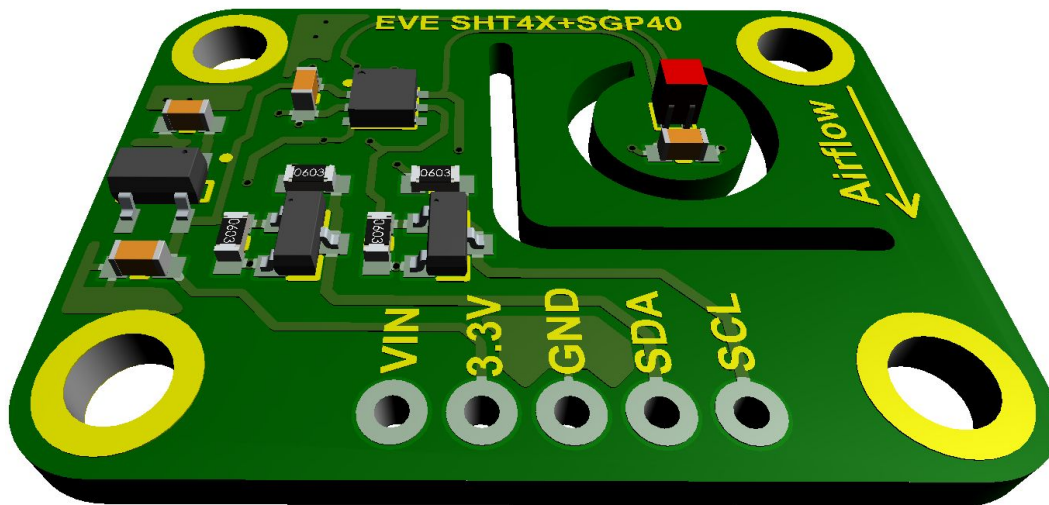


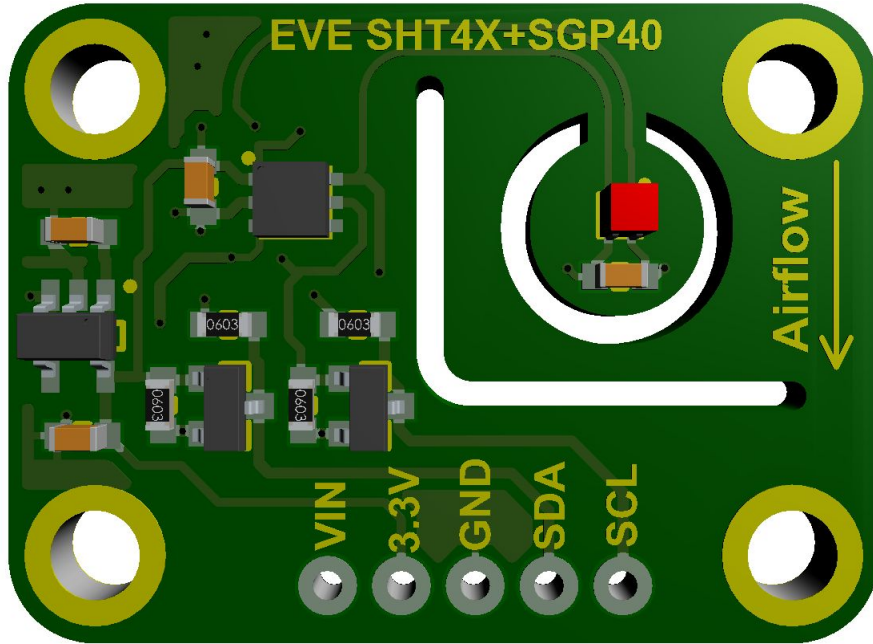
Evelta SHT4X+SGP40 VOC Air Quality Sensor Breakout Board User Manual

