POPU

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Topic 6

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DHT11 Temperature & Humidity Sensor

The DHT11 is a basic, ultra low cost digital temperature and humidity sensor. It uses a capacitive humidity sensor and a thermistor to measure the surrounding air, and spits out a digital signal on the data pin. Its fairly simple to use, but requires careful timing to grab data. You can get new data from it once every 2 seconds, so when using the library from Adafruit, sensor readings can be upto 2 seconds old. Comes with a ~~4R~~ 4.7 K or 10K resistor, which you'll want to use as a pullup from the data pin to VCC.

Specifications

- 3 to 5V power and I/O
- 2.5 mA max current use during conversion
- Good for 20-80% humidity readings with 5% accuracy
- Good for 0-50°C temperature readings ±2°C accuracy
- No more than 1Hz sampling rate (once every second)
- Body size 15.5 mm x 12 mm x 5.5 mm
- 4 pins with 0.1" spacing
- RoHS compliant.

Teacher's Signature .....

JAINA

Aim Write a program for monitoring Temperature and humidity of a place on an IDE / LCD using arduino.

```
#include <dht11.h>
#define DHT11 PIN 4
dht11 DHT11;
void setup ()
{
Serial.begin (9600);
}
void loop ()
{
Serial.println ();
int chk = DHT11.read (DHT11 PIN);
Serial.print (" Humidity (%): ");
Serial.println ((float) DHT11.humidity, 2);
Serial.print (" Temperature (C): ");
Serial.println ((float) DHT11.temperature, 2);
delay (2000);
}
```

Teacher's Signature