50358, Close to singularity when in force control

**Description**

Close to singularity when in force control mode for robot *arg*.

**Recommended actions**

Modify path away from the singularity or change to joint interpolation.

## 50359, Path Recorder on StorePath level not allowed

**Description**

The path recorder can only be used on base path level. The path recorder has been stopped.

**Recommended actions**

Stop path recorder before StorePath, restart it after RestoPath.

## 50361, Brake release error

**Description**

Too large position error of joint *arg* after brake release.

**Probable causes**

The joint has for example collided or been blocked just before the error occurred.

**Recommended actions**

1 Try a few more times.
2 Check cables and hardware.
3 Check tuning if error on additional axis.

## 50362, Brake release time out

**Description**

Joint *arg* was not in position after max time for brake release.

**Recommended actions**

Try once more. Check cables. Check hardware. Check tuning if error on additional axis.

## 50363, SyncMoveOn failed

**Description**

Starting synchronized movements failed due to an internal error.

**Consequences**

It is not possible to restart the programs from the current position.

**Recommended actions**

Move the program pointers and try again.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

## 50364, Axis in current vector mode

**Description**

Joint *arg* is configured in *arg* data as a current vector axis. Drive system will be disconnected for this axis during normal operation.

**Recommended actions**

Run service routine to activate the current vector.
Set system parameter 'Current Vector On' in topic Motion and type Drive System to No, for normal operation.

## 50366, Reference Error

**Description**

An error has occurred in the reference calculation in motion planner *arg*. Internal status *arg*.

**Consequences**

The controller goes to Motors Off.

**Recommended actions**

Check the error logs for previous errors that could be causing this problem.
Try to restart the program possibly after moving the program pointer.
Restart the controller.

## 50368, Too Short distance between equidistant events

**Description**

The events are too close together. End of internal resources (events).
Task: *arg*.
Program ref. *arg*.

**Recommended actions**

Increase the distance between equidistant events or use intermediate positions to decrease segment length.

## 50369, Calibration using stored offset failed

**Description**

Failed to calibrate the sensor using stored offset.

**Consequences**

The force control system is not calibrated. It is not possible to activate force control.

**Probable causes**

Calibration using stored offset is only possible if a normal calibration has been performed earlier.

## 50370, Transfer of data to robot memory failed

**Description**

Transfer of data from controller to robot memory not allowed or interrupted for mechanical unit *arg* due to disconnect of SMB.

**Probable causes**

SMB was disconnected before or during calibration or manual move of data to robot memory.

**Recommended actions**

Retry to calibrate or manually move data from controller to robot memory when SMB is reconnected.

## 50371, The programmed speed is too high

**Description**

The speed change functionality is only allowed for low programmed speed.

**Probable causes**

The programmed speed is too high.

**Recommended actions**

Lower the programmed speed or modify the system parameters.

## 50372, Contact force too high

**Description**

The contact force is too high during the recover phase.

**Probable causes**

The programmed path in the recover function causes too high contact forces.

**Recommended actions**

Check and modify the recover function or allow higher contact force.

## 50373, Too high Event Preset Time

**Description**

The configured Event Preset Time is too high. The maximum value is *arg*.

**Consequences**

The Event Preset Time is reduced to the maximum value.

**Probable causes**

This error can occur for robots with a low 'Dynamic Resolution' and a high 'Event Preset Time'. The reason is a computer memory limitation.

**Recommended actions**

Reduce the system parameter 'Event Preset Time' in topic Motion and type Motion Planner to a value no higher than *arg*.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 50374, FC SpeedChange program stop error

**Description**

FC SpeedChange cannot stop robot at recover state.

**Recommended actions**

Move program pointer, jog robot away from current position and restart the program.

### 50375, Dynamic load too high

**Description**

Required torque for robot *arg* axis *arg* too high.

**Recommended actions**

If weaving one of these actions may help:

- Reduce weave frequency or weave amplitude for this movement.
- Reduce process speed.
- Check load data.
- Increase zone size if small zones are used.
- Increase distance between programmed points if they are close.

If Conveyor Tracking: Reduce conveyor speed.

### 50376, Geometric interpolation failed

**Description**

Task. *arg*.

Failed to interpolate the desired geometry.

Program ref. *arg*.

(Internal status: *arg*).

**Recommended actions**

Increase the zone size, move the programmed point, change tool orientation or change interpolation method.

### 50377, Only allowed in position control

**Description**

The instruction is only allowed when the robot is in position control mode.

**Probable causes**

The error depends on calling an instruction that is only allowed to be used in position control while in force control mode.

**Recommended actions**

Call the instruction only when the robot is in position control mode.

### 50378, Error in FCSetMaxForceChangeTune

**Description**

Incorrect value of the parameter 'ForceChange' in instruction FCSetMaxForceChangeTune.

**Consequences**

The program will stop.

**Probable causes**

The parameter must be set larger than zero and less than the configured value.

**Recommended actions**

Change the parameter value.

### 50379, Active mechanical units have changed

**Description**

When calling RestoPath all mechanical units have to be in the same active state as when StorePath was called.

**Recommended actions**

Make sure that all mechanical units that were active when calling StorePath still are and that no other mechanical unit is active when calling RestoPath.

### 50380, Checksum error

**Description**

Data in robot memory for mechanical unit *arg* has erroneous checksum.

**Probable causes**

New SMB-board. System shut down before data save finished.

**Recommended actions**

- Load new configuration files.

### 50381, Speed too low

**Description**

Task. *arg*.

The speed is too low (numerical resolution).

Program ref. *arg*.

**Recommended actions**

Increase the programmed speed.

Check also the other synchronized tasks in a MultiMove application.

### 50382, Weave pattern error

**Description**

Calculation of weave pattern has failed due to an internal error.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

**Recommended actions**
Try to restart the program.

## 50383, Cartesian Soft Servo configuration error

**Description**
Some system parameters for Cartesian Soft Servo is not valid.

**Consequences**
The system will not start.

**Probable causes**
Some system parameters has been set to a value that is not allowed.

**Recommended actions**
Verify that any modified parameter are within allowed limits.

## 50384, Cartesian Soft Servo quaternions invalid

**Description**
The quaternions of the tool, workobject or the argument RefOrient in the CSSAct instruction are invalid.

**Consequences**
Cartesian Soft Servo will not activate.

**Recommended actions**
Check the quaternions of the tool, workobject or the argument RefOrient in the CSSAct instruction.

## 50385, Cartesian Soft Servo activation failed

**Description**
The instruction CSSAct failed.

**Probable causes**
Cartesian Soft Servo already active.

**Recommended actions**
Cartesian Soft Servo needs to be deactivated before it can be activated.

## 50386, Cartesian Soft Servo offset activation failed

**Description**
The instruction CSSForceOffsetAct failed.

**Consequences**
Force offset was not activated.

**Probable causes**
CSSForceOffsetAct instruction is only allowed when Cartesian Soft Servo is active.

**Recommended actions**
Activate Cartesian Soft Servo with the instruction CSSAct before using the instruction CSSForceOffsetAct .

## 50387, Cartesian Soft Servo close to unstable

**Description**
Cartesian Soft Servo is close to unstable.

**Consequences**
The robot is halted as a security measure.

**Probable causes**
The system damping is too low.

**Recommended actions**
The damping is calculated from a ratio of stiffness.
Change the value of 'Stiffness' or 'StiffnessNonSoftDir' in the CSSAct instruction. If that does not help increase the value of the system parameter 'Damping stability limit' or change the parameter 'Stiffness to damping ratio' in topic Motion and type CSS.

## 50388, Cartesian Soft Servo position supervision error

**Description**
The user defined position supervision in Cartesian Soft Servo mode trigged.

**Consequences**
The robot halts.

**Probable causes**
The position error is larger than the allowed range specified in the configuration.

**Recommended actions**
Increase the allowed position error in the configuration or modify the program.

## 50389, Cartesian Soft Servo singularity

**Description**
The robot is too close to singularity which effects the Cartesian Soft Servo behavior.

**Consequences**
The robot behavior will be different from specified.

**Recommended actions**
Modify the program to avoid the singularity.

*Continues on next page*


© Copyright 2005-2020 ABB. All rights reserved.

## 50390, Cartesian Soft Servo speed supervision

**Description**

The user defined speed supervision in Cartesian Soft Servo mode trigged.

**Consequences**

The robot halts.

**Probable causes**

The speed error is larger than the allowed range specified in the configuration.

**Recommended actions**

Increase the allowed speed error in the configuration or modify the program.

## 50391, Cartesian Soft Servo movement not allowed

**Description**

Jogging or a programmed movement has been detected.

**Consequences**

The ordered movement is ignored.

**Recommended actions**

Movement during Cartesian Soft Servo is only allowed if the switch AllowMove has been used in the CSSAct instruction.

## 50392, SafeMove communication error

**Description**

Communication with the SafeMove controller on drive module *arg* has failed.

**Consequences**

Brake tests cannot be done.

**Recommended actions**

Check if the SafeMove hardware is connected.

## 50393, Force offset applied in non-soft direction

**Description**

The force-offset direction in CSSForceOffsetAct is not the same as the soft direction specified by CSSAct.

**Consequences**

The robot will not become easier to push in the soft direction. There can also be position deviations from the programmed path in the non-soft directions.

**Recommended actions**

Make sure the direction given in CSSForceOffsetAct is compatible with the direction given in CSSAct.

## 50394, The Path for the Unit is cleared

**Description**

The robot *arg* is semi coordinated to unit *arg* from another task and the path for the unit has been cleared.
This can happen after a modpos, SyncMoveOff, SyncMoveSuspend, ActUnit, DeactUnit, ClearPath or if the unit has no move instruction with a well-defined position before starting the semi coordinated movement.
The position of unit *arg* cannot be read from other tasks.

**Consequences**

Program run or restart will be interrupted.

**Recommended actions**

1. If the programmed position of the unit is moved by modpos when the robot is semi coordinated to the unit, then step the unit to the new position to define the path and move the program pointer in the robot program to be able to restart the program.
2. Make sure that the unit has a move instruction with a finepoint to a well-defined position and that all programs has a WaitSyncTask before and after the semi coordinated movement.
3. Make sure that the unit is not moved during the semi coordinated movement. Note that WaitSyncTask also is needed after the semi coordination, before SyncMoveOn and SyncMoveResume.

## 50396, Default FC force supervision error

**Description**

The default force supervision has trigged because the programmed or measured external forces are larger than the safety limit for the robot type.

**Consequences**

The robot will stop.

**Recommended actions**

Modify the program to decrease the total external force acting on the robot.

## 50397, Path frame rotation speed error

**Description**

The rotation speed of the path frame is too high when using FC Machining with ForceFrameRef set to FC_REFFRAME_PATH.

**Consequences**

The robot will stop.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

**Recommended actions**

Reduce programmed speed, increase corner zones, or decrease the distance between the programmed path and the surface.

## 50398, Circle begins with a frame change

**Description**

Task: *arg*.

When having the Absolute Accuracy or Conveyor option, MoveC instructions that are coordinated to another mechanical unit must use the same tool and work object as the previous move instruction.

**Consequences**

The robot will stop.

**Recommended actions**

Change the move instruction before *arg* so that they both use the same frames. Alternatively, add a (redundant) MoveL to the start point of the circle arc, using the same frames as the MoveC instruction.

## 50399, Absolute Accuracy circle is first movement instruction

**Description**

Task: *arg*.

When having the Absolute Accuracy option, MoveC cannot be the first movement instruction.

**Consequences**

The robot will stop.

**Recommended actions**

Add a movement instruction before *arg*, using the same tool and frames.

## 50400, Motion configuration error

**Description**

The parameter 'Disconnect at Deactivate' for measurement channel was inconsistent for measurement link *arg*. All channels on the same link have to have the same setting for this parameter.

**Recommended actions**

Check the configuration file.

Use correct parameters and reset the system.

## 50401, Startup synchronization failed

**Description**

The system relay '*arg*' is defined but no response was received during the startup (waited for *arg* minutes).

**Recommended actions**

Make sure that the 'Input signal' of the relay is configured and connected and startup all synchronized systems simultaneously.

## 50402, Correction is not ended in a finepoint

**Description**

Task: *arg*.

The last move instruction with correction specified has to be a finepoint.

Program ref. *arg*.

**Recommended actions**

Change the zone parameter to fine.

## 50403, AW board not connected

**Description**

During startup, no communication was established with unit <*arg*> on bus <*arg*>.

**Consequences**

It is not possible to access the unit or signals on the unit, since it is currently not communicating with the controller.

**Probable causes**

The unit is either not connected to the system, or it is connected, but has been assigned the wrong address.

**Recommended actions**

1. Make sure all unit addresses match the configuration.
2. Make sure all addresses are unique, and not used by more than one unit.
3. Change the address and/or connect the missing unit.
4. If you changed the address, the power supply to the unit must be cycled (switched OFF and then back ON), to make sure the address has been changed.

## 50404, Additional axis movement during Wrist Interpolation

**Description**

Task: *arg*.

Program ref. *arg*.

An additional axis is programmed to move during wrist interpolation.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

**Consequences**
The task execution will stop.

**Recommended actions**
Make sure that no additional axis is programmed to move while doing wrist interpolation.

## 50405, Coordinated movement during Wrist Interpolation

**Description**
Task: *arg*.
Program ref. *arg*.
Attempt to do wrist interpolation against a moving frame.

**Consequences**
The task execution will stop.

**Recommended actions**
Remove movement coordination while doing the wrist interpolation.

## 50406, Wrist Interpolation point not on circle plane

**Description**
Task: *arg*.
Program ref. *arg*.
The target *arg* is not on the circle plane. The deviation is *arg* mm.
p1 = starting point
p2 = circle point
p3 = end point.

**Consequences**
For a cutting process, the cut hole will not be circular.

**Recommended actions**
If a circular arc is intended, then change the corresponding target so that it is on the circle plane.

## 50407, Wrist axis locked

**Description**
Task: *arg*.
Program ref. *arg*.
Cannot do wrist interpolation using *arg* because axis *arg* is locked.

**Consequences**
The task execution will stop.

**Recommended actions**
Change to another wrist axis combination that does not involve the locked axis. Note that the robot must have at least two movable wrist axes to do wrist interpolation.

## 50408, Wrist joint limit

**Description**
Task: *arg*.
Program ref. *arg*.
Cannot do wrist interpolation because robot axis *arg* will violate a joint limit.

**Consequences**
The task execution will stop.

**Recommended actions**
Choose another robot configuration or another wrist axis combination.

## 50409, Wrist Interpolation not possible

**Description**
Task: *arg*.
Program ref. *arg*.
The programmed wrist interpolation is not kinematically possible using *arg*.

**Consequences**
The task execution will stop.

**Recommended actions**
Choose another robot configuration or another wrist axis combination. Possible wrist axis combinations are: Wrist45, Wrist46, and Wrist56.

## 50410, Collinear targets in wrong order

**Description**
Task: *arg*.
Program ref. *arg*.
The programmed targets are collinear, but the end point is between the start point and the circle point.

**Consequences**
The task execution will stop.

**Recommended actions**
If a straight line is intended, then let the circle point and the end point swap places with each other.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

## 50411, Maximum allowed programmed TCP load exceeded

**Description**

The currently defined TCP load for robot *arg* exceeds the maximum allowed load for the robot variant.

**Consequences**

The robot will stop.

**Probable causes**

The combination of the current tool load *arg*,
payload *arg* and the additional arm loads
*arg*, *arg*
exceeds the maximum load allowed for the robot variant.

**Recommended actions**

Make sure that the total TCP load is inside the load diagram for the robot.

## 50412, Error in speed change tuning instruction

**Description**

The speed change tuning instruction resulted in an error.

**Consequences**

The robot will stop.

**Probable causes**

The speed change tuning instruction was not allowed, or the parameters given were invalid.

**Recommended actions**

Check the values for the parameter and tuning type, and make sure the correct force control option is installed and configured correctly.

## 50413, Bleeder resistor overload error

**Description**

In drive module *arg*, the bleeder resistor connected to the rectifier unit at drive unit position *arg* was overloaded.

**Consequences**

No operation will be possible until the bleeder resistor has cooled down. The system goes to Motors Off.

**Probable causes**

1 The user program may contain too much deceleration of the manipulator's axes. This fault is more likely if the system contains additional axes.
2 The bleeder resistor has wrong resistance.
3 Short circuit in motor cable between phase to phase or phase to ground.

**Recommended actions**

1 Rewrite the user program to reduce the amount of high decelerations.
2 Disconnect the bleeder and check the cable and measure the bleeder resistance. The expected resistance should be approximately ohms.
3 Verify that the motor cables has no short circuits internally or to ground.

## 50414, Bleeder resistor overload

**Description**

In drive module *arg*, the bleeder resistor connected to the rectifier unit at drive unit position *arg* is close to overload.

**Consequences**

Operation will be possible but system is close to a stopping error.

**Probable causes**

1 The user program may contain too much deceleration of the manipulator's axes. This fault is more likely if the system contains additional axes.
2 The bleeder resistor has wrong resistance.
3 Short circuit in motor cable between phase to phase or phase to ground.

**Recommended actions**

1 Rewrite the user program to reduce the amount of high decelerations.
2 Disconnect the bleeder and check the cable and measure the bleeder resistance. The expected resistance should be approximately ohms.
3 Verify that the motor cables has no short circuits internally or to ground.

## 50415, Motor temperature error

**Description**

Motor temperature for joint *arg* is too high.

**Consequences**

It is not possible to continue until the motor has cooled down. The system goes to Motors Off.

**Probable causes**

The user program may contain too much high acceleration and deceleration of the joint. Gravity torque or external forces for the joint can also be too high.

**Recommended actions**

Rewrite the user program to reduce the motor utilization.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

If error occurs in spite of cold motor due to extra cooling or low ambient temperature, the sensitivity of the thermal supervision can be reduced. Decrease the system parameter 'Thermal Supervision Sensitivity Ratio' in topic Motion and type Arm in steps of 0.1.
WARNING! : With too low value the supervision is deactivated and the motor can be overheated and destroyed!

## 50416, Motor temperature close to maximum

**Description**

The motor temperature for joint *arg* is close to maximum value.

**Consequences**

It is possible to continue but the margin to maximum allowed temperature is too low to sustain long term operation.

**Probable causes**

The user program may contain too much high acceleration and high deceleration of the joint. The gravity torque or external forces for the joint can also be too high.

**Recommended actions**

Rewrite the user program to reduce the motor utilization.

## 50417, Drive unit overload error

**Description**

The drive unit for joint *arg* has reached a too high temperature level. The joint is connected to drive module *arg* with the drive unit at unit position *arg* and node *arg*.

**Consequences**

No operation will be possible until the drive has cooled down. The system goes to Motors Off.

**Probable causes**

1 The joint may be running with a too high torque for extended periods of time.
2 Short circuit in the manipulator using long motor cables.

**Recommended actions**

1 If possible, rewrite the user program to reduce the amount of high acceleration and high deceleration.
2 Reduce the static torque due to gravity or external forces.
3 Check for short circuit in the motor cable or in the motor.
4 Check for other hardware event logs.

## 50418, Drive unit overload

**Description**

The drive unit for joint *arg*, connected to drive module *arg* with the drive unit at unit position *arg* and node *arg* is approaching a too high temperature level.

**Consequences**

It is possible to continue but margin to max temperature is too low for long term operation.

**Probable causes**

1 The joint may be running with a too high torque for extended periods of time.
2 Short circuit in the manipulator using long motor cables.

**Recommended actions**

1 If possible, rewrite the user program to reduce the amount of high acceleration and high deceleration.
2 Reduce the static torque due to gravity or external forces.
3 Check for short circuit in the motor cable or in the motor.
4 Check for other hardware event logs.

## 50419, Common base_frame error

**Description**

Task: *arg*.
The Base Frame is moved by another task than the robot and could not be solved, reason *arg*:
1 SingArea\Wrist not supported with MoveC.
2 The Base Frame must be moved by first synchronized motion_group.
3 Only one common Base Frame can be handled.
4 Absolute Accuracy not supported with MoveC.
5 The common Base Frame can only be solved in synchronized move.
Program ref. *arg*.

**Recommended actions**

1 Use SingArea\Off. The CirPathMode can also be used.
2 Check Controller and Motion configuration.
3 Use MoveL or remove Absolute Accuracy.
4 Use MoveAbsJ.

## 50420, IndCnv Mechanical Unit Error

**Description**

The mechanical unit *arg* is not correctly configured for IndCnv functionality.

**Consequences**

Program execution is stopped.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

**Probable causes**
The mechanical unit *arg* consists of more than one single.
The single connected to *arg* is not of type 'FREE_ROT'.
The single connected to *arg* is not defined as an Indexing Move single.

**Recommended actions**
Make sure mechanical unit *arg* consists of only one single.
Make sure system parameter 'Mechanics' in topic Motion and type Single is of type 'FREE_ROT'.
Make sure system parameter 'Indexing Move' in topic Motion and type Single Type is 'Yes'.

## 50421, IndCnv Tracking Single Error

**Description**
The single *arg* is not configured as an Indexing Move single

**Consequences**
Program execution is stopped.

**Recommended actions**
Make sure system parameter 'Single To Track' in topic Process and type Can Interface refers to a Single with 'Indexing Move' in topic Motion and type Single Type set to 'Yes'.

## 50422, IndCnv and Independent joint error

**Description**
Independent joint instructions are not allowed when single *arg* is in indexing mode.

**Consequences**
Program execution is stopped.

**Recommended actions**
Execute the RAPID instruction IndCnvReset before using the axis as an independent joint.

## 50423, IndCnv Time before indexing move too low

**Description**
The time between trig signal and start of indexing movement is configured too low.

**Consequences**
The program execution is stopped.

**Recommended actions**
Increase system parameter 'Time before indexing move' in topic Motion and type Single Type to at least *arg* (ms).
Remove or decrease robot acceleration limitations if possible.
Please consult the Conveyor Tracking application manual for further actions.

## 50425, Friction FFW parameter is not On

**Description**
Tuning friction parameters requires 'Friction FFW On' to be set to 'Yes'.

**Consequences**
Friction tuning for joint *arg* will have no effect.

**Recommended actions**
Set system parameter 'Friction FFW On' to 'Yes' for joint *arg* in type *arg* and topic Motion.

## 50426, Out of interpolation objects

**Description**
The maximum number of available interpolation objects has been reached. This can occur if the dynamic performance is set to a very low value for example by use of the AccSet or PathAccLim command.

**Consequences**
The program execution is stopped and the system goes to Motors Off state.

**Recommended actions**
Increase the number of objects by increasing the value of the 'Use Additional Interp. Object Batch' system parameter by 1, in the corresponding instance of type Motion Planner in topic Motion.

## 50427, Joint not synchronized after calibration

**Description**
After fine calibration of joint *arg* witch is using alternative calibration position, the joint has not been moved to normal synchronize position for updating the revolution counter.

**Consequences**
The system will unsynchronize the joint next time the system makes a restart or power up.

**Recommended actions**
Clear the revolution counter in normal position for clearing revolution counter.

## 50428, SC Software synchronization started

**Description**
Safety Controller software synchronization procedure has started.

*Continues on next page*


© Copyright 2005-2020 ABB. All rights reserved.

## 50429, CSS parameter damping obsolete

**Description**

The CSS parameters regarding damping is obsolete. The damping is now in all directions set by the stiffness to damping ratio. To change the behavior
of the non soft directions, use the parameters 'Stiffness in non soft dir'.

**Recommended actions**

Change the damping parameters to 'Stiffness in non soft dir' according to description in the manual.

## 50430, Underrun in the axis computer

**Description**

The axis computer in drive module *arg* has detected underrun of data from the main computer and therefore stopped the execution.

**Consequences**

The system goes to SYS HALT.

**Probable causes**

- There is a communication error/glitch between the main computer and the axis computer.
- A previous error has put the system in a high CPU load state.
- High CPU load in the main computer, for example generated by too frequent I/O communication.

**Recommended actions**

- Check for other error logs.
- Check the Ethernet cabling and connector on both the main computer and the axis computer.
- Reduce load on the main computer.

## 50431, Predicted Collision

**Description**

Predicted a collision between objects '*arg*' and '*arg*'.

**Consequences**

The robots stop immediately.

**Probable causes**

RobotWare has predicted that one or more robots are about to collide.

**Recommended actions**

- Jog the robot in another direction if the problem occurred during jogging.
- Change the robot program to increase the clearance between the involved objects.
- Decrease the safety distance for the involved objects (in the Collision Avoidance configuration file).

If you are sure that the involved objects are not about to collide, then try the following:

- Check that the Collision Avoidance configuration for the involved objects is correct.
- Check that the base-frame definition of the involved robots are correct.
- Turn off Collision Avoidance.

## 50432, Identical Base Frames

**Description**

The mechanical units *arg* and *arg* have identical base frames.

**Consequences**

Since the base frames are identical, Collision Avoidance can only check for robot self-collisions. Hence, collision checks between robots and between robot and environment will not be done.

**Probable causes**

The base frames are not properly defined.

**Recommended actions**

Define the base frames, for example using the base-frame calibration routine.

## 50433, Position changed to inside working area

**Description**

The joint *arg* is outside its normal working area when an Independent Reset instruction is executed.

**Consequences**

The position is moved to inside the normal working area.

**Probable causes**

The joint has been moved too far away in independent mode.
The configured normal working area is too small.

**Recommended actions**

To avoid this event message - move the joint back to inside its normal working area before the instruction IndReset executed or PP to Main is done.
Increase the normal working area.

## 50434, Position changed to inside working area

**Description**

The joint *arg* is outside its normal working area when an Independent Reset instruction is executed with argument Old.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

**Consequences**
The position is moved to inside the normal working area.

**Probable causes**
The joint has been moved too far away in independent mode before IndReset Old.
The configured normal working area is too small.

**Recommended actions**
To avoid this event message - move the joint back to inside its normal working area before the instruction IndReset Old executed or PP to Main is done.
Increase the normal working area.

## 50435, Inconsistent system parameter

**Description**
The joint *arg* has an inconsistent value in the system parameter '*arg*' in instance *arg*.

**Consequences**
System cannot start up.

**Probable causes**
Two or more joints has different values on same system parameter.

**Recommended actions**
Set the same value/name on the parameter for all joints that are pointing to the same instance or hardware.

## 50436, Robot configuration error

**Description**
It is not possible to reach the programmed position with given robot configuration.
Task: *arg*.
Program ref. *arg*.

**Probable causes**
The programmed position is such that the robot cannot reach the given robot configuration or must pass through a singular point to reach the position.

**Recommended actions**
Step through the program in manual mode and modify the faulty points. Note that it is possible to continue in manual mode as only first try is stopped. The movement can also be changed by use of SingArea\Wrist, ConfL\Off or be replaced by MoveJ.

## 50437, Follower axis is connected to wrong Motion Planner

**Description**
The follower axis *arg* is connected to a motion planner with a lower number than its corresponding master axis *arg*.

**Consequences**
The performance of the Electronically Linked Motors will be decreased compared to the normal setup.

**Recommended actions**
Change the Motion configuration in such a way that the follower axis *arg* is in the same motion planner or in a motion planner with a higher number than the master axis *arg*.

## 50438, Motor off sequence has timed out

**Description**
The mechanical unit *arg* has not been able to finish the motor off sequence during configured time.

**Consequences**
The brake sequence can be ended before the axes standing still.

**Recommended actions**
1 If the time to brake axis is longer than the default value of 5 seconds, increase the value by setting the system parameter 'Max Brake Time' in topic Motion and type Brake to a higher value.
2 Restart the controller.
3 Try again.

## 50439, Soft servo activation failure

**Description**
The joint *arg* has not been able to set to soft servo mode. The reason for this is that the axis has reached its maximum torque level a short time before or during activation.

**Consequences**
The system makes an emergency stop and the soft activation command is canceled.

**Recommended actions**
Find the reason for the high torque.
- Check if any collision has occurred.
- Check load data.
- Reduce acceleration or speed to reduce speed.
- Check hardware.
- Move the program pointer and restart.

*Continues on next page*


© Copyright 2005-2020 ABB. All rights reserved.

## 50440, Correction generator lost

**Description**

Correction generator has been removed.

**Probable causes**

Instruction CorrDiscon or CorrClear during robot movement.

**Recommended actions**

Wait until robot reach finepoint or start movement without \Corr.

## 50441, Low voltage on battery inputs

**Description**

The serial measurement board on drive module *arg*, link *arg* and board number *arg* indicates low voltage. If main power is switched off the revolution counters will be lost.
Battery voltage: *arg* V.
External voltage: *arg* V.

**Probable causes**

The battery is not connected or discharged. If external power supply is used, too low voltage is present.

**Recommended actions**

- Replace battery.
- If external power supply is used - check cables and the power source.

## 50442, Robot axis configuration error

**Description**

It is not possible to reach the programmed position with given robot configuration.
Task: *arg*.
Program ref. *arg*.
Robot: *arg*.
Axis: *arg*.

**Probable causes**

The programmed position is such that at least one robot axis cannot move from the current position to the given robot configuration or must pass through a singular point to reach the position.

**Recommended actions**

Step through the program in manual mode and modify the faulty points. Note that it is possible to continue in manual mode as only first try is stopped. The movement can also be changed by use of SingArea\Wrist, ConfL\Off or be replaced by MoveJ.

## 50443, Lack of Internal Event Objects

**Description**

Too few internal event objects were allocated to execute the instruction.

**Consequences**

The movement of all mechanical units was halted immediately.

**Probable causes**

Not enough event objects were allocated.

**Recommended actions**

Allocate more event objects by increasing the system parameters 'Number of Internal Event Objects' in topic Motion and type Motion Planner and restart the controller.

## 50444, Manipulator supervision

**Description**

Loose arm detection triggered for axis *arg* on mechanical unit *arg*.

**Consequences**

The movement of mechanical unit *arg* is halted immediately. It then returns to a position on the path on which it was running. There, it will remain in Motors On, awaiting a start request.

**Probable causes**

Triggering of the manipulator supervision may be caused by a detection of loose arm, collision, incorrect load definition or forces in external process.

**Recommended actions**

1. If any of the parallel arms has come loose reattach them if possible, then acknowledge the fault, and resume operation by pressing the Start button on the FlexPendant.
2. If possible, acknowledge the fault, and resume operation by pressing the Start button on the FlexPendant.
3. Make sure any loads are defined and identified correctly.
4. If the mechanical unit is exposed to forces from the external processes, use RAPID command or system parameters to raise the supervision level.

## 50445, Sync on/off not allowed while External Motion Interface is active

**Description**

Switching synchronized motion on or off while External Motion Interface is activated is not allowed.

**Consequences**

The program execution is stopped, and the system goes to Motors Off state.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

**Probable causes**
SyncMoveOn or SyncMoveOff was executed while External Motion Interface was active.

**Recommended actions**
SyncMoveOn and SyncMoveOff are not allowed to be executed while External Motion Interface is active. Check the application that is utilizing the External Motion Interface functionality, and correct the RAPID program.

## 50446, External Motion Interface ramp time increased

**Description**
External Motion Interface ramp time was increased in order to avoid over-speed when ramping down correction *arg*.
New ramp time: *arg* seconds.

**Consequences**
The user defined ramp time was increased to avoid over-speed.

**Recommended actions**
Increase the maximum allowed correction speed to allow faster ramp-down, or increase the user defined ramp time.

## 50447, Incorrect mechanical units for External Motion Interface

**Description**
One or more specified mechanical units for correction *arg* are not allowed in External Motion Interface.

**Consequences**
The correction will not be activated.

**Probable causes**
An attempt was made to activate an External Motion Interface correction with mechanical units that are not active, or do not belong to the same motion task.

**Recommended actions**
Check the application that is utilizing the External Motion Interface functionality, and change the activation parameters to the correct mechanical unit(s).

## 50448, Error in External Motion Interface input

**Description**
Illegal format for the External Motion Interface input for correction *arg*.

**Consequences**
The program execution is stopped, and the system goes to Motors Off state.

**Probable causes**
The format of the input written to External Motion Interface was illegal. Two possible reasons are:
- The quaternions that are used by External Motion Interface are not properly normalized.
- Other illegal numerical values used as input to External Motion Interface.

**Recommended actions**
Make sure that the External Motion Interface input data is correct, and restart the program.

## 50449, Mechanical unit close to joint bound

**Description**
The movement created by the External Motion Interface correction *arg* is causing mechanical unit *arg* joint *arg* to move too close to its joint bound.

**Consequences**
The program execution is stopped, and the system goes to Motors Off state.

**Probable causes**
One or more axes is approaching its joint bound.

**Recommended actions**
Avoid moving too close to the joint bounds, or decrease the maximum allowed correction speed to decrease safe stop distance.

## 50450, External Motion Interface activation error

**Description**
The activation of External Motion Interface correction *arg* failed.

**Consequences**
The program execution is stopped, and the system goes to Motors Off state.

**Probable causes**
Communication with the source of External Motion Interface input, for example a sensor or other device, could not be set up correctly.

**Recommended actions**
Check for possible other error messages regarding sensor or communication errors.

*Continues on next page*


© Copyright 2005-2020 ABB. All rights reserved.

## 50451, External Motion Interface deactivation error

**Description**
The deactivation of External Motion Interface correction *arg* failed.

**Consequences**
The program execution is stopped, and the system goes to Motors Off state.

**Probable causes**
Communication with the source of External Motion Interface input, for example a sensor or other device, could not be deactivated correctly.

**Recommended actions**
Check for possible other error messages regarding sensor or communication errors.

## 50452, External Motion Interface cyclic error

**Description**
Cyclic execution of External Motion Interface correction *arg* failed.

**Consequences**
The program execution is stopped, and the system goes to Motors Off state.

**Probable causes**
Communication with the External Motion Interface input source, for example a sensor or other device, has failed.

**Recommended actions**
Check for possible other error messages regarding sensor or communication errors.

## 50453, Move not allowed in External Motion Interface

**Description**
External Motion Interface correction *arg* is not setup to allow RAPID movement instructions or jogging.

**Consequences**
The program execution is stopped, and the system goes to Motors Off state.

**Probable causes**
The application utilizing the External Motion Interface functionality does not allow RAPID movement instructions or jogging.

**Recommended actions**
Make sure no other movements are ordered while External Motion Interface is active.

## 50454, External Motion Interface position supervision

**Description**
The position is outside the allowed range for External Motion Interface correction *arg*, mechanical unit *arg* joint *arg*.

**Consequences**
The program execution is stopped, and the system goes to Motors Off state.

**Probable causes**
The deviation of the position from the path or the latest finepoint exceeded the maximum allowed value.

**Recommended actions**
Check the application that is utilizing the External Motion Interface functionality to increase the maximum allowed position value, or modify the programmed positions to be closer to the goal position.

## 50455, External Motion Interface speed supervision

**Description**
The speed was outside the allowed range for External Motion Interface correction *arg*, mechanical unit *arg* joint *arg*.

**Consequences**
The program execution is stopped, and the system goes to Motors Off state.

**Probable causes**
The speed was outside the allowed range.

**Recommended actions**
Check the application that is utilizing the External Motion Interface functionality to increase the maximum allowed speed value.

## 50456, Close to singularity while External Motion Interface active

**Description**
The robot in External Motion Interface correction *arg* is too close to a singularity.

**Consequences**
The program execution is stopped, and the system goes to Motors Off state.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

**Probable causes**
The robot is close to a singularity, or too small numerical tolerance have been specified in the system parameters.

**Recommended actions**
Avoid moving too close to the singularity.

## 50457, External Motion Interface configuration failed

**Description**
The system could not read the system parameters for External Motion Interface correction *arg*.

**Consequences**
The task execution will stop.

**Probable causes**
There are incorrect or missing parameters in the configuration for the correction.

**Recommended actions**
Check the system parameters for type External Motion Interface Data and topic Motion.

## 50458, Programmed speed too high

**Description**
The programmed speed is too high for External Motion Interface correction *arg*.

**Consequences**
The program execution is stopped, and the system goes to Motors Off state.

**Probable causes**
External Motion Interface correction is not allowed when the programmed speed is too high.

**Recommended actions**
Decrease the programmed path speed.

## 50459, External Motion Interface input out of bounds

**Description**
The External Motion Interface input for correction *arg* was outside bounds for mechanical unit *arg* joint *arg*.

**Consequences**
The program execution is stopped, and the system goes to Motors Off state.

**Probable causes**
The specified External Motion Interface input was outside the joint bounds for a robot or additional axis.

**Recommended actions**
Make sure the input is inside the bounds, and restart the program.

## 50460, External Motion Interface deactivation not allowed

**Description**
External Motion Interface correction *arg* cannot be deactivated while mechanical units are moving.

**Consequences**
The program execution is stopped, and the system goes to Motors Off state.

**Probable causes**
An attempt is made to deactivate a correction, while one or more mechanical units are moving.

**Recommended actions**
Make sure all movements and other External Motion Interface corrections have finished before deactivating.

## 50461, Too many continuous log signals

**Description**
The maximum number of continuous log signals have been reached. No additional log signals can be defined.

**Consequences**
The required log signal will not be defined.

**Probable causes**
To avoid high CPU load the maximum number of continuous log signals is limited to *arg*. All log signals except binary I/O signals are categorized as continuous.

**Recommended actions**
Delete any unnecessary log signals.

## 50462, Cartesian speed too high

**Description**
Too high speed has been detected for the wrist center point or the arm check point for robot *arg*.

**Consequences**
The system makes an emergency stop.

*Continues on next page*


© Copyright 2005-2020 ABB. All rights reserved.

**Probable causes**

- External interference forces has caused the robot to move too fast.
- Check error log for other causes.

**Recommended actions**

Reduce speed of robot.

## 50463, Log server communication error

**Description**

Sending logged signals over the network failed.
Internal status: *arg*.

**Consequences**

Logging is deactivated and all defined signals are removed.

**Probable causes**

Client was shut down without disconnecting properly, network errors, or too high CPU load on the robot controller.

**Recommended actions**

Check Ethernet connections.
Define fewer signals.

## 50464, A collision has occurred

**Description**

Task: *arg*.
A collision has occurred. This can be handled in a RAPID error handler. If it is not handled, the RAPID execution will stop.
*arg*.

**Recommended actions**

Check other messages occurring at the same time for the reason.
Recovery: *arg*.

## 50465, Tuning of robot stiffness parameters is recommended

**Description**

No tuned system parameters for 'Motion Process Mode' on robot *arg* found.

**Recommended actions**

Use the robot variant of the TuneMaster application to tune and set 'Motion Process Mode' parameters for *arg*.

## 50466, Measurement Channel Conflict

**Description**

Joint *arg* is using the same measurement channel *arg* as another joint. This is only allowed when they also share the same drive system.

**Recommended actions**

Check the configuration file.
Use correct parameters and reset the system.

## 50467, Brake Relay Conflict

**Description**

Mechanical unit *arg* shares brake relay with mechanical unit *arg*, but 'Activate at Start Up' and 'Deactivation Forbidden' is missing.
This configuration can cause unexpected movement of the axis at program start due to brakes being released while the axis is not being controlled.

**Recommended actions**

Check the configuration file.
Use correct parameters and reset the system.

## 50468, Cartesian speed limits changed

**Description**

Cartesian speed limits have been changed for robot *arg*. The current 'Global Speed Limit' is *arg* m/s and 'Arm Check Point Speed Limit' is *arg* m/s.
The previous 'Global Speed Limit' was *arg* m/s and 'Arm Check Point Speed Limit' was *arg* m/s. Note that every robot type has a maximum limit that cannot be exceeded even if an attempt is made to configure a higher value.

**Recommended actions**

Verify that these limits are correct.

## 50469, I/O controlled axis configuration failed

**Description**

Mechanical unit *arg* I/O signal *arg* missing.

**Consequences**

Mechanical unit *arg* can't be used.

**Probable causes**

The required I/O signal *arg* is not defined.

**Recommended actions**

The required I/O signal *arg* must be defined.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 50470, I/O controlled axis not ready for activation

**Description**
The I/O signal *arg* is low.

**Consequences**
Mechanical unit *arg* can't be used.

**Probable causes**
The I/O signal *arg* must be high for activation.

**Recommended actions**
The I/O signal *arg* must be set.

### 50471, I/O controlled axis not ready

**Description**
The I/O signal *arg* is low.

**Consequences**
Mechanical unit *arg* can't be used.

**Probable causes**
The I/O signal *arg* must be high.

**Recommended actions**
The I/O signal *arg* must be set.

### 50472, Absolute accuracy data missing

**Description**
Absolute accuracy is activated but no data exists for robot *arg*.

**Consequences**
Robot positioning will not be absolute accurate.

**Recommended actions**
Make sure that absacc.cfg is loaded into controller memory.
Verify that data exists in a backup.

### 50473, Ascii Log configuration failed

**Description**
Ascii Log Setup file *arg* not found or incorrect.

**Consequences**
Ascii Log function can't be used.

**Probable causes**
The required Ascii Log Setup file *arg* is missing or incorrect.

**Recommended actions**
Verify the Setup file name and directory.

### 50474, Target in a singularity

**Description**
The robot target is near singular because joint *arg* is too close to *arg* degrees.

**Recommended actions**
During program execution, use SingArea instruction or MoveAbsJ.
During jogging, use axis by axis.

### 50475, Target in a singularity

**Description**
The robot target is near singular because the TCP is too close to the arm-angle reference direction.

**Recommended actions**
During program execution, use MoveAbsJ or use a different reference direction.
During jogging, use axis by axis or use a different reference direction.

### 50476, AxisCal error

**Description**
Data moved from robot to controller memory. AxisCal data not valid in robot memory. AxisCal cleared in controller for mechanical unit *arg*.

**Recommended actions**
Load new AxisCal data if data available.

### 50477, Axis Calibration data missing

**Description**
Mechanical unit *arg* is calibrated with axis calibration but system parameters are missing from controller.

**Consequences**
Cannot execute the axis calibration service routine.

**Recommended actions**
Make sure that axis calibration configuration is loaded into controller memory.
Verify that data exists in a backup.

### 50478, Could not deactivate lead-through

**Description**
Could not deactivate lead-through mode because one or more joints were moving.

*Continues on next page*


© Copyright 2005-2020 ABB. All rights reserved.

**Consequences**
The controller goes to Motors Off.

**Probable causes**
One or more joints were being moved in lead-through mode when the deactivation command was sent. The controller will deactivate lead-through mode when the user jogs or starts a program.

**Recommended actions**
Make sure that the system is standing still when deactivating lead-through mode.

## 50479, Cannot jog joints in independent mode

**Description**
An attempt was made to jog one or more joints in independent mode.

**Consequences**
Joints in independent mode cannot be jogged.

**Recommended actions**
Make sure that independent mode is not used when trying to jog. Use IndReset to reset joint or PP to Main to reset all joints.

## 50480, I/O controlled axis RefSync failed

**Description**
Internal error during refsync or robot moving.

**Consequences**
I/O controlled axis feedback pos and pos ref are not synchronized.

**Recommended actions**
- Wait until zero speed and check internal error.
- Make a new RefSync.

## 50481, I/O controlled axis not synchronized

**Description**
Refsync not finished when the I/O signal *arg* is changed.

**Consequences**
I/O controlled axis *arg* feedback pos and pos ref are not synchronized.

**Recommended actions**
Run IoCtrlAxis_RefSyncOn before change of *arg* signal or check internal error.

## 50482, Search speed not reached

**Description**
A collision search hit was detected on the servo gun before the full search speed was reached.

**Consequences**
The accuracy of the results may be unreliable.

**Recommended actions**
Check that there is enough time to accelerate and that nothing obstructs the servo gun.

## 50483, Movement in wrong direction

**Description**
Moving from current to target position when opening *arg* gave a movement in wrong direction.

**Consequences**
The opening sequence will start with a closing movement.

**Probable causes**
The motion force control has to move the mechanical unit back to the starting position it had when taking over from the position control, before handing back the control to the position control. In this case the starting position for the force movement is more closed than current position is and that will lead to closing movement before position control can take over.
The situation indicate that there was a collision with the plate during the closing movement, that the plate thickness is not correct, or that the calibration is not correct.

**Recommended actions**
1 Make sure that the proper configuration is made, for example plate thickness.
2 Make sure that the calibration is correct.

## 50484, Stop-point too far away from circle

**Description**
Task: *arg*
Program ref. *arg*
The detected stop-point during execution of a SearchC instruction is too far away from the circle-arc. This can happen if a large zone is used in the preceding movement-instruction.

**Consequences**
It will not be possible to run the movement backwards.

**Probable causes**
A too large zone was used in the movement-instruction preceding the SearchC.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

**Recommended actions**

Use a smaller zone in the movement-instruction preceding the SearchC.

## 50486, Load supervision

**Description**

A mismatch between the expected and actual joints torques for the mechanical unit *arg* has been detected during the last *arg* minutes.

**Consequences**

There is a risk of overloading the mechanical structure.

**Probable causes**

The load on the mechanical unit is bigger than expected.

**Recommended actions**

Make sure all loads are defined correctly.

## 50487, Motion configuration

**Description**

Update of system parameter *arg* for *arg* failed.

The changes will not take effect until the controller is restarted.

**Recommended actions**

- Restart the controller.

## 50488, Using old target definition

**Description**

The target for robot *arg* is using an old definition for cfx.

This is not compatible with the current version of RobotWare.

**Recommended actions**

Convert robtargets in the RAPID program to the new arm-angle definition (recommended) or use an older version of RobotWare.

## 50489, Trigg distance larger than movement length

**Description**

A triggdata has been setup with a distance larger than the movement length.

**Recommended actions**

1. Check for programmed points too close to each other.
2. Check the Distance parameter in instructions like TriggInt, TriggEquip, TriggIO and other Trigg instructions.

## 50490, Measurement error detected

**Description**

A measurement error was detected for joint *arg* while robot was in battery mode (power off).

**Consequences**

The joint is unsynchronized.

**Probable causes**

The joint may have moved quickly while in battery mode.

**Recommended actions**

1. Update the revolution counter for the joint.
2. Make sure that the robot is fixed while being transported so that quick movements are avoided.

## 50491, Dual-arm base frame error

**Description**

The mechanical units *arg* and *arg* are a dual-arm system, but have different base frame data.

**Consequences**

Coordination between the two arms will not work. Collision prediction will not work.

**Probable causes**

The base frame data are different for the two units.

**Recommended actions**

Give both units the same base frame system parameters.

## 50492, Error during jogging

**Description**

An attempt was made to jog in some mode other than axis by axis, while one or more revolution counters were not updated.

**Recommended actions**

1. Use axis by axis jogging.
2. Update revolution counters.

## 50493, LockAxis4 not supported

**Description**

Could not execute the current move-instruction because LockAxis4 is active and this robot type does not support it.

**Consequences**

The robot will stop.

**Probable causes**

Using SingArea\LockAxis4 with a robot type that does not support it.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

**Recommended actions**

Remove the instruction SingArea\LockAxis4, or change the switch parameter to \Wrist or \Off.

## 50496, Conveyor Tracking position error at pick

**Description**

Actual TCP position for robot *arg* is too far away from the ordered position on conveyor *arg* due to ramping. Position error: *arg*

**Consequences**

The robot may miss the picking or placing.

**Probable causes**

The ramping of correction is not finished when reaching pick position.

**Recommended actions**

1. Increase distance between pick and place positions to ensure that ramping is finished.
2. Reduce programmed speed.
3. Reduce ramping length. System parameter 'Start ramp' and/or 'Stop ramp' in topic Process and type Conveyor systems.
4. Increase max allowed position error at pick/place position. System parameter 'Max tracking error at pick pos'.

## 50497, Maximum number of axes in drive module reached

**Description**

Joint *arg* is configured so that the total number of axes in the drive module becomes larger than maximum allowed (14).

**Recommended actions**

Check the configuration file.
Use correct parameters and reset the system.

## 50498, Motion configuration

**Description**

Failed to read configuration type in topic Motion from the controller.

**Probable causes**

This is often a result of syntax error or similar in a loaded configuration file.

**Recommended actions**

1. Check for earlier Configuration errors in the start up.
2. Check configuration file in previous step.
3. Use correct parameters and Reset the system.

## 50499, Exceeded maximum allowed path correction

**Description**

The correction needed for *arg* to follow the actual path is larger than the allowed maximum correction. The current correction is *arg* mm while maximum allowed path correction is *arg* mm.

**Consequences**

Program execution is stopped.

**Probable causes**

Too large path correction, sensor fault or improper placement of the work object.

**Recommended actions**

If this behaviour is expected and wanted, change the 'Maximum allowed path correction' parameter in topic Motion Planner and topic Motion.

## 50500, Functionality has Beta status

**Description**

The system has been configured with a non-default value for the system parameter 'dyn_ipol_type'. This functionality has currently beta status and shall only be used for testing and evaluation.

**Recommended actions**

Unless you are doing tests in cooperation with ABB we recommend that you change the value back to the previous value.

## 50501, Short movements

**Description**

One or more consecutive move instructions resulted in movements close to zero length.
Task: *arg*.
Program ref. *arg*.

**Consequences**

Programming with multiple close to zero length movements in a robot program can lead to high CPU load which can make zones to be converted into finepoints (event message 50024). Very close programmed points can also lead to non-smooth robot motion.

**Probable causes**

Multiple move instructions with the same programmed position or subsequent move instructions with short distance between programmed positions.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

**Recommended actions**
Increase the distance between the programmed positions.
Remove redundant intermediate programmed positions.
If the behavior of the robot and the system is ok, the sensitivity of this event message can be adjusted by using the system parameter 'Max allowed short segments' in topic Motion and type Motion Planner.

## 50502, Collision Avoidance load error

**Description**
Failed to load the configuration files for Collision Avoidance.

**Consequences**
No collision checks will be made.

**Probable causes**
Incorrect configuration files for Collision Avoidance. Check the internal event log for a more specific error description.

**Recommended actions**
Correct the configuration files.

## 50503, Collision Avoidance inactive during jogging

**Description**
Collision Avoidance will not be active when using Responsive jogging.

**Consequences**
No collision checks will be made during jogging.

**Recommended actions**
Continue jogging but be aware of that no collision checks are made. If collision checks are desired during jogging, change to Standard jogging mode.

## 50504, Moving in wrong direction

**Description**
Position for *arg* joint *arg* is outside the working range.

**Recommended actions**
Change the programmed position so the axis moves into the working range.

## 50505, Spot Gun configuration warning

**Description**
The value set in distance for missing tip check is smaller than how far motor will move during max force squeeze. This could cause false errors of the missing tip check for joint *arg*.

**Recommended actions**
Increase the distance for missing tip check or reduce max gun force.

## 50506, Spot Gun missing tip error

**Description**
The servo gun missing tip check has been triggered for joint *arg*.

**Recommended actions**
Change the tip.
Adjust the distance for missing tip check.

## 50507, Movement detected when brakes are applied

**Description**
A movement was detected during the time the joint *arg* was held by mechanical holding brake.

**Probable causes**
1 Brake release button was used.
2 External forces moved the robot.
3 Mechanical holding brake needs maintenance.

**Recommended actions**
1 If the brake release button was used, ignore this error.
2 If a collision occurred, inspect the robot of damages.
3 Check that the payload is within specification.
4 Run the service routine Brake Check
5 Adjust system parameter 'Brake Applied Movement Detection Factor' in topic Motion and type Arm.

## 50508, Conveyor board connection lost

**Description**
The conveyor board for conveyor *arg* is disconnected or not correctly configured.

**Recommended actions**
Verify the physical connection to the board or the IP address in the configuration.
For jogging deactivate all conveyors units.


© Copyright 2005-2020 ABB. All rights reserved.

## 4.8 7 xxxx

### 71001, Duplicate address

**Description**

The I/O configuration is invalid.
The same addresses have been given for I/O device *arg* and I/O device *arg*.
I/O devices connected to the same network must have unique addresses.
This I/O device has been rejected.

**Recommended actions**

1 Check that addresses are correct.
2 Check that the I/O devices are connected to the correct network.

### 71003, I/O device undefined

**Description**

The I/O configuration for I/O signal *arg* is invalid.

**Consequences**

This I/O signal has been rejected, and no functions depending on it will work.

**Probable causes**

The I/O device *arg* is unknown. All I/O signals must refer to an existing/defined I/O device.

**Recommended actions**

1 Make sure the I/O device is defined.
2 Make sure the I/O device name is correctly spelled.

### 71005, Invalid filter time

**Description**

The I/O configuration for I/O signal *arg* is invalid.
The passive filter time should either be 0 ms or in the range [*arg*, *arg*] ms.
This I/O signal has been rejected.

**Recommended actions**

Correct the passive filter time for the I/O signal.

### 71006, Invalid filter time

**Description**

The I/O configuration for I/O signal *arg* is invalid.
The active filter time should either be 0 ms or in the range [*arg*, *arg*] ms.
This I/O signal has been rejected.

**Recommended actions**

Correct the active filter time for the I/O signal.

### 71007, Logical values out of range

**Description**

The I/O configuration for I/O signal *arg* is invalid.
The logical minimum value must be less than the logical maximum value.
This I/O signal has been rejected.

**Recommended actions**

Correct the logical values for the I/O signal so that the minimum value becomes less than the maximum value.

### 71008, Physical values out of range

**Description**

The I/O configuration for I/O signal *arg* is invalid.
The physical minimum value must be less than the physical maximum value.
This I/O signal has been rejected.

**Recommended actions**

Correct the physical values for the I/O signal so that the minimum value becomes less than the maximum value.

### 71017, Cross connection without actor I/O signal

**Description**

The I/O configuration of cross connection *arg* is invalid.
The parameter Actor *arg* have been omitted.
Rules:

1 All cross connections must specify at least one actor signal, i.e. parameter Actor I/O signal 1 must always be specified.
2 For each operator specified an actor I/O signal must follow, e.g. if parameter Operator 2 is specified then parameter Actor 3 must also be specified.

**Consequences**

The cross connection has been rejected, and no functions depending on it will work.

**Recommended actions**

Correct the cross connection so the required actor I/O signal is specified.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

## 71019, Cross connection with undefined I/O signal

**Description**

The I/O configuration of cross connection *arg* is invalid.
The parameter Actor *arg* contains a reference to an undefined I/O signal *arg*.

**Consequences**

The cross connection has been rejected, and no functions depending on it will work.

**Recommended actions**

1 Make sure the I/O signal is defined.
2 Make sure the I/O signal name is correctly spelled.

## 71020, Cross connection without resultant I/O signal

**Description**

The I/O configuration of cross connection *arg* is invalid.
The parameter Resultant have been omitted.
All cross connections must specify a resultant I/O signal.

**Consequences**

The cross connection has been rejected, and no functions depending on it will work.

**Recommended actions**

Correct the cross connection so that the required resultant I/O signal are specified.

## 71021, Duplicate cross connection with same resultant I/O signals

**Description**

The I/O configuration of cross connection *arg* is invalid.
The cross connection has the same resultant I/O signal *arg* as cross connection *arg*.
Having more than one cross connection that result in the setting of the same signal may cause unpredictable behaviors, as you cannot control their order of evaluation.

**Consequences**

The cross connection has been rejected, and no functions depending on it will work.

**Recommended actions**

Make sure that the I/O signal is not specified as the resultant of several cross connections.

## 71037, Closed chain in cross connection

**Description**

The I/O configuration is invalid.
The I/O signal *arg* is part of a cross connection chain that is closed (i.e. forms a circular dependence that cannot be evaluated).
The complete cross connection configuration has been rejected.

**Recommended actions**

Correct the configuration for the cross connections where the I/O signal above is part.

## 71038, Cross connection max depth exceeded

**Description**

The I/O configuration is invalid.
The I/O signal *arg* is part of a cross connection chain that is too deep.
The maximum depth of a cross connection chain is *arg*.
The complete cross connection configuration has been rejected.

**Recommended actions**

Make the cross connection less deep.

## 71045, Invalid filter specification

**Description**

The I/O configuration for I/O signal *arg* is invalid.
No filter times can be specified for this type of I/O signal.
This I/O signal has been rejected.

**Recommended actions**

Set filter time to 0 or remove the statement.

## 71049, Analog I/O signal inverted

**Description**

The I/O configuration for I/O signal *arg* is invalid.
Analog I/O signals must not be inverted.
Only digital and group I/O signals can be inverted.
This I/O signal has been rejected.

**Recommended actions**

Remove the invert for the I/O signal (or change the signal type).

## 71050, Cross connection with non-digital actor I/O signal

**Description**

The I/O configuration of cross connection *arg* is invalid.
The parameter Actor *arg* refer to an I/O signal *arg* that is not digital.

*Continues on next page*


© Copyright 2005-2020 ABB. All rights reserved.

Only digital I/O signals can be cross connected.

**Consequences**

The cross connection has been rejected, and no functions depending on it will work.

**Recommended actions**

Remove the non-digital I/O signal from the cross connection.

## 71052, Max number of cross connections exceeded

**Description**

The I/O configuration is invalid.

The maximum number of cross connections, *arg* , in the I/O system has been exceeded.

**Consequences**

Not all the cross connections have been accepted.

**Recommended actions**

Modify the configuration of the I/O system (by reducing the number of cross connections) so that the maximum limit is not exceeded.

## 71054, Invalid signal type

**Description**

The I/O configuration for I/O signal *arg* is invalid.

The specified signal type *arg* is invalid/unknown.

Valid signal types are:

- DI (Digital input).
- DO (Digital output).
- AI (Analog input).
- AO (Analog output).
- GI (Group input).
- GO (Group output).

This I/O signal has been rejected.

**Recommended actions**

Correct the signal type of the I/O signal.

## 71058, Lost communication with I/O device

**Description**

The previously working communication with I/O device *arg* with address *arg* on network *arg* has been lost.

**Consequences**

It is not possible to access the I/O device itself or I/O signals on the I/O device since it is currently not communicating with the controller.

**Probable causes**

The I/O device may have been disconnected from the system.

**Recommended actions**

1 Make sure that the network cable is connected to the controller.
2 Make sure the I/O device is correctly powered.
3 Make sure the cabling to the I/O device is correctly connected.

## 71076, Communication error from rtp1

**Description**

No response from the serial line.

**Recommended actions**

Check the device or connection.

## 71077, Communication error from rtp1

**Description**

Not possible to deliver the received message.

**Recommended actions**

Check the communication flow.

## 71078, Communication error from rtp1

**Description**

The response from the device has an invalid frame sequence.

**Recommended actions**

Check for noise on the serial line.

## 71080, Max number of device predefined types exceeded

**Description**

The I/O configuration is invalid.

The maximum number, *arg*, of device predefined types in the I/O system has been exceeded.

**Recommended actions**

Modify the configuration of the I/O system (by reducing the number of device predefined types) so that the maximum limit is not exceeded.

## 71081, Max number of physical I/O signals exceeded

**Description**

The I/O configuration is invalid.

The maximum number, *arg*, of physical I/O signals (bit-mappings) in the I/O system has been exceeded.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

**Recommended actions**
Modify the configuration of the I/O system (by reducing the number of physical I/O signals) so that the maximum limit is not exceeded.

## 71082, Max number of user I/O signals exceeded

**Description**
The I/O configuration is invalid.
The maximum number, *arg*, of user I/O signals in the I/O system has been exceeded.

**Recommended actions**
Modify the configuration of the I/O system (by reducing the number of I/O signals) so that the maximum limit is not exceeded.

## 71083, Max number of symbols exceeded

**Description**
The I/O configuration is invalid.
The maximum number, *arg*, of symbols in the I/O system has been exceeded.
The number of symbols is the sum of all named configuration instances:
- Industrial Networks
- I/O Devices
- Device Trust Levels
- I/O Signals
- Commands
- Access Levels
- Signal Safe Levels
- Cross Connections
- Routes

**Recommended actions**
Modify the configuration of the I/O system (by reducing the number of symbols) so that the maximum limit is not exceeded.

## 71084, Max number of subscribed I/O signals exceeded

**Description**
The I/O configuration is invalid.
The maximum number, *arg*, of subscribed I/O signals in the I/O system has been exceeded.

**Recommended actions**
Modify the configuration of the I/O system (by reducing the number of subscriptions) so that the maximum limit is not exceeded.

## 71085, Max number of I/O devices exceeded

**Description**
The I/O configuration is invalid.
The maximum number, *arg*, of I/O devices in the I/O system has been exceeded.

**Recommended actions**
Modify the configuration of the I/O system (by reducing the number of I/O devices) so that the maximum limit is not exceeded.

## 71098, NFS server lost

**Description**
The contact with the NFS server *arg* is lost.

**Recommended actions**
1 The NFS server.
2 The network connection.
3 The NFS client.

## 71099, Trusted NFS server lost

**Description**
The contact with the trusted NFS server *arg* is lost.

**Recommended actions**
1 The NFS server.
2 The network connection.
3 The NFS client.

## 71100, Max number of Industrial Networks exceeded

**Description**
The I/O configuration is invalid.
The maximum number, *arg*, of Industrial Networks in the I/O system has been exceeded.

**Recommended actions**
Modify the configuration of the I/O system (by reducing the number of Industrial Networks) so that the maximum limit is not exceeded.

## 71101, Network undefined

**Description**
The I/O configuration for I/O device *arg* is invalid.
The network *arg* cannot be found in the system. An I/O device must refer to a defined network.
Installed Industrial Networks are:*arg arg arg*

*Continues on next page*


© Copyright 2005-2020 ABB. All rights reserved.

**Consequences**

This I/O device has been rejected, and no functions depending on it will work.

**Recommended actions**

1 Make sure the network is defined.
2 Make sure the network name is correctly spelled.

## 71114, Invalid IP address

**Description**

The IP address *arg* is not valid.

**Recommended actions**

Check the Communication configuration.

## 71115, Invalid subnet mask

**Description**

The subnet mask *arg* is not valid.

**Recommended actions**

Check the Communication configuration.

## 71116, Not allowed to deactivate I/O device

**Description**

The I/O configuration of I/O device *arg* is invalid.
I/O devices with a Device Trust Level containing the parameter Deny Deactivate is not allowed to be deactivated.

**Consequences**

This I/O device has been rejected, and no functions depending on it will work.

**Recommended actions**

Correct the configuration of the I/O device by either activating it or changing the Device Trust Level.

## 71122, Incorrect IP address

**Description**

The address *arg* in protocol *arg* is not a correct IP address.

**Recommended actions**

Correct the address.

## 71123, No transmission protocol

**Description**

The transmission protocol *arg* given for application protocol *arg* could not be found.

**Recommended actions**

Change the transmission protocol.

## 71125, Mount permission denied

**Description**

Permission was denied to mount the directory *arg* on the server *arg*.

**Recommended actions**

Change the User or Group ID.

## 71126, Directory not exported

**Description**

Mounting directory *arg* as *arg* failed since it is not exported on the server computer *arg*.
Protocol: *arg*.

**Recommended actions**

Export the directory on the server computer.

## 71128, Ethernet not installed

**Description**

The Ethernet Services option has to be installed when using remote mounted disk.

**Recommended actions**

Restart the controller and install the Ethernet Services option.

## 71129, Too many remote disks

**Description**

The maximum number of remote mounted disks have been exceeded.
The maximum number is *arg*.

**Recommended actions**

Reduce the number of remote mounted disks.

## 71130, Too many remote servers

**Description**

The maximum number of servers for remote mounted disks has been exceeded.
The maximum number is *arg*.

**Recommended actions**

1 Reduce the number of servers.

## 71131, Could not mount directory

**Description**

Mounting directory *arg* on the computer *arg* failed.
Protocol: *arg*.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

**Recommended actions**
Check the server setup.

## 71141, Default value for I/O signal out of range

**Description**
The I/O configuration for I/O signal *arg* is invalid.
The default value is out of range.
This I/O signal has been rejected.

**Recommended actions**
Change the default value for the I/O signal.

## 71156, IPC queue full

**Description**
The inter-process communication (IPC) queue *arg* was full, when sending to trap routine.

**Recommended actions**
Restart the controller.

## 71158, Address out of range

**Description**
The I/O configuration is invalid.
The address of I/O device *arg* is invalid (out of range).
This I/O device has been rejected.

**Recommended actions**
1 Change the address.
2 Check the address syntax.

## 71163, I/O signal on internal I/O device

**Description**
The I/O configuration is invalid.
The user-defined I/O signal *arg* must not be connected to the internal I/O device *arg*.
User defined I/O signals are not allowed to be connected to internal I/O devices.
This I/O signal has been rejected.

**Recommended actions**
Connect the I/O signal to another I/O device.

## 71164, Internal I/O signal in cross connection

**Description**
The I/O configuration of cross connection *arg* is invalid.
The Actor *arg arg* is a user-defined I/O signal whereas the resultant I/O signal *arg* is an internal I/O signal.
It is not allowed to define cross connections where user-defined I/O signals affect internal I/O signals.

**Consequences**
The cross connection has been rejected, and no functions depending on it will work.

**Recommended actions**
Correct the cross connection so that there are no internal I/O signals in the resultant expression.

## 71165, FTP server went down

**Description**
The connection to a non-trusted FTP server has been lost.
IP address: *arg*.

**Recommended actions**
Check cable and FTP server settings.

## 71166, FTP server went down

**Description**
The connection to a trusted FTP server has been lost.
IP address: *arg*.

**Recommended actions**
Check cable and FTP server settings.

## 71167, Wrong transmission protocol

**Description**
No matching transmission protocol was found in the communication configuration.

**Recommended actions**
Change the transmission protocol.

## 71169, Ethernet not installed

**Description**
The option Ethernet Services with FTP is not installed on this system.

**Recommended actions**
Restart the controller and install the Ethernet Services with FTP option.

## 71182, I/O signal undefined

**Description**
The I/O configuration of cross connection *arg* is invalid.
The parameter Resultant contains a reference to an undefined I/O signal *arg*.

*Continues on next page*


© Copyright 2005-2020 ABB. All rights reserved.

**Consequences**

The cross connection has been rejected, and no functions depending on it will work.

**Recommended actions**

Correct the cross connection so that the resultant I/O signal refers to an existing I/O signal.

## 71183, Cross connection with invalid operator

**Description**

The I/O configuration of cross connection *arg* is invalid.

The parameter Operator *arg* contains an invalid/unknown operator *arg*.

Valid values for the logical operator are:

- AND
- OR

**Consequences**

The cross connection has been rejected, and no functions depending on it will work.

**Recommended actions**

Correct the operator.

## 71185, Duplicate name

**Description**

The I/O configuration is invalid.

The identifier *arg* has already been used as the name of another configuration instance.

The following configuration instances must have unique names:

- Industrial Networks
- I/O Devices
- Device Trust Levels
- I/O Signals
- Commands
- Access Levels
- Signal Safe Levels
- Cross Connections
- Routes

**Recommended actions**

1. Rename one of the configuration instances in I/O configuration.
2. Restart the controller.

## 71193, Invalid physical I/O mapping

**Description**

I/O mapping error on I/O device *arg*.

The I/O device uses an input size of *arg* bits, the controller can handle maximum *arg* bits.

The I/O device uses an output size of *arg* bits, the controller can handle maximum *arg* bits.

**Recommended actions**

Check configuration for the physical I/O device.

## 71196, Invalid encoding type

**Description**

The I/O configuration for I/O signal *arg* is invalid.

The encoding type *arg* is not valid for signal type *arg*.

Valid encoding types are:

- UNSIGNED
- TWO_COMP

This I/O signal has been rejected.

**Recommended actions**

Correct the encoding type for the I/O signal.

## 71201, Unknown network

**Description**

The I/O configuration is invalid.

The network *arg* cannot be found in the system.

Installed Industrial Networks are: *arg arg arg arg*.

**Consequences**

This network has been rejected, and no functions depending on it will work.

**Recommended actions**

1. Make sure the system has been configured with the desired network.
2. Make sure the network option at hand is installed.
3. Check the I/O configuration for network.

## 71205, Could not mount directory

**Description**

Mounting directory *arg* on the computer *arg* failed.

Protocol: *arg*.

**Recommended actions**

1. Check the FTP server setup.
2. Check the FTP client configuration.
3. Check communication hardware, cabling.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

## 71220, No PROFIBUS option has been installed

**Description**

A PROFIBUS board has been fitted, but no PROFIBUS option has been installed.

**Consequences**

No communication on the PROFIBUS network is possible. There may be consequential errors from configuring the PROFIBUS network when no such option has been installed.

**Probable causes**

An attempt may have been made to add the PROFIBUS functionality, without installing the option correctly.