Introduction

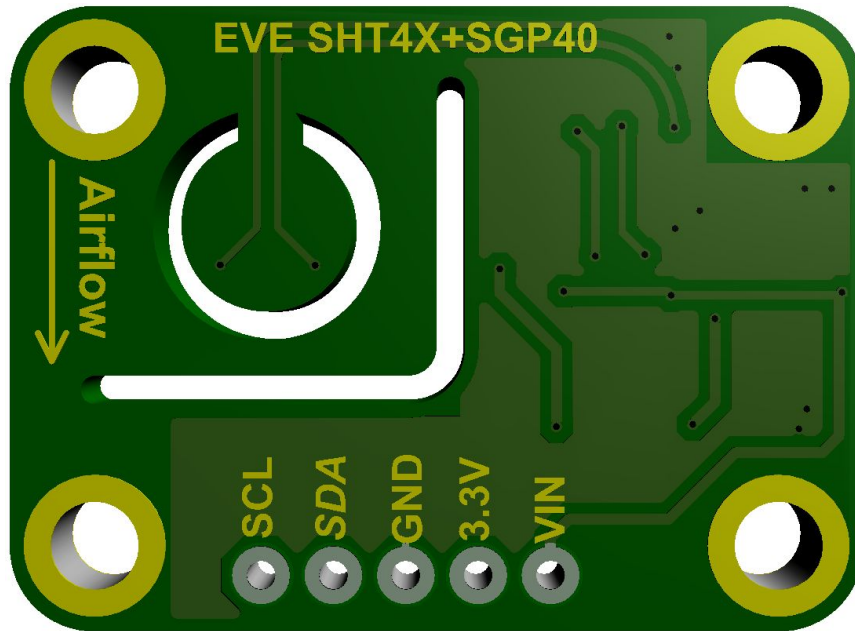
The sensor module is equipped with an SGP40, an SHT40 humidity and temperature output via an I2C interface. SGP40 is Sensirion's new digital VOC (volatile organic compounds) sensor designed for easy integration into air treatment devices and air quality monitors. Based on Sensirion's CMOSens Technology, the SGP40 offers a complete sensor system on a single chip and features a digital I2C interface, a temperature-controlled micro-hotplate and a humidity-compensated indoor air quality signal. SHT4x is a digital sensor platform for measuring relative humidity and temperature at different accuracy classes. The I2C interface provides several preconfigured I2C addresses and maintains an ultra-low power budget.



EVE SHT4X+SGP40 Breakout

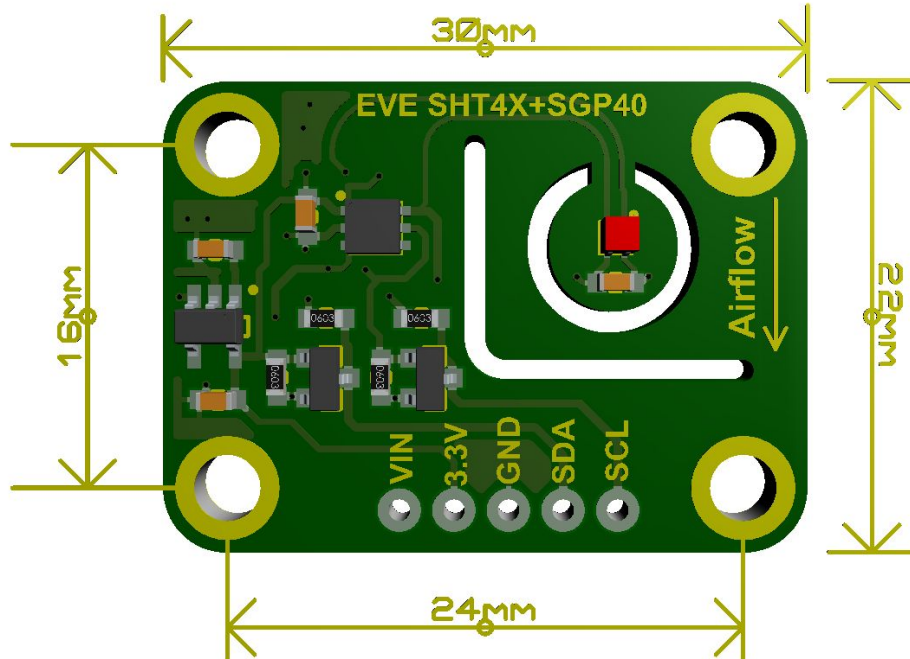


Front Side



Back Side

Dimensions



Board Features

- Interface - I²C
- Supply voltage - 3.3 / 5 V
- Current consumption - 2.6 to 3.5 mA
- Measurement range - 0 to 1,000 ppm of ethanol equivalents
- Sensor output - Digital 16-bit raw signal
- Processed output - Digital VOC Index signal
- Response time - < 10 s (tau 63 %)
- Limit of detection - < 0.05 ppm of ethanol equivalents or < 10% of concentration setpoint
- Switch-on time - < 60 s
- RH operating range - 0~100% RH
- RH response time - 6 sec (tau63%)

Pinouts

Vin - this is the power pin. Since the sensor chip uses 3 VDC for logic, we have included a voltage regulator on board that will take 3-5VDC and safely convert it down. 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

