

Masterkode

```
#include <WiFi101.h>
#include <SPI.h>
#include <Wire.h>

char ssid[] = "Tenda_3AD9B0"; //nettverk
char pass[] = "12345678"; //passord
int keyIndex = 0;
float temp;

// TEMP VARIABLER
// Globale variabler
bool ReceiveOK=false;
char command; // commando fra serieport
char I2C_telegram[4]=""; // I2C_telegram[0] er kommando
char temperatur[2] = ""; // Array for temperatur
char c;
int Temp1 = 0;
int Temp2 = 0;
boolean flagg = false;
int myTemp[2];

int status = WL_IDLE_STATUS;
String readString;

WiFiServer server(80); //definerer porten til server

String speedMode = "fast";

void setup() {

  Serial.begin(9600); //Starter seriellport
  Serial.println("Start serial");

  Wire.begin();
  Wire.beginTransaction(0x48); // connect to DS1621 (#0)
  Wire.write(0xAC); // Access Config
  Wire.write(0x02); // set for continuous conversion
  Wire.beginTransaction(0x48); // restart
  Wire.write(0xEE); // start conversions
  Wire.endTransmission();

  //Prøver å koble til til Wifi nettverk:
  while ( status != WL_CONNECTED) {
    //connect to WPA/WPA2 network.
    //for WEP nettverk bytt ut med status=Wifi.begin(ssid,keyIndex,pass);
    //for eit åpent nettverk, bytt ut med status=Wifi.begin(ssid);
```

Lufttemperaturmåler

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Serial.print("Attempting to connect to Network named: ");
Serial.println(ssid);           // print the network name (SSID);
status = WiFi.begin(ssid, pass);

delay(10000);

}

//begynn webserveren
server.begin();
// Wifi lys på kortet indikerer at serveren er oppe å går.

printWifiStatus(); //Viser WiFi-status og signalstyrke
}

void loop() {
  //Listen for incoming clients
  WiFiClient client = server.available();
  if (client) {
    //an http request ends with a blank line

    boolean currentLineIsBlank = true;
    while (client.connected()) {

      if (client.available()) {
        char c = client.read();
        // If you've gotten to the end of the line (received a newline
        // character) and the line is blank, the http request has ended,
        // so you can send a reply

        if (readString.length() < 100) {
          //store characters to string
          readString += c;
        }

        if (c == '\n') {
          //send a standard http response header
          client.println("HTTP/1.1 200 OK");
          client.println("Content-Type: text/html");
          client.println("Connection: close");
          client.println();
          client.println("<!DOCTYPE HTML>");
          client.println("<html>");
          client.println("<head>");

          client.println("<title>Motorstyring</title>");
          client.println("</head>");
          client.println("<body>");
          client.println("<form>");

          //SLIDER

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//          client.println("<body>");
//          client.println("<div class=range-slider" data-slider>);
//          client.println("<span class=range-slider-handle
role=slider tabindex=0></span>");
//          client.println("<span
class=range-slider-active-segment></span>");
//          client.println("<input type=hidden>");
//          client.println("</div>");

//client.println("<input type=range min=0 max=100/>");
//client.println("</body>");

//SLIDER SLUTT

client.println("<h1>MOTORSTYRING</h1>");

client.println("<tr><div class='box'>");
client.println("<table border='0' cellpadding='0' cellspacing='0'>");
client.println("<tr>");
client.println("<td bgcolor=black > <font color=white> Kamera
<BR></font>");
client.println("</td>");
client.println("</tr>");
client.println("</TABLE>");
client.println("<iframe src='http://192.168.0.102:80/video.cgi'
width='640' height='480' class=smart_sizing_iframe noresize frameborder='0'
scrolling=no ></iframe>");
client.println("</div></tr>");


client.println("<table border='5' cellpadding='10' cellspacing='0'
bgcolor='#ccebff' bordercolor='#000000000000'>");
client.println("<tr>");
client.println("<td><h2>Fram</h2></td>");
client.println("<td><h2>Stopp</h2></td>");
client.println("<td><h2>Babord</h2></td>");
client.println("<td><h2>Styrbord</h2></td>");
client.println("<td><h2>Brems</h2></td>");
client.println("<td><h2>Bakke</h2></td>");
client.println("<td><h2>Party</h2></td>");
client.println("<td><h2>Fart opp</h2></td>");
client.println("<td><h2>Fart ned</h2></td>");
client.println("<td><h2>Ror Barbord</h2></td>");
client.println("<td><h2>Ror Styrbord</h2></td>");
client.println("<td><h2>Ror Fremover</h2></td>");
client.println("<td><h2>Luft- Temperatur</h2></td>");
client.println("<td><h2>Vann- Temperatur</h2></td>");

client.println("</tr>");

