

```

//ALL
int pauseTid = 2000;

//LCD
#include <Wire.h>
#include <LCD.h>
#include<LiquidCrystal_I2C.h>
#define I2C_ADDR    0x3F // <<----- Add your address here. Find it from I2C
Scanner
#define BACKLIGHT_PIN    3
#define En_pin  2
#define Rw_pin  1
#define Rs_pin  0
#define D4_pin  4
#define D5_pin  5
#define D6_pin  6
#define D7_pin  7
LiquidCrystal_I2Clcd(I2C_ADDR,En_pin,Rw_pin,Rs_pin,D4_pin,D5_pin,D6_pin,D7_pin);

//SD
#include <SD.h> // åbner biblioteker for at tale med SD-kortlæser (I2C)
#include<SPI.h>
#include "Wire.h" //(er loaded ovenfor?)
int chipSelect = 4; // Pin til SD kortlæser
File mySensorData; // laver et fil-objekt, som kan gemme data

//JORDFUGTIGHED
//max 1023 (ingen fugtighed) min 132 (i vand)
double Fugt;
double Fugt2;

//FUGTIGHED og LUFTTEMP
#include <OneWire.h>
#include<DallasTemperature.h>
// Data wire is plugged into pin 3 on the Arduino
#define ONE_WIRE_BUS 3
#include "DHT.h"
#define DHT11Pin 2
DHT dht(DHT11Pin, DHT11);

//LYS
int sensorPin = A1; // select the input pin for the potentiometer
double lys = 0; // variable to store the value coming from the sensor

//JORDTEMP
// Setup a oneWire instance to communicate with any OneWire devices (not just
Maxim/Dallas temperature ICs)
OneWireoneWire(ONE_WIRE_BUS);
// Pass our oneWire reference to Dallas Temperature.

```

```
DallasTemperature sensors(&oneWire);
```

```
void setup(void)
```

```
{
```

```
//ALL
```

```
// start serial port
```

```
Serial.begin(9600);
```

```
//LCD
```

```
lcd.begin (16,2); // <<----- My LCD was 16x2
```

```
// Switch on the backlight
```

```
lcd.setBacklightPin(BACKLIGHT_PIN,POSITIVE);
```

```
lcd.setBacklight(HIGH);
```

```
lcd.home (); // go home
```

```
lcd.print("Setup..");
```

```
//SD
```

```
pinMode(10, OUTPUT); // Pin 10 reserveres til SD kortlæseren.
```

```
SD.begin(4); // starter SD kortlæseren
```

```
if (SD.exists("Kdata.txt")) // hvis filen "Kdata.txt" (max 8 tegn) findes på
```

```
SDkortet..
```

```
{
```

```
SD.remove("Kdata.txt"); // ..slet filen.
```

```
}
```

```
//JORDFUGTIGHED
```

```
//TEMP OG LUFTFUGTUGHED
```

```
//LYS
```

```
//JORDTEMP
```

```
Serial.println("Setup..");
```

```
Serial.println();
```

```
    // Start up the library
```

```
    sensors.begin(); // IC Default 9 bit. If you have troubles consider upping it
```

```
12. Ups the delay giving the IC more time to process the temperature measurement
```

```
}
```

```
void loop(void)
```

```
{
```

```
//ALL
```

```
String dataString = "";
```

```
delay(pauseTid);
```

```
//LCD
```

```
//JORDFUGTIGHED
```

```
Fugt = analogRead(A2);  
Fugt = 100 - 100*Fugt/1023;  
Serial.print("Jordfugtighed (%): ");  
Serial.println(Fugt);  
lcd.setCursor(0,0);  
lcd.setBacklight(HIGH);  
lcd.print("Jordfugtighed:");  
lcd.setCursor(0,1);  
lcd.print(Fugt);  
lcd.print(" % ");  
delay(pauseTid);
```

```
//JORDTEMP
```

```
// call sensors.requestTemperatures() to issue a global temperature  
// request to all devices on the bus  
sensors.requestTemperatures(); // Send the command to get temperatures  
Serial.print("Jordtemperatur (grader Celcius): ");  
Serial.println(sensors.getTempCByIndex(0)); // Why "byIndex"? You can have more  
than one IC on the same bus. 0 refers to the first IC on the wire  
lcd.setCursor(0,0);  
lcd.setBacklight(HIGH);  
lcd.print("Jordtemperatur:");  
lcd.setCursor(0,1);  
lcd.print(sensors.getTempCByIndex(0));  
lcd.print(" oC ");  
delay(pauseTid);
```

```
//LUFTTEMP OG LUFTFUGTIGHED
```

```
// get humidity  
float humidity = dht.readHumidity();  
// get temperature as C  
float celsius = dht.readTemperature();  
// print results  
Serial.print("Luftfugtighed (%): "); Serial.println(humidity);  
lcd.setCursor(0,0);  
lcd.setBacklight(HIGH);  
lcd.print("Luftfugtighed: ");  
lcd.setCursor(0,1);  
lcd.print(humidity);  
lcd.print(" % ");  
delay(pauseTid);
```

```
Serial.print("Lufttemperatur (grader Celcius): "); Serial.println(celsius);  
lcd.setCursor(0,0);  
lcd.setBacklight(HIGH);
```

```

lcd.print("Lufttemperatur:");
lcd.setCursor(0,1);
lcd.print(celsius);
lcd.print(" oC ");
delay(pauseTid);

//LYS
// read the value from the sensor:
lys = analogRead(sensorPin);
lys = 100*lys/1023;
Serial.print("Lysintensitet: ");
Serial.println(lys);
lcd.setCursor(0,0);
lcd.setBacklight(HIGH);
lcd.print("Lysintensitet: ");
lcd.setCursor(0,1);
lcd.print(lys);
lcd.print(" % ");
delay(pauseTid);
lcd.setBacklight(LOW);

//SD
dataString = String("JF:") + String(Fugt) + String(" JT:") + String(sensors.
getTempCByIndex(0)) + String(" LT:") + String(celsius) + String(" LF:") +
String(humidity) + String(" LI:") + String(lys);
mySensorData = SD.open("Kdata.txt", FILE_WRITE); // åbn filen på SDkortet
if (mySensorData) {
Serial.println();
Serial.println(dataString);
Serial.println();
mySensorData.println(dataString); //skriv fugtighed til SD-kortet
mySensorData.close(); //luk filen på SD-kortet
}
}

```