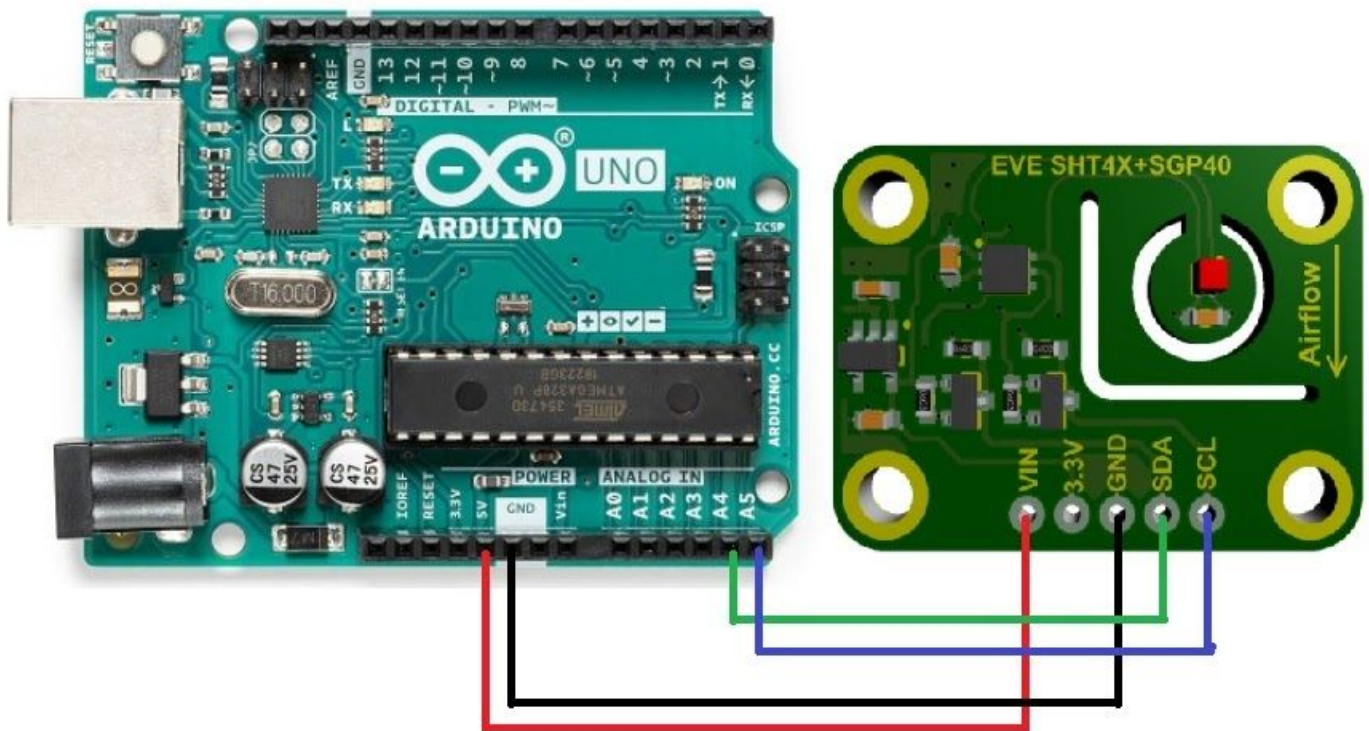
3.3V - this is the 3.3V output from the voltage regulator, you can grab up to 100mA from this if you like

GND - common ground for power and logic.

SCL - I2C clock pin, connect to your microcontrollers I2C clock line. Can use 3V or 5V logic.

SDA - I2C data pin, connected to your microcontrollers I2C data line. Can use 3V or 5V logic.

Arduino I2C Connection Diagram



Arduino Pin	Board Pin
5 V	Vin
GND	GND
A4	SDA
A5	SCL

I2C Wiring

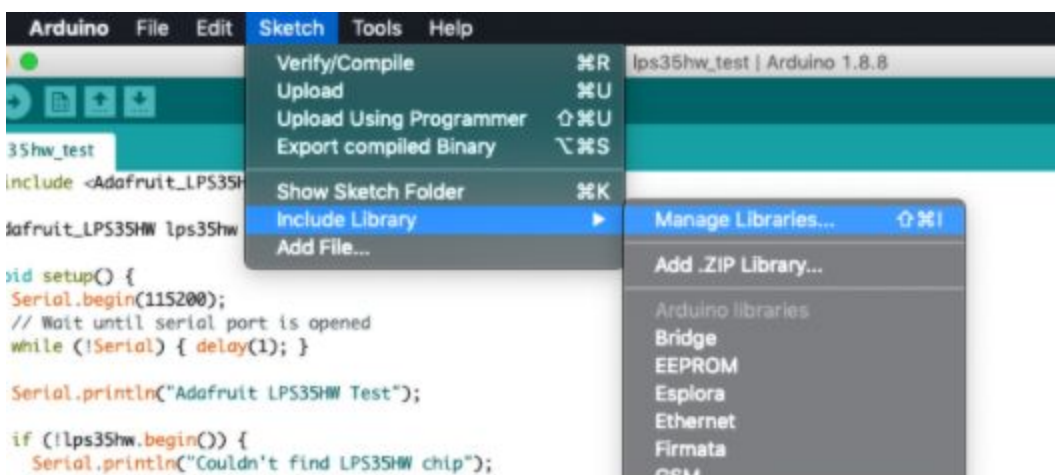
The default I2C address for the SGP40 is 0x59.