**Recommended actions**

1 If the PROFIBUS option is required: configure a new system with this option, and install the system.
2 If the PROFIBUS option is not required: configure a new system without this option, and install the system.

## 71221, PROFIBUS firmware file not found

**Description**

The PROFIBUS firmware file was not found or not readable. The board firmware may be out of date.

**Recommended actions**

Reinstall the system.

## 71222, PROFIBUS configuration file not found

**Description**

The binary PROFIBUS configuration file was not found.

- File: .
- Path: .

**Recommended actions**

1 Make sure the file exists.
2 Change the path in the I/O configuration.

## 71223, PROFIBUS configuration file parse error

**Description**

The binary PROFIBUS configuration file is corrupt.

- Internal error: .
- File:
- Path: .

**Recommended actions**

Recreate and download the binary configuration file using the external PROFIBUS configuration tool.

## 71224, PROFIBUS board has been re-flashed

**Description**

The firmware of the PROFIBUS board has been updated.

## 71228, PROFIBUS binary configuration fault

**Description**

The configuration data in the binary file is not accepted by the device at address *arg*.

**Recommended actions**

1 Make sure the intended configuration bin file is loaded on the robot controller.
2 Make sure the correct I/O device is connected to the network.
3 Make sure the input and output size in the configuration is correct.
4 Restart the controller.

## 71229, PROFIBUS binary parameter fault

**Description**

The parameter data in the binary file is not accepted by the device at address *arg*.

**Recommended actions**

Make the parameter data in the binary file match the parameters for the device and restart the controller.

## 71230, Device configuration error

**Description**

The device *arg* is configured in the I/O configuration but is missing or incorrect in the PROFIBUS binary file.

**Recommended actions**

1 Make sure the device is present in the PROFIBUS binary file.
2 Check that the PROFIBUS address in the I/O configuration matches the address in the binary file.
3 Make sure remaining fields in the binary file match the I/O configuration.

## 71231, Wrong PROFIBUS device is connected

**Description**

PROFIBUS device *arg* at address *arg* has the wrong identity number. Reported identity number is *arg*. Expected identity number is *arg*.

**Consequences**

The robot controller will not be able to activate the device.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

**Probable causes**

- The I/O device at address may be the wrong type of device.
- The configuration may be incorrect, i.e. an incorrect binary configuration file and in some cases incorrect I/O configuration.

**Recommended actions**

1 Make sure the I/O configuration is correct.
2 Make sure the PROFIBUS binary file is correct.
3 Replace the I/O device.

## 71241, Too many I/O devices on network

**Description**

The I/O configuration for I/O device *arg* is invalid.
The number of I/O devices on network *arg* must not exceed *arg*.
This I/O device has been rejected.

**Recommended actions**

Reduce the number of defined I/O devices and restart the controller.

## 71261, Transport layer failure

**Description**

The physical channel for transport layer *arg* is invalid.

**Recommended actions**

Verify that the physical channel is valid, see manual.

## 71262, Industrial network communication failure

**Description**

Communication with '*arg*' master failed on I/O device with mac id *arg*.

**Recommended actions**

1 Check the connection to the gateway.

## 71263, CAN communication failure

**Description**

CAN communication failed due to *arg*.
Code: *arg*.

## 71264, Conveyor tracking error

**Description**

Conveyor tracker '*arg*' reported error message: *arg*.

## 71273, I/O device configuration mismatch

**Description**

I/O device *arg* with address *arg* is configured in the I/O configuration, but it cannot be found in the network specific configuration.

**Probable causes**

1 The address of the I/O device in the I/O configuration is not the same as in the network specific configuration.
2 The I/O device has not been configured at all in the network specific configuration.

**Recommended actions**

1 Check I/O device configuration in the I/O configuration
2 Check network specific configuration.

## 71276, Communication established with I/O device

**Description**

Communication established with I/O device *arg* with address *arg* on network *arg*.

## 71278, Mount permission denied

**Description**

Permission was denied to mount the directory *arg* on the server *arg*.

**Recommended actions**

Check the username and password.

## 71288, Mount path is too large

**Description**

Mount path is too large. Mount path consists of FTP server mount point and server path.

- Max length: .
- Protocol used: .

**Recommended actions**

Change FTP server mount point or server path.

## 71289, Memory partition is too big

**Description**

The memory partition for communication purposes cannot be allocated. The requested partition *arg* kB. System partition will be used.

**Recommended actions**

Decrease commPartSize.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 71290, Could not add FTP device

**Description**

Adding the FTP device *arg* to the operating system failed.
Application protocol *arg*.

**Recommended actions**

Change the local path of the configuration of the FTP device.

### 71291, Invalid local path

**Description**

Local path of the FTP device *arg* is invalid.

**Recommended actions**

Local path must end with :

### 71293, Invalid input size

**Description**

On DeviceNet I/O device *arg* the connection input size does not match the I/O device.

**Recommended actions**

1 Change size in I/O configuration.
2 Check module.
3 Use DN_Generic device template.

### 71294, Invalid output size

**Description**

On DeviceNet I/O device *arg* the connection output size does not match the I/O device.

**Recommended actions**

1 Change size in I/O configuration.
2 Check module.
3 Use DN_Generic device template.

### 71295, Invalid input size

**Description**

On DeviceNet I/O device *arg* the connection 2 input size does not match the I/O device.

**Recommended actions**

1 Change size in I/O configuration.
2 Check module.

### 71296, Invalid output size

**Description**

On DeviceNet I/O device *arg* the connection 2 output size does not match the I/O device.

**Recommended actions**

1 Change size in I/O configuration.
2 Check module.

### 71297, Invalid connection type

**Description**

The DeviceNet I/O device *arg* does not support *arg* connection.

**Recommended actions**

1 Change connection type in I/O configuration.
2 Use DN_Generic device template.

### 71298, Duplicated address

**Description**

The address *arg* for the DeviceNet master on network DeviceNet is occupied by the I/O device *arg* on the network.

**Recommended actions**

1 Change master address in I/O configuration.
2 Disconnect I/O device occupying the address from the network.
3 Restart the controller.

### 71299, No power on DeviceNet network

**Description**

The 24 V power supply from the DeviceNet power supply is missing.

**Consequences**

No communication on the DeviceNet network is possible.

**Probable causes**

The power supply unit, cabling, input voltage to the power supply or the output load may cause the power loss. See the manual and the circuit diagram.

**Recommended actions**

1 Check all cabling to the power supply unit.
2 Measure the output and input voltage levels.
3 Replace the faulty I/O device if required.

### 71300, DeviceNet network communication warning

**Description**

A minor number of communication errors occurred on the DeviceNet network.

**Consequences**

Normal operation will be maintained, even on the DeviceNet.

*Continues on next page*


© Copyright 2005-2020 ABB. All rights reserved.

**Probable causes**

The fault may be caused by interference, power supply units and cables, or communication cables.

**Recommended actions**

1 Make sure any terminating resistors are correctly connected.
2 Make sure all communication cables and connectors are working correctly and of the recommended type.
3 Check network topology and cable length.
4 Make sure the DeviceNet Power Supply unit is working correctly. Replace any faulty unit.

## 71301, Bus off, DeviceNet network communication failure

**Description**

A major number of communication errors occurred on DeviceNet network.

**Consequences**

All communication on the DeviceNet Bus has stopped.

**Probable causes**

The fault may be caused by interference, power supply units and cables, or communication cables.

**Recommended actions**

1 Make sure the DeviceNet power supply unit is working correctly. Replace any faulty I/O device.
2 Make sure any terminating resistors are correctly connected.
3 Make sure all communication cables and connectors are working correctly and of the recommended type.
4 Check network topology and cable length.
5 Restart the controller.

## 71302, No DeviceNet option has been installed

**Description**

A DeviceNet master/slave board has been fitted, but no DeviceNet option has been installed.

**Consequences**

No communication on the DeviceNet is possible. There may be consequential errors from configuring DeviceNet when no such option has been installed.

**Probable causes**

An attempt may have been made to add the DeviceNet functionality, without installing the option correctly.

**Recommended actions**

1 If the DeviceNet option is required: configure a new system with this option, and install the system.
2 If the DeviceNet option is not required: configure a new system without this option, and install the system.

## 71303, Invalid DeviceNet vendor id

**Description**

The vendor id read from DeviceNet I/O device *arg* doesn't match value in I/O device configuration.

- Configuration: .
- Actual: .

**Consequences**

It is not possible to access the I/O device or I/O signals on it.

**Recommended actions**

1 Change vendor id in I/O configuration.
2 Check that the type of I/O device is correct.

## 71304, Invalid DeviceNet device type

**Description**

The device type read from DeviceNet I/O device *arg* doesn't match value in device I/O configuration.

- Configuration:
- Actual:

**Consequences**

It is not possible to access the I/O device or I/O signals on it.

**Recommended actions**

1 Change device type in I/O configuration.
2 Check that the type of I/O device is correct.
3 Check for a duplicate DeviceNet address in the connected I/O units.

## 71305, Invalid DeviceNet product code

**Description**

The product code read from DeviceNet I/O device *arg* doesn't match value in I/O device configuration.

- Configuration:
- Actual:

**Consequences**

It is not possible to access the I/O device or I/O signals on it.

**Recommended actions**

1 Change product code in I/O configuration.
2 Check that the type of I/O device is correct.
3 Check for a duplicate DeviceNet address in the connected I/O units.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

## 71306, DeviceNet unknown error

**Description**

An unknown error is reported from I/O device *arg* error code *arg*.

**Recommended actions**

1 Restart the controller.
2 Report the problem to ABB.

## 71307, DeviceNet generic connection 1

**Description**

On DeviceNet I/O device *arg* connection 1 configuration is generic.

Real values:

- Connection 1 type: .
- Connection 1 input size: .
- Connection 1 output size: .

**Recommended actions**

1 Update your current I/O device configuration.

## 71308, DeviceNet generic connection 2

**Description**

On DeviceNet I/O device *arg* connection 2 configuration is generic.

Real values:

- Connection 2 type: .
- Connection 2 input size: .
- Connection 2 output size: .

**Recommended actions**

1 Update your current I/O device configuration.

## 71309, DeviceNet generic device identification

**Description**

On DeviceNet I/O device *arg* identity configuration is generic.

Real values:

- Vendor Id: .
- Product code: .
- Device type: .

**Recommended actions**

1 Update your current I/O device configuration.

## 71310, DeviceNet I/O device connection error

**Description**

DeviceNet I/O device *arg* is occupied by another master.

**Recommended actions**

1 Check I/O configuration.
2 Cycle power on I/O device.

## 71311, Unable to establish communication on the DeviceNet network

**Description**

Unable to establish communication on the DeviceNet network because no I/O devices are physically connected.

**Recommended actions**

1 Check cables and connectors.
2 Connect I/O devices to network.
3 Restart the controller.
4 Remove I/O devices on the DeviceNet network from the I/O configuration.

## 71312, DeviceNet I/O device explicit connection not enabled

**Description**

DeviceNet I/O device *arg* does not have the explicit message connection enabled.

**Recommended actions**

Change I/O configuration.

## 71313, Device command order number not unique

**Description**

The I/O configuration is invalid.

The device command <*arg*> connected to the I/O device <*arg*> has the same order number <*arg*> as the device command <*arg*>.

The order number of device commands connected to the same I/O device must be unique.

This device command has been rejected.

**Recommended actions**

Modify the I/O configuration so that device commands on the same I/O device have unique order numbers.

## 71315, Max number of device commands exceeded

**Description**

The I/O configuration is invalid.

The maximum number, *arg*, of device commands in the I/O system has been exceeded.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

**Recommended actions**

Modify the configuration of the I/O system (by reducing the number of device commands) so that the maximum limit is not exceeded.

## 71317, I/O device reset

**Description**

The I/O device *arg* on the network *arg* has been reset through the device command *arg*, to make sure that the device command values are activated.

This causes the I/O device to loose contact while it is restarted but it will regain contact.

**Probable causes**

A device command for reset has been defined for the I/O device in the configuration of the I/O system.

## 71320, Max number of I/O access levels exceeded

**Description**

The I/O configuration is invalid.

The maximum number, *arg*, of I/O access levels in the I/O system has been exceeded.

**Recommended actions**

Modify the configuration of the I/O system (by reducing the number of I/O access levels) so that the maximum limit is not exceeded.

## 71321, Invalid I/O access level

**Description**

The I/O configuration is invalid.

The I/O signal *arg* has a reference to an invalid/undefined I/O access level *arg*.

All I/O signals must either omit the access level or refer to an existing access level.

This I/O signal has been rejected.

**Recommended actions**

Change I/O access level to one that exist or define a new I/O access level.

## 71323, Invalid bit values

**Description**

The I/O configuration for I/O signal *arg* is invalid.

The minimum bit value *arg* must not be less than *arg*.

The maximum bit value *arg* must not exceed *arg*.

The minimum bit value must be less than the maximum bit value.

This I/O signal has been rejected.

**Recommended actions**

1 Check that the I/O signal is configured with the correct encoding type.
2 Check that the min and max bit values are correct.

## 71324, Physical limitation values out of range

**Description**

The I/O configuration for I/O signal *arg* is invalid.

The physical limitation minimum value must be less than the physical limitation maximum value.

This I/O signal has been rejected.

**Recommended actions**

Correct the physical limitation values for the I/O signal so that the minimum value becomes less than the maximum value.

## 71325, Invalid network configuration

**Description**

The I/O configuration for network *arg* is invalid.

User-defined (externally loaded) Industrial Networks must not be specified with the name Local.

This network has been rejected.

**Recommended actions**

Change the name of the network.

## 71326, Invalid device predefined type configuration

**Description**

The I/O configuration for device predefined type *arg* is invalid.

User-defined (externally loaded) device predefined types must not be specified for the Local network.

This device predefined type has been rejected.

**Recommended actions**

Change the device predefined type.

## 71328, Invalid name

**Description**

The I/O configuration is invalid.

The configuration instance *arg* does not comply with the rules of RAPID identifiers.

This configuration instance has been rejected.

**Recommended actions**

Correct the name of the configuration instance so that it complies with the following rules:

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

Rules of RAPID identifiers:

1 The length must not exceed 16 characters.
2 The first character must be a letter (a-z or A-Z).
3 Subsequent characters must be letters (a-z or A-Z), digits (0-9) or underscores (_).

## 71329, Invalid network connection

**Description**

The I/O configuration for network *arg* is invalid.
Invalid connection *arg* is selected for the network.
Valid connections are: *arg*.

**Consequences**

This network has been rejected, and no functions depending on it will work.

**Recommended actions**

Select a valid connection for the network.

## 71331, Invalid network

**Description**

The I/O configuration for network *arg* is invalid.
The name of the network is not valid.
Installed valid networks are:*arg*.

**Consequences**

This network has been rejected, and no functions depending on it will work.

**Recommended actions**

Correct the name for the network.

## 71332, Invalid recovery time

**Description**

The I/O configuration for the I/O device *arg* is invalid.
The value of the recovery time parameter *arg* is incorrect.
The recovery time (how often to try regaining contact with lost I/O devices) must not be less than *arg* milliseconds.
This I/O device has been rejected.

**Recommended actions**

Correct the recovery time for the I/O device.

## 71333, Invalid DeviceNet baud rate

**Description**

The I/O configuration for DeviceNet network is invalid.
The value of the DeviceNet baud rate parameter is incorrect.
Valid DeviceNet baud rates are:

- 125
- 250
- 500

This network has been rejected.

**Recommended actions**

Correct the baud rate for the DeviceNet network.

## 71336, Device command without path

**Description**

The I/O configuration is invalid.
No path is defined for the device command <*arg*>.
This device command has been rejected.

**Recommended actions**

Define a path for the device command.

## 71338, Invalid device command service identifier

**Description**

The I/O configuration is invalid.
The service identifier <*arg*> is not valid for the device command <*arg*>.
Valid service identifiers are:
<*arg*>
This device command has been rejected.

**Recommended actions**

Correct the service identifier for the device command.

## 71339, Device command without reference to I/O device

**Description**

The I/O configuration is invalid.
The device command *arg* has no reference to an I/O device.
The device command must have a reference to an existing I/O device.

**Consequences**

This device command has been rejected, and no functions depending on it will work.

**Recommended actions**

Define an I/O device reference for the device command.

## 71340, Device command with reference to non-existing I/O device

**Description**

The I/O configuration is invalid.
The device command *arg* has a reference to an invalid/unknown I/O device *arg*.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

The device command must have a reference to an existing I/O device.

**Consequences**

This device command has been rejected, and no functions depending on it will work.

**Recommended actions**

Correct the I/O device for the device command.

## 71344, Device map undefined

**Description**

The I/O configuration for I/O signal *arg* is invalid.

Device map is undefined or empty.

A Device map must be specified for all physical I/O signals (i.e. signals connected to an I/O device).

This I/O signal has been rejected.

**Recommended actions**

Define a device map for the I/O signal.

## 71346, Device map out of range

**Description**

The I/O configuration for I/O signal *arg* is invalid.

The device map *arg* is invalid since bit *arg* is out of range.

All bits in the device map must be in the range [0, *arg*].

This I/O signal has been rejected.

**Recommended actions**

Correct the device map.

## 71347, Device map with overlapping segments

**Description**

The I/O configuration for I/O signal *arg* is invalid.

The device map *arg* contains segments (e.g. bit *arg*) that overlap each other.

This I/O signal has been rejected.

**Recommended actions**

Correct the device map.

## 71348, Device map with unexpected character

**Description**

The I/O configuration for I/O signal *arg* is invalid.

Found unexpected end or character at position *arg* in the device map: *arg*.

This I/O signal has been rejected.

**Recommended actions**

Correct the device map so that is comply with the following syntax:

- {bit} = ([0-9]+)
- {range} = ([0-9]+[-][0-9]+)
- {segment} = ({bit} | {range})
- {device map} = ({segment}[,])*{segment}

Examples of valid device maps:

- "1"
- "0-7, 15-8"
- "1,4-3,7"

## 71349, Invalid signal size

**Description**

The I/O configuration for I/O signal *arg* is invalid.

There is a mismatch between the signal type and the size of the signal.

The signal size *arg* is given by the device map: *arg*.

This I/O signal has been rejected.

**Recommended actions**

Correct either the signal type or the device map so that the following rules are fulfilled:

- The size of digital I/O signals must be exactly one bit.
- The size of analog and group I/O signals must be between 1 and 32 bits.

## 71350, Invalid network

**Description**

The I/O configuration is invalid.

The device predefined type *arg* has an invalid/unknown type of network *arg*.

Installed valid Industrial Networks are:*arg arg arg*.

**Consequences**

This device predefined type has been rejected, and no functions depending on it will work.

**Recommended actions**

Correct the network for the device predefined type.

## 71351, Invalid connection 1 type

**Description**

The I/O configuration is invalid.

The unit type *arg* has an invalid/unknown type for connection 1 *arg*.

The type for connection 1 must be one of the following:

- POLLED

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

- STROBE
- COS
- CYCLIC
- COS_ACKSUP
- CYCLIC_ACKSUP

This unit type has been rejected.

**Recommended actions**

Correct the connection 1 type of the unit type.

## 71352, Invalid connection 2 type

**Description**

The I/O configuration is invalid.

The unit type *arg* has an invalid/unknown type for connection 2 *arg*.

The type for connection 2 must either be omitted or one of the following:

- POLLED
- STROBE
- COS
- CYCLIC
- COS_ACKSUP
- CYCLIC_ACKSUP

This unit type has been rejected.

**Recommended actions**

Correct the connection 2 type of the unit type.

## 71354, I/O device without reference to network

**Description**

The I/O configuration is invalid.

No reference to a network is defined for the I/O device *arg*.

This I/O device has been rejected.

**Recommended actions**

Define a network reference for the I/O device.

## 71355, Invalid Device Trust Level

**Description**

The I/O configuration is invalid.

I/O device *arg* has an invalid/unknown Device Trust Level: *arg*.

Installed valid Device Trust Levels are:*arg*.

**Consequences**

This I/O device has been rejected, and no functions depending on it will work.

**Recommended actions**

Correct the Device Trust Level for the I/O device.

## 71356, Bus type mismatch

**Description**

The I/O configuration is invalid.

Device *arg* refers to a network and a unit type with different bus types.

This I/O device has been rejected.

**Recommended actions**

1 Check that the I/O device is connected to the correct network and that the bus type of that network is correct.
2 Check that the I/O device refers to the correct unit type and that the bus type of that unit type is correct.

## 71357, Duplicated I/O devices on network Local

**Description**

The I/O configuration for I/O device *arg* is invalid.

There is already another user-defined I/O device connected to the network Local.

Only one user-defined I/O device may be connected to the network Local.

This I/O device has been rejected.

**Recommended actions**

Correct the I/O configuration.

## 71361, Cross connection with non-digital resultant I/O signal

**Description**

The I/O configuration of cross connection *arg* is invalid.

The parameter Resultant refer to an I/O signal *arg*, that is not digital.

Only digital I/O signals can be cross connected.

**Consequences**

The cross connection has been rejected, and no functions depending on it will work.

**Recommended actions**

Remove the non-digital I/O signal from the cross connection.

## 71362, I/O signal mapped outside the I/O device data area

**Description**

Cannot change physical state of I/O signal *arg* to VALID.

The reason is that the I/O signal is mapped to bit(s) that lies outside the data area of the I/O device it is assigned to.

I/O signal assigned to I/O device *arg*.

I/O signal mapped to bit(s): *arg*.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

Output data area size for the I/O device is *arg* bits.
Input data area size for the I/O device is *arg* bits.

**Consequences**

The physical state of this I/O signal remains NOT VALID.

**Recommended actions**

1 Check that the device mapping of the I/O signal is correct.
2 Check that the I/O signal is assigned to the correct I/O device.
3 Check the I/O configuration Connection Input/Output size on the I/O device.

## 71363, Internal slave configuration invalid

**Description**

The I/O device *arg* configured on the master address is not valid as an internal slave.

**Recommended actions**

1 Change the address on the I/O device.
2 Use DN_Slave device template.

## 71364, User I/O queue overload

**Description**

The user I/O queue handling I/O signal changes has been overloaded.

**Consequences**

The system will go to status SYS STOP.

**Probable causes**

This is caused by too frequent signal changes or too large bursts of signal changes, generated by input I/O signals or cross connections between I/O signals.

**Recommended actions**

1 Check the cross connections. Cross connections are described in the manual for the system parameters.
2 Check the frequency of input I/O signals from any external equipment connected to the system. Make sure it is not abnormal, and change if required.
3 If an extremely heavy I/O load is normal and required, investigate whether programming delays in the RAPID application may solve the problem.

## 71365, Safety I/O queue overload

**Description**

The safety I/O queue handling safety I/O signals has been overloaded.

**Consequences**

The system will go to status SYS HALT.

**Probable causes**

This is caused by too frequent signal changes of safety I/O signals. Sometimes this may be due to erratic ground connection in I/O signals from external equipment.

**Recommended actions**

1 Repeated safety input I/O signals will cause the system to halt. See the error log for other faults that may cause the condition.
2 Check the grounding of each signal from any external equipment affecting the safety I/O signals.
3 Check the frequency of input I/O signals from any external equipment connected to the system. Make sure it is not abnormal, and change is required.

## 71366, Cross connection I/O queue overload

**Description**

The cross connection I/O queue handling I/O signals has been overloaded.

**Consequences**

The system will go to status SYS STOP.

**Probable causes**

This is caused by too frequent signal changes or too large bursts of signal changes, generated by I/O signals being actors in cross connections.

**Recommended actions**

1 Check the cross connections. Cross connections are described in the manual for the system parameters.
2 Check the frequency of I/O signals being actors in cross connections.
3 If an extremely heavy I/O load is normal and required, investigate whether programming delays in the RAPID application may solve the problem.

## 71367, No communication with I/O device

**Description**

During start-up, no communication was established with I/O device *arg* with address *arg* on the network *arg*.

**Consequences**

It is not possible to access the I/O device or I/O signals on it, since it is currently not communicating with the controller.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

**Probable causes**

The I/O device is either not connected to the system, or it is connected, but has been assigned the wrong address.

**Recommended actions**

1 Make sure all I/O device addresses match the configuration.
2 Make sure all addresses are unique, and not used by more than one I/O device.
3 Change the address and/or connect the missing I/O device.
4 If you changed the address, the power supply to the I/O device must be cycled (switched OFF and then back ON), to make sure the address has been changed.

## 71379, Unknown communication physical channel connector

**Description**

The connector *arg* defined for the physical channel *arg* is unknown.

**Consequences**

The physical channel will not be available for use.

**Probable causes**

- The connector defined in the physical channel configuration may be misspelled or refers to a connector not available for use.
- Connector configuration is missing.

**Recommended actions**

1 Make sure the connector defined in the physical channel configuration is referring to an available connector.
2 Make sure the option Multiple Serial Ports is installed if required by the used configuration.
3 Reinstall the system to make sure the system configuration files are OK.

## 71380, Communication connector driver is already in use

**Description**

The connector *arg* cannot use the driver *arg*. The driver is already in use by connector *arg*.

**Consequences**

The connector and the physical channel using the connector will not be available for use.

**Probable causes**

- The configuration files may have been faulty.
- A configuration file with improperly configured Physical Channels may have been loaded.

**Recommended actions**

1 Make sure physical connector configuration is valid.
2 Reinstall the system to make sure the system configuration files are OK.

## 71381, Communication connector is already in use

**Description**

The physical channel *arg* cannot use connector *arg*. The connector is already in use by physical channel *arg*.

**Consequences**

The connector and the physical channel using the connector will not be available for use.

**Probable causes**

Several physical channels may have been assigned to the same connector in the configuration.

**Recommended actions**

Make sure each connector is used by one physical channel only.

## 71382, DeviceNet watchdog time has expired

**Description**

The system has not received any reply from the DeviceNet I/O device, and the watchdog timer has timed out.

**Consequences**

The DeviceNet network is not running, and no communication on the DeviceNet network will be possible. The system goes to system failure state. More information about troubleshooting is available in the application manual for DeviceNet.

**Probable causes**

The I/O load on the DeviceNet network may be too high, for instance if a RAPID program is trying to set I/O signals at a rate that exceeds the bandwidth available on the DeviceNet network.

**Recommended actions**

Reduce the I/O load on the DeviceNet network.

## 71383, User defined I/O devices can't be connected to the network Local

**Description**

The I/O configuration for I/O device *arg* is invalid.
No user-defined I/O device may be connected to the network Local.
This I/O device has been rejected.

*Continues on next page*


© Copyright 2005-2020 ABB. All rights reserved.

**Recommended actions**

Correct the I/O configuration.

## 71385, Request message resource exhausted

**Description**

Unable to handle more concurrent I/O requests.

Out of concurrent I/O request using delay, pulse, or timeout argument.

**Consequences**

I/O request cannot be fulfilled.

**Probable causes**

Too many I/O instructions with pulse or delay argument.

Too many process instructions with pulse, delay or timeout.

**Recommended actions**

1 Reduce the number of concurrent I/O instructions with pulse or delay argument.
2 Reduce the number of concurrent process instructions that use pulse, delay or timeout argument.

## 71390, The DeviceNet network has recovered from bus off

**Description**

The DeviceNet network has recovered from bus off state.

## 71391, System Signal configuration

**Description**

There was an error during the configuration of the System I/O Signal *arg*.

**Consequences**

The system will go to system failure state.

**Probable causes**

All errors during configuration of System I/O Signals are considered fatal and the system will go to system failure state.

**Recommended actions**

1 Check the connection of the I/O device to which the System Signal is connected.
2 Check the configuration of the I/O device.

## 71392, Invalid output size

**Description**

On DeviceNet I/O device *arg* the connection output size *arg* does not match the I/O device. When using strobe connection the only valid output sizes are 1 or -1.

**Recommended actions**

1 Change size in configuration.
2 Check module.
3 Use DN_Generic device template.

## 71393, Error when allocating generic size

**Description**

Failed to allocate generic *arg* size (-1) on DeviceNet I/O device *arg*.

**Probable causes**

The DeviceNet I/O device *arg* cannot be configured with a generic *arg* size (-1).

**Recommended actions**

1 Update your current unit type configuration with new size.
2 Use DN_Generic device template.

## 71394, Invalid physical communication channel

**Description**

The communication channel *arg* is out of range.

**Consequences**

The communication channel *arg* is unavailable.

**Probable causes**

Adapter board DSQC 1003 not installed or the communication channel *arg* is out of range.

**Recommended actions**

1 Check the allowed minimum and maximum of connectors.
2 Check hardware required.

## 71395, No transport protocol

**Description**

The transport protocol *arg* for channel *arg* is missing.

**Consequences**

The transport instance *arg* is unavailable.

**Probable causes**

The option holding the transport protocol *arg* is not installed or the protocol name is faulty.

**Recommended actions**

1 Install missing option.
2 Change the transport protocol name.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

## 71396, No transmission protocol

**Description**

The transport protocol *arg* is missing or the name of the transport protocol is faulty for *arg*.

**Consequences**

The application protocol instance *arg* is unavailable.

**Probable causes**

The option holding the transport is not installed or the application name is faulty.

**Recommended actions**

1 Install the option.
2 Change the name of the transport in the configuration.

## 71397, No application protocol

**Description**

The application protocol *arg* is missing or the name is faulty.

**Consequences**

The application instance *arg* is unavailable.

**Probable causes**

The option holding the application protocol is not installed or the protocol name is faulty.

**Recommended actions**

1 Install the option.
2 Change the name of the application protocol.

## 71398, Communication error from bosv24

**Description**

No response from the serial line.

**Recommended actions**

Check the device or connection.

## 71399, Communication error from bosv24

**Description**

Not possible to deliver the received message.

**Recommended actions**

Check the communication flow.

## 71400, Communication error from bosv24

**Description**

The response from the device has an invalid frame sequence.

**Recommended actions**

Check for noise on the serial line.

## 71401, No option exists for the *arg* Anybus module.

**Description**

An *arg* Anybus module has been found, but no option has been installed.

**Consequences**

No communication on *arg* Anybus module is possible. There may be consequential errors from configuring when no such option has been installed.

**Probable causes**

An attempt may have been made to add the *arg* Anybus module functionality, without installing the option correctly.

**Recommended actions**

If the *arg* Anybus module option is required: configure a new system with this option, and install the system.

## 71402, Duplicate address on the *arg* network.

**Description**

The *arg* network address is duplicated on the network. Conflicting address *arg*.

**Consequences**

No communication on the *arg* network is possible.

**Recommended actions**

1 Change the address on the conflicting adapter (or physically disconnect the adapter) or change the address for the network.
2 Restart the controller.

## 71403, The interval time is invalid

**Description**

For the DeviceNet device *arg* the connection *arg* interval time is invalid.

**Probable causes**

The interval time has a lower value than the production inhibit time.

**Recommended actions**

Change the connection *arg* interval time to be higher than the production inhibit time for the DeviceNet device *arg* in the I/O configuration.

*Continues on next page*


© Copyright 2005-2020 ABB. All rights reserved.

### 71404, Invalid input/output size

**Description**

The I/O device *arg* has an invalid value (zero) for the input or output size.

**Recommended actions**

Change the input/output size to a value greater value than zero.

### 71405, Duplicate device mapping

**Description**

The I/O signal *arg* has overlapping bit(s) in the device map with the I/O signal *arg*.

**Consequences**

This I/O signal has been rejected, and no functions depending on it will work.

**Recommended actions**

Correct the device mapping for the overlapping I/O signals in the I/O configuration.

### 71406, Communication established on DeviceNet network

**Description**

The DeviceNet network has established communication.

### 71407, Route interface not found

**Description**

The route interface *arg* for network *arg* is not found in the system.

**Consequences**

The route is not available. Messages to I/O devices connected to the network *arg* will not forwarded.

**Probable causes**

The network *arg* not defined.

**Recommended actions**

Change the network identifier.

### 71408, Route port number out of range

**Description**

The given port number *arg* of route *arg* is outside its range.

**Consequences**

The route is not available. Messages to I/O devices connected to the network *arg* will not be forwarded.

**Probable causes**

The number *arg* is outside its range.

**Recommended actions**

Change port number.

### 71409, Not able to add a port to *arg*

**Description**

Not able to define port *arg* of route *arg* due to lack of resources.

**Consequences**

The route is not available. Messages to I/O devices connected to port *arg* are not forwarded.

**Probable causes**

The network *arg* doesn't support this many ports.

**Recommended actions**

When possible reduce the number of ports or report the problem to ABB.

### 71410, CIP route option not installed

**Description**

The CIP route option is not enabled since it was not selected at system creation.

**Consequences**

Any CIP route definitions will be omitted.

**Probable causes**

The CIP route option is not installed in the system.

**Recommended actions**

Create and install a system with the CIP route option.

### 71411, Out of route resources

**Description**

Not able to add anymore routes due to no more route resources in the system.

**Consequences**

Route *arg* will not be added to the system.

**Probable causes**

Too many routes have been defined. The system only allows *arg* routes.

**Recommended actions**

Reduce the number of routes.

### 71412, The DeviceNet network has regained the bus power

**Description**

The DeviceNet network has regained the 24 V bus power.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

## 71414, Concurrent changes of signal value

**Description**

Concurrent changes of I/O signal *arg* value have been detected.

**Consequences**

A signal value change of I/O signal *arg* is aborted due to another value change of the same I/O signal.

**Probable causes**

The concurrent value change is due to an undesired signal change sequence in a program. Multiple changes of I/O signal *arg* might appear when a I/O signal is pulsed, e.g.
SetDO *arg*, 0;
PulseDO /High /PLength = 0.01, *arg*;
WaitTime 0.01;
SetDO *arg*, 1;
The I/O signal *arg* will be 1 at the end, but at rare occasions there will not be any visible pulse. This type of sequence should be avoided.

**Recommended actions**

Verify that concurrent value changes are desired of I/O signal *arg*, otherwise modify the signal change sequence.

## 71428, DeviceNet I/O device configured

**Description**

A new I/O device has been found and configured on the DeviceNet network.
Device name: *arg*.
Device address: *arg*.
Input bytes / Output bytes: *arg*.
Vendor ID: *arg*.
Product code: *arg*

**Recommended actions**

1 Restart the controller to activate the I/O device configuration.
2 Edit or delete the configuration.

## 71443, Too many PROFINET internal devices

**Description**

There are too many PROFINET internal devices defined in the controller.

**Consequences**

PROFINET I/O device *arg* will not be configured. No communication with this I/O device will be possible.

**Probable causes**

PROFINET I/O device *arg* is defined as a PROFINET internal device while another PROFINET internal device has already been configured.

**Recommended actions**

Remove I/O device *arg* from the configuration.

## 71446, PROFINET configuration mismatch

**Description**

Configuration mismatch between the Anybus adapter and the connecting PROFINET controller in slot *arg*.

**Consequences**

The Anybus adapter will indicate a diagnostic error and no communication will be established between the Anybus adapter and the connecting PROFINET controller.

**Probable causes**

Mismatch of the data type/size in slot *arg* for the PROFINET controller configuration. The expected data type/size is *arg arg* bytes.

**Recommended actions**

Correct the data type/size in slot *arg* in the external configuration tool or change the data size in the I/O configuration.
NOTE:
In the PROFINET controller configuration input data shall be in slot 1 and output data in slot 2.

## 71449, Too many Anybus adapters configured

**Description**

Too many Anybus adapters configured. It is only allowed to have one Anybus adapter configured.

**Consequences**

The Anybus adapter *arg* has been rejected, and no functions depending on it will work.

**Recommended actions**

1 Remove an Anybus adapter in the configuration.
2 Restart the controller.

## 71450, EtherNet/IP Scanner/Adapter option not installed

**Description**

An EtherNet/IP network is configured, but the EtherNet/IP Scanner/Adapter option has not been installed.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

**Consequences**

No communication on the EtherNet/IP is possible. There may be consequential errors from configuring EtherNet/IP when no such option has been installed.

**Probable causes**

An attempt may have been made to add the EtherNet/IP functionality, without installing the option correctly.

**Recommended actions**

1 If the EtherNet/IP option is required: configure a new system with this option, and install the system.
2 If the EtherNet/IP option is not required: configure a new system without this option, and install the system.

## 71452, Too many EtherNet/IP networks are configured

**Description**

Too many EtherNet/IP networks are configured. It is only possible to have one network for the EtherNet/IP Scanner/Adapter option.

**Recommended actions**

1 Remove all except one of the EtherNet/IP networks from the configuration.
2 Restart the controller.

## 71453, Wrong identity for EtherNet/IP adapter

**Description**

The identity for the adapter *arg* in the I/O configuration is not correct.
The correct identity is:
Vendor ID *arg*.
Device Type *arg*.
Product Code *arg*.

**Consequences**

No contact will be established with this adapter.

**Recommended actions**

Correct the I/O configuration for the adapter with the identity information above.

## 71454, The *arg* address is missing

**Description**

No IP address is specified for the *arg* network.

**Consequences**

No communication on the *arg* network is possible.

**Recommended actions**

1 Specify a valid IP address in the network configuration.
2 Restart the controller.

## 71455, EtherNet/IP connection type unknown

**Description**

The I/O configuration is invalid.
The unit type *arg* has an invalid/unknown connection type *arg*.
The connection type must be one of the following:

- MULTICAST
- POINT2POINT

**Consequences**

This unit type has been rejected.

**Recommended actions**

1 Correct the connection type of the unit type.
2 Restart the controller.

## 71457, The EtherNet/IP gateway address is invalid

**Description**

It is not possible to have the gateway address same as the IP address.
Or the gateway address cannot be same as the default destination 0.0.0.0.

**Consequences**

The default controller gateway address *arg* will be used and not the specified gateway address *arg*.

**Recommended actions**

1 If no physical gateway is used, do not specify any gateway address in the configuration.
2 Restart the controller.

## 71458, Could not change the default gateway address

**Description**

If no destination address is specified in the Ethernet/IP configuration, the default controller gateway address will be changed. The destination address was not given and the specified gateway address *arg* was not valid and could not be used.

**Consequences**

No communication on the EtherNet/IP network is possible.

**Recommended actions**

1 Correct the gateway in the EtherNet/IP network configuration.
2 Restart the controller.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

## 71459, Illegal address for EtherNet/IP

**Description**

The address *arg* for the EtherNet/IP network is illegal.

**Consequences**

No communication on the EtherNet/IP network is possible.

**Recommended actions**

1 Correct the address in the EtherNet/IP network configuration.
2 Restart the controller.

## 71460, Not able to connect to EtherNet/IP adapter

**Description**

The configured adapter *arg* with address *arg* does not physically exist on the EtherNet/IP network.

**Consequences**

It is not possible to access the adapter itself or I/O signals on the adapter since it is currently not communicating with the controller.

**Probable causes**

The adapter does not exist physically.
The adapter address is wrong.
The adapter is malfunctioning.

**Recommended actions**

1 Check that the adapter physically exists on the EtherNet/IP network and that the address is correct.
2 If the address has been changed, restart the controller.

## 71461, Duplicated address on the EtherNet/IP network

**Description**

The adapter *arg* and the EtherNet/IP scanner have been configured with the same address in the controller.

**Consequences**

It is not possible to access the adapter or I/O signals on it, since it is currently not communicating with the controller.

**Recommended actions**

1 Change the address for the adapter or the address for the EtherNet/IP controller in the I/O configuration. If changing the I/O device address and it have this address physically it must also be changed in the adapter.
2 Restart the controller.

## 71462, Illegal subnet mask for EtherNet/IP

**Description**

The subnet mask *arg* for the EtherNet/IP network is illegal.

**Consequences**

No communication on the EtherNet/IP network is possible.

**Recommended actions**

1 Correct the subnet mask in the EtherNet/IP network configuration.
2 Restart the controller.

## 71463, Illegal address for EtherNet/IP network

**Description**

The EtherNet/IP address *arg* is reserved.

**Consequences**

No communication on the EtherNet/IP network is possible.

**Probable causes**

The specified address is on a subnet reserved by another Ethernet port. Two Ethernet ports on the controller cannot be on the same subnet.
Example:
EtherNet/IP port: 192.168.125.x
Service port: 192.168.125.x
Note:
The subnets within the range 192.168.125.xxx - 192.168.130.xxx are predefined and cannot be used.

**Recommended actions**

1 Change the address to another subnet.
2 Restart the controller.

## 71464, Could not add a new gateway for EtherNet/IP

**Description**

Could not add the gateway address *arg* with the destination address *arg* for EtherNet/IP.

**Consequences**

No communication on the EtherNet/IP network is possible.

**Probable causes**

1 The gateway address or the destination address are invalid.
2 No destination address have been specified.

**Recommended actions**

1 Correct the gateway address or the destination address in the EtherNet/IP network configuration.
2 Restart the controller.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 71469, Max number of internal I/O signals exceeded

**Description**

The I/O configuration is invalid.
The maximum number, *arg*, of internal I/O signals in the I/O system has been exceeded.

**Recommended actions**

Modify the configuration of the I/O system (by reducing the number of I/O signals specified in the additional option configuration) so that the maximum limit is not exceeded.

### 71473, DeviceNet network scan result

**Description**

Address___Vendor_ID___Product_code___Device_name__ *arg*

### 71476, DeviceNet firmware file not found

**Description**

The DeviceNet firmware file *arg* was not found or is not readable.
The board firmware may be out of date.

**Recommended actions**

Reinstall the system.

### 71477, Invalid connection size for EtherNet/IP adapter

**Description**

The adapter *arg* is configured with invalid input and/or output size.

**Consequences**

No communication with the adapter is possible.

**Recommended actions**

Correct the input size to *arg* and the output size to *arg* for the adapter in the I/O configuration.

### 71478, Invalid input or output assembly for EtherNet/IP adapter

**Description**

The adapter *arg* has invalid input and/or output assembly.

**Consequences**

No communication with the adapter is possible.

**Recommended actions**

Correct the input/output assembly for the adapter in the I/O configuration.

### 71479, Invalid configuration assembly for EtherNet/IP I/O device

**Description**

The adapter *arg* has invalid configuration assembly.

**Consequences**

No communication with the adapter is possible.

**Recommended actions**

Correct the configuration assembly for the adapter in the I/O configuration.

### 71480, Adapter occupied by another scanner

**Description**

It is not possible to connect to the adapter *arg* because it already has an active connection.

**Consequences**

No communication with the adapter *arg* is possible as long as the adapter is occupied by another scanner.

**Recommended actions**

Release the connection from the other scanner to the adapter *arg* or change the address.

### 71481, PROFINET configuration file error

**Description**

The PROFINET configuration file *arg* could not be found or opened.

**Consequences**

The configuration file is needed to be able to use the I/O devices defined on the *arg* network.

**Recommended actions**

1 Make sure the file exists.
2 Make sure that the configuration file is placed in the HOME directory of your current system if filename without path is used.

### 71482, PROFINET network configuration changed

**Description**

I/O configuration for the network *arg* has been changed by an external configuration tool or a connecting controller.
The following values have been changed:
IP Address: *arg*.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

Subnet mask: *arg*.
Gateway address: *arg*.

## 71483, PROFINET identification request received

**Description**
A PROFINET identification request has been received from an external configuration tool.
The MAC address on the *arg* network is *arg*.

## 71485, Illegal subnet mask

**Description**
The subnet mask *arg* for the *arg* network is illegal. The allowed subnet mask range is 255.255.255.xxx.

**Consequences**
The subnet mask on the *arg* network was not changed.

**Recommended actions**
1 Correct the subnet mask for the network.

## 71486, Illegal address for *arg* network

**Description**
The IP address *arg* for the *arg* network is illegal.

**Consequences**
The *arg* network cannot be used.

**Recommended actions**
Correct the address for the *arg* network.

## 71487, Illegal IP address for *arg* network

**Description**
The *arg* network address *arg* is reserved.

**Consequences**
No communication on the *arg* network is possible.

**Probable causes**
The specified address is on a subnet reserved by another Ethernet port. Two Ethernet ports on the controller cannot be on the same subnet.
Example:
*arg* port: 192.168.125.xxx
Service port: 192.168.125.xxx
Note:
The subnets within the range 192.168.125.xxx - 192.168.130.xxx are predefined and cannot be used.

**Recommended actions**
Change the address to another subnet.

## 71488, Illegal gateway address for *arg* network

**Description**
The specified gateway address *arg* is not valid and cannot be used.

**Consequences**
The gateway address is not changed.

**Probable causes**
The specified gateway address might not be within the range of the *arg* network subnet mask *arg*.

**Recommended actions**
Correct the gateway address in the *arg* network configuration.

## 71489, PROFINET internal device configuration warning

**Description**
A PROFINET controller has established a connection with the PROFINET internal device on the *arg* network. The connecting PROFINET controller and the internal PROFINET device slot configuration differs.
The internal PROFINET device is currently configured with the following modules:
Slot 1: DI *arg* bytes.
Slot 2: DO *arg* bytes.

**Consequences**
Not all I/O signals will be possible to use.

**Recommended actions**
1 Reconfigure the connecting PROFINET controller to match the internal PROFINET device.
2 Reconfigure the internal PROFINET device in the Robot controller to match the connecting PROFINET controller.

## 71490, PROFINET I/O device configuration warning

**Description**
The I/O device *arg* on the *arg* network is configured in the PROFINET configuration file *arg* but not in the I/O configuration.

**Recommended actions**
Add the I/O device *arg* to the I/O configuration or remove the I/O device from the PROFINET configuration file.

*Continues on next page*


© Copyright 2005-2020 ABB. All rights reserved.

## 71491, PROFINET I/O device configuration missing

**Description**

The I/O device *arg* on the *arg* network is configured in the I/O configuration but not in the PROFINET configuration file *arg*.

**Consequences**

No communication with I/O device *arg* is possible.

**Recommended actions**

Add the I/O device *arg* to the PROFINET configuration file or remove the I/O device from the I/O configuration.

## 71492, PROFINET diagnostic data reported

**Description**

The I/O device *arg* has reported diagnostic data on slot *arg*.
*arg*

## 71493, PROFINET I/O device auto configured

**Description**

A new I/O device has been found in the PROFINET configuration file. This I/O device has been auto configured in the controller with the following parameters:
Device name: *arg*.
Input bytes: *arg*.
Output bytes: *arg*.

**Recommended actions**

1 Edit or delete the configuration.
2 Restart the controller to activate the I/O device configuration.

## 71494, PROFINET option license is missing

**Description**

The option license needed to run the *arg* network on the controller was not detected.

**Consequences**

No communication on *arg* network is possible.

**Probable causes**

An attempt may have been made to add the PROFINET functionality, without installing the option correctly.

**Recommended actions**

- Configure a new system with the PROFINET option. Make sure there is a license. Install that system.
- If PROFINET is not required, configure a new system without this option, and install that system.

## 71495, PROFINET controller option license is missing

**Description**

The option license needed to run the *arg* network as a PROFINET controller on the controller was not detected. The I/O device *arg* is not defined as an internal PROFINET device.

**Consequences**

No communication with the I/O device *arg* is possible.

**Probable causes**

The installed option license for the *arg* network only supports one internal PROFINET device.

**Recommended actions**

Configure a new system with the PROFINET controller/device option or remove the I/O device *arg* from the I/O configuration.

## 71498, PROFINET network configuration changed

**Description**

I/O configuration for the network *arg* have been changed by an external configuration tool or a connecting controller.
The following values have been changed:
Station name: *arg*.

## 71499, I/O signals in cross connection has overlapping device map

**Description**

The I/O configuration of cross connection *arg* is invalid.
The resultant I/O signal *arg* has an overlapping device map with the inverted actor I/O signal *arg*.
Using I/O signals with overlapping device map in a cross connection can cause infinity signal setting loops.

**Consequences**

The cross connection has been rejected, and no functions depending on it will work.

**Recommended actions**

Correct the device map or define one of the I/O signals as simulated.

## 71500, EtherNet/IP connection failure

**Description**

Not able to connect to the adapter *arg*.
*arg*

**Consequences**

No communication with the adapter is possible.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

## 71501, PROFINET configuration file error

**Description**

The PROFINET configuration file *arg* was not valid. Internal error code *arg*.

**Consequences**

No communication on *arg* network is possible.

**Probable causes**

The PROFINET configuration file may be corrupt or have been created with an incompatible file format.

**Recommended actions**

Generate a new PROFINET configuration file.

## 71502, PROFINET configuration mismatch

**Description**

The I/O device *arg* reported a different slot configuration compared with the configuration for this I/O device in the PROFINET configuration file *arg*.
First slot mismatch reported on slot *arg*.
*arg* slot mismatches found.

**Consequences**

Some I/O signals might not be possible to use.

**Probable causes**

The module type used in slot *arg* may be of wrong type or of a different version compared to the actual hardware on the I/O device.

**Recommended actions**

1 Update the PROFINET configuration file .
2 Check the I/O device hardware.

## 71503, PROFINET station name error

**Description**

The network system parameter Station Name on the *arg* network contains one or more illegal characters. The character at position *arg* is not allowed.

**Consequences**

The *arg* network is not possible to use.

**Recommended actions**

Change the Station Name system parameter to an allowed string.

## 71504, File size exceeds max file size

**Description**

Unable to copy file data to the controller. The file *arg* is too large.
File size: *arg*.
Max file size: *arg*.

**Probable causes**

The file size is larger than the allowed file size.

**Recommended actions**

Check the FTP client configuration and increase the system parameter MaxFileSize to be able to transfer the file to the controller.

## 71505, Device command syntax error

**Description**

Could not send device command to I/O device *arg* because there is a syntax error in the command path string.
Device command name *arg*.
The syntax error: Missing comma.

**Consequences**

The device command was not sent.

**Recommended actions**

Correct the device command path string.

## 71506, Device command syntax error

**Description**

Could not send device command to I/O device *arg* because there is a syntax error in the command path string.
Device command name *arg*.
The syntax error: Bad path size specified.

**Consequences**

The device command was not sent.

**Recommended actions**

Correct the device command path string.

## 71507, Device command syntax error

**Description**

Could not send device command to I/O device *arg* because there is a syntax error in the command path string.
Device command name *arg*.
The syntax error: Incorrect path size.

**Consequences**

The device command was not sent.

*Continues on next page*


© Copyright 2005-2020 ABB. All rights reserved.

**Recommended actions**

Correct the device command path string.

## 71508, Device command syntax error

**Description**

Could not send device command to I/O device *arg* because there is a syntax error in the command path string.
Device command name *arg*.
The syntax error: Bad data type.

**Consequences**

The device command was not sent.

**Recommended actions**

Correct the device command path string.

## 71509, Device command syntax error

**Description**

Could not send device command to I/O device *arg* because there is a syntax error in the command path string.
Device command name *arg*.
The syntax error: Missing space.

**Consequences**

The device command was not sent.

**Recommended actions**

Correct the device command path string.

## 71510, Device command syntax error

**Description**

Could not send device command to I/O device *arg* because there is a syntax error in the command path string.
Device command name *arg*.
The syntax error: Incorrect byte size.

**Consequences**

The device command was not sent.

**Recommended actions**

Correct the device command path string.

## 71511, Device command syntax error

**Description**

Could not send device command to I/O device *arg* because there is a syntax error in the command path string.
Device command name *arg*.
The syntax error: Incorrect data size.

**Consequences**

The device command was not sent.

**Recommended actions**

Correct the device command path string.

## 71512, Invalid service identifier in device command

**Description**

Could not send device command to I/O device *arg* because of invalid service identifier *arg*.
Valid service identifiers are:
*arg*.

**Recommended actions**

Correct the service identifier.

## 71513, Device command response timeout

**Description**

A timeout occurred when sending device command *arg* to the I/O device *arg*.

**Consequences**

The device command was not sent.

**Recommended actions**

1 Check the device command syntax.
2 Make sure that the network cable is connected to the controller.
3 Make sure the I/O device has is correctly powered.
4 Make sure the cabling to the I/O device is correctly connected.

## 71514, Device command connection error

**Description**

Could not send device command *arg* to the I/O device *arg* because no active connection was present.

**Consequences**

The device command was not sent.

**Recommended actions**

1 Check the device command syntax.
2 Make sure that the network cable is connected to the controller.
3 Make sure the I/O device has is correctly powered.
4 Make sure the cabling to the I/O device is correctly connected.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

## 71515, Device command send error

**Description**

Could not send device command *arg* to the I/O device *arg*. *arg*.

**Consequences**

The device command was not sent.

**Recommended actions**

1 Check the device command syntax.
2 Make sure that the network cable is connected to the controller.
3 Make sure the I/O device has is correctly powered.
4 Make sure the cabling to the I/O device is correctly connected.

## 71516, An EtherNet/IP adapter does not support Quick Connect

**Description**

The adapter *arg* does not support Quick Connect.

**Recommended actions**

1 Set the parameter Quick Connect to "Not used" for the adapter in the I/O configuration.
2 Restart the controller.

## 71517, An attribute is changed for an EtherNet/IP adapter

**Description**

The attribute *arg* is changed to "*arg*" for the adapter *arg*.

## 71519, Too many PROFINET Networks are configured

**Description**

Too many PROFINET Controller/Device networks are configured. It is only possible to have one network for PROFINET Controller/Device.

**Recommended actions**

1 Remove all except one of the PROFINET Controller/Device networks from the configuration.
2 Restart the controller.

## 71520, Input data invalid

**Description**

The I/O device *arg* indicates input data invalid from slot*arg*.

**Consequences**

The input data is discarded.

**Probable causes**

Internal error in the I/O device.

## 71521, Output data not processed

**Description**

The I/O device *arg* indicates output data to slot *arg* cannot be processed.

**Consequences**

The output data is discarded by the I/O device.

**Probable causes**

Internal error in the I/O device.

## 71522, Ethernet port occupied by another client

**Description**

The specified Ethernet port for EtherNet/IP network is occupied by another client.

**Consequences**

No communication on the EtherNet/IP network is possible.

**Probable causes**

A MultiMove system is installed and occupies the specified Ethernet port.

**Recommended actions**

Select another Ethernet port by changing the connector ID for the EtherNet/IP network.

## 71524, PROFINET I/O device unknown alarm

**Description**

The I/O device *arg* has reported an unknown alarm in slot *arg*
Use I/O device specific documentation for explanation on the alarm code.
Alarm code: *arg*.

## 71525, PROFINET I/O device diagnostics

**Description**

The I/O device *arg* has reported diagnostic data in slot *arg*.
Use I/O device specific documentation for more explanation on the diagnostic data.
*arg*.

## 71526, PROFINET I/O device unknown alarm

**Description**

The I/O device *arg* has reported an unknown alarm in slot *arg*
Use I/O device specific documentation for explanation on the alarm code.

*Continues on next page*


© Copyright 2005-2020 ABB. All rights reserved.

Alarm code: *arg*.

## 71527, EtherNet/IP adapter state conflict

**Description**

The current state of the adapter *arg* prevents communication from being established or the execution of a specific service. This is an adapter specific behavior documented by the vendor.

**Consequences**

No communication with the adapter *arg* is possible as long as the adapter is in this state.

**Recommended actions**

1 Verify the current state of the adapter .
2 If the state is error, check the I/O configuration or hardware setup of the adapter and consult the vendor documentation. If the state is running, the I/O device was earlier temporarily busy during communication attempt but has now recovered, no further actions are necessary.

## 71528, EtherNet/IP general failure

**Description**

Not able to connect to the adapter *arg*.
*arg*.

**Consequences**

No communication with the adapter is possible.

## 71529, The destination address is missing

**Description**

The gateway address *arg* on network *arg* is defined, but no destination is defined.

**Consequences**

The gateway will not be used since the destination is missing.

**Recommended actions**

Specify a destination address to be used in conjunction with gateway address.
Or
Remove gateway address definition.

## 71530, The subnet mask is missing

**Description**

The subnet mask, on *arg* network, is missing. The *arg* network is on connector *arg*.

**Consequences**

The *arg* network will not operate. No communication on *arg* network is possible.

**Probable causes**

The subnet mask is missing.

**Recommended actions**

Add a subnet mask.

## 71531, Faulty destination address

**Description**

The given destination address *arg*, on *arg* network, is not allowed. Doesn't follow the IP name standard or it's on the same network as the scanner and the adapter.

**Consequences**

No destination is available.

**Probable causes**

1 The address given is not following IP address standard.
2 The address is equal to network address or gateway address.
3 The address is on the same network as network and gateway.
4 The address is equal to broadcast or network address.

**Recommended actions**

Provide a valid destination address.

## 71532, The gateway address is missing

**Description**

The destination address *arg* on *arg* is defined, but no gateway address is defined.

**Consequences**

The destination address will not be used since the gateway address is missing.

**Recommended actions**

Specify a gateway address to be used in conjunction with the destination address.
Or
Remove destination address definition.

## 71533, Invalid configuration size for EtherNet/IP adapter

**Description**

The adapter *arg* has an invalid configuration size. Maximum configuration size supported is *arg* bytes.

**Consequences**

No communication with the adapter is possible.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

**Recommended actions**
Correct the configuration size for the adapter in the I/O configuration.

### 71534, Invalid output size for EtherNet/IP adapter

**Description**
The adapter *arg* has an invalid output size. Maximum output size supported is *arg* bytes.

**Consequences**
No communication with the adapter is possible.

**Recommended actions**
Correct the output size for the adapter in the I/O configuration.

### 71535, Invalid input size for EtherNet/IP adapter

**Description**
The adapter *arg* has an invalid input size. Maximum input size supported is *arg* bytes.

**Consequences**
No communication with the adapter is possible.

**Recommended actions**
Correct the input size for the adapter in the I/O configuration.

### 71536, Device command syntax error

**Description**
Could not send device command to adapter *arg* because there is a syntax error in the command value string.
Device command name *arg*.
The syntax error: Can't decode *arg*.

**Consequences**
The device command was not sent.

**Recommended actions**
Correct the device command value string.

### 71537, Invalid configuration data for EtherNet/IP adapter

**Description**
The adapter *arg* has an invalid configuration data. Can't decode *arg* at position *arg* in the configuration data.

**Consequences**
No communication with the adapter is possible.

**Recommended actions**
Correct the configuration data for the adapter in the I/O configuration.

### 71538, The EtherNet/IP network address must exist on PC

**Description**
The given address *arg*, configured on the EtherNet/IP network, is not found on any network interface on PC.

**Consequences**
No communication on the EtherNet/IP network is possible.

**Probable causes**
The *arg* address is not configured on any PC network interface.

**Recommended actions**
Set the *arg* address on the network interface connected to the EtherNet/IP network on PC.

### 71539, Invalid Signal Safe Level

**Description**
The I/O configuration is invalid.
I/O signal *arg* has an invalid/unknown Signal Safe Level: *arg*.
This I/O signal has been rejected.

**Recommended actions**
Correct the Signal Safe Level for the I/O signal.

### 71541, Network auto configuration, scan, successful

**Description**
The network auto configuration, operation: scan, on network *arg* was successful.

**Recommended actions**
View the information in the Event log.

### 71542, Network auto configuration, scan, not successful

**Description**
The network auto configuration, operation: scan, on network *arg* was not successful.

**Recommended actions**
View the errors in the Event log.

### 71543, Network auto configuration, scan EDS file, successful but with warnings

**Description**
The network auto configuration, operation: scan EDS file(s), on network *arg* and file *arg* was successful but with warnings.

*Continues on next page*


© Copyright 2005-2020 ABB. All rights reserved.

**Consequences**

The Template Device *arg* might not be complete.

**Probable causes**

Internal info:

*arg*

*arg*

**Recommended actions**

Verify the Template Device *arg*. Invalid parameters has to be manually corrected.

## 71544, Network auto configuration, scan EDS file, not successful

**Description**

The network auto configuration, operation: scan EDS file(s), on network *arg* and file *arg* was not successful.

**Consequences**

No Template Device could be created from the file *arg*.

**Probable causes**

Internal info:

*arg*

*arg*

*arg*

**Recommended actions**

Create the device manually.

## 71545, Network auto configuration, device, successful

**Description**

The network auto configuration, operation: add I/O device(s), on network *arg* was successful.
View the information in the Event log.

**Recommended actions**

Restart the controller to activate the new I/O device(s).

## 71546, Network auto configuration, device, not successful

**Description**

The network auto configuration, operation: add I/O device(s), on network *arg* was not successful.

**Recommended actions**

View the errors in the Event log.

## 71547, Network auto configuration, device and signals, successful

**Description**

The network auto configuration, operation: add I/O device(s) and I/O signals, on network *arg* was successful.
View the information in the Event log.

**Recommended actions**

Restart the controller to activate the new I/O device(s) and I/O signals.

## 71548, Network auto configuration, device and signals, not successful

**Description**

The network auto configuration, operation: add I/O device(s) and I/O signals, on network *arg* was not successful.

**Recommended actions**

View the errors in the Event log.

## 71549, Overlapping I/O signals with different values on ActionAtSysRestart

**Description**

The I/O signal *arg* has overlapping bit(s) in the device map with the I/O signal *arg*.
The I/O signal *arg* is using Signal Safe Level *arg* and the I/O signal *arg* is using Signal Safe Level *arg*.
I/O signals with overlapping device mapping must have the same value on the Signal Safe Level parameter ActionAtSysRestart.

**Consequences**

The I/O signal *arg* has been rejected, and no functions depending on it will work.

**Recommended actions**

Correct the Signal Safe Level definitions for the overlapping I/O signals in the I/O configuration.

## 71550, Overlapping I/O signals with differing default values

**Description**

The I/O signal *arg* has overlapping bit(s) in the device map with the I/O signal *arg*. The I/O signal *arg* is using the default value *arg* and the I/O signal *arg* is using the default value *arg*.
I/O signals with overlapping device mapping must have default values with equal values on overlapping bit(s).

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

**Consequences**
This I/O signal *arg* has been rejected, and no functions depending on it will work.

**Recommended actions**
Correct the default values for the overlapping I/O signals in the I/O configuration.

## 71551, Network auto configuration not supported

**Description**
Network auto configuration is not supported on network *arg*.

## 71552, Max number of device trust levels exceeded

**Description**
The I/O configuration is invalid.
The maximum number, *arg*, of device trust levels in the I/O system has been exceeded.

**Recommended actions**
Modify the configuration of the I/O system (by reducing the number of device trust levels) so that the maximum limit is not exceeded.

## 71553, Max number of device transfer instances exceeded

**Description**
The I/O configuration is invalid.
The maximum number, *arg*, of device-transfer instances in the I/O system has been exceeded.

**Recommended actions**
Modify the configuration of the I/O system (by reducing the number of device-transfer instances or transfer information in I/O signals) so that the maximum limit is not exceeded.

## 71554, Max number of signal safe levels exceeded

**Description**
The I/O configuration is invalid.
The maximum number, *arg*, of signal safe levels in the I/O system has been exceeded.

**Recommended actions**
Modify the configuration of the I/O system (by reducing the number of signal safe levels) so that the maximum limit is not exceeded.

## 71555, Invalid configuration of TransferInputOffset and TransferOutputOffset

**Description**
The signal *arg* has both TransferInputOffset and TransferOutputOffset set.

**Consequences**
The configuration has been rejected.

**Recommended actions**
Remove either TransferInputOffset or TransferOutputOffset.

## 71556, Signal cannot be transferred

**Description**
The signal *arg* has the signal type *arg*.
Only signals with the signal type DI or GI can be transferred with TransferOutputOffset and only DO/GO can be transferred with TransferInputOffset.

**Consequences**
The configuration has been rejected.

**Recommended actions**
Change the signal type or transfer another signal.

## 71557, Signal transfer was defined but no internal device was found

**Description**
The signal *arg* is being transferred but no internal device was found.

**Recommended actions**
Make sure the device is defined/configured before restarting the controller.

## 71558, Transfer signals overlap

**Description**
The signal *arg* and the signal *arg* both have transfer signal defintions and overlap.

**Consequences**
The configuration has been rejected.

**Recommended actions**
Change the configuration so that the signals don't overlap.

## 71559, Transfer signal and crossconnection overlaps

**Description**
The signal *arg* and the crossconnection *arg* overlaps.

*Continues on next page*


© Copyright 2005-2020 ABB. All rights reserved.

**Consequences**
The configuration has been rejected.

**Recommended actions**
Make sure that no crossconnection and transfer signal overlap.

### 71560, Transfer signal and SYSOUT_SIG overlaps

**Description**
The transfer signal *arg* and the SYSOUT_SIG *arg* overlaps.

**Consequences**
The configuration has been rejected.

**Recommended actions**
Make sure that no SYSOUT_SIG and transfer signal overlap.

### 71561, Signal transfer has bitswapped devicemap

**Description**
The transfer signal *arg* has a bitswapped device map, which is not allowed.

**Consequences**
The configuration has been rejected.

**Recommended actions**
Correct the device map.

### 71562, Signal transfer has a split devicemap

**Description**
The transfer signal *arg* has a split device map, which is not allowed.

**Consequences**
The configuration has been rejected.

**Recommended actions**
Correct the device map.

### 71563, Signal on internal device with signal transfer definition

**Description**
The signal *arg* is on an internal device and cannot have a transfer definition on it.

**Consequences**
The configuration has been rejected.

**Recommended actions**
Correct the configuration.

### 71564, Signal on internal device with signal transfer definition

**Description**
The signal *arg* is being transferred to/from a network that is not PROFINET.

**Consequences**
The configuration has been rejected.

**Recommended actions**
Correct the configuration.

### 71565, Signal on internal device overlaps with transfer signal

**Description**
The signal *arg* and the signal *arg* on an internal device overlap.

**Consequences**
The configuration has been rejected.

**Recommended actions**
Correct the configuration.

### 71566, Signal has both transfer signal attributes

**Description**
The signal *arg* has both the TransferFromDevice and TransferToDevice attribute.

**Consequences**
The configuration has been rejected.

**Recommended actions**
Correct the configuration.

### 71567, Signal transfer without offset

**Description**
The signal *arg* is being transferred to/from a device but is missing the offset attribute.

**Consequences**
The configuration has been rejected.

**Recommended actions**
Correct the configuration.

### 71568, Signal transfer to/from undefined device

**Description**
The signal *arg* is being transferred to/from an undefined device *arg*.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

**Consequences**
The configuration has been rejected.

**Recommended actions**
Correct the configuration.

## 71569, Signal has offset but no transfer attribute

**Description**
The signal *arg* has a transfer offset set but no TransferFromDevice/TransferToDevice attribute.

**Consequences**
The configuration has been rejected.

**Recommended actions**
Correct the configuration.

## 71570, Signal has transfer defined with wrong offset

**Description**
The signal *arg* has a transfer defined but uses the wrong offset.

**Consequences**
The configuration has been rejected.

**Recommended actions**
Correct the configuration.

## 71571, Transfer signal I/O queue overload

**Description**
The I/O queue handling transfer signal changes has been overloaded.

**Consequences**
The system will go to status SYS STOP.

**Probable causes**
This is caused by too frequent signal changes or too large bursts of input bit changes, generated by inputs on I/O devices.

**Recommended actions**
1 Check the transfer definitions on I/O signals. Signal definitions are described in the manual for the system parameters.
2 Check the frequency of inputs from any external equipment connected to the system. Make sure it is not abnormal, and change if required.
3 If an extremely heavy I/O load is normal and required, investigate whether programming delays in the RAPID application may solve the problem.

## 71572, I/O device has entered error state

**Description**
System has indicated that the I/O device *arg* with address *arg* on the network *arg* is faulty.

**Consequences**
It is not possible to access the I/O device or I/O signals on it, since it is malfunctioning.

**Probable causes**
There are a number of potential causes for a device to start malfunctioning. Consult the corresponding application manual for possible causes.

**Recommended actions**
1 Consult the application manual for possible causes.
2 Check the hardware for potential errors.
3 Replace the device hardware, if applicable.

## 71573, PROFINET configuration mismatch

**Description**
The I/O device *arg* reported a different slot configuration then configured in the system. Module in slot *arg* is of wrong type.

**Consequences**
Some I/O signals might not be possible to use.

**Probable causes**
The module type used in slot *arg* may be of wrong type or of a different version compared to the actual hardware on the I/O device.

**Recommended actions**
1 Update the PROFINET configuration file to match the hardware.
2 Check the I/O device.

## 71574, PROFINET configuration mismatch

**Description**
The I/O device *arg* reported a different slot configuration then configured in the system. Module in slot *arg* is correct but one or several submodules indicate errors.

**Consequences**
Some I/O signals might not be possible to use.

**Probable causes**
One or several submodules in slot *arg* may be of wrong type or of a different version compared to the actual hardware on the I/O device.

