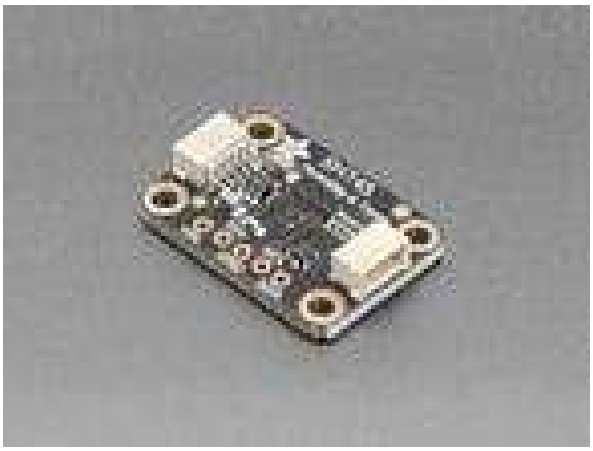
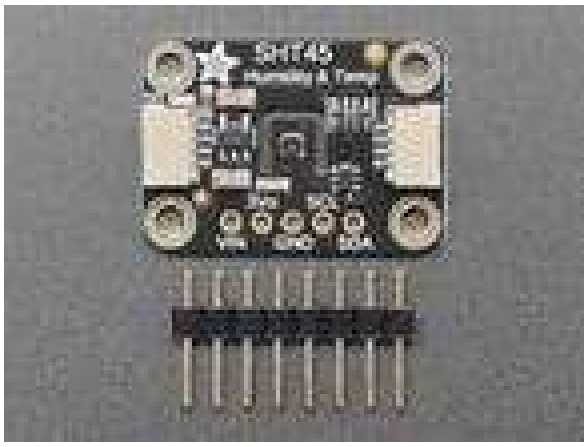
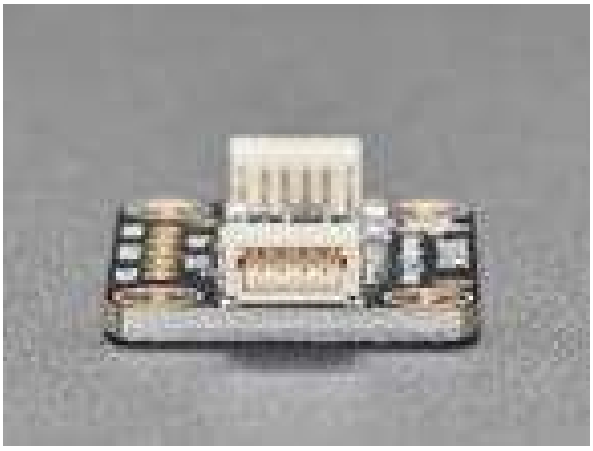
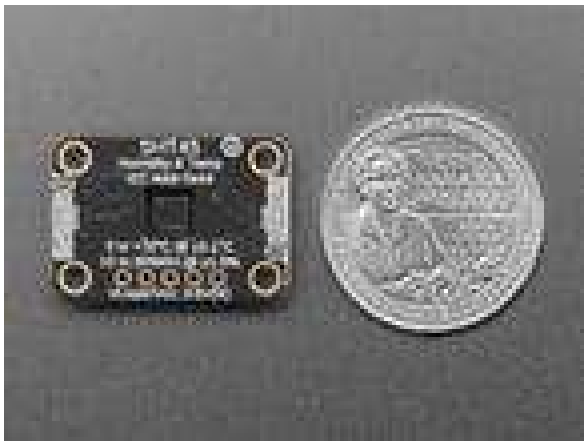
Adafruit Sensirion SHT45 Precision Temperature & Humidity Sensor - STEMMA QT / Qwiic

Product ID: 5665

Description

Sensirion Temperature/Humidity sensors are some of the finest & highest-accuracy devices you can get. And finally, we have some that have a true I2C interface for easy reading. The SHT45 sensor is the fourth generation (started at the SHT10 and worked its way up to the top!). The SHT45 has an excellent ±1.0% typical relative humidity accuracy from 25 to 75% and ±0.1°C typical accuracy from 0 to 75 °C.

Unlike some earlier SHT sensors, this sensor has a *true* I2C interface for easy interfacing with only two wires (plus power and ground!). Thanks to the voltage regulator and level shifting circuitry we've included on the breakout It is also is 3V or 5V compliant, so you can power and communicate with it using any microcontroller or microcomputer.

Such a lovely chip - so we spun up a breakout board with the SHT45 and some supporting circuitry such as pullup resistors and capacitors. To make things even easier, we've included SparkFun Qwiic compatible STEMMA QT connectors for the I2C bus so you don't even need to solder! QT Cable is not included, but we have a variety in the shop.

If you prefer working on a breadboard, each order comes with one fully assembled and tested PCB breakout and a small piece of header. You'll need to solder the header onto the PCB, but it's fairly easy and takes only a few minutes even for a beginner.

We've written both Arduino and CircuitPython/Python library code for this chip, so you can use it with just about any microcontroller or single-board computer like Raspberry Pi.

YouTube link: https://www.youtube.com/watch?t=538&v=jYTGwns-6bQ&embeds_euri=https%3A%2F%2Fwww.adafruit.com%2F&feature=emb_imp_woyt

Technical Details

SHT45-AD1B-R2 specifications:

- Accuracy Specification: ΔRH = ±1.0 %RH, ΔT = ±0.1 °C
- Breakout board Vdd/logic: 3.3V to 5V
- Avg. current: 0.4 µA, Idle current: 80 nA (not including on-board regulator quiescent)
- I2C FM+, CRC checksum, default I2C addr 0x44
- Operating range: 0 ... 100 %RH, −40...125 °C
- Fully functional in condensing environment
- Power heater, true NIST-traceability
- JEDEC JESD47 qualification

- Sensor-specific calibration certificate acc. to ISO 17025 : 2017, 3-point temp. calibration
- More information at Sensirion!

Product Dimensions: 25.5mm x 17.7mm x 4.8mm / 1.0" x 0.7" x 0.2"

Product Weight: 1.7g / 0.1oz

- SHT4x Datasheet



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