BME280 Breakout - Temperature, Pressure, Humidity Sensor

PIM472

A really nice environmental sensor that's ideal for indoor monitoring of temperature, pressure, and humidity, or even outdoors in a suitable enclosure. It's Raspberry Pi and Arduino-compatible.

We use this sensor on our Enviro+ environmental monitoring board, but it's such a nice sensor that we thought we'd pop it onto a breakout! The BME280 is a great sensor for monitoring conditions around your home.

If you're an iOS user, then there's **a Homebridge plugin for the BME280** to let you use the sensor for home automation and monitoring.

It's also compatible with our fancy **Breakout Garden**, where using breakouts is as easy just popping it into one of the six slots and starting to grow your project, create, and code.

Features

- Bosch BME280 temperature, pressure, humidity sensor
- I2C interface, with address select via ADDR solder bridge (0x76 or 0x77)
- 3.3V or 5V compatible
- Reverse polarity protection
- Raspberry Pi-compatible pinout (pins 1, 3, 5, 7, 9)
- Compatible with all models of Raspberry Pi, and Arduino
- **Python library**
- **Datasheet**

Kit includes

- BME280 breakout
- 1x5 male header
- 1x5 female right angle header

We've designed this breakout board so that you can solder on the piece of right angle female header and pop it straight onto the bottom left 5 pins on your Raspberry Pi's GPIO header (pins 1, 3, 5, 6, 9). The right angle header also has the advantage of positioning the breakout away from the Pi's CPU so as to minimise radiated heat.

Software

We've put together a **Python library for the BME280 sensor**, with handy functions to read all of the values, and **a few nice little examples** of how to use it.

Notes

- In our testing, we've found that the sensor requires some burn-in time (at least 20 minutes) and that readings may take a couple of minutes to stabilise after beginning measurements
- The solder pads (marked ADDR) can be bridged to change the I2C address from the default of 0x76 to 0x77, meaning that you can use up to two sensors on the same Raspberry Pi or Arduino
- The BME280, BME680, and BMP280 breakouts all share the same I2C addresses, so if you're using two together then you'll need to change the I2C address on one of them using the solder bridge/pads
- Dimensions: 19x19x2.75mm (LxWxH)

ADDR+1

BME280
Pres./Temp/Humid.

5V
OK

I²C: 0x76 or 0x77

pimoroni.com

BME280
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2-6V SDA SCL ⊘ GND

https://shop.pimoroni.com/products/bme280-breakout/8-5-19