*Continues on next page*


© Copyright 2005-2020 ABB. All rights reserved.

**Recommended actions**

1 Update the PROFINET configuration file to match the hardware.
2 Check the I/O device.

## 71575, PROFINET configuration mismatch

**Description**

The I/O device *arg* reported a different slot configuration then configured in the system. There is no module present in slot *arg* however one is configured in the configuration.

**Consequences**

Some I/O signals might not be possible to use.

**Probable causes**

The module in slot *arg* is missing on the I/O device.

**Recommended actions**

1 Update the PROFINET configuration file to match the hardware.
2 Check the I/O device.

## 71576, Submodule could not be taken over

**Description**

The submodule in subslot *arg* in slot *arg* on device *arg* could not be taken over.

**Consequences**

Some I/O signals might not be possible to use.

**Probable causes**

The submodule in subslot *arg* in slot *arg* on device *arg* cannot be accessed by the robot.

**Recommended actions**

1 Make sure that the device configuration does not conflict with an external controller configuration. E.g. This could be the case in a shared device setup.
2 Check if device supports this feature.

## 71577, Submodule has qualified information available

**Description**

The submodule in subslot *arg* in slot *arg* on device *arg* has qualified information available.

**Consequences**

Some I/O signals might not be possible to use.

**Probable causes**

The submodule in subslot *arg* in slot *arg* on device *arg* has generated qualified information.

**Recommended actions**

1 Check the device diagnostic data for additional diagnostic information.
2 Consult the device vendor for additional information.

## 71578, Submodule requires maintenance

**Description**

The submodule in subslot *arg* in slot *arg* on device *arg* has maintenance required information available.

**Consequences**

Some I/O signals might not be possible to use.

**Probable causes**

The submodule in subslot *arg* in slot *arg* on device *arg* requires maintenance.

**Recommended actions**

1 Check the device diagnostic data for additional diagnostic information.
2 Consult the device vendor for additional information.

## 71579, Submodule demands maintenance

**Description**

The submodule in subslot *arg* in slot *arg* on device *arg* has maintenance demanded information available.

**Consequences**

Some I/O signals might not be possible to use.

**Probable causes**

The submodule in subslot *arg* in slot *arg* on device *arg* demands maintenance.

**Recommended actions**

1 Check the device diagnostic data for additional diagnostic information.
2 Consult the device vendor for additional information.

## 71580, Submodule has diagnostic information available

**Description**

The submodule in subslot *arg* in slot *arg* on device *arg* has diagnostic information available.

**Consequences**

Some I/O signals might not be possible to use.

**Probable causes**

The submodule in subslot *arg* in slot *arg* on device *arg* has generated diagnostic data.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

**Recommended actions**

1 Check the device diagnostic data for additional diagnostic information.
2 Consult the device vendor for additional information.

## 71581, Submodule is blocked by device

**Description**

The submodule in subslot *arg* in slot *arg* on device *arg* has a pending AR.

**Consequences**

Some I/O signals might not be possible to use.

**Probable causes**

The submodule in subslot *arg* in slot *arg* on device *arg* is not accessible for controller.

**Recommended actions**

1 Power cycle the device to reestablish the connection.
2 Consult the device vendor for additional information.

## 71582, Access from Robot Controller to IO-Submodule is denied

**Description**

The submodule in subslot *arg* in slot *arg* on device *arg* is locked by another I/O controller.

**Consequences**

Some I/O signals might not be possible to use.

**Probable causes**

The submodule in subslot *arg* in slot *arg* on device *arg* cannot be accessed.

**Recommended actions**

1 Check if submodule is defined as a shared device within a project of another controller.
2 Check diagnostic information of the I/O device for additional details.

## 71583, Submodule is locked by another IO controller

**Description**

The submodule in subslot *arg* in slot *arg* on device *arg* is locked by another IO controller.

**Consequences**

Some I/O signals might not be possible to use.

**Probable causes**

The submodule in subslot *arg* in slot *arg* on device *arg* cannot be accessed.

**Recommended actions**

1 Check if submodule is defined as a shared device within a project of another controller.
2 Check diagnostic information of the I/O device for additional details.

## 71584, Submodule is locked by another IO supervisor

**Description**

The submodule in subslot *arg* in slot *arg* on device *arg* is locked by another I/O supervisor.

**Consequences**

Some I/O signals might not be possible to use.

**Probable causes**

The submodule in subslot *arg* in slot *arg* on device *arg* cannot be accessed.

**Recommended actions**

1 Verify that device is not defined within an I/O Project of another controller.
2 Check diagnostic information of the I/O device for additional details.

## 71585, Submodule is of wrong type

**Description**

The submodule in subslot *arg* in slot *arg* on device *arg* is of wrong type.

**Consequences**

Some I/O signals might not be possible to use.

**Probable causes**

The submodule in subslot *arg* in slot *arg* on device *arg* is of wrong type.

**Recommended actions**

1 Update the PROFINET configuration file to match the hardware.
2 Check the I/O device.

## 71586, Submodule is missing

**Description**

The submodule in subslot *arg* in slot *arg* on device *arg* is missing.

**Consequences**

Some I/O signals might not be possible to use.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

**Probable causes**

The submodule in subslot *arg* in slot *arg* on device *arg* is missing.

**Recommended actions**

1 Update the PROFINET configuration file to match the hardware.
2 Check the I/O device.

## 71587, Device command syntax error

**Description**

Could not send device command to I/O device *arg* because there is a syntax error in the command path string.
Device command name *arg*.
The syntax error: Unsupported segment.

**Consequences**

The device command was not sent.

**Recommended actions**

Correct the device command path string.

## 71588, Device command syntax error

**Description**

Could not send device command to I/O device *arg* because there is a syntax error in the command path string.
Device command name *arg*.
The syntax error: Duplicated segment.

**Consequences**

The device command was not sent.

**Recommended actions**

Correct the device command path string.

## 71589, Fiber optics error

**Description**

Slot *arg* on device *arg* is signaling problems with the fiber optics, power budget.

**Consequences**

The device may not work properly due to transmission problems.

**Recommended actions**

Maintenance is needed of the device and or the fiber optics. Check the fiber optic transmission chain. Replace the device and or the fiber optic cables if the error remains.

## 71590, Duplicate device name on network detected

**Description**

Device *arg* with serial number *arg* is involved in a name conflict on the network. The device name on network is *arg*.

**Consequences**

It will not be possible to use the device until the conflict is solved.

**Recommended actions**

Configure device with unique name on the network.

## 71591, Input signal update rate too high

**Description**

Device *arg* is producing input signal changes at too high rate.

**Consequences**

Possible loss of signal changes.

**Recommended actions**

Configure device to produce input changes at a lower rate by changing to a higher 'Input Request Packet Interval' value or change 'Connection Timeout Multiplier' to a higher value. If this is the internal device change the corresponding parameters at the Scanner.

## 71592, Transfer to/from an invalid internal slot.

**Description**

The signal *arg* has transfer to/from internal device *arg* that does not fulfill the requirements for the action.

**Consequences**

The configuration has been rejected.

**Probable causes**

Transfer to/from a safety slot, Transfer from a slot with input size 0 and Transfer to a slot with output size 0.

**Recommended actions**

Make sure that neither of the probable causes are true. When using RobotStudio, only internal devices that fulfill the requirements are shown.

## 71593, Firmware upgraded

**Description**

Device *arg* with serial number *arg* has been upgraded with new firmware.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

## 71594, Firmware upgrade failed

**Description**

Device *arg* with serial number *arg* has failed during upgrade or check of firmware versions.

**Consequences**

Old versions of firmware are still in use at the device.

**Probable causes**

Loss of power or connectivity.

**Recommended actions**

Try again.

## 71595, Firmware upgrade available

**Description**

Device *arg* with serial number *arg* has got a new firmware version available.

**Consequences**

Bugs are fixed or new functionality is added.

**Recommended actions**

Manually upgrade the device.

## 71596, No SFTP fingerprint configured

**Description**

Mounting device on remote host *arg* was done without checking fingerprint.
Protocol: *arg*.
Using the default fingerprint configuration, no secure verification of remote host has been done.
Fingerprint received: *arg*.

**Recommended actions**

Recommended action is to double-check that the controller is connected to the expected remote host and then update the fingerprint in configuration.

## 71597, Invalid SFTP fingerprint configured

**Description**

Security Alert!
Attempting to mount device on remote host *arg* failed. The fingerprint check failed.
Protocol: *arg*.
Configured fingerprint: *arg*.
Received fingerprint: *arg*.

**Consequences**

No mounting can be done until the fingerprint configured matches the one received.

**Probable causes**

1 The remote host that the controller is attempting to mount on may be pretending to be someone that it not.
2 The remote host may have changed public key.

**Recommended actions**

Double-check that the controller is attempting to mount on the expected remote host and then update the configuration.

## 71598, Could not mount device

**Description**

Mounting device on remote host *arg* failed.
Protocol: *arg*.

**Recommended actions**

Check the configuration.

## 71599, Mount permission denied

**Description**

Permission was denied to mount device on remote host *arg*.
Protocol: *arg*.

**Recommended actions**

Check the username and password.

## 71600, Authentication not supported by remote host

**Description**

User and password authentication is currently required when mounting a device on a remote host using SFTP. Remote host: *arg*.
Protocol: *arg*.

**Recommended actions**

Configure the server to support password identification or replace it with one that does.

## 71601, Unable to identify remote server

**Description**

SFTP fingerprint is configured to verify that the remote SFTP server is the expected one and to do so the server must support host key hash algorithm MD5 or SHA1. The used SFTP server at remote host *arg* does not support any of them.
Protocol: *arg*.

*Continues on next page*


© Copyright 2005-2020 ABB. All rights reserved.

**Recommended actions**

Remove the usage of fingerprint in the configuration or replace the SFTP server.

## 71602, NFS version not supported

**Description**

The NFS mounted disk *arg* in the controller supports the following NFS version/s:

Low version: *arg*

High version: *arg*.

The NFS server responds with the following message *arg*.

**Recommended actions**

## 71603, NFS could not connect to server

**Description**

The NFS mounted disk *arg* could not connect to NFS server.

The NFS server responds with the following message *arg*.

**Recommended actions**



© Copyright 2005-2020 ABB. All rights reserved.

## 4.9 9 xxxx

### 90200, Limit Switch opened by SC

**Description**

The limit switch on the robot has been opened by the Safety Controller (SC).

**Consequences**

The system goes to the Guard stop state.

**Probable causes**

The Safety Controller has opened the limit switch because of a safety violation.

**Recommended actions**

1 Check for reason found in other event messages.
2 Check the cable between the contactor board and the Safety Controller.
3 Do a Confirm Stop by pressing the Motors ON push button or by activating the appropriated system input.

### 90201, Limit Switch open

**Description**

The limit switch on the robot has opened.

**Consequences**

The system goes to the Motors OFF status.

**Probable causes**

The robot has been run outside the working range defined by the limit switches fitted to the robot.

**Recommended actions**

1 Press an eventual existing external "Override Limit" button and manually jog the robot back into the working area.
2 Resume operation.

### 90202, Emergency Stop open

**Description**

The emergency stop circuit has previously been broken, and while broken, an attempt was made to operate the robot.

**Consequences**

The system remains in the Emergency Stop status.

**Probable causes**

An attempt has been made to maneuver a control, e.g. the enabling device.

**Recommended actions**

1 To resume operation, first reset the emergency stop button triggering the stop.
2 Then switch the system back to state Motors ON by pressing the Motors ON button on the control module.

### 90203, Enabling Device open

**Description**

Only one of the two enabling device chains was opened.

**Consequences**

The system goes to status SYS HALT.

**Probable causes**

The FlexPendant enabling device may be faulty or incorrectly connected. The FlexPendant and its enabling device is described in the Trouble Shooting Manual, IRC5.

**Recommended actions**

1 Check the FlexPendant cable and its connection.
2 If required, replace the faulty FlexPendant or its cable.

### 90204, Operation Key imbalance

**Description**

The system has detected an imbalance in the two parallel MANUAL / AUTO operation key circuits.

**Probable causes**

The contact pair in any of the cables connected to the operation key circuit is not working correctly.

**Recommended actions**

1 Isolate the cable connection causing the conflict.
2 Connect the cable in a correct way.

### 90205, Auto Stop open

**Description**

The Automatic Mode Safeguarded Stop circuit has been broken.

**Consequences**

The system goes to the Auto Stop status.

**Probable causes**

One or more of the switch connected in series with the Automatic Mode Safeguarded Stop circuit have been opened, which may be causes by a large number of faults. This is only possible while in the Auto operational mode. The Automatic Mode Safeguarded Stop circuit is described in the Trouble Shooting Manual.

**Recommended actions**

1 Locate the switch, reset it and restart the controller.

*Continues on next page*


© Copyright 2005-2020 ABB. All rights reserved.

2 Check cables and connections.

## 90206, General Stop open

**Description**

The General Mode Safeguarded Stop circuit has been broken.

**Consequences**

The system goes to the General Stop status.

**Probable causes**

One or more of the switch connected in series with the General Mode Safeguarded Stop circuit have been opened, which may be causes by a large number of faults. This is possible in any operational mode. The General Mode Safeguarded Stop circuit is described in the Trouble Shooting Manual.

**Recommended actions**

1 Locate the switch, reset it and restart the controller.
2 Check cables and connections.

## 90208, Chain switches open

**Description**

A safety chain, other than Auto Stop and General Stop, has been broken.

**Consequences**

The system goes to the Guard Stop status.

**Probable causes**

One or more of the switch connected in series with the run chain top circuit have been opened, which may be causes by a large number of faults. The run chain top is described in the Trouble Shooting Manual and Circuit Diagram.

**Recommended actions**

1 Check other error messages for primary fault reason.
2 Locate the switch, reset it and restart the controller.
3 Check cables and connections.

## 90209, External Contactor open

**Description**

An external contactor has been opened.

**Consequences**

The system goes from the Motors OFF status to SYS HALT when attempting to start.

**Probable causes**

The run chain of external equipment has been broken, which may be caused by the external contactor auxiliary contacts or, if used, any PLC, controlling it. The external contactor supplies power to a piece of external equipment, equivalently to how the RUN contactor supplies a robot. This fault may occur when attempting to go to the Motors ON mode only. The run chain is described in the Trouble Shooting Manual and Circuit Diagram.

**Recommended actions**

1 Locate the switch, reset it and restart the controller.
2 Check cables and connections.
3 Check the external contactor auxiliary contacts.
4 If used, check any PLC equipment controlling the external contactor.

## 90211, Two channel fault, Enable Chain

**Description**

A switch in only one of the two enable chains was briefly affected, opening the chain and then reclosing it, without the other chain being affected.

**Consequences**

The system goes to status SYS HALT.

**Probable causes**

There may be a loose signal connection on either the axis computer or the safety system. It could also be that a switch was not open long enough so that the entire run chain had time to open. The enable chain is described in the Trouble Shooting Manual and Circuit Diagram.

**Recommended actions**

1 Check cables and connections.
2 Make sure all signal connectors on the axis computer board and the safety system are securely connected.
3 Make sure that switches connected to the run chain open long enough to let the entire run chain open.
4 If there is no loose connection, replace the faulty board.

## 90212, Two channel fault, Run Chain

**Description**

Only one of the two run chains was closed.

**Consequences**

The system goes to status SYS HALT.

**Probable causes**

Any of the switches connected to the run chain may be faulty or not correctly connected, causing only one channel to close. It could also be that a switch was not open long enough so that the entire run chain had time to open. The run chain is described in the Trouble Shooting Manual, IRC5.

**Recommended actions**

1 Check cables and connections.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

2 Make sure that switches connected to the run chain open long enough to let the entire run chain open.
3 Check other event messages occurring at the same time to determine which switch caused the fault.
4 Make sure all switches are working correctly.
5 To assist in returning the chains to a defined status, first pressing, then resetting the Emergency Stop.
6 If there is no loose connection, replace the faulty switch.

## 90213, Two channel fault

**Description**

A brief status change in any of the run or enable chains has been detected.

**Consequences**

The system goes to status SYS HALT.

**Probable causes**

This may be caused by a number of faults. It could also be that a switch was not open long enough so that the entire run chain had time to open. The enable and run chains are described in the Trouble Shooting Manual, IRC5.

**Recommended actions**

1 Check cables and connections.
2 Make sure that switches connected to the run chain open long enough to let the entire run chain open.
3 Check other event messages occurring at the same time to determine the cause of the fault.
4 To assist in returning the chains to a defined status, first pressing, then resetting the Emergency Stop may work.

## 90214, Limit Switch open, DRV1

**Description**

The limit switch on the robot has opened.

**Consequences**

The system goes to the Motors OFF status.

**Probable causes**

The robot has been run outside the working range defined by the limit switches fitted to the robot.

**Recommended actions**

1 Press an eventual existing external "Override Limit" button and manually jog the robot back into the working area.
2 Resume operation.

## 90215, Superior Stop open

**Description**

The Superior Mode Safeguarded Stop circuit has been opened.

**Consequences**

The system goes to the Superior Stop status.

**Probable causes**

One or more of the switch connected in series with the Superior Mode Safeguarded Stop circuit have been opened, which may be causes by a large number of faults. This is possible in any operational mode. The Superior Mode Safeguarded Stop circuit is described in the Trouble Shooting Manual.

**Recommended actions**

1 Locate the switch, reset it and restart the controller.

## 90216, Enabling device active in Auto mode

**Description**

The system has detected that the enabling device has been pressed for more than 3 seconds in Automatic operating mode.

**Consequences**

The system goes to status Guard Stop.

**Recommended actions**

1 Release the enabling device.
2 Switch to Manual mode.

## 90217, Limit Switch open, DRV2

**Description**

The limit switch on the robot has opened.

**Consequences**

The system goes to the Motors OFF status.

**Probable causes**

The robot has been run outside the working range defined by the limit switches fitted to the robot.

**Recommended actions**

1 Press an eventual existing external "Override Limit" button and manually jog the robot back into the working area.
2 Resume operation.

## 90218, Limit Switch open, DRV3

**Description**

The limit switch on the robot has opened.

**Consequences**

The system goes to the Motors OFF status.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

**Probable causes**

The robot has been run outside the working range defined by the limit switches fitted to the robot.

**Recommended actions**

1 Press an eventual existing external "Override Limit" button and manually jog the robot back into the working area.
2 Resume operation.

## 90219, Limit Switch open, DRV4

**Description**

The limit switch on the robot has opened.

**Consequences**

The system goes to the Motors OFF status.

**Probable causes**

The robot has been run outside the working range defined by the limit switches fitted to the robot.

**Recommended actions**

1 Press an eventual existing external "Override Limit" button and manually jog the robot back into the working area.
2 Resume operation.

## 90220, Superior stop conflict

**Description**

Only one of the two Superior Mode Safeguarded Stop chains was opened.

**Consequences**

The system goes to status SYS HALT.

**Probable causes**

Any of the switches connected to the Superior Stop chain may be faulty or not correctly connected, causing only one channel to close. The Superior Stop chain is described in the Trouble Shooting Manual, IRC5.

**Recommended actions**

1 Check cables and connections.
2 Check other event messages occurring at the same time to determine which switch caused the fault.
3 Make sure all switches are working correctly.
4 If there is no loose connection, replace the faulty switch.

## 90221, Run chain conflict

**Description**

Status conflict for run chain.

**Recommended actions**

Please check the run chain cables.

## 90222, Limit switch conflict

**Description**

Only one of the two limit switch chains was opened.

**Consequences**

The system goes to status SYS HALT.

**Probable causes**

Any of the switches connected to the limit switch chain may be faulty or not correctly connected, causing only one channel to close. The limit switch chain is described in the Trouble Shooting Manual, IRC5.

**Recommended actions**

1 Check cables and connections.
2 Check other event messages occurring at the same time to determine which switch caused the fault.
3 Make sure all switches are working correctly.
4 If there is no loose connection, replace the faulty switch.

## 90223, Emergency Stop conflict

**Description**

Only one of the two Emergency Stop chains was opened.

**Consequences**

The system goes to status SYS HALT.

**Probable causes**

Any of the switches connected to the Emergency Stop chain may be faulty or not correctly connected, causing only one channel to close. The Emergency Stop chain is described in the Trouble Shooting Manual, IRC5.

**Recommended actions**

1 Check cables and connections.
2 Check other event messages occurring at the same time to determine which switch caused the fault.
3 Make sure all switches are working correctly.
4 If there is no loose connection, replace the faulty switch.

## 90224, Enabling Device conflict

**Description**

Only one of the two enabling device chains was opened.

**Consequences**

The system goes to status SYS HALT.

**Probable causes**

The FlexPendant enabling device may be faulty or incorrectly connected. The FlexPendant and its enabling device is described in the Trouble Shooting Manual, IRC5.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

**Recommended actions**

1 Check the FlexPendant cable and its connection.
2 If required, replace the faulty FlexPendant or its cable.

## 90225, Auto Stop conflict

**Description**

Only one of the two Automatic Mode Safeguarded Stop chains was opened.

**Consequences**

The system goes to status SYS HALT.

**Probable causes**

Any of the switches connected to the Auto Stop chain may be faulty or not correctly connected, causing only one channel to close. The Auto Stop chain is described in the Trouble Shooting Manual, IRC5.

**Recommended actions**

1 Check cables and connections.
2 Check other event messages occurring at the same time to determine which switch caused the fault.
3 Make sure all switches are working correctly.
4 If there is no loose connection, replace the faulty switch.

## 90226, General Stop conflict

**Description**

Only one of the two General Mode Safeguarded Stop chains was opened.

**Consequences**

The system goes to status SYS HALT.

**Probable causes**

Any of the switches connected to the General Stop chain may be faulty or not correctly connected, causing only one channel to close. The General Stop chain is described in the Trouble Shooting Manual, IRC5.

**Recommended actions**

1 Check cables and connections.
2 Check other event messages occurring at the same time to determine which switch caused the fault.
3 Make sure all switches are working correctly.
4 If there is no loose connection, replace the faulty switch.

## 90227, Motor Contactor conflict, DRV1

**Description**

Only one of the two motor contactors for drive system 1 has acknowledged the activation order.

**Consequences**

The system goes to status SYS HALT.

**Probable causes**

A failure of the motor contactor auxiliary contacts or the supply to these.

**Recommended actions**

1 Check cables and connections.
2 Check the function of the auxiliary contacts.

## 90231, Delayed Emergency Stop due to circuit imbalance

**Description**

The system has detected an imbalance in the two parallel Emergency Stop circuits.

**Consequences**

The system goes to status Emergency Stop after approximately 1 sec.

**Probable causes**

The contact pair in any of the Emergency Stop buttons is not working correctly.

**Recommended actions**

1 Isolate the Emergency Stop button causing the conflict.
2 Check the contact pair.
3 Make sure all connections are tight.
4 Replace the button if required.

## 90232, Delayed Auto Stop due to circuit imbalance

**Description**

The system has detected an imbalance in the two parallel Auto Stop circuits.

**Consequences**

The system goes to status Guard Stop after approximately 1 sec.

**Probable causes**

The contact pair in any of the safety devices connected to the Auto Stop circuit is not working correctly.

**Recommended actions**

1 Isolate the safety device causing the conflict.
2 Make sure the device used is a two-channel device.
3 Check the contact pair.
4 Make sure all connections are tight.
5 Replace the device if required.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

## 90233, Delayed General Stop due to circuit imbalance

**Description**

The system has detected an imbalance in the two parallel General Stop circuits.

**Consequences**

The system goes to status Guard Stop after approximately 1 sec.

**Probable causes**

The contact pair in any of the safety devices connected to the General Stop circuit is not working correctly.

**Recommended actions**

1 Isolate the safety device causing the conflict.
2 Make sure the device used is a two-channel device.
3 Check the contact pair.
4 Make sure all connections are tight.
5 Replace the device if required.

## 90234, Immediate Emergency Stop

**Description**

The Emergency Stop circuits have been broken.

**Consequences**

The system goes directly to status Emergency Stop.

**Probable causes**

One or more of the red emergency stop buttons have been activated.

**Recommended actions**

1 Isolate the Emergency Stop button that was opened.
2 Reset the button.

## 90235, Immediate Auto Stop

**Description**

The Auto Stop circuits have been broken.

**Consequences**

The system goes directly to status Guard Stop.

**Probable causes**

One or more of the safety device switches in the Auto Stop circuit have been opened.

**Recommended actions**

1 Isolate the safety device that was opened.
2 Reset the device switch.

## 90236, Immediate General Stop

**Description**

The General Stop circuits have been broken.

**Consequences**

The system goes directly to status Guard Stop.

**Probable causes**

One or more of the safety device switches in the General Stop circuit have been opened.

**Recommended actions**

1 Isolate the safety device that was opened.
2 Reset the device switch.

## 90237, Immediate Superior Stop

**Description**

The Superior Stop circuits have been broken.

**Consequences**

The system goes directly to status Guard Stop.

**Probable causes**

One or more of the safety device switches in the Superior Stop circuit have been opened.

**Recommended actions**

1 Isolate the safety device that was opened.
2 Reset the device switch.

## 90238, Delayed Superior Stop due to circuit imbalance

**Description**

The system has detected an imbalance in the two parallel Superior Stop circuits.

**Consequences**

The system goes to status Guard Stop after approximately 1 sec.

**Probable causes**

The contact pair in any of the safety devices connected to the Superior Stop circuit is not working correctly.

**Recommended actions**

1 Isolate the safety device causing the conflict.
2 Make sure the device used is a two-channel device.
3 Check the contact pair.
4 Make sure all connections are tight.
5 Replace the device if required.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

## 90240, Conflict between ENABLE signals

**Description**

A switch in only one of the two enable chains was affected, without the other chain being affected.

**Consequences**

The system goes to status SYS HALT.

**Probable causes**

There may be a loose signal connection on the safety system. The enable chain is described in the Trouble Shooting Manual and Circuit Diagram.

**Recommended actions**

1 Check cables and connections.
2 Make sure all signal connectors on the safety system are securely connected.
3 If there is no loose connection, replace the faulty board.

## 90241, Operating mode conflict

**Description**

There is a conflict between the operating mode selected on the operating mode selector on the controller cabinet front and the actual operating mode as detected by the axis computer.

**Consequences**

The system goes to status SYS HALT.

**Probable causes**

There may be a hardware fault in the operating mode selector or its cabling to the safety system.

**Recommended actions**

Check the operating mode selector and its cabling to the safety system.

## 90245, Run Control status conflict, DRV2

**Description**

Status conflict between run control and motor contactors for drive system 2.

**Consequences**

The system goes to status SYS HALT.

**Probable causes**

A failure of the motor contactors or the supply to these.

**Recommended actions**

1 Check cables and connections.
2 Restart the controller.

## 90246, Run Control status conflict, DRV3

**Description**

Status conflict between run control and motor contactors for drive system 3.

**Consequences**

The system goes to status SYS HALT.

**Probable causes**

A failure of the motor contactors or the supply to these.

**Recommended actions**

1 Check cables and connections.
2 Restart the controller.

## 90247, Run Control status conflict, DRV4

**Description**

Status conflict between run control and motor contactors for drive system 4.

**Consequences**

The system goes to status SYS HALT.

**Probable causes**

A failure of the motor contactors or the supply to these.

**Recommended actions**

1 Check cables and connections.
2 Restart the controller.

## 90248, Motor Contactor conflict, DRV2

**Description**

Only one of the two motor contactors for drive system 2 has acknowledged the activation order.

**Consequences**

The system goes to status SYS HALT.

**Probable causes**

A failure of the motor contactor auxiliary contacts or the supply to these.

**Recommended actions**

1 Check cables and connections.
2 Check the function of the auxiliary contacts.

## 90249, Motor Contactor conflict, DRV3

**Description**

Only one of the two motor contactors for drive system 3 has acknowledged the activation order.

**Consequences**

The system goes to status SYS HALT.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

**Probable causes**

A failure of the motor contactor auxiliary contacts or the supply to these.

**Recommended actions**

1 Check cables and connections.
2 Check the function of the auxiliary contacts.

## 90250, Motor Contactor conflict, DRV4

**Description**

Only one of the two motor contactors for drive system 4 has acknowledged the activation order.

**Consequences**

The system goes to status SYS HALT.

**Probable causes**

A failure of the motor contactor auxiliary contacts or the supply to these.

**Recommended actions**

1 Check cables and connections.
2 Check the function of the auxiliary contacts.

## 90252, Motor temperature high, DRV1

**Description**

Over temperature in manipulator motor. Make sure to let the motor cool down before ordering Motors On again.

**Recommended actions**

1 Wait until the overheated motor has cooled down before ordering Motors On again.
2 If optional air filter is used, check if it is clogged and has to be exchanged.

## 90253, External device temperature high, DRV1

**Description**

Over temperature in external device. Make sure to let the external device cool down before ordering Motors On again.

**Recommended actions**

Wait until the overheated motor has cooled down before ordering Motors On again.

## 90254, Motor temperature high, DRV2

**Description**

Over temperature in manipulator motor. Make sure to let the motor cool down before ordering Motors On again.

**Recommended actions**

1 Wait until the overheated motor has cooled down before ordering Motors On again.
2 If optional air filter is used, check if it is clogged and has to be exchanged.

## 90255, External device temperature high, DRV2

**Description**

Over temperature in external device. Make sure to let the external device cool down before ordering Motors On again.

**Recommended actions**

Wait until the overheated motor has cooled down before ordering Motors On again.

## 90256, Motor temperature high, DRV3

**Description**

Over temperature in manipulator motor. Make sure to let the motor cool down before ordering Motors On again.

**Recommended actions**

1 Wait until the overheated motor has cooled down before ordering Motors On again.
2 If optional air filter is used, check if it is clogged and has to be exchanged.

## 90257, External device temperature high, DRV3

**Description**

Over temperature in external device. Make sure to let the external device cool down before ordering Motors On again.

**Recommended actions**

Wait until the overheated motor has cooled down before ordering Motors On again.

## 90258, Motor temperature high, DRV4

**Description**

Over temperature in manipulator motor. Make sure to let the motor cool down before ordering Motors On again.

**Recommended actions**

1 Wait until the overheated motor has cooled down before ordering Motors On again.
2 If optional air filter is used, check if it is clogged and has to be exchanged.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 90259, External device temperature high, DRV4

**Description**

Over temperature in external device. Make sure to let the external device cool down before ordering Motors On again.

**Recommended actions**

Wait until the overheated motor has cooled down before ordering Motors On again.

### 90260, Run Control status conflict, DRV1

**Description**

Status conflict between run control and motor contactors for drive system 1.

**Consequences**

The system goes to status SYS HALT.

**Probable causes**

A failure of the motor contactors or the supply to these.

**Recommended actions**

1 Check cables and connections.
2 Restart the controller.

### 90262, SC *arg* Not found

**Description**

The system has an option for *arg* Safety Controller (SC) on drive module *arg*, but no Safety Controller was found.

**Recommended actions**

- Check Safety Controller cabling.
- Check Safety Controller health.

Restart the robot controller, after performing recommended actions.

### 90263, SC *arg* Communication Failure

**Description**

Communication error with Safety Controller (SC) *arg*.

**Recommended actions**

- Check Safety Controller cabling.
- Check Safety Controller health.

Restart the robot controller, after performing recommended actions.

### 90264, SC *arg* Option Not Present

**Description**

Found *arg* Safety Controller (SC) on drive module *arg*.This system does not have the option for a Safety Controller on that drive module.

**Recommended actions**

- Check drive module software options.
- Install a system with Safety Controller option.

### 90265, SC Soft Stop Error

**Description**

Safety Controller (SC) Soft Stop has not opened the motor contactors within the calculated time.

**Recommended actions**

Check Lim-switch connection if SafeMove is present.

### 90266, SC *arg* PIN Code Request

**Description**

Safety Controller (SC) *arg* has a new safety configuration and needs a new PIN code to be activated.

**Recommended actions**

1 Log in as a user with Safety Configuration grants.
2 Enter new PIN-Code for the Safety Controller in the Control Panel.
3 If input of PIN-code does not help, upload calibration offset from the manipulator and download it to the safety controller. Repeat step 2.

### 90267, SC *arg* Initialization Failed

**Description**

Safety Controller (SC) *arg* failed to initialize properly, or failed to respond during start up.

**Recommended actions**

1 Check previous error logs for possible causes.
2 Restart the robot controller.

### 90268, SC *arg* Wrong Type

**Description**

Found *arg* Safety Controller (SC) on drive module *arg*, expected *arg*.

**Recommended actions**

- Check drive module software options.
- Install a system with correct Safety Controller option.
- Install a Safety Controller of the correct type.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

## 90269, SC *arg* Motor Calibration Data Error

**Description**

No calibration data has been downloaded to Safety Controller (SC) on drive module *arg*, or erroneous data.

**Recommended actions**

Download motor calibration data to Safety Controller (SC).

## 90270, System failure during startup

**Description**

The safety system orchestrator cannot start up properly because of a system failure.

**Consequences**

The system goes to system failure state.

**Probable causes**

A critical failure in hardware, software or configuration.

**Recommended actions**

1 Check other event log messages for more information.
2 Do a 'Reset system' of the robot controller.

## 90303, Acknowledge timeout

**Description**

The acknowledge signal, coming from a PLC, was not activated within the expected time during a remote change of operating mode to Automatic- or Manual full speed mode.

**Consequences**

Operating mode cannot be changed to Automatic- or Manual full speed mode. Manual operating mode remains.

**Probable causes**

1 Cable connection fault.
2 Acknowledge signal was not activated by the PLC.
3 Incorrect I/O configuration.

**Recommended actions**

1 Make sure that the acknowledge signal becomes activated when expected.
2 Check I/O configuration.

## 90304, Change of Operating Mode is not allowed

**Description**

Remote change of operating mode from a PLC is not allowed.

**Consequences**

Operating mode cannot be changed from the PLC.

**Probable causes**

1 Remote control activation signal not activated.
2 Incorrect I/O configuration.
3 Operating mode is locked by the user.

**Recommended actions**

1 Make sure that the remote control activation signal is activated.
2 Check I/O configuration.
3 Make sure that the operating mode is unlocked.

## 90305, Missing option for Remote Operating Mode

**Description**

The option that is required for remote change of operating mode from a PLC is not selected.

**Consequences**

Operating mode cannot be changed from the PLC.

**Probable causes**

Option "Auto acknowledge input" is not selected.

**Recommended actions**

1 Update Robot system with the "Auto acknowledge input" option selected.
2 Restart the robot controller.

## 90306, Not possible to activate I/O signals in Safety system

**Description**

It was not possible to activate I/O signals in the safety system during startup.

**Consequences**

The safety system cannot use I/O signals to detect state changes and critical states. This will end up in a system failure condition.

**Probable causes**

Drive system option is not present.

**Recommended actions**

1 Check if there is a drive system option present.
2 Create a new system including the correct drive system option and do a restart.

## 90307, Motor cooling fan malfunction, axis 1

**Description**

The axis 1 motor cooling fan on the robot connected to drive module *arg* does not work correctly.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

**Consequences**
The full meaning of this status is described in the Trouble Shooting Manual, IRC5.

**Probable causes**
- The fan power cabling may be damaged or not connected correctly to motor or contactor unit.
- The fan or the drive module power supply may be faulty.

**Recommended actions**
1 Make sure the fan cable is correctly connected.
2 Make sure the fan is free to rotate and that the air flow is not obstructed.
3 Make sure the drive module power supply output and input voltages are within specified limits as detailed in the Trouble shooting manual. Replace any faulty unit.

## 90308, Motor cooling fan malfunction, axis 2

**Description**
The axis 2 motor cooling fan on the robot connected to drive module *arg* does not work correctly.

**Consequences**
The full meaning of this status is described in the Trouble Shooting Manual, IRC5.

**Probable causes**
- The fan power cabling may be damaged or not connected correctly to motor or contactor unit.
- The fan or the drive module power supply may be faulty.

**Recommended actions**
1 Make sure the fan cable is correctly connected.
2 Make sure the fan is free to rotate and that the air flow is not obstructed.
3 Make sure the drive module power supply output and input voltages are within specified limits as detailed in the Trouble shooting manual. Replace any faulty unit.

## 90309, Motor cooling fan malfunction, axis 3

**Description**
The axis 3 motor cooling fan on the robot connected to drive module *arg* does not work correctly.

**Consequences**
The full meaning of this status is described in the Trouble Shooting Manual, IRC5.

**Probable causes**
- The fan power cabling may be damaged or not connected correctly to motor or contactor unit.
- The fan or the drive module power supply may be faulty.

**Recommended actions**
1 Make sure the fan cable is correctly connected.
2 Make sure the fan is free to rotate and that the air flow is not obstructed.
3 Make sure the drive module power supply output and input voltages are within specified limits as detailed in the Trouble shooting manual. Replace any faulty unit.

## 90310, SC *arg* Communication Failed

**Description**
An error occurred while trying to communicate with Safety Controller (SC) *arg*.

**Recommended actions**
- Check Safety Controller cabling.
- Check Safety Controller health.

Restart the robot controller, after performing recommended actions.

## 90311, Enable 1 open

**Description**
The Enable 1 circuit monitoring the safety system has been opened.

**Consequences**
The system goes to status SYS HALT.

**Probable causes**
There may be an internal fault in the safety system or the internal supervision has detected a fault.

**Recommended actions**
1 Check all connections to the safety system.
2 If faulty, replace the faulty board.

## 90312, Enable 2 open

**Description**
The Enable 2 circuit monitoring the axis computer has been opened.

**Consequences**
The system goes to status SYS HALT.

**Probable causes**
There may be a connection problem between main computer and axis computer.

**Recommended actions**
1 Check all connections to the axis computer.
2 Check cables connected to the safety system.

*Continues on next page*


© Copyright 2005-2020 ABB. All rights reserved.

## 90313, Enable 1 supervision fault

**Description**

The Enable 1 circuit has been broken. This circuit monitors the function of the safety system and the main computer.

**Consequences**

The system goes to status SYS HALT.

**Probable causes**

A fault, probably a software fault, has been detected by any of the units supervised by the Enable 1 circuit.

**Recommended actions**

1 Attempt restarting by pressing the Motors ON button. If restarting is IMPOSSIBLE it indicates a possible hardware fault. If restarting is POSSIBLE, it indicates a software fault. In such case, contact your local ABB representative.
2 Determine which unit is faulty by checking its indication LEDs. The LEDs are described in the Trouble Shooting Manual. Replace the faulty unit.

## 90314, Enable2 supervision fault

**Description**

The Enable 2 circuit to drive module 1 has been broken. This circuit monitors e.g. the function of the safety system and the axis computer.

**Consequences**

The system goes to status SYS HALT.

**Probable causes**

A fault, probably a software fault, has been detected by any of the units supervised by the Enable 2 circuit.

**Recommended actions**

1 Attempt restarting by pressing the Motors ON button. If restarting is IMPOSSIBLE it indicates a hardware fault in safety system, axis computer. If restarting is POSSIBLE, it indicates a software fault. In such case, contact your local ABB representative.
2 Determine which unit is faulty by checking its indication LEDs. The LEDs are described in the Trouble Shooting Manual. Replace the faulty unit.

## 90315, Enable2 Supervision fault

**Description**

The Enable 2 circuit to drive module 2 has been broken. This circuit monitors e.g. the function of the safety system and the axis computer.

**Consequences**

The system goes to status SYS HALT.

**Probable causes**

A fault, probably a software fault, has been detected by any of the units supervised by the Enable 2 circuit.

**Recommended actions**

1 Attempt restarting by pressing the Motors ON button. If restarting is IMPOSSIBLE it indicates a hardware fault in safety board, axis computer. If restarting is POSSIBLE, it indicates a software fault. In such case, contact your local ABB representative.
2 Determine which unit is faulty by checking its indication LEDs. The LEDs are described in the Trouble Shooting Manual. Replace the faulty unit.

## 90316, Enable2 Supervision fault

**Description**

The Enable 2 circuit to drive module 3 has been broken. This circuit monitors e.g. the function of the safety system and the axis computer.

**Consequences**

The system goes to status SYS HALT.

**Probable causes**

A fault, probably a software fault, has been detected by any of the units supervised by the Enable 2 circuit.

**Recommended actions**

1 Attempt restarting by pressing the Motors ON button. If restarting is IMPOSSIBLE it indicates a hardware fault in safety system, axis computer. If restarting is POSSIBLE, it indicates a software fault. In such case, contact your local ABB representative.
2 Determine which unit is faulty by checking its indication LEDs. The LEDs are described in the Trouble Shooting Manual. Replace the faulty unit.

## 90317, Enable2 Supervision fault

**Description**

The Enable 2 circuit to drive module 4 has been broken. This circuit monitors e.g. the function of the safety system and the axis computer.

**Consequences**

The system goes to status SYS HALT.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

**Probable causes**

A fault, probably a software fault, has been detected by any of the units supervised by the Enable 2 circuit.

**Recommended actions**

1 Attempt restarting by pressing the Motors ON button. If restarting is IMPOSSIBLE it indicates a hardware fault in safety system, axis computer. If restarting is POSSIBLE, it indicates a software fault. In such case, contact your local ABB representative.
2 Determine which unit is faulty by checking its indication LEDs. The LEDs are described in the Trouble Shooting Manual. Replace the faulty unit.

## 90326, Missing required UAS grant

**Description**

The user *arg* does not have the required UAS grant (*arg*) for the requested operation.

**Consequences**

The operation is not performed.

**Recommended actions**

Log in as another user that has the required grant, or add the grant to the existing user.

## 90327, Operation only allowed in Manual mode

**Description**

The requested safety-related operation requires that the controller is in Manual mode.

**Consequences**

The operation is not performed.

**Recommended actions**

Change the controller to Manual mode.

## 90328, Operation only allowed in Motors OFF

**Description**

The requested safety-related operation requires that the controller is in Motors OFF.

**Consequences**

The operation is not performed.

**Recommended actions**

Change the controller state to Motors OFF.

## 90329, Safety configuration is Locked

**Description**

The requested safety-related operation could not be performed because the safety configuration is Locked.

**Consequences**

The operation is not performed.

**Recommended actions**

Unlock the current configuration (requires UAS grant LOCK_SAFETY_CONFIG).

## 90330, Safety Mode not allowed

**Description**

The requested Safety mode is not allowed in the current controller state.
It is not allowed to change Safety mode when in Automatic mode.
It is not allowed to set Safety mode to Service Mode when in Automatic or ManualFullSpeed modes.

**Consequences**

The operation is not performed.

**Recommended actions**

Change the controller state to one of the allowed modes first.

## 90450, SC *arg* CBC Speed exceeded

**Description**

Cyclic Brake Check (CBC) speed limit is exceeded in Safety Controller (SC) on mechanical unit *arg*. Either CBC test interval has expired or a previous brake check failed.

**Recommended actions**

Decrease speed and execute Brake check.

## 90451, SC *arg* Not synchronized

**Description**

Safety Controller (SC) *arg* is not synchronized with supervised mechanical units.

**Recommended actions**

Move all mechanical units supervised by Safety Controller *arg* to the synchronization positions defined in the safety configuration.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

## 90452, SC *arg* Synchronized

**Description**

Safety Controller (SC) *arg* is now synchronized to supervised mechanical units. Safety supervision can be used.

## 90453, SC *arg*: Wrong Sync. Position

**Description**

The positions of the supervised mechanical units do not match the synchronization positions defined in the safety configuration for Safety Controller (SC) *arg* on axis *arg*.

**Recommended actions**

- Check that all supervised mechanical units are positioned at the configured synchronization position.
- Check that the synchronization switch is working properly.
- Check that motor calibration and revolution counters are updated and correct.
- Check that the synchronization position in the safety configuration is correct.
- Check for configuration error.
- Download motor calibration values.
- Check if axis 4 or 6 is configured as independent, if YES, check that the EPS configuration is configured likewise.

## 90454, SC *arg* Servo-Lag Limit exceeded

**Description**

Safety Controller (SC) *arg* detected a too big difference between the ordered and actual position, for mechanical unit *arg* on axis *arg*.

**Recommended actions**

- Check for collision.
- If using external axis, check Servo Lag settings in the safety configuration.
- If using Soft Servo, Check that the Operational Safety Range (OSR) Tolerance in the safety configuration is not set too low.
- Verify that revolution counters are updated.
- Check for communication problems to the main computer, axis computer or the serial measurement board.
- Check if tool weight is correctly defined.

## 90455, SC *arg* Incorrect Position Value

**Description**

Incorrect position value from serial measurement board detected by Safety Controller (SC) *arg* on mechanical unit *arg*.

**Recommended actions**

- Check resolver and resolver connections.
- Replace serial measurement board.
- Replace resolver.

## 90456, SC *arg* Reference Data Timeout

**Description**

The robot controller has stopped sending reference data to Safety Controller (SC) *arg*.

**Recommended actions**

1 Check previous error logs for possible causes.
2 Restart the robot controller.

## 90457, SC *arg* Changed safety configuration

**Description**

The safety configuration for Safety Controller (SC) *arg* has changed contents or doesn't fit with the used hardware.

**Probable causes**

- New safety configuration has been downloaded, the normal case.
- The configuration doesn't fit with the used hardware. Typically when the event message with request for new pin code is repeated.
- Corrupt safety configuration. Typically when the event message with request for new pin code is repeated.

**Recommended actions**

1 Check for new event messages that indicates if a new safety configuration has been downloaded.
2 If no new safety configuration has been downloaded and this event message comes after a restart, download a new safety configuration to the Safety Controller.
3 Create and download a new safety configuration if this event message comes after every restart and there is a request for new pin code again.

## 90458, SC *arg* Internal Failure

**Description**

Internal Failure in Safety Controller (SC) *arg*.

**Recommended actions**

- Check Safety Controller cabling.
- Check Safety Controller health on LED.
- Replace Safety Controller if remaining error.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 90459, SC *arg* Input/Output Failure

**Description**

I/O Error on Safety Controller (SC) *arg*.

**Recommended actions**

- Check Safety Controller cabling.
- Check Safety Controller health.

Restart robot controller, after performing recommended actions.

### 90460, SC *arg* safety configuration not found

**Description**

Failed to retrieve safety configuration for Safety Controller (SC) *arg*.

**Recommended actions**

- Restart robot controller.
- Download a safety configuration to the SC.
- Reinstall system.

### 90461, SC *arg* Robot Configuration not found

**Description**

Failed to retrieve robot configuration for Safety Controller (SC) *arg*.

**Recommended actions**

- Restart robot controller.
- Reinstall system.

### 90462, SC *arg* Calibration Offset not found

**Description**

Failed to retrieve motor calibration offsets for Safety Controller (SC) *arg*.

**Recommended actions**

Download new calibration offsets to the SC.

### 90463, SC *arg* safety configuration downloaded

**Description**

Download of safety configuration was successful for Safety Controller (SC) *arg*.

### 90464, SC *arg* OSR Limit exceeded

**Description**

Safety Controller (SC) *arg* detected a too big difference between the ordered and actual position inside Operational Safety Range (OSR), for mechanical unit *arg* on axis *arg*.

**Recommended actions**

- Check for collision.
- Check that Operational Safety Range (OSR) Tolerance in the safety configuration is not set too low.
- Synchronize the Safety Controller, if the revolution counters have been updated since last synchronization.

### 90465, SC *arg* SAS Speed exceeded

**Description**

Safe Axis Speed (SAS) violation on mechanical unit *arg* axis *arg* on Safety Controller (SC).

**Recommended actions**

Decrease speed on axis *arg*.

### 90466, SC *arg* Input/Output Failure

**Description**

I/O Error on Safety Controller (SC) *arg* I/O *arg* Type *arg*.

Type 1: Input.

Type 2: Output.

**Probable causes**

- Wrong connection to I/O terminals on SC.
- Two channel I/O mismatch.

**Recommended actions**

- Check SC cabling.
- Check SC health.

Restart robot controller, after performing recommended actions.

### 90467, SC *arg* STS speed exceeded

**Description**

Safe reduced Tool Speed (STS) in Safety Controller (SC) on mechanical unit *arg* too high. Cause *arg*.

**Probable causes**

1 Tool0 speed.
2 Elbow speed.
3 Tool speed.
4 Additional axis speed.

**Recommended actions**

Reduce tool speed.

### 90468, SC *arg* STZ violation

**Description**

Safe Tool Zone (STZ) *arg* is violated on mechanical unit *arg*.

Tool *arg* was active.

Cause *arg*.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

**Probable causes**

1 Exceeded speed.
2 Wrong tool position.
3 Wrong tool orientation.
4 Wrong elbow position.
5 Wrong tool point 1 position.
6 Wrong tool point 2 position.
7 Wrong tool point 3 position.
8 Wrong tool point 4 position.
9 Wrong tool point 5 position.
10 Wrong tool point 6 position.
11 Wrong tool point 7 position.
12 Wrong tool point 8 position.

**Recommended actions**

- Reduce speed.
- Move robot tool to safe position.
- Adjust tool orientation.

## 90469, SC *arg* SAR violation

**Description**

Safe Axis Range (SAR) *arg* is violated on mechanical unit *arg* axis *arg*.

**Recommended actions**

Move mechanical unit to safe position.

## 90470, SC *arg* Synchronization Pre-warning

**Description**

Synchronization required for mechanical units supervised by Safety Controller (SC) *arg* in less than *arg* hour(s).

**Recommended actions**

Perform synchronization before the time limit expires.

## 90471, SC *arg* Synchronization Timeout

**Description**

Synchronization time limit expired for Safety Controller (SC) *arg*.

**Recommended actions**

Perform synchronization.

## 90472, SC *arg* New safety configuration

**Description**

Safety Controller (SC) *arg* has received a new safety configuration. A new PIN-code is needed to activate.

**Recommended actions**

1 Log in as a user with safety configuration grants.
2 Enter new PIN-Code for the Safety Controller in the Control Panel.

## 90473, SC *arg* Dual Computer mismatch

**Description**

Safety Controller (SC) *arg* have had conflicting values for a Safety Output for too long.

**Consequences**

The Safety Controller has entered a Safe State and issue an error after 10 minutes of internal mismatch, if recommended actions are not performed.

**Probable causes**

- The mechanical unit have been parked at a position on, or close to, a supervised or monitored function limit for too long time.
- Internal computation error in Safety Controller.

**Recommended actions**

Move all mechanical units' axes and tools well inside or outside monitored and supervised function limits.

## 90474, SC *arg* I/O Supply Failure

**Description**

I/O supply voltage level for Safety Controller (SC) *arg* is out of range.

**Probable causes**

Either the voltage is out of limits or the voltage is missing.

**Recommended actions**

1 Connect 24V supply with correct voltage level to I/O supply terminals.
2 Restart robot controller.

## 90475, SC *arg* Synchronization rejected

**Description**

Safety Controller (SC) *arg* is not correctly configured for synchronization.

**Probable causes**

- Safety configuration PIN is not set or is incorrect.
- Safety configuration is empty.
- Safety configuration is corrupt or missing.
- Safety Controller connected to the wrong SMB bus.
- I/O power supply missing.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

**Recommended actions**

Verify and check possible causes.

## 90476, SC *arg* Disabled

**Description**

Safety Controller (SC) *arg* is disabled.

**Consequences**

All safety supervision has been disabled in the Safety Controller.
Risk for safety hazards.

**Recommended actions**

Download a safety configuration to the Safety Controller.

## 90477, SC *arg* SMB Communication Failure

**Description**

Safety Controller (SC) *arg* failed to communicate with serial measurement board (SMB).

**Recommended actions**

1 Make sure that the cabling from SMB to Safety Controller is connected to the right SMB connector and functional.
2 Restart the robot controller.

## 90478, SC *arg* Main Supply Failure

**Description**

The main power supply voltage for Safety Controller (SC) *arg* is out of range.

**Probable causes**

Either the voltage is out of limit or the voltage is missing.

**Recommended actions**

1 Check Safety Controller cabling.
2 Check voltage from power supply.
3 Restart robot controller.

## 90479, SC *arg* Additional Axis missing

**Description**

An additional axis that is supervised by Safety Controller (SC) *arg* is no longer present in the system configuration.

**Recommended actions**

Reinstall the supervised additional axis, or download a safety configuration without supervision of the additional axis.

## 90480, SC *arg* SST violation

**Description**

Safe Stand Still (SST) *arg* in Safety Controller (SC) is violated on mechanical unit *arg* axis *arg*.

**Recommended actions**

- Verify RAPID program.
- Verify process equipment.
- Check that movement is not ongoing when SST is active.
- Check previous event messages.

## 90481, SC *arg* OVR active

**Description**

Override Operation (OVR) active on Safety Controller (SC) *arg*.
SafeMove will stop the robot after approximately 20 minutes with OVR active.
Speed is limited to 250 mm/s or 18 degrees/s.

**Recommended actions**

Deactivate signal connected to OVR input.

## 90482, SC *arg* OVR time out

**Description**

Override Operation (OVR) has been active too long time on Safety Controller (SC) *arg*.

**Recommended actions**

1 Restart robot controller.
2 Toggle signal connected to OVR input.
3 Activate Confirm stop by pressing Motors On push button.
4 Jog robot back into working area.
5 Deactivate signal connected to OVR input.

## 90483, SC *arg* CBC soon required

**Description**

Cyclic Brake Check (CBC) required in less than *arg* hours.

**Recommended actions**

Perform a brake check before the time limit expires.

## 90484, SC *arg* CBC needs to be done

**Description**

Cyclic Brake Check (CBC) time limit expired in Safety Controller (SC) or last brake check failed.

**Recommended actions**

Perform a brake check.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 90485, SC *arg* Too low brake torque

**Description**

Too low brake torque in Safety Controller (SC) on mechanical unit *arg* axis *arg*.

**Probable causes**

- Axis has not been tested.
- Worn out brake(s).

**Recommended actions**

- Check that the failing axis is activated.
- If failing axis is activated replace brake(s) as soon as possible.

### 90486, SC *arg* CBC interrupted or incorrect

**Description**

Safety Controller (SC) has detected that the last Cyclic Brake Check (CBC) on mechanical unit *arg* was interrupted or incorrect.

**Recommended actions**

- Check previous event messages.
- Perform a new brake check only if needed, typically if event message 20485 also has been displayed.

### 90487, SC *arg* Unsynchronized speed exceeded

**Description**

Exceeded axis speed when Safety Controller (SC) *arg* was unsynchronized.

**Recommended actions**

Jog mechanical unit to synch position with low axis speed. Reduce speed to 250 mm/s or 18 degrees/s.

### 90488, SC *arg* Unsynchronized time limit expired

**Description**

Available time to move the robot when unsynchronized has expired for Safety Controller (SC) *arg*.

**Recommended actions**

1 Do a Confirm stop by pressing the Motors ON push button or activate system input.
2 Synchronize SC .

### 90489, SC *arg* has been disabled

**Description**

Safety Controller (SC) *arg* has been disabled and no supervision functions are active.

**Probable causes**

Either a system reset has been performed or it's the first startup of SC.

**Recommended actions**

Download a configuration to SC *arg*.

### 90490, SC *arg* OVR Speed exceeded

**Description**

Override (OVR) Speed limit exceeded on mechanical unit *arg*.

**Probable causes**

If Override (OVR) is active, then OVR speed limitations will be active.

**Recommended actions**

- Decrease speed.
- Deactivate OVR.

### 90491, SC *arg* Override active during startup

**Description**

Override digital input was active during startup on SC *arg*.

### 90492, SC *arg* SST violation in Brake test

**Description**

Movement detected during Brake test on Safety Controller (SC) *arg*. Mechanical unit *arg*. Axis *arg*.

**Probable causes**

- Interrupted braketest.
- Worn out Brakes.

**Recommended actions**

- Restart CBC.
- Replace Brake.

### 90493, SC *arg* SBR triggered

**Description**

Safe Brake Ramp (SBR) on Safety Controller (SC) was interrupted by a Class 0 stop due to slow deceleration on mechanical unit *arg*. This is normal and occurs in cases when a stop1 is to slow. Check for other safety controller event messages.

**Recommended actions**

- Change parameter value for SBR in Motion configuration.
- Trigger a new stop to test the Brake Ramp.
- If this happens frequently, check the Application manual for mechanical units' configuration.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

## 90494, SC *arg* Tool change incorrect

**Description**

Incorrect tool change with Tool *arg* on mechanical unit *arg*.

**Recommended actions**

- Check if correct tool.
- Decrease speed if needed.
- Perform a new tool change.

## 90500, Safety Controller Internal Failure

**Description**

An internal Failure has occurred in the safety controller.

**Consequences**

The safety controller will go into safe state. No operation will be possible until restart.

**Recommended actions**

- Check other error messages arriving at the same time for cause of the error.
- Check the safety controller configuration and installation.

## 90501, Safety Controller Reference Data Error

**Description**

The robot controller has stopped sending reference data to the safety controller for drive module *arg*.

**Consequences**

The safety controller will stop all robot movements.

**Recommended actions**

Restart the program. If the problem persists, restart the system.

## 90502, Safety Controller SMB Communication Failure

**Description**

The safety controller for drive module *arg* failed to communicate with the serial measurement board (SMB).

**Consequences**

The safety controller will stop all robot movements.

**Probable causes**

- Errors in the configuration of external axes.
- Disturbances in the communication links between the SMB, the robot controller, and the safety controller.

**Recommended actions**

- Check the configuration of external axes.
- Check the cabling from the axis computer to the main computer for possible disturbances.

## 90503, Safety Controller Illegal Position Value

**Description**

An illegal position value from the serial measurement board was detected by the safety controller (for drive module *arg*. The cause was *arg*.

**Consequences**

The safety controller will stop all robot movements.

**Probable causes**

1 The square sum of the measured positions exceeded the configured max.
2 The square sum of the measured positions was below the configured minimum value.
3 Too high acceleration was detected in the resolver input.

**Recommended actions**

- Check the cabling to the serial measurement board and resolvers.

## 90504, Safety Controller not synchronized

**Description**

The safety controller for drive module *arg* is not synchronized with supervised mechanical units.

**Probable causes**

- The robot has been moved while the power was off.
- An error has occurred in the communication with the serial measurement board (SMB).
- There is a mismatch between the calibration position parameters in the robot controller and the safety configuration.

**Recommended actions**

- Perform a new synchronization of the safety controller.

## 90505, Safety Controller Synchronization rejected

**Description**

The synchronization of Safety Controller drive module *arg* failed.

**Consequences**

The safety controller will remain in the unsynchronized state.

**Probable causes**

- One or more axes moved during synchronization.
- The synchronization was not performed within the timeout limit.

**Recommended actions**

Make sure that the speed during synchronization is within limits, and perform a new synchronization of the safety controller.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

## 90506, Safety Controller Wrong Sync Position

**Description**

The axis *arg* position does not match its synchronization position, as defined in the safety configuration for the safety controller on drive module *arg*.

**Consequences**

Synchronization will not be performed, and the safety controller will go to the unsynchronized state.

**Probable causes**

- One or more axes are not in the correct synchronization position.
- The revolution counters or calibration values of the robot controller are not correct.

**Recommended actions**

- Check that the synchronization positions in the safety configuration are correct, and that all axes are in their synchronization position.
- Perform revolution counter update or calibration in the correct position, followed by a new synchronization of the safety controller.
- Check that the synchronization switch is working properly.

## 90507, Safety Controller Synchronized

**Description**

The safety controller for drive module *arg* is now synchronized to supervised mechanical units.

**Consequences**

Safety supervision can be used.

## 90508, Safety Controller Tool Change Incorrect

**Description**

Incorrect tool change, in the safety controller for drive module *arg*.

The cause was *arg*.

**Consequences**

The safety controller will stop all robot movements. Operation is not possible until a valid tool has been selected.

**Probable causes**

1 Invalid tool selection input.

2 Very high speed was detected during the tool change.

**Recommended actions**

Check that exactly one tool selection input is active.

## 90509, Safety Controller Brake Ramp supervision triggered

**Description**

Too slow deceleration was detected during a Category 1 stop, in the safety controller for drive module *arg*.

**Consequences**

The Category 1 stop is automatically changed to a Category 0 stop.

**Recommended actions**

Usually, no actions are necessary. If this happens frequently, check the Application manual for mechanical units' configuration. For external axes, change the parameter value for Brake ramp in the safety configuration.

## 90511, Safety Controller Servo-Lag Limit exceeded

**Description**

The safety controller for drive module *arg* has detected a too big difference between the ordered and actual position on axis *arg*.

**Consequences**

The safety controller will stop all robot movements.

**Probable causes**

- A collision has occurred.
- Incorrect load definition in the robot program.
- Incorrect configuration of external axes.
- A function has been activated that result in greater servo lag, such as soft servo or force control.

**Recommended actions**

- If there was a collision, check the robot and perform a new synchronization if required.
- Make sure that the robot load is defined correctly.
- Check the Servo Lag settings in the safety configuration for the external axis.
- Check that Contact Application Tolerance is activated correctly.
- Check that the safety controller is synchronized correctly.

## 90512, SC Contact Application Tolerance servo lag exceeded

**Description**

The safety controller for drive module *arg* detected a too big difference between the ordered and actual position for axis *arg*, while inside Safety Area *arg*.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

**Consequences**

The safety controller will stop all robot movements.

**Probable causes**

The robot has moved too far from the path, due to external forces or programmed compliance (soft servo or force control).

**Recommended actions**

- Decrease the compliance, or limit the external forces on the axis.
- Increase the Contact Application Tolerance position tolerance in the safety configuration.

## 90513, Tool Position supervision violation

**Description**

Tool position supervision *arg* caused a violation of zone *arg* in drive module *arg*. Tool *arg* was active and geometry *arg* caused the violation.

**Consequences**

If configured with a stop action, the safety controller will stop all robot movements, and no operation will be allowed until the violation has ceased or manual mode has been selected.

**Probable causes**

The tool geometry entered a forbidden region.

**Recommended actions**

Switch to manual mode, and jog the robot out of the violation.

## 90514, Safety Controller Standstill violation

**Description**

Standstill supervision *arg* in the safety controller for drive module *arg* is violated for axis *arg*.

**Consequences**

If configured with a stop action, the safety controller will stop all robot movements.

**Probable causes**

An attempt to move the robot has been done while Standstill supervision was active.

**Recommended actions**

- Make sure that no supervised axis is moving while Standstill supervision is active.
- Increase the Tolerance parameter for the axis, in the configuration for Standstill supervision.

## 90515, Safety Controller Tool Speed violation

**Description**

Tool Speed supervision *arg* was violated in the safety controller for drive module *arg*.
The cause was *arg*.

**Consequences**

If configured with a stop action, the safety controller will stop all robot movements.

**Probable causes**

1 TCP speed too high.
2 Elbow speed too high.
3 Tool speed at point 1 too high.
4 Tool speed at point 2 too high.
5 Tool speed at point 3 too high.
6 Tool speed at point 4 too high.
7 Tool speed at point 5 too high.
8 Tool speed at point 6 too high.
9 Tool speed at point 7 too high.
10 Tool speed at point 8 too high.
11 Robot wrist speed too high.
12 TCP speed too low.

**Recommended actions**

Modify the program so that all speeds are inside the configured limits.

## 90516, Safety Controller Reduced Speed violation

**Description**

The reduced speed limit was exceeded in the safety controller for drive module *arg*.

**Consequences**

The safety controller will stop all robot movements.

**Probable causes**

One or more mechanical units exceeded the reduced speed limit. The type of speed violation was *arg*.

1 TCP.
2 Elbow.
3 Wrist.
4 Axis .

**Recommended actions**

- Check that the correct tool is selected in the safety controller, matching the tool definition used for jogging or program execution.
- Check that the configured manual mode speed in the safety controller matches the value in the robot controller configuration.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

- If the robot is mounted on a track, set the robot controller configuration parameter 'Use checkpoint limitation in world' to Yes, in type Motion Planner, topic Motion.
- If a Cyclic Brake Check was not performed within the specified time interval, perform a new brake check.
- Lower the value of "Teach Mode Max Speed" parameter.

## 90517, Safety Controller Unsynchronized speed exceeded

**Description**

The unsynchronized mode speed limit was exceeded in the safety controller for drive module *arg*.

**Consequences**

The safety controller will stop all robot movements.

**Probable causes**

One or more mechanical units exceeded the unsynchronized mode speed limit.

**Recommended actions**

Jog all axes slowly to the synchronization position, and perform a synchronization of the safety controller.

## 90518, Safety Controller Emergency Stop triggered

**Description**

Emergency Stop *arg* has been triggered in the safety controller.

**Consequences**

The safety controller will stop all robot movements.

**Probable causes**

An emergency stop request has been received by the safety controller.

**Recommended actions**

Deactivate the emergency stop and restart the program.

## 90519, Safety Controller Input/Output Mismatch

**Description**

Different inputs/outputs reported by the two channels in the safety controller for drive module *arg*. The mismatch type was *arg*.

Type 1: Input.

Type 2: Output.

**Consequences**

The safety controller will stop all robot movements. No full speed operation is possible until the mismatch has ceased.

**Probable causes**

- Error in the cabling to the safety controller.
- Dual channel mismatch in the safety supervision, due to limited numerical accuracy.

**Recommended actions**

- Check the safety controller cabling.
- Check if one or more axes, points, or volumes are close to a zone or range border.

## 90520, Safety Controller Result Mismatch

**Description**

Different supervision results reported for the two channels in the safety controller for drive module *arg*.

**Consequences**

The safety controller will stop all robot movements. No full speed operation is possible until the mismatch has ceased.

**Probable causes**

One or more axes, points, or volumes are close to a zone or range border.

**Recommended actions**

In manual mode, jog away from the zone or range border.

## 90521, Safety Controller Brake Test violation

**Description**

Movement detected during Brake test for drive module *arg*, axis *arg*.

**Probable causes**

The brake test failed or was interrupted.

**Recommended actions**

- Perform a new brake test. If the problem persists, replace the brake.

## 90522, Safety Controller General Output error

**Description**

Incorrect feedback from the General Output contactors was detected by the safety controller.

**Consequences**

The safety controller will deactivate the General Output.

**Probable causes**

- The needed hardware/cabling for the functionality is not included in the controller.
- The contactors or the cable harness may be defect.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

**Recommended actions**
Check the hardware for General Output.

## 90523, Safety Controller Protective Stop triggered

**Description**
Protective Stop *arg* has been triggered in the safety controller.

**Consequences**
The safety controller will stop all robot movements.

**Probable causes**
A protective stop request has been received by the safety controller.

**Recommended actions**
Deactivate the protective stop and restart the program.

## 90524, Safety Controller configuration error

**Description**
The Safety Controller failed to load the safety configuration file *arg*.

**Consequences**
The safety controller will stop all robot movements.

**Probable causes**
An invalid safety configuration has been loaded.

**Recommended actions**
Create and load a new safety configuration using the configurator.

## 90525, Operation in current mode not allowed by Safety Controller

**Description**
The safety controller does not allow operation in the operating mode selected in drive module *arg*.

**Consequences**
The safety controller will stop all robot movements.

**Probable causes**
- Automatic operating mode was selected while commissioning mode was active.
- Automatic or Manual Full Speed operating mode was selected while the safety controller was unsynchronized.

**Recommended actions**
Switch to manual mode to resume operation.

## 90526, Safety Controller Automatic Mode Warning

**Description**
The active safety controller configuration has not been locked.

## 90527, Safety Controller difference in revolution counters

**Description**
An error was detected in the position data for drive module *arg*.

**Consequences**
The safety controller will stop all robot movements.

**Recommended actions**
Perform a new synchronization of the safety controller.

## 90528, Safety Controller Tool Orientation violation

**Description**
Tool Orientation supervision *arg* was violated in the safety controller for drive module *arg*. Tool *arg* was active.

**Consequences**
If configured with a stop action, the safety controller will stop all robot movements.

**Probable causes**
The orientation of the tool was outside the configured bounds while Tool Orientation supervision was active.

**Recommended actions**
Switch to manual mode, and jog the robot so that the tool orientation does not violate the configured bounds.

## 90529, Safety Controller axis Position violation

**Description**
Axis position supervision *arg* in the safety controller for drive module *arg* was violated for axis *arg*.

**Consequences**
If configured with a stop action, the safety controller will stop all robot movements.

**Probable causes**
The position of one or more axes were outside the configured bounds while axis position supervision was active.

**Recommended actions**
Switch to manual mode, and jog the robot to a position inside configured bounds.

*Continues on next page*


© Copyright 2005-2020 ABB. All rights reserved.

## 90530, Safety Controller Axis Speed violation

**Description**

Axis Speed supervision *arg* in the safety controller for drive module *arg* was violated for axis *arg*. The cause was *arg*.

**Consequences**

If configured with a stop action, the safety controller will stop all robot movements.

**Probable causes**

1 Axis speed too high.
2 Axis speed too low.

**Recommended actions**

Modify the program, ensuring that all axis speeds are inside the configured limits.

## 90531, Cyclic Brake Check needs to be done

**Description**

Cyclic Brake Check (CBC) time limit expired in Safety Controller (SC) *arg* or last brake check failed.

**Recommended actions**

Perform a brake check.

## 90532, Max allowed speed during Cyclic Brake Check exceeded

**Description**

The maximum speed limit, 250 mm/s, during Cyclic Brake Check was exceeded in Safety Controller (SC) *arg*.

**Probable causes**

- The maximum allowed speed limit exceeded.

**Recommended actions**

- Perform a new brake check and run with a speed lower than 250 mm/s.

## 90533, Cyclic Brake Check will be required soon

**Description**

Cyclic Brake Check (CBC) required in *arg* hours.

**Recommended actions**

Perform a brake check before the time limit expires.

## 90534, Cyclic Brake Check interrupted or incorrect

**Description**

Safety Controller (SC) *arg* has detected that the last Cyclic Brake Check (CBC) was interrupted or incorrect.

**Recommended actions**

- Check previous event messages.
- Perform a new brake check only if needed.

## 90535, Tool Position supervision violation, arm

**Description**

Tool position supervision *arg* caused a violation of zone *arg* in drive module *arg*. The violation was caused by geometry *arg* on the robot arm.

**Consequences**

If configured with a stop action, the safety controller will stop all robot movements, and no operation will be allowed until the violation has ceased or manual mode has been selected.

**Recommended actions**

Switch to manual mode, and jog the robot out of the violation.

## 90536, General Output is activated while in error mode

**Description**

The General Output was activated while the feedback from the General Output contactors was incorrect.

**Consequences**

The General Output will remain in its old state.

**Recommended actions**

Check the connections for the general output.

## 90537, Missing Sync-request

**Description**

The synchronization switch is pressed without a synchronization request being sent to the Safety Controller.

**Consequences**

No synchronization will be done.

**Recommended actions**

Send a synchronization request to the Safety Controller before pressing the sync-switch.

## 90538, Safety Enable input not set

**Description**

The SafetyEnable input to the Safety Controller is not set.

**Consequences**

The system goes to the Superior Stop status.

**Probable causes**

- Errors in the safe communication.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

- Errors in the Safe IO configuration of the safety controller.

**Recommended actions**
- Check that the safe communication is working correctly.
- Check the Safe IO configuration of the safety controller.

## 90539, Drive module without safety supervision

**Description**
The safety configuration contains on or more drive modules with no mechanical units defined.

**Consequences**
No safety supervision will be done for the corresponding drive modules.

## 90540, Only manual mode allowed

**Description**
The safety controller only allows operation in Manual mode, because of an error in the safety configuration or lock information.

**Consequences**
The safety controller will stop all robot movements.

**Probable causes**
- An error in the safety configuration or lock information has previously been reported. Until this has been corrected, operation is only allowed in Manual mode.
- Feedback from the motor contactors is not correct. See also error message 90669.

**Recommended actions**
- Switch to Manual mode to resume operation.
- Correct the error in the configuration or lock information.

## 90541, Superior Stop opened by the Safety Controller

**Description**
The Superior Mode Safeguarded Stop circuit has been opened by the safety controller.

**Consequences**
The system goes to the Superior Stop status.

**Probable causes**
- One or more safety supervision functions has detected an active violation.
- Error in the safety controller cabling.

**Recommended actions**
- Check the event log for active safety function violations, and take the recommended actions to remove the violations.
- Check the safety controller cabling.

## 90542, Unknown axis in safety configuration

**Description**
The safety controller configuration for drive module *arg* contains one or more axes that are not present in the robot controller configuration.

**Consequences**
The safety controller will prevent all robot movements. Operation is not possible until the error has been corrected.

**Probable causes**
One or more axes have been removed from the robot controller configuration. Alternatively, one or more axes were temporarily disabled during an upgrade or restart of the system.

**Recommended actions**
Check the robot controller configuration. If one or more mechanical units were temporarily disabled during an upgrade, a new restart with all mechanical units enabled should be sufficient.

## 90543, Cyclic Brake Check needs to be done

**Description**
Cyclic Brake Check (CBC) time limit expired in Safety Controller (SC) *arg* or last brake check failed.

**Consequences**
This is only a warning.

**Recommended actions**
Check if a Brake Check needs to be performed.

## 90600, Invalid SiosCfg tag

**Description**
The SiosCfg tag on line *arg* is invalid.

**Consequences**
The system will stop all robot movements.

**Probable causes**
The safety configuration has not been created using RobotStudio.

**Recommended actions**
Update the safety configuration.

## 90601, Version attribute not found

**Description**
The SiosCfg version attribute is missing on line *arg*.

*Continues on next page*


© Copyright 2005-2020 ABB. All rights reserved.

**Consequences**
The system will stop all robot movements.

**Probable causes**
The safety configuration has not been created using RobotStudio.

**Recommended actions**
Add the version attribute to the safety configuration file.

### 90602, Specified version is not supported

**Description**
The specified SiosCfg version in the safety configuration file on line *arg* is not supported.

**Consequences**
The system will stop all robot movements.

**Probable causes**
The safety configuration was not created for the current version of the system.

**Recommended actions**
Update the safety configuration to a version supported by the Safety Controller.

### 90603, Unsupported XML tag in safety configuration file

**Description**
XML tag *arg*, found on line *arg*, is unknown.

**Consequences**
The system will stop all robot movements.

**Probable causes**
The safety configuration has not been created using RobotStudio.

**Recommended actions**
Update the safety configuration.

### 90604, Tag/Attribute is empty or contains invalid character(s)

**Description**
Tag/attribute *arg*, found on line *arg*, is empty or contains invalid character(s).

**Consequences**
The system will stop all robot movements.

**Probable causes**
The safety configuration has not been created using RobotStudio.

**Recommended actions**
Update the safety configuration.

### 90605, Net name attribute is missing

**Description**
The net name attribute on line *arg* is missing.

**Consequences**
The system will stop all robot movements.

**Probable causes**
The safety configuration has not been created using RobotStudio.

**Recommended actions**
Update the safety configuration.

### 90606, Invalid net name

**Description**
The net name *arg* is invalid. Valid names are *arg*.

**Consequences**
The system will stop all robot movements.

**Probable causes**
The safety configuration has not been created using RobotStudio.

**Recommended actions**
Update the safety configuration.

### 90607, Net already exists

**Description**
The net *arg*, specified on line *arg* has already been specified.

**Consequences**
The system will stop all robot movements.

**Probable causes**
The safety configuration has not been created using RobotStudio.

**Recommended actions**
Update the safety configuration.

### 90608, Could not create network instance

**Description**
Could not create network *arg* instance. It already exists.

**Consequences**
The system will stop all robot movements.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

**Probable causes**
The safety configuration has not been created using RobotStudio.

**Recommended actions**
Update the safety configuration.

### 90609, Device attribute is missing

**Description**
Device *arg* attribute *arg* is missing on line *arg*.

**Consequences**
The system will stop all robot movements.

**Probable causes**
The safety configuration has not been created using RobotStudio.

**Recommended actions**
Update the safety configuration.

### 90610, Device already exists

**Description**
Device *arg* on line *arg* already exists.

**Consequences**
The system will stop all robot movements.

**Probable causes**
The safety configuration has not been created using RobotStudio.

**Recommended actions**
Update the safety configuration.

### 90611, Device create failed

**Description**
Device *arg* failed. The device already exists.

**Consequences**
The system will stop all robot movements.

**Probable causes**
The safety configuration has not been created using RobotStudio.

**Recommended actions**
Update the safety configuration.

### 90612, Device attribute insize is invalid

**Description**
Device *arg* attribute insize is empty or not a number.

**Consequences**
The system will stop all robot movements.

**Probable causes**
The safety configuration has not been created using RobotStudio.

**Recommended actions**
Update the safety configuration.

### 90613, Device attribute outsize is invalid

**Description**
Device *arg* attribute outsize is empty or not a number.

**Consequences**
The system will stop all robot movements.

**Probable causes**
The safety configuration has not been created using RobotStudio.

**Recommended actions**
Update the safety configuration.

### 90614, Could not attach device to net

**Description**
Attaching device *arg* to net *arg* failed because the device is already attached to net *arg*.

**Consequences**
The system will stop all robot movements.

**Probable causes**
The safety configuration has not been created using RobotStudio.

**Recommended actions**
Update the safety configuration.

### 90615, Could not attach device to net

**Description**
Attaching device *arg* to net *arg* failed.

**Consequences**
The system will stop all robot movements.

**Probable causes**
The safety configuration has not been created using RobotStudio.

**Recommended actions**
Update the safety configuration.

*Continues on next page*


© Copyright 2005-2020 ABB. All rights reserved.

### 90616, Could not find device

**Description**

Could not find device *arg*.

**Consequences**

The system will stop all robot movements.

**Probable causes**

The safety configuration has not been created using RobotStudio.

**Recommended actions**

Update the safety configuration.

### 90617, Device attribute is missing

**Description**

Device *arg* attribute *arg* is missing on line *arg*.

**Consequences**

The system will stop all robot movements.

**Probable causes**

The safety configuration has not been created using RobotStudio.

**Recommended actions**

Update the safety configuration.

### 90618, Device attribute is invalid

**Description**

Device *arg* attribute *arg* is invalid on line *arg*.

**Consequences**

The system will stop all robot movements.

**Probable causes**

The safety configuration has not been created using RobotStudio.

**Recommended actions**

Update the safety configuration.

### 90619, Device attribute is invalid

**Description**

Device *arg* attribute *arg* is invalid.

**Consequences**

The system will stop all robot movements.

**Probable causes**

The safety configuration has not been created using RobotStudio.

**Recommended actions**

Update the safety configuration.

### 90620, Could not create device module

**Description**

Could not create device *arg* module.

**Consequences**

The system will stop all robot movements.

**Probable causes**

The safety configuration has not been created using RobotStudio.

**Recommended actions**

Update the safety configuration.

### 90621, Signal width invalid in device mapping

**Description**

Device *arg* signal *arg* width is invalid.

**Consequences**

The system will stop all robot movements.

**Probable causes**

The safety configuration has not been created using RobotStudio.

**Recommended actions**

Update the safety configuration.

### 90622, Signal offset invalid in device mapping

**Description**

Device *arg* signal *arg* offset is invalid.

**Consequences**

The system will stop all robot movements.

**Probable causes**

The safety configuration has not been created using RobotStudio.

**Recommended actions**

Update the safety configuration.

### 90623, Signal direction invalid in device mapping

**Description**

Device *arg* signal *arg* direction is invalid.

**Consequences**

The system will stop all robot movements.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

**Probable causes**
The safety configuration has not been created using RobotStudio.

**Recommended actions**
Update the safety configuration.

### 90624, Could not find signal

**Description**
Could not attach signal *arg*to device *arg*. Signal is missing.

**Consequences**
The system will stop all robot movements.

**Probable causes**
The safety configuration has not been created using RobotStudio.

**Recommended actions**
Update the safety configuration.

### 90625, Could not find device

**Description**
Could not attach signal *arg*to device *arg*. Device is missing.

**Consequences**
The system will stop all robot movements.

**Probable causes**
The safety configuration has not been created using RobotStudio.

**Recommended actions**
Update the safety configuration.

### 90626, Signal name is missing

**Description**
Signal name is missing on line *arg*.

**Consequences**
The system will stop all robot movements.

**Probable causes**
The safety configuration has not been created using RobotStudio.

**Recommended actions**
Update the safety configuration.

### 90627, Signal attribute is missing

**Description**
Signal *arg* attribute *arg* is missing.

**Consequences**
The system will stop all robot movements.

**Probable causes**
The safety configuration has not been created using RobotStudio.

**Recommended actions**
Update the safety configuration.

### 90628, Signal type is unknown

**Description**
Signal *arg* type *arg* is unknown on line *arg*.

**Consequences**
The system will stop all robot movements.

**Probable causes**
The safety configuration has not been created using RobotStudio.

**Recommended actions**
Update the safety configuration.

### 90629, Signal attribute invalid in this context

**Description**
Signal *arg* attribute *arg* is only valid when mapping to a device. Line *arg*.

**Consequences**
The system will stop all robot movements.

**Probable causes**
The safety configuration has not been created using RobotStudio.

**Recommended actions**
Update the safety configuration.

### 90630, Signal default value empty or out of range

**Description**
Signal *arg* default value is empty or out of range to the signal type.

**Consequences**
The system will stop all robot movements.

**Probable causes**
The safety configuration has not been created using RobotStudio.

**Recommended actions**
Update the safety configuration.

*Continues on next page*


© Copyright 2005-2020 ABB. All rights reserved.

### 90631, Signal type is invalid

**Description**

Signal *arg* type is invalid.

**Consequences**

The system will stop all robot movements.

**Probable causes**

The safety configuration has not been created using RobotStudio.

**Recommended actions**

Update the safety configuration.

### 90632, Could not set signal value

**Description**

Could not set signal *arg* value.

**Consequences**

The system will stop all robot movements.

**Probable causes**

The safety configuration has not been created using RobotStudio.

**Recommended actions**

Update the safety configuration.

### 90633, Signal create failed

**Description**

Signal *arg* already exists.

**Consequences**

The system will stop all robot movements.

**Probable causes**

The safety configuration has not been created using RobotStudio.

**Recommended actions**

Update the safety configuration.

### 90634, Signal configuration conflict

**Description**

Signal *arg* configuration on line *arg* conflicts with previous declaration.

**Consequences**

The system will stop all robot movements.

**Probable causes**

The safety configuration has not been created using RobotStudio.

**Recommended actions**

Update the safety configuration.

### 90635, Signal input already assigned

**Description**

Signal *arg* is already assigned to receive input from device *arg*.

**Consequences**

The system will stop all robot movements.

**Probable causes**

The safety configuration has not been created using RobotStudio.

**Recommended actions**

Update the safety configuration.

### 90636, Signal value has already been set

**Description**

Signal *arg* input mapping failed. Signal value has already been set by *arg*.

**Consequences**

The system will stop all robot movements.

**Probable causes**

The safety configuration has not been created using RobotStudio.

**Recommended actions**

Update the safety configuration.

### 90637, Signal mapped outside of device I/O area

**Description**

Signal *arg arg* mapping to device *arg* failed. Device I/O size is *arg*.

**Consequences**

The system will stop all robot movements.

**Probable causes**

The safety configuration has not been created using RobotStudio.

**Recommended actions**

Update the safety configuration.

### 90638, Signal overlaps other signal

**Description**

Signal *arg arg* mapping to device *arg* failed. Bits already mapped.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

**Consequences**
The system will stop all robot movements.

**Probable causes**
The safety configuration has not been created using RobotStudio.

**Recommended actions**
Update the safety configuration.

### 90639, Signal type does not match value type

**Description**
Signal *arg* type *arg* does not match value type *arg*.

**Consequences**
The system will stop all robot movements.

**Probable causes**
The safety configuration has not been created using RobotStudio.

**Recommended actions**
Update the safety configuration.

### 90640, FuncIO name is missing

**Description**
The name of FuncIO on line *arg* is missing.

**Consequences**
The system will stop all robot movements.

**Probable causes**
The safety configuration has not been created using RobotStudio.

**Recommended actions**
Update the safety configuration.

### 90641, FuncIO attribute is missing

**Description**
FuncIO *arg* attribute *arg* is missing on line *arg*.

**Consequences**
The system will stop all robot movements.

**Probable causes**
The safety configuration has not been created using RobotStudio.

**Recommended actions**
Update the safety configuration.

### 90642, Error parsing the safety configuration file

**Description**
FuncIO *arg* on line *arg* is already mapped to signal *arg*.

**Consequences**
The system will stop all robot movements.

**Probable causes**
The safety configuration has not been created using RobotStudio.

**Recommended actions**
Update the safety configuration.

### 90643, FuncIO signal not found

**Description**
Mapping of FuncIO *arg* to device *arg* on line *arg* failed because the FuncIOMapping mapping has not been specified.

**Consequences**
The system will stop all robot movements.

**Probable causes**
The safety configuration has not been created using RobotStudio.

**Recommended actions**
Update the safety configuration.

### 90644, FuncIOMapping already exists

**Description**
Mapping of FuncIO *arg* to signal *arg* failed because a mapping has already been specified.

**Consequences**
The system will stop all robot movements.

**Probable causes**
The safety configuration has not been created using RobotStudio.

**Recommended actions**
Update the safety configuration.

### 90646, FuncIOMapping attribute missing

**Description**
FuncIOMapping *arg* attribute *arg* is missing on line *arg*.

**Consequences**
The system will stop all robot movements.

*Continues on next page*


© Copyright 2005-2020 ABB. All rights reserved.

**Probable causes**
The safety configuration has not been created using RobotStudio.

**Recommended actions**
Update the safety configuration.

### 90648, FuncIOMapping signal does not exist

**Description**
FuncIOMapping *arg* to signal *arg* on line *arg* failed because the signal does not exist.

**Consequences**
The system will stop all robot movements.

**Probable causes**
The safety configuration has not been created using RobotStudio.

**Recommended actions**
Update the safety configuration.

### 90649, FuncIOMapping failed

**Description**
FuncIOMapping *arg* to signal *arg* on line *arg* failed because the mapping has already been assigned to signal *arg*.

**Consequences**
The system will stop all robot movements.

**Probable causes**
The safety configuration has not been created using RobotStudio.

**Recommended actions**
Update the safety configuration.

### 90650, Unexpected bitwidth mismatch

**Description**
Unexpected bitwidth *arg* when *arg* device *arg arg* from signal *arg*.

**Consequences**
The system will stop all robot movements.

**Probable causes**
The safety configuration has not been created using RobotStudio.

**Recommended actions**
Update the safety configuration.

### 90651, Unexpected data size during import

**Description**
The target buffer size when importing from device *arg* does not match device input area size.

**Consequences**
The system will stop all robot movements.

**Probable causes**
The safety configuration has not been created using RobotStudio.

**Recommended actions**
Update the safety configuration.

### 90652, Unexpected data size during export

**Description**
The data size when exporting to device *arg* does not match device output area size.

**Consequences**
The system will stop all robot movements.

**Probable causes**
The safety configuration has not been created using RobotStudio.

**Recommended actions**
Update the safety configuration.

### 90653, The version of the sc_cfg file is not supported

**Description**
The version of the sc_cfg file is not supported.

**Consequences**
The system will stop all robot movements.

**Probable causes**
Restore from an unsupported safety configuration.

**Recommended actions**
Update the safety configuration.

### 90655, Invalid value of the encoding attribute

**Description**
Device *arg* signal *arg* map encoding is invalid.

**Consequences**
The system will stop all robot movements.

**Probable causes**
RobotStudio version is too old to handle the expected version.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

**Recommended actions**
Update RobotStudio.
Update the safety configuration.

### 90656, Device Assembly attribute is missing

**Description**
Device *arg* Assembly attribute *arg* is missing on line *arg*.

**Consequences**
The system will stop all robot movements.

**Probable causes**
The safety configuration has not been created using RobotStudio.

**Recommended actions**
Update the safety configuration.

### 90657, Device Assembly attribute is invalid

**Description**
Device *arg* Assembly attribute *arg* is invalid.

**Consequences**
The system will stop all robot movements.

**Probable causes**
The safety configuration has not been created using RobotStudio.

**Recommended actions**
Update the safety configuration.

### 90660, FuncIO information missing

**Description**
Could not set signal value for FuncIO *arg*.

**Consequences**
The system will stop all robot movements.

**Probable causes**
The safety configuration has not been created using RobotStudio.

**Recommended actions**
Update the safety configuration.

### 90661, FuncIO signal could not be set

**Description**
Could not set signal value for FuncIO *arg*.

**Consequences**
The system will stop all robot movements.

**Probable causes**
The safety configuration has not been created using RobotStudio.

**Recommended actions**
Update the safety configuration.

### 90662, FuncIO signal not found

**Description**
Could not find signal for FuncIO *arg*.

**Consequences**
The system will stop all robot movements.

**Probable causes**
The safety configuration has not been created using RobotStudio.

**Recommended actions**
Update the safety configuration.

### 90663, Unstable Operating Mode selector input

**Description**
Unstable input signals from the Operating Mode selector.

**Consequences**
The system will stop all robot movements.

**Recommended actions**
Switch back to previous operating mode and try again. If the problem persists, restart the system.

### 90664, FuncIOMappings dependency failed

**Description**
FuncIOMappings for FuncIO *arg* has dependency to FuncIO *arg*.
If the first FuncIO is needed then the second FuncIO must also be specified.

**Consequences**
The system will stop all robot movements.

**Probable causes**
The safety configuration has not been created using RobotStudio.

**Recommended actions**
Update the safety configuration.

### 90665, New safety configuration accepted

**Description**
The safety configuration was successfully updated.

*Continues on next page*


© Copyright 2005-2020 ABB. All rights reserved.

## 90666, Safety Controller configuration version not supported

**Description**

The safety controller configuration version is not supported by the software in the safety controller.

**Consequences**

The system will stop all robot movements.

**Probable causes**

1 The safety controller configuration version is too new.
2 The safety controller software is too old.

**Recommended actions**

1 Downgrade the safety controller configuration version.
2 Upgrade the safety controller software.

## 90667, MC option does not match SC configuration file

**Description**

The installed Robotware option(s) do(es) not match the contents of the safety controller configuration file.

**Consequences**

The system will stop all robot movements.

**Probable causes**

The MC option for the Operating Mode Selector type has been modified.

**Recommended actions**

Reset the safety controller to factory settings and create a new safety configuration.

## 90668, Emergency Stop Status input could not be tested

**Description**

Emergency Stop Status input could not be tested because emergency stop circuit is broken.

**Consequences**

The system remains in the Emergency Stop status.

**Probable causes**

1 An emergency stop button has been pressed.
2 The cable to the safety controller is not connected.

**Recommended actions**

1 Reset the emergency stop button triggering the stop.
2 Attach the cable to the safety controller.

## 90669, Drive Enable Feedback is open

**Description**

The Drive Enable Feedback input to the safety controller is open.

**Consequences**

The system will stop all robot movements in automatic mode.

**Probable causes**

1 The Drive Enable Feedback signal is open.
2 The cable to the safety controller is not connected.

**Recommended actions**

1 Make sure the Drive Enable Feedback signal is closed.
2 Attach the cable to the safety controller.

## 90670, Detachable TPU is allowed

**Description**

Detachable TPU is allowed for *arg* seconds.
Emergency stop on the TPU will not work during this period.
The detached TPU must immediately be stored away.

## 90671, The TPU has been detached

**Description**

The TPU has been detached. The emergency stop button on the TPU no longer functions.
The detached TPU must immediately be stored away.

## 90672, The TPU has been reattached

**Description**

The TPU has been reattached to the robot controller.
The functionality of the emergency stop button must be verified by the operator.

## 90673, Repeating detach of TPU request detected

**Description**

Repeating detach of TPU request detected.

**Consequences**

The system will stop all robot movements.

**Probable causes**

1 The operator has requested to detach the TPU within 5 seconds of the end of the previous detach period.
2 The operator has requested to detach the TPU while a detach request is already active.

**Recommended actions**

Do not issue repeating detach requests.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 90674, Detaching a TPU is not allowed because the emergency stop is activated

**Description**

Detaching a TPU is not allowed because the emergency stop on the TPU is activated.

**Recommended actions**

Release the emergency stop button on the TPU and try again.

### 90681, CL version attribute is missing

**Description**

The version attribute is missing in the CL configuration.

**Consequences**

The system will stop all robot movements.

**Probable causes**

The safety configuration has not been created using RobotStudio.

**Recommended actions**

Update the safety configuration.

### 90682, CL version is invalid

**Description**

The safety configuration contains an unsupported version *arg* for the CL configuration on line *arg*.

**Consequences**

The system will stop all robot movements.

**Probable causes**

The safety configuration has not been created using RobotStudio.

**Recommended actions**

Update the safety configuration.

### 90683, Invalid safety configuration item

**Description**

The safety configuration contains an invalid configuration item "*arg*" on line *arg*.

**Consequences**

The system will stop all robot movements.

**Probable causes**

The safety configuration has not been created using RobotStudio.

**Recommended actions**

Update the safety configuration.

### 90684, Safety configuration item/Attribute is invalid

**Description**

Configuration item/attribute *arg*, found on line *arg*, is empty or contains invalid character(s).

**Consequences**

The system will stop all robot movements.

**Probable causes**

The safety configuration has not been created using RobotStudio.

**Recommended actions**

Update the safety configuration.

### 90685, More than one configuration item found

**Description**

Duplicate safety configuration item "*arg*" found on line *arg*.

**Consequences**

The system will stop all robot movements.

**Probable causes**

The safety configuration has not been created using RobotStudio.

**Recommended actions**

Update the safety configuration.

### 90686, Safety configuration item missing

**Description**

Configuration item "*arg*" is missing in the safety configuration.

**Consequences**

The system will stop all robot movements.

**Probable causes**

The safety configuration has not been created using RobotStudio.

**Recommended actions**

Update the safety configuration.

### 90687, Safety configuration item attribute missing

**Description**

Configuration item "*arg*" missing on line "*arg*".

**Consequences**

The system will stop all robot movements.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

**Probable causes**
The safety configuration has not been created using RobotStudio.

**Recommended actions**
Update the safety configuration.

### 90688, Too many configuration items specified

**Description**
The Safety CL configuration contains too many "*arg*" items on line "*arg*".

**Consequences**
The system will stop all robot movements.

**Probable causes**
The safety configuration has not been created using RobotStudio.

**Recommended actions**
Update the safety configuration.

### 90689, Too few configuration items specified

**Description**
The Safety CL configuration contains too few "*arg*" items on line "*arg*".

**Consequences**
The system will stop all robot movements.

**Probable causes**
The safety configuration has not been created using RobotStudio.

**Recommended actions**
Update the safety configuration.

### 90690, CL operator or operation already exists

**Description**
The Safety CL configuration contains a duplicate item *arg* on line *arg*.

**Consequences**
The system will stop all robot movements.

**Probable causes**
The safety configuration has not been created using RobotStudio.

**Recommended actions**
Update the safety configuration.

### 90691, Actuator/resultant name already used

**Description**
Actuator/resultant name *arg* on line *arg* has already been specified.

**Consequences**
The system will stop all robot movements.

**Probable causes**
The safety configuration has not been created using RobotStudio.

**Recommended actions**
Update the safety configuration.

### 90692, The specified signal does not exist

**Description**
Signal "*arg*", specified on line *arg*, is not defined in the safety configuration.

**Consequences**
The system will stop all robot movements.

**Probable causes**
The safety configuration has not been created using RobotStudio.

**Recommended actions**
Update the safety configuration.

### 90693, Unknown signal type

**Description**
The signal type "*arg*", specified on line *arg*, is unknown.

**Consequences**
The system will stop all robot movements.

**Probable causes**
The safety configuration has not been created using RobotStudio.

**Recommended actions**
Update the safety configuration.

### 90694, Signal types differ

**Description**
The operation signal type "*arg*" differs from the operator signal type "*arg*" on line "*arg*".

**Consequences**
The system will stop all robot movements.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

**Probable causes**
The safety configuration has not been created using RobotStudio.

**Recommended actions**
Update the safety configuration.

## 90695, Operator name is unknown

**Description**
Unknown operator name "*arg*" is specified for operation "*arg*" on line "*arg*".

**Consequences**
The system will stop all robot movements.

**Probable causes**
The safety configuration has not been created using RobotStudio.

**Recommended actions**
Update the safety configuration.

## 90696, Actuator/Resultant numbers differ

**Description**
Operation "*arg*": The number of "*arg*" differs from its operator "*arg*" count on line "*arg*".

**Consequences**
The system will stop all robot movements.

**Probable causes**
The safety configuration has not been created using RobotStudio.

**Recommended actions**
Update the safety configuration.

## 90697, Operation actuator/resultant not found

**Description**
Operation actuator or resultant "*arg*" does not have a corresponding operator actuator/resultant on line "*arg*".

**Consequences**
The system will stop all robot movements.

**Probable causes**
The safety configuration has not been created using RobotStudio.

**Recommended actions**
Update the safety configuration.

## 90698, Operator type is unknown

**Description**
Unknown operator type "*arg*" is specified for operator "*arg*" on line "*arg*".

**Consequences**
The system will stop all robot movements.

**Probable causes**
The safety configuration has not been created using RobotStudio.

**Recommended actions**
Update the safety configuration.

## 90699, Configured operator signal type is not supported

**Description**
Specified actuator/resultant "*arg*" type of the operator "*arg*" is not supported. Line number "*arg*".

**Consequences**
The system will stop all robot movements.

**Probable causes**
The safety configuration has not been created using RobotStudio.

**Recommended actions**
Update the safety configuration.

## 90700, *arg* initialization error

**Description**
The Safety Network Controller *arg* failed to initialize.

**Consequences**
The system will stop all robot movements.

**Probable causes**
Internal error.

**Recommended actions**
Check for other event messages. Restart the robot controller.

## 90701, *arg* stop failed

**Description**
The Safety Network Controller *arg* was unable to stop.

**Consequences**
The system will stop all robot movements. Communication with the network is not possible.

*Continues on next page*


© Copyright 2005-2020 ABB. All rights reserved.

**Probable causes**
Internal error.

**Recommended actions**
Check for other event messages. Restart the robot controller.

### 90702, *arg* start failed

**Description**
The Safety Network Controller *arg* was unable to start.

**Consequences**
The system will stop all robot movements. Communication with the network is not possible.

**Probable causes**
Internal error.

**Recommended actions**
Check for other event messages. Restart the robot controller.

### 90703, *arg* read failed

**Description**
The Safety Network Controller *arg* was unable to read data from the network.

**Consequences**
The system will stop all robot movements. Communication with the network is not possible.

**Probable causes**
Network partner is unavailable. Cabling error.

**Recommended actions**
Check cables. Check for other event messages. Restart the robot controller.

### 90704, *arg* write failed

**Description**
The Safety Network Controller *arg* was unable to write data to the network.

**Consequences**
The system will stop all robot movements. Communication with the network is not possible.

**Probable causes**
Network partner is unavailable. Cabling error.

**Recommended actions**
Check cables. Check for other event messages. Restart the robot controller.

### 90705, *arg* sync failed

**Description**
The Safety Network Controller *arg* was unable to sync between CPUs.

**Consequences**
The system will stop all robot movements.

**Probable causes**
Internal error.

**Recommended actions**
Check for other event messages. Restart the robot controller.

### 90707, *arg* initialization failed

**Description**
The Safety Network Controller *arg* was unable to initialize communication with the robot controller.

**Consequences**
The system will stop all robot movements.

**Probable causes**
Internal error.

**Recommended actions**
Check for other event messages. Restart the robot controller.

### 90720, Device already configured

**Description**
Network *arg*, device *arg* is already configured.

**Consequences**
The system will stop all robot movements.

**Probable causes**
User has used the same device name twice.

**Recommended actions**
Remove or rename the extra device configuration.

### 90721, Module already configured

**Description**
Network *arg*, device *arg*, module *arg* is already configured on device *arg*.

**Consequences**
The system will stop all robot movements.

**Probable causes**
User has used the same module name twice.

**Recommended actions**
Remove or rename the extra module configuration.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

## 90722, Slot occupied by other module

**Description**

Network *arg*, device *arg*, slot *arg* is already configured on module *arg*.

**Consequences**

The system will stop all robot movements.

**Probable causes**

User has used the same slot number for two different modules in the same device. A slot can only be occupied by one module.

**Recommended actions**

Re-assign the erroneous module to the correct slot.

## 90723, Module F-Destination address already used

**Description**

Network *arg*, module *arg* F-Destination address *arg* already configured on module *arg*.

**Consequences**

The system will stop all robot movements.

**Probable causes**

The F-Destination address must be unique on the entire ProfiNet network. User has assigned the same F-Destination address to two different modules.

**Recommended actions**

Re-assign the erroneous module to the correct F-Destination address.

## 90724, Module F-Source address already used as F-Destination address

**Description**

Network *arg*, module *arg* F-Source address *arg* used as F-Destination address on module *arg*.

**Consequences**

The system will stop all robot movements.

**Probable causes**

User has assigned an F-Source address as the F-Destination address.

**Recommended actions**

Re-assign the erroneous module to have the correct F-Destination/F-Source address.

## 90725, Module F-Destination address already used as F-Source address

**Description**

Network *arg* module *arg* F-Destination address *arg* used as F-Source address on module *arg*.

**Consequences**

The system will stop all robot movements.

**Probable causes**

User has assigned an F-Destination address as the F-Source address.

**Recommended actions**

Re-assign the erroneous module to have the correct F-Destination/F-Source address.

## 90770, CIP Safety IP Address mismatch

**Description**

The NodeId *arg.arg.arg.arg* of the CIP Safety Adapter does not match the IP Address of the robot controller EtherNet/IP Industrial Network.

**Consequences**

Communication with the CIP Safety adapter will not be possible.

**Probable causes**

Configuration mismatch.

**Recommended actions**

Verify that the NodeID of the CIP Safety Adapter matches the IP address of the Industrial Network EtherNet/IP.

## 90771, CIP Safety Electronic key mismatch

**Description**

An external CIP Safety Scanner is attempting to connect to the CIP Safety Adapter of this robot controller with an unsupported electronic key.

**Consequences**

Communication with the external CIP Safety Scanner will not be possible.

**Probable causes**

The external CIP Safety Scanner has an invalid value for parameter *arg*.

**Recommended actions**

Check the electronic key configuration of the external CIP Safety Scanner.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

## 90772, CIP Safety memory reset

**Description**

The Persistant memory of the CIP Safety Adapter has been reset to default.

**Consequences**

The output ownership of any previously established CIP Safety connections is no longer present in persistent memory.

**Probable causes**

User interaction.

**Recommended actions**

Reconnect Safety Scanner.

## 90773, CIP Safety forward open fail

**Description**

The CIP Safety Adapter of this robot controller has rejected a safety forward open from an external CIP Safety Scanner.

**Consequences**

Communication with the external CIP Safety Scanner will not be possible.

**Probable causes**

The CIP Safety Scanner has an invalid value for parameter *arg*.

**Recommended actions**

Check the configuration of the *arg* parameter.

## 90774, CIP Safety forward close fail

**Description**

The CIP Safety Adapter of this robot controller has rejected a safety forward close from an external CIP Safety Scanner.

**Consequences**

The Robot Controller is not able to properly clean the safety connection. The external CIP Safety Scanner may not be able to reestablish the connection.

**Probable causes**

The CIP Safety Adapter may be in a state where the closing of a safe connection is not allowed.

**Recommended actions**

Restart the robot controller.

## 90775, Selected RPI below recommended value

**Description**

Selected RPI for *arg* is below recommended value of 20ms.

**Consequences**

The jitter in the observed packet interval and the worst case packet interval has increased causing unstable communication.

**Probable causes**

RPI below the recommended value.

**Recommended actions**

Set the Timeout Multiplier of the connection to a value greater than 3.

## 90776, Configuration Signature Mismatch

**Description**

The Configuration Signature parameter received from an external CIP Safety Scanner in the Forward Open request does not match value in the CIP Safety Adapter of this robot controller. The signature is created in the ABB Safety Configuration Report and consist of ID, Date and Time.

**Consequences**

CIP Safety Communication with the external Scanner is not possible.

**Probable causes**

The external Safety Scanner has a signature configured but

1 it did not match the value in the ABB Safety Configuration Report of the CIP Safety Adapter or
2 the Adapter configured the signature to "Not Used".

**Recommended actions**

1 Verify that the external Scanner has all parts of the Configuration Signature (ID, date and time) according to the ABB Safety Configuration Report of the Adapter.
2 If you wish to disable the signature matching while opening a safety connection, then set the Configuration Signature parameter to "Not Used" in the Adapter and disable it in the external Scanner as well.

## 90777, CIP Safety Configuration Mismatch - Size Mismatch

**Description**

The configuration of EterNet/IP Device *arg* (or its EterNet/IP IO connections) in I/O System Configuration does not match the corresponding configuration in Visual SafeMove.

**Consequences**

1 CIP Safety Communication with may not work properly.
2 The CIP Safety Configuration Signature (SCID) generated in the ABB Safety Configuration Report is invalid.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

**Probable causes**

The parameter *arg* in I/O System Configuration is set to *arg*.
The corresponding parameter in Visual SafeMove is set to *arg*.

**Recommended actions**

1 Verify that the paramter has the same value in both: I/O System Configuration and in Visual SafeMove.
2 Verify that the device configured in I/O System Configuration has all its EtherNet/IP IO Connections attached as intended.

## 90778, CIP Safety Configuration Mismatch - Name Mismatch

**Description**

The EtherNet/IP Device *arg* defined in the I/O System Configuration does not exist in CIP Safety Scanner configuration in Visual SafeMove.

**Consequences**

1 CIP Safety Communication with will not be possible.
2 The CIP Safety Configuration Signature (SCID) generated in the ABB Safety Configuration Report is invalid.

**Probable causes**

The *arg* device does not exist in CIP Safety Scanner configuration in Visual SafeMove.

**Recommended actions**

1 Verify that the device is added in Visual SafeMove configuration.
2 Verify that the device has the same name in I/O System Configuration and in Visual SafeMove.

## 90779, CIP Safety Ownership Conflict

**Description**

An external CIP Safety Scanner tries to connect and write to the CIP Safety Adapter. However, another Scanner with different IP Address and/or Safety Network Number (SNN) already owns that connection of the CIP Safety Adapter. The IP Address and SNN of the current owner are written to Non Volatile Memory of the CIP Safety Adapter.

**Consequences**

1 An external CIP Safety Scanner will not be able to connect and read or write signals to the CIP Safety Adapter of the Robot Controller.

**Probable causes**

1 The IP Address and/or SNN of the external CIP Safety Scanner has changed.
2 The connection on this CIP Safety Adapter is already owned by another external CIP Safety Scanner.

**Recommended actions**

1 Verify that the IP Address and SNN of the external CIP Safety Scanner is as intended.
2 Reset CIP Safety to clear the ownership from Non Volatile Memory of the CIP Safety Adapter.

## 90780, Two-channel fault in Safety Controller

**Description**

Two-Channel fault for Safety Controller GPIO input *arg*: *arg* != *arg*.

**Consequences**

The system will stop all robot movements in automatic mode.

**Probable causes**

1 Cable fault.
2 Signaling error.

**Recommended actions**

Check cables to the Safety Controller. Restart the robot controller.

## 90781, Safe Local I/O GPIO input is unstable

**Description**

*arg* SNC: GPIO input *arg* is unstable.
This is a warning only.

**Probable causes**

1 Cable fault.
2 Signaling error.

**Recommended actions**

1 Check cables to the Safety Controller.
2 Verify that the indicated signal to the Safety Controller is stable.

## 90790, *arg* setup failed

**Description**

The *arg* was unable to setup properly.

**Consequences**

*arg* is not running.

**Probable causes**

No communication with the PROFIsafe host. Bad parameter values.

**Recommended actions**

Check parameters and connection to the PROFIsafe host. Try again.

*Continues on next page*


© Copyright 2005-2020 ABB. All rights reserved.

### 90791, *arg* start failed

**Description**

The *arg* was unable to start.

**Consequences**

*arg* is not running.

**Probable causes**

No communication with the PROFIsafe host. Bad parameter values.

**Recommended actions**

Check parameters and connection to the the PROFIsafe host. Try again.

### 90792, *arg* fail-safe activated

**Description**

The *arg* has activated fail-safe values.

**Probable causes**

Lost communication with the PROFIsafe host.

**Recommended actions**

Check connection to the PROFIsafe host.

### 90793, *arg* Operator Acknowledge

**Description**

The *arg* is in Operator Acknowledge state.
The PROFIsafe host is waiting for operator acknowledgement.

**Consequences**

*arg* is sending fail-safe values.

**Probable causes**

Communication with the the PROFIsafe host has been established.

**Recommended actions**

Activate the Operator Acknowledge signal for about 1 second.

### 90794, *arg* parameter mismatch

**Description**

The *arg* F-Parameters do not match F-Parameters from the PROFIsafe host.

**Probable causes**

Incorrect parameters sent from the PROFIsafe host.

**Recommended actions**

Check the configuration in the PROFIsafe host and restart communication.

### 90795, *arg* watchdog timeout

**Description**

The *arg* watchdog has timed out.

**Probable causes**

Lost communication with the PROFIsafe host.

**Recommended actions**

1 Check that the Ethernet cable is properly inserted.
2 Check that the PROFIsafe host is connected and running.

### 90796, *arg* CRC error

**Description**

The *arg* is in CRC error state.

**Probable causes**

Communication fault from the PROFIsafe host.

**Recommended actions**

Check connection to the PROFIsafe host and try again.

### 90797, *arg* fault

**Description**

The *arg* is in device fault state.

**Probable causes**

Communication fault from the PROFIsafe host. Internal errors.

**Recommended actions**

Check connection to the PROFIsafe host and try again.

### 90800, Bad XML syntax in *arg* safety configuration file

**Description**

The system could not parse the contents of the safety configuration file.

**Probable causes**

The configurator has not been used for creating the configuration file. Internal error in the configurator.

**Recommended actions**

Make sure to use the configurator when creating the safety configuration file.

### 90801, CRC error in *arg* safety configuration file

**Description**

The CRC in the safety configuration file does not match the contents of the file.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

**Consequences**
The safety configuration file is not loaded and the Safety Controller goes to Safe state.

**Recommended actions**
Update the safety configuration and restart the system.

## 90802, Lock Information Error

**Description**
The lock information in the safety configuration file *arg* does not match the lock information stored in the Safety Controller, cause *arg*.
Checksum safety configuration file: *arg*.
Checksum Safety Controller: *arg*.

**Consequences**
No full speed operation is possible.

**Probable causes**
1 The safety configuration file contains LockInfo, but has not been locked to the Safety Controller.
2 The Safety Controller is locked to another safety configuration-file.
3 The Safety Controller was locked to another robot controller (mismatch ControllerId).
4 The Safety Controller is locked to this safety configuration file, but the file does not contain LockInfo.

**Recommended actions**
1 Lock the file to the Safety Controller or remove LockInfo from the safety configuration file.
2 Unlock the safety configuration on the Safety Controller, or revert to the file corresponding to the checksum on the Safety Controller.
3 Unlock the safety configuration stored on the Safety Controller, or move the Safety Controller hardware back to the correct robot controller (if it has been moved).
4 Add LockInfo to the safety configuration file, or perform Unlock on it to remove lock information from the Safety Controller.

## 90804, Communication lost with Safety Controller

**Description**
The main computer has lost contact with the Safety Controller.

**Consequences**
The robot controller goes to SYS FAIL No operation will be possible until the fault has been corrected and the system have been restarted.

**Probable causes**
This may be caused by faulty hardware.

**Recommended actions**
1 Make sure the Safety Controller board is properly mounted.
2 Restart the system and check if the error remains.

## 90805, Start of Safety Controller failed

**Description**
The main computer could not start the Safety Controller. See the event log for more details.

**Consequences**
No operation will be possible until the fault has been corrected and the system have been restarted.

**Probable causes**
This may be caused by faulty hardware.

**Recommended actions**
1 Make sure the Safety Controller board is properly mounted.
2 Restart the system and check if the error remains.

## 90806, Safety Configuration Locked

**Description**
The Safety configuration was successfully locked by user *arg*.

**Consequences**
The robot can now be run in automatic mode without warnings. The safety configuration cannot be changed unless it is unlocked first.

## 90807, Safety Configuration Unlocked

**Description**
The safety configuration was successfully unlocked.

**Consequences**
The safety configuration can now be modified. Switching to automatic mode will generate a warning.

## 90808, Unsupported Robot Type

**Description**
The Safety Controller does not support the robot type.

**Consequences**
No operation will be possible.

**Recommended actions**
1 Remove the Safety Controller board and the Safety Controller option from the system.

*Continues on next page*


© Copyright 2005-2020 ABB. All rights reserved.

2 Change to a robot type that is supported by the Safety Controller.

## 90809, Safety Controller set to default configuration

**Description**

The safety controller configuration failed validation checks.

**Consequences**

The safety controller is running with the default configuration.

**Probable causes**

User misconfiguration.

**Recommended actions**

1 Correct the safety controller configuration.

## 90810, Safety Controller hardware diagnostics failed

**Description**

The Safety Controller hardware diagnostics failed: *arg arg*.

**Consequences**

No operation will be possible until the fault has been corrected and the system have been restarted.

**Probable causes**

This may be caused by faulty hardware.

**Recommended actions**

1 Make sure the Safety Controller board is properly mounted.
2 Restart the system and check if the error remains.
3 If the error remains replace the Safety Controller board.

## 90811, CPU register self-test failed

**Description**

The CPU hardware diagnostics has detected an error: *arg*.

**Consequences**

No operation will be possible until the fault has been corrected and the system have been restarted.

**Probable causes**

This may be caused by faulty hardware.

**Recommended actions**

1 Restart the system and check if the error remains.
2 If the error remains replace the Safety Controller board.

## 90812, GPIO register self-test failed

**Description**

The GPIO hardware diagnostics has detected an error on GPIO ID: *arg*.

**Consequences**

No operation will be possible until the fault has been corrected and the system have been restarted.

**Probable causes**

This may be caused by faulty hardware.

**Recommended actions**

1 Restart the system and check if the error remains.
2 If the error remains replace the Safety Controller board.

## 90813, GPIO start-up circuit test failed

**Description**

The GPIO start-up circuit test failed on GPIO ID: *arg*.

**Consequences**

No operation will be possible until the fault has been corrected and the system have been restarted.

**Probable causes**

This may be caused by faulty hardware.

**Recommended actions**

1 Make sure that all cables to the safety controller are properly attached.
2 Restart the system and check if the error remains.
3 If the error remains replace the Safety Controller board.

## 90814, GPIO cyclic circuit test failed

**Description**

The GPIO cyclic circuit test failed on GPIO ID: *arg*.

**Consequences**

No operation will be possible until the fault has been corrected and the system have been restarted.

**Probable causes**

This may be caused by faulty hardware.

**Recommended actions**

1 Make sure that all cables to the safety controller are properly attached.
2 Restart the system and check if the error remains.
3 If the error remains replace the Safety Controller board.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

## 90815, Mode Selector input test failed

**Description**

The Mode Selector input test failed on GPIO ID: *arg*.

**Consequences**

No operation will be possible until the fault has been corrected and the system have been restarted.

**Probable causes**

This may be caused by faulty hardware.

**Recommended actions**

1 Make sure that all cables to the safety controller are properly attached.
2 Restart the system and check if the error remains.
3 If the error remains replace the Safety Controller board.

## 90816, Invalid Mode Selector input

**Description**

The Mode Selector has an invalid number of set inputs: *arg*.

**Consequences**

No operation will be possible until the fault has been corrected and the system have been restarted.

**Probable causes**

This may be caused by faulty hardware.

**Recommended actions**

1 Make sure that all cables to the safety controller are properly attached.
2 Restart the system and check if the error remains.
3 If the error remains replace the Safety Controller board.

## 90817, Invalid state of the Mode Selector

**Description**

The Mode Selector input is in an invalid state GPIO ID: *arg*.

**Consequences**

No operation will be possible until the fault has been corrected and the system have been restarted.

**Probable causes**

This may be caused by faulty hardware.

**Recommended actions**

1 Make sure that all cables to the safety controller are properly attached.
2 Restart the system and check if the error remains.
3 If the error remains replace the Safety Controller board.

## 90818, Temperature test failed

**Description**

The temperature is outside specification: *arg*.

**Consequences**

No operation will be possible until the fault has been corrected and the system have been restarted.

**Probable causes**

The ambient temperature is either too high or too low.

**Recommended actions**

1 Ensure that the system is operating in an approved environment.
2 Restart the system and check if the error remains.
3 If the error remains replace the Safety Controller board.

## 90819, Voltage test failed

**Description**

The voltage is outside specification: *arg*.

**Consequences**

No operation will be possible until the fault has been corrected and the system have been restarted.

**Probable causes**

This may be caused by faulty hardware.

**Recommended actions**

1 Make sure that all cables to the safety controller are properly attached.
2 Restart the system and check if the error remains.
3 If the error remains replace the Safety Controller board.

## 90822, Diagnostic has been disabled

**Description**

Diagnostic tests in safety controller have been disabled.

**Consequences**

Safe digital inputs, outputs and voltages on the safety controller have not been tested.

**Probable causes**

The main computer software is run on a test rack with simulated drive system.

**Recommended actions**

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

## 90830, Safety Controller persistent storage data is corrupt

**Description**

Data stored in persistent memory by Safety Controller was detected as corrupt/inconsistent. Data area will therefore be erased.

**Consequences**

See the application manual for SafeMove2 regarding persistent storage.

**Probable causes**

This can be caused by an uncontrolled shutdown or in rare cases faulty hardware.

**Recommended actions**

1 Restart the robot controller to see if the error remains.
2 If the error remains consider replacing the Safety Controller hardware.

## 90831, Safety Controller persistent data lost

**Description**

Data stored in persistent memory by Safety Controller was not stored during last shutdown.

**Consequences**

See the application manual for SafeMove2 regarding persistent storage.

**Probable causes**

This was caused by an uncontrolled shutdown or in rare cases faulty hardware.

**Recommended actions**

1 Restart the robot controller to see if the error remains.
2 If the error remains consider replacing the Safety Controller hardware.

## 90832, File *arg* not found

**Description**

The XML file *arg*, which is used by the safety controller, was not found.

**Consequences**

No operation will be possible until the fault has been corrected and the system has been restarted.

**Probable causes**

1 Restore of a backup from a system with a different configuration.
2 Disc corruption.

**Recommended actions**

1 Restore to a system with the correct configuration.
2 Reinstall system.

## 90833, Safety configuration version not supported

**Description**

Safety configuration file *arg* version *arg.arg.arg* not supported.

**Consequences**

No operation will be possible until the fault has been corrected and the system has been restarted.

**Recommended actions**

Use RobotStudio to create a valid safety configuration for the system.

## 90834, Safety configuration attribute missing or invalid

**Description**

Safety configuration file *arg* element *arg*: Attribute *arg* invalid or missing on line *arg*.

**Consequences**

No operation will be possible until the fault has been corrected and the system has been restarted.

**Recommended actions**

Use RobotStudio to create a valid safety configuration for the system.

## 90835, Safety Controller performance warning

**Description**

The work load on the safety controller is near its limit.

**Consequences**

If the work load is increased, the safety controller will stop the robot.

**Probable causes**

The safety configuration is too demanding for the system.

**Recommended actions**

Create and load a less demanding configuration with fewer and simpler zones.

## 90836, Safety Controller has entered safe state

**Description**

The safety controller has entered the safe state.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

**Consequences**

The system goes to status SYS HALT.

**Probable causes**

The cause of this is described in previous event log entries.

**Recommended actions**

Check and handle previous event messages and restart the robot controller.

## 90851, Safety Configuration Error

**Description**

The safety configuration file *arg* does not match the installed system options. The safety configuration file contains *arg* instances of *arg* when *arg* instances is allowed.

**Consequences**

The Safety Controller will not load the safety configuration and enters safe state.

**Probable causes**

The safety configuration file contains elements that are not supported by the installed system options.

**Recommended actions**

Remove the instance *arg* in the safety configuration and download it to the controller, or install the required option, *arg*.

## 90852, Empty Safety Configuration

**Description**

The safety configuration is empty.

**Consequences**

No supervision of the robot will be performed.

**Recommended actions**

Use the configurator to add safety supervision.

## 90890, Start of Safety Controller failed

**Description**

The main computer could not start the safety controller. See the event log for more details.

**Consequences**

No operation will be possible until the fault has been corrected and the system has been restarted.

**Probable causes**

This may be caused by faulty hardware or incompatible safety controller software version.

**Recommended actions**

1 Reinstall system.
2 Make sure the safety controller board is properly mounted.
3 Restart the system and check if the error remains.


© Copyright 2005-2020 ABB. All rights reserved.

## 4.10 11 xxxx

### 110001, Process Supervision Phase PRE

**Description**

Task: *arg*

Supervision failed for process phase PRE.

*arg*

**Recommended actions**

Check the signal(s) that failed:

*arg*

*arg*

Recovery:

You might want to handle errno *arg* in your error handler

### 110002, Process Supervision Phase PRE_START

**Description**

Task: *arg*

Supervision failed for process phase PRE_START.

*arg*

**Recommended actions**

Check the signal(s) that failed:

*arg*

*arg*

Recovery:

You might want to handle errno *arg* in your error handler

### 110003, Process Supervision Phase START

**Description**

Task: *arg*

Supervision failed for process phase START.

*arg*

**Recommended actions**

Check the signal(s) that failed:

*arg*

*arg*

Recovery:

You might want to handle errno *arg* in your error handler

### 110004, Process Supervision Phase MAIN

**Description**

Task: *arg*

Supervision failed for process phase MAIN.

*arg*

**Recommended actions**

Check the signal(s) that failed:

*arg*

*arg*

Recovery:

You might want to handle errno *arg* in your error handler

### 110005, Process Supervision Phase END_MAIN

**Description**

Task: *arg*

Supervision failed for process phase END_MAIN.

*arg*

**Recommended actions**

Check the signal(s) that failed:

*arg*

*arg*

Recovery:

You might want to handle errno *arg* in your error handler

### 110006, Process Supervision Phase POST1

**Description**

Task: *arg*

Supervision failed for process phase POST1.

*arg*

**Recommended actions**

Check the signal(s) that failed:

*arg*

*arg*

Recovery:

You might want to handle errno *arg* in your error handler

### 110007, Process Supervision Phase END_POST1

**Description**

Task: *arg*

Supervision failed for process phase END_POST1.

*arg*

**Recommended actions**

Check the signal(s) that failed:

*arg*

*arg*

Recovery:

You might want to handle errno *arg* in your error handler

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 110008, Process Supervision Phase POST2

**Description**

Task: *arg*

Supervision failed for process phase POST2.

*arg*

**Recommended actions**

Check the signal(s) that failed:

*arg*

*arg*

Recovery:

You might want to handle errno *arg* in your error handler

### 110009, Process Supervision Phase END_POST2

**Description**

Task: *arg*

Supervision failed for process phase END_POST2.

*arg*

**Recommended actions**

Check the signal(s) that failed:

*arg*

*arg*

Recovery:

You might want to handle errno *arg* in your error handler

### 110012, Movement start timeout

**Description**

Task: *arg*

Time (*arg* second(s)) between start of process and Robot movement is too long.

**Recommended actions**

Check your process equipment.

### 110013, Application process interrupted

**Description**

Task: *arg*

The application process was not terminated properly.

*arg*

**Consequences**

Eventual post-motion phases were not executed.

**Probable causes**

1. Logical RAPID instructions in a sequence of application movement instructions consuming too much execution time.
2. The last instruction in the sequence of application movement instructions, that does not indicate the sequence end.
3. A process error occurred too close to the endpoint of the process: a process restart is not performed.

**Recommended actions**

Remove the logical instructions, that cause the delay,

or

check, that the last application movement instruction indicates, that it is the last one.

### 110014, Option 'Optical Tracking' or 'Weldguide' is missing

**Description**

Task: *arg*

The optional argument '\Track' may not be used without the option 'Optical Tracking' or 'Weldguide' or 'Sensor Interface'.

*arg*

**Recommended actions**

Remove the optional argument '\Track'

or

Order a RobotWare key that, depending on your equipment, contains the option 'Optical Tracking' or 'Weldguide' or 'Sensor Interface'.

### 110015, Option Path Offset is missing

**Description**

Task: *arg*

The switch '\Corr' may not be used without the option Path Offset.

*arg*

**Recommended actions**

Remove the switch '\Corr'

or

Order a RobotWare key, that contains the option 'Path Offset'.

### 110016, Unsafe flying end

**Description**

Task: *arg*

Program execution proceeded to the next RAPID instruction before the application process had finished.

**Consequences**

If a process error occurs, the application process will be stopped on the fly, but the robot movement will not be stopped.

**Probable causes**

The zone size and the fly_end distance of the flying end instruction do not fit together.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

**Recommended actions**

Increase fly_end distance or decrease the zone size of the instruction with flying end.

*arg arg*

## 110017, Process data buffer full

**Description**

Task: *arg*

*arg*

The process data buffer is full. The latest process data set and robtarget has been replaced by the data set and robtarget of the active instruction.

**Consequences**

A set of process data and a robtarget are skipped. This could result in path shortcuts and inadequate process data.

**Probable causes**

The RAPID program contains too many short continuous process instructions in sequence.

**Recommended actions**

Either increase the length of the continuous process instructions

or

reduce process speed.

## 110018, Too many concurrent flying welds

**Description**

Task: *arg*

There are too many short movements with application process in sequence, that have flying start and flying end and that are programmed with a high process speed.

**Consequences**

Because the robot controller resources are not sufficient, the controller entered an error state.

**Probable causes**

1. Too high process speed.
2. Too short process movements with flying start and end.

**Recommended actions**

You can:

1. Decrease the process speed.
2. Remove the flying start and/or end.
3. Increase the length of the process movements.

## 110019, Option 'Optical Tracking' is missing

**Description**

Task: *arg*.

The optional argument '\FillTrBuff' may not be used without the option 'Optical Tracking' or 'Weldguide' or 'Sensor Interface'.

*arg*.

**Recommended actions**

Remove the optional argument '\Track'

or

order a RobotWare license that, depending on your equipment, contains the option 'Optical Tracking' or 'Weldguide' or 'Sensor Interface'.

## 110020, Supervision limit

**Description**

Task: *arg*

The maximum number of signals to be supervised (max. 32) has been exceeded in one of the supervision phases.

*arg*

**Recommended actions**

Remove signals from supervision for phase *arg* in order to meet the limit of 32.

## 110021, Unknown supervision list

**Description**

Task: *arg*

The Supervision list type *arg* is unknown.

*arg*

**Consequences**

Supervision is not set up or removed.

**Recommended actions**

Change the supervision list type.

## 110025, No active CAP process

**Description**

Task: *arg*

There is no active CAP process for this instruction.

*arg*

**Recommended actions**

Verify that *arg* is used according to documentation.

## 110026, Process start not allowed

**Description**

Task: *arg*

It is not possible to start the process on the current instruction

*arg*

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

**Probable causes**

You try to start the process on a CAP instruction, where the value for capdata.first_instr is not set to TRUE.

**Recommended actions**

Either set the value for capdata.first_instr to TRUE

or

Move the PP to a CAP instruction with capdata.first_instr = TRUE

or

Move the PP to an instruction that is not a CAP instruction.

## 110027, Robot movement is blocked

**Description**

Task: *arg*

It is not possible to start the robot movement.

*arg*

**Probable causes**

The RAPID instruction 'StopMove' has been executed prior to this movement instruction.

**Recommended actions**

You have to execute the RAPID instruction 'StartMove' or 'StartMoveRetry' to unblock the movement of the Robot.

## 110030, Invalid ICap Event

**Description**

Task: *arg*

*arg* is invalid as event for the instruction ICap.

*arg*

**Recommended actions**

Use one of the valid ICap events described in the reference manual for CAP.

## 110032, No TRAP routine for CAP_STOP

**Description**

Task: *arg*

CAP requires a RAPID TRAP routine to be defined for the event CAP_STOP.

This is necessary as to stop external equipment when RAPID execution stops.

*arg*

**Recommended actions**

Add a TRAP routine for CAP_STOP in your RAPID code.

## 110034, Skip without process finished

**Description**

The robot has reached the end of the distance it was requested to move without active application process.

**Recommended actions**

Recovery:

You might want to handle errno *arg* in your error handler

## 110035, Process start position reached

**Description**

Task: *arg*.

The look-ahead buffer for tracking is filled and the robot TCP has reached the programmed start position for the application process.

*arg*.

**Consequences**

This recoverable error occurs if you have used the optional argument '\FillTrBuff' in the first CAP instruction of a sequence.

**Recommended actions**

You might want to handle errno *arg* in your error handler.

## 110040, Process Supervision Phase END_PRE

**Description**

Task: *arg*

Supervision failed for process phase END_PRE.

*arg*

**Recommended actions**

Check the signal(s) that failed:

*arg*

*arg*

Recovery:

You might want to handle errno *arg* in your error handler

## 110041, Process Supervision Phase START_POST1

**Description**

Task: *arg*

Supervision failed for process phase START_POST1.

*arg*

**Recommended actions**

Check the signal(s) that failed:

*arg*

*arg*

Recovery:

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

You might want to handle errno *arg* in your error handler

### 110042, Process Supervision Phase START_POST2

**Description**

Task: *arg*

Supervision failed for process phase START_POST2.

*arg*

**Recommended actions**

Check the signal(s) that failed:

*arg*

*arg*

Recovery:

You might want to handle errno *arg* in your error handler

### 110100, Fatal process error

**Description**

Task: *arg*

A fatal process error has been reported. Check previous error messages for more information about the reason of the error.

**Recommended actions**

A restart of the system or move of program pointer is highly recommended.

### 110101, Invalid weave shape

**Description**

Task: *arg*

The weave shape used is invalid:

[No shape = 0, Zig-zag shape = 1, V-shape = 2, Triangular shape = 3]

**Recommended actions**

Correct the shape component.

### 110102, Invalid weave length

**Description**

Task: *arg*

The weave length used is invalid:

(0 - 1) [m]

**Recommended actions**

Correct the component length.

### 110103, Invalid weave cycle time

**Description**

Task: *arg*

The weave cycle time used is invalid:

(0 - 100) [s]

**Recommended actions**

Correct the component cycle_time.

### 110104, Invalid weave width

**Description**

Task: *arg*

The weave width used is invalid:

(0 - 1) [m]

**Recommended actions**

Correct the component width.

### 110105, Invalid weave height

**Description**

Task: *arg*

The weave height used is invalid:

(0 - 1) [m]

**Recommended actions**

Correct the component height

### 110106, Invalid weave dwell left

**Description**

Task: *arg*

The weave dwell_left used is invalid:

(0 - 1) [m]

**Recommended actions**

Correct the component dwell_left

### 110107, Invalid weave dwell center

**Description**

Task: *arg*

The weave dwell_center used is invalid:

(0 - 1) [m]

**Recommended actions**

Correct the component dwell_center

### 110108, Invalid weave dwell right

**Description**

Task: *arg*

The weave dwell_right used is invalid:

(0 - 1) [m]

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

**Recommended actions**

Correct the component dwell_right

### 110109, Invalid weave bias

**Description**

Task: *arg*

The weave bias used is invalid:

(-1 - 1) [m]

**Recommended actions**

Correct the component bias

### 110110, Invalid weave direction angle

**Description**

Task: *arg*

The weave direction angle used is invalid:

(-PI/2 - PI/2) [rad]

**Recommended actions**

Correct the component dir

### 110111, Invalid weave tilt angle

**Description**

Task: *arg*

The weave tilt angle used is invalid:

(-PI/2 - PI/2) [rad]

**Recommended actions**

Correct the component tilt

### 110112, Invalid weave rotation angle

**Description**

Task: *arg*

The weave rotation angle used is invalid:

(-PI/2 - PI/2) [rad]

**Recommended actions**

Correct the component rot

### 110113, Invalid horizontal weave offset

**Description**

Task: *arg*

The horizontal weave offset is invalid:

### 110114, Invalid vertical weave offset

**Description**

Task: *arg*

The vertical weave offset is invalid:

### 110115, Invalid weave sync left

**Description**

Task: *arg*

The weave sync left value is invalid:

(0 - 100) [%]

**Recommended actions**

Correct the component ptrn_sync_left in capweavedata.

### 110116, Invalid weave sync right

**Description**

Task: *arg*

The weave sync right value is invalid:

(0 - 100) [%]

**Recommended actions**

Correct the component ptrn_sync_right in capweavedata.

### 110117, Weave bias not allowed

**Description**

Task: *arg*

It is not allowed to use bias for shapes other than Zig-zag (=1).

**Recommended actions**

Correct the components 'bias' and/or 'shape' in capweavedata.

### 110118, Weave bias too big

**Description**

Task: *arg*

It is not allowed to use a bias that is bigger than half the width.

**Recommended actions**

Correct the components 'bias' and/or 'width' in capweavedata.

### 110119, Weave dwell too big

**Description**

Task: *arg*

It is not allowed to use a dwell that is bigger than the length.

The ramp slope (amplitude/length) is limited.

**Recommended actions**

Correct the components 'dwell_right/center/left' and/or 'length' in capweavedata.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 110120, Weave bias change too big

**Description**

Task: *arg*

The weave bias change is bigger than allowed.

Max *arg* [m]

**Recommended actions**

Adjust weave tuning increment for bias, and/or check that the change of the bias is less than the maximum.

### 110121, Weave width tuning error

**Description**

Task: *arg*

The weave width change is bigger than allowed.

Max *arg* [m]

**Recommended actions**

Adjust weave tuning increment for width, and/or check that the change of the width is less than the maximum.

### 110122, Weave height tuning error

**Description**

Task: *arg*

The weave height change is bigger than allowed.

Max *arg* [m]

**Recommended actions**

Adjust weave height tuning increment, and/or check that the change of the height is less than the maximum.

### 110130, Signal not defined

**Description**

Task: *arg*

The signal *arg* is not defined.

*arg*

**Recommended actions**

Define the signal *arg* in eio.cfg

### 110131, No Signal specified

**Description**

Task: *arg*

No signal specified!

*arg*

**Recommended actions**

Specify a DI signal

### 110132, An internal error occurred

**Description**

Task: *arg*

*arg*

**Recommended actions**

Check the 'Internal' Log.

### 110133, Wrong path level

**Description**

Task: *arg*

*arg*

This instruction is not allowed on this path level (*arg*).

**Recommended actions**

Use RestoPath, to change to path level 0.

### 110134, Change from fine to z0

**Description**

Task: *arg*

*arg*

A 'fine' point is not allowed in the middle of a Process sequence.

The zone data was changed from 'fine' to 'z0'.

**Recommended actions**

Correct your RAPID instruction's zone data.

### 110135, Capdata.first_instr changed to FALSE

**Description**

Task: *arg*

*arg*

A capdata.first_instr = TRUE is not allowed in the middle of a Process sequence.

The value is internally changed from 'TRUE' to 'FALSE'.

**Recommended actions**

Correct your RAPID instruction's capdata.first_instr value or review the Cap sequence.

### 110140, \ReportAtTool only allowed with Look Ahead Trackers

**Description**

Task: *arg*

*arg*

It is not allowed to use the optional argument \ReportAtTool with other sensors than Look Ahead Trackers (e.g. Laser Trackers).

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

**Consequences**

The sensor variable interrupt was not set up.

**Recommended actions**

Remove the optional argument \ReportAtTool from the instruction IVarValue.

### 110141, \Aptr only allowed with At Point Trackers

**Description**

Task: *arg*

*arg*

It is not allowed to use the optional argument \Aptr with other sensors than At Point Trackers (e.g. WeldGuide).

**Consequences**

The sensor variable interrupt was not set up.

**Recommended actions**

Remove the optional argument \Aptr from the instruction IVarValue.

### 110142, Sensor variable type not supported by IVarValue

**Description**

Task: *arg*

*arg*

The sensor variable type *arg* is not supported by IVarValue.

**Consequences**

The sensor variable interrupt was not set up.

**Recommended actions**

Change the sensor variable type.

### 110143, Number of subscriptions exceeded

**Description**

Task: *arg*

*arg*

The number of sensor variable subscriptions (IVarValue) is exceeded.

Max. number of admitted subscriptions: *arg*

**Consequences**

The subscription was not set up.

**Recommended actions**

Reduce the number of sensor variable subscriptions (IVarValue).

### 110160, Track error

**Description**

Task: *arg*

Track error.

*arg*

**Recommended actions**

Check joint definition.

Recovery: *arg*

### 110161, Track start error

**Description**

Task: *arg*

Track start error.

*arg*

**Recommended actions**

Check joint definition in captrackdata.

Recovery: *arg*

### 110162, Track max path corr error

**Description**

Task: *arg*

Track max path corr error.

