SmartElex AHT20 - Temperature & Humidity Sensor

The AHT20 uses standard I2C so its easy to use with any Arduino or Linux/Raspberry Pi board. This sensor has a typical accuracy of +- 2% relative humidity, and +-0.3 °C. There is only one I2C address so its not a good option when you need multiple humidity sensors.
The default I2C address is **0x38**. It cannot be changed.

Power Pins

The sensor on the breakout requires between a 2.7V and 5.5V, and can be easily used with most microcontrollers from an Arduino to a Feather or something else.

- **VIN** - this is the power pin. To power the board, give it the same power as the logic level of your microcontroller - e.g. for a 5V micro like Arduino, use 5V
- **GND** - common ground for power and logic

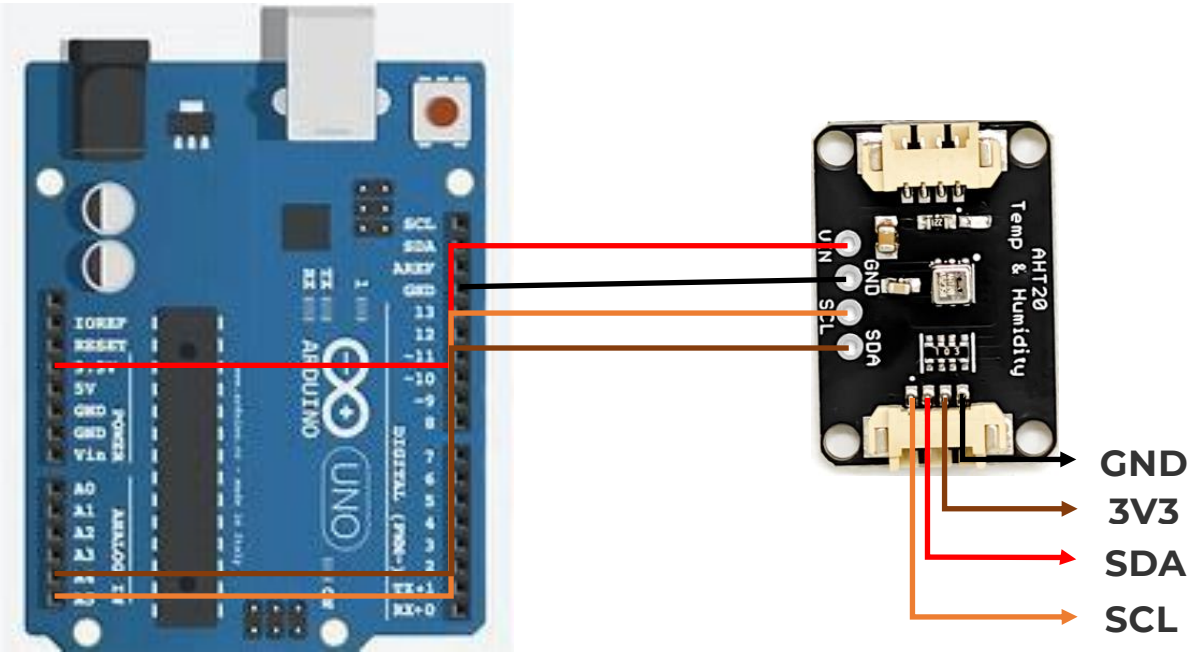
I2C Logic Pins

- **SCL** - I2C clock pin, connect to your microcontrollers I2C clock line. The logic level is the same as **VIN** and it has a 10K pullup already on it.

- **SDA** - I2C data pin, connect to your microcontrollers I2C data line. The logic level is the same as **VIN**. and it has a 10K pullup already on it.

Wiring

Connecting the AHT20 to Arduino:



Arduino	ATH20
SCL(A5)	SCL
SDA(A4)	SDA
5v OR 3.3v	VIN
GND	GND

- If you are running a 5V Arduino (Uno, etc.), connect **Arduino 5V** to **board VIN**
- Connect **Feather or Arduino GND** to **board GND**
- Connect **Feather or Arduino SCL** to **board SCL**
- Connect **Feather or Arduino SDA** to **board SDA**

The final results should resemble the illustration above.

Installation

You can install the **Adafruit AHTx0 Library** for Arduino using the Library Manager in the Arduino IDE. Click the **Manage Libraries** menu item, search for **Adafruit AHTx0**, and select the **Adafruit AHTx0** library.

Load Example

Open up **File -> Examples -> Adafruit AHTx0 - > adafruit_aht_test** and upload to your Arduino wired up to the sensor.

Upload the sketch to your board and open up the Serial Monitor (**Tools->Serial Monitor**). You should see the the values for temperature and humidity.

Example Code

The following example code is part of the standard library, but illustrates how you can retrieve sensor data from the AHT20 for the temperature and humidity values:

```
#include <Adafruit_AHTX0.h>


Adafruit_AHTX0 aht;


void setup() {

  Serial.begin(115200);

  Serial.println("Adafruit AHT10/AHT20 demo!");


  if (! aht.begin()) {

    Serial.println("Could not find AHT? Check wiring");

    while (1) delay(10);

  }
```

```
  Serial.println("AHT10 or AHT20 found");

}



void loop() {

  sensors_event_t humidity, temp;

  aht.getEvent(&humidity, &temp);// populate temp and humidity objects with fresh data

  Serial.print("Temperature: "); Serial.print(temp.temperature); Serial.println(" degrees C");

  Serial.print("Humidity: "); Serial.print(humidity.relative_humidity); Serial.println("% rH");



  delay(500);

}
```

//END//

You should get something resembling the following output when you open the Serial Monitor at 115200 baud: