

# DHT22 temperature and humidity sensor library for Arduino

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



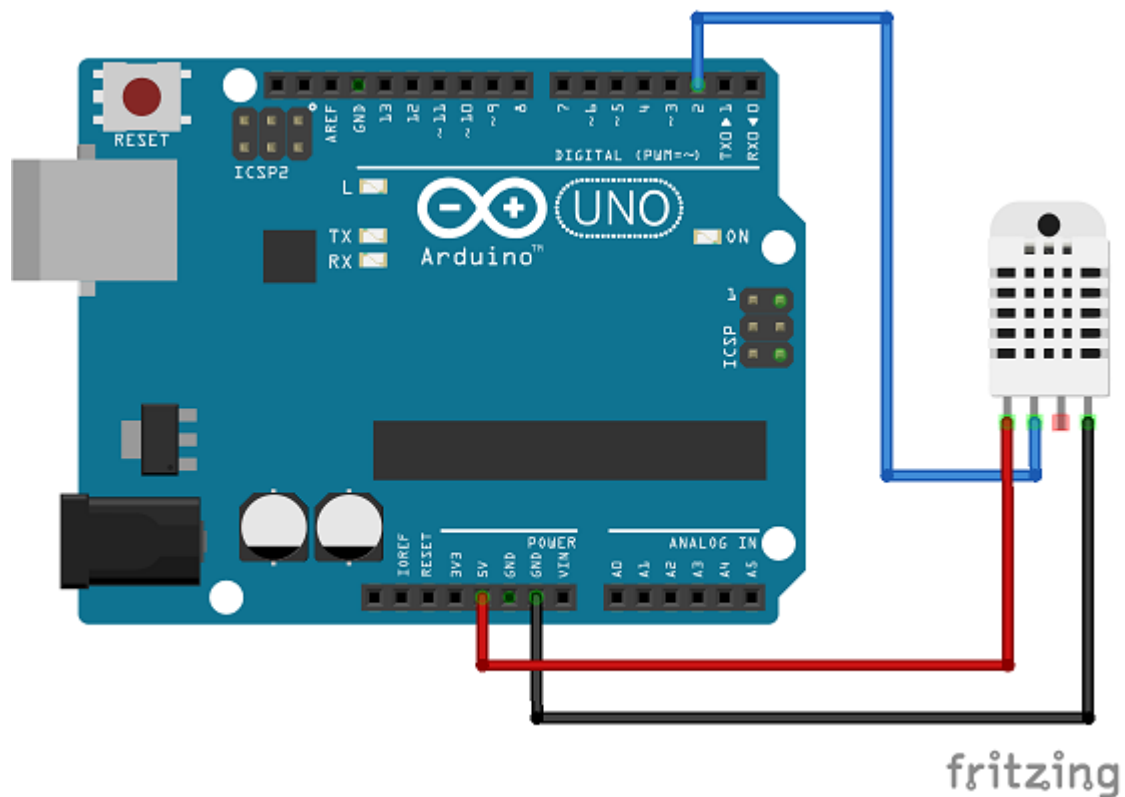
## Library features

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

## Hardware

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Connection DHT22 - Arduino UNO

DHT22	Arduino UNO
GND	GND
VCC	5V (or 3.3V)
DAT	D2

## Documentation

[AM2303 datasheet](#)

[DHT22 datasheet](#)

## 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

## Examples

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Examples | ErriezDHT22:

- [Example](#)

## Usage

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### 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 ...
```