*arg*

**Recommended actions**

Check joint definition and max_corr in captrackdata.

Recovery: *arg*

### 110163, Track communication error

**Description**

Task: *arg*

No communication between sensor and controller.

**Recommended actions**

Check the hardware

### 110164, Track correction lost

**Description**

Task: *arg*

Track lost due to power fail.

*arg*

**Recommended actions**

Move PP to main, or step through the rest of the CAP sequence.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 110165, No Sensor Measurement

**Description**

Task: *arg*

No sensor measurement available.

*arg*

### 110166, Sensor Not ready yet

**Description**

Task: *arg*

The sensor is not ready.

*arg*

### 110167, General error from sensor

**Description**

Task: *arg*

General sensor error.

*arg*

### 110168, Sensor busy

**Description**

Task: *arg*

The sensor is busy.

*arg*

### 110169, Unknown command to sensor

**Description**

Task: *arg*

Some for the sensor unknown command was sent.

*arg*

### 110170, Illegal variable or block number in sensor

**Description**

Task: *arg*

The variable number or block number is unknown to the sensor.

*arg*

### 110171, External alarm from sensor

**Description**

Task: *arg*

An external sensor alarm occurred.

*arg*

### 110172, Camera alarm from sensor

**Description**

Task: *arg*

The sensor camera sent an alarm.

*arg*

### 110173, Temperature alarm from sensor

**Description**

Task: *arg*

The sensor temperature is out of admitted bounds.

*arg*

### 110174, Value to sensor out of range

**Description**

Task: *arg*

The value sent to the sensor is out of bounds.

*arg*

### 110175, Camera check failed

**Description**

Task: *arg*

It was not possible to perform a sensor camera check.

*arg*

### 110176, Sensor communication time out

**Description**

Task: *arg*

Timeout occured in communication with the sensor.

*arg*

### 110177, Tracker calibration error

**Description**

Task: *arg*

Sensor: *arg*

It was not possible to perform a valid tracker calibration.

**Consequences**

The sensor *arg* is not calibrated, thus should not be used for tracking.

**Probable causes**

The average calibration precisions obtained in the x-, y-, z-directions of the sensor tool are: *arg*. The desired ones are: *arg*.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

**Recommended actions**
Verify that the calibration plate has not been moved. Check the sensor settings. Start LTC to run a manual calibration setup followed by a new calibration.

## 110178, Tracker verification error

**Description**
Task: *arg*
Sensor: *arg*
It was not possible to perform a valid tracker calibration verification.

**Consequences**
The sensor *arg* does not meet the calibration precision and will therefore be unreliable for tracking.

**Probable causes**
The average verification precisions obtained in the x-, y-, z-directions of the sensor tool are: *arg*. The desired ones are: *arg*.

**Recommended actions**
Start LTC to run a manual verification with a different number of measurements. If problems persist, run a new manual calibration from LTC.

## 110179, Left lap joint definition not correct

**Description**
Task: *arg*
Sensor: *arg*
The definition of the left joint (number *arg*) is not correct.

**Consequences**
It will not be possible to perform a sensor calibration.

**Probable causes**
The measure obtained in the y-direction of the sensor tool on the left lap-joint is : *arg* mm. The value should be positive.

**Recommended actions**
Check the left-lap joint definition (*arg*) in the sensor's (*arg*)PC interface. Possibly switch between the right and left lap-joint definitions.

## 110180, Sensor Calibration Data updated

**Description**
The sensor calibration data for *arg* (*arg* and *arg*) are updated.
Task: *arg*

**Recommended actions**
If you use CAP without RW Arc, you have to rerun the RAPID instruction
CapLATRSetup *arg*,*arg*,*arg*\SensorFreq:=xxx;
to make CAP use the updated sensor calibration data.

## 110181, Track max incremental corr error

**Description**
Task: *arg*.
Track max incremental corr error.
*arg*.

**Recommended actions**
Check \MaxIncCorr in CapLATRSetup.
Recovery: *arg*.

## 110182, Invalid sensordatatype in Data

**Description**
Task: *arg*.
The value *arg* for sensordatatype at array index *arg* is not valid
*arg*.

**Recommended actions**
Change sensordatatype value to a valid value 0, 1 or 2.

## 110183, Invalid scale in Data

**Description**
Task: *arg*.
The value *arg* for scale at array index *arg* is not valid
*arg*.

**Recommended actions**
Change scale value to a valid value 1, 10 or 100.

## 110184, Error reading Device configuration

**Description**
Task: *arg*.
There was an error when trying to read the configuration for the Device *arg*
*arg*.

**Recommended actions**
Check the Device parameter.

## 110185, Value larger than sensordatatype allows

**Description**
Task: *arg*.

*Continues on next page*


© Copyright 2005-2020 ABB. All rights reserved.

The value *arg* for sensordatatype at array index *arg* is to big for the sensordatatype *arg*
*arg*.

**Recommended actions**
Change the value in sensorVarData.

### 110186, Invalid sensordatatype in Data

**Description**
Task: *arg*.
The value *arg* for sensordatatype at array index *arg* is not valid for configured device
*arg*.

**Recommended actions**
Change sensordatatype value to a valid value 0 or 1.

### 110203, Application error

**Description**
Task: *arg*
The maximum program number, 'DA_PROG_MAX' is above the num data type limit.
Current value: *arg*

**Consequences**
The maximum configured program number will not be set.

**Probable causes**
The specified program number *arg* is above the maximum integer value for the num data type, max value 8388608.

**Recommended actions**
Check the program.

### 110204, Application error

**Description**
Task: *arg*
Any return code other than DAOK is rejected from *arg*

**Recommended actions**

### 110205, Application error

**Description**
Task: *arg*
Forward sequence jumping is not allowed.

**Recommended actions**
Check the program sequence.

### 110206, Application error

**Description**
Task: *arg*
Missing I/O-signal *arg*.

**Recommended actions**
Check the I/O configuration.

### 110207, Application error

**Description**
Task: *arg*
Process number *arg* of application *arg* was already installed.

**Recommended actions**

### 110208, Application error

**Description**
Task: *arg*
Number *arg* is not a valid start number.

**Recommended actions**

### 110209, Application error

**Description**
Task: *arg*
The user hook *arg* is not a valid sequence entry.

**Recommended actions**
Check the program sequence.

### 110210, Application error

**Description**
Task: *arg*
The program number *arg* is above the num data type limit.

**Consequences**
The program number will not be set.

**Probable causes**
The specified program number *arg* is above the maximum integer value for the num data type, max value 8388608.

**Recommended actions**
Check the program.

### 110211, Application error

**Description**
Task: *arg*
The instruction *arg* reported a fatal error.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

Line: *arg*.

**Recommended actions**

Check the program.

## 110212, Application error

**Description**

Task: *arg*

*arg* tried to use a non existent process descriptor.

A fatal error in damastr class.

*arg*

**Probable causes**

The XXShPowerOn has not been executed.

**Recommended actions**

Check if XXShPowerOn was done.

## 110214, Application error

**Description**

Task: *arg*

*arg* tried to use a non existent application descriptor.

*arg*

**Probable causes**

The XXShPowerOn has not been executed, or to few DA_PROC task are specified.

**Recommended actions**

Check if XXShPowerOn was done.

If using only DAP you should save a sys.cfg, and add a new DA_PROCX task in that file. Check what files are loaded for DA_PROC1 task and add them to your new task.

## 110216, Application error

**Description**

Task: *arg*

Attempt to install a process number

outside it's limits.

*arg*

*arg*

**Recommended actions**

Check the program, max number of processes are limited to 4.

## 110220, Application error

**Description**

Task: *arg*

The user data variable choice does not exist.

*arg*

*arg*

## 110221, Application error

**Description**

Task: *arg*

The user data variable has incorrect type.

*arg*

*arg*

## 110222, Application error

**Description**

Task: *arg*

The internal process data type lacks daintdata as first element.

*arg*

*arg*

**Recommended actions**

Check the program.

## 110223, Application error

**Description**

Task: *arg*

The user data type definitions exceed the maximum data storage size.

*arg*

*arg*

**Recommended actions**

Check the program.

## 110224, Application error

**Description**

Task: *arg*

The user data type definitions does not correspond to what was defined.

*arg*

*arg*

## 110226, Application error

**Description**

Task: *arg*

An error occurred while attempting to reload the Power Failure area.

An automatic restart of the processes will not be possible.

*arg*

*arg*

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 110229, Application error

**Description**

Task *arg*:
Error from *arg* . The data type definitions exceed the maximum data storage size.
*arg*

**Recommended actions**

Check the data size.

### 110230, Application error

**Description**

Task *arg*:
Not possible to execute instruction in motors off state for servo tool *arg* .

**Recommended actions**

Retry after setting motors on.

### 110231, Application process time warning

**Description**

Task *arg*:
*arg*. Max process time exceeded, waiting for process complete.
Time: *arg* s.

**Recommended actions**

Check the application code for any delays preventing the process to finish.

### 110300, Parameter error

**Description**

Task: *arg*
The max string length of the parameter *arg* is 5 characters.
Current used name is *arg*.
See specification in *arg*.
*arg*

**Recommended actions**

Check the length of the string data value.

### 110302, Parameter error

**Description**

Task: *arg*
The specified signal *arg* in the instruction *arg* has no reference.
*arg*

**Probable causes**

The signal reference is not valid, no AliasIO has been done or the signal is write protected in the EIO configuration..

**Recommended actions**

Check the EIO configuration.

### 110303, Parameter error

**Description**

Task: *arg*
The optional signals *arg* and *arg* must be used together.
See specification in *arg*.
*arg*

**Recommended actions**

Check the program.

### 110304, Parameter error

**Description**

Task: *arg*
The parameter *arg* of the instruction *arg* is not an array.
*arg*

**Recommended actions**

Check the data definition.

### 110305, Parameter error

**Description**

Task: *arg*
The dimension of the data array *arg* is to big.
See specification in *arg*.
*arg*

**Recommended actions**

Check the data declaration.

### 110306, Parameter error

**Description**

Task: *arg*
The array *arg* of the instruction *arg* is not right defined.
*arg*

**Recommended actions**

Check the data against the specification.

### 110307, Parameter error

**Description**

Task: *arg*
The event time array element *arg.arg* is less than 0.
See specification in *arg*.
*arg*

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

**Recommended actions**
Check the time event data.

### 110308, Parameter error

**Description**
Task: *arg*
The data selector *arg* in the instruction *arg* is not valid.
*arg*

**Recommended actions**
Check the selector against the specification.

### 110309, Parameter error

**Description**
Task: *arg*
The selector *arg* in the instruction *arg* is not valid.
*arg*

**Recommended actions**
Check the selector against the specification.

### 110310, Parameter error

**Description**
Task: *arg*
The selector *arg* in the instruction *arg* is not valid.
*arg*

**Recommended actions**
Check the selector against the specification.

### 110311, No Spot task

**Description**
Task: *arg*
No motion task is configured for Spot.
*arg*

**Probable causes**
Check the configuration

### 110312, Wrong number of DAPROC tasks

**Description**
Task: *arg*
Error from *arg*. *arg* DA_PROC task(s) are configured in the system. Number of daprocs must be in the interval 1 - *arg*.
*arg*

**Recommended actions**
Check the configuration.

### 110313, Not possible to activate/deactivate

**Description**
Task: *arg*
Error in *arg*. This daproc is not possible to activate/deactivate.
*arg*

**Recommended actions**
Check index in the daproc descriptor.

### 110401, Gas supervision

**Description**
Task:*arg*
*arg*
Gas supervision signal not set at start of welding.

**Recommended actions**
Check the gas equipment.
Recovery: You might want to handle errno *arg* in your error handler.

### 110402, Water supervision

**Description**
Task: *arg*
*arg*
Water supervision signal not set at start of welding.

**Recommended actions**
Check the water cooling equipment.
Recovery: You might want to handle errno *arg* in your error handler.

### 110403, Arc supervision

**Description**
Task: *arg*
*arg*
Arc ignition supervision signal not set at start of welding.

**Recommended actions**
Check the power source.
Recovery: You might want to handle errno *arg* in your error handler.

### 110404, Voltage supervision

**Description**
Task: *arg*
*arg*
Voltage supervision signal not set at start of welding.

*Continues on next page*


© Copyright 2005-2020 ABB. All rights reserved.

**Recommended actions**
Check the power source.
Recovery: You might want to handle errno *arg* in your error handler.

### 110405, Current supervision

**Description**
Task: *arg*
*arg*
Current supervision signal not set at start of welding.

**Recommended actions**
Check the power source.
Recovery: You might want to handle errno *arg* in your error handler.

### 110406, Wirefeed supervision

**Description**
Task: *arg*
*arg*
Wirefeed supervision signal not set at start of welding.

**Recommended actions**
Check the wirefeed unit.
Recovery: You might want to handle errno *arg* in your error handler.

### 110407, Wirestick supervision

**Description**
Task: *arg*
*arg*
Wirestick supervision signal set at start of welding.

**Recommended actions**
Check, if the wire got stuck at the object.
Recovery: You might want to handle errno *arg* in your error handler.

### 110408, Arc ignition failed

**Description**
Task: *arg*
*arg*
Arc ignition failed at start of welding.

**Recommended actions**
Check the welding equipment.
Recovery: You might want to handle errno *arg* in your error handler.

### 110409, Schedule strobe undefined

**Description**
Task: *arg*
*arg*
Schedule strobe undefined.

**Recommended actions**
Define a weld schedule strobe input.
Recovery: You might want to handle errno *arg* in your error handler.

### 110410, Schedule transfer error

**Description**
Task: *arg*
*arg*
It was not possible to transfer the schedule.

**Probable causes**
The schedule port was busy with previous transfer.

**Recommended actions**
Recovery: You might want to handle errno *arg* in your error handler.

### 110411, Process stopped

**Description**
Task: *arg*
*arg*
Process was stopped by the digital input 'stop process'.

**Recommended actions**
Check the digital input 'stop process'.
Recovery: You might want to handle errno *arg* in your error handler.

### 110412, Arc fill ignition failed

**Description**
Task: *arg*
*arg*
Arc fill ignition failed.

**Recommended actions**
Check the welding equipment.
Recovery: You might want to handle errno *arg* in your error handler.

### 110413, Torch supervision

**Description**
Task: *arg*

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

*arg*
Torch supervision signal went low during welding.

**Recommended actions**
Check the welding equipment.
Recovery: You might want to handle errno *arg* in your error handler.

## 110414, Weld supervision

**Description**
Task: *arg*
*arg*
Weld ignition supervision signal not set at start of welding.

**Recommended actions**
Check the power source.
Recovery: You might want to handle errno *arg* in your error handler.

## 110415, Weld Off Supervision timeout

**Description**
Task: *arg*
*arg*
The ArcEst signal was not reset at the end of the weld within the specified time. (*arg* seconds)

**Recommended actions**
Check the welding equipment and/or adjust the Weld Off timeout value,
found in Arc Equipment Properties.

## 110416, Weld Off Supervision timeout

**Description**
Task: *arg*
*arg*
The WeldOK signal was not reset at the end of the weld within the specified time.
(*arg* seconds)

**Recommended actions**
Check the welding equipment and/or adjust the Weld Off timeout value,
found in Arc Equipment Properties.

## 110421, Gas supervision

**Description**
Task: *arg*
*arg*
Gas supervision signal went low during welding.
Seam name: *arg*.
Time from weld start: *arg* min.

**Recommended actions**
Check the gas equipment.
Recovery: You might want to handle errno *arg* in your error handler.

## 110422, Water supervision

**Description**
Task: *arg*
*arg*
Water supervision signal went low during welding.
Seam name: *arg*.
Time from weld start: *arg*.

**Recommended actions**
Check the cooling water equipment.
Recovery: You might want to handle errno *arg* in your error handler.

## 110423, Arc supervision

**Description**
Task: *arg*
*arg*
Arc supervision signal went low during welding.
Seam name: *arg*.
Distance from weld start: *arg*.

**Recommended actions**
Check the welding equipment.
Recovery: You might want to handle errno *arg* in your error handler.

## 110424, Voltage supervision

**Description**
Task: *arg*
*arg*
Voltage supervision signal went low during welding.
Seam name: *arg*
Time from weld start: *arg*.

**Recommended actions**
Check the welding equipment.
Recovery: You might want to handle errno *arg* in your error handler.

*Continues on next page*


© Copyright 2005-2020 ABB. All rights reserved.

### 110425, Current supervision

**Description**

Task: *arg*

*arg*

Current supervision signal went low during welding.

Seam name: *arg*

Time from weld start: *arg*

**Recommended actions**

Check the welding equipment.

Recovery: You might want to handle errno *arg* in your error handler.

### 110426, Wirefeed supervision

**Description**

Task: *arg*

*arg*

Wirefeed supervision signal went low during welding.

Seam name: *arg*

Time from weld start: *arg*

**Recommended actions**

Check the wirefeed unit.

Recovery: You might want to handle errno *arg* in your error handler.

### 110427, Process stopped

**Description**

Task: *arg*

*arg*

Process was stopped during welding by the digital input 'stop process'.

Seam name: *arg*

Time from weld start: *arg*

**Recommended actions**

Recovery: You might want to handle errno *arg* in your error handler.

### 110428, Torch supervision

**Description**

Task: *arg*

*arg*

Torch supervision signal went low during welding.

Seam name: *arg*.

Time from weld start: *arg*.

**Recommended actions**

Check the welding equipment.

Recovery: You might want to handle errno *arg* in your error handler.

### 110429, Arc ignition failed

**Description**

Task: *arg*

*arg*

Seam name: *arg*.

Time from weld start: *arg*.

**Recommended actions**

Check the welding equipment.

Recovery: You might want to handle errno *arg* in your error handler.

### 110430, Arc fill ignition failed

**Description**

Task: *arg*

*arg*

Arc ignition failed during crater fill.

Seam name: *arg*.

Time from weld start: *arg*.

**Recommended actions**

Check the welding equipment.

Recovery: You might want to handle errno *arg* in your error handler.

### 110431, Weld supervision

**Description**

Task: *arg*

*arg*

Weld supervision signal went low during welding.

Seam name: *arg*.

Time from weld start: *arg*.

**Recommended actions**

Check the welding equipment.

Recovery: You might want to handle errno *arg* in your error handler.

### 110432, Arc ignition failed

**Description**

Task: *arg*

*arg*

Seam name: *arg*.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

Time from weld start: *arg*.

**Recommended actions**

Check the welding equipment. Signal WeldOK.

Recovery: You might want to handle errno *arg* in your error handler.

### 110433, Arc fill ignition failed

**Description**

Task: *arg*

*arg*

Arc ignition failed with signal WeldOk during crater fill.

Seam name: *arg*.

Time from weld start: *arg*.

### 110435, User defined signal supervision

**Description**

Task: *arg*

*arg*

User defined signal defined by USERIO1 went low during welding.

Seam name: *arg*.

Time from weld start: *arg*.

**Recommended actions**

Recovery: You might want to handle errno *arg* in your error handler.

### 110436, User defined signal supervision

**Description**

Task: *arg*

*arg*

User defined signal defined by USERIO2 went low during welding.

Seam name: *arg*.

Time from weld start: *arg*.

**Recommended actions**

Recovery: You might want to handle errno *arg* in your error handler.

### 110437, User defined signal supervision

**Description**

Task: *arg*

*arg*

User defined signal defined by USERIO3 went low during welding.

Seam name: *arg*.

Time from weld start: *arg*.

**Recommended actions**

Recovery: You might want to handle errno *arg* in your error handler.

### 110438, User defined signal supervision

**Description**

Task: *arg*

*arg*

User defined signal defined by USERIO4 went low during welding.

Seam name: *arg*.

Time from weld start: *arg*.

**Recommended actions**

Recovery: You might want to handle errno *arg* in your error handler.

### 110439, User defined signal supervision

**Description**

Task: *arg*

*arg*

User defined signal defined by USERIO5 went low during welding.

Seam name: *arg*.

Time from weld start: *arg*.

**Recommended actions**

Recovery: You might want to handle errno *arg* in your error handler.

### 110440, User defined signal supervision

**Description**

Task: *arg*

User defined signal *arg* defined by USERIO1 went low during welding.

### 110441, User defined signal supervision

**Description**

Task: *arg*

User defined signal *arg* defined by USERIO2 went low during welding.

### 110442, User defined signal supervision

**Description**

Task: *arg*

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

User defined signal *arg* defined by USERIO3 went low during welding.

### 110443, User defined signal supervision

**Description**

Task: *arg*

User defined signal *arg* defined by USERIO4 went low during welding.

### 110444, User defined signal supervision

**Description**

Task: *arg*

User defined signal *arg* defined by USERIO5 went low during welding.

### 110445, Gas supervision

**Description**

Task: *arg*

*arg*

Gas supervision signal went low during welding.

Seam name: *arg*

Time from weld start: *arg*.

### 110446, Water supervision

**Description**

Task: *arg*

*arg*

Water supervision signal went low during welding.

Seam name: *arg*

Time from weld start: *arg*.

### 110447, Arc supervision

**Description**

Task: *arg*

*arg*

Arc supervision signal went low during welding.

Seam name: *arg*

Time from weld start: *arg*.

### 110448, Voltage supervision

**Description**

Task: *arg*

*arg*

Voltage supervision signal went low during welding.

Seam name: *arg*

Time from weld start: *arg*.

### 110449, Current supervision

**Description**

Task: *arg*

*arg*

Current supervision signal went low during welding.

Seam name: *arg*

Time from weld start: *arg*.

### 110450, Wirefeed supervision

**Description**

Task: *arg*

*arg*

Wirefeed supervision signal went low during welding.

Seam name: *arg*

Time from weld start: *arg*.

### 110451, Torch supervision

**Description**

Task: *arg*

*arg*

Torch supervision signal went low during welding.

Seam name: *arg*

Time from weld start: *arg*.

### 110460, Weld Error Recovery

**Description**

PROC Parameters was loaded by *arg*

Configuration of Weld Error Recovery is Complete.

### 110461, Weld Error Recovery

**Description**

PROC Parameters for Weld Error Recovery could not be loaded in task *arg*

### 110462, Weld Error Recovery

**Description**

Robot *arg* moved from error location.

Robot will attempt to move back to the error location.

### 110463, Weld Error Recovery Failed

**Description**

Incorrect Weld Error Recovery Usage.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

A user-defined service routine must return the robot to within 50mm of breakpoint.

**Recommended actions**

Re-program your service routine.

### 110464, EquipmentClass Error

**Description**

Task: *arg*

The Specified EquipmentClass *arg* could not be unloaded.

### 110465, EquipmentClass Error

**Description**

Task: *arg*

The Specified EquipmentClass *arg* could not be found at path: *arg*

### 110466, RW Arc Installation

**Description**

Weld System *arg* (of *arg* installed) started in task *arg*

Active EquipmentClass *arg*

Status OK

### 110467, RW Arc Installation

**Description**

Deactivation and Unload of EquipmentClass *arg* failed.

### 110468, RW Arc Installation

**Description**

Weld System *arg* deactivated in task *arg*

Status OK

### 110469, RW Arc Installation

**Description**

Load and Init of EquipmentClass *arg* failed.

### 110470, Configuration Parameter Error

**Description**

Task: *arg*

PROC Configuration Parameter *argarg*

could not be found in cfg database.

**Recommended actions**

Check the installation of PROC domain parameters.

### 110471, Undefined Signal Error

**Description**

*arg*

Failing signal during weld phase *arg* could not be determined.

### 110472, Configuration Parameter Error

**Description**

Task: *arg*

PROC Configuration Parameter *argarg*

is a required parameter.

**Recommended actions**

Check the installation of PROC domain parameters.

### 110473, Weld Equipment Error

**Description**

Task: *arg*

*arg*

Error: *arg*

(format: ErrorCode ErrorText)

**Recommended actions**

Check the Power Source.

### 110474, RW Arc EIO signal error

**Description**

There is no communication with signal *arg* on unit *arg*.

**Consequences**

Welding will not be possible without communication with this EIO unit.

**Recommended actions**

Check the communication link with the EIO unit.

### 110475, Calibration variable missing

**Description**

Task: *arg*

No Calibration variable is specified in Arc Sensor Properties.

Default calibration data is used. *arg=arg*

**Consequences**

Calibration data is needed for optimal sensor performance.

### 110476, Calibration variable error

**Description**

Task: *arg*

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

The specified Calibration variable *arg* in in Arc Sensor Properties could not be found in any loaded RAPID modules. Default calibration data is used. *arg*=*arg*

**Consequences**
Calibration data is needed for optimal sensor performance.

**Recommended actions**
Check variable name in Arc Sensor Properties and make sure that the Sensor Calibration program is loaded.

### 110477, Device name mismatch

**Description**
Task: *arg*
Device name *arg* in in Arc Sensor Properties and Communication settings does not match.

**Consequences**
The same device name must be specified in both Arc Sensor Properties and Communication settings for the sensor to work properly.

### 110478, Process stop due to WDM Stability error

**Description**
Task: *arg*
*arg*

**Consequences**
RW Arc has stopped the welding process due to a Weld Data Monitor stability infraction.

**Recommended actions**
See Weld Data Monitor elog for more information.

### 110479, Process stop due to WDM Signature error

**Description**
Task: *arg*
*arg*

**Consequences**
RW Arc has stopped the welding process due to a Weld Data Monitor signature infraction.

**Recommended actions**
See Weld Data Monitor elog for more information.

### 110480, Arc Welding Task Busy

**Description**
Task: *arg*
*arg*
Serious File System problem encountered.

**Recommended actions**
The Controller must be restarted to solve the problem.

### 110481, System Retry limit

**Description**
Task: *arg*
*arg*
Max number of retries has been reached on system level.
System Misc, NoOfRetry=*arg*

**Recommended actions**
Increase parameter value to avoid reaching the limit.

### 110482, Sensor calibration data updated

**Description**
Sensor calibration data updated in task: *arg*
Active calibration data: *arg*=*arg*

### 110490, Weld Error Recovery IO Error

**Description**
Task: *arg*
*arg*
The breakout input was left on. The external device must reset the signal.
The Weld Error Recovery IO interface is disabled. Respond to FlexPendant.

### 110491, Weld Error Recovery IO Error

**Description**
Task: *arg*
*arg*
Invalid response *arg* supplied on signal agiWER_Response.
Valid range: (*arg*)
Request has been changed to Abort.

### 110492, Weld Error Recovery IO Error

**Description**
Task: *arg*
*arg*
Escape option is not available. Request has been changed to MoveOut.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 110493, Weld Error Recovery IO Error

**Description**

Task: *arg*

*arg*

System is waiting for the diWERAck input to go low.

### 110494, Weld Error Recovery IO Error

**Description**

Task: *arg*

*arg*

Supplied value on giWER_Response (*arg*) is not within range: (*arg*)

Request has been changed to: *arg*

### 110495, Weld Error Recovery IO Interface

**Description**

Task: *arg*

The Weld Error Recovery IO Interface is successfully configured for *arg*

and is ready for use.

### 110496, IO signal not found

**Description**

Task: *arg*

Configured IO signal does not exist in system.

Configured parameter: *arg*.

Signal name: *arg*.

**Recommended actions**

Check the installation of PROC domain parameters.

### 110500, Track error

**Description**

Task: *arg*

*arg*

The maximum distance ['blindcount'(trackdata)] without new corrections is exceeded. The robot controller has not been able to calculate valid corrections.

**Consequences**

The robot is stopped.

**Probable causes**

1. The sensor does not send valid measurements, i.e. cannot see the seam.

2. the relationship between sensor look-ahead (la), sensor frequency (f) and travel speed (v) is bad. It has to fulfill

a) 1 < (la / v) * f < 200 (internal track buffer size)

b) la / v > 0.5 s (internal delay)

**Recommended actions**

Check sensor mounting, sensor setup, travel speed and trackdata.

Recovery: You might want to handle errno *arg* in your error handler.

### 110501, Track start error

**Description**

Task: *arg*

*arg*

Not any valid correction data from the sensor while executing the current ArcX instruction.

**Recommended actions**

Check sensor setup and trackdata. Recovery: You might want to handle errno *arg* in your error handler.

### 110502, Track correction error

**Description**

Task: *arg*

*arg*

The correction is too big.

**Recommended actions**

1. Check that the seam definitions in the program reflect the actual seams. 2. Increase 'max_corr' in 'trackdata'. Recovery: You might want to handle errno *arg* in your error handler.

### 110503, Illegal arcflydata specified

**Description**

Task: *arg*

*arg*

The value of parameter *arg* in arcflydata is *arg*

**Consequences**

Flying *arg* will not work correctly with this value.

**Recommended actions**

Increase the value of *arg* in arcflydata to a value greater than zero.

### 110504, Illegal flydata combination

**Description**

Task: *arg*

*arg*

Flying *arg* is not possible with finepoint.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

**Consequences**

There will be no flying *arg*

**Recommended actions**

Change to zonepoint in ArcX*arg* instruction.

## 110505, Illegal zonepoint specified

**Description**

Task: *arg*

*arg*

A zonepoint is used in the weld *arg* instruction without any optional arcflydata in the instruction.

**Consequences**

The zonepoint will be converted to a finepoint.

**Recommended actions**

Add the optional argument arcflydata to the ArcX*arg* instruction if flying *arg* is wanted.

## 110506, Illegal arcflydata combination

**Description**

Task: *arg*

*arg*

The arcflydata parameter *arg* has a value which is greater than the value of parameter *arg*.

**Consequences**

The value of *arg* will be reduced to the value of *arg*.

**Recommended actions**

Reduce the value of parameter *arg* so that the value is lower than or equal to the value of parameter *arg*.

## 110507, RW Arc EIO signal error

**Description**

Task: *arg*

*arg*

The value of *arg* for signal *arg* is below its minimum logical value (*arg*)

**Consequences**

The value of signal *arg* will be set to the minimum value *arg*.

**Recommended actions**

Check the values of *arg* components in seamdata and welddata. Change the value or change the min logical parameter for signal *arg* to avoid this message.

## 110508, Wirestick supervision

**Description**

Task: *arg*

*arg*

Wirestick supervision signal set at end of welding.

**Recommended actions**

Check, if the wire got stuck at the object.

Recovery: You might want to handle errno *arg* in your errorhandler.

## 110509, Weld Repair notification

**Description**

Welding was interrupted in task *arg* at seam *arg*

An attempt to re-weld the interrupted seam will now be made.

Program ref. *arg*

**Probable causes**

Disturbances in the welding process.

## 110510, Weld Repair notification

**Description**

The weld seam *arg* was successfully re-welded in task *arg*

Program ref. *arg*

## 110511, Weld Repair notification

**Description**

The weld seam *arg* in procedure *arg* in task *arg* was skipped.

The maximum number of weld errors (*arg*) on seam *arg* was reached.

Program ref. *arg*.

## 110512, Weld Repair notification

**Description**

The weld seam *arg* in procedure *arg* in task *arg* was skipped.

The maximum number of retries (*arg*) on seam *arg* was reached.

Program ref. *arg*.

## 110513, Error in Arc instruction synchronization

**Description**

Task: *arg*

*arg*.

This robot is welding synchronized with a non-welding external axis or robot in task *arg*.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

The weld end instructions are synchronized, so the corresponding ArcMoveXXX instruction must be used in the non-welding external axis or robot.

**Recommended actions**
Use ArcMoveXXX instruction in the non-welding external axis or robot.

### 110514, Illegal superv_distance specified

**Description**
Task: *arg*
*arg*.
The value of parameter superv_distance is *arg*.

**Consequences**
Flying start will not work correctly with this value.

**Recommended actions**
Increase the value of superv_distance to a value greater than zero.

### 110515, Illegal flyStart parameter combination

**Description**
Task: *arg*
*arg*.
FlyStart can not be used at the same time as *arg*.

**Consequences**
Flying start will not be enabled.

**Recommended actions**
Remove *arg* if flying start shall be used.

### 110516, Tracking Interface missing

**Description**
Task: *arg*.
The system is missing the controller option 1553-Tracking interface.

**Consequences**
Tracking will not be possible.

**Recommended actions**
Install the controller option 1553-Tracking Interface.

### 110517, Fronius Tracking Equipment

**Description**
Task: *arg*.
Fronius Tracking Equipment is activated.
Version: *arg*.
Last modified: *arg*.

**Consequences**
Seamtracking will be possible.

### 110518, Fronius Tracking Equipment

**Description**
Task: *arg*
Fronius Tracking Equipment is deactivated.
Version: *arg*.
Last modified: *arg*.

**Consequences**
Seamtracking will not be possible.

**Probable causes**
Controller option 1553-Tracking Interface is missing.

**Recommended actions**
Install the controller option 1553-Tracking Interface.

### 110519, Fronius Tracking Equipment

**Description**
Task: *arg*.
Fronius Tracking Equipment configuration failed.

**Consequences**
Seamtracking will not be possible.

**Recommended actions**
Check configuration.

### 110520, Fronius Heartbeat signal failed

**Description**
Task: *arg*.
Fronius TPSi Heartbeat Signal failed.

**Consequences**
Welding will not be possible.

**Recommended actions**
Check fieldbus communication and welding equipment.

### 110521, Fronius Welding Equipment

**Description**
Task: *arg*.
An analog command value is out of range.

**Consequences**
Weld might be imperfect.

**Recommended actions**
Check your weld parameters.

*Continues on next page*


© Copyright 2005-2020 ABB. All rights reserved.

### 110522, Fronius Welding Equipment

**Description**

Task: *arg*.

An analog correction value is out of range.

**Consequences**

Weld might be imperfect.

**Recommended actions**

Check your weld parameters.

### 110523, Fronius Welding Equipment

**Description**

Task: *arg*.

Updated mFroniusModes.sys

### 110524, Fronius Welding Equipment

**Description**

mFroniusModes.sys loaded in task: *arg*.

Updated mFroniusModes.sys

### 110525, Fronius TPSi Welding Equipment

**Description**

Communication established with IO unit *arg* in task: *arg*.

### 110526, Fronius Welding Equipment

**Description**

No communication with IO unit *arg* in task: *arg*.

### 110527, Fronius TPSi Welder not ready

**Description**

Fronius welder problem , welder not ready. Signal *arg* on IO unit *arg* in task *arg* not set.

### 110600, Spot Startup completed

**Description**

Spot startup was completed without errors.

Task: *arg*

### 110601, Invalid configuration

**Description**

Task: *arg*

The number of configured equipments in the system are less than one(1).

Number of equipments: *arg*.

**Consequences**

It will not be possible to run any spot instructions.

**Probable causes**

No equipments are defined in the 'Spot Equipments' configuration.

**Recommended actions**

Add one or more equipment instance(s) in the 'Spot Equipments' configuration.

### 110602, Invalid configuration

**Description**

Task: *arg*

The number of configured equipments are more than 10.

Number of equipments: *arg*.

**Consequences**

It will not be possible to run any spot instructions.

**Probable causes**

Too many equipments are defined in the 'Spot Equipments' configuration.

**Recommended actions**

Remove equipment instances in the 'Spot Equipments' configuration.

### 110603, Optional argument error

**Description**

Task: *arg*

No optional argument has been selected.

At least one optional argument is required.

**Consequences**

The instruction will not work correctly.

**Recommended actions**

Select an optional argument for this instruction.

### 110604, User hook execution time

**Description**

Task: *arg*

The execution time for this user hook is too high.

User hook: *arg*

Execution time greater than: *arg* s.

**Recommended actions**

Reduce time consuming code in the user routine.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

## 110605, Pre-position value error

**Description**

Task: *arg*

The optional argument PrePos are less than zero(0).

**Consequences**

It will not be possible to run this instruction until the argument are changed.

**Recommended actions**

Change the value to a higher value than zero (0).

## 110606, Gun not activated

**Description**

Task: *arg*

The servo gun *arg* is not activated.

**Consequences**

It will not be possible to run any spot instructions until the servo gun is activated.

**Probable causes**

The servo gun has not been activated before trying to run this instruction.

**Recommended actions**

Activate the servo gun *arg*.

Use the instruction 'ActUnit' to activate the servo gun, or set the 'Activate at Start Up' motion parameter to yes.

## 110607, Gun position not initialized

**Description**

Task: *arg*.

The gun position is not initialized for the servo gun *arg*.

A gun init calibration is needed to find the contact position of the gun.

**Consequences**

It will not be possible to run any spot instructions until a gun init calibration is done.

**Probable causes**

The servo gun has probably been fine calibrated and a gun init calibration has not been done.

**Recommended actions**

Run the service routine 'ManualServiceCalib' to find the contact position of the gun, use option 2 - Initialize the servo gun position.

## 110608, Gun position not synchronized

**Description**

Task: *arg*.

The gun position is not synchronized for the servo gun *arg*.

A gun synchronization calibration is needed to find the contact position of the gun.

**Consequences**

It will not be possible to run any spot instructions until a gun synchronization calibration is done.

**Probable causes**

The revolution counters for the servo gun has probably been updated and a gun synchronization calibration has not been done.

**Recommended actions**

Run the service routine 'ManualServiceCalib' to find the contact position of the gun, use option 1 - Synchronize the servo gun position.

## 110609, Gundata array index out of bounds

**Description**

Task: *arg*

The configured data size of the gundata array is wrong.

Current size: *arg*

**Probable causes**

Wrong gundata data size has been defined, it does not match the number of configured gun equipments in the system.

**Recommended actions**

Check that the configured gundata array has the correct size.

## 110610, Gun name error

**Description**

Task: *arg*

The servo gun *arg* specified in gundata {*arg*}, does not exist in the motion parameters.

**Consequences**

It will not be possible to run any spot instruction until a valid servo gun name (mecunit) is specified in gundata.gun_name.

**Probable causes**

The specified gun name does not match any mechanical unit in the system or no configuration parameters for a servo gun has been loaded.

**Recommended actions**

1. Load configuration parameters for the servo gun.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

2. Run the service routine 'ManualGunSearch' to search the system for servo guns and to update the gun name parameter in gundata,

## 110611, Invalid data value

**Description**

Task: *arg*

Invalid value of data *arg*. Allowed values are *arg* to *arg*

Current value is *arg*

**Consequences**

It will not be possible to run this instruction until this data is changed.

**Probable causes**

An invalid value is used.

**Recommended actions**

Change the value of *arg*.

## 110612, Invalid robot number

**Description**

Task: *arg*

Invalid robot number, robot number *arg*.

**Recommended actions**

Check that *arg* was done.

## 110613, Invalid error text id

**Description**

Task: *arg*

Invalid error number Id

Invalid use of *arg*.

Current Error Id: *arg*

**Probable causes**

The error number id was larger than *arg*.

**Recommended actions**

Don't use *arg*. This routine is for the Spot application use only.

## 110614, Water flow supervision alarm

**Description**

Task: *arg*

The water flow sensors indicate an error.

**Consequences**

Water has been turned off.

**Recommended actions**

Check the water circuit, and the water and air unit.

## 110615, Gun control in motors off

**Description**

Task: *arg*

It is not possible to close or open the servo gun *arg* in motors off or emergency stop state.

**Consequences**

The gun has not opened or closed.

**Probable causes**

The system was set to motors off state during process for some reason.

**Recommended actions**

Go to motors on state again and restart the instruction.

## 110616, Weld position aborted

**Description**

Task: *arg*

The weld position was aborted, current rob target *arg*.

Current gun: *arg*

**Consequences**

This weld position was not welded.

The strength of the welded object may have been reduced.

**Probable causes**

The spot instruction was aborted for some reason, the PP was moved or the instruction was skipped.

**Recommended actions**

Check that it was OK to skip this position.

## 110617, Invalid gun type

**Description**

Task: *arg*

Invalid value of the gun type data in gundata {*arg*}.

Allowed values for the gun type are: 1 = servo gun or 2 = pneumatic gun.

Current value is *arg*.

**Consequences**

This instruction will not work properly.

**Recommended actions**

Change the value of the gun type parameter in gundata {*arg*}.

## 110618, Invalid gun pre-close time

**Description**

Task: *arg*

Invalid value of the pre closing time parameter in gundata {*arg*}.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

Allowed interval: 0 to max *arg* s.
Current value: *arg* s.
Current gun: *arg*

**Consequences**
It will not be possible to run any spot instructions until this value is changed.

**Recommended actions**
Change the value of the pre closing time parameter in gundata {*arg*}.

## 110619, Invalid gun pre-equalizing time

**Description**
Task: *arg*
Invalid value of the pre equalizing time in gundata {*arg*}.
Allowed interval: 0 to max *arg* s.
Current value: *arg* s.
Current gun: *arg*

**Consequences**
It will not be possible to run any spot instructions until this value is changed.

**Recommended actions**
Change the value of pre equalizing time in gundata {*arg*}.

## 110620, Invalid weld timeout

**Description**
Task: *arg*
Invalid value of the weld timeout parameter in gundata {*arg*}.
Allowed interval: *arg* to *arg* s.
Current value: *arg* s.
Current gun: *arg*

**Consequences**
It will not be possible to run any spot instructions until this value is changed.

**Recommended actions**
Change the value of the weld timeout parameter in gundata {*arg*}.

## 110621, Invalid tip force

**Description**
Task: *arg*
Invalid value of the tip force parameter in spotdata.
Allowed values are: *arg* to max *arg*.
Current value: *arg*.

**Consequences**
It will not be possible to run any spot instructions until this value is changed.

**Recommended actions**
Change the value of the tip force parameter in spotdata or check that the correct external data is used via the gun force group input (GI).

## 110622, Invalid plate thickness

**Description**
Task: *arg*
Invalid value of the plate thickness parameter in spotdata.
Allowed values are: 0 to max *arg* mm.
Current value: *arg* mm.

**Consequences**
It will not be possible to run any spot instructions until this value is changed.

**Recommended actions**
Change the value of the plate thickness parameter in spotdata or check that the correct external data is used via the plate thickness group input (GI).

## 110623, Invalid plate tolerance

**Description**
Task: *arg*
Invalid value of the plate tolerance parameter in spotdata.
Allowed values are: 0 to max *arg* mm.
Current value: *arg* mm.

**Consequences**
It will not be possible to run any spot instructions until this value is changed.

**Recommended actions**
Change the value of the plate tolerance parameter in spotdata or check that the correct external data is used via the plate tolerance group input (GI).

## 110624, Invalid program number

**Description**
Task: *arg*
Invalid value of the weld timer program number parameter in spotdata.
Allowed values are: 0 to max *arg*.
Current value: *arg*.

*Continues on next page*


© Copyright 2005-2020 ABB. All rights reserved.

**Consequences**
It will not be possible to run any spot instructions until this value is changed.

**Probable causes**
The program number parameter in spotdata has an invalid value.

**Recommended actions**
Change the value of the program number parameter in spotdata or check that the correct value is used as targetid or spotid.

### 110625, Invalid simulation type

**Description**
Task: *arg*
Invalid value of the simulation type parameter in simdata.
Allowed values are: 0 to *arg*.
Current value: *arg*.

**Consequences**
It will not be possible to run any spot instructions until this value is changed.

**Recommended actions**
Change the value of the simulation type parameter in simdata

### 110626, Invalid tip force

**Description**
Task: *arg*
Invalid value of the tip force parameter in forcedata.
Allowed values are: 0 to *arg*.
Current value: *arg*.

**Consequences**
It will not be possible to run any spot instructions until this value is changed.

**Recommended actions**
Change the value of the tip force parameter in forcedata.

### 110627, Invalid plate thickness

**Description**
Task: *arg*
Invalid value of the plate thickness parameter in forcedata.
Allowed values are: 0 to max *arg* mm.
Current value: *arg* mm.

**Consequences**
It will not be possible to run any spot instructions until this value is changed.

**Recommended actions**
Change the value of the plate thickness parameter in forcedata.

### 110628, Invalid plate tolerance

**Description**
Task: *arg*
Invalid value of the plate tolerance parameter in forcedata.
Allowed values are: 0 to *arg* mm.
Current value: *arg* mm.

**Consequences**
It will not be possible to run any spot instructions until this value is changed.

**Recommended actions**
Change the value of the plate tolerance parameter in forcedata.

### 110629, Invalid force time

**Description**
Task: *arg*
Invalid value of the force time parameter in forcedata.
Allowed values are: *arg* to *arg* s.
Current value: *arg* s.

**Consequences**
It will not be possible to run any spot instructions until this value is changed.

**Recommended actions**
Change the value of the force time parameter in forcedata.

### 110630, Weld complete timeout

**Description**
Task: *arg*
*arg*
Current robtarget: *arg*
Current gun: *arg*

**Consequences**
The weld was not completed.

**Probable causes**
The weld controller did not reply with weld complete within the configured time.

**Recommended actions**
1. Try to reweld the position.
2. Check the weld controller for any errors.
3. Increase the weld timeout parameter in gundata {*arg*}.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 110631, External weld fault reported

**Description**

Task: *arg*

*arg*

Current robtarget: *arg*

Current gun: *arg*

**Consequences**

The weld was not completed.

**Probable causes**

The weld controller reported an error and stopped the weld sequence.

**Recommended actions**

1. Check the event log for additional weld timer error logs (if Bosch).
2. Check the weld controller for any errors.

### 110632, Tip wear ratio not allowed

**Description**

Task: *arg*

Tip wear ratio only allowed when using the ReCalcTcp method.

**Consequences**

It will not be possible to run this instruction.

**Recommended actions**

Check that the tip wear ratio parameter is set to 'Deactivated' before running this routine. Configuration - Process - Spot Gun Equipment

### 110633, No mechanical unit

**Description**

Task: *arg*

*arg*

The servo gun does not exist in the motion parameters, no servo gun parameters has been loaded.

Current gun name: *arg*.

**Consequences**

It will not be possible to run any spot instructions until a configuration for a servo gun is added.

**Probable causes**

No configuration for servo gun parameters has been loaded.

**Recommended actions**

Load configuration for servo gun.

### 110634, Configuration data limit error

**Description**

Task: *arg*

The data value is outside the limit.

**Recommended actions**

Change the value.

### 110635, Tip position error

**Description**

Task: *arg*

Tip position error.

*arg*

Current gun: *arg*

**Probable causes**

1. The geometry of the plates are wrong or the tips are damaged.
2. The value of the plate thickness parameter in *arg* is not the same as the actual thickness of the plates.

**Recommended actions**

1. Check that the thickness of the plates are correct and corresponds to the value in the plate thickness parameter in *arg*.
2. Check that the tips are OK.

### 110636, Process error

**Description**

Task: *arg*

*arg*

*arg*

Current gun: *arg*

**Consequences**

The position was not welded.

**Probable causes**

An error occurred before the weld process was started in the connected equipment.

**Recommended actions**

Check the connected equipment.

### 110637, Text index too high

**Description**

Task: *arg*

Text index out of bounds in SwTextGet.

Current index number: *arg*

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

**Probable causes**

The index number is too high.

**Recommended actions**

Change the index number.

## 110638, Weld program valid timeout

**Description**

Task: *arg*

The weld controller did not reply with 'valid weld program' signal within the configured time.

Current robtarget: *arg*

Current weld program: *arg*

**Consequences**

The weld will not start until the 'valid weld program' signal is set by the weld controller.

**Recommended actions**

1. Check that the weld program valid signal is set in the weld controlller.
2. Check that the configured program valid timeout time is big enough.

## 110639, Configuration error

**Description**

Task: *arg*

Process configuration data can not be found in cfg.

Cfg path: *arg*

**Consequences**

It will be possible to run the application, but internal default values will be used instead of the missing configuration data.

**Probable causes**

No process configuration data has been loaded.

**Recommended actions**

Load the missing configuration data and restart the system.

## 110640, Missing signal error

**Description**

Task: *arg*

The signal *arg* is missing in the EIO configuration.

**Consequences**

It will not be possible to use some internal functionality.

**Probable causes**

The signal *arg* was removed from the EIO configuration.

**Recommended actions**

Add the missing signal *arg*.

## 110641, Invalid simulation time

**Description**

Task: *arg*

Invalid value of the simulation type parameter in simdata.

Allowed values are: 0 to *arg* s.

Current value: *arg* s.

**Consequences**

It will not be possible to run any spot instructions until this value is changed.

**Recommended actions**

Change the value of the simulation type parameter in simdata.

## 110642, Reduced speed not allowed

**Description**

Task: *arg*

It is not possible to run with reduced speed when software equalizing is active.

Allowed value (in percent): *arg* %.

*arg*

*arg*

**Consequences**

The instruction will not work until this value is changed.

**Probable causes**

The speed was probably lowered by the operator.

**Recommended actions**

Set the speed to *arg* %.

## 110643, Gun conflict error

**Description**

Task: *arg*

More than one robot try to use the same gun at the same time.

*arg*

**Consequences**

All the robots in the system are stopped.

**Probable causes**

The same gun is used from more than one motion task.

**Recommended actions**

Change the gun number or wait for the other robot to finish.

You have to deactivate the used gun before another robot can use it.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

## 110644, Reference measurement already done

**Description**

Task: *arg*

A reference measurement has already been done.

Instruction: *arg*

**Probable causes**

This instruction was run a second time with the reference switch selected.

**Recommended actions**

If a new reference has to be done because the reference position has been moved, the \RefChange switch should be used instead.

## 110645, Instruction error

**Description**

Task: *arg*

Software equalizing error.

The instructions SpotML and SpotMJ can not be used with the software equalizing functionality activated.

**Consequences**

It is not possible to run this instruction with software equalizing activated.

**Recommended actions**

Turn off the software equalizing configuration for the specific gun(s) and run the instruction without software equalizing.

Configuration - Process - Spot Gun Equipment

## 110646, Invalid release distance

**Description**

Task: *arg*

Invalid value of the release distance parameter in gundata {*arg*}.

Allowed interval: 0 to max *arg* mm.

Current value: *arg* mm.

Current gun: *arg*

**Consequences**

It will not be possible to run any spot instructions until this value is changed.

**Recommended actions**

Change the value of the release distance parameter in gundata {*arg*}.

## 110647, Invalid deflection distance

**Description**

Task: *arg*

The calculated deflection distance for this gun is invalid.

Allowed interval: -*arg* to max *arg* mm.

Current value: *arg* mm.

Current gun: *arg*

deflection = spotdata.tip_force * gundata{*arg*}.deflection_dist / gundata{*arg*}.deflection_force

**Consequences**

The instruction will not work until this value is changed.

**Probable causes**

A too big gun deflection value has been entered in gundata {*arg*}, or the deflection force in gundata is set too low.

**Recommended actions**

Check the deflection distance and the deflection force in gundata {*arg*}.

## 110648, Invalid deflection time

**Description**

Task: *arg*

The value of the deflection time parameter in gundata {*arg*} is invalid.

Allowed values are: > 0 to max *arg* s.

Current value: *arg* s.

Current gun: *arg*

**Consequences**

The instruction will not work until this value is changed.

**Probable causes**

A too high gun deflection time has been specified in gundata{*arg*}.

**Recommended actions**

Check the value of the deflection time parameter in gundata {*arg*}.

## 110649, I/O signal error

**Description**

Task: *arg*

It is not possible to set the signal, the I/O unit is lost.

**Consequences**

The signal will not be set.

**Probable causes**

The power to the IO unit is lost or the cable is damaged.

**Recommended actions**

1. Check the power to IO units.
2. Check that the cabling is OK.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

## 110650, Search error

**Description**

Task: *arg*

Touch up error, no surface, or sensor signal was found during the search sequence.

Current gun: *arg*

**Consequences**

The tool will not be updated.

**Probable causes**

Check for missing or wrong tips and the reference plate is located in the correct position.

**Recommended actions**

1. Check that the correct tips are mounted on the gun.
2.Check that the reference plate is in the correct position, or check that sensor is working properly.
3. Increase the 'MeasureWearL movein distance' parameter.
Configuration/Process/Spot SoftWare Equalizing

## 110651, Unexpected tip size after change

**Description**

Task: *arg*

New tips with unexpected size, the size of the tips exceeds the configured tip change supervision value.

Difference between new and old (worn) tips): *arg* mm.

Tip change tolerance: *arg* to *arg* mm.

Current gun: *arg*

**Probable causes**

Tips with unexpected size was mounted on the gun or the size exceeds the maximum allowed value defined in the tip change tolerance configuration data.
Configuration/Process/Spot Gun Equipment/Tip change supervision value.

Current value: {*arg*} mm.

**Recommended actions**

1. Check that the correct tips are mounted on the gun.
2. Check that the maximum allowed supervision value is big enough.

## 110652, Touch up force error

**Description**

Task: *arg*

The calculated touch up force is to high!

Overload at least of axis *arg*.

**Probable causes**

The touch up contact force is probably too high.

**Recommended actions**

Lower the setup data for touch up contact force.
Configuration/Process/Spot SoftWare Equalizing/MeasureWearL Touchup force.

## 110653, Unexpected tip size moveable tip

**Description**

Task: *arg*

New moveable tip with unexpected size, the size of the tips exceeds the configured tip change supervision value.

Difference between new and old (worn) tips): *arg* mm.

Tip change tolerance: *arg* to *arg* mm.

Current gun: *arg*

**Probable causes**

1. Tips with unexpected size was mounted on the gun.
2. The size exceeds the maximum allowed value defined in the tip change supervision configuration data.
Configuration/Process/Spot Gun Equipment/Tip change supervision value.

**Recommended actions**

1. Check that the correct tips are mounted on the gun.
2. Check that the maximum allowed supervision value is big enough.

## 110654, Unexpected tip size fixed tip

**Description**

Task: *arg*

New fixed tip with unexpected size, the size of the tips exceeds the tip change supervision value.

Difference between actual tip and reference tip: *arg* mm.

Tip change tolerance: *arg* to *arg* mm.

Current gun: *arg*

**Probable causes**

1. Tips with unexpected size was mounted on the gun.
2. The size exceeds the maximum allowed value defined in the tip change supervision configuration data.
Configuration/Process/Spot Gun Equipment/Tip change supervision value.

**Recommended actions**

1. Check that the correct tips are mounted on the gun.
2. Check that the maximum allowed supervision value is big enough.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

## 110655, Tip wear out of range moveable tip

**Description**

Task: *arg*

Tip wear out of range, the tip wear exceeds the configured tip wear supervision value.

Actual tip wear (moveable tip): *arg* mm.

Tip wear tolerance: *arg* to *arg* mm.

Current gun: *arg*

**Probable causes**

The current tip wear exceeds the maximum allowed value defined in the tip wear supervision configuration data. Configuration/Process/Spot Gun Equipment/Tip wear supervision value.

**Recommended actions**

Check that the maximum allowed supervision value is big enough.

## 110656, Tip wear out of range fixed tip

**Description**

Task: *arg*

Tip wear out of range, the tip wear exceeds the configured tip wear supervision value.

Actual tip wear (fixed tip): *arg*mm.

Tip wear tolerance: *arg* to *arg* mm.

Current gun: *arg*

**Probable causes**

The current tip wear exceeds the maximum allowed value defined in the tip wear supervision configuration data. Configuration/Process/Spot Gun Equipment/Tip wear supervision value.

**Recommended actions**

Check that the maximum allowed supervision value is big enough.

## 110657, Independent mode error

**Description**

Task: *arg*

It is not possible to use independent gun mode in Spot instructions when software equalizing is activated.

Current gun: *arg*

**Consequences**

It will not be possible to run any spot instruction until the independent mode is deactivated.

**Probable causes**

The independent gun mode is activated.

**Recommended actions**

Reset the independent mode with the instruction 'IndGunMoveReset'.

## 110658, Singularity error

**Description**

Task: *arg*

The robot is close to singularity. The performance of the Software Equalizing will be poor.

**Consequences**

The performance of the Software Equalizing will be poor.

**Probable causes**

The robot is close to singularity.

**Recommended actions**

Reorient the robot or move the point.

## 110659, Robot outside working area

**Description**

Task: *arg*

The robot is outside it's working area.

**Consequences**

The position is not possible to reach.

**Probable causes**

The robot is outside it's working area or the robot is very close to it when the gun arm deflection compensation is working.

**Recommended actions**

Reorient the robot or move the point.

## 110660, User module version warning

**Description**

Task: *arg*

The version number of the user module(s) are older than the current spot application version

Current version of the spot application, *arg*.

Currently loaded user module and version number, *arg*, *arg*.

**Consequences**

Some functionality might not work correctly since the template user modules has changed since previous RobotWare releases. There is a risk that improvements and/or corrections added since previous RobotWare releases are unavailable.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

**Probable causes**

The user modules originates from a backup taken from an older system.

**Recommended actions**

1. Compare and upgrade the user modules to the latest version supplied in this RobotWare release.
2. Load the correct(ed) module(s) and Reset RAPID.

## 110661, Signal label error

**Description**

Task: *arg*

The 'SignalLabel' name *arg* is not defined in the I/O configuration.

**Probable causes**

The 'SignalLabel' name is not defined in the I/O configuration.

**Recommended actions**

1. Check that the 'SignalLabel' is defined in the I/O configuration.
2. Add the missing 'SignalLabel'.

## 110662, Missing user routine

**Description**

Task: *arg*

A Spot user routine is missing, routine *arg*.

**Consequences**

This software option may not work correctly without this routine.

**Probable causes**

The module with the routine is not loaded or the routine has been removed from the module.

**Recommended actions**

1. Check that the module with the routine is loaded.
2. Load or add the missing module or routine.

## 110663, User data missing

**Description**

Task: *arg*

A Spot user data is missing, data *arg*.

**Consequences**

This software option may not work correctly without this data.

**Probable causes**

The module with the data is not loaded or the data has been removed.

**Recommended actions**

1. Check that the module with the data is loaded.
2. Load or add the missing module or data.

## 110664, Software equalizing active error

**Description**

Task: *arg*

It is not possible to run synchronized Spot instructions when the software equalizing mode is activated.

It is only possible to run spot instructions with software equalizing activated in semi coordinated mode.

**Consequences**

It will not be possible to run any spot instructions with software equalizing activated until the synchronized mode is disabled.

**Probable causes**

Synchronized mode is selected in the spot instruction.

**Recommended actions**

Turn off software equalizing to be able to run in synchronized mode or change the spot instructions to semi coordinated movements instead.

## 110665, *arg*

**Description**

Task: *arg*

*arg*

*arg*

**Recommended actions**

*arg*

## 110666, Servo gun already closed

**Description**

Task: *arg*

Can not close a closed servo gun, the servo gun *arg* is not open!

**Probable causes**

The gun is already closed.

**Recommended actions**

Open the gun before trying to close it.

## 110667, Gun force calibration error

**Description**

Task: *arg*

Force calibration failed for servo gun *arg*.

Check the force calibration values and try again. Do not restart system until a valid force calibration is made.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

**Consequences**
The force calibration data will not be saved to the motion parameters.

**Recommended actions**
Check the values and try to do a force calibration again.

## 110668, Plate thickness error ignored

**Description**
Task: *arg*
*arg*
The current plate thickness error was ignored.
Current gun: *arg*
*argarg*

**Probable causes**
The operator probably ignored the thickness error.

**Recommended actions**
Check that it was OK to ignore the thickness error.

## 110669, Gun index number out of range

**Description**
Task: *arg*
The gun number *arg* is not a valid gun number, the gun index is out of range.
Allowed values are: *arg* to max *arg*.

**Consequences**
It will not be possible run this instruction until this value is changed.

**Probable causes**
A gun index number that was out of range was programmed in the instruction.
Current configured size of current gundata is *arg*.

**Recommended actions**
1. Change the gun index number in the instruction.
2. Increase the number of equipments in the configuration, and the spot application data types if needed.

## 110670, User module changed

**Description**
Task: *arg*
The routine *arg* has a newer syntax, the user module has changed since previous RobotWare releases.
Current module: *arg*
Current version: *arg*

**Consequences**
This instruction might not work correctly, some data(s) may not be updated correctly.
There is a risk that improvements and/or corrections added since previous RobotWare releases are unavailable.

**Probable causes**
The user modules probably originates from an backup taken from an older system.

**Recommended actions**
Compare and upgrade the user modules to the latest version supplied in this RobotWare release.

## 110671, Module not saved

**Description**
Task: *arg*
Could not save the module *arg*.

**Consequences**
The module *arg* was not saved.
Data needed for the process was not saved and will be lost if Reset RAPID is done.

**Probable causes**
The module does not exist, or the disk is full or the file is write protected.

**Recommended actions**
1. Check that the module exists in the specified location on the disk.
2. Try to save the module manually from the FlexPendant.

## 110672, Weld program GO limit

**Description**
Task: *arg*
The weld program number is out of limits for the defined weld program group output (GO).
Current value: *arg*.

**Consequences**
It will not be possible to run any spot instructions until this value is changed.

**Probable causes**
The weld program signal group size is smaller than the specified weld program.

**Recommended actions**
1. Increase the size of the weld program output group.
2. Decrease the weld program number.

*Continues on next page*


© Copyright 2005-2020 ABB. All rights reserved.

## 110673, Tool load undefined

**Description**

Task: *arg*

The current used tool seems to have undefined load data.

The load of the tool is less than min. configured value and/or the center of gravity is not defined correctly.

*arg*

*arg*

*arg*

**Consequences**

It will not be possible run this instruction until a correctly defined tool is used.

**Probable causes**

'LoadIdentify' for this tool has not been done.

**Recommended actions**

Check that the tool is correctly defined before running this routine. Run the 'LoadIdentify' routine.

## 110674, Gun type error

**Description**

Task: *arg*

This routine can not be used with this type of gun.

Current gun type: *arg*.

**Consequences**

It will not be possible run this instruction with this gun type is used.

**Probable causes**

The gun type parameter in the gun equipment configuration is not set correctly.

**Recommended actions**

Check that the gun type parameter is set to the correct type before running this routine. Configuration - Process - Spot Gun Equipment

Possible gun types: Servo gun or Pneumatic gun

## 110675, Process task error

**Description**

Task: *arg*

The number of guns exceeds the number of activated process tasks.

Current gun: *arg*.

**Consequences**

It will not be possible to weld with more guns than the number of activated process tasks.

**Probable causes**

Faulty configuration.

**Recommended actions**

Rebuild the system with the 'Multiple Gun Support' selected.

## 110676, Power on sequence failed

**Description**

Task: *arg*

An error has occured during startup of the system.

The power on sequence has not been done.

**Consequences**

The spot application will not work correctly.

**Recommended actions**

1. Check the event log for other errors occurring at the same time.

## 110677, Instruction aborted

**Description**

Task: *arg*

The instruction was aborted.

Instruction: *arg*

**Consequences**

Some data may not have been correctly updated.

**Probable causes**

The instruction was aborted by the operator and/or the PP was moved.

**Recommended actions**

Check that it was OK to abort this instruction.

## 110678, Reference measurement not done

**Description**

Task: *arg*

A reference measurement must be done before a tip wear or tip change measurement can be done.

Instruction: *arg*

**Probable causes**

This instruction was run for the first time without the reference switch selected.

**Recommended actions**

Run this instruction with the reference switch selected first, \Reference.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

## 110679, Undefined signal

**Description**

Task: *arg*

This signal is not defined in the I/O configuration.

Signal: *arg*

**Recommended actions**

Check that the correct name is used in the setup routine or in the I/O configuration.

## 110680, Max gun force exceeded

**Description**

Task: *arg*

The externally ordered gun force is too high and will be ignored.

Ordered force: *arg* N.

Current force: *arg* N.

Maximum force: *arg* N.

**Consequences**

Execution is stopped.

**Probable causes**

The ordered gun force is too high and exceeds the maximum allowed force for this gun.

**Recommended actions**

Check the weld program in the timer or the setup data 'gun_force_factor' value.

## 110681, Gun force change error

**Description**

Task: *arg*

It is not possible to change servogun force.

The parameters in the force calibration table are not correct.

squeeze_pos_1 = *arg* mm.

squeeze_pos_2 = *arg* mm.

**Consequences**

Execution is stopped.

**Probable causes**

An old motion configuration file is being used, or a force calibration has not been done.

**Recommended actions**

Perform a new force calibration or load valid servogun parameters.

## 110682, Too low gun force

**Description**

Task: *arg*

The ordered gun force is lower than the minimum allowed value.

Ordered force: *arg* N.

Minimum force: *arg* N.

Maximum force: *arg* N.

Current robtarget: *arg*

**Consequences**

The weld quality in this position will be poor.

**Recommended actions**

Check that the correct force value is used in the instruction or ordered externally.

## 110683, SoftMove speed warning

**Description**

Task: *arg*

The selected speed is lower than recommended.

SoftMove equalizing functionality will not work optimal at too low speed.

Speed override (TP): *arg*

VelSet override: *arg*

**Consequences**

Low speed will in many cases increase the inner friction of the robot and that can decrease SoftMove equalizing performance.

**Recommended actions**

Increase the speed.

## 110684, Required signals missing

**Description**

Task: *arg*

Required signals are missing, or I/O device is not running.

The signals 'start weld', 'weld complete', 'stop weld' and 'process run' are required to run the application.

**Consequences**

It is not possible to run the application without one of these signals.

**Recommended actions**

1. Check that the configured I/O device is running.
2. Add the missing signals to the weld equipment and/or equipment configuration, and restart the system.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 110685, Sensor signal missing

**Description**

Task: *arg*

No MeasureWearL sensor signal has been configured.

**Consequences**

It is not possible to run the instruction without the signal.

**Recommended actions**

Add the missing signal to the gun equipment configuration, and restart the system. Configuration - Process - Spot Gun Equipment

### 110686, Invalid deflection force

**Description**

Task: *arg*

Invalid value of the deflection force parameter in gundata {*arg*}.

Allowed interval: 0 to max *arg arg*.

Current value: *arg arg*.

Current gun: *arg*

**Consequences**

It will not be possible to run any spot instructions until this value is changed.

**Probable causes**

1. Used deflection force is outside limits.

2. Deflection distance is used without a specified deflection force.

**Recommended actions**

Change the value of the deflection force parameter in gundata {*arg*}

### 110687, Event Preset Time not zero

**Description**

Task *arg*.

Event Preset Time for *arg* is set to *arg*.

**Consequences**

Process cycle time will be affected.

**Recommended actions**

Unless Event Preset Time for *arg* was set to *arg* for a reason, consider setting it to 0.

### 110688, Invalid tw_ref_dist value

**Description**

Sanity check for tw_ref_dist for Gun *arg* failed. Values should be between *arg* and *arg* mm.

**Consequences**

Tip Wear management will not work as intended.

**Recommended actions**

The values are normally changed by SpotWare, and should not be changed by the user in most cases. A new tip wear reference measurement might be required.

### 110689, Force calibration not done

**Description**

Task: *arg*.

The gun is not force calibrated and/or a template servogun configuration file is loaded. If using a template file an initial force table can be set by running the service routine 'ManualForceCalib' or 'ManualServiceCalib'.

Current gun: *arg*.

**Consequences**

Execution is stopped.

**Recommended actions**

Set an initial force table or perform a force calibration of the gun with the service routine 'ManualForceCalib'.

### 110690, Force calibration warning

**Description**

Task: *arg*.

Force difference between configured max gun force and last entry in force calibration table is too big: *arg arg*.

Current gun: *arg*.

**Consequences**

Force accuracy may be poor.

**Probable causes**

Last entry in the force calibration table is higher than the configured max gun force.

**Recommended actions**

Redo force calibration or change max gun force to a value equal to or higher than last entry in force calibration table.

### 110700, No weld internal.

**Description**

Task:*arg*

*arg*

Weld signal switched off at programming terminal.

**Recommended actions**

Check programming unit setting Operating mode for Weld on/off, int.(S)/Weld/No weld (T).

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 110701, No weld external.

**Description**

Task:*arg*

*arg*

External weld signal was deactivated.

**Recommended actions**

Check signal at weld external input.

### 110702, The weld sequence is inhibited, weld schedule stopped.

**Description**

Task:*arg*

*arg*

The started program was inhibited for the sequence/schedule

**Recommended actions**

Enable program at the programming terminal at Operation - Modify - Programming - Sequence Setup Inhibit Sequence (S)/Start- Inhibit (T) for all programs or Inhibit Sequence (P)/Start-Inhibit (P) for one program - check program selection, select proper program.

### 110703, No valid weld program, no schedule programmed.

**Description**

Task:*arg*

*arg*

wrong program selected - invalid spot selection - invalid parameters in started program

**Recommended actions**

Check program selection - check spot selection - check value range of the following parameters: power unit number, electrode/stepper number, program number.

### 110704, The battery backup is low.

**Description**

Task:*arg*

*arg*

The buffer battery voltage has dropped

**Recommended actions**

Replace the backup battery in the weldtimer.

