

SGP40 Air Quality Sensor

SEN-18345

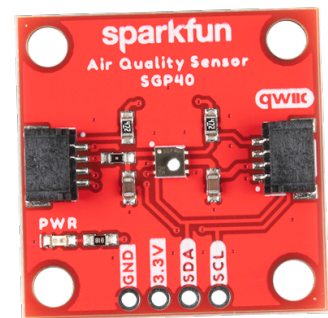
Product Overview

09/28/2022

For the most up-to-date information, visit www.mouser.com or the supplier's website.

Description

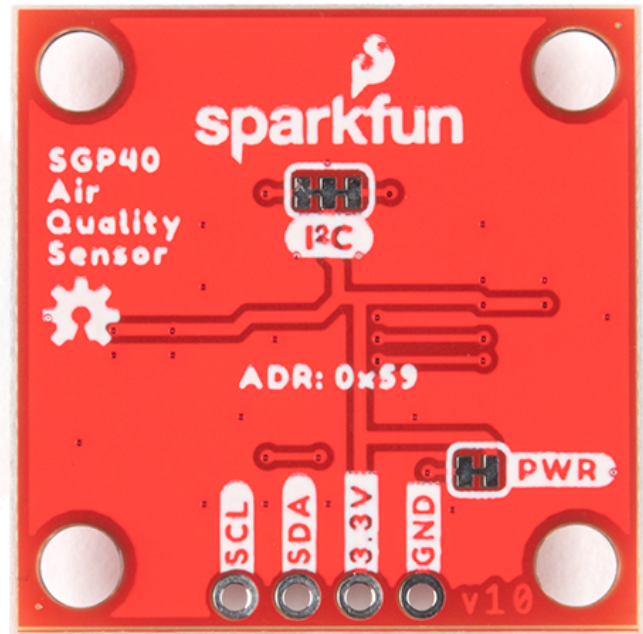
SparkFun SGP40 Air Quality Sensor measures air quality in a limited enclosed space. This sensor is based on Sensirion's CMOSens® technology. The SGP40 pairs a metal oxide (MO_x) sensor and a temperature-controlled micro hotplate to create a humidity-compensated Volatile Organic Compound (VOC) based on indoor air quality signal. The sensing element and VOC algorithm feature unmatched robustness against contaminating gases in real-world applications. Moreover, this enables exceptional long-term stability and low drift with a device-to-device variation. The SGP40 is nothing but a sensitive electronic nose for detecting VOCs in a room, and the connectivity is easily achieved via I²C with break-out pins to Qwiic connectors.



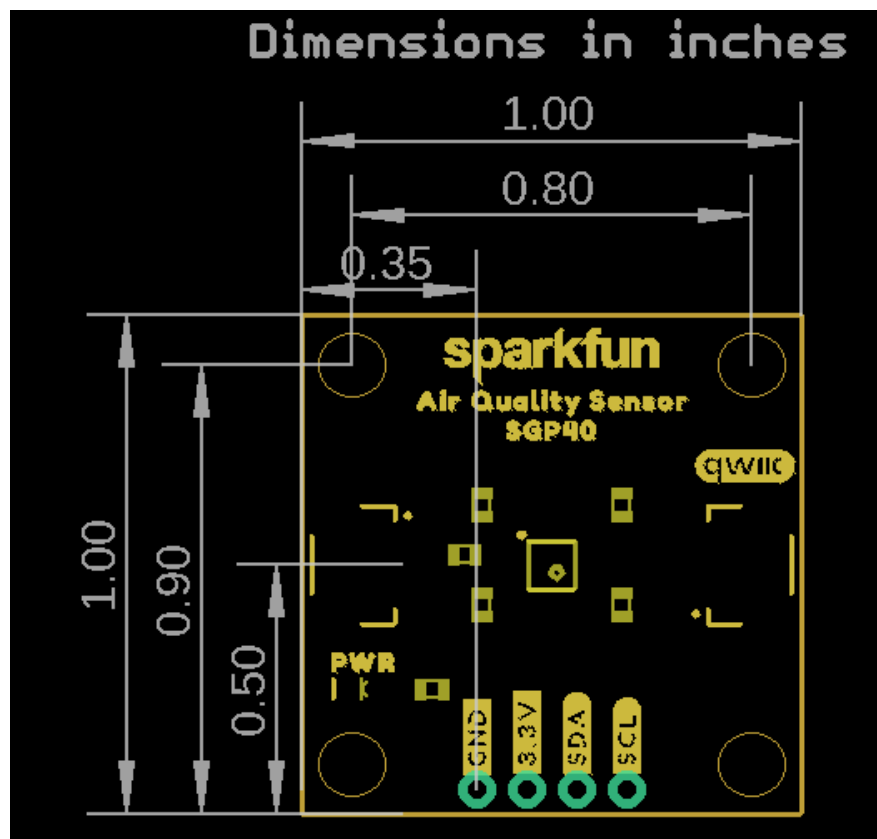
Features

- Uses I²C interface (Qwiic-enabled):
 - 0x59 I²C Address
 - 2x Qwiic connectors
- Operating voltage range:
 - 1.7V to 3.6V (Typ. 3.3V)
 - Qwiic interface provides 3.3V
- Typical current consumption:
 - 2.6mA during continuous operation (at 3.3V)
 - 34µA when idle (heater off)
- Output signal:
 - 0 to 65535 ticks' digital raw value (SRAW)
 - 0 to 500 VOC Index points digital processed value (VOC Index)
- Switch-on behavior:
 - <60s time until reliably detecting VOC events
 - <1h time until specifications are met
- Recommended sampling interval:
 - 1s VOC index
 - 0.5s to 10s (Typ. 1s) SRAW

Board Overview

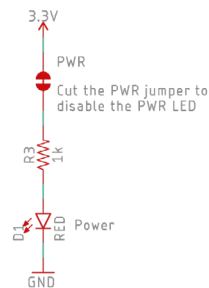


Board Dimensions

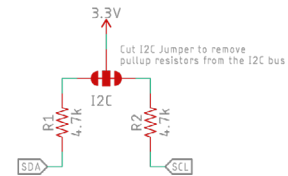


Schematic

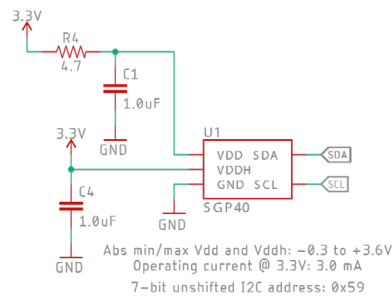
LED



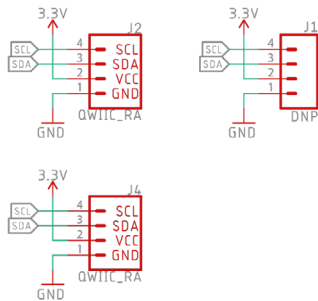
I2C Pull-Up



SGP40



Connectors



Mouser Part Number

[View Part](#)

To learn more, visit <https://www.mouser.com/new/sparkfun/sparkfun-sgp40-air-quality-sensor/>