

Environmental Sensor Breakout - BME688

SEN-19096

Product Overview

09-12-2022

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

Description

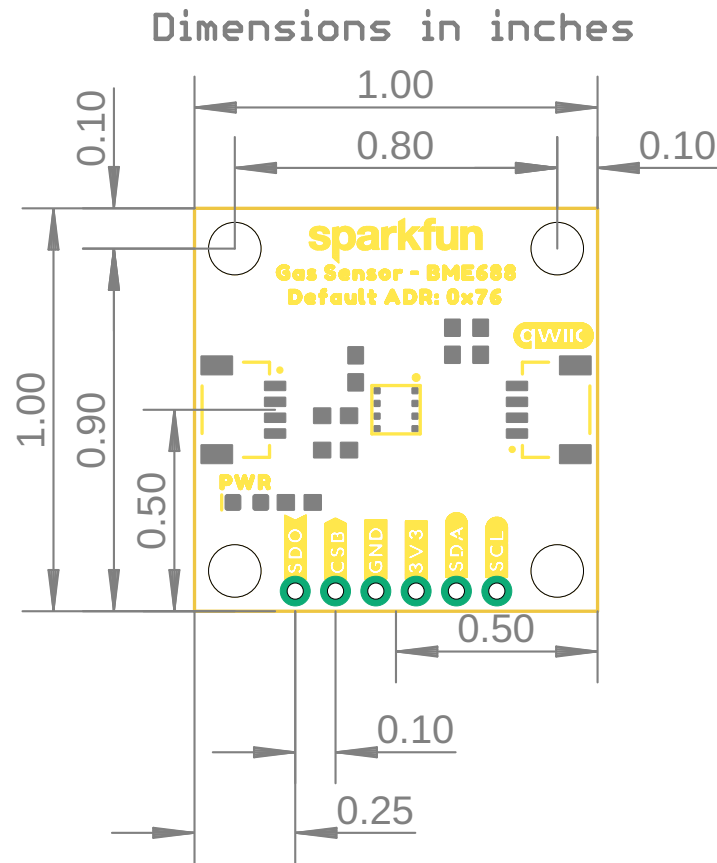
SparkFun Environmental Sensor Breakout - BME688 (Qwiic) combines a gas scanning sensor with temperature, humidity, and barometric pressure sensing. It is an all-in-one environmental sensor. The sensor communicates via either I²C or SPI. The BME688's gas sensor detects gases such as carbon monoxide and hydrogen in the part per billion (ppb) range, in addition to volatile organic compounds (VOCs) and volatile sulfur compounds (VSCs).



Features

- Bosch BME688 AI gas sensor
- Uses I²C interface (Qwiic-enabled):
 - 0x76 (Default) or 0x77 (I2C Address)
 - 2x Qwiic connectors
- Operating voltage range:
 - 1.71V to 3.6V
 - Typically, 3.3V if using the Qwiic cable
- Relative humidity:
 - 0% to 100% operating range
 - $\pm 3\%$ RH absolute accuracy
 - $\pm 0.008\%$ RH resolution
- Temperature:
 - -40°C to $+85^{\circ}\text{C}$ operating range
 - $\pm 1.0^{\circ}\text{C}$ absolute accuracy
 - 0.01°C resolution
- Pressure:
 - 300hPa to 1100hPa operating range
 - $\pm 60\text{Pa}$ (0°C to 65°C) absolute accuracy
 - 0.18PA resolution, highest oversampling
- Gas:
 - 0.92 F1 score (H_2S scanning)
 - 10.8 sec/scan standard scan speed
 - $\pm 15\%$ ± 15 sensor-to-sensor deviation
- Typical current consumption (varies based on mode and active sensor):
 - 2.1 μA to 18mA
 - 0.15 μA (sleep mode)
 - 3.9mA in standard gas scan mode

Board Dimensions



Mouser Part Number

[View Part](#)

To learn more, visit

<https://www.mouser.com/new/sparkfun/sparkfun-environmental-sensor-breakout-bme688/>