### 110705, Memory has been deleted.

**Description**

Task:*arg*

*arg*

All data of this weld timer has been deleted: - new timer firmware was copied to system - battery is low or defective.

**Recommended actions**

Copy data (Operation - Services - Restore/Download) if the error occurs repeatedly, replace timer.

### 110706, There is a hardware fault.

**Description**

Task:*arg*

*arg*

Defective module. When booting, a module is detected which does not match the firmware: - a firmware was introduced into the weld timer which is not permitted for the existing hardware.

**Recommended actions**

Replace module or timer - replace module - load proper firmware to the timer.

### 110707, External temperature too high.

**Description**

Task:*arg*

*arg*

Message of an external temperature input: - cable between thermostatic switch and timer interrupted - insufficient cooling - excessive welding heat/%I / duty cycle

**Recommended actions**

check cable/connector - check cooling circuit - reduce welding heat.

### 110708, Stop circuit open, no +24V.

**Description**

Task:*arg*

*arg*

+24V supply at stop circuit input missing.

**Recommended actions**

Close stop contact - check +24V supply at the inputs of the stop circuit.

### 110709, Circuit breaker tripped, weld without command.

**Description**

Task:*arg*

*arg*

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

The timer module has activated the main switch relay: the related main switch/circuit breaker is tripped.

**Recommended actions**

-

### 110710, Current feedback open.

**Description**

Task:*arg*

*arg*

Broken sensor cable - detached plug connections - incorrect connector assignment - defective sensor.

**Recommended actions**

Replace cable - check plug-in connections - check connector assignment - replace sensor.

### 110711, Current feedback short circuit.

**Description**

Task:*arg*

*arg*

Squeezed sensor cable - incorrect connector assignment - defective sensor.

**Recommended actions**

Replace cable - check connector assignment - replace sensor.

### 110712, No primary voltage on first half wave.

**Description**

Task:*arg*

*arg*

No primary voltage was measured in KUR mode.

**Recommended actions**

Check connectors and cables.

### 110713, No current, weld 1 to 3.

**Description**

Task:*arg*

*arg*

Electrodes not closed - no electrical contact at the point to be welded - contamination of sheets - use of sealant.

**Recommended actions**

Check closing mechanisms (robot, machine) - check position and pressure of electrodes - clean sheets - check conductivity.

### 110714, Current is too low, weld 1 to 3.

**Description**

Task:*arg*

*arg*

Current measured is below tolerance band: - tolerance band too narrow - programmed value too high, e.g., because of stepping - contamination of electrodes - contamination of sheets - bad electrode positioning - welding transformer too small.

**Recommended actions**

Check tolerance band - check programmed value, stepper values - repeat weld, clean electrodes - repeat weld, clean sheets - improve positioning - change over or replace welding transformer.

### 110715, Current is too high, weld 1 to 3.

**Description**

Task:*arg*

*arg*

Current measured exceeds tolerance band: - programmed value jump to lower current values - handling of different sheet thicknesses or sheet layers - variant electrode pressure conditions - variant resistances (impedance) in secondary circuit, e.g. shunt resistor - mains voltage fluctuations.

**Recommended actions**

Increase tolerance band, reduce programmed value jumps - use several programs with different parameters - check electrode force system - check secondary circuit - increase tolerance band, ensure constant conditions.

### 110716, Current is low in consecutive welds, weld 1 to 3.

**Description**

Task:*arg*

*arg*

Current measured is below the limited tolerance band after n repetitions: - programmed value jump to higher current values - handling of different sheet thicknesses or sheet layers - variant electrode pressure conditions - variant resistance conditions in secondary circuit - mains voltage fluctuations.

**Recommended actions**

Value jumps - use several programs with different parameters - check electrode force system - ensure constant conditions - increase tolerance band, ensure constant conditions.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 110717, Weld time is too short, weld 1 to 3.

**Description**

Task:*arg*

*arg*

The permitted time tolerance is not reached - external termination of weld signal.

**Recommended actions**

Check setting at Operation - Modify - Programming - Welding parameters - Time monitoring - check signal.

### 110718, Weld time is too long, weld 1 to 3.

**Description**

Task:*arg*

*arg*

The permitted time tolerance is exceeded.

**Recommended actions**

Check setting at Operation - Modify - Programming - Welding parameters - Time monitoring.

### 110719, Bosch IO signal error

**Description**

Task: *arg*

It is not possible to read the timer status signal, the Bosch timer I/O unit is lost.

**Consequences**

It will not possible to get the timer status.

**Probable causes**

The power to the Bosch IO unit is lost or the cable is damaged.

**Recommended actions**

1. Check the power to Bosch weld timer.
2. Check that the cabling is OK.

### 110720, Data value outside limits.

**Description**

Task:*arg*

Program Ref. *arg*

The value of 'TimerNo' is outside limits, current value: *arg*.

Allowed values are: 1 to *arg*.

**Consequences**

The instruction will not work until a valid value is entered.

**Probable causes**

An invalid value was entered.

**Recommended actions**

Change the value.

Recovery: *arg*

### 110721, Empty

**Description**

Empty

### 110722, Unknown fault in weld timer.

**Description**

Task:*arg*

*arg*

There is a unknown fault in the weld timer, code *arg*.

**Recommended actions**

Connect the BOS5000/6000 application and check the reason for the fault.

### 110723, Power unit not ready.

**Description**

Task:*arg*

*arg*

The power unit temperature is too high.

**Recommended actions**

1. Check cooling.
2. Check duty cycle, load.
3. Check cables, connectors.

### 110724, 27~V Synchronisation, power fault.

**Description**

Task:*arg*

*arg*

Welding network has been switched off, or is outside the range of 50 to 60 Hz +- 5%.

**Recommended actions**

1. Switch on and check weldin network.
2. Reset error, check all line phases.
3. Check synchronisation voltage.
4. Check fuses in power unit or replace power unit.

### 110725, 24V off or too low.

**Description**

Task:*arg*

*arg*

The 24V supply for the internal logic is too low(approx. 19V).

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

**Recommended actions**

1. Check 24V supply.
2. Check the connectors.

### 110726, Transformer temperature too high.

**Description**

Task:*arg*

*arg*

The temperature of the welding transformer is too high.

**Recommended actions**

1. Check cables and connectors.
2. Check cooling circuit of the welding transformer.
3. Reduce welding heat.

### 110727, Cooling temperature too high.

**Description**

Task:*arg*

*arg*

The heat sink is too hot(above 70ºC) or the ambient temperature is too high(above 70ºC).

**Recommended actions**

1. Check cooling.
2. Check duty cycle, load.
3. Check temperature inside the process cabinet or check process cabinet cooling.

### 110728, IO bus fault.

**Description**

Task:*arg*

*arg*

The serial IO module has signalled a bus fault to the timer module.

**Recommended actions**

Replace IO module or timer.

### 110729, Electrode life has expired, end of stepper.

**Description**

Task:*arg*

*arg*

The specified electrode has reached the Electrode life Expired, End of stepper condition.

**Recommended actions**

The electrode must be replaced.

### 110730, Tip dress request.

**Description**

Task:*arg*

*arg*

The specified electrode has reached the Tip dress request, Tip dress inq. condition.

**Recommended actions**

The electrode tip must be dressed.

### 110731, Power voltage too high.

**Description**

Task:*arg*

*arg*

An excessively high mains voltage was measured at the DC link level. The mains voltage was above limits. Mains overvoltage or mains transients.

**Recommended actions**

Check the line voltage supply.

### 110732, Power voltage too low.

**Description**

Task:*arg*

*arg*

The mains voltage is too low or inexistent. The mains voltage was below limits.

**Recommended actions**

Check the line voltage supply.

### 110733, Termination of Weld/No Primary Current.

**Description**

Task:*arg*

*arg*

No current was measured for 40ms at the beginning of welding. The schedule is aborted

**Recommended actions**

1. Check closing mechanism. robot, machine.
2. Check position and pressure of electrodes.

### 110750, TCP Beam: Reorientation less than 24 degrees.

**Description**

Task:*arg*

Reorientation of *arg*

to small for QuickCheck.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

**Recommended actions**

### 110751, TCP Beam: Tool differ from nominal.

**Description**

Task:*arg*

*arg* has changed since DAY 1.

x: *arg*

y: *arg*

z: *arg*

**Recommended actions**

### 110752, TCP Beam: Update TCP

**Description**

Task:*arg*

Update *arg* with:

x: *arg*

y: *arg*

z: *arg*

**Recommended actions**

### 110760, Tool Change Error

**Description**

Task:*arg*

*arg*

*arg*

*arg*

**Recommended actions**

*arg*

### 110790, Timer not connected

**Description**

No communication with Bosch weld timer *arg*.

**Consequences**

It will not be possible to access the timer from the FlexPendant.

**Probable causes**

Faulty configuration or disconnected hardware.

**Recommended actions**

Check configuration and that the communication cable are connected.

### 110791, Faulty configuration

**Description**

Number of configured weld timers are *arg*.

The configuration file(s) for Bosch weld timer interface does not contain all expected data.

**Consequences**

It will not be possible to access the timer from the FlexPendant.

**Probable causes**

Wrong version or corrupt configuration file(s).

**Recommended actions**

1. Re-install correct Bosch weld timer interface configuration files.
2. Check internal elog messages.

### 110801, Dispense Error

**Description**

Task:*arg*

*arg*

Not possible to start without On argument.

*arg*

**Recommended actions**

Add On switch to first instruction.

### 110802, Dispense Error

**Description**

Task: *arg*

*arg*

Value for DPUSER data dp_fl1_corr is out of limits.

*arg*

### 110803, Dispense Error

**Description**

Task: *arg*

*arg*

Value for DPUSER data dp_fl2_corr is out of limits.

*arg*

### 110804, Dispense Error

**Description**

Task: *arg*

*arg*

Value for flow1_type in beaddata is out of limits.

*arg*

### 110805, Dispense Error

**Description**

Task: *arg*

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

*arg*
Value for flow2_type in beaddata is out of limits.
*arg*

### 110806, Dispense Error

**Description**
Task: *arg*
*arg*
Not possible to use two On instructions in sequence.
*arg*

**Recommended actions**
Remove one instruction with On switch.

### 110807, Dispense Error

**Description**
Task: *arg*
*arg*
Value for fl1_delay in equipdata is out of limits.
*arg*

### 110808, Dispense Error

**Description**
Task: *arg*
*arg*
Value for fl2_delay in equipdata is out of limits.
*arg*

### 110809, Dispense Error

**Description**
Task: *arg*
*arg*
Value for ref_speed in equipdata is out of limits.
*arg*

### 110810, Dispense Error

**Description**
Task: *arg*
*arg*
Value for equip_no in beaddata is out of limits.
*arg*

### 110811, Dispense Error

**Description**
Task: *arg*
*arg*
Unexpected Stop. Stopped while dispensing was active.
*arg*
*arg*

### 110812, Dispense Error

**Description**
Task: *arg*
*arg*
Unknown error during dispensing.
*arg*

### 110813, Dispense Error

**Description**
Task: *arg*
*arg*
Value for DPUSER data dp_nof_equip is out of limits.
*arg*

### 110814, Dispense Error

**Description**
Task: *arg*
*arg*
Value for flow1 in beaddata is out of limits.
*arg*

### 110815, Dispense Error

**Description**
Task: *arg*
*arg*
Value for flow2 in beaddata is out of limits.
*arg*

### 110816, Dispense Error

**Description**
Task: *arg*
*arg*
Value for fl1_corr in equipdata is out of limits.
*arg*

### 110817, Dispense Error

**Description**
Task: *arg*
*arg*
Value for fl2_corr in equipdata is out of limits.

*Continues on next page*


© Copyright 2005-2020 ABB. All rights reserved.

*arg*

### 110818, Dispense Error

**Description**

Task: *arg*

*arg*

Not possible to change equipment in the middle of a string.

*arg*

### 110819, Dispense Error

**Description**

Task: *arg*

*arg*

Value for acc_max or decel_max in equipdata is too low.

*arg*

### 110820, Dispense Error

**Description**

Task: *arg*

*arg*

The calculated flow value is out of limits.

*arg*

### 110821, Dispense Error

**Description**

Task: *arg*

*arg*

fl1_delay or fl2_delay in equipdata is out of limits.

*arg*

### 110822, Dispense Error

**Description**

Task: *arg*

*arg*

Value for z_offset in beaddata is out of limits.

*arg*

### 110823, Dispense Error

**Description**

Task: *arg*

*arg*

Size of triggdata array exceeds upper limit (10).

*arg*

### 111000, Itemsource exists

**Description**

Itemsource *arg* already exists.

Two itemsources may not have the same name.

**Recommended actions**

Check itemsource name at:

*arg*

Recovery: *arg*

### 111001, Not a valid itemsource name

**Description**

Name *arg* is not a valid itemsource name.

**Recommended actions**

Check itemsource name at:

*arg*

Recovery: *arg*

### 111002, Buffer size exceeded

**Description**

Fatal internal error for itemsource *arg*.

**Recommended actions**

Try system restart or system reset. Please report this error.

### 111003, Itemsource not defined

**Description**

The itemsource object has not been defined.

**Recommended actions**

Check itemsource at:

*arg*

Recovery: *arg*

### 111004, Itmsrc internal error

**Description**

Internal error for itemsource *arg*.

Error type: *arg*.

**Recommended actions**

Instruction: *arg*

Recovery: *arg*

### 111005, Flush itemsource first

**Description**

Itemsource *arg* must be flushed before it is used.

*arg*

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

*arg*

**Recommended actions**
Instruction: *arg*
Recovery: *arg*

### 111006, Ack item target first

**Description**
Item target must be acknowledged before executing the GetItmTgt(s) instruction again.
Itemsource: *arg*.
*arg*
*arg*

**Recommended actions**
Instruction: *arg*
Recovery: *arg*

### 111007, Item target buffer full

**Description**
Item target buffer full for itemsource *arg*.

**Recommended actions**
Instruction: *arg*
Recovery: *arg*

### 111008, Too many item targets

**Description**
Too many item targets pushed to itemsource *arg*.
*arg*
*arg*

**Recommended actions**
Instruction: *arg*
Recovery: *arg*

### 111009, Conveyor eio init error

**Description**
Error in the initialisation of the I/O signals for itemsource *arg*, for conveyor *arg*.

**Recommended actions**
Instruction: *arg*
Recovery: *arg*

### 111010, Conveyor does not exist

**Description**
Error for itemsource *arg*.
The conveyor *arg* does not exist.

**Recommended actions**
Instruction: *arg*
Recovery: *arg*

### 111011, No conveyor name given

**Description**
Error for itemsource *arg*.
No conveyor name specified.

**Recommended actions**
Instruction: *arg*
Recovery: *arg*

### 111012, Conveyor limits error

**Description**
Error for itemsource *arg*, conveyor *arg*.
The limits are incorrect specified.

**Recommended actions**
Instruction: *arg*
Recovery: *arg*

### 111013, Cnv data defined late

**Description**
Error for itemsource *arg*, conveyor *arg*. The ItmSrcCnvDat instruction must be called before the ItmSrcFlush instruction.
*arg*

**Recommended actions**
Instruction: *arg*
Recovery: *arg*

### 111014, Timeout

**Description**
Instruction reached timeout

**Recommended actions**
Instruction: *arg*
Recovery: *arg*

### 111015, Sortdata overridden

**Description**
Use of selection data will override the sortdata.

**Recommended actions**
Instruction: *arg*
Recovery: *arg*

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 111016, Orientation error

**Description**

The orientation in selection data is not correct defined.

Itemsource: *arg*

**Recommended actions**

All used orientations must be normalized i.e. the sum of the quaternion elements squares must equal 1.

Instruction: *arg*

Recovery: *arg*

### 111017, Uplink message failed

**Description**

The system failed to send a rapid uplink message

**Consequences**

Program execution may run as expected.

Statistics may not be updated.

**Probable causes**

Network interrupt.

CPU overload in controller system.

CPU overload in remote system.

Remote system may not run as expected.

**Recommended actions**

Check network connection.

Check state of remote system.

Check robot program for infinite loops.

### 111100, Work object buffer full

**Description**

Too many conveyor strobes stored in buffer for itemsource *arg*

In queue index: *arg*

Out queue index: *arg*

### 111101, Item target buffer full

**Description**

Item target buffer full for itemsource *arg*.

Item tag: *arg*.

Scene number *arg*.

### 111102, Too many item targets

**Description**

Too many item targets pushed to itemsource *arg*.

Number of items: *arg*.

Scene number *arg*.

### 111103, Push without any strobe

**Description**

Push received without any corresponding strobe signal is received for itemsource *arg*.

Push scene number *arg*

Latest received strobe *arg*

**Recommended actions**

Check hardware connections

### 111104, Push received too late

**Description**

Push of items was received too late in itemsource *arg*.

Corresponding wobj already overwritten.

Push scene number *arg*.

Latest received strobe *arg*.

**Recommended actions**

Check the position generation frequency.

### 111105, Conveyor limits error

**Description**

Error in itemsource *arg*

Conveyor *arg*

The limits are incorrect specified.

**Recommended actions**

Required: Enter < Exit

or: Enter < Start < Stop < Exit

Given: *arg*

### 111106, Trig distance warning

**Description**

Trig distance is too long for conveyor *arg*.

Trig distance is set to maximum.

Max: *arg*.

Given: *arg*.

### 111107, Trig distance warning

**Description**

Trig distance is too short for conveyor *arg*.

The limitation of the trig distance is depended on the value for the Encoder parameter CountsPerMeter.

**Consequences**

Trig distance is set to minimum.

Min: *arg*

Given: *arg*

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

**Probable causes**

The value for the trig distance is set too low.

**Recommended actions**

1. Increase the trig distance value.
2. Increase the value for the Encoder parameter CountsPerMeter to be able to set a trig distance value lower than actual minimum value.

## 111108, Failed to send data

**Description**

An error occured when sending variable *arg* from the itemsource *arg* to remote system.
Status *arg*.

**Recommended actions**

Check the position generation frequency and the network connections.

## 111109, Failed to open signal

**Description**

An error occured when opening Position Generator signal: *arg* for itemsource: *arg*.
Status *arg*.

**Recommended actions**

Check the Position Generator signal name.

## 111110, Failed to open signal

**Description**

An error occured when opening Trig signal: *arg* for itemsource: *arg*.
Status *arg*.

**Recommended actions**

Check the Trig signal name.

## 111111, Failed to open signal

**Description**

An error occured when opening Strobe signal: *arg* for itemsource: *arg*.
Status *arg*.

**Recommended actions**

Check the Strobe signal name.

## 111112, Failed to open signal

**Description**

An error occured when opening Robot Execution signal: *arg* for itemsource: *arg*.
Status *arg*.

**Recommended actions**

Check the Robot Execution signal name.

## 111113, Failed to open signal

**Description**

An error occured when opening Queue Idle signal: *arg* for itemsource: *arg*.
Status *arg*.

**Recommended actions**

Check the Queue Idle signal name.

## 111114, Failed to open signal

**Description**

An error occured when opening Position Available signal: *arg* for itemsource: *arg*.
Status *arg*.

**Recommended actions**

Check the Position Available signal name.

## 111115, Failed to open signal

**Description**

An error occured when opening Conveyor Control signal: *arg* for itemsource: *arg*.
Status *arg*

**Recommended actions**

Check the Conveyor Control signal name.

## 111116, Prepared for PickMaster option not installed.

**Description**

The Prepared for PickMaster option has not been correctly installed in the system.

**Recommended actions**

Reinstall the system using a proper key containing the Prepared for PickMaster option.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 111117, Uplink message failed

**Description**

The system failed to send a process uplink message.

**Consequences**

Item targets may not be picked.

The system may not run as expected.

**Probable causes**

Network interrupt.

CPU overload in controller system.

CPU overload in remote system.

Remote system may not run as expected.

**Recommended actions**

Check network connection.

Check state of remote system.

Check robot program for infinite loops.

### 111118, Conveyor moving with negative speed

**Description**

Conveyor *arg* is moving with negative speed.

Measured speed: *arg* mm/s.

**Consequences**

Item detection may fail.

**Probable causes**

1. Conveyor is moving in reversed direction.
2. Encoder is not connected properly.

**Recommended actions**

1. Check the conveyor control.
2. Check the encoder connection.

### 111119, Wrong trig signal type

**Description**

The trig signal *arg* used with robot *arg* is not a digital output (DO) signal.

**Consequences**

The camera trigger function will not operate.

**Probable causes**

1. Wrong signal selected.
2. Wrong signal type configured.

**Recommended actions**

Change signal or signal type to DO.

### 111400, GAP IO Error

**Description**

Task: *arg*

Context: *arg*

### 111402, GAP Execution Error

**Description**

Task: *arg*

Context: *arg*

Failed to access routine, *arg*

### 111403, Failed to advance to station

**Description**

Task: *arg*, failed to advance to station *arg*

### 111404, GAP Error

**Description**

Task: *arg* ,

GAP Error posted from PartCrossCheckOK routine.

PartCrossCheckOK not ok.

### 111405, GAP Execution Error

**Description**

BeforePart or AfterPart Sync Timeout in *arg*.

### 111406, Event execution error

**Description**

Event procedure: *arg* in task *arg* does not exist

**Recommended actions**

Create the procedure *arg* or change the procedure in the ee_event data *arg* to an existing procedure.

### 111407, GAP Execution Error

**Description**

Error in GAPExecCycle: *arg*

### 111408, GAP Execution Error

**Description**

WaitSyncPart Timeout: *arg* in *arg*.

### 111409, GAP Execution Error

**Description**

Error in GapExecPart: *arg*.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 111410, No part selected for station

**Description**

No part selected for station *arg* in task *arg*.

### 111411, GAP Execution Error

**Description**

Part station number is invalid: *arg*

Valid station: *arg*

Next station: *arg*

### 111412, Not matching tasklists in tasks

**Description**

Tasklist in partdata *arg* in task *arg* does not match tasklist in partdata *arg* in task *arg*.

**Recommended actions**

Check and change the tasklists so they match.

### 111413, Invalid task name

**Description**

Taskname *arg* in partdata is invalid

### 111414, GAP Execution Error

**Description**

The tasklist must include 'this' task: *arg*

### 111415, GAP Execution Error

**Description**

Task: *arg*

Tasks could not be cross-checked. Station: *arg*

### 111416, GAP Execution Error

**Description**

GapEE_Stopped failed in task: *arg*

### 111417, GAP Access IO Error

**Description**

GAP Access IO Error in task: *arg*

### 111419, GAP cfg data error

**Description**

Cfg data not found in InstancePath: *arg*

Attribute: *arg*

### 111420, GAP IO Error

**Description**

GAP IO Error in shared module.

### 111421, GAP Task Error

**Description**

Maximum of GAP tasks defined (*arg*).

### 111422, GAP event error

**Description**

*arg* GAP_EE_EVT

Unknown event id: *arg*

### 111423, GAP proc error

**Description**

GAP_EE_EVT Unknown proc *arg*

### 111424, Partdata not found for PLC code

**Description**

No matching partdata found in task *arg* for PLC code *arg*

**Recommended actions**

Create partdata with matching plc code.

### 111425, Menudata not found for PLC code

**Description**

No matching menudata found in task *arg* for PLC code *arg*

**Recommended actions**

Create menudata with matching plc code.

### 111426, Not valid task state for menudata

**Description**

The state of task *arg* should be at safe or at service when running selected menudata.

### 111427, Not valid station for menudata

**Description**

Current station (*arg*) in task *arg* does not match valid station *arg* in menudata

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 111428, Not valid user level for menudata

**Description**

Not valid menudata. Current user level *arg* does not match minimum user level *arg* defined in menudata

### 111429, Part execution error

**Description**

Part procedure: *arg* in task *arg* does not exist

**Recommended actions**

Create the procedure *arg* or change the procedure in the partdata to an existing procedure.

### 111430, Menu execution error

**Description**

Menu procedure: *arg* in task *arg* does not exist

**Recommended actions**

Create the procedure *arg* or change the procedure in the menu to an existing procedure.

### 111431, Timeout during handshaking

**Description**

Timeout during handshaking in task *arg*.

**Probable causes**

The configured signal run_part_signal_in or run_menu_signal_in wasn't set to 0 within configured timeout (*arg* seconds) after the configured signal run_ack_out was set to 1.

**Recommended actions**

Make sure to reset configured signal run_part_signal_in or run_menu_signal_in after configured signal run_ack_out is set to 1.

### 111432, Not valid plc code in task

**Description**

Not valid plc code in task *arg*.

**Probable causes**

The configured group signal plc_cmd_group_in has a not valid value *arg*.
Values in the range of 1-99 is reserved for error codes.

**Recommended actions**

Make sure requests are higher than 99.

### 111433, Next station configuration error

**Description**

PROC configuration for next_stn_*arg*_signal_in not configured.

**Consequences**

Order for station *arg* may not be executed.

**Recommended actions**

Configure next_stn_*arg*_signal_in to ensure that orders for station *arg* will be executed.

### 111434, At station configuration error

**Description**

PROC configuration for at_stn_*arg*_signal_in not configured.

**Consequences**

Order for station *arg* may not be executed.

**Recommended actions**

Configure at_stn_*arg*_signal_in to ensure that orders for station *arg* will be executed.

### 111501, BullsEye Text Error

**Description**

BullsEye could not access text.
Index given: *arg*
Text Table: *arg*

**Consequences**

BullsEye will be unable to generate proper message dialogs.

**Recommended actions**

Please report this error to your ABB support representative.

### 111502, BullsEye Obsolete Message

**Description**

BullsEye Obsolete Message

### 111503, BullsEye Error

**Description**

Range-of-motion test failed.

### 111504, BullsEye Error

**Description**

RangeCheck feature does not support coordinated work objects.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 111505, BullsEye Error

**Description**

RangeCheck feature does not support uframe transforms.

### 111506, BullsEye Data Loaded

**Description**

Stored reference data was loaded successfully.

### 111507, BullsEye Error

**Description**

No reference data file was found.

**Probable causes**

No previous data was stored.

### 111508, BullsEye Error

**Description**

The reference data file is already loaded.

### 111509, BullsEye Error

**Description**

An error occurred while unloading the reference data module.

**Recommended actions**

Reset program by moving the program pointer to the main routine and restart program execution.

### 111510, BullsEye Error

**Description**

An error occured while reading data from the stored reference data module.

### 111511, BullsEye Data Saved

**Description**

The reference data has been saved successfully.

### 111512, BullsEye Error

**Description**

An error occured while saving the reference data.

### 111513, BullsEye Tool Initialized

**Description**

The tool, *arg*, has been initialized in the BullsEye data collection.
Task: *arg*

### 111514, BullsEye Tool Added

**Description**

The tool, *arg*, has been added to the BullsEye data collection.
Task: *arg*

### 111515, BullsEye Tool Removed

**Description**

The tool, *arg*, has been removed from the BullsEye data collection.
Task: *arg*

**Consequences**

BullsEye will no longer be able to evaluate this tool.

**Recommended actions**

Execute the BESetupToolJ setup instruction to add and initialize the tool.

### 111516, BullsEye IO Error

**Description**

Invalid input name: *arg*
Tool: *arg*
Task: *arg*

**Consequences**

No connection to the digital input could be established. Initialization has failed.

**Recommended actions**

Check that the specified input exists in the system.

### 111517, BullsEye Error

**Description**

The tool, *arg*, is not included in the BullsEye data collection.
Task: *arg*

**Consequences**

BullsEye will not be able to evaluate this tool.

**Recommended actions**

Execute the BESetupToolJ setup instruction to add and initialize the tool.

### 111518, BullsEye IO Error

**Description**

BullsEye attempted to reconnect a previously connected IO signal.
Input Name: *arg*
Tool: *arg*

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

Task: *arg*

**Recommended actions**

If problem persists, run the BESetupToolJ instruction to reinitialize the tool.

## 111519, BullsEye RangeCheck Failed

**Description**

Joint Limit Check failed for a Twist of *arg* and a Tilt of *arg*
Task: *arg*

**Consequences**

BullsEye will not be able to evaluate this tool.

**Recommended actions**

Try a different start position or relocate the BullsEye device. If no acceptable position can be found, try reducing the requested Tilt and Twist in the be_scan data. However, be aware that reducing these values may reduce the accuracy.

## 111520, BullsEye RangeCheck Failed

**Description**

Singularity Check failed for a Twist of *arg* and a Tilt of *arg*
Task: *arg*

**Consequences**

BullsEye will not be able to evaluate this tool.

**Recommended actions**

Try a different start position or relocate the BullsEye device.

## 111521, BullsEye RangeCheck Failed

**Description**

No solution could be found within acceptable Joint Limits and Singularity checks.
A Twist of *arg* and a Tilt of *arg* was specified.
Task: *arg*

**Consequences**

BullsEye will not be able to evaluate this tool.

**Recommended actions**

Try a different start position or relocate the BullsEye device. If no acceptable position can be found, try reducing the requested Tilt and Twist in the be_scan data. However, be aware that reducing these values may reduce the accuracy.

## 111522, BullsEye RangeCheck Failed

**Description**

No solution could be found within acceptable Joint Limits and Singularity checks with adequate face-plate clearance.
A Twist of *arg* and a Tilt of *arg* was specified.
Task: *arg*

**Consequences**

BullsEye will not be able to evaluate this tool.

**Recommended actions**

Try a different start position or relocate the BullsEye device. If no acceptable position can be found, try reducing the requested Tilt and Twist in the be_scan data. However, be aware that reducing these values may reduce the accuracy.

## 111523, BullsEye BaseFrame Read Error

**Description**

BullsEye was unable to read the BaseFrame definition for the robot.
Task: *arg*

**Consequences**

BullsEye will not be able to evaluate this tool.

**Recommended actions**

The Motion Configuration Database (MOC) may have excessive protections implemented. Please ensure that the baseframe definition is accessible.

## 111524, BullsEye TCP Extended

**Description**

The instruction, BETcpExtend, was used to shift the TCP of *arg*.
Task: *arg*
New Extension: *arg*
Change: *arg*

## 111525, BullsEye Setup Complete

**Description**

Setup complete for:
Tool: *arg*
Task: *arg*
New work object: *arg*
New TCP: *arg*
Max, Mean Deviation: *arg*

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 111526, BullsEye Setup Failed

**Description**

The setup for Tool, *arg*, failed.

Task: *arg*

**Consequences**

BullsEye will not be able to evaluate this tool.

**Recommended actions**

1. Check error log for additional messages.
2. Check setup parameters, sensor device, and start positions before attempting the setup again.

### 111527, BullsEye Error

**Description**

The start position for Tool, *arg*, is not defined.

Task: *arg*

**Consequences**

BullsEye will not be able to evaluate this tool.

**Recommended actions**

Execute the BESetupToolJ setup instruction to define the position.

### 111528, BullsEye Beam Moved

**Description**

Beam has moved or calibration changed.

Tool: *arg*

Task: *arg*

**Consequences**

BullsEye will not be able to evaluate this tool.

**Recommended actions**

Execute the BESetupToolJ setup instruction to define the beam position.

### 111529, BullsEye Updated TCP

**Description**

The TCP for Tool, *arg*, has been updated by BEUpdateTool.

Task: *arg*

New TCP: *arg*

Change: *arg*

Elapsed Time: *arg*

### 111530, BullsEye Error

**Description**

Beam location could not be determined.

Tool: *arg*

Task: *arg*

**Consequences**

BullsEye will not be able to evaluate this tool.

**Recommended actions**

1. Check that the sensor device is working properly.
2. Execute the BESetupToolJ setup instruction to define the beam position.

### 111531, BullsEye Error

**Description**

The start position was changed.

Tool: *arg*

Task: *arg*

**Consequences**

BullsEye will not be able to evaluate this tool.

**Recommended actions**

Execute the BESetupToolJ setup instruction to redefine the new start position.

### 111532, BullsEye Error

**Description**

The tool, *arg*, is not set up.

Task: *arg*

**Consequences**

BullsEye will not be able to evaluate this tool.

**Recommended actions**

Execute the BESetupToolJ setup instruction to add and initialize the tool.

### 111533, BullsEye Error

**Description**

A full TCP measurement failed.

Tool: *arg*

Task: *arg*

**Consequences**

BullsEye will not be able to evaluate this tool.

**Recommended actions**

If problem persists, execute the BESetupToolJ setup instruction to add and initialize the tool.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 111534, BullsEye Day1 TCP Updated

**Description**

The Day1 TCP has been updated due to a change in the beam location.

Tool: *arg*

Task: *arg*

**Consequences**

New TCP: *arg*

Change: *arg*

### 111535, BullsEye Day1 TCP Updated

**Description**

The operator has permitted the Day1 TCP to be updated.

Tool: *arg*

Task: *arg*

**Consequences**

New TCP: *arg*

Change: *arg*

### 111536, BullsEye New TCP Rejected

**Description**

The operator rejected the TCP measurement.

Tool: *arg*

Task: *arg*

**Consequences**

TCP will remain unchanged.

Original TCP: *arg*

Measured TCP: *arg*

### 111537, BullsEye Updated TCP

**Description**

The TCP for Tool, *arg*, has been updated by BECheckTcp.

Task: *arg*

New TCP: *arg*

Change: *arg*

Elapsed Time: *arg*

### 111538, BullsEye Debug On

**Description**

Debug mode has been turned on.

Task: *arg*

### 111539, BullsEye Debug Off

**Description**

Debug mode has been turned off.

Task: *arg*

### 111540, BullsEye Error

**Description**

An error has occurred. The cause has not been identified.

Task: *arg*

**Recommended actions**

If problems persists, try:

1. Execute the BESetupToolJ setup instruction to reinitialize the tool.
2. Please contact your ABB support representative if problem cannot be corrected.

### 111541, BullsEye TCP OK

**Description**

The TCP for Tool, *arg*, has not been updated by BECheckTcp, because it is within tolerance.

Task: *arg*

Measured TCP: *arg*

Current TCP: *arg*

Elapsed Time: *arg*

### 111542, BullsEye signal configuration not OK

**Description**

The BullsEye signal, *arg*, is not configured as Change Of State (COS) on device *arg*.

Task: *arg*

*arg*.

**Consequences**

This will reduce the accuracy of the BullsEye TCP calibration.

**Recommended actions**

Change the configuration of the EIO device to Change of State (COS) instead of Polled or Cyclic.

### 111551, SmarTac Configuration Error

**Description**

Signal names supplied in PROC cannot be found in EIO.

**Recommended actions**

Please check the PROC config and EIO config.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 111552, SmarTac Configuration Error

**Description**

An error occurred while attempting to establish connections to I/O.

**Recommended actions**

Please check the PROC config and EIO config.

### 111553, SmarTac Configuration Error

**Description**

SmarTac was unable to find:

*arg*

in PROC configuration.

**Probable causes**

A PROC configuration file was loaded with errors.

### 111554, SmarTac Configuration Error

**Description**

SmarTac tried to access an illegal type:

*arg*

in PROC configuration.

**Probable causes**

A PROC configuration file was loaded with errors.

### 111555, SmarTac Configuration Error

**Description**

SmarTac experienced an unknown error trying to access:

*arg*

in PROC configuration.

**Probable causes**

A PROC configuration file was loaded with errors.

### 111556, SmarTac Result

**Description**

Search Result: *arg*

Search Type: Search 1D

Search Name: *arg*

### 111557, SmarTac Search Override

**Description**

Optional limit exceeded on Search_1D!

Search Name: *arg*

The magnitude of the offset = *arg*

The preset limit = *arg*

### 111558, SmarTac Search Override

**Description**

Default search result selected after failed search.

Manual override selected.

Search Type: Search 1D

Search Name: *arg*

### 111559, SmarTac Result

**Description**

Part detected.

Search Type: Part Search

### 111560, SmarTac Search Override

**Description**

Default search result selected.

No part found during part search.

Manual override 'TRUE' selected.

Search Type: Part Search

### 111561, SmarTac Search Override

**Description**

Default search result selected.

No part found during part search.

Manual override 'FALSE' selected.

Search Type: Part Search

### 111562, SmarTac Result

**Description**

Location Result: *arg*

Width Result: *arg*

Search Type: Groove

Search Name: *arg*

### 111563, SmarTac Search Override

**Description**

Default search result was selected after a failed Groove Search.

Manual override selected.

Search Type: Groove

Search Name: *arg*

### 111564, SmarTac Text Error

**Description**

SmarTac could not access text.

Index given: *arg*

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

Text Table: *arg*

**Consequences**

SmarTac will not be able to display messages correctly.

**Recommended actions**

Report to ABB.

### 111601, DB Table Creation Failed

**Description**

Failed to create WebWare table: tblBullsEye

**Consequences**

Production Monitor will be unable to log data to the database.

**Recommended actions**

Check the WebWare server.

### 111602, DB Table Created

**Description**

The table, tblBullsEye, was successfully added to the WebWare database.

### 111603, Production Monitor Error

**Description**

Configuration Error.

Production Monitor was unable to find:

*arg*

in the PROC configuration.

**Recommended actions**

Check the PROC configuration file for errors.

### 111604, Production Monitor Error

**Description**

Configuration Error.

Production Monitor tried to access an illegal type:

*arg*

in the PROC configuration.

**Recommended actions**

Check the PROC configuration file for errors.

### 111605, Production Monitor Error

**Description**

Configuration Error.

Production Monitor experienced an unknown error trying to access:

*arg*

in the PROC configuration.

**Recommended actions**

Check the PROC configuration file for errors.

### 111606, Production Monitor Error

**Description**

Text Resource Error.

Production Monitor could not access text.

Index: *arg*

File: *arg*

**Recommended actions**

Report to ABB.

### 111607, Production Monitor DB

**Description**

Creating the tblCycRes table in the WebWare database...

### 111608, DB Table Creation Failed

**Description**

Failed to create WebWare table: tblCycRes

**Consequences**

Production Monitor will be unable to log data to the database.

**Recommended actions**

Check the WebWare server.

### 111609, DB Table Created

**Description**

The table, tblCycRes, was successfully added to the WebWare database.

### 111610, Production Monitor DB

**Description**

Creating the tblSeamRes table in the WebWare database...

### 111611, DB Table Creation Failed

**Description**

Failed to create WebWare table: tblSeamRes

**Consequences**

Production Monitor will be unable to log data to the database.

**Recommended actions**

Check the WebWare server.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 111612, DB Table Created

**Description**

The table, tblSeamRes, was successfully added to the WebWare database.

### 111613, Production Monitor DB

**Description**

Creating the tblSeamEv table in the WebWare database...

### 111614, DB Table Creation Failed

**Description**

Failed to create WebWare table: tblSeamEv

**Consequences**

Production Monitor will be unable to log data to the database.

**Recommended actions**

Check the WebWare server.

### 111615, DB Table Created

**Description**

The table, tblSeamEv, was successfully added to the WebWare database.

### 111616, DB Table Creation Failed

**Description**

Failed to create WebWare table: tblCycleEv

**Consequences**

Production Monitor will be unable to log data to the database.

**Recommended actions**

Check the WebWare server.

### 111617, DB Table Created

**Description**

The table, tblCycleEv, was successfully added to the WebWare database.

### 111618, DB Table Creation Failed

**Description**

Failed to create WebWare table: tblGapEv

**Consequences**

Production Monitor will be unable to log data to the database.

**Recommended actions**

Check the WebWare server.

### 111619, DB Table Created

**Description**

The table, tblGapEv, was successfully added to the WebWare database.

### 111620, Production Monitor Mismatch

**Description**

The part information for, *arg*, has changed in task, *arg*.

**Consequences**

The reference data stored for this part can no longer be linked to the part program.

**Recommended actions**

Please delete the reference file to store new data.

### 111621, Production Monitor Error

**Description**

The reference data module for part, *arg*, is already loaded.
An attempt will be made to unload the module and then reload.
Task Name: *arg*

### 111622, Production Monitor Error

**Description**

The reference data module for part, *arg*, is already loaded. An attempt to unload the module failed.
Task Name: *arg*

**Consequences**

This is an abnormal condition that will prevent Production Monitor from working properly until the problem is resolved.

**Recommended actions**

Delete the reference module from this task and restart program execution from the main.

### 111623, Production Monitor Error

**Description**

The reference data module for part, *arg*, could not be unloaded.
Task Name: *arg*

**Recommended actions**

Restart the program execution from the main.

### 111624, Production Monitor Error

**Description**

The reference data for part, *arg*, could not be read from the stored data file.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

Task Name: *arg*

**Probable causes**

The data file may contain syntax errors.

**Recommended actions**

Please delete the reference data file to allow new data to be stored.

### 111625, Monitor Data Saved

**Description**

Nominal data was saved successfully for, *arg*.
Task Name: *arg*

### 111626, Production Monitor Error

**Description**

An error occured while saving reference data file for part, *arg*.
Task Name: *arg*

**Consequences**

Production Monitor will not be able to perform monitoring activities.

**Recommended actions**

Report to ABB.

### 111627, Production Monitor Timer Reset

**Description**

The cycle timer has been reset to prevent a possible overflow.
Task Name: *arg*

### 111628, Production Monitor Timer Reset

**Description**

The arc timer has been reset to prevent a possible overflow.
Task Name: *arg*

### 111629, DB Table Creation Failed

**Description**

Failed to create WebWare table: tblSmtc1D

**Consequences**

Production Monitor will be unable to log data to the database.

**Recommended actions**

Check the WebWare server.

### 111630, DB Table Created

**Description**

The table, tblSmtc1D, was successfully added to the WebWare database.

### 111631, DB Table Creation Failed

**Description**

Failed to create WebWare table: tblSmtcPart

**Consequences**

Production Monitor will be unable to log data to the database.

**Recommended actions**

Check the WebWare server.

### 111632, DB Table Created

**Description**

The table, tblSmtcPart, was successfully added to the WebWare database.

### 111633, DB Table Creation Failed

**Description**

Failed to create WebWare table: tblSmtcGroove

**Consequences**

Production Monitor will be unable to log data to the database.

**Recommended actions**

Check the WebWare server.

### 111634, DB Table Created

**Description**

The table, tblSmtcGroove, was successfully added to the WebWare database.

### 111635, DB Table Creation Failed

**Description**

Failed to create WebWare table: tblTchClean

**Consequences**

Production Monitor will be unable to log data to the database.

**Recommended actions**

Check the WebWare server.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 111636, DB Table Created

**Description**

The table, tblTchClean, was successfully added to the WebWare database.

### 111637, DB Table Creation Failed

**Description**

Failed to create WebWare table: tblNavigSrchSp.

**Consequences**

Production Monitor will be unable to log data to the database.

**Recommended actions**

Check the WebWare server.

### 111638, DB Table Created

**Description**

The table, tblNavigSrchSp, was successfully added to the WebWare database.

### 111639, DB Table Creation Failed

**Description**

Failed to create WebWare table: tblNavigMeas1D.

**Consequences**

Production Monitor will be unable to log data to the database.

**Recommended actions**

Check the WebWare server.

### 111640, DB Table Created

**Description**

The table, tblNavigMeas1D, was successfully added to the WebWare database.

### 111641, DB Table Creation Failed

**Description**

WebWare database tables must be created in Automatic Mode.

**Consequences**

Production Monitor will be unable to log data to the database.

**Recommended actions**

Switch to Automatic Mode and try again.

### 111642, Production Monitor

**Description**

Seam length for seam *arg* is within the specified range.
Nominal seam length is *arg* mm.
Current seam length is *arg* mm.
Taskname: *arg*.

### 111643, Production Monitor Error

**Description**

Seam length for seam *arg* is outside the specified range.
Nominal seam length is *arg* mm.
Current seam length is *arg* mm.
Taskname: *arg*.

**Consequences**

The seam is marked as too long.

**Recommended actions**

Check limits or re-teach the seam according to the configured range of *arg* for the seam.

### 111644, Production Monitor Error

**Description**

Seam length for seam *arg* is outside the specified range.
Nominal seam length is *arg* mm.
Current seam length is *arg* mm.
Taskname: *arg*.

**Consequences**

The seam is marked as too short.

**Recommended actions**

Check limits or re-teach the seam according to the configured range of *arg* for the seam.

### 111645, Production Monitor Error

**Description**

Seam *arg* was not welded or is missing.
Nominal seam length is *arg* mm.
Taskname: *arg*.

**Consequences**

The seam is missing.

**Recommended actions**

Check the welding program and part as a seam is marked as missing.

### 111646, Production Monitor Warning

**Description**

Task: *arg*.
Lower limit warning for seam *arg*.
Stored reference value for lower limit is -*arg* mm.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

**Consequences**
Current lower limit of -*arg* mm for seam *arg* is not valid.

**Probable causes**
Wrong parameter value specified with optional argument [\LowerLimit] at instruction SetSeamLocalData.

**Recommended actions**
Please delete the reference file to store new data.

## 111647, Production Monitor Warning

**Description**
Task: *arg*.
Upper limit warning for seam *arg*.
Stored reference value for upper limit is +*arg* mm.

**Consequences**
Current upper limit of +*arg* mm for seam *arg* is not valid

**Probable causes**
Wrong parameter value specified with optional argument [\UpperLimit] at instruction SetSeamLocalData.

**Recommended actions**
Please delete the reference file to store new data.

## 111648, Production Monitor Warning

**Description**
Task: *arg*.
Comparision factor warning for seam *arg*.
Stored reference value for the comparision factor is *arg* %.

**Consequences**
Current comparison factor of *arg* % for seam *arg* is not valid.

**Probable causes**
Wrong parameter value specified with optional argument [\CompLengthFactor] at instruction SetSeamLocalData.

**Recommended actions**
Please delete the reference file to store new data.

## 111649, Production Monitor Warning

**Description**
Task: *arg*.
The specified seam number *arg* for seam *arg* can not be found in the reference file.

**Consequences**
The reference data stored for this part can no longer be linked to the part program.

**Recommended actions**
Please delete the reference file to store new data.

## 111650, Production Monitor Error

**Description**
Task: *arg*.
No seam local data is specified for the current seam.

**Consequences**
Seam local data is not used. A default comparison factor of 98% is used instead.

**Recommended actions**
Use the optional arguments to define the lower and upper limits and delete the reference file to store new data.

## 111651, Production Monitor Warning

**Description**
Task: *arg*.
Additonal seam number mismatch for seam *arg*.
Stored reference value for seam number is *arg* but programmed seam number is *arg*.

**Consequences**
The currently used seam number *arg* for seam *arg* is not valid.

**Probable causes**
Wrong parameter value specified with optional argument [\SeamNumber] at instruction SetSeamLocalData.

**Recommended actions**
Please delete the reference file to store new data or change parameter.

## 111701, Torch Services Error

**Description**
Torch services MechClean configuration error. IO *arg* NOT found.

## 111702, Torch Services Error

**Description**
Torch services MechClean configuration error. Check PROC cfg domain.

## 111703, Torch Services Error

**Description**
Torch services MechClean configuration error. Torch Services was unable to find: *arg*/*arg* in PROC configuration.

*Continues on next page*


© Copyright 2005-2020 ABB. All rights reserved.

### 111704, Torch Services Error

**Description**

Torch services MechClean configuration error. Torch Services tried to access an illegal type: *arg*/*arg* in PROC configuration.

### 111705, Torch Services Error

**Description**

Torch services MechClean configuration error. Torch Services experienced an unknown error trying to access: *arg*/*arg* in PROC configuration.

### 111706, Torch Services Error

**Description**

Torch services Wirecut configuration error. Torch Services was unable to find: *arg*/*arg* in PROC configuration.

### 111707, Torch Services Error

**Description**

Torch services Wirecut configuration error. Torch Services tried to access an illegal type: *arg*/*arg* in PROC configuration.

### 111708, Torch Services Error

**Description**

Torch services Wirecut configuration error. Torch Services experienced an unknown error trying to access: *arg*/*arg* in PROC configuration.

### 111709, Torch Services Error

**Description**

Torch services Wirecut configuration error. IO *arg* NOT found.

### 111710, Torch Services Error

**Description**

Torch services MechClean configuration error. Check PROC cfg domain.

### 111711, Torch Services Error

**Description**

Torch services Spray configuration error. Check PROC cfg domain.

### 111712, Torch Services Error

**Description**

Torch services Spray configuration error. Torch Services was unable to find: *arg*/*arg* in PROC configuration.

### 111713, Torch Services Error

**Description**

Torch services Spray configuration error. Torch Services tried to access an illegal type: *arg*/*arg* in PROC configuration.

### 111714, Torch Services Error

**Description**

Torch services Spray configuration error. Torch Services experienced an unknown error trying to access: *arg*/*arg* in PROC configuration.

### 111715, Torch Services Warning

**Description**

Torch services Spray has unconfigured IO.

### 111716, Torch Services Warning

**Description**

Torch services Wirecut has unconfigured IO.

### 111717, Torch Services Warning

**Description**

Torch services MechClean has unconfigured IO.

### 111718, Torch Services Error

**Description**

Torch services MechClean Spray Liquid empty

**Recommended actions**

Refill Spray or check sensor

### 111751, Navigator Configuration Error

**Description**

Navigator configuration error. IO *arg* NOT found.

### 111752, Navigator Configuration Error

**Description**

Navigator configuration error. Navigator was unable to find: *arg*/*arg* in PROC configuration.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 111753, Navigator Configuration Error

**Description**

Navigator configuration error. Navigator tried to access an illegal type: *arg*/*arg* in PROC configuration.

### 111754, Navigator Configuration Error

**Description**

Navigator configuration error. Navigator experienced an unknown error trying to access: *arg*/*arg* in PROC configuration.

### 111755, Navigator error

**Description**

Sphere with name *arg* could not be localized.

**Probable causes**

Nominal point doesn't have sufficient accuracy.

Search radius is too small.

### 111756, Navigator Configuration Warning

**Description**

Navigator has unconfigured IO.

### 111900, Item target buffer full

**Description**

Target buffer full for Work Area *arg*.

Target number: *arg*.

Scene number *arg*.

### 111901, Push without any strobe

**Description**

Push received without any corresponding strobe signal is received for Work Area *arg*.

Push scene number *arg*

Latest received strobe *arg*

**Recommended actions**

Check hardware connections

### 111902, Push received too late

**Description**

Push of items was received too late to Work Area *arg*.

Corresponding Work Object already overwritten.

Push scene number *arg*.

Latest received strobe *arg*.

**Recommended actions**

Check the position generation frequency.

### 111903, Conveyor limits error

**Description**

Error in Work Area *arg*

Conveyor *arg*

The limits are incorrect specified.

**Recommended actions**

Required: Enter < Exit

or: Enter < Start < Stop < Exit

Given: *arg*

### 111904, Trig distance warning

**Description**

Trig distance is too long for conveyor *arg*.

Trig distance is set to maximum.

Max: *arg*.

Given: *arg*.

### 111905, Trig distance warning

**Description**

Trig distance is too short for conveyor *arg*.

Trig distance is set to minimum.

Min: *arg*

Given: *arg*.

### 111913, Prepared for PickMaster option not installed.

**Description**

The Prepared for PickMaster option has not been correctly installed in the system.

**Recommended actions**

Reinstall the system using a proper key containing the Prepared for PickMaster option.

### 111914, Uplink message failed

**Description**

The system failed to send an uplink message.

Status: *arg*

**Recommended actions**

Check network connection.

Check state of remote system.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 111915, Failed to open Work Object

**Description**

An error occurred when opening Work Object: *arg* for Work Area: *arg*.
Status *arg*.

**Consequences**

The program execution is immediately halted.

**Probable causes**

No Work Object *arg* exist in loaded RAPID modules.

**Recommended actions**

Check that the Work Object data name exists.

### 111916, Tool name is missing for target

**Description**

There was no tool for target in Work Area: *arg*.
Status *arg*.

**Recommended actions**

Check the tool name for target.

### 111917, Action list name missing

**Description**

There was no action list name for target in Work Area: *arg*.
Status *arg*.

**Recommended actions**

Check the tool name for target.

### 111918, Work Object name is missing for Work Area

**Description**

There was no Work Object for Work Area: *arg*.
Status *arg*.

**Recommended actions**

Check the Work Object name for Work Area.

### 111920, Missing tooldata for generated operation set

**Description**

Tooldata not found for generated operation set on work area *arg*.

**Consequences**

The project can not be run.

**Probable causes**

Tooldata not properly configured for the robot in the PickMaster line configuration.

**Recommended actions**

Check used tooldatas in the PickMaster line configuration.

### 111921, Target reset after move of Program Pointer

**Description**

The current target in work area "*arg*" with *arg* products are reset to its origin and will be executed again.

**Consequences**

The current target and operation *arg* from layer *arg* will be executed once again.

**Probable causes**

The PP was moved without any target was finished.
Since the program context cannot be secured, the whole operation will be executed from beginning.

**Recommended actions**

Make sure the tool is empty and cleared, since the whole cycle will be executed from beginning.
Restart in reduced speed to avoid unexpected behavior.

### 111922, Targets lost after move of Program Pointer

**Description**

*arg* targets with *arg* products in work area "*arg*" are lost because the operation was interrupted.

**Consequences**

The current target and operation *arg* from layer *arg* will be lost.

**Probable causes**

The PP was moved after at least one target in the operation was finished.
Since the program context cannot be secured, next operation will be executed.

**Recommended actions**

Make sure the tool is empty and cleared, since the whole cycle will be executed from beginning. An unfinished operation may be finished manually.
Restart in reduced speed to avoid unexpected behavior.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

## 111923, Targets lost after LOST acknowledge

**Description**

*arg* targets with *arg* products in Work Area "*arg*" are lost because the operation was interrupted.

**Consequences**

The current target and operation *arg* from layer *arg* will be lost.

**Probable causes**

The last target acknowledge was set to LOST after at least one target in the operation was finished.
Since the operation cannot be finished, next operation will be executed.

**Recommended actions**

Make sure the tool is empty and cleared, since the whole cycle will be executed from beginning. An unfinished operation may be finished manually.
Restart in reduced speed to avoid unexpected behavior.

## 111924, Operation handler not in use

**Description**

Task: *arg*
Function *arg* failed. The current targets in this operation are lost.
Program Ref. *arg*

**Consequences**

It is not possible to finish this operation. The execution will stop if no action is taken in an ERROR handler.

**Probable causes**

This might be caused by a pulse on the Robot Execution signal after the operation descriptor has been fetched. It is more likely to occur if the operation is a multidrop.

**Recommended actions**

1. Move PP to main and restart the execution.
2. Use an ERROR handler and run i.e. ExitCycle.

Recovery: *arg*

## 111925, Failed to open PM work area signal

**Description**

An error occurred when opening signal *arg* configured in PickMaster for work area: *arg*. (Internal status *arg*.)

**Consequences**

The current PickMaster project will not execute.

**Probable causes**

The work area signal is missing in the I/O configuration of the robot controller.
The I/O unit is not running.

**Recommended actions**

1. Check the signal name in the Work Area configuration of PickMaster.
2. Check the signal name in the I/O configuration of the robot controller.
3. Check if the I/O unit is running.

## 111926, Triggering too frequently

**Description**

A new pulse on signal *arg* is to be requested before the previous pulse has finished. The signal is still high. The configured pulse length is *arg* ms.

**Consequences**

The operation fails to complete its task.

**Probable causes**

The pulse length is too long or the pick and place operation is very short.

**Recommended actions**

Decrease the configured pulse length.

## 111927, PM group signal too short for work area

**Description**

PickMaster group signal *arg* configured for work area *arg* has too few bits. Required number of bits is *arg*.

**Consequences**

The current project can not execute.

**Probable causes**

The signal has to few bits defined in the I/O configuration of the controller.

**Recommended actions**

Check the controller I/O configuration of the signal.

## 111928, Restart job failed

**Description**

A job failed to restart on work area *arg*.

**Consequences**

The work area has entered a response error state.

**Probable causes**

Start layer count = *arg* and start product count = *arg* is more than the total number of layers for the job (= *arg*).

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

**Recommended actions**

Correct the start layer count and start product count. Restart the job.

## 111929, Restart job failed

**Description**

A job failed to restart on work area *arg*.

**Consequences**

The work area has entered a response error state.

**Probable causes**

Start product count *arg* is more than the number of products for the top layer (= *arg*).

**Recommended actions**

Correct the start product count and restart the job.

## 111930, Restart job failed

**Description**

A job failed to restart on work area *arg*.

**Consequences**

The work area has entered a response error state.

**Probable causes**

Start product count = *arg*, does not match a full operation for the incomplete top layer. Start layer count is specified as = *arg*.

**Recommended actions**

Correct the start product count or start layer count. Restart the job.

## 111931, An unfinished job was stopped

**Description**

An unfinished job was stopped on work area *arg*. Number of full layers in stack = *arg*. Number of products in top layer = *arg*.

## 111950, No PickMaster Flow to Retrieve

**Description**

Task: *arg*
Instruction *arg* failed.
Program Ref. *arg*

**Probable causes**

There is no flow ready when executing instruction.
No *arg* or a low value is used on *arg* in this instruction.

**Recommended actions**

Use an error handler and do a RETRY on instruction. If a *arg* is used, and this error occur often, increase the *arg*.
Recovery: *arg*

## 111951, Value Error

**Description**

Task: *arg*
Illegal value in argument *arg*.
Program Ref. *arg*

**Consequences**

The program execution is immediately halted.

**Probable causes**

Error in the RAPID program.

**Recommended actions**

Check the value.*arg* must be a positive integer.

## 111952, Execution Error

**Description**

Task: *arg*
The task is not allowed to execute the instruction *arg*.
Program Ref. *arg*

**Probable causes**

The task is not configured to control mechanical units

**Recommended actions**

Change the configuration or remove the instruction.

## 111953, Can not retrieve operation

**Description**

Task: *arg*
Instruction *arg* failed.
Program Ref. *arg*

**Probable causes**

There is no operation to retrieve when executing instruction.
No *arg* or a low value is used on *arg* in this instruction.

**Recommended actions**

Use an error handler and do a RETRY on instruction. If a *arg* is used, an this error occur often, increase the *arg*.
Recovery: *arg*

## 111954, Can not retrieve targets

**Description**

Task: *arg*
Instruction *arg* failed.
Program Ref. *arg*

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

**Probable causes**
There is no target ready when executing instruction.
No *arg* or a low value is used on *arg* in this instruction.

**Recommended actions**
Use an error handler and do a RETRY on instruction. If a *arg* is used, an this error occur often, increase the *arg*.
Recovery: *arg*

## 111956, Wrong value on in parameter *arg*

**Description**
Task: *arg*
Parameter *arg* has value *arg*. The only values that can be used for *arg* are the predefined values for:
*arg*
Program Ref: *arg*

**Consequences**
The program execution is immediately halted.

**Probable causes**
Wrong value on in parameter *arg*.

**Recommended actions**
Change value on in parameter *arg*.

## 111957, No active project

**Description**
Task: *arg*
Instruction/function *arg* has detected that the project has been stopped.
The RAPID can not continue its execution without an active project.
Program Ref:*arg*

**Consequences**
The program execution is immediately halted.

**Probable causes**
1) Project has been stopped.
2) A power fail has occurred, and the RAPID program has been started without starting the project again.
3) A restart has been done, and the RAPID program has been started without starting the project again.

**Recommended actions**
Start a project.
In some cases PP must be moved to main.

## 111958, No active project

**Description**
Task: *arg*
Instruction *arg* failed.
Program Ref. *arg*

**Consequences**
The program execution is immediately halted.

**Probable causes**
There is no project running when executing instruction.
No *arg* or a low value is used on *arg* in this instruction.

**Recommended actions**
Use an error handler and do a RETRY on instruction.
Recovery: *arg*

## 111959, Not valid work object data

**Description**
Task: *arg*
Instruction *arg* failed.
No Work Area has reference to work object data named *arg*.
Program Ref. *arg*

**Consequences**
The program execution is immediately halted.

**Recommended actions**
Use an error handler and do a RETRY on instruction with another work object data as parameter.
Recovery: *arg*

## 111960, Invalid descriptor used

**Description**
Task: *arg*
Instruction *arg* failed.
The Work Area descriptor that is used refers to an object that does not exist.
Program Ref.*arg*

**Consequences**
The program execution is immediately halted.

**Probable causes**
An instruction/function is executed without a valid descriptor.
The Work Area descriptor has not been fetched correctly, or it is a restart after power fail.

**Recommended actions**
Check manual about how to get valid descriptors for Work Areas.

*Continues on next page*


© Copyright 2005-2020 ABB. All rights reserved.

### 111962, Invalid target handle

**Description**

Task: *arg*

Instruction *arg* failed.

The target handle that is used refer to an object that does not exist or is not initialized.

Program Ref. *arg*

**Consequences**

The program execution is immediately halted.

**Probable causes**

An instruction/function is executed without a valid descriptor.

The target handle has not been fetched correctly, or it is a restart after power fail.

**Recommended actions**

Restart the project or rewrite the RAPID program.

### 111963, Invalid action handle

**Description**

Task: *arg*

Instruction *arg* failed.

The action handle that is used refer to an object that does not exist or is not initialized.

Program Ref. *arg*

**Consequences**

The program execution is immediately halted.

**Probable causes**

An instruction/function is executed without a valid handle.

The action handle has not been fetched correctly, or it is a restart after power fail.

**Recommended actions**

Restart the project or rewrite the RAPID program.

### 111964, Error event trigged

**Description**

Task: *arg*

Instruction *arg* failed.

The Work Area *arg* is set in error state after an error event.

Program Ref. *arg*

**Consequences**

It is not possible to execute the program until the error is solved.

**Probable causes**

1. The error source signal has set the Work Area in error state.
2. Stop immediately has been used.

**Recommended actions**

Solve the cause of the error situation and use one of the restart options.

### 112000, Failed to open signal

**Description**

An error occurred when opening signal *arg* for *arg*.

The signal should be of type *arg*.

Status *arg*.

**Consequences**

The execution is stopped immediately.

**Probable causes**

Wrong signal type or signal name.

**Recommended actions**

Check the signal name and type.

### 112001, PickMaster Flow Error

**Description**

The flow with name *arg* is in an internal error state.

**Consequences**

The flow is stopped and will not be used until the project is stopped and restarted again.

**Probable causes**

An internal error has occurred.

**Recommended actions**

Save the system diagnostics under Control Panel - Diagnostics and send to Robotics Product Support.

### 112002, Failed to Retrieve PickMaster Format

**Description**

The flow *arg* failed to request a format with index *arg*.

The reply came from Work Area *arg*.

**Consequences**

The flow is stopped immediately.

**Probable causes**

The setup file is corrupted or incomplete.

Wrong response from IO signals.

**Recommended actions**

Verify the project setup using PickMaster PC application.

Look for internal errors.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 112003, Uplink message failed

**Description**

The system failed to send an uplink message.

Status: *arg*

**Recommended actions**

Check network connection.

Check state of remote system.

### 112050, Project *arg* starting

**Description**

Project *arg* is starting.

### 112051, Project *arg* started

**Description**

Project *arg* is now started.

### 112052, Project *arg* stopped

**Description**

Project *arg* stopped

### 112053, Failed to start project *arg*

**Description**

Failed to start project *arg*.

Check event logs for more information why the project could not be started.

Check for internal errors too.

**Consequences**

The project is not started, it is set in stop state.

**Probable causes**

The XML file is corrupted, or some internal error occurred.

**Recommended actions**

Check XML file, and check event logs for more information why the project could not be started.

### 112054, Project *arg* already started

**Description**

Project *arg* is already started.

Stop the project, and start it again if the project has been changed.

**Consequences**

The execution will continue.

**Probable causes**

Multiple use of RAPID instruction PmStartProj with the same project name *arg*.

**Recommended actions**

Stop project if the setup has been changed, and start it again.

### 112055, A project is already started

**Description**

A project *arg* is already started. Another project can not be started until the already started project is stopped.

**Consequences**

The project *arg* is not started.

The program execution is immediately halted if the start order was from RAPID.

**Probable causes**

Multiple start orders using different project names.

**Recommended actions**

Check the projects that are started. Remove one of the starts.

### 112056, Data List Full

**Description**

Internal data list was full when trying to store the variable *arg*.

**Consequences**

Targets depending on this variable will not be executed.

**Probable causes**

The project is probably too large.

**Recommended actions**

Reconfigure the project.

### 112057, Project name is an empty string

**Description**

The name of the project to start is not valid.

**Consequences**

Project not started. The program execution is immediately halted

**Probable causes**

The project name has not been initiated.

**Recommended actions**

Check the project name used when starting project.

### 112058, Stop of project ordered during start

**Description**

A stop order has been received during startup of project *arg*.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

**Consequences**
Project *arg* is not started.

**Probable causes**
Stop during start of project. The stop can be from another client or
another RAPID task.

**Recommended actions**
Do not stop project until it has been started correctly.

### 112059, Ongoing start of project

**Description**
A start of the project *arg* is executed right now.

**Consequences**
If the start order comes from RAPID, the RAPID execution is immediately stopped.

**Probable causes**
Start orders from multiple clients or RAPID tasks at the same time

**Recommended actions**
Start project only one time.

### 112060, Stop of project ordered during start

**Description**
RAPID execution stopped during start of project.
The project *arg* is not started.

**Consequences**
RAPID execution is immediately stopped. Project *arg* is not started.

**Probable causes**
A project stop order from PickMaster, FlexPendant, I/O or RAPID when a
start of a project is executed.

**Recommended actions**
Try to start project again.

### 112100, PickMaster project file is too old

**Description**
The *arg* file is not supported by this RobotWare.

**Consequences**
The required project file is too old and the project is therefore stopped.

**Probable causes**
The PickMaster version used to configure this project is too old for this RobotWare.
Required version by RobotWare: *arg*
PickMaster version used to create file: *arg*

**Recommended actions**
Update the project using at least version *arg* of PickMaster.

### 112101, Required PickMaster file could not be opened

**Description**
The file below could not be opened.
*arg*
Status: *arg*

**Consequences**
The project can not be loaded or can not continue execution.

**Probable causes**
The file is missing or has been tampered.

**Recommended actions**
Re-transfer the project from the PickMaster PC.

### 112102, Missing attribute in node

**Description**
The node is missing attribute "*arg*".

**Consequences**
The requested information could not be found. The execution of the project is stopped.

**Probable causes**
The PickMaster project file has been tampered.

**Recommended actions**
Re-transfer the project from the PickMaster PC.

### 112150, Failed to request new target set

**Description**
The target pump process "*arg*" failed to request new target set from project.

**Consequences**
Last trigged operation set can not be pushed into the Work Area queue.

**Probable causes**
The trigged operation set (*arg*) is not configured in the project.
The trigged combination of product I/O value (*arg*) and format I/O value (*arg*) is not configured in the project.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

Status: *arg*

**Recommended actions**

Review the project setup.

Check the product and format selection groups signal values.

## 112151, Incorrect target set

**Description**

The target set sent to the pump process "*arg*" is not the requested one.

**Consequences**

Last trigged operation set can not be pushed into the Work Area queue.

**Probable causes**

The trigged operation set is not correct (*arg*) or the trigged I/O values are not correct (*arg*)

Status: *arg*

**Recommended actions**

Review the project setup.

Check the selection group signal values.

## 112152, Response error for work area

**Description**

Response error occured for slave work area *arg*.

Targets generated (product = *arg*, format = *arg*) does not match positions requested (product = *arg*, format = *arg*).

**Consequences**

The work area has entered a reponse error state.

The robot will not access the work area until the correct targets are generated.

Any flow using the work area may become blocked from execution.

**Probable causes**

The product selection I/O values for position request and target generation is not the same.

The format selection I/O values for position request and target generation is not the same.

**Recommended actions**

Verify sequence logic and I/O values of external equipment setting the product and/or format I/O signals (i.e. a PLC).

To recover from the response error:

1) Verify that the requested targets are available on the work area.

2) Trigger a new target generation with correct I/O selection values.

## 112200, Failed to Open Signal

**Description**

An error occurred when opening the Trigger Event Signal.

Signal name: *arg*

**Consequences**

It will not be possible to use any PickMaster error recovery functionalities that can be generated from IO signals.

**Probable causes**

The signal name is not configured in the IO configuration.

**Recommended actions**

Verify the Trigger Event Signal name using the PickMaster PC application.

## 112201, Failed to Open Signal

**Description**

An error occurred when opening the Error Source Signal.

Signal name: *arg*

**Consequences**

It will not be possible to set any PickMaster source in an error state.

**Probable causes**

The signal name is not configured in the IO configuration.

**Recommended actions**

Verify the Error Source name using the PickMaster PC application.