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```
//      client.println("<tr>");
//      client.println("<td>Klikk for framover</td>");
//      client.println("<td>Klikk for stopp.</td>");
//      client.println("<td>Klikk for sving venstre</td>");
//      client.println("<td>Klikk for sving h&oslash;slashyre</td>");
//      client.println("<td>Klikk for brems</td>");
//      client.println("<td>Klikk for revers</td>");
//      client.println("</tr>");
//      client.println("<tr>");

      client.println("<td><a href='\"/?FRAMOVER_ON\"' class='\"button\"'
style='\"width:200%;\"\">FRAM</a></td>");
      client.println("<td><a href='\"/?STOPP_ON\"' class='\"button\"'
style='\"width:200%;\"\">STOPP</a></td>");
      client.println("<td><a href='\"/?BABORD_ON\"' class='\"button\"'
style='\"width:200%;\"\">BABORD</a></td>");
      client.println("<td><a href='\"/?STYRBORD_ON\"' class='\"button\"'
style='\"width:200%;\"\">STYRBORD</a></td>");
      client.println("<td><a href='\"/?BREMS_ON\"' class='\"button\"'
style='\"width:200%;\"\">BREMS</a></td>");
      client.println("<td><a href='\"/?BAKKE_ON\"' class='\"button\"'
style='\"width:200%;\"\">BAKKE</a></td>");
      client.println("<td><a href='\"/?PARTY_ON\"' class='\"button\"'
style='\"width:200%;\"\">PARTY</a></td>");
      client.println("<td><a href='\"/?FARTOPP_ON\"' class='\"button\"'
style='\"width:200%;\"\">FART OPP</a></td>");
      client.println("<td><a href='\"/?FARTNED_ON\"' class='\"button\"'
style='\"width:200%;\"\">FART NED</a></td>");
      client.println("<td><a href='\"/?RORBARBORD_ON\"' class='\"button\"'
style='\"width:200%;\"\">ROR BARBORD</a></td>");
      client.println("<td><a href='\"/?RORSTYRBORD_ON\"' class='\"button\"'
style='\"width:200%;\"\">ROR STYRBORD</a></td>");
      client.println("<td><a href='\"/?RORSTYRMIDTEN_ON\"' class='\"button\"'
style='\"width:200%;\"\">ROR FREMOVER</a></td>");
      client.println("<td><a href='\"/?TEMPERATUR_ON\"' class='\"button\"'
style='\"width:200%;\"\">TEMPERATUR LUFT</a></td>");
      client.println("<td><a href='\"/?VANNTEMPERATUR_ON\"' class='\"button\"'
style='\"width:200%;\"\">TEMPERATUR VANN</a></td>");
      client.println("</table>");

