

Configured drive

Motor - DC-max16S GB SL 12V
Sensor - ENX10 EASY 512IMP

Part number: B78C0B39940D Revision number 1

Orders are processed and shipped from Switzerland within 11 working days.

General Terms and Conditions: https://www.maxonmotor.ch/maxon/view/content/terms_and_conditions_page



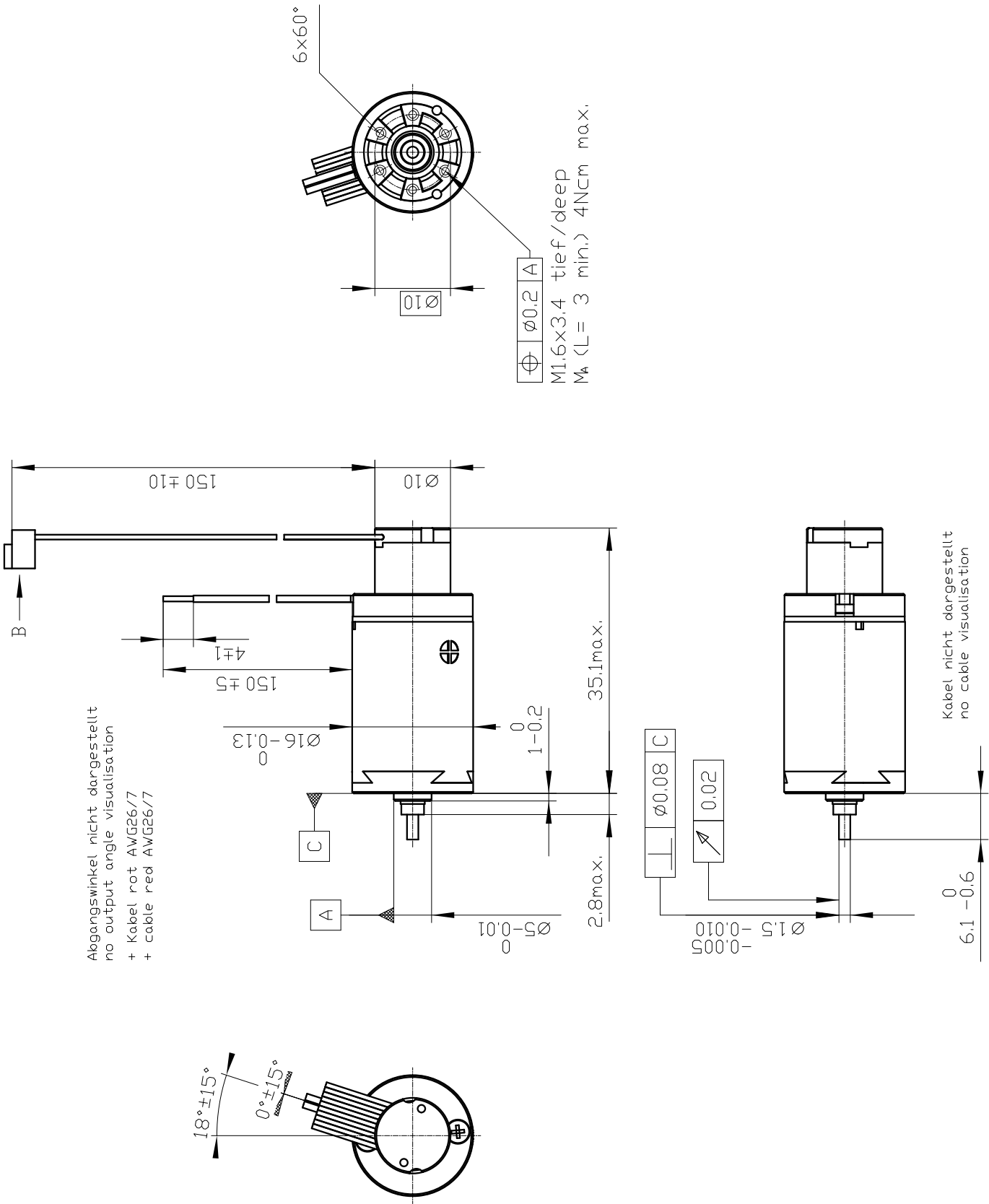
To open the integrated CAD file, please save this document and open it in Acrobat Reader. The STEP file is available after a double-click on the pin icon.

