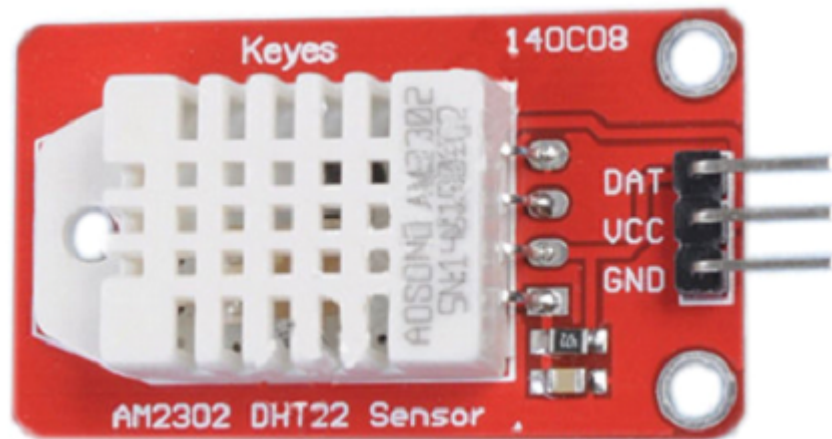


DHT22 temperature and humidity sensor library for Arduino

This is an optimized AM2303 temperature and humidity sensor on a DHT22 breakout.