      client.println("<table border='5' cellpadding='10' cellspacing='0'
bgcolor='#0000FF' bordercolor='#0000'>");
      client.println("<tr>");
      client.println("<br>");
      client.println("<br>");
      client.println("<td><h2>Lufttemperatur</h2></td>");
      client.println("<td><h2>Vanntemperatur</h2></td>");
      client.println("<td><h2>Batterispenning</h2></td>");
      client.println("<td><h2>Str&oslash;slashmtrekk</h2></td>");
```

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client.println("<td><h2>Fart</h2></td>");
client.println("</tr>");

client.println("<tr>");
client.println("<td><h2>");
client.print(temp);
client.print("&#8451;");
client.println("<td><h2>");

client.println("<td><h2>C</h2></td>");
client.println("<td><h2>V</h2></td>");
client.println("<td><h2>m/s</h2></td>");
client.println("</tr>");
client.println("</table>");

break;

client.println("</form>");
client.println("<body>");
client.println("</html>");
}
}
//decide which button was clicked (if any)
//LED_1
if (readString.indexOf("?FRAMOVER_ON") > 0) {
    FRAMOVER_ON();
    //clear the readString to be able to get the next command
    readString = "";
}
//decide which button was clicked (if any)
//LED_2
if (readString.indexOf("?STOPP_ON") > 0) {
    STOPP_ON();
    //clear the readString to be able to get the next command
    readString = "";
}
//decide which button was clicked (if any)

if (readString.indexOf("?BABORD_ON") > 0) {
    BABORD_ON();
    //clear the readString to be able to get the next command
    readString = "";
}
//decide which button was clicked (if any)

if (readString.indexOf("?STYRBORD_ON") > 0) {
    STYRBORD_ON();
    //clear the readString to be able to get the next command
    readString = "";
}
if (readString.indexOf("?BREMS_ON") > 0) {

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BREMS_ON();
//clear the readString to be able to get the next command
readString = "";
}
if (readString.indexOf("?BAKKE_ON") > 0) {
    BAKKE_ON();
    //clear the readString to be able to get the next command
    readString = "";
}
if (readString.indexOf("?PARTY_ON") > 0) {
    PARTY_ON();
    //clear the readString to be able to get the next command
    readString = "";
}
if (readString.indexOf("?FARTOPP_ON") > 0) {
    FARTOPP_ON();
    //clear the readString to be able to get the next command
    readString = "";
}

if (readString.indexOf("?FARTNED_ON") > 0) {
    FARTNED_ON();
    //clear the readString to be able to get the next command
    readString = "";
}

    if (readString.indexOf("?RORBARBORD_ON") > 0) {
        RORBARBORD_ON();
        //clear the readString to be able to get the next command
        readString = "";
    }

        if (readString.indexOf("?RORSTYRBORD_ON") > 0) {
            RORSTYRBORD_ON();
            //clear the readString to be able to get the next command
            readString = "";
        }

            if (readString.indexOf("?RORSTYRMIDTEN_ON") > 0) {
                RORSTYRMIDTEN_ON();
                //clear the readString to be able to get the next command
                readString = "";
            }
}
```

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        if (readString.indexOf("?TEMPERATUR_ON") > 0) {
            TEMPERATUR_ON();
            //clear the readString to be able to get the next command
            readString = "";
        }

        if (readString.indexOf("?VANNTemperatur_ON") > 0) {
            VANNTemperatur_ON();
            //clear the readString to be able to get the next command
            readString = "";
        }

    }
    //give the web browser time to receive the data
    delay(1);
    //close the connection
    client.stop();
}
}
//commands for LED_1_ON
void FRAMOVER_ON() {

    // SENDER TIL ADRESSE 2
    Wire.beginTransmission(2);
    Wire.write(1);
    Wire.endTransmission();

    // SENDER TIL ADRESSE 3
    Wire.beginTransmission(3);
    Wire.write(1);
    Wire.endTransmission();
}

void STOPP_ON() {

    // SENDER TIL ADRESSE 2
    Wire.beginTransmission(2);
    Wire.write(2);
    Wire.endTransmission();

    // SENDER TIL ADRESSE 3
    Wire.beginTransmission(3);
    Wire.write(2);
    Wire.endTransmission();
}

```

```
void BABORD_ON() {  
  
    // SENDER TIL ADRESSE 2  
    Wire.beginTransmission(2);  
    Wire.write(3);  
    Wire.endTransmission();  
  
    // SENDER TIL ADRESSE 3  
    Wire.beginTransmission(3);  
    Wire.write(3);  
    Wire.endTransmission();  
}  
  
void STYRBORD_ON() {  
  
    // SENDER TIL ADRESSE 2  
    Wire.beginTransmission(2);  
    Wire.write(4);  
    Wire.endTransmission();  
  
    // SENDER TIL ADRESSE 3  
    Wire.beginTransmission(3);  
    Wire.write(4);  
    Wire.endTransmission();  
}  
  
void BREMS_ON() {  
  
    // SENDER TIL ADRESSE 2  
    Wire.beginTransmission(2);  
    Wire.write(5);  
    Wire.endTransmission();  
  
    // SENDER TIL ADRESSE 3  
    Wire.beginTransmission(3);  
    Wire.write(5);  
    Wire.endTransmission();  
}  
  
void BAKKE_ON() {  
  
    // SENDER TIL ADRESSE 2  
    Wire.beginTransmission(2);  
    Wire.write(6);  
    Wire.endTransmission();  
  