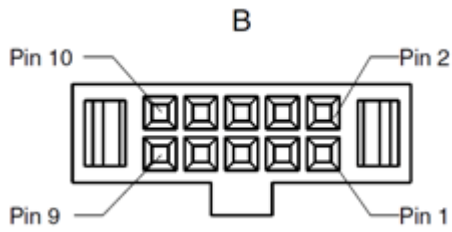
B78C0B39940D.stp (STP AP 214)

Open configuration: <http://www.maxonmotor.co.uk/maxon/view/configurator/?ConfigID=B78C0B39940D>

Motor - DC-max16S GB SL 12V
Sensor - ENX10 EASY 512IMP
Drawing not to scale!

ISO 5456-1
Axial play motor: 0.05...0.15mm





Connector type, encoder

1.27mm 10-pol

Pin 1	Do not connect
Pin 2	VCC
Pin 3	GND
Pin 4	Do not connect
Pin 5	Channel A \
Pin 6	Channel A
Pin 7	Channel B \
Pin 8	Channel B
Pin 9	Channel I \
Pin 10	Channel I

Summary of your selected configuration

Total weight of the drive: 20 g

DC-max16S GB SL 12V

Product detail

Commutation	Graphite brushes
Nominal voltage	12 V
Motor bearings	Sintered sleeve bearings

Shaft machining surcharge

Shaft, front

Shaft, front	Configurable shaft
Shaft length	6.1 mm

Electrical connection, motor

Electrical connection, motor	Cable
Cable length	150 mm

ENX10 EASY 512IMP

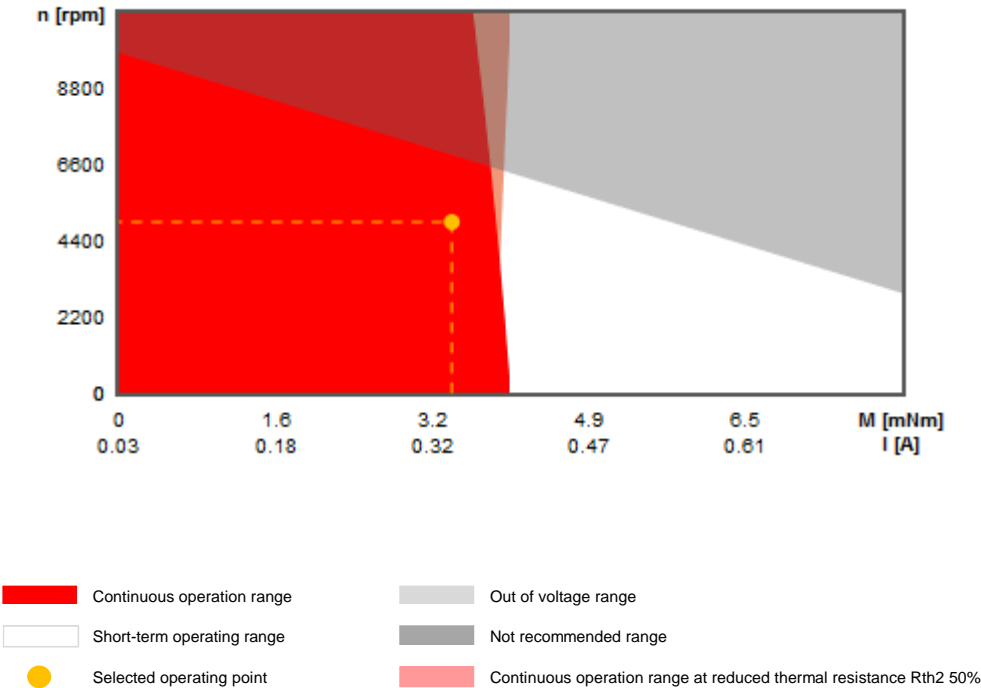
Product detail

Counts per turn	512
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Legend for part designation