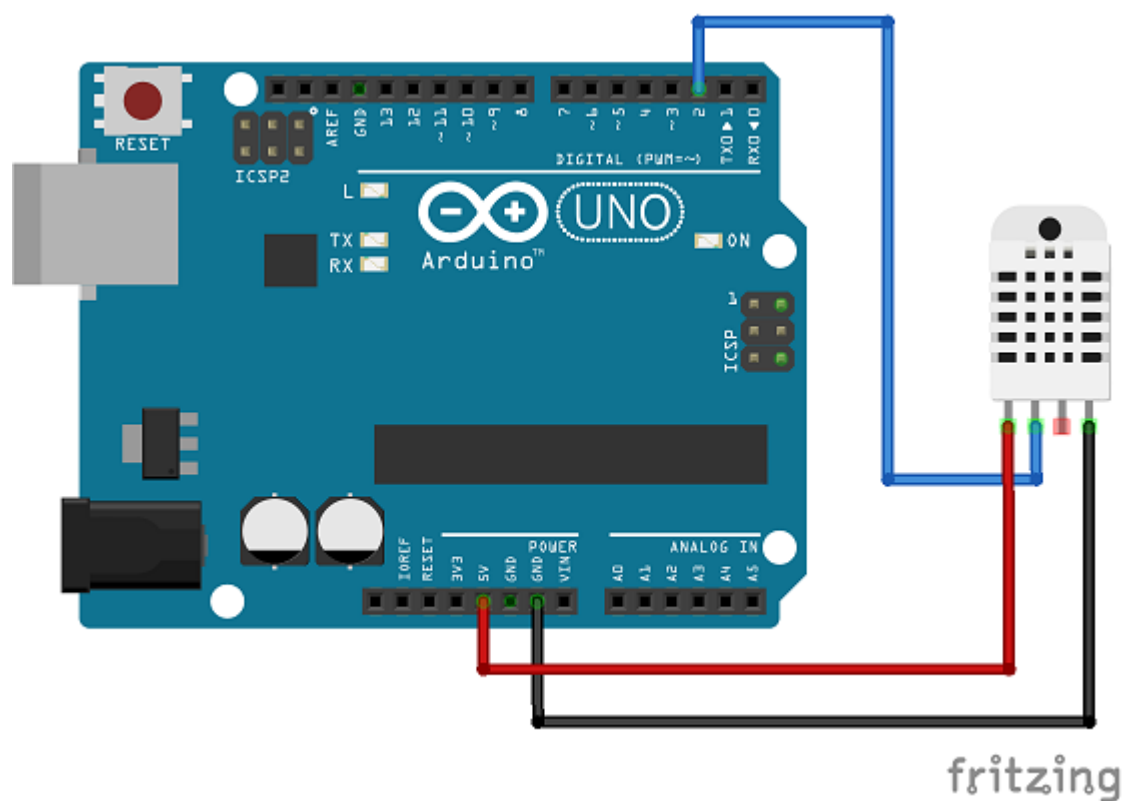
Library features

- Synchronous 16-bit temperature read
- Synchronous 16-bit humidity read

AM2303 specifications

- Voltage: 3.3 .. 5V
- Ultra-low power:
 - Typical 15uA dormancy
 - Typical 500uA measuring
- Single wire serial interface
- Humidity:
 - Range: 0 .. 99.9 %RH (Relative Humidity)
 - Resolution: 0.1 %RH
 - Accuracy: +/- 2 %RH (at 25 degree Celsius)
- Temperature:
 - Range: -40 .. +125 degree Celsius
 - Resolution: 0.1 degree Celsius
 - Accuracy: +/- 0.4 degree Celsius
- Minimum read interval: 2000 ms

Hardware



Connection DHT22 - Arduino

DHT22	Arduino UNO/Nano/Leonardo/Mega2560
GND	GND
VCC	5V (or 3.3V)
DAT	D2

Connection DHT22 - ESP8266

DHT22	ESP8266 / WeMos D1 R2 / ESP12E / NodeMCU
GND	GND
VCC	3.3V
DAT	Arduino pin 2 -> GPIO4 = D4

Note: Some ESP8266 boards uses Arduino pin 2 -> GPIO4 which is D4 text on the board. Make sure you're using the right pin.

Connection DHT22 - Lolin32

DHT22	WeMos Lolin32
GND	GND
VCC	3.3V
DAT	2

Supported Arduino Boards

- All ATmega328P MCU's:
 - Arduino UNO
 - Arduino Nano
- All ATmega32U4 MCU's:
 - Arduino Leonardo
 - Pro Micro
- All ATmega2560 MCU's:
 - Arduino Mega2560
- All ESP8266 boards:
 - WeMos D1 R2
 - NodeMCU
- All Lolin32 boards:
 - WeMos Lolin32
- Other MCU's may work, but are not tested.

Library dependencies

- None

Documentation

[Doxygen](#)

[AM2303 datasheet](#)

[DHT22 datasheet](#)

Examples

Examples | ErriezDH22 | [Example](#)

Usage

Initialization

```
1  #include <DHT22.h>
2
3  // Connect DHT22 data pin to Arduino DIGITAL pin
4  #define DHT22_PIN 2
5
6  DHT22 sensor = DHT22(DHT22_PIN);
7
8  void setup()
9  {
10     // Initialize serial port
11     Serial.begin(115200);
12     Serial.println(F("DHT22 temperature and humidity sensor example\n"));
13
14     // Initialize sensor
15     sensor.begin();
16 }
```

Read temperature and humidity

```
1  void loop()
2  {
3     // Check minimum interval of 2000 ms between sensor reads
4     if (sensor.available()) {
5         // Read temperature from sensor
6         int16_t temperature = sensor.readTemperature();
7
8         // Read humidity from sensor
9         int16_t humidity = sensor.readHumidity();
10
11        // Print temperature
12        Serial.print(F("Temperature: "));
13        Serial.print(temperature / 10);
14        Serial.print(F("."));
15        Serial.print(temperature % 10);
16        Serial.println(F(" *C"));
17
18        // Print humidity
19        Serial.print(F("Humidity: "));
20        Serial.print(humidity / 10);
21        Serial.print(F("."));
22        Serial.print(humidity % 10);
23        Serial.println(F(" %\n"));
24    }
25 }
```

Serial output

```
1 DHT22 temperature and humidity sensor example
2
3 Temperature: 17.7 *C
4 Humidity: 41.0 %
5
6 Temperature: 17.8 *C
7 Humidity: 41.1 %
8
9 ...
```