Use this wiring if you want to connect via I2C interface.

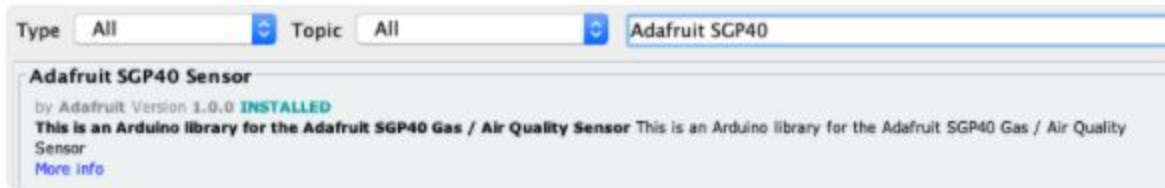
- Connect board VIN (red wire) to Arduino 5V if you are running a 5V Arduino (Uno, etc.). If your Arduino is 3V, connect to that instead.
- Connect board GND (black wire) to Arduino GND
- Connect board SCL (yellow wire) to Arduino SCL
- Connect board SDA (blue wire) to Arduino SDA

Library Installation

You can install the Adafruit SGP40 library for Arduino using the Library Manager in the Arduino IDE.



Click the Manage Libraries ... menu item, search for Adafruit SGP40 , and select the Adafruit SGP40 library:



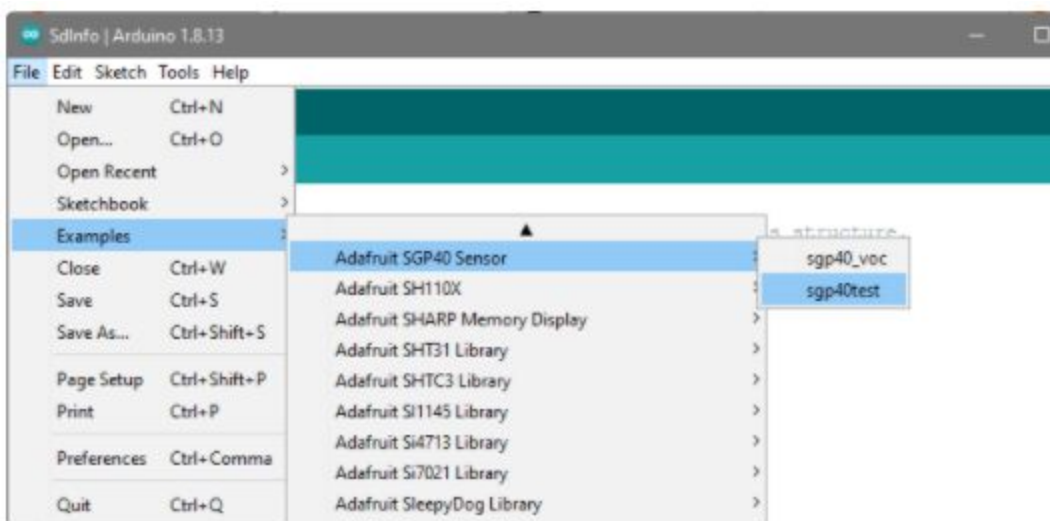
Follow the same process for the Adafruit BusIO library.



Finally follow the same process for the Adafruit SHT4X Library.

Load Basic Example

Open up File -> Examples -> Adafruit SGP40 -> sgp40test



After opening the demo file, upload to your Arduino wired up to the sensor. Once you upload the code, you will see the Raw measurement values being printed when you open the Serial Monitor (Tools->Serial Monitor) at 115200 baud, similar to this:

```
SGP40 test  
Found SGP40 serial #02383B4D  
Measurement: 27351  
Measurement: 27390  
Measurement: 27439
```

[For any query please contact sales@evelta.com](mailto:sales@evelta.com)