EB	Precious metal brushes	GB	Graphite brushes	CLL	Spark suppression	BL	Brushless
A	Hall sensors	B	Sensorless	KL	Ball bearings	SL	Sintered bearings
GPX	Planetary gearhead	ENX	Encoder	ENC	Encoder	IMP	Pulses
ST	Number of stages	HP	High Power	S/M/L	Short/medium/long	HS	High Speed
STE	Sterilizable	INT	Integrated	STD	Standard	SP	Speed
ABS	Absolute	LN	Reduced noise level	A	Standard	LZ	Reduced backlash
C	Ceramic bearing			STEC	Sterilizable, Ceramic bearing		

Drive disposition



Combination details

Your entries		
	Available voltage	12 V
	Speed	4960 min ⁻¹
	Torque	3.45 mNm

Values of the drive at available voltage		
	Available voltage	12 V
	Max. speed at given load	6930 min ⁻¹
	Max. continuous torque	4.313.45 mNm
	Max. continuous current	0.41 A

Required electrical data for your operating point		
	Speed	4960 min ⁻¹
	Torque	3.45 mNm
	Required voltage	9.67 V
	Required current	0.34 A

DC-max16S GB SL 12V



Product specification

Values at nominal voltage

Nominal voltage	12 V
No load speed	9860 min ⁻¹
No load current	33.6mA
Nominal speed	6200 min ⁻¹
Nominal torque (max. continuous torque)	4.31 mNm
Nominal current (max. continuous current)	0.413 A
Stall torque	11.9 mNm
Stall current	1.05 A
Max. efficiency	68.2 %

Characteristics

Max. output power continuous	4.22 W
Terminal resistance	11.4 Ω
Terminal inductance	0.343 mH
Torque constant	11.2 mNm A ⁻¹
Speed constant	849 min ⁻¹ V ⁻¹
Speed/torque gradient	858 min ⁻¹ mNm ⁻¹
Mechanical time constant	8.92ms
Rotor inertia	0.993 gcm ²

Thermal data

Thermal resistance housing-ambient	29.8 KW ⁻¹
Thermal resistance winding-housing	5.5 KW ⁻¹
Thermal time constant of the winding	4.8 s
Thermal time constant of the motor	288 s
Ambient temperature	-30...85 °C
Max. winding temperature	125 °C

Mechanical data

Max. permissible speed	11000 min ⁻¹
Axial play	0.05...0.15 mm
Preload	N
Radial backlash	0.012 mm
Max. axial load (dynamic)	0.8 N
Max. force for press fits (static)	35 N

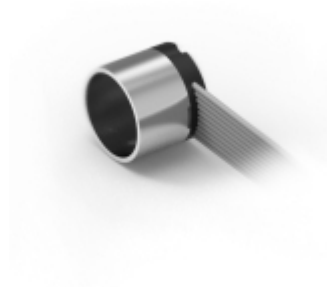
Static, supported shaft	200 N
Max. radial load 5 mm from flange	1.4 N
Measurement from the flange	5 mm

Further specifications

Number of pole pairs	1
Number of commutator segments	7
Motor weight	19.5 g
Motor length	26.4 mm
Typical noise level	55 dBA (6000 min ⁻¹)

Information about motor data: http://www.maxonmotor.com/medias/CMS_Downloads/DIVERSES/12_049_EN.pdf

ENX10 EASY 512IMP



Product specification

Sensor data

Counts per turn	512
Number of channels	3
Line Driver	RS422
Max. electrical speed	90000 min ⁻¹
Max. mechanical speed	30000 min ⁻¹

Technical data

Supply voltage Vcc	5 V ±10 %
Output signal	INC
Output signal driver	Differential / EIA RS 422
Output current per channel	-20...20 mA
State length	45...135 °el
Signal rise time/Signal fall time	20/20 ns
Min. state duration	125 ns
Direction of rotation	A before B CW
Index position	A low & B low
Index synchronously to AB	Yes
Index pulse width	90 °el
Typical current draw at standstill	23 mA
Max. moment of inertia of code wheel	0.05 gcm ²
Operating temperature range	-40...100 C°
Number of autoclave cycles	0

Datasheet: http://www.maxonmotor.com/medias/CMS_Downloads/DIVERSES/ENXEASY_EN.pdf