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CO_2 Humidity and Temperature Sensor - SCD30

SEN-15112

3

DESCRIPTION | FEATURES | DOCUMENTS

- Power supply voltage: 3.3V - 5.5V
- NDIR CO2 sensor technology
- Integrated temperature and humidity sensor
- Best performance-to-price ratio
- Dual-channel detection for superior stability
- Small form factor: 35 mm x 23 mm x 7 mm
- Measurement range: 400 ppm – 10.000 ppm
- Accuracy: ±(30 ppm + 3%)
- Current consumption: 19 mA @ 1 meas. per 2 s.
- Energy consumption: 120 mJ @ 1 measurement
- Fully calibrated and linearized
- Digital interface UART or I^2C

Tags

CO2 | HUMIDITY | I2C | PRESSURE | SCD30 | SENSOR | TEMPERATURE | WEATHER

CO_2 Humidity and Temperature Sensor - SCD30 Product Help and Resources

SKILLS NEEDED

Core Skill: **Soldering**

This skill defines how difficult the soldering is on a particular product. It might be a couple simple solder joints, or require special reflow tools.

1

Skill Level: Noob - Some basic soldering is required, but it is limited to a just a few pins, basic through-hole soldering, and couple (if any) polarized components. A basic soldering iron is all you should need.

See all skill levels

Core Skill: **Programming**

If a board needs code or communicates somehow, you're going to need to know how to program or interface with it. The programming skill is all about communication and code.

3

Skill Level: Competent - The toolchain for programming is a bit more complex and will examples may not be explicitly provided for you. You will be required to have a fundamental knowledge of programming and be required to provide your own code. You may need to modify existing libraries or code to work with your specific hardware. Sensor and hardware interfaces will be SPI or I2C.

See all skill levels

Core Skill: **Electrical Prototyping**

u need to know how much, what all the pins do, and how to hook it up. You may need to reference datasheets, schematics, and

know the ins and outs of electronics.

Skill Level: Competent - You will be required to reference a datasheet or schematic to know how to use a component. Your knowledge of a datasheet will only require basic features like power requirements, pinouts, or communications type. Also, you may need a power supply that?s greater than 12V or more than 1A worth of current.
See all skill levels

COMMENTS 2 | REVIEWS ★★★★½ 3

Customer Reviews

★★★★½ 4.3 out of 5

Based on 3 ratings:

5 star		1
4 star		2
3 star		0
2 star		0
1 star		0

Currently viewing all customer reviews.

1 of **1** found this helpful:

★★★★☆ Works as advertised.

about 7 months ago by Member #414450 ✔ verified purchaser

Used sparkfun's available software and QWIC Red Board which was a great help in getting this device up and running. It would be helpful to have a pins added version. For my application needing to expose the sensor to 1 hour of fresh air each 24 hour period was a problem. If you are using this to sample and store continuous reading inside a closed area, then taking it out to provide "fresh" air can be a problem. 7 day calibration worked perfectly. Used two built up sensors two compare outputs which after calibration was within stated accuracy between the two sensors. I did not have a alternate calibration source to test the sensor against which would have helped.

★★★★★ Easy to use CO2 sensor

last year by Member #1459968 ✔ verified purchaser

I wrote some Python code to use this with a Beaglebone (because I knew the beaglebone hardware supported I2C clock stretching). It was a very enjoyable experience because the Sensirion documentation covered the interface very well, above and beyond what I've ever seen before. Maybe it mentioned it somewhere but I would add that the returned CO2 values are encoded as a 32-bit float. The sensor seems quite responsive, I could open a window, and see the CO2 ppm levels change as the room ventilated. I didn't go thru all the details for the calibration process; I was getting about 530ppm for outside air, when I expected something like 405 ppm.

★★★★☆ Best/most accurate CO2 sensor I've used so far

about 5 months ago by schizobovine ✔ verified purchaser

Only sensor I've tried that gives remotely reasonable readings. Most other sensors need some kind of calibration (usually using "fresh air" as a proxy for 400ppm CO2) and even then they're bouncing around all over the place [0].

Downsides: Library compatibility is mostly Arduino-centric; originally was planning on using a Raspberry Pi but between drivers for other sensors and the clock stretching shenanigans the SCD30 pulls, using an Arduino dumping data over UART to the Pi wound up being easier. Also had to downclock i2c on the Arduino pretty heavily to get it all to play nicely over a qwiic bus (but it did work somewhat reliably then, plus or minus some resetting the Arduino when it gets locked up for reasons I'm not clear on).

One last unexpected upside: much smaller than I was expecting! Which means I might actually be able to fit it in a portable sensing platform, esp since it has on board humidity sensing. (Would be near perfect if it included a barometer!)

[0] The MH-Z14A's analog output is apparently unbuffered, which doesn't play nice with the Ardunio's ADC. See http://www.doctormonk.com/2018/03/review-and-test-of-mh-z14a-ndir-co2.html

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