    // SENDER TIL ADRESSE 3
```


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```
Wire.beginTransmission(3);  
Wire.write(6);  
Wire.endTransmission();  
}
```

```
void PARTY_ON() {
```

```
  // SENDER TIL ADRESSE 2  
  Wire.beginTransmission(2);  
  Wire.write(7);  
  Wire.endTransmission();
```

```
  // SENDER TIL ADRESSE 3  
  Wire.beginTransmission(3);  
  Wire.write(7);  
  Wire.endTransmission();  
}
```

```
void FARTOPP_ON() {
```

```
  // SENDER TIL ADRESSE 2  
  Wire.beginTransmission(2);  
  Wire.write(8);  
  Wire.endTransmission();
```

```
  // SENDER TIL ADRESSE 3  
  Wire.beginTransmission(3);  
  Wire.write(8);  
  Wire.endTransmission();  
}
```

```
void FARTNED_ON() {  
  // RENSER OPP I ADRESSENE
```

```
  // SENDER TIL ADRESSE 2  
  Wire.beginTransmission(2);  
  Wire.write(9);  
  Wire.endTransmission();
```

```
  // SENDER TIL ADRESSE 3  
  Wire.beginTransmission(3);  
  Wire.write(9);  
  Wire.endTransmission();  
}
```

```
void RORBARBORD_ON() {
```

// SENDER TIL ADRESSE 4

```
  Wire.beginTransmission(4);  
  Wire.write(0);  
  Wire.endTransmission();
```

```

Wire.beginTransmission(4);
Wire.write(10);
Wire.endTransmission();

}

void RORSTYRBORD_ON() {

    Wire.beginTransmission(4);
    Wire.write(0);
    Wire.endTransmission();

    Wire.beginTransmission(4);
    Wire.write(11);
    Wire.endTransmission();

}

void RORSTYRMIDTEN_ON() {

    Wire.beginTransmission(4);
    Wire.write(0);
    Wire.endTransmission();

    Wire.beginTransmission(4);
    Wire.write(12);
    Wire.endTransmission();

}

void printWifiStatus() {
    // print the SSID of the network you're attached to:
    Serial.print("SSID: ");
    Serial.println(WiFi.SSID());

    // print your WiFi shield's IP address:
    IPAddress ip = WiFi.localIP();
    Serial.print("IP Address: ");
    Serial.println(ip);

    // print the received signal strength:
    long rssi = WiFi.RSSI();
    Serial.print("Signal strength (RSSI):");
    Serial.print(rssi);
    Serial.println(" dBm");
    // print where to go in a browser:
    Serial.print("To see this page in action, open a browser to http://");
    Serial.println(ip);
}

void TEMPERATUR_ON()

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```
{

int firstByte;      // int8_t = byte = unsigned char = int?
int secondByte;

delay(1000);

Wire.beginTransmission(0x48);
Wire.write(0xAA);    // KOMMANDO FOR
TEMPERATURAVLESNING
Wire.endTransmission();
Wire.requestFrom(0x48, 2); // FORESPYR TO BYTES FRA DS1621. 0.5 GRADER
OPPLYSNING

firstByte = Wire.read(); // FØRSTE BYTE
secondByte = Wire.read(); // ANDRE BYTE

temp = firstByte;

if (secondByte)      // if there is a 0.5 deg difference
    temp += 0.5;

Serial.println(temp);
}

void VANNTEMPERATUR_ON()
{
    Wire.beginTransmission(4);
    Wire.write(13); // Sender en tabell som inneholder command
    Serial.print("Sendt forespørsel om temp");
    Wire.endTransmission();

    //Henter data fra slaven
    Wire.requestFrom(4, 2); // ber om 2 bytes fra slaven med adresse 2
    while (Wire.available()){
        Serial.print("Mottak av temp");
        char t = Wire.read();
        Serial.print(t);

        delay(500);

        // Gjør om charen (ASCII) til INT
        if(!flagg) {
            Temp1 = t - '0';
        }

        if(flagg) {
            Temp2 = t - '0';
            flagg = false;
        }
    }
}
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```
}

flagg = true;

}

// Legger temperatur verdien i en tabell
myTemp[0] = Temp1;
myTemp[1] = Temp2;

Serial.print(myTemp[0]);
Serial.print(myTemp[1]);
Serial.print(" °C \n");

}

// to do list ::

// Lage egne voider for fart hastighet på venstre og høyre!!!!!!!!!!!!
// Lage egne voider for fart hastighet på venstre og høyre!!!!!!!!!!!! ikke
forandre på speed. Men han en egen void.
```