# SmartElex Pressure, Humidity, Temp (PHT) Sensor - MS8607


The MS8607 from TE is an impressive combination pressure, humidity, temperature (PHT) sensor with accuracy of ±2mbar pressure, ±3% humidity, and ±1°C. Perfect for sensing general weather conditions the MS8607 really shines for high altitude, low pressure applications. Capable of sensing down to 10mbar, this pressure sensor separates itself from many other $I^2C$ pressure sensors like the BME280. The MS8607 is simple to use and gives the user some very powerful readings with very little power and conversion time.

We have a fully formed Arduino library and extensive examples to get you up and running quickly. The breakout board has built-in 2.2kΩ pullup resistors for $I^2C$ communications. If you're hooking up multiple $I^2C$ devices on the same bus, you may want to disable these resistors.

*The MS8607 PHT Sensor can also be automatically detected, scanned, configured, and logged using the OpenLog Artemis datalogger system. No programming, soldering, or setup required!*

**NOTE:** The $I^2C$ address of the Pressure Sensor Portion is 0x76 and is hardware defined. The $I^2C$ address of the Humidity Sensor Portion is 0x40 and is hardware defined. A multiplexer/Mux is required to communicate to multiple MS8607 sensors on a single bus.

## Power Pins

The sensor on the breakout requires between a 1.5V and 3.6V, and can be easily used with most microcontrollers from an Arduino to a Feather or something else.

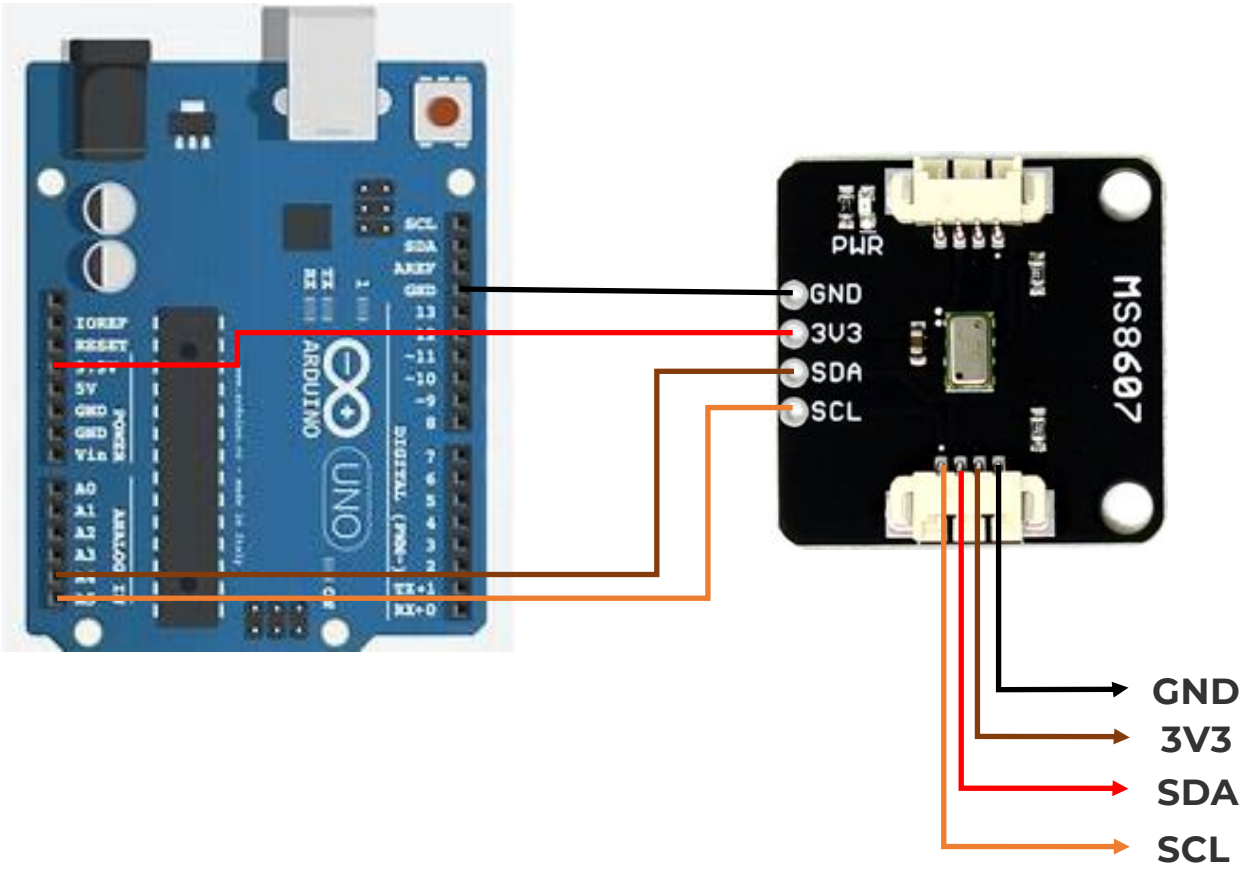
- **VIN** - this is the power pin.  To power the board, give it 3.3 volts.
- **GND** - common ground for power and logic

## 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 MS8607 to Arduino:



| Arduino | MS8607 |
|---|---|
| SCL(A5) | SCL |
| SDA(A4) | SDA |
| 3.3v | VIN |
| GND | GND |

The final results should resemble the illustration above.

## Installation

You can install the **SparkFun PTH MS8607 Arduino Library** for Arduino using the Library Manager in the Arduino IDE. Click the **Manage Libraries** menu item, search for **MS8607**, and select the **SparkFun MS8607** library.

## Load Example

Open up **File -> Examples -> SparkFun PTH MS8607 Arduino Library - > Example1_PressureReading** 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 :

```
#include <Wire.h>


#include <SparkFun_PHT_MS8607_Arduino_Library.h> // Click here to get the library:
http://librarymanager/All#SparkFun_PHT_MS8607


MS8607 barometricSensor;


void setup(void)

{

  Serial.begin(115200);

  Serial.println("Qwiic PHT Sensor MS8607 Example");


  Wire.begin();


  if (barometricSensor.begin() == false)
```

```
  {
    Serial.println("MS8607 sensor did not respond. Trying again...");
    if (barometricSensor.begin() == false)
    {
      Serial.println("MS8607 sensor did not respond. Please check wiring.");
      while (1)
        ;
    }
  }
}

void loop(void)
{

  float temperature = barometricSensor.getTemperature();
  float pressure = barometricSensor.getPressure();

  Serial.print("Temperature=");
  Serial.print(temperature, 1);
  Serial.print("(C)");

  Serial.print(" Pressure=");
  Serial.print(pressure, 3);
  Serial.print("(hPa or mbar)");

  Serial.println();

  delay(500);
}
```