## 112202, Failed to Open Signal

**Description**

An error occurred when opening the Event Message Signal.

Signal name: *arg*

**Consequences**

It will not be possible to use the PickMaster message functionality.

**Probable causes**

The signal name is not configured in the IO configuration.

**Recommended actions**

Verify the Event Message name using the PickMaster PC application.

## 112203, Wrong PickMaster Error Source Value

**Description**

The value that was read, *arg*, after an event was trigged does not match one or several configured bits in the IO signal *arg*.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

**Consequences**
The system goes to SYS STOP state.

**Recommended actions**
Verify the configuration using the PickMaster PC application.
Verify external equipment generating the signal value.

### 112204, Wrong PickMaster Message value

**Description**
The value that was read, *arg*, after an event was trigged does not match any configured values in the IO signal *arg*.

**Recommended actions**
Verify the configuration using the PickMaster PC application.
Verify external equipment generating signal value.

### 112250, PickMaster project size limitation

**Description**
Not enough memory for PickMaster project.

**Consequences**
Not possible to run the selected PickMaster project.

**Probable causes**
The selected project contains too much data to be handled by the robot controller.

**Recommended actions**
Reduce number of objects in the PickMaster project, e.g. reduce number of work areas, operation sets, flows, formats and products. Reduce object complexity in the PickMaster project, e.g. reduce number of layers in used pallet patterns.

### 112350, Target configuration outside reach

**Description**
Task: *arg*
A valid robot configuration within reach was not found for target.
Program Ref: *arg*

**Consequences**
The robot is not able to move to the target position.

**Probable causes**
The target position is outside reach.
A robot configuration was not found within reach for the target.

**Recommended actions**
Move the target position within the reach of the robot.
Check if the target position is possible to reach without robot configuration control (ConfJ\Off, ConfL\Off). Use an error handler and do a RETRY on instruction. ERRNO for recovery = *arg* .

### 112351, Failed to calculate axis limit

**Description**
Task: *arg*
Calculating the axis limit failed.
Program Ref: *arg*

**Consequences**
The axis angle can not be calculated due to the angel limitations.

**Probable causes**
Too narrow angel limits.

**Recommended actions**
Review the limits for the instructions.
Use an error handler and do a RETRY on instruction.
Recovery: *arg*

### 112352, Wrong limitation value

**Description**
Task: *arg*
The coordinate limits are not valid.
Program Ref: *arg*

**Consequences**
The coordinate is not possible to calculate.

**Probable causes**
Wrong limit values.

**Recommended actions**
Review the limits for the instructions.
Use an error handler and do a RETRY on instruction.
Recovery: *arg*

### 112353, Wrong intermediate part value

**Description**
Task: *arg*
The intermediate part value is not valid. The InterMidPart argument must be between 0 and 1.
Program Ref: *arg*

**Consequences**
The intermediate position is not possible to calculate.

**Probable causes**
Wrong InterMidPart value.

**Recommended actions**
Review the InterMidPart for the instruction.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 112354, Unknown event signal name

**Description**

Task: *arg*

The event signal name *arg* is unknown.

Program Ref: *arg*

**Consequences**

The event can not be defined.

**Probable causes**

Wrong signal name in the PickMaster project or line configuration.

**Recommended actions**

Review the signal name in the PickMaster project or line configuration.

### 112355, Too many events

**Description**

Task: *arg*

There are too many trig events defined for one move. Maximum 8 are allowed but in this case there are *arg* defined.

Program Ref: *arg*

**Consequences**

All events can't be set.

**Probable causes**

Error in the PickMaster configuration.

**Recommended actions**

Review the PickMaster configuration.

### 112356, Unknown event type

**Description**

Task: *arg*

The event type *arg* is unknown.

Program Ref: *arg*

**Consequences**

The event can't be set.

**Probable causes**

Error in the RAPID code.

Error in the PickMaster configuration.

**Recommended actions**

Check if the event type number is defined among the built-in variables of type pm_eventtype.

Review the PickMaster configuration.

### 112357, Unknown target action type

**Description**

Task: *arg*

The target action type *arg* is unknown.

Program Ref: *arg*

**Consequences**

The action can't be performed.

**Probable causes**

Error in the RAPID code.

Error in the PickMaster configuration.

**Recommended actions**

Check if the action type number is defined among the built-in variables of type pm_actiontype.

Review the PickMaster configuration.

### 112358, Unknown move type

**Description**

Task: *arg*

The move type *arg* is unknown.

Program Ref: *arg*

**Consequences**

The move can't be performed.

**Probable causes**

Error in the RAPID code.

Error in the PickMaster configuration.

**Recommended actions**

Check if the move type number is defined among the built-in variables of type pm_movetype.

Review the PickMaster configuration.

### 112359, Stack search detected empty stack

**Description**

Stack search detected empty stack.

Task: *arg*

Instruction *arg* failed.

Program Ref. *arg*

**Consequences**

Not possible to finish current operation unless an error handler is implemented.

**Probable causes**

1) Stack is empty or:

2) Tool center point for Search Tool data, Tool configuration, is not correctly defined.

3) The expected location of the stack is not correct.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

4) The search stop signal was not triggered correctly.

**Recommended actions**

If the stack not is empty:

Check definition of tool center point for Search Tool data.

Check definition of work object, tune frame, work area frame and displacement frame.

Check that the search stop signal is triggered correctly.

If the stack is empty:

This error can be recovered using the error handlers of the Operate() and OperateSequence() routines.

Recovery: *arg*.

1) Set the Redo Search signal after adjusting the stack.

2) Use RETRY to rerun Operate.

## 112360, Stack search adjusted stack layers

**Description**

Stack search adjusted the number of available layers in stack.

Task: *arg*

Instruction: *arg*.

Program Ref. *arg*

**Probable causes**

Actual stack height was lower than configured in PickMaster.

**Recommended actions**

No actions are required.

The default error handlers of the Operate() and OperateSequenc() routines will

recover the error.

Recovery: *arg*

## 112361, Unknown search type

**Description**

Task: *arg*

Search type *arg* is unknown.

Program Ref: *arg*

**Consequences**

Stack search can not be completed.

**Probable causes**

Errors in rapid code.

## 112362, Unknown search stop type

**Description**

Task: *arg*

Search stop type *arg* is unknown.

Program Ref: *arg*

**Consequences**

Stack search can not be completed.

**Probable causes**

Errors in rapid code.

## 112363, Stack search stop height mismatch

**Description**

Task: *arg*

The configured stop height = *arg* mm, was reached during stack search movement without detecting the stack height. The bottom layer of the stack is expected at least one layer below the reached stop height.

Program Ref: *arg*

**Consequences**

The stack height could not be properly adjusted after stack search.

**Probable causes**

The configured stop height is set too high.

The configured displacement frame offset for the operation set is set too low.

**Recommended actions**

Check the configured stop height.

Check the configured displacement frame offset for the operation set.

## 112364, PickMaster Tool Event Timeout

**Description**

Task: *arg*

A timeout has occurred while waiting for signal *arg* to get its correct value(*arg*).

Program Ref: *arg*

**Consequences**

The robot movement is halted until the signal condition is met. A new wait period is requested and the timeout is set to *arg* s.

## 112365, Not Valid Signal

**Description**

Task: *arg*

The signal *arg* is not correct used for current instruction.

Program Ref: *arg*

**Consequences**

The RAPID execution will stop immediately and it is not possible to recover from this error until the faulty signal is corrected.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

**Probable causes**

1. The signal is unknown in the system. If the signal is defined in the RAPID program, it must be connected to the configured signal with instruction AliasIO.
2. Signal argument is outside allowed limits.
3. There is no contact with the IO unit. The unit may have been disabled (IODisable "UNIT1", 1;). No power to the unit.

**Recommended actions**

All signals (except AliasIO signals) must be defined in the system parameters and can not be defined in the RAPID program.
Used group digital signal can not set required value according to configuration in system parameters.

## 112367, The Requested Project Could Not Be Found

**Description**

Task: *arg*
The requested project *arg* could not be found in the PickMaster project folder. The project can be identified both with its name and its selection value.
Program Ref: *arg*

**Consequences**

It is not possible to get any information about the project.

**Probable causes**

1. The requested project is not transferred from PickMaster PC.
2. The mapping between project and signal is wrong or missing.

**Recommended actions**

Recovery: *arg*

## 112368, The Requested Flow Could Not Be Found

**Description**

Task: *arg*
The requested flow *arg* could not be found in the loaded project. The flow can be identified both with its name and its selection value.
Program Ref: *arg*

**Consequences**

It is not possible to get any information about the flow.

**Probable causes**

1. The requested flow is not configured in the project.
2. The mapping between flow and signal is wrong or missing.

**Recommended actions**

Recovery: *arg*

## 112369, The Requested Flow Could Not Be Found

**Description**

Task: *arg*
The requested flow *arg* could not be found in the loaded project.
Program Ref: *arg*

**Consequences**

The RAPID program will immediately be halted.

**Probable causes**

The requested flow is not configured in the project.

**Recommended actions**

Check that the flow name is a member of the project.

## 112370, Not a Valid Stop Option

**Description**

Task: *arg*
The supplied stop options value is *arg*. The supported value must be in the range *arg*.
Program Ref: *arg*

**Consequences**

It is not possible to stop the flow *arg*.

**Recommended actions**

Recovery: PM_ERR_INVALID_FLOW_STOP_OPTION

## 112371, No Running Project

**Description**

Task: *arg*
There is no running project and the flow *arg* can for that reason not be accessed.
Program Ref: *arg*

**Probable causes**

The project has been stopped or is not yet started.

**Recommended actions**

Recovery: *arg*

## 112372, Missing PickMaster signals

**Description**

Task: *arg*
One or more of the IO signals that is used for managing projects and flows are missing.
Program Ref: *arg*

**Consequences**

It is not possible to start or stop flows from the IO interface. Project status signal might also be incorrect.

*Continues on next page*


© Copyright 2005-2020 ABB. All rights reserved.

**Probable causes**

The signals are not and/or wrong configured in the IO configuration. One reason can be that an old backup is used.

**Recommended actions**

This message can be ignored if the IO interface is not used.

## 112373, The Requested Work Area Could Not Be Found

**Description**

Task: *arg*

The requested Work Area with selection number or variable name *arg* could not be found in the loaded project. The Work Area can be identified both with its descriptor and its selection value.

Program Ref: *arg*

**Consequences**

It is not possible to get any information about the Work Area.

**Probable causes**

1. The requested Work Area is a RAPID variable that is not initialized.
2. The mapping between Work Area and signal value is wrong or missing.

**Recommended actions**

Recover: *arg*

## 112374, Intermediate position outside reach

**Description**

An intermediate position cannot be reached when moving from work area *arg* to work area *arg*. Part of intermediate movement = *arg* %.

Program reference: *arg*

**Consequences**

The robot cannot perform the movement.

**Probable causes**

Work space restrictions of the intermediate position.

**Recommended actions**

Reduce work space restrictions for RAPID instruction PmCalcIntermid, e.g. decrease MinZ. Recovery: *arg*.

## 112375, Intermediate axis position outside reach

**Description**

An intermediate axis position cannot be reached when moving from work area *arg* to work area *arg*. Part of intermediate movement = *arg* %.

Program reference: *arg*

**Consequences**

The robot cannot perform the movement.

**Probable causes**

Restrictions on axis angles of the intermediate position.

**Recommended actions**

Reduce restrictions on axes angles for RAPID instruction PmCalcIntermid, e.g. increase MaxAngle. Recovery: *arg*.

## 112376, Required WorkArea is not valid

**Description**

Task: *arg*

PmSetRecoverAction with selected recover action requires a valid WokArea descriptor.

Program Ref: *arg*

**Probable causes**

1. Recover action PM_RECOVER_REDO_LAYER and PM_RECOVER_NEXT_PALLET requires the optional argument WorkArea to be set.
2. The WorkArea descriptor is not initialized.
3. The WorkArea is not a part of the flow *arg*.

**Recommended actions**

Recover: *arg*

## 112377, Faulty Recover Action

**Description**

Task: *arg*

*arg* is not one of the supported recover actions.

Program Ref: *arg*

**Consequences**

It will not be possible to start the Flow *arg* if it is set in error state.

**Probable causes**

The recover action is not one of PM_RECOVER_CONTINUE_OPERATION, PM_RECOVER_REDO_LAYER, PM_RECOVER_NEXT_PALLET or PM_RECOVER_REDO_LAST_PICK.

**Recommended actions**

Recover: *arg*

## 112378, Flow is already starting up

**Description**

Task: *arg*

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

The flow *arg* is already starting up. Only one call to PmFlowStart is allowed at each time.
Program Ref: *arg*

**Consequences**
The RAPID program is immediately halted.

**Recommended actions**
Check the RAPID program for multiple use of PmFlowStart to same flow.

### 112379, Wrong flow state

**Description**
Task: *arg*
It is not possible to start flow *arg* in current state.
Program Ref: *arg*

**Consequences**
The RAPID program is immediately halted.

**Probable causes**
The flow is probably set in a sever error state that can not be recover from.

**Recommended actions**
Recover: *arg*

### 112380, Failed to recover from an error state

**Description**
Task: *arg*
The start of flow *arg* from an error state failed.
Program Ref: *arg*

**Consequences**
The RAPID program is immediately halted.

### 112381, Redo last pick is not allowed in current position

**Description**
Task: *arg*
The flow *arg* can not recover from the error situation with recover action PM_RECOVER_REDO_LAST_PICK.
Program Ref: *arg*

**Consequences**
The flow can not be started until a valid recover action has been set.

**Probable causes**
The flow can only recover from an error with PM_RECOVER_REDO_LAST_PICK if the first item is picked and no items are placed.

**Recommended actions**
Recover: *arg*

### 112382, Project info contains no valid data for current task

**Description**
Task: *arg*
Failed to read project info data.
Program Ref: *arg*

**Consequences**
It is not possible to get any information about project settings, i.e. the names on modules that should be loaded.

**Probable causes**
The project is already started when a start order from the IO interface is received.

**Recommended actions**
Stop project and start it again via the IO interface.

### 112383, No Running Project

**Description**
Task: *arg*
There is no running project and the work area with selection number or variable name *arg* can for that reason not be accessed.
Program Ref: *arg*

**Probable causes**
The project has been stopped or is not yet started.

**Recommended actions**
Recovery: *arg*

### 112384, Invalid default height

**Description**
Task: *arg*
The I/O value of signal *arg* does not correspond to a valid default height.
Program Ref: *arg*

**Consequences**
It was not possible to set the default height.

**Probable causes**
The I/O value of *arg* does not correspond to a valid default height selection.

**Recommended actions**
Make sure that *arg* is set to a proper value before *arg* is pulsed.

*Continues on next page*


© Copyright 2005-2020 ABB. All rights reserved.

### 112385, Too many events defined for target action

**Description**

Task: *arg*
Unexpected failure.
More than *arg* events are configured for a single target action of type *arg*
at work area *arg*.
Program Ref: *arg*

**Consequences**

Execution is stopped.

**Probable causes**

Too many events has been attached to the same target action.

**Recommended actions**

Modify the project configuration, download and restart the project.
Contact ABB.

### 112386, Unknown I/O Trigg type

**Description**

Task: *arg*
I/O Trigg type *arg* is unknown.
Program Ref: *arg*

**Consequences**

Stack search can not be completed.

**Probable causes**

Errors in rapid code.

### 112393, Flow recover with redo last pick

**Description**

The Flow *arg* will redo last unfinished operation at next flow start.

**Recommended actions**

Verify that:
- The tool is empty
- Products from last operation are restored on *arg*
- The reason for the stop is solved.

### 112394, Flow recover with continue pick-place

**Description**

The Flow *arg* will restart from where it was stopped at next flow start. Verify that the fault causing the stop has been handled.

**Recommended actions**

Verify expected number of products:
Tool: *arg*
WorkArea name/Number of products/Layer number
*arg*
*arg*
*arg*

### 112395, Flow recover with restart layer

**Description**

The Flow *arg* will restart from beginning of layer *arg* on WorkArea *arg* at next flow start.

**Recommended actions**

Verify that:
- The reason for the stop is solved
- The tool is empty
- Following WorkAreas are empty:
*arg*
*arg*

### 112396, Flow recover with next pallet

**Description**

The Flow *arg* will restart from beginning of next pallet on WorkArea *arg* at next flow start.

**Recommended actions**

Verify that:
- The reason for the stop is solved.
- The tool is empty
- Following WorkAreas are empty:
*arg*
*arg*
*arg*

### 112397, Flow recover with redo last pick

**Description**

The Flow *arg* will redo last unfinished operation at next flow start.

**Recommended actions**

Verify that:
- The tool is empty
- New products can be supplied on *arg*
- The reason for the stop is solved.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 112398, *arg*

**Description**

*arg*

### 112399, PickMaster Flow Stopped Immediately

**Description**

The Flow *arg* is stopped immediately.

**Consequences**

The RAPID program is stopped if the flow is active in any palletizing operation.

**Recommended actions**

Restart of the flow has to be performed from one of the error restart options.

### 112400, Invalid tuning parameter

**Description**

Task:*arg*

Context: *arg*

*arg* is not a valid tuning parameter.

### 112401, Schedule number out of range

**Description**

Task:*arg*

Context: *arg*

*arg* is not a valid schedule number.

Valid schedules numbers are in the range: *arg* to *arg*.

### 112402, SID file is not compatible

**Description**

Task:*arg*

Context: *arg*

The SID file version is not compatible.

**Consequences**

The SID file has not been loaded into power source memory.

**Probable causes**

The SID file was saved from a different power source type or the SID file has become corrupted.

**Recommended actions**

If the file has been transfered with FTP program. Are you sure that the FTP program uses binary transfer mode for this SID file?

If possible, try to recreate the SID file from the origin.

### 112403, Default I/O unit not defined

**Description**

Task: *arg*

The default I/O unit is not defined in configuration.

InstancePath: /PROC/ARISTOMIG_INT_USER_PROP/*arg*

Attribute: use_default_io

### 112404, Configuration data not found

**Description**

Task:*arg*

InstancePath: *arg*

Attribute: *arg*

### 112405, SID file corrupt

**Description**

Task:*arg*

Context: *arg*

The SID file is not in the correct format or the file size is incorrect.

**Consequences**

All the data was not recovered from the file.

**Recommended actions**

Verify the schedules in the power source. All data might not be recovered.

### 112406, Invalid tuning parameter

**Description**

Task:*arg*

Context: *arg*

*arg* is not a valid tuning parameter in instance *arg*.

### 112407, Schedule does not exist

**Description**

The schedule *arg* does not exist in the power source *arg*, in *arg*.

**Consequences**

The welding results will not be as expected.

**Recommended actions**

Make sure that the schedule has been created before using it in a weld instruction.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 112410, Program memory error (EPROM)

**Description**

The program memory is damaged in unit *arg*.
Fault code: *arg*
Internal unit: *arg*

**Recommended actions**

Restart the machine. If the fault persists, send for a service technician.

### 112411, Microprocessor RAM error

**Description**

The microprocessor is unable to print/read to the internal memory in unit *arg*.
Fault code: *arg*
Internal unit: *arg*

**Recommended actions**

Restart the machine. If the fault persists, send for a service technician.

### 112412, External RAM error

**Description**

The microprocessor is unable to print/read to the external memory in unit *arg*.
Fault code: *arg*
Internal unit: *arg*

**Recommended actions**

Restart the machine. If the fault persists, send for a service technician.

### 112413, 5V power supply low

**Description**

The power supply voltage is too low in unit *arg*.
Fault code: *arg*
Internal unit: *arg*

**Consequences**

The current welding process is stopped and starting is prevented.

**Recommended actions**

Turn off the mains power supply to reset the unit. If the fault persists, send for a service technician.

### 112414, Intermediate DC voltage outside limits

**Description**

The voltage is too high or too low in unit *arg*.
Fault code: *arg*
Internal unit: *arg*

**Consequences**

The power unit is stopped and cannot be started.

**Probable causes**

Too high a voltage can be due to severe transients on the mains power supply or to a weak power supply (high inductance of the supply or a phase missing).

**Recommended actions**

Turn off the mains power supply to reset the unit. If the fault persists, send for a service technician.

### 112415, High temperature

**Description**

The thermal overload-cut has tripped in unit *arg*.
Fault code: *arg*
Internal unit: *arg*

**Consequences**

The current welding process is stopped and cannot be restarted until the cut-out has reset.

**Recommended actions**

Check that the cooling air inlets or outlets are not blocked or clogged with dirt. Check the duty cycle being used, to make sure that the equipment is not being overloaded.

### 112416, High primary current

**Description**

The power unit *arg* takes too much current from the DC voltage that supplies it.
Fault code: *arg*
Internal unit: *arg*

**Consequences**

The power unit is stopped and cannot be started.

**Recommended actions**

Turn off the mains power supply to reset the unit. If the fault persists, send for a service technician.

### 112417, Low battery voltage or power supply

**Description**

Unit: *arg*
See description corresponding to the internal unit: *arg*
WDU: Low battery voltage +3 V
Battery voltage too low in unit *arg*. If the battery is not replaced, all stored data will be lost.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

PS: +15 V power supply
The power supply is too high or too low in unit *arg*.
Fault code: *arg*

**Recommended actions**
Send for a service technician.

## 112418, -15 V power supply

**Description**
The power supply is too high or too low in unit *arg*.
Fault code: *arg*
Internal unit: *arg*

**Recommended actions**
Send for a service technician.

## 112419, +24 V power supply

**Description**
The power supply is too high or too low in unit *arg*.
Fault code: *arg*
Internal unit: *arg*

**Recommended actions**
Send for a service technician.

## 112420, Current-servo / wire speed-servo error

**Description**
I/O unit: *arg*
Error code: *arg*
Internal unit: *arg*

## 112421, Communication error (warning)

**Description**
The load on the system's CAN-bus is temporarily too high in unit *arg*.
Fault code: *arg*
Internal unit: *arg*

**Consequences**
The power unit/wire feed unit has lost contact with the welding data unit.

**Recommended actions**
Check that all the equipment is correctly connected. If the fault persists, send for a service technician.

## 112423, Communication error

**Description**
The system's CAN-bus has temporarily stopped working due to the load being too high.
Fault code: *arg*
Internal unit: *arg*

**Consequences**
The current welding process stops.

**Recommended actions**
Check that all the equipment is correctly connected. Turn off the mains power supply to reset the unit. If the fault persists, send for a service technician.

## 112424, Messages lost

**Description**
The microprocessor is unable to process incoming messages sufficiently quickly and information has been lost in unit *arg*.
Fault code: *arg*
Internal unit: *arg*

**Recommended actions**
Turn off the mains power supply to reset the unit. If the fault persists, send for a service technician.

## 112426, Lost contact with MEK

**Description**
Unit: *arg*
Fault code: *arg*
Internal unit: *arg*

## 112427, Lost contact

**Description**
The welding data unit(WDU) has lost contact with the power unit(PS) in unit *arg*.
Fault code: *arg*
Internal unit: *arg*

**Consequences**
The current welding process stops.

**Recommended actions**
Check the cables. If the fault persists, send for a service technician.

*Continues on next page*


© Copyright 2005-2020 ABB. All rights reserved.

### 112428, Memory error in battery-supplied data memory RAM

**Description**

The battery has lost voltage in unit *arg*.

Fault code: *arg*

Internal unit: *arg*

**Recommended actions**

Turn off the mains power supply to reset the unit. The welding data unit is reset.

### 112429, Non-permitted set values stored in RAM

**Description**

Non-permitted values have been discovered at start-up in unit *arg*.

Fault code: *arg*

Internal unit: *arg*

**Recommended actions**

Delete all data contained in the welding data unit.

Turn off the mains power supply to reset the unit. The welding unit is reset.

### 112430, Incompatible set values stored in RAM

**Description**

Non-permitted welding data combinations have been specified in unit *arg*.

Fault code: *arg*

Internal unit: *arg*

**Recommended actions**

Turn off the mains power supply to reset the unit. If the fault persists, send for a service technician.

### 112431, Transmit buffer overflow

**Description**

The welding data unit does not manage to transmit information to the other units sufficiently quickly in unit *arg*.

Fault code: *arg*

Internal unit: *arg*

**Recommended actions**

Turn off the mains power supply to reset the unit.

### 112432, Receiver buffer overflow

**Description**

The welding data unit does not manage to process information from the other units sufficiently quickly.

Fault code: *arg*

Internal unit: *arg*

**Recommended actions**

Turn off the mains power supply to reset the unit.

### 112434, Incompatible weld data format

**Description**

I/O unit: *arg*

Error code: *arg*

Internal unit: *arg*

### 112435, Program error

**Description**

Something has prevented the processor from performing its normal duties in the program in unit *arg*.

Fault code: *arg*

Internal unit: *arg*

**Consequences**

The program restarts automatically. The current welding process will be stopped.

**Recommended actions**

Review the handling of welding programs during welding. If the fault is repeated, send for a service technician.

### 112436, No wire

**Description**

I/O unit: *arg*

Error code: *arg*

Internal unit:*arg*

### 112437, Lost program data

**Description**

Program execution does not work in unit *arg*.

Fault code: *arg*

Internal unit: *arg*

**Recommended actions**

Turn off the mains power supply to reset the unit. If the fault persists, send for a service technician.

### 112438, No water flow

**Description**

I/O unit: *arg*

Error code: *arg*

Internal unit: *arg*

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 112439, Lost contact with TIG card

**Description**

I/O unit: *arg*

Error code: *arg*

Internal unit: *arg*

### 112441, No gas flow

**Description**

I/O unit: *arg*

Error code: *arg*

Internal unit:*arg*

### 112500, Weld Data Monitor

**Description**

The configuration is complete for *arg*

### 112501, WDM Configuration Error

**Description**

The configuration failed for *arg*

**Consequences**

Weld Data Monitor will be inoperable.

**Recommended actions**

Please review PROC settings to correct.

### 112502, WDM Alias IO Error

**Description**

The signals defined in the PROC are invalid.

Task: *arg*

**Consequences**

Weld Data Monitor will be inoperable.

**Recommended actions**

Please review PROC settings to correct.

### 112503, WDM Failed to Read WDM_SETTINGS

**Description**

The 'chart' setting in the WDM_SETTINGS section
of the PROC could not be read.

Task: *arg*

**Consequences**

Weld Data Monitor not save charting files.

**Recommended actions**

Please review PROC settings to correct.

### 112504, WDM Failed to Read WDM_SETTINGS

**Description**

The IO signal setting in the WDM_SETTINGS section
of the PROC could not be read.

Task: *arg*

**Consequences**

Weld Data Monitor will be inoperable.

**Recommended actions**

Please review PROC settings to correct.

### 112505, WDM Failed to Read WDM_STABILITY

**Description**

The WDM_STABILITY section of the PROC could not be found.
Default values have been applied.

Task: *arg*

### 112506, WDM Failed to Read WDM_STABILITY

**Description**

The WDM_STABILITY section of the PROC could not be read.

Task: *arg*

**Consequences**

Weld Data Monitor may be inoperable.

**Recommended actions**

Please review PROC settings to correct.

### 112507, WDM Failed to Read WDM_SIGNATURE

**Description**

The WDM_SIGNATURE or WDM_SIGNATURE_DATA section
of the PROC could not be found.
Default values have been applied.

Task: *arg*

### 112508, WDM Failed to Read WDM_SIGNATURE

**Description**

The WDM_SIGNATURE or WDM_SIGNATURE_DATA section
of the PROC could not be read.

Task: *arg*

**Consequences**

Weld Data Monitor may be inoperable.

**Recommended actions**

Please review PROC settings to correct.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 112509, WDM Failed to Read WDM_TOLERANCE

**Description**

The WDM_TOLERANCE section of the PROC could not be read.

Task: *arg*

**Consequences**

Weld Data Monitor may be inoperable.

**Recommended actions**

Please review PROC settings to correct.

### 112510, WDM Learning Results Stored

**Description**

A learning cycle has finished for *arg* in task *arg*

*arg* of *arg* learning cycles completed.

Sample size: *arg*

### 112511, WDM Learning Complete

**Description**

Learning is complete for *arg* in task *arg*

*arg* of *arg* learning cycles completed.

Sample size: *arg*

**Consequences**

Monitoring will be active the next time this seam is welded.

### 112512, WDM Signature File Inaccessible

**Description**

The stored signature could not be read.

Seam Name: *arg*

Task: *arg*

The file may have been left open by another application.

**Consequences**

Weld Data Monitor is unable to evaluate this weld seam.

**Recommended actions**

Restarting the controller and starting from the main may resolve the problem for the next learning cycle.

### 112513, WDM Signature File Inaccessible

**Description**

The stored signature could not be written to.

Seam Name: *arg*

Task: *arg*

The file may have been left open by another application.

**Consequences**

Weld Data Monitor is unable to evaluate this weld seam.

**Recommended actions**

Restarting the controller and starting from the main may resolve the problem for the next learning cycle.

### 112514, WDM Results File Inaccessible

**Description**

The measured results could not be read.

Seam Name: *arg*

Task: *arg*

The file may have been left open by another application.

**Consequences**

Weld Data Monitor is unable to evaluate this weld seam.

**Recommended actions**

Restarting the controller and starting from the main may resolve the problem for the next learning cycle.

### 112515, WDM Data Reading Timeout

**Description**

Data could not be read from the binary file within a reasonable time.

Seam Name: *arg*

Task: *arg*

Timeout: *arg* seconds

**Consequences**

Weld Data Monitor is unable to evaluate this weld seam.

**Recommended actions**

Delete the stored WDM files and relearn.

### 112516, WDM Data Checksum Error

**Description**

Data read from the binary file did not match the expected size.

Seam Name: *arg*

Task: *arg*

**Consequences**

Weld Data Monitor is unable to evaluate this weld seam.

**Recommended actions**

Delete the stored WDM files and relearn.

### 112517, WDM Unknown Error

**Description**

An unexpected error occurred in WriteSigData.

Seam Name: *arg*

Task: *arg*

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

**Consequences**
Weld Data Monitor is unable to evaluate this weld seam.

**Recommended actions**
Please report to your ABB representative.

### 112518, WDM Unknown Error

**Description**
An unexpected error occurred in EvalSigData.
Seam Name: *arg*
Task: *arg*

**Consequences**
Weld Data Monitor is unable to evaluate this weld seam.

**Recommended actions**
Please report to your ABB representative.

### 112519, WDM Signature File Too Short

**Description**
The end of the signature file was reached before welding stopped.
Seam Name: *arg*
Task: *arg*
Current number of samples: *arg*

**Consequences**
Weld Data Monitor is unable to evaluate this weld seam.

### 112520, WDM File Access Error

**Description**
Could not open the binary data file described below.
File: *arg*
Task: *arg*
The file may have been left open by another application.

**Consequences**
Weld Data Monitor will be inoperable.

**Recommended actions**
Restarting the controller and starting from the main may resolve the problem for the next learning cycle. Deleting the file may also resolve the problem.

### 112521, WDM File Access Error

**Description**
Could not close a binary data file.
Task: *arg*

**Consequences**
Weld Data Monitor may be inoperable.

**Recommended actions**
Restarting the controller and starting from the main may resolve the problem for the next learning cycle. Deleting the file may also resolve the problem.

### 112522, WDM File Access Error

**Description**
Could not seal the binary data file described below.
File: *arg*
Task: *arg*

**Consequences**
Weld Data Monitor will be inoperable.

**Recommended actions**
Restarting the controller and starting from the main may resolve the problem for the next learning cycle. Deleting the file may also resolve the problem.

### 112523, WDM Sample Size Error

**Description**
The number of points stored in the last weld seam does not match the number stored in the existing signature file.
Seam Name: *arg*
Task: *arg*
Measured samples: *arg*
Signature samples: *arg*

**Consequences**
Weld Data Monitor will be unable to evaluate the data from this seam.

### 112524, WDM Weld End Error

**Description**
An unspecified error occurred at the end of the seam.
Task: *arg*

**Consequences**
Weld Data Monitor may be inoperable.

**Recommended actions**
Please contact your ABB representative.

### 112525, WDM Weld Start Error

**Description**
An unspecified error occurred at the start of the seam.
Task: *arg*

*Continues on next page*


© Copyright 2005-2020 ABB. All rights reserved.

**Consequences**

Weld Data Monitor may be inoperable.

**Recommended actions**

Please contact your ABB representative.

### 112526, WDM Learning Started

**Description**

No previously stored signature exists for *arg* in task *arg*.
Learning will begin now.
Learning cycles required: *arg*

### 112527, WDM Text Resource Error

**Description**

Text Resource Error.
Weld Data Monitor could not access text.
Index: *arg*
File: *arg*
Task: *arg*

**Recommended actions**

Please contact your ABB representative.

### 112528, WDM Minor Infraction

**Description**

A minor *arg* infraction has occurred in seam *arg*.
Measured value: *arg*
Maximum limit: *arg*
Minimum limit: *arg*

### 112529, WDM Major Infraction

**Description**

A major *arg* infraction has occurred in seam *arg*.
Measured value: *arg*
Maximum limit: *arg*
Minimum limit: *arg*

### 112530, WDM Error

**Description**

An unspecified error has occurred in the Weld Data Monitor for task *arg*

**Recommended actions**

Please contact your ABB representative.

### 112531, WDM Trigger Ready

**Description**

Weld Data Monitor is ready to sample data for task *arg*

### 112532, WDM Trigger Subscriptions Failed

**Description**

Weld Data Monitor trigger subscriptions failed for task *arg*

**Consequences**

Weld Data Monitor will be inoperable.

### 112533, WDM Trigger IO Setup Failed

**Description**

Weld Data Monitor trigger IO connections failed for task *arg*

**Consequences**

Weld Data Monitor will be inoperable.

### 112534, WDM Weave Frequency Error

**Description**

Weave frequency is too fast for *arg* in task *arg*.

**Consequences**

WDM will reduce sampling rate to a fraction of the weave frequency.

### 112535, WDM Weave Frequency Error

**Description**

Weave frequency is too fast for *arg* in task *arg*.

**Consequences**

No monitoring will occur.

**Recommended actions**

Please reduce weave frequency to enable Weld Data Monitoring.

### 112536, WDM Weave Change Error

**Description**

The weave parameters have changed since learning of seam *arg* in task *arg*.

**Consequences**

No monitoring will occur.

**Recommended actions**

Please remove the stored signature and relearn with new parameters. Or, reinstate old parameters.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 112537, WDM Speed Change Error

**Description**
The weld travel speed has changed since learning of seam *arg* in task *arg*.

**Consequences**
No monitoring will occur.

**Recommended actions**
Please remove the stored signature and relearn with new parameters. Or, reinstate old parameters.

### 112538, WDM Seam Length Changed

**Description**
The weld seam length has changed since learning of seam *arg* in task *arg*.

**Consequences**
No monitoring will occur.

**Recommended actions**
If the targets defining the seam were intentionally modified, please remove the stored signature and relearn with the new targets.

### 112539, WDM Sample Frequency Error

**Description**
Sampling frequency is too fast for *arg* in task *arg*.

**Consequences**
WDM will reduce sampling rate to a fraction of the requested frequency.

### 112540, WDM Sample Frequency Error

**Description**
Sampling frequency is too fast for *arg* in task *arg*.

**Consequences**
No monitoring will occur.

**Recommended actions**
Please reduce sampling frequency to enable Weld Data Monitoring.

### 112541, WDM welddata Change Error

**Description**
The weld parameters have changed since learning of seam *arg* in task *arg*.

**Consequences**
No monitoring will occur.

**Recommended actions**
Please remove the stored signature and relearn with new parameters. Or, reinstate old parameters.

### 112542, WDM Synchronizing Samples

**Description**
The segment number of the stored data is lagging the actual sample. This is normal behavior associated with execution stops.
Seamname: *arg*
Task: *arg*

**Consequences**
Some samples may have been ignored during the transition between segments.

### 112543, WDM Synchronizing Samples

**Description**
The segment number of the actual sample is lagging the stored data. This is normal behavior associated with execution stops.
Seamname: *arg*
Task: *arg*

**Consequences**
Some samples may have been ignored during the transition between segments.

### 112544, WDM Sample Distance Changed

**Description**
The weave parameters, or no-weave sample distance, have changed since learning was finished for seam *arg* in task *arg*.

**Consequences**
No monitoring will occur.

**Recommended actions**
Please remove the stored signature and relearn with new parameters. Or, reinstate old parameters.

### 112600, Init of communication interface failed

**Description**
Task *arg*
Communication interface could not be initialized.
Program Ref. *arg*

**Recommended actions**
Check communication settings and parameters and restart application.
Recovery: *arg*

*Continues on next page*


© Copyright 2005-2020 ABB. All rights reserved.

### 112601, Incorrect data received.

**Description**

The data received from remote system is incorrect. It is either a data error of the remote system, or a wrong message was received.

**Recommended actions**

Check data and program logic.

### 112602, Communication interface error.

**Description**

There is an error detected in the communication with the external system.

**Recommended actions**

Check remote system and connection. Restart communication.

### 112603, Failed to access the config files

**Description**

The configuration and settings files for the communication interface is not found in the HOME/GSI folder.

**Recommended actions**

Check that the HOME/GSI folder exists and that the configuration and settings files can be found there. Restart communciation.

### 112700, Integrated Vision not installed

**Description**

The option Integrated Vision is not installed on this system.

**Consequences**

No communication with the camera is possible.

**Probable causes**

An attempt may have been made to use the Integrated Vision functionality without installing the option correctly.

**Recommended actions**

1) If the Integrated Vision option is required: configure a new system with this option, and install the system.
2) If the Integrated Vision option is not required: remove the use of Integrated Vision functionality, i.e. RAPID or configuration data.

### 112701, Communication failure with camera

**Description**

The robot controller failed to communicate with camera *arg*.

**Consequences**

Camera commands and results may be lost.

**Probable causes**

The reasons for this error can be:
1) The camera is not connected to the controller.
2) There is no power to the camera.
3) The camera's IP address is not valid.
4) The camera is not connected to the proper network interface. Normally only the service port is supported.

**Recommended actions**

Recommended Actions
1) Check cabling between robot controller and camera.
2) Check that the LED power and link indicators on the camera are active.
3) Use RobotStudio to check that the IP address has been configured correctly.

### 112702, Camera job is not valid

**Description**

The camera *arg* is in running mode, but the loaded job is not a valid ABB job.

**Consequences**

All camera results will be lost.

**Probable causes**

An attempt may have been made to load a job that does not conform with the ABB definition of a job.

**Recommended actions**

1. Set the camera in program mode.
2. Load a valid ABB job into the camera or use Robot Studio to create a new job.

### 114800, *arg*

**Description**

*arg*
*arg*
*arg*
*arg*

**Recommended actions**

### 114801, *arg*

**Description**

*arg*
*arg*
*arg*

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

*arg*

**Recommended actions**

### 114802, *arg*

**Description**

*arg*

*arg*

*arg*

*arg*

**Recommended actions**

### 114803, *arg*

**Description**

*arg*

*arg*

*arg*

*arg*

**Recommended actions**

### 114804, *arg*

**Description**

*arg*

*arg*

*arg*

*arg*

**Recommended actions**

### 114805, *arg*

**Description**

*arg*

*arg*

*arg*

*arg*

**Recommended actions**

### 114806, *arg*

**Description**

*arg*

*arg*

*arg*

*arg*

**Recommended actions**

### 114807, *arg*

**Description**

*arg*

*arg*

*arg*

*arg*

**Recommended actions**

### 114808, *arg*

**Description**

*arg*

*arg*

*arg*

*arg*

**Recommended actions**

### 114809, *arg*

**Description**

*arg*

*arg*

*arg*

*arg*

**Recommended actions**

### 114810, *arg*

**Description**

*arg*

*arg*

*arg*

*arg*

**Recommended actions**

### 114811, *arg*

**Description**

*arg*

*arg*

*arg*

*arg*

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

4.10 11 xxxx
*Continued*

**Recommended actions**

### 114812, *arg*

**Description**

*arg*
*arg*
*arg*
*arg*

**Recommended actions**

### 114813, *arg*

**Description**

*arg*
*arg*
*arg*
*arg*

**Recommended actions**

### 114814, *arg*

**Description**

*arg*
*arg*
*arg*
*arg*

**Recommended actions**


© Copyright 2005-2020 ABB. All rights reserved.

## 4.11 12 xxxx

### 120001, Out of memory in cfg

**Description**

There is not enough memory in the cfg database for this operation.

**Consequences**

The configuration file will not be installed.

**Recommended actions**

1 Try to use the option: delete existing parameters before loading when loading the configuration file. This will delete all previous configuration settings for the domain.
2 Increase the size of the configuration database.

### 120002, Instance cannot be saved

**Description**

Not allowed to overwrite instance in line *arg* of file *arg*.

**Consequences**

The instance may be write protected and the configuration in file will not be installed.

**Probable causes**

**Recommended actions**

You are not allowed to change the instance.

### 120003, Wrong cfg domain version

**Description**

The cfg domain version is wrong in file *arg*. This version of RobotWare is made for reading domain *arg* with version *arg*.

**Consequences**

The configuration in file might not be installed correctly.

**Probable causes**

**Recommended actions**

1 Migrate or edit the configuration file and update the version in the header of the file.

### 120004, Line too long

**Description**

Line *arg* in file *arg* contains *arg* characters, which is more than the allowed *arg*.

**Consequences**

The configuration in file will not be installed.

**Probable causes**

**Recommended actions**

1 Re-edit the configuration file and reduce the number of characters, e.g. by splitting the instance into several lines. End each line, except the last one, with a trailing backslash "\" to achieve this.

### 120005, Attribute value out of allowed range

**Description**

Attribute '*arg*' on line *arg* in file *arg* is out of the allowed range. The allowed range is < *arg*> - < *arg*>.

**Consequences**

The configuration in file will not be installed.

**Probable causes**

**Recommended actions**

1 Re-edit the configuration file and change the value on the attribute to fit inside the allowed range.

### 120006, Instance name occupied

**Description**

Instance in line *arg* in file *arg* is already occupied.

**Consequences**

The configuration in file will not be installed.

**Probable causes**

**Recommended actions**

1 Re-edit the configuration file and change the instance name to add it to the file OR
2 Use the "Replace" mode to overwrite the instance previously using the name. This may be selected when loading the configuration file using RobotStudio, and the procedure is detailed in the RobotStudio Manual.

### 120007, Unknown input in cfg file

**Description**

The name or the value of attribute '*arg*' in line *arg* in file *arg* is not recognized.

**Consequences**

The configuration in file will not be installed.

**Probable causes**

The configuration file contains invalid input.

**Recommended actions**

1 Re-edit the configuration file.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 120008, Mandatory attribute is missing in cfg file

**Description**

Missing mandatory attribute *arg* on line *arg* in file *arg*.

**Consequences**

The configuration in file will not be installed.

**Probable causes**

Missing/mistyped mandatory attribute.

**Recommended actions**

1 Re-edit the configuration file.

### 120009, Missing instance name in cfg file

**Description**

Missing instance name on line *arg* in file *arg*.

**Consequences**

The configuration in file will not be installed.

**Probable causes**

**Recommended actions**

1 Re-edit the configuration file.

### 120010, Configuration attribute value out of the allowed range

**Description**

Configuration attribute *arg* on line *arg* in file *arg* is out of the allowed range. The max. allowed length is *arg* characters.

**Consequences**

The configuration in file will not be installed.

**Probable causes**

**Recommended actions**

1 Re-edit the configuration file and change the value on the attribute to fit inside the allowed range.

### 120011, Illegal version string

**Description**

The version string in configuration file *arg* has illegal format.

**Consequences**

The configuration in file will not be installed.

**Probable causes**

The configuration file is made for a different system version/revision.
The version string in the configuration file is mistyped/missing.
The configuration file is corrupted.

**Recommended actions**

1 Re-edit the configuration file and change the version string according to this layout:
"domain":CFG_1.0:"version":"revision"::.

### 120012, Illegal domain name

**Description**

The domain name *arg* in configuration file *arg* is illegal.

**Consequences**

The configuration in file will not be installed.

**Probable causes**

The domain name may be mistyped or the domain is not installed in the system.

**Recommended actions**

1 Re-edit the configuration file and change the domain name.

### 120013, Illegal type name

**Description**

The type name '*arg*' in configuration file *arg* cannot be found in domain *arg*.

**Consequences**

The configuration in file will not be installed correctly.

**Probable causes**

The type name may be mistyped or the type is not installed in the system.

**Recommended actions**

1 Re-edit the configuration file and reload the cfg file.

### 120014, Configuration file error

**Description**

Errors occurred during loading of configuration data.
All configuration errors are placed in the cfg Event Log.

**Consequences**

The configuration in file will not be installed.

**Recommended actions**

1 Make sure that the syntax of the CFG file is correct.
2 Make sure that the options are installed that matches types in the CFG file.
3 Check for additional errors in the CFG event log.

### 120015, Invalid *arg*

**Description**

The *arg* '*arg*' is invalid.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

Parameter '*arg*' is invalid here.
File: *arg*. Line: *arg*.

**Consequences**
The configuration in file will not be installed correctly.

**Probable causes**
The parameter is not valid.

**Recommended actions**
1 Re-edit the configuration file and reload the cfg file.

## 120016, Invalid *arg*

**Description**
Parameter '*arg*' has an invalid value: '*arg*'
Valid values: *arg*
*arg*

**Consequences**
The configuration in file will not be installed correctly.

**Probable causes**
The value might be mistyped.

**Recommended actions**
1 Re-edit the configuration file and reload the cfg file.

## 120017, Invalid Rapid Identifier

**Description**
The value '*arg*' of parameter '*arg*' for configuration instance '*arg*' is invalid.

**Consequences**
The configuration in file will not be installed.

**Probable causes**
The value might be mistyped.

**Recommended actions**
Correct the value of the parameter so that it complies with the following rules:
Rules of RAPID identifiers:
1 The length must not exceed 16 characters.
2 The first character must be a letter (a-z or A-Z).
3 Subsequent characters must be letters (a-z or A-Z), digits (0-9) or underscores (_).

## 120020, Debug service reset

**Description**
The debug service '*arg*' for type '*arg*' had an invalid changed value and is reset to default value.

**Consequences**
The debug service is changed back to default setting.

**Probable causes**
An invalid update of the debug service in cfg.

**Recommended actions**
No action required.

## 120021, Unexpected debug service change

**Description**
The debug service in domain '*arg*' for type '*arg*' and instance '*arg*' has changed but is not connected to a debug service handler.

**Consequences**
The debug service change made will not have any affect.

**Probable causes**
The error is likely caused by an unsupported value in a loaded cfg file.

**Recommended actions**
Correct the cfg file and load again.


© Copyright 2005-2020 ABB. All rights reserved.

## 4.12 13 xxxx

### 130002, Equipment error

**Description**

Paint process stopped.

**Recommended actions**

Check the paint equipment.

### 130008, Trig plane error

**Description**

In 'SetBrush n': One trig plane,
*arg*, is defined outside
the programmed path.

**Recommended actions**

Change eventdata or reprogram path.

### 131000, Argument error.

**Description**

The argument is not an integer.

**Recommended actions**

Change the argument to an integer.

### 131006, Argument value error

**Description**

Negative value for argument no. *arg*

**Recommended actions**

Change argument value to
a positive number.

### 131007, Signal '*arg*' does not exist

**Description**

Signal: *arg*
Task: *arg*
Context: *arg*

**Recommended actions**

Check signal definitions.
Define signal or find an existing signal.

### 131013, Non-existing signal

**Description**

The following signal did not exist:
'*arg*'

**Recommended actions**

Check signal definitions.
Define signal or find an existing signal

### 131015, Too many trig events

**Description**

The maximum number of trig events (10) between two PaintL instructions is exceeded.
Task: *arg*
Instruction: *arg*
Context: *arg*

**Recommended actions**

Reduce the number of trig events.

### 131016, Illegal value for signal *arg*

**Description**

An attempt was made to set an illegal value *arg* for signal *arg*.

**Consequences**

Signal will not be set.

**Recommended actions**

Check that signal is within defined limits.

### 131017, SetBrushFac: Illegal applicator number *arg*

**Description**

Device A*arg*Brush not found.

**Consequences**

Brush factor is not set.

**Recommended actions**

Check IPS config that device exists for this applicator number.

### 131018, SetBrushFac: Illegal factor or channel number

**Description**

Channel *arg* is invalid or
factor *arg* outside limit. (Range: 1-200%)

**Consequences**

Brush factor is not set.

**Recommended actions**

Check channel number and factor.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 131019, Unexpected IPS return value

**Description**

Command *arg* sent from RAPID returned value *arg*

**Consequences**

IPS parameter not set

**Recommended actions**

Check IPS and RobotWare compatibility or contact ABB support

### 131020, Unknown IPS command sent from RAPID

**Description**

The IPS command *arg* is unknown

**Consequences**

IPS parameter not set

**Recommended actions**

Check IPS and RobotWare compatibility or contact ABB support

### 131030, Failed to set IPS parameter.

**Description**

Device: *arg*, Parameter: *arg*, Task: *arg*, Context: *arg*

**Recommended actions**

Check if device and parameter exists.

### 131031, Failed to get IPS parameter.

**Description**

Device: *arg*, Parameter: *arg*, Task: *arg*, Context: *arg*

**Recommended actions**

Check if device and parameter exists.

### 131050, Failed to get index file data.

**Description**

Unable to open file: *arg*, Task: *arg*, Context: *arg*

**Recommended actions**

Check if index file exists.

### 131051, Failed to get index file data.

**Description**

Cannot find row number: *arg*, File: *arg*, Task: *arg*, Context: *arg*

**Recommended actions**

Check if row number exists in index file.

### 131052, Failed to get index file data.

**Description**

Cannot find column number: *arg*, Row: *arg*, File: *arg*, Task: *arg*, Context: *arg*

**Recommended actions**

Check if column number exists at row in index file.

### 131400, Invalid program mapping index.

**Description**

Line *arg* in file *arg* is invalid.

**Consequences**

The index will be ignored.

**Recommended actions**

Check line in file for errors.

### 131401, Program mapping missing comma.

**Description**

Line *arg* in file *arg* does not contain a comma.

**Consequences**

The index will be ignored.

**Recommended actions**

Check line in file for errors.

### 131500, Command toggle was sent before previous command was finished.

**Description**

Command toggle for command number *arg* was sent before command number *arg* was finished.

**Consequences**

The command is ignored.

**Recommended actions**

Check PLC timing.

### 131501, Command toggle was lowered before command was finished.

**Description**

Command toggle for command number *arg* was lowered before it was finished.

**Consequences**

Command result will not be available.

**Recommended actions**

Check PLC timing.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 131540, Command is not allowed in manual mode.

**Description**

Command number *arg* was sent in manual mode from *arg*.

**Consequences**

The command is rejected.

**Recommended actions**

Switch to automatic mode.

### 131550, Command timed out.

**Description**

Wait for command number *arg* timed out.

**Consequences**

The actual command result will NOT be received.

**Recommended actions**

Check if command uses too much time to execute.

### 131551, Command buffer full.

**Description**

Unable to append command number *arg* because the buffer is full.

**Consequences**

The command will be rejected.

**Recommended actions**

Make sure previous command has finished before sending a new one.

### 131600, Proceed of material change failed.

**Description**

The system was unable to send proceed command to material change engine.

**Consequences**

Material change becomes unsynchronized.

**Recommended actions**

Check communcation between main computer and IPS.

### 131601, Material change error.

**Description**

*arg*

### 131602, Material change warning.

**Description**

*arg*

### 131650, No contact with material change engine.

**Description**

The system was unable to communicate with external material change engine on PIB.

**Consequences**

Material change information will not be updated.

**Recommended actions**

Check that material change has been installed correctly on PIB.
Check communcation between main computer and PIB.

### 131700, Maximum negative lag of conveyor reached.

**Description**

The conveyor is running too fast compared to configured nominal speed.

**Recommended actions**

Check nominal speed setting or reduce conveyor speed.

### 131850, Bell speed rotation sensor calibration started.

**Description**

The system has started calibration of the rotation sensor.

### 131851, Bell speed rotation sensor calibration finished.

**Description**

Calibration of rotation sensor finished without errors.

### 131852, Bell speed rotation sensor calibration failed.

**Description**

Calibration of rotation sensor finished with errors.

**Recommended actions**

Check for other process related error messages.

### 132500, Unable to open symbol.

**Description**

Output for symbol *arg* not found.
NOTE: No paint-related outputs available

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

due to this error.

**Recommended actions**

1. Output for symbol not defined.
2. Output for symbol has wrong name.
3. Internal problem (memory etc..)

Try a restart.

### 132601, PIB contact lost

**Description**

Controller has lost connection with the Process Interface Board (PIB).

**Consequences**

The system goes to status SYS_FAIL.

**Probable causes**

1. Broken ethernet cable between PIB and MC
2. High network load.

**Recommended actions**

Check main computer
PIB Ethernet cable.
Restart the controller

### 132602, Invalid signal path for signal *arg*

**Description**

The path *arg* is invalid for signal *arg*

**Consequences**

This signal will be disabled

**Recommended actions**

Check that the named device exist in IPS and there are no conflicts. For numeric unit mapping on digital signals, please note that IPS uses 1-indexing while EIO uses 0-indexing.

### 132603, Watchdog fault between PIB and MC

**Description**

Controller has discovered watchdog fault towards Process Interface Board (PIB)

**Consequences**

The system goes to status SYS_FAIL.

**Probable causes**

1. Broken cable
2. High network load.

**Recommended actions**

If problem persists:
Check main computer
Check ethernet cable between PIB and main computer.
Restart the controller

### 132604, Regained contact with PIB

**Description**

Controller has regained contact with the Process Interface Board (PIB) after watchdog fault.

### 132700, Dip in main power voltage, additional energy pack in PDB has been activated

**Description**

Due to dip in voltage on main power or power loss, the PDB has enabled the additional energy pack to allow the system to shut down gracefully.

**Consequences**

Robot will stop and run chain will be opened.

### 132999, Process error context

**Description**

*arg*, *arg*, *arg*, *arg*, *arg*

**Probable causes**

This message is associated with an IPS error and is used to map the problem to TCP position for visualization purposes.

### 133000, IPS Cfg Error

**Description**

Cfg Error: *arg*
Error accessing IPS config file *arg*. This config file is stored on one of the installed IPS nodes.

**Recommended actions**

1. Check IPS config file for errors.
2. Check if config file is stored on the correct IPS node.

### 133001, IPS Cfg Error

**Description**

Cfg Error: *arg*.
Error in IPS config file *arg* in line *arg*. This IPS config file is located on one of the IPS nodes.

**Recommended actions**

1. Check in IPS config file for error in given line.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 133002, IPS Cfg Error

**Description**

Syntax Error: *arg*.
Faulty argument: *arg*, in IPS config file *arg* in line *arg*. This IPS config file is located on one of the IPS nodes.

**Recommended actions**

1. Check in IPS config file for error in given line.

### 133003, IPS Cfg Error

**Description**

Assertion error: *arg*.
Error in IPS config file *arg* in line *arg*. This IPS config file is located on one of the IPS nodes.

**Recommended actions**

1. Check in IPS config file for error in given line.

### 133004, IPS Cfg Token Error

**Description**

Cfg Token Error: *arg*.
Error in token *arg*, in IPS config file *arg* in line *arg* and character position *arg*. This IPS config file is located on one of the IPS nodes.

**Recommended actions**

1. Check in IPS config file for error in given line.

### 133005, IPS License Error

**Description**

License server is not found.
Could not obtain option: *arg*
Reference: *arg*

**Recommended actions**

1. Check that the system has a license server.
2. Check status on license server.
3. Check communication towards license server.

### 133006, IPS License Error

**Description**

ID chip is not found.
Could not obtain option: *arg*
Reference: *arg*

**Recommended actions**

1. Check that ID chip is mounted on PIB.

### 133007, IPS License Error

**Description**

Wrong serial number.
Could not obtain option: *arg*
Reference: *arg*

**Recommended actions**

1. Check serial number in license file.
2. Check that correct ID chip is mounted.

### 133008, IPS License Error

**Description**

License file is not found. File name must be 'option.lic'.
Could not obtain option: *arg*
Reference: *arg*

**Recommended actions**

1. Check that license file exist on license server.

### 133009, IPS License Error

**Description**

License code in license file is not correct.
Could not obtain option: *arg*
Reference: *arg*

**Recommended actions**

1. Check that the license file on license server is identical to the original license file.

### 133010, IPS License Error

**Description**

Syntax error in license file.
Could not obtain option: *arg*
Reference: *arg*

**Recommended actions**

1. Make sure the original license file is used.
2. Order new license file.

### 133011, IPS License Error

**Description**

Option does not exist in license file.
Could not obtain option: *arg*
Reference: *arg*

**Recommended actions**

1. Check if option exist in license file.
2. Check if correct license file loaded.
3. Check in IPS config file for errors.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

4. Order new license file.

### 133012, IPS License Error

**Description**

Counting option has no free licenses.
Could not obtain option: *arg*
Reference: *arg*

**Recommended actions**

1. Check number of uses vs. license file.
2. Check if correct license file loaded.
3. Check in IPS config file for errors.

### 133013, IPS License Error

**Description**

Protocol error in communication towards license server.
Could not obtain option: *arg*
Reference: *arg*

**Recommended actions**

1. Contact customer support.

### 133014, IPS License Error

**Description**

Communication fault. License server has been found, but communication is lost.
Could not obtain option: *arg*
Reference: *arg*

**Recommended actions**

1. Check communication towards license server.

### 133200, *arg*:Trig error

**Description**

IPS has discovered an impossible trig time error.
This situation may occur if trig-events are programmed too close each other in e.g. a cleaning sequence.

**Recommended actions**

1. Check if events for named device are programmed too close each other.
2. Check compensation delays for named device.

### 133201, *arg*:Locked

**Description**

The named device is locked by IPS.
Can't set a value to this device when locked, and there is no direct access to it.

**Recommended actions**

1. Check if system tries to run named device, when it is already locked (connected) to another device.

### 133202, *arg*:Disabled

**Description**

Impossible to set a command value to named device when it is disabled.
When a device is disabled, it is not possible to operate it.

**Recommended actions**

1. Enable named device and set a new command to it.
2. Check if IPS config is set up to disable the named device.

### 133203, *arg*:Disconn.

**Description**

The resource(s) for named device is disconnected and named device is not operational. The connect signal for the device is set to 0.

**Recommended actions**

1. Set the connect signal for the named device to 1.
2. Check if the system sets the connect signal to 0 in some special cases.

### 133204, *arg*:Not ready

**Description**

Can't set value: Named device is not ready and is halted by some supervision functions or it have a general problem.

**Recommended actions**

1. Check if IPS is setup with any supervision functions for named device.
2. Check if named device have any

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

problem, fix the problem and retry.

### 133205, *arg*:Sprv. alarm

**Description**

Can't set value:An alarm that is supervising named device is active.
One of the installed alarms prevents the named device from being operational.

**Recommended actions**

1. Check for supervision alarms that sets named device in a not ready state.
2. Fix the actual alarm state.

### 133206, Lock *arg* failed

**Description**

Locking of a resource for named device failed. The same resource may have been allocated by another device.

**Recommended actions**

1. Check in IPS config if several IPS devices are using the same resource.

### 133207, *arg*:Val hi

**Description**

Value for named sensor or device has exceeded maximum limit.
IPS has discovered an alarm state for named sensor or device.

**Recommended actions**

1. Check if value for named sensor or device is too high.
2. Check for IPS configured LIMIT-alarms and verify that limits are OK.

### 133208, *arg*:Val lo

**Description**

Value for named sensor or device has exceeded minimum limit.
IPS has discovered an alarm state for named sensor or device.

**Recommended actions**

1. Check if value for named sensor or device is too low.
2. Check for IPS configured LIMIT-alarms and verify that limits are OK.

### 133209, *arg*:Act.val hi

**Description**

Actual value for named device has exceeded maximum limit. IPS has discovered too high actual value compared to the setpoint value.

**Recommended actions**

1. Check for IPS configured DEVIATION-alarms and verify that parameter limits are OK.
2. Check if the sensor, used by named device, is noisy.

### 133210, *arg*:Act.val lo

**Description**

Actual value for named device has exceeded minimum limit. IPS has discovered too low actual value compared to the setpoint value.

**Recommended actions**

1. Check for IPS configured DEVIATION-alarms and verify that parameter limits are OK.
2. Check if the sensor, used by named device, is noisy or sending values.

### 133211, *arg*:Comp. hi

**Description**

Regulator for named device has compensated too much compared to the calibrated curve and its compensations parameter limits.

**Recommended actions**

1. Check in IPS config if compensation limits for named device are too tight.
2. Check supply pressures, hoses, sensor and transducer used by named device.

### 133212, *arg*:Comp. lo

**Description**

Regulator for named device has compensated too much compared to the calibrated curve and its compensations

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

parameter limits.

**Recommended actions**

1. Check in IPS config if compensation limits for named device are too tight.
2. Check supply pressures, hoses, sensor and transducer used by named device.

### 133213, *arg*:Potlife

**Description**

The potlife time for named device has expired and the fluid will start to cure! Paint equipment may be destroyed! Start to flush system at once!

**Recommended actions**

1. Check if flushing of system is performed.
2. Check if potlife time is correct.

### 133214, *arg*:Setp. hi

**Description**

Setpoint value for named device is too high. The setpoint value is set to the maximum configured value for named device.

**Recommended actions**

1. Check if setpoint to named device is set too high.
2. Change the maximum value in the IPS config file if needed.

### 133215, *arg*:Setp. lo

**Description**

Setpoint value for named device is too low. The setpoint value is set to the minimum configured value for named device.

**Recommended actions**

1. Check if setpoint to named device is set too low.
2. Change the minimum value in the IPS config file if needed.

### 133216, *arg*:Seq. error

**Description**

IPS has discovered a trig sequence error. The Dynamic Delay Compensation function for named device measured an 'on'- transition while expecting an 'off'- transition. (Or opposite)

**Recommended actions**

1. Check if the sensor signal has the correct level.
2. Check if the sensor signal is noisy.

### 133217, *arg*:Unexp. trans.

**Description**

IPS has discovered an unexpected transition. The Dynamic Delay Compensation function for named device measured a transition at a time when none was expected.

**Recommended actions**

1. Check relay and electrical connections for the sensor.
2. Check if the sensor signal is noisy.

### 133218, *arg*:Timeout On

**Description**

IPS has discovered a trig timeout for an 'on'- transition. The Dynamic Delay Compensation function has timed out for an 'on'- transition.

**Recommended actions**

1. Check sensor for named device.
2. Check wiring or relay for sensor.

### 133219, *arg*:Timeout Off

**Description**

IPS has discovered a trig timeout for an 'off'- transition. The Dynamic Delay Compensation function has timed out for an 'off'- transition.

**Recommended actions**

1. Check sensor for named device.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

2. Check wiring or relay for sensor.

### 133220, *arg*:No signal

**Description**

IPS is reading a zero value from the sensor used by the named device. Wiring or supply to this sensor can be the reason.

**Recommended actions**

1. Check if used sensor is broken.
2. Check wiring of used sensor.
3. Check process supply for used sensor.

### 133221, *arg*:Max output

**Description**

The closed loop regulator for named device has reached the maximum output.

**Recommended actions**

1. Check if the commanded value to the regulator is higher than possible for the application equipment.
2. Reduce setpoint to operate regulator within controllable range.

### 133222, *arg*:Min output

**Description**

The closed loop regulator for named device has reached the minimum output.

**Recommended actions**

1. Check if the commanded value to the regulator is lower than possible for the application equipment.
2. Increase setpoint to operate regulator within controllable range.

### 133223, *arg*:Interlock

**Description**

IPS has discovered an interlock conflict error. An attempt was made to operate more than one valve or device in an interlocked group.

**Recommended actions**

1. Set active valve or device to zero before activating a new one.

### 133224, Acknowledge needed

**Description**

*arg* is currently halted by an alarm supervision and an acknowledge of named device is needed.

**Recommended actions**

1. Check the alarms that is halting the named device.
2. Recover the alarm situation.
3. Acknowledge the alarm for named device and retry.

### 133225, DMC error

**Description**

Following Digital Motor Controller (DMC) error message was sent to IPS:
*arg*.
IPS has lost communication or discovered an error sent from the named DMC driver.

**Recommended actions**

1. Check cables to the DMC.
2. Check power supply to the DMC.
3. For more info, see the Unit Description, Paint manual.

### 133226, *arg*.

**Description**

Setpoint error.
IPS has discovered an error to set a signal on the named device.

**Recommended actions**

1. Check if signal is available for named device.

### 133250, *arg*:Comm. err

**Description**

IPS has discovered an internal communication error. Communication between IPS nodes is lost. System will try to reconnect if possible.

**Recommended actions**

1. Check cables between IPS nodes.
2. Check IPS nodes for correct address/MacID.
3. If CAN-bus, check termination resistors.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 133251, *arg*:New curve

**Description**

IPS has created a new dynamic or calibrated curve, number *arg*, for named device.

**Recommended actions**

### 133252, *arg*:Calc. curve

**Description**

IPS has recalculated a dynamic or calibrated curve, number *arg*, for named device. The range of curve is modified due to modified range of regulator.

**Recommended actions**

### 133253, *arg*:Resizing

**Description**

IPS has resized a dynamic or calibrated curve, number *arg*, for named device. Due to change in curvesize parameter, the existing curves are transformed to the new curvepoint size.

**Recommended actions**

### 133254, *arg*:DMC error

**Description**

IPS has lost communication or discovered an error sent from named DMC-driver.
DMC error code is: *arg*.

**Recommended actions**

1. Check DMC-driver status LEDs.
2. Check power supply on the DMC-driver.
3. Turn off and on the DMC-driver power.

### 133255, Apmb error

**Description**

IPS has discovered an Apmb-driver (Berger-Lahr driver) error.
Apmb-driver, number: *arg*, has issued an error.

**Recommended actions**

1. Check the fault LEDs codes on the Berger-Lahr Drive unit.
2. Check stepper motor.
3. Check wiring for Berger-Lahr driver.

### 133256, *arg*:Curve err

**Description**

IPS has discovered a number format on named dynamic/calibrated curve that is not correct.

**Recommended actions**

1. Check if an already saved curve on the IPS node has an incompatible number format than expected.
2. Delete the saved curve on the IPS board.

### 133257, SDI error

**Description**

SDI board have issued following error:*arg*,
with error code:*arg*.

**Recommended actions**

1. Check SDI board for errors.

### 133258, VCD error,MacID:*arg*

**Description**

IPS has discovered an error on a VCD board with following details:*arg*.

**Recommended actions**

1. Check VCD board for the error reason given.
2. Replace the VCD board.

### 133259, File Access Error

**Description**

IPS has discovered a File Access Error on following file: *arg*.

**Recommended actions**

1. Check if named file exists.
2. Check if file is currently in use.

### 133260, File Defaulted

**Description**

IPS has created a default file

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

of type: '*arg*' with
following file name: *arg*.

**Recommended actions**

### 133261, File Parse Error

**Description**

IPS failed to load the following file *arg* in line *arg*.
Detailed error text: *arg*.

**Recommended actions**

1. Check that named file has the correct format for its use.

### 133262, New index entry in file

**Description**

IPS has created in file: *arg*
a new index entry with value: *arg*

**Recommended actions**

### 133263, PPRU CAN Error

**Description**

PPRU unit: *arg*,
register '*arg*' = *arg*

### 133264, PPRU Error

**Description**

PPRU unit: *arg*,
message = '*arg*'

### 133265, SPI down: *arg*

**Description**

IPS on node *arg* has discovered an SPI-communication error. *arg*
System will try to reconnect.

**Recommended actions**

1. Check serial cable to SPI board.
2. Check power cable to SPI board.
3. Check/replace SPI board.

### 133266, SPI up: *arg*

**Description**

SPI reconnected on node *arg*.

### 133267, Missing index entry in file

**Description**

IPS has tried to use a none existing index entry in file *arg* with value *arg*.

**Recommended actions**

If this index entry is valid, it must be manually added to named index file.

### 133268, *arg*: Failed to load brush table.

**Description**

IPS has tried to load brush table *arg* on the named device.

**Recommended actions**

1. Check other error messages for detailed explanation.

### 133269, *arg*: Failed to set brush.

**Description**

IPS has tried to set brush number *arg* in brush table *arg* on the named device.

**Recommended actions**

1. Check if brush table (or material) is selected.
2. Check if selected brush number exists in loaded brush table.
3. Check global brush table if brush number larger than 900.

### 133270, Failed to update IPS parameters

**Description**

IPS failed to update IPS parameter values after reconnect of IPS agent connections. The update was initiated after the IPS agents have been lost for any reason, typically caused by a purge fault.
The system must be restarted to ensure all parameters are set with correct values.

**Consequences**

IPS parameters may not have been updated with correct values.

**Probable causes**

IPS device or parameter may not exist or command is given with an invalid value.

**Recommended actions**

1. Check if all IPS nodes are up and running.
2. Check IPS parameter files.
3. Restart system.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 133271, IPS parameters updated

**Description**

IPS has updated parameter values after reconnect of IPS agent connections, typically caused by a purge fault.

### 133280, Servo create error

**Description**

SDI board has discovered an error while loading configuration.

**Recommended actions**

1. Check SDI configuration.
2. Check/replace SDI board.
3. Contact customer support.

### 133281, Servo meas. system error

**Description**

SDI board has discovered an error on the serial line for the measurement system.

**Recommended actions**

1. Check cables and connectors.
2. Check measurement board.
3. Contact customer support.

### 133282, Servo drive system error

**Description**

SDI board has discovered an error on the serial line for the drive system.

**Recommended actions**

1. Check cables and connectors.
2. Check serial line, maybe a loop-link is required.
3. Check drive units.
4. Contact customer support.

### 133283, Servo calibration done

**Description**

SDI board has performed calibration.

**Recommended actions**

### 133284, Servo calibration error

**Description**

SDI board has discovered an error while doing calibration.

**Recommended actions**

1. Retry calibration.
2. Contact customer support.

### 133285, Servo calibration timeout

**Description**

SDI board has discovered that the calibration job has timed out.

**Recommended actions**

1. Retry calibration.
2. Contact customer support.

### 133286, Servo config. timeout

**Description**

SDI board has discovered an error while loading configuration.

**Recommended actions**

1. Check SDI configuration.
2. Check/replace SDI board.
3. Contact customer support.

### 133287, Servo coeff. set error

**Description**

SDI board has discovered a problem to assign a specified set of coeffisients.

**Recommended actions**

1. Check FILTERASSIGN section in SDI configuration file for errors.
2. Check/replace SDI board.
3. Contact customer support.

### 133288, Servo illegal hardware

**Description**

SDI board has discovered an error while loading configuration.

**Recommended actions**

1. Check SDI hardware version.
2. Check/replace SDI board.
3. Contact customer support.

### 133300, Drive units power up

**Description**

After power up or reset of Drive units the 'POWER_UP'-error bit is set. This is to indicate that the Drive units needs

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

to be initialized by downloaded parameters.

**Recommended actions**

1. This is info only, the software on the SDI board should automatically download parameters to the drives.

### 133301, SDI Servo WatchDog

**Description**

SDI board has discovered a watchdog reset from the Drive unit used by: *arg*.

**Recommended actions**

1. Restart robot controller.
2. Replace Drive unit.

### 133302, SDI logic +/-15V error

**Description**

The SDI supply voltage for +/-15V is out of range, received from the Drive unit used by: *arg*.

**Recommended actions**

1. Check cabling on SDI board.
2. Check supply voltage of +/-15V from SDI board.
3. Replace Drive unit.

### 133303, SDI Comm. error

**Description**

SDI board has discovered too many consecutive communication errors reported by the Drive unit used by: *arg*.

**Recommended actions**

1. Check cabling.
2. Replace Drive unit.
3. Replace SDI board.

### 133304, Int. Drive unit error

**Description**

SDI board has discovered an internal error in the Drive unit used by: *arg*.

**Recommended actions**

1. Ignore if any other Drive unit errors are present.
2. Replace Drive unit.

### 133305, Drive glitch warning

**Description**

SDI board has discovered a glitch in the short circuit detector for the Drive unit used by: *arg*.

**Recommended actions**

1. Check for short circuit in cabling.
2. Check for short circuit in servo motor.
2. Replace Drive unit.

### 133306, Servo short circuit

**Description**

SDI board has discovered an short circuit in the Drive unit used by: *arg*

**Recommended actions**

1. Check for short circuit in cabling.
2. Check for short circuit in servo motor.
3. Replace Drive unit.

### 133307, Servo temp. warning

**Description**

SDI board has discovered a high temperature warning in the Drive unit used by: *arg*.
ALLOW SYSTEM TO COOL DOWN!

**Recommended actions**

1. Check cooling fans and filters for the Drive unit.
2. Too high ambient temperature.
3. Check power consumption of the Drive.
4. Replace Drive unit.

### 133308, Servo Temp. alarm

**Description**

SDI board has discovered a high temperature alarm in the Drive unit used by: *arg*.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

ALLOW SYSTEM TO COOL DOWN!

**Recommended actions**

1. Check cooling fans and filters for the Drive unit.
2. Too high ambient temperature.
3. Check power consumption of the Drive.
4. Replace Drive unit.

## 133309, Servo over temperature

**Description**

SDI board has discovered an over temperature error in the Drive unit used by: *arg*.
ALLOW SYSTEM TO COOL DOWN!

**Recommended actions**

1. Check cooling fans and filters for the Drive unit.
2. Too high ambient temperature.
3. Check power consumption of the Drive.
4. Replace Drive unit.

## 133310, Servo Drive overload

**Description**

SDI board has discovered high temperature in transistors on the Drive unit used by: *arg*.
This problem is caused by overload for the actual Drive.

**Recommended actions**

1. Too much torque for the Drive unit. Check system for overload in torque.
2. Check if robot or pump is jammed.
3. Replace Drive unit.

## 133311, Servo high voltage

**Description**

SDI board has discovered a DC-bus voltage higher than allowed.
This is detected in the Drive unit used by: *arg*.

**Recommended actions**

1. Check incoming mains.
2. Check/replace bleeder resistors and cabling.
3. Check/replace DC-link.
4. Replace Drive Unit.

## 133312, Servo over voltage

**Description**

SDI board has discovered a critical over voltage on DC-bus detected in the Drive unit used by: *arg*.

**Recommended actions**

1. Check incoming mains.
2. Check/replace bleeder resistors.
3. Check/replace DC-link.

## 133313, Servo DC low voltage

**Description**

SDI board has discovered a low voltage on DC-bus detected in the Drive unit used by: *arg*.

**Recommended actions**

1. Check incoming mains.
2. Check/replace bleeder resistors and cabling.
3. Check/replace DC-link.
4. Replace Drive Unit.

## 133314, Servo torque command err.

**Description**

SDI board has discovered a servo torque command error with too big difference in 3 consecutive torque references.
This error is received from the Drive unit used by: *arg*.

**Recommended actions**

1. Check resolver cabling and external noise in resolver cabling.
2. Check resolver ground connections.
3. Check SDI configuration if gain is too high.

## 133315, Servo resolver pos. err.

**Description**

SDI board has discovered a resolver postion error with too big difference in 3 consecutive rotor positions.
This error is received from the Drive unit used by: *arg*.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

**Recommended actions**

1. Check resolver cabling and external noise in resolver cabling.
2. Check resolver ground connections.

### 133316, Saturated current contr.

**Description**

SDI board has discovered that the Drive unit is unable to supply ordered current due to low DC-voltage or broken motor connections, received from the Drive unit used by: *arg*.

**Recommended actions**

1. Check DC-bus voltage.
2. Check servomotor/cables.
3. Check SDI configuration.
4. Replace Drive Unit.

### 133317, Servo cable error

**Description**

SDI board has discovered a servo cable error between Drive unit and servomotor. This error is received from the Drive unit used by: *arg*.

**Recommended actions**

1. Check servomotor/cables.
2. Replace Drive unit.
3. Replace SDI board.

### 133318, Servo under current error

**Description**

SDI board has discovered a torque that is producing a current lower than ordered, received from the Drive unit used by: *arg*.

**Recommended actions**

1. Check SDI configuration.
2. Check DC-bus voltage.
3. Check servomotor/cables.

### 133319, Servo over current error

**Description**

SDI board has discovered a torque that is producing a current higher than ordered, received from the Drive unit used by: *arg*.

**Recommended actions**

1. Check SDI configuration.
2. Check DC-bus voltage.
3. Check servomotor/cables.

### 133320, Drive unit regulator err.

**Description**

SDI board has discovered an error in the Drive unit regulator (d-part) used by: *arg*.

**Recommended actions**

1. Check SDI configuration.
2. Check servomotor/cables.
3. Check resolver and resolver cabling.
4. Replace SDI board.

### 133321, Servo max. current error

**Description**

SDI board has discovered a maximum current error, received from the Drive unit used by: *arg*.

**Recommended actions**

1. Check SDI configuration.
2. Check DC-bus voltage.
3. Check servomotor/cables.

### 133322, Servo unknown error code

**Description**

SDI board has discovered an unknown extended servo error code. This is an internal error, received from Drive unit used by: *arg*

**Recommended actions**

1. Check/replace Drive unit.
2. Check/replace SDI board.
3. Contact customer support.

### 133323, Servo overrun error

**Description**

SDI board has discovered a receiver overrun. This is an internal error, received from Drive unit used by: *arg*

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

**Recommended actions**
1. Check SDI configuration.
2. Check/replace Drive unit.
3. Check/replace SDI board.
4. Contact customer support.

## 133324, Servo illegal node

**Description**
SDI board has discovered a servo illegal node address error. This is an internal error, received from Drive unit used by: *arg*

**Recommended actions**
1. Check SDI configuration.
2. Check/replace Drive unit.
3. Check/replace SDI board.
4. Contact customer support.

## 133325, Servo illegal key

**Description**
SDI board has discovered a servo illegal key value when connecting to an Drive unit. This is an internal error, received from the Drive unit used by: *arg*

**Recommended actions**
1. Check SDI configuration.
2. Check/replace Drive unit.
3. Check/replace SDI board.
4. Contact customer support.

## 133326, Servo no parameter

**Description**
SDI board has discovered that no parameter is used. This is an internal error, received from the Drive unit used by: *arg*

**Recommended actions**
1. Check SDI configuration.
2. Check/replace Drive unit.
3. Check/replace SDI board.
4. Contact customer support.

## 133327, Servo read only par.

**Description**
SDI board has discovered an attempt to write parameter values to read only parameters on a Drive unit. This is an internal error, received from the Drive unit used by: *arg*

**Recommended actions**
1. Check SDI configuration.
2. Check/replace Drive unit.
3. Check/replace SDI board.
4. Contact customer support.

## 133328, Servo locked parameter

**Description**
SDI board has discovered an attempt to write parameter values to locked parameters on a Drive unit. This is an internal error, received from the Drive unit used by: *arg*

**Recommended actions**
1. Check SDI configuration.
2. Check/replace Drive unit.
3. Check/replace SDI board.
4. Contact customer support.

## 133329, Servo diagnosis no par.

**Description**
SDI board has asked for a non existing parameter from the Drive unit used by: *arg*

**Recommended actions**
1. Check SDI configuration.
2. Check/replace Drive unit.
3. Check/replace SDI board.
4. Contact customer support.

## 133330, Servo current meas. error

**Description**
SDI board has discovered a servo current measurement error, caused by an error in the current measurement bridge.
This is an internal error, received from the Drive unit used by: *arg*

*Continues on next page*


© Copyright 2005-2020 ABB. All rights reserved.

**Recommended actions**

1. Check/replace Drive unit.
2. Check/replace SDI board.
3. Contact customer support.

### 133331, Servo syncslot occupied

**Description**

SDI board has discovered a syncslot occupy error received from the Drive unit used by: *arg*.

**Recommended actions**

1. Check SDI configuration.
2. Check/replace Drive unit.
3. Check/replace SDI board.
4. Contact customer support.

### 133332, Servo sync insert error

**Description**

SDI board has discovered a sync insert error received from the Drive unit used by: *arg*.

**Recommended actions**

1. Check how motor and resolver are configured on the SDI board.
2. Check/replace Drive unit.
3. Check/replace SDI board.
4. Contact customer support.

### 133333, Servo sync no load par.

**Description**

SDI board has discovered a sync with no parameters, received from the Drive unit used by: *arg*.

**Recommended actions**

1. Check SDI configuration.
2. Check/replace Drive unit.
3. Check/replace SDI board.
4. Contact customer support.

### 133334, Servo position reg. error

**Description**

SDI board has discovered a servo position regulator error, for: *arg*. This error is typical if the resolver feedback is noisy.

**Recommended actions**

1. Check resolver cabling.
2. Contact customer support.

### 133335, Servo speed reg. overflow

**Description**

SDI board has discovered a servo speed regulator overflow error, for: *arg*. This error is typical if the resolver feedback is noisy.

**Recommended actions**

1. Check resolver cabling.
2. Contact customer support.

### 133336, Servo speed flt overflow

**Description**

SDI board has discovered a servo speed filter overflow error, for: *arg*.

**Recommended actions**

1. Change SDI board.
2. Contact customer support.

### 133337, Servo res. angle overflow

**Description**

SDI board has discovered a resolver angle calculation overflow error, for: *arg*.

**Recommended actions**

1. Check resolver and resolver cabling.
2. Contact customer support.

### 133338, Servo resolver error

**Description**

SDI board has discovered a failure in resolver angle square root calculation, for: *arg*. The squared result for x- and y-signal on resolver exceeded a limit.

**Recommended actions**

1. Check resolver and resolver cabling.
2. Replace serial measurement boards.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 133339, Servo torque limit error

**Description**
SDI board has discovered a servo torque limit error, for: *arg*.

**Recommended actions**
1. Check motorcables or servomotor.2. Check torque limits in configuration.
3. Check if servomotor/gearbox is stuck.
4. Check if configuration is correct for used setup.

### 133340, Drive unit comm. lost

**Description**
SDI board has lost communication with the Drive unit used by: *arg*.

**Recommended actions**
1. Check cable between SDI board and Drive unit.
2. Replace SDI board.
3. Replace Drive unit.

### 133341, Sms board comm. lost

**Description**
SDI board has lost contact with the serial measurement board, used by: *arg*.

**Recommended actions**
1. Check cable between SDI board and measurement board.
2. Replace SDI board.
3. Replace serial measurement board.

### 133342, Sms board comm. lost

**Description**
SDI board has lost contact with the serial measurement board, used by: *arg*.

**Recommended actions**
1. Check cable between SDI board and measurement board.
2. Replace SDI board.
3. Replace serial measurement board.

### 133343, Sms board comm. lost

**Description**
SDI board has lost contact with the serial measurement board, used by: *arg*.

**Recommended actions**
1. Check cable between SDI board and measurement board.
2. Replace SDI board.
3. Replace serial measurement board.

### 133344, Position step error

**Description**
SDI board has discovered an ordered position step length larger than the maximum specified step length, configured for: *arg*.

**Recommended actions**
1. Check the 'MaxStepSize' parameter in the configuration for named servo.
2. Check acc./speed for superior interpolator.
3. Check resolver and resolver cabling.

### 133345, Speed error

**Description**
SDI board has discovered a speed error for: *arg*.

**Recommended actions**
1. Check acc./speed for superior interpolator.
2. Check gain parameters for named servo.
3. Check resolver and resolver cabling.

### 133430, Servo DC-link overtemp.

**Description**
SDI board has discovered an over-temperature in DC-link: *arg*.

**Recommended actions**
1. Check cooling fans and filters for the DC-link.
2. Too high ambient temperature.
3. Check main supply for DC-link.

*Continues on next page*


© Copyright 2005-2020 ABB. All rights reserved.

4. Replace DC-link unit.

### 133431, Servo bleeder overload

**Description**

SDI board has discovered a bleeder overload for DC-link: *arg*.

**Recommended actions**

1. Check bleeder connections.
2. Too much deceleration.
3. Check AC voltage to DC-link.
4. Replace DC-link unit.

### 133433, Servo mains error

**Description**

SDI board has discovered an error on the main supply for the DC-link unit: *arg*.

**Recommended actions**

1. Check power supply to the DC-link.
2. Replace DC-link unit.

### 133434, Low DC voltage

**Description**

SDI board has discovered low DC voltage on the DC-link unit: *arg*.

**Recommended actions**

1. Check power supply to the DC-link.
2. Replace DC-link unit.

### 133435, DC-link +/-15V error

**Description**

The DC-link supply voltage for +/-15 volt is out of range, detected by the DC-link unit: *arg*.

**Recommended actions**

1. Check cabling.
2. Check +/-15V from power supply.
3. Replace DC-link unit.

### 133436, Open circuit in bleeder resistor circuit

**Description**

The bleeder resistor connected to the rectifier is an open circuit, detected by: *arg*.

**Recommended actions**

1. Make sure the bleeder resistor cable is correctly connected to the rectifier unit.
2. Make sure the cable and resistor is working correctly by measuring their resistance respectively. Disconnect before measuring.
3. Replace any faulty component.

### 133437, Short circuit in bleeder resistor circuit

**Description**

The bleeder resistor connected to the rectifier is a short circuit, detected by: *arg*.

**Recommended actions**

1. Make sure the bleeder resistor cable is correctly connected to the rectifier unit.
2. Perform a shutdown and then restart the system.
3. If the problem persists, isolate the faulty rectifier unit and replace it.

### 133501, Handler is not calibrated

**Description**

Could not enable the handler, because the handler was not calibrated.

**Recommended actions**

Calibrate the handler.

### 133502, Belt on the handler is not calibrated

**Description**

Could not enable the handler, because the belt on the handler is not calibrated.

**Recommended actions**

1. Be sure to calibrate the handler in two postions.
2. Update SDI-configuration to one point calibration.

### 133503, Belt calibration error

**Description**

The result of the belt-calibration was too inaccurate.

**Recommended actions**

1. Check SDI-configuration for position of calibration points.
2. Make sure that you calibrate in the the correct order and that the handler is positioned accurately.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 133504, Move not allowed

**Description**

A new move command was given to the interpolator on the SDI board when it was already interpolating two paths.

**Recommended actions**

1. Check in program if several moves is performed, without waiting for the interpolator to be ready for next move.

### 133505, No servo response on SDI

**Description**

SDI board has discovered that a servo did not request for a new step from the interpolator.

**Recommended actions**

1. Check in error log for the servo errors given.
2. Fix the actual servo problem and retry the system.

### 133507, Invalid interpolator step

**Description**

SDI board has discovered an invalid interpolator step in the system. The interpolator on the SDI board has tried to set an illegal step length, or too high speed is set in the move program.

**Recommended actions**

1. Check program for too high speed.
2. Check for configuration error (gear ratio, etc.).
3. Interpolator error.
4. Contact customer support.

### 133508, Servo read error

**Description**

SDI board has discovered a servo read error. The interpolator on the SDI board has failed to read from a servo.

**Recommended actions**

1. Check in error log for the servo errors given.
2. Replace SDI board.

### 133509, Handler not in position

**Description**

SDI board has discovered that the handler has not reached the correct position, after a specified time.

**Recommended actions**

1. Check for servo errors.
2. Check for interpolator errors.
3. Replace SDI board.

### 133512, Command toggle error.

**Description**

A command toggle was sent to the SDI board while the acknowledge signal was high.

**Recommended actions**

1. Assure that the command toggle signal is low before toggling a new command.

### 133550, Joint speed error

**Description**

The speed of joint *arg* deviates too much relative to the ordered speed.

**Recommended actions**

1. Check the parameters.
2. Check for external forces.
3. Reduce programmed speed and acceleration.

### 133551, Move not allowed

**Description**

The handler is ordered to move to an illegal position: *arg= arg*

**Recommended actions**

1. Check position limits.
2. Check position data.
3. Check signal CPYLimOverride.

### 134001, Fatal queue error

**Description**

It was not possible to pop the job queue, due to an unexpected error.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 134002, Queue overflow

**Description**

The last job in the queue was removed because the queue is full.

**Consequences**

The last job will not be executed.

**Recommended actions**

Wait for queue size to decrease before inserting more jobs.

### 134003, Invalid token

**Description**

Token *arg* is out of bounds.

**Recommended actions**

Check client parameters.

### 134004, Invalid client

**Description**

Client *arg* is out of bounds.

**Recommended actions**

Check client parameters.

### 134005, *arg* can only get master in Auto mode

**Description**

It is only allowed to get master in Auto mode.

**Recommended actions**

Switch the controller to Auto mode and execute the command again.

### 134006, *arg* failed to get master

**Description**

*arg* could not get master, because master is already taken by *arg*.

### 134007, *arg* failed to release master

**Description**

*arg* could not release master, because *arg* has master.

### 134008, Too many subscribers

**Description**

The routine *arg* could not be subscribed to the *arg* event due to too many subscribers.

### 134009, Subscriber file error

**Description**

The system failed to create the file *arg*.

### 134010, Subscriber reference error

**Description**

*arg* did not contain the procedure *arg*.

### 134011, Subscriber unknown error

**Description**

Unknown error during init. of subscribers.

### 134017, Buffer full

**Description**

Buffer1: *arg*

Buffer2: *arg*

### 134018, Log semaphore timeout

**Description**

Log: *arg*

Message: *arg*

### 134019, Master required

**Description**

*arg* must be master to execute the command (*arg*).

### 134020, File not found

**Description**

*arg* could not be found.

**Recommended actions**

Make sure that the file exists.

### 134021, Syntax Error

**Description**

The file "*arg*" contains syntax errors or reference errors.

**Consequences**

The file was not loaded.

**Recommended actions**

Check error and rapid logs for the cause and fix the file.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 134022, Duplicate attempt to load program

**Description**

Duplicate attempt to load program index: *arg*.

**Recommended actions**

Wait for the current directly loaded program to finish executing.

### 134023, Duplicate attempt to load program

**Description**

Duplicate attempt to load module name: *arg*.

**Recommended actions**

Wait for the current directly loaded program to finish executing.

### 134025, Material Change Suspended

**Description**

Material change was suspended because of an error or stop.

**Recommended actions**

Fix the problem, reset error and restart.

### 134026, Material Change Cancelled

**Description**

Material change was cancelled.

### 134027, Illegal Material Change Event

**Description**

Start of material change was issued while material change was already running.

### 134028, Illegal Material Change Event

**Description**

Proceed of material change was issued unexpectedly.

### 134029, Material Change Resumed

**Description**

Material change has resumed, after being in suspended state.

### 134030, Material Change Skipped

**Description**

Material supply is turned off.

**Consequences**

Material change will be skipped for this job.

### 134032, Protocol Error

**Description**

A material change command was sent to the robot before the previous was done.

### 134033, Enable Material Supply Error

**Description**

Could not enable the material supply.

### 134034, Material Change Time Out

**Description**

Material change decision timed out. Could be due to a material change cancel.

**Consequences**

Material change decision may not be reliable.

**Recommended actions**

Procedures subscribed to the decide event should be checked for delays.

### 134035, Invalid material index

**Description**

Material index *arg* is not mapped to any system.

**Consequences**

Material change cannot be performed.

**Recommended actions**

Correctly assign the material index in the index files.

### 134036, Material Change Error

**Description**

Timeout while waiting for selector to be set.

**Consequences**

Material change may not complete successfully.

**Recommended actions**

Check if selector signal is set up correctly.

### 134039, Toggle lowered before command was finished

**Description**

The command toggle was lowered before the command was finished.

**Consequences**

The external controls system will not receive command result.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

**Probable causes**
External controls system not compliant to protocol

### 134040, Previous command not finished

**Description**
A command (*arg*) was sent before the previous (*arg*) was done.

**Probable causes**
External controls system not compliant to protocol

### 134041, Missing Signal Definition

**Description**
The signal *arg* could not be found.

### 134042, Volume not recorded

**Description**
Total consumed volume for the job is outside accepted tolerance. Volume: *arg*

**Consequences**
Accuvol table will not be updated.

### 134050, Applicator Timeout

**Description**
A timeout occured while waiting for the applicator to get ready.

**Recommended actions**
Check other process messages for additional information.

### 134051, External Start when no program

**Description**
An External Start command (*arg*) was received when no program was loaded

**Probable causes**
External controls system not compliant to protocol

### 134052, Overpush

**Description**
The system has pushed to much material

**Consequences**
The current paint job might be contaminated

**Recommended actions**
Disable paint push and then check push parameters

### 134053, Applicator configuration mismatch

**Description**
There is a mismatch between the number of applicator enable signals and the number of brush signals.

**Consequences**
Robotware paint will not work properly

**Recommended actions**
Check the process configuration

### 134054, Command failed in e-stop state

**Description**
Command *arg* not allowed when the controller is in e-stop state.

**Recommended actions**
Remove emergency stop conditions and reset emergency stop state.

### 134055, Configuration error

**Description**
Could not add *arg*.xml into the configuration settings. There are too many configuration files.

**Consequences**
The option "*arg*" will be set to zero.

**Recommended actions**
Merge the configuration into another file, or increase the buffer size.

### 134056, Configuration error

**Description**
Could not find the file: *arg*.xml

**Consequences**
The option "*arg*" will be set to zero.

**Recommended actions**
Make sure the file exists.

### 134057, Configuration error

**Description**
Could not parse the file: *arg*.xml

**Consequences**
The option "*arg*" will be set to zero.

**Recommended actions**
Fix the markup in the XML file.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 134058, Configuration error

**Description**

Did not find the option in the file: *arg*.xml

**Consequences**

The option "*arg*" will be set to zero.

**Recommended actions**

Add the option into the XML file.

### 134059, XML-parser error

**Description**

First dimension passed to XML-parser was to big.

**Recommended actions**

Contact customer service.

### 134060, XML-parser error

**Description**

Third dimension passed to XML-parser was not big enough.

**Recommended actions**

Contact customer service.

### 134061, XML-parser overflow

**Description**

There were too many options in the file: *arg*

**Consequences**

Only *arg* options were parsed.

**Recommended actions**

Remove some options or increase the buffer size.

### 134062, XML-parser error

**Description**

Could not open the file: *arg* for reading.

**Recommended actions**

Make sure the file exists, and is accessible.

### 134063, XML-parser error

**Description**

Did not find a specified set of symbols.

**Recommended actions**

Fix the markup in the XML file.

### 134064, CSV-parser error

**Description**

Row out of range in the file: *arg*

**Consequences**

The rows out of range in the file will be skipped.

**Recommended actions**

Remove the offending rows, or increase the buffer size.

### 134065, CSV-parser error

**Description**

Encountered a row number that was not a positive integer in the file: *arg*

**Consequences**

The row/line in the file will be skipped.

**Recommended actions**

Change the row number to a positive integer.

### 134066, CSV-parser error

**Description**

There were too many columns on a row in the file: *arg*

**Consequences**

The remaining columns on the row/line in the file will be skipped.

**Recommended actions**

Reduce the amount of columns, or increase the buffer size.

### 134067, CSV-parser error

**Description**

Could not open the file: *arg* for reading.

**Recommended actions**

Make sure the file exists, and is accessible.

### 134068, Configuration error

**Description**

A semaphore timeout occured when parsing the file: *arg*.xml

**Consequences**

The option "*arg*" will be set to zero.

**Recommended actions**

P-Start the controller to force a re-read of all configuration files.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 134100, CBS servo not enabled.

**Description**

CBS servo was not enabled when deciding to do material change.

**Consequences**

The material change or maintenance operation will be skipped.

**Recommended actions**

Enable the CBS servo.

### 134101, CBS restarted while performing operations.

**Description**

CBS was restarted in state: *arg*

**Consequences**

The CBS is in an unreliable state.

**Recommended actions**

The integrity of the system must be restored manually by moving cartridges back to their home stations.

### 134102, Unrecoverable CBS error.

**Description**

An unrecoverable error has occured.

**Consequences**

The CBS is in an unreliable state.

**Recommended actions**

The integrity of the system must be restored manually by moving cartridges back to their home stations.

### 134103, No solution for material index.

**Description**

No cartridge and IFS combination found for selected material index.

**Consequences**

The material change will be skipped.

**Recommended actions**

Reconfigure the system by adding the material index.

### 134104, No station for material index.

**Description**

No IFS station can supply the selected material index.

### 134105, No cartridge for material index.

**Description**

No cartridge is available for the selected station and material index.

### 134106, Not able to empty auxiliary station.

**Description**

Not able to empty auxiliary station due to a unrecoverable CBS error.

**Recommended actions**

The integrity of the system must be restored manually by moving cartridges back to their home stations.

### 134107, Storage station is not an IFS.

**Description**

The returned cartridge was not stored in an IFS.

**Consequences**

The post processing of the cartridge will be skipped.

### 134108, Possible CBS collision.

**Description**

Robot execution has been stopped in order to avoid a collision with the CBS handler.*arg*

**Recommended actions**

Manually move CBS handler away from robot and resume execution.

### 134110, Safe Move to address failed.

**Description**

Not allowed to move to address: *arg*, with gripper: *arg*

**Recommended actions**

Reconfigure gripper access.

### 134111, Safe Move to address failed.

**Description**

CBS servo is not enabled.

**Recommended actions**

Enable the CBS servo.

### 134112, Safe Move to address failed.

**Description**

Arm could not be moved up.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 134113, Safe Move to address failed.

**Description**

CBS servo could not be controlled.

### 134114, Move to address failed.

**Description**

Invalid angle configured for address: *arg*

### 134115, Move to address failed.

**Description**

Invalid distance configured for address: *arg*

### 134116, Move to address failed.

**Description**

Timeout while waiting for servo controller to complete previous command.

**Recommended actions**

Check that servo controller and communication interface is ok.

### 134117, Move to address failed.

**Description**

Timeout while waiting for acknowledge from servo controller.

**Recommended actions**

Check that servo controller and communication interface is ok.

### 134118, Servo on failed.

**Description**

Timeout while waiting for servo controller feedback.

**Recommended actions**

Check that servo controller and communication interface is ok.

### 134119, Servo off failed.

**Description**

Timeout while waiting for servo controller feedback.

**Recommended actions**

Check that servo controller and communication interface is ok.

### 134120, Calibrate servo failed.

**Description**

Timeout while waiting for servo controller to complete previous command.

**Recommended actions**

Check that servo controller and communication interface is ok.

### 134121, Calibrate servo failed.

**Description**

Timeout while waiting for acknowledge from servo controller.

**Recommended actions**

Check that servo controller and communication interface is ok.

### 134122, Set servo acceleration failed.

**Description**

Specified setting is out of range.

### 134123, Set servo acceleration failed.

**Description**

Timeout while waiting for servo controller to complete previous command.

**Recommended actions**

Check that servo controller and communication interface is ok.

### 134124, Set servo acceleration failed.

**Description**

Timeout while waiting for acknowledge from servo controller.

**Recommended actions**

Check that servo controller and communication interface is ok.

### 134125, Set servo speed failed.

**Description**

Specified setting is out of range.

### 134126, Move arm up failed.

**Description**

CBS servo is not enabled.

**Recommended actions**

Enable the CBS servo.

### 134127, Move arm up failed.

**Description**

Timeout while waiting for servo feedback.

**Recommended actions**

Check that servo is enabled and calibrated correctly.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 134128, Move arm down failed.

**Description**

CBS servo is not enabled.

**Recommended actions**

Enable the CBS servo.

### 134129, Move arm down failed.

**Description**

Timeout while waiting for servo feedback.

**Recommended actions**

Check that servo is enabled and calibrated correctly.

### 134130, Move arm up failed.

**Description**

Timeout while waiting for sensor feedback.

**Recommended actions**

Check that arm sensors are working.

### 134131, Move arm down failed.

**Description**

Timeout while waiting for sensor feedback.

**Recommended actions**

Check that arm sensors are working.

### 134132, Gripper open failed.

**Description**

Opening gripper attempted while arm was not down.

**Recommended actions**

Make sure handler arm is down.

### 134133, Gripper open failed.

**Description**

Unknown gripper specified: *arg*

### 134134, Gripper open failed.

**Description**

Timeout while waiting for sensor feedback.

**Recommended actions**

Check that gripper sensors are working.

### 134135, Gripper close failed.

**Description**

Unknown gripper specified: *arg*

### 134136, Gripper close failed.

**Description**

Timeout while waiting for sensor feedback.

**Recommended actions**

Check that gripper sensors are working.

### 134137, Unexpected cartridge presence.

**Description**

An unknown cartridge is blocking gripper: *arg*

**Recommended actions**

Remove the offending cartridge and verify the integrity of the system.

### 134138, No cartridge present.

**Description**

Expected a cartridge in gripper: *arg*

**Recommended actions**

Locate missing cartridge and verify the integrity of the system.

### 134139, Gripper sense failed.

**Description**

Unknown gripper specified: *arg*

### 134140, Gripper access check failed.

**Description**

Unknown gripper specified: *arg*

### 134145, Vacuum check error.

**Description**

Timeout while waiting for sensor feedback.

### 134146, DCU check error.

**Description**

Timeout while waiting for DCU to become ready.

**Recommended actions**

Check if DCU refilling has failed or stopped.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 134150, Unlock station failed.

**Description**

Unable to unlock station at address: *arg*

**Recommended actions**

Verify that locking signal for station is ok.

### 134151, Lock station failed.

**Description**

Unable to lock station at address: *arg*

**Recommended actions**

Verify that locking signal for station is ok.

### 134152, Set primary IFS selector failed.

**Description**

Unable to set primary IFS selector to address: *arg*

**Recommended actions**

Verify that primary IFS selector signal is ok.

### 134153, Set primary CC selector failed.

**Description**

Unable to set primary CC selector to address: *arg*

**Recommended actions**

Verify that primary CC selector signal is ok.

### 134154, Set secondary IFS selector failed.

**Description**

Unable to set secondary IFS selector to address: *arg*

**Recommended actions**

Verify that secondary IFS selector signal is ok.

### 134155, Set secondary CC selector failed.

**Description**

Unable to set secondary CC selector to address: *arg*

**Recommended actions**

Verify that secondary CC selector signal is ok.

### 134160, Arm sensors bypassed.

**Description**

Arm sensors bypassed.

**Consequences**

Speed of CBS handler may be reduced.

### 134161, Right gripper sensor bypassed.

**Description**

Right gripper sensor bypassed.

**Consequences**

Some integrity failures will not be detected, and cannot avoid damage to the system.

### 134162, Left gripper sensor bypassed.

**Description**

Left gripper sensor bypassed.

**Consequences**

Some integrity failures will not be detected, and cannot avoid damage to the system.

### 134163, Right cartridge sensor bypassed.

**Description**

Right cartridge sensor bypassed.

**Consequences**

Some integrity failures will not be detected, and cannot avoid damage to the system.

### 134164, Left cartridge sensor bypassed.

**Description**

Left cartridge sensor bypassed.

**Consequences**

Some integrity failures will not be detected, and cannot avoid damage to the system.

### 134165, Release sensor bypassed.

**Description**

Release sensor bypassed.

### 134166, Vacuum sensor bypassed.

**Description**

Vacuum sensor bypassed.

**Consequences**

Failure to produce vacuum will not be detected, and may cause cartridges to drop from applicator.

### 134167, Servo position feedback bypassed.

**Description**

Servo position feedback bypassed.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

**Consequences**
Speed optimalization features will not be used.

### 134168, Servo command acknowledge bypassed.

**Description**
Servo command acknowledge bypassed.

**Consequences**
Servo may not behave correctly.

### 134170, CBS configuration error.

**Description**
Delivery address is not specified.

**Consequences**
System will not work correctly.

### 134171, CBS configuration error.

**Description**
Home address is not specified.

**Consequences**
System will not work correctly.

### 134172, CBS configuration error.

**Description**
Home gripper is not specified.

**Consequences**
System will not work correctly.

### 134173, CBS configuration error.

**Description**
Default cartridge volume is not specified.

**Consequences**
System will not work correctly.

### 134174, CBS configuration error.

**Description**
No cartridges has been defined.

**Consequences**
System will not work correctly.

### 134175, CBS configuration error.

**Description**
No materials has been defined.

**Consequences**
System will not work correctly.

### 134176, CBS configuration error.

**Description**
No addresses has been defined.

**Consequences**
System will not work correctly.

### 134177, CBS configuration error.

**Description**
No home station specified for cartridge: *arg*

**Consequences**
Cartridge will be skipped.

### 134178, CBS configuration error.

**Description**
Too many IFS stations have been defined.

**Consequences**
Some IFS stations will be skipped.

### 134180, Could not set baseplate data.

**Description**
Address: *arg* Content: *arg*

### 134181, Could not get baseplate data.

**Description**
Content: *arg*

### 134182, Could not get baseplate data.

**Description**
Type: *arg*

### 134183, Could not get baseplate data.

**Description**
Access: *arg*

### 134184, Could not get baseplate data.

**Description**
Angle: *arg*

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 134185, Could not get baseplate data.

**Description**

Distance: *arg*

### 134186, Could not get cartridge access data.

**Description**

Cartridge: *arg* Address: *arg*

### 134187, Could not set cartridge data.

**Description**

Cartridge: *arg* Data: *arg*

### 134188, Could not get cartridge data.

**Description**

Cartridge: *arg* Data: *arg*

### 134189, Could not set IFS data.

**Description**

Index: *arg* Data: *arg*

### 134190, Could not get IFS data.

**Description**

Index: *arg* Data: *arg*

### 134191, IFS index from address resolution failed.

**Description**

Address: *arg*

### 134192, IFS address from index resolution failed.

**Description**

Index: *arg*

### 134193, Could not get station valve or material data.

**Description**

Station: *arg* Material: *arg*

### 134194, Could not get home address for cartridge.

**Description**

Cartridge: *arg*

### 134195, No auxiliray station found.

**Description**

No auxiliary station found after trying different options.

**Recommended actions**

Cancel the handler and reconfigure the system.

### 134196, No storage station found.

**Description**

No storage station found after trying different options.

**Recommended actions**

Cancel the handler and reconfigure the system.

### 134200, Move cartridge failed.

**Description**

Move cartridge failed in state: *arg*

**Recommended actions**

Fix the problem causing the failure and resume the operation.

### 134201, Cancel move cartridge failed.

**Description**

Cancel move cartridge failed in state: *arg*

**Recommended actions**

Fix the problem causing the failure and resume the operation.

### 134202, Exchange cartridge step one failed.

**Description**

Exchange cartridge failed in state: *arg*

**Recommended actions**

Fix the problem causing the failure and resume the operation.

### 134203, Exchange cartridge step two failed.

**Description**

Exchange cartridge failed in state: *arg*

**Recommended actions**

Fix the problem causing the failure and resume the operation.

### 134204, Exchange cartridge step three failed.

**Description**

Exchange cartridge failed in state: *arg*

**Recommended actions**

Fix the problem causing the failure and resume the operation.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 134210, Move cartridge error.

**Description**

There is already a cartridge at the 'To' address: *arg*

**Consequences**

Cannot continue with the operation.

### 134211, Move cartridge error.

**Description**

There is already a cartridge at the 'From' address: *arg*

**Consequences**

Cannot continue with the operation.

### 134212, Move cartridge error.

**Description**

An impossible to reach 'From' address was specified: *arg*

**Consequences**

Cannot continue the operation.

**Recommended actions**

Reconfigure baseplate access.

### 134213, Move cartridge error.

**Description**

An impossible to reach 'To' address was specified: *arg*

**Consequences**

Cannot continue the operation.

**Recommended actions**

Reconfigure baseplate access.

### 134214, Move cartridge error.

**Description**

The cartridge at 'From' address is not allowed at the 'To' address. Cartridge: *arg* Address: *arg*

**Consequences**

Cannot continue the operation.

**Recommended actions**

Reconfigure cartridge access.

### 134215, Exchange cartridge error.

**Description**

There is no cartridge to get at delivery address.

**Consequences**

Cannot continue with the operation.

### 134216, Exchange cartridge error.

**Description**

Cannot find suitable station to put returned cartridge in.

**Consequences**

Cannot continue with the operation.

### 134217, Exchange cartridge error.

**Description**

There is no cartridge at the 'From' address: *arg*

**Consequences**

Cannot continue with the operation.

### 134218, Exchange cartridge error.

**Description**

An impossible to reach 'From' address was specified: *arg*

**Consequences**

Cannot continue the operation.

**Recommended actions**

Reconfigure baseplate access.

### 134219, Unexpected cartridge in applicator.

**Description**

An unexpected cartridge was found while probing applicator.

**Recommended actions**

Remove the offending cartridge and resume the operation.

### 134220, Unexpected cartridge presence.

**Description**

An unexpected cartridge was found during start check.

**Recommended actions**

Remove the offending cartridge and verify the integrity of the system.

### 134221, No cartridge found while probing.

**Description**

Expected to find a cartridge in the station to process.

**Consequences**

Process operations on cartridge have been prevented.

**Recommended actions**

Manually verify the integrity of the system.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 134222, Cartridge must be delivered with right gripper.

**Description**

In order to prevent collisions, the cartridge must be moved out to the delivery area with the right gripper.

**Recommended actions**

Make sure that all stations are accessible with both grippers.

### 134223, Calibrate servo failed.

**Description**

Cannot calibrate while a servo is enabled.

**Recommended actions**

Disable the CBS servos.

### 134224, Update servo position failed.

**Description**

Cannot update servo position while a servo is enabled.

**Recommended actions**

Disable the CBS servos and run a manual re-calibration.

### 134225, Vertical axis position is invalid.

**Description**

The internal and external resolvers report different positions.

**Recommended actions**

Run a re-calibration.

### 134226, Angle axis position is invalid.

**Description**

The internal and external resolvers report different positions.

**Recommended actions**

Run a re-calibration.

### 134230, Integrity check error.

**Description**

An unexpected cartridge was found during integrity check at address: *arg*

**Recommended actions**

Manually verify the integrity of the system.

### 134231, Integrity check error.

**Description**

Did not find expected cartridge during integrity check at address: *arg*

**Recommended actions**

Manually verify the integrity of the system.

### 134240, Maintenance operation error.

**Description**

Unknown maintenance operation specified: *arg*

### 134241, Maintenance operation error.

**Description**

Unknown cartridge process operation specified: *arg*

### 134242, Maintenance operation error.

**Description**

Not possible to move a cartridge from or to a hole.

### 134243, Maintenance operation error.

**Description**

Unknown cartridge specified: *arg*

### 134244, Maintenance operation error.

**Description**

No IFS solution for the cartridge specified: *arg*

### 134245, Maintenance operation failure.

**Description**

Integrity check failed.

**Recommended actions**

Fix the problem causing the failure and resume the operation.

### 134246, Maintenance operation failure.

**Description**

Unable to move all cartridges home.

**Recommended actions**

Operation must be completed manually.

### 134250, Cartridge PotLife timeout.

**Description**

System detected potlife timeout in cartridge: *arg*

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

**Consequences**
The cartridge will be cleaned.

### 134251, Cartridge reached continous use limit.

**Description**
System detected a maximum continous use of cartridge: *arg*

**Consequences**
The cartridge will be cleaned.

### 134260, Halt exchange timeout.

**Description**
A timeout occured while waiting for another task to resume the exchange process.

### 134270, DCL pressure release timeout.

**Description**
A timeout occured while waiting pressure to drop in DCU.
Current pressure: *arg*

### 134300, VB Statemachine Suspended

**Description**
VB Statemachine was suspended because of an error.

**Recommended actions**
Fix the problem, reset error and resume.

### 134301, VB Statemachine Resumed

**Description**
VB Statemachine has resumed, after being in suspended state.

### 134305, VB statemachine aborted.

**Description**
VB statemachine was aborted.

### 134310, DSF cartridge 1 sensor bypassed.

**Description**
DSF cartridge 1 sensor bypassed.

**Consequences**
System will run slower, and integrity failures will not be detected.

### 134311, DSF cartridge 2 sensor bypassed.

**Description**
DSF cartridge 2 sensor bypassed.

**Consequences**
System will run slower, and integrity failures will not be detected.

### 134312, Cartridge 1 home sensor bypassed.

**Description**
Cartridge 1 home sensor bypassed.

**Consequences**
System will run slower, and integrity failures will not be detected.

### 134313, Cartridge 2 home sensor bypassed.

**Description**
Cartridge 2 home sensor bypassed.

**Consequences**
System will run slower, and integrity failures will not be detected.

### 134314, Cartridge 1 DSD sensor bypassed.

**Description**
Cartridge 1 DSD sensor bypassed.

**Consequences**
System will run slower, and integrity failures will not be detected.

### 134315, Cartridge 2 DSD sensor bypassed.

**Description**
Cartridge 2 DSD sensor bypassed.

**Consequences**
System will run slower, and integrity failures will not be detected.

### 134316, Cartridge 1 DSF sensor bypassed.

**Description**
Cartridge 1 DSF sensor bypassed.

**Consequences**
System will run slower, and integrity failures will not be detected.

### 134317, Cartridge 2 DSF sensor bypassed.

**Description**
Cartridge 2 DSF sensor bypassed.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

**Consequences**
System will run slower, and integrity failures will not be detected.

### 134320, Move DSF failed.

**Description**
Unknown position specified: *arg*

### 134321, Move DSF failed.

**Description**
Timeout while waiting for sensor feedback.

**Recommended actions**
Check that DSF sensors are working.

### 134325, Move Cartridge failed.

**Description**
Unknown cartridge position specified: *arg*

### 134326, Move Cartridge failed.

**Description**
Unknown cartridge specified: *arg*

### 134327, Move Cartridge failed.

**Description**
Timeout while waiting for sensor feedback. Cartridge: *arg* Position: *arg*

**Recommended actions**
Check that cartridge sensors are working.

### 134329, Get cartridge position failed.

**Description**
Unknown cartridge specified: *arg*

### 134330, Restore cartridge positions failed.

**Description**
Failed to move cartridges to previously known positions.

**Recommended actions**
Move cartridges manually back to suitable locations.

### 134340, VB configuration error.

**Description**
Maximum catridge volume not specified.

**Consequences**
System will not behave correctly. Cartridges may not be filled.

**Recommended actions**
Add the missing value into the VB configuration file.

### 134341, VB configuration error.

**Description**
Swap cartridge volume not specified.

**Consequences**
System will not behave optimally. Cartridges will run completely empty before swapping occurs.

**Recommended actions**
Add the missing value into the VB configuration file.

### 134342, VB configuration error.

**Description**
Enough catridge volume not specified.

**Consequences**
System will not behave optimally. Filling will always occur, even if cartridges have enough volume.

**Recommended actions**
Add the missing value into the VB configuration file.

### 134343, VB configuration error.

**Description**
Split volume not specified.

**Consequences**
System will not behave optimally. Last cartridge may delay material change.

**Recommended actions**
Add the missing value into the VB configuration file.

### 134350, Move cartridge to home failed.

**Description**
Operation failed in state: *arg*

### 134351, Move cartridge to DSD failed.

**Description**
Operation failed in state: *arg*

*Continues on next page*


© Copyright 2005-2020 ABB. All rights reserved.

### 134352, Move cartridge to DSF failed.

**Description**

Operation failed in state: *arg*

### 134353, Move DSF to cartridge failed.

**Description**

Operation failed in state: *arg*

### 134360, VB maintenance operation error.

**Description**

Unknown maintenance operation specified: *arg*

### 134400, Out of paint.

**Description**

Cartridge *arg* ran out of paint before cartridge *arg* was ready.

**Consequences**

The robot has been stopped to prevent additional fluid consumption.

**Recommended actions**

Start the robot once the new cartridge is ready. Reduce the fluid brush and speed and check other process messages.

### 134401, Applicator fill problem.

**Description**

Paint line and applicator was not filled properly. *arg* > *arg*.

**Recommended actions**

Refill applicator or paint line and check other process messages.

### 134402, Cartridge fill problem.

**Description**

Cartridge *arg* was not filled properly. *arg* > *arg*.

**Recommended actions**

Refill cartridge and check other process messages.

### 134405, Illegal VB state.

**Description**

A statemachine entered an unknown state.

### 134406, DCL not ready.

**Description**

The status of DCL system *arg* is not in ready state.

**Recommended actions**

Run the maintenance operation to refill DCL for this system.

### 134410, Unknown sensor specified.

**Description**

Unknown sensor ID: *arg*.

**Recommended actions**

Check that paint command paramters are correct.

### 134411, Unknown cartridge specified.

**Description**

Unknown cartridge ID: *arg*.

**Recommended actions**

Check that paint command paramters are correct.

### 134412, Unknown position specified.

**Description**

Unknown position ID: *arg*.

**Recommended actions**

Check that paint command paramters are correct.

### 134420, Bypass cartridge error.

**Description**

Not allowed to run system with two or more sensors disabled for cartridge *arg*.

**Recommended actions**

Enable more sensors.

### 134421, Bypass DSF error.

**Description**

Not allowed to run system with both DSF sensors disabled.

**Recommended actions**

Enable one of the sensors.

### 134425, Unknown DSF position.

**Description**

The DSF is not in a known position.

**Recommended actions**

Put it in a known position or verify its sensors.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 134426, Unknown cartridge position.

**Description**

Cartridge *arg* is not in a known position.

**Recommended actions**

Put it in a known position or verify its sensors.

### 134430, DSF move error.

**Description**

Could not move DSF to cartridge *arg*.

### 134431, Cartridge move error.

**Description**

Could not move cartridge *arg* to home position.

### 134432, Cartridge move error.

**Description**

Could not move cartridge *arg* to DSF position.

### 134433, Cartridge move error.

**Description**

Could not move cartridge *arg* to DSD position.

### 134501, Parking unit move error.

**Description**

Unable to move parking unit to applicator *arg*. Timeout while waiting for semaphore.

### 134502, Parking unit move error.

**Description**

Unable to move parking unit to applicator *arg*. Manipulator is still in material change position.

### 134503, Parking unit move error.

**Description**

Unable to move parking unit to applicator *arg*. Cleaning unit is not in lower position.

### 134504, Parking unit move error.

**Description**

Unable to move parking unit to applicator *arg*. CBS arm is not in upper position.

### 134505, Parking unit move error.

**Description**

Unable to move parking unit to applicator *arg*. Timeout while waiting for sensor feedback.

### 134511, Cleaning unit move error.

**Description**

Unable to move cleaning unit up. Timeout while waiting for semaphore.

### 134512, Cleaning unit move error.

**Description**

Unable to move cleaning unit up. Parking unit is not in a valid position.

### 134513, Cleaning unit move error.

**Description**

Unable to move cleaning unit up. Timeout while waiting for sensor feedback.

### 134514, Cleaning unit move error.

**Description**

Unable to move cleaning unit down. Timeout while waiting for semaphore.

### 134515, Cleaning unit move error.

**Description**

Unable to move cleaning unit down. Timeout while waiting for sensor feedback.

### 134521, Applicator chucking failed.

**Description**

Timeout while waiting for semaphore.

### 134522, Applicator chucking failed.

**Description**

No air supply to chuck valve.

### 134523, Applicator chucking failed.

**Description**

Manipulator is not in material change position.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 134524, Applicator chucking failed.

**Description**

Timeout while waiting for sensor feedback.

### 134526, Applicator un-chucking failed.

**Description**

Timeout while waiting for semaphore.

### 134527, Applicator un-chucking failed.

**Description**

No air supply to chuck valve.

### 134528, Applicator un-chucking failed.

**Description**

Manipulator is not in material change position.

### 134531, Parking unit in unknown position.

**Description**

Check sensors or air supply.

### 134532, Cleaning unit in unknown position.

**Description**

Check sensors or air supply.

### 134533, Applicator integrity error.

**Description**

No applicator mounted, but *arg* is triggered.

### 134534, Applicator integrity corrected.

**Description**

No applicator is mounted.

### 134535, Applicator integrity corrected.

**Description**

Applicator *arg* is mounted.

### 134536, Applicator integrity error.

**Description**

Expected a mounted applicator.

### 134537, Applicator integrity error.

**Description**

No applicators were found in parking stations.

### 134601, RCC docking error.

**Description**

Timeout while waiting for sensor: *arg*.

**Recommended actions**

Check dock and undock sensors.

### 134602, RCC undocking error.

**Description**

Timeout while waiting for sensor: *arg*.

**Recommended actions**

Check dock and undock sensors.

### 134610, RCC movement error.

**Description**

Unable to rotate color changer while it is docked.

**Recommended actions**

Undock color changer.

### 134611, RCC movement error.

**Description**

Timeout while waiting for motor feedback.

**Recommended actions**

Check motor configuration.

### 134612, RCC movement error.

**Description**

Unable to enable motor.

**Recommended actions**

Check motor configuration.

### 134613, RCC movement error.

**Description**

Unable to disable motor.

**Recommended actions**

Check motor configuration.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 134620, RCC cleaning error.

**Description**

Not able to run cleaning due to missing cartridge.

**Recommended actions**

Make sure a cartridge is standing in IFS at address: *arg*.

### 134650, RCC calibration error.

**Description**

Unable to reach calibration position.

**Recommended actions**

Check calibration sensor and motor configuration.

### 134651, RCC calibration error.

**Description**

Internal error in calibration routine.

**Recommended actions**

Check process configuration.

### 135001, Material change suspended.

**Description**

Material change was suspended due to an internal or external error.

**Recommended actions**

Fix the problem and recover material change.

### 135002, Material change cancelled.

**Description**

Material change was ordered to cancel.

### 135003, Material change resumed.

**Description**

Material change was recovered after being in suspended state.

### 135010, Material change initialization error.

**Description**

Unable to subscribe to interface signals.

**Recommended actions**

Check that there is valid configuration loaded for the interface signals in IPS.

### 135011, Material change initialization error.

**Description**

Unable to open material change configuration file: *arg*

**Recommended actions**

Check that the file exists.

### 135012, Material change initialization error.

**Description**

The file '*arg*' is missing the '*arg*' tag.

**Recommended actions**

Fix the problem in the file.

### 135013, Material change initialization error.

**Description**

The file '*arg*' contains an invalid system type: *arg*

**Recommended actions**

Fix the problem in the file.

### 135021, Material change index file error.

**Description**

Unable to open index file: *arg*

**Recommended actions**

Check that the file exists.

### 135022, Material change index file error.

**Description**

The file '*arg*' contains an invalid index: *arg*

**Recommended actions**

Fix the problem in the file.

### 135031, Material change system index error.

**Description**

Material index *arg* is missing an action specifier.

**Recommended actions**

Fix the problem in the file: *arg*

### 135041, Material change cavity index error.

**Description**

Material index *arg* on cavity '*arg*' does not have a cleaning sequence.

**Recommended actions**

Fix the problem in the file: *arg*

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

### 135042, Material change cavity index error.

**Description**

Material index *arg* on cavity '*arg*' does not have a filling sequence.

**Recommended actions**

Fix the problem in the file: *arg*

### 135051, Material change sequence error.

**Description**

Unable to open sequence file: *arg*

**Recommended actions**

Check that the file exists.

### 135052, Material change sequence error.

**Description**

The file '*arg*' contains invalid data on line: *arg*

**Recommended actions**

Fix the problem in the file.

### 135053, Material change sequence error.

**Description**

Failed to execute python file '*arg*'. Got Python exception: *arg*

**Recommended actions**

Fix the problem in the file.

### 135054, Material change sequence error.

**Description**

The file '*arg*' contains an invalid signal name: *arg*

**Recommended actions**

Fix the problem in the file.

### 135055, Material change sequence error.

**Description**

Failed to execute python call '*arg*' from '*arg*'. Got Python exception: *arg*

**Recommended actions**

Fix the problem in the python source file.

### 135061, Material change signal error.

**Description**

Communcation against IPS is down.

### 135062, Material change signal error.

**Description**

Communcation against IPS has been re-established.

### 135063, Material change signal error.

**Description**

Failed to read signal number *arg* on device: *arg*

**Recommended actions**

Check IPS configuration or signals used in material change sequences.

### 135064, Material change signal error.

**Description**

Failed to write signal number *arg* on device: *arg*

**Recommended actions**

Check IPS configuration or signals used in material change sequences.

### 135071, Material change alarm monitor error.

**Description**

Invalid signal name in configuration file: *arg*

**Recommended actions**

Check IPS or alarm configuration.

### 135072, Material change alarm monitor error.

**Description**

Failed to subscribe to signal number *arg* on device: *arg*

**Recommended actions**

Check IPS or alarm configuration.

### 135073, Material change alarm monitor error.

**Description**

Failed to subscribe to device: *arg*

**Recommended actions**

Check IPS or alarm configuration.

### 135100, Material change user error.

**Description**

*arg*



© Copyright 2005-2020 ABB. All rights reserved.

## 4.13 15 xxxx

### 150330, RAPID error in module

**Description**

Task:*arg*

Module (line/column): *arg*

There is an error with symbol: *arg*



© Copyright 2005-2020 ABB. All rights reserved.

## 4.14 17 xxxx

### 170001, Connected Services Agent started

**Description**
Agent for Connected Services has been started.

### 170002, Connected Services registered

**Description**
Robot controller has successfully registered at ABB Connected Services Center.

### 170003, Connected to ABB Connected Services Center

**Description**
Robot controller is successfully connected to ABB Connected Services Center.

### 170004, Connected Services reset by server

**Description**
*arg* order received via ABB Connected Services Center. Connected Services Agent will perform a reset. User will need to re-register by repeating the registration process.

### 170005, Connected Services Agent reset mode

**Description**
Connected Services Agent has been started in reset mode.

### 170006, Connected Services reset by user

**Description**
User has requested a reset of Connected Services state on the controller. The reset shall be applied after a restart. If this controller has previously been registered in the ABB Connected Services Center, the registration process will need to be repeated.

### 170007, Data Collector Script loaded

**Description**
Data Collector version *arg* has been loaded.

### 170030, Connected Services authentication error

**Description**
Connection to the ABB Connected Services Center server has failed.

**Consequences**
No communication to the ABB Connected Services center shall be possible.

**Probable causes**
Validation of the server certificate was unsuccessfull.

**Recommended actions**
1. Check if this controller date and time is accurate.
2. Contact ABB support for assistance.

### 170032, Connected Services no server connection

**Description**
This controller is unable to to reach ABB Connected Services center.

**Consequences**
Connected Services functionality is unavailable for this robot system.

**Probable causes**
Details : *arg*

**Recommended actions**
1. Check above details for possible causes.
2. Check HTTP connectivity between this robot system and the Internet.

### 170033, Data Collector Script start failed

**Description**
An error has occurred when Connected Services Agent tried to initialize Data Collector Script.

**Probable causes**
Data Collector Script is incompatible with Connected Services Agent or it has a fault.

**Recommended actions**
Contact ABB support for assistance.

### 170034, Connected Services registration error

**Description**
Connected Services Agent has failed to register at ABB Connected Services Center.

**Probable causes**
Possible connectivity problem with the server.

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

**Recommended actions**

1. Try to repeat the registration process.
2.Contact ABB support for assistance.

## 170035, Connected Services start failed

**Description**

Connected Services Agent has failed to start.

**Probable causes**

Configuration error or internal error.

**Recommended actions**

Contact ABB support for assistance.

## 170036, Connected Services internal registration error

**Description**

Connected Services Agent has failed to register at ABB Connected Services Center.

**Probable causes**

Failed to create CSR request.

**Recommended actions**

Contact ABB support for assistance.

## 170037, Connected Services credentials renewal error

**Description**

Connected Services Agent has failed to automatically renew login credentials at ABB Connected Services Center.

**Probable causes**

Possible connectivity problem with the server.

**Recommended actions**

1. Verify connectivity.
2. Repeat manually the registration process.
3. Contact ABB support for assistance.

## 170038, Connected Services credentials renewed

**Description**

Connected Services Agent has automatically renewed login credentials at ABB Connected Services Center.


© Copyright 2005-2020 ABB. All rights reserved.

This page is intentionally left blank

# 5 Circuit diagrams

## 5.1 Circuit diagrams

### Overview

The circuit diagrams are not included in this manual, but are available for registered users on myABB Business Portal, *www.myportal.abb.com*.

See the article numbers in the tables below.

### Controllers

| Product | Article numbers for circuit diagrams |
|---|---|
| *Circuit diagram - IRC5* | *3HAC024480-011* |
| *Circuit diagram - IRC5 Compact* | *3HAC049406-003* |
| *Circuit diagram - IRC5 Panel Mounted Controller* | *3HAC026871-020* |
| *Circuit diagram - Euromap* | *3HAC024120-004* |
| *Circuit diagram - Spot welding cabinet* | *3HAC057185-001* |

### Robots

| Product | Article numbers for circuit diagrams |
|---|---|
| *Circuit diagram - IRB 120* | *3HAC031408-003* |
| *Circuit diagram - IRB 140 type C* | *3HAC6816-3* |
| *Circuit diagram - IRB 260* | *3HAC025611-001* |
| *Circuit diagram - IRB 360* | *3HAC028647-009* |
| *Circuit diagram - IRB 460* | *3HAC036446-005* |
| *Circuit diagram - IRB 660* | *3HAC025691-001* |
| *Circuit diagram - IRB 760* | *3HAC025691-001* |
| *Circuit diagram - IRB 1200* | *3HAC046307-003* |
| *Circuit diagram - IRB 1410* | *3HAC2800-3* |
| *Circuit diagram - IRB 1600/1660* | *3HAC021351-003* |
| *Circuit diagram - IRB 1520* | *3HAC039498-007* |
| *Circuit diagram - IRB 2400* | *3HAC6670-3* |
| *Circuit diagram - IRB 2600* | *3HAC029570-007* |
| *Circuit diagram - IRB 4400/4450S* | *3HAC9821-1* |
| *Circuit diagram - IRB 4600* | *3HAC029038-003* |
| *Circuit diagram - IRB 6400RF* | *3HAC8935-1* |
| *Circuit diagram - IRB 6600 type A* | *3HAC13347-1*<br>*3HAC025744-001* |
| *Circuit diagram - IRB 6600 type B* | *3HAC13347-1*<br>*3HAC025744-001* |

*Continues on next page*



© Copyright 2005-2020 ABB. All rights reserved.

| Product | Article numbers for circuit diagrams |
|---|---|
| *Circuit diagram - IRB 6620* | *3HAC025090-001* |
| *Circuit diagram - IRB 6620 / IRB 6620LX* | *3HAC025090-001* |
| *Circuit diagram - IRB 6640* | *3HAC025744-001* |
| *Circuit diagram - IRB 6650S* | *3HAC13347-1*<br>*3HAC025744-001* |
| *Circuit diagram - IRB 6660* | *3HAC025744-001*<br>*3HAC029940-001* |
| *Circuit diagram - IRB 6700 / IRB 6790* | *3HAC043446-005* |
| *Circuit diagram - IRB 7600* | *3HAC13347-1*<br>*3HAC025744-001* |
| *Circuit diagram - IRB 14000* | *3HAC050778-003* |
| *Circuit diagram - IRB 910SC* | *3HAC056159-002* |

## Track motions

| Product | Article numbers for circuit diagrams |
|---|---|
| *Circuit diagram - IRBT IRB 6600/7600* [i] | *3HEA803013-001* |
| *Circuit diagram - IRBT IRB 4400/4400F* [i] | *3HEA803014-001* |
| *Circuit diagram - IRBT IRB 4600* [i] | *3HAC033657-001* |
| *Circuit diagram - IRBT 4004/6004/7004* [ii] | *3HAC043574-001* |

i Not valid for motor Type A.
ii Valid for motor Type A.

## Positioners

| Product | Article numbers for circuit diagrams |
|---|---|
| *Circuit diagram - Service diagram IRBP C* | *3HAC035753-001* |
| *Circuit diagram - Service diagram IRBP L* | *3HAC035753-002* |
| *Circuit diagram - Service diagram IRBP K/R* | *3HAC035753-003* |
| *Circuit diagram - Service diagram IRBP A* | *3HAC035753-004* |
| *Circuit diagram - Service diagram IRBP B/D* | *3HAC035753-005* |
| *Circuit diagram - Service diagram IRBP IF C* | *3HAC035754-001* |
| *Circuit diagram - Service diagram IRBP IF L* | *3HAC035754-002* |
| *Circuit diagram - Service diagram IRBP IF K/R* | *3HAC035754-003* |
| *Circuit diagram - Service diagram IRBP IF A* | *3HAC035754-004* |
| *Circuit diagram - Service diagram IRBP IF B/D* | *3HAC035754-005* |
| *Circuit diagram - Service diagram Safety Options A/L/S* | *3HEA800730-001* |
| *Circuit diagram - Service diagram Safety Interface A/L/S* | *3HEA802301-001* |

*Continues on next page*

© Copyright 2005-2020 ABB. All rights reserved.

### DressPack/SpotPack

| Product | Article numbers for circuit diagrams |
|---|---|
| *Circuit diagram - DressPack 6650S/7600* | *3HAC022327-002* |
| *Circuit diagram - DressPack 8700* | *3HAC053524-002* |
| *Circuit diagram - DressPack 6650S/7600* | *3HAC026209-001* |
| *Circuit diagram - DressPack 6620* | *3HAC026136-001* |
| *Circuit diagram - DressPack IRB 6640, IRB 6650S, IRB 7600* | *3HAC026209-001* |
| *Circuit diagram - DressPack 6660* | *3HAC029940-001* |
| *Circuit diagram - DressPack 6700* | *3HAC044246-002* |
| *Circuit diagram - SpotPack SWC IRC5 M2004* | *3HAC026208-001* |
| *Circuit diagram - SpotPack SWC IRC5 Design 2014 PROFINET* | *3HAC044736-001* |

### RobotWare options

| Product | Article numbers for circuit diagrams |
|---|---|
| ??? | *3HAC024480-008* |

### Use the correct circuit diagram (IRB 6600, IRB 6650 and IRB 6650S)

The cable harness of the robot is available in two different designs. Either the cabling is divided between the upper and lower arm, or not. Accordingly there are also two different versions of the circuit diagram. Decide which circuit diagram is valid for the robot by checking the article number for the cable harness.


© Copyright 2005-2020 ABB. All rights reserved.

This page is intentionally left blank

# Index

**A**
Additional Drive Unit, 53
Axis computer, LEDs, 54

**B**
Brake, release, 38
Brake contactor, K44, 38
Brake power supply, faulty, 37–38

**C**
change of state, 22
Circuit breaker, F6, 24
Circuit breaker F5, 26
computer unit, 48
Computer unit, LEDs, 49
Contactor, K41, 24
Contactor interface board, 66
  DSQC 611, 66
Contactor interface board, LEDs, 66
customer I/O power supply, 68
  LED, 69
Customer Power Supply Module, 69
  DCOK indicator, 69

**D**
damaged bearings, 33, 35
Damaged cable, 28, 30
Damaged connector, 28
damaged parallel bar, 33
diagnostics, 17

**E**
Earth fault protection, 26
Earth fault protection, tripped, 19
Erratic event messages, 30, 40
error report, 17

**F**
faulty brake, 37
faulty calibration, 33
faulty connections, 30
faulty TCP definition, 33
filing an error report, 17
FlexPendant
  restarting, 45
FlexPendant, not responding, 28

**H**
hot gearbox oil, 35

**I**
Incompatibility, hardware/software, 32
Interference, 40

**L**
LED Board, LEDs, 44
LEDs , indication, 24

**M**
Main Drive Unit, 53
  Additional Drive Unit, 53
Main transformer, 24
Manual, how to use, 11

**N**
noise, 33, 35

**P**
Panel Board, LEDs, 51
panel board unit, 50
  DSQC 643, 50
path accuracy, 33
power distribution board
  LED, 62
  test equipment, 62
  troubleshooting flowchart, 65
Power supply, faulty, 28
program loops, 22

**R**
reset, 45
restart
  FlexPendant, 45

**S**
strained cables, 30
system power supply
  test equipment, 57
  troubleshooting, flowchart, 60
system power supply, LEDs, 57



© Copyright 2005-2020 ABB. All rights reserved.

**ABB AB, Robotics**
**Robotics and Motion**
S-721 68 VÄSTERÅS, Sweden
Telephone +46 (0) 21 344 400

**ABB AS, Robotics**
**Robotics and Motion**
Nordlysvegen 7, N-4340 BRYNE, Norway
Box 265, N-4349 BRYNE, Norway
Telephone: +47 22 87 2000

**ABB Engineering (Shanghai) Ltd.**
Robotics and Motion
No. 4528 Kangxin Highway
PuDong District
SHANGHAI 201319, China
Telephone: +86 21 6105 6666

**ABB Inc.**
**Robotics and Motion**
1250 Brown Road
Auburn Hills, MI 48326
USA
Telephone: +1 248 391 9000

**abb.com/robotics**

3HAC020738-001, Rev AE, en

© Copyright 2005-2020 ABB. All rights reserved.
Specifications subject to change without notice.