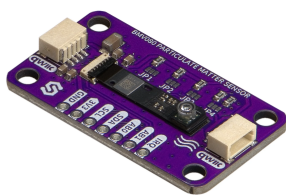


PRODUCT DATASHEET



Soldered BMV080 Particulate Matter Sensor

333373

Bosch BMV080 breakout that measures PM1, PM2.5 and PM10 dust levels with no fan. I2C or SPI, two Qwiic connectors, 3.3 V.

Full product documentation, files and tutorials: solde.red/333373

CORE ATTRIBUTES

SKU 333373

ORIGIN HR

BARCODE 732388641802

DESCRIPTION

The **BMV080 Particulate Matter Sensor** breakout measures the mass concentration of fine dust in the air: **PM1**, **PM2.5** and **PM10**, about once a second. The Bosch BMV080 has no fan and no moving parts, so it runs silently and draws little power.

Accuracy is **±10 µg/m³** from 0 to 100 µg/m³ and **±10 % of the reading** from 101 to 1000 µg/m³. You choose between continuous measurement and a duty-cycling mode that saves power on battery-powered devices.

The board talks over **I2C** by default, at address 0x54, and jumpers select three more addresses. Another jumper switches it to **SPI**. Two **Qwiic** connectors let you plug it into your board and chain more sensors with one cable each, and the 2.54 mm header fits a breadboard. An Arduino library and documentation help you get started.

TECHNICAL DETAILS

- **Sensor:** Bosch BMV080
- **Measures:** PM1, PM2.5 and PM10 mass concentration
- **Measurement range:** 0 to 1000 µg/m³
- **Accuracy:** ±10 µg/m³ (0 to 100 µg/m³), ±10 % of reading (101 to 1000 µg/m³)
- **Output rate:** about 1 reading per second
- **Modes:** continuous measurement, duty cycling
- **Interface:** I2C (default) or SPI, selected by jumper
- **I2C address:** 0x54, 0x55, 0x56 or 0x57
- **Connectors:** 2x Qwiic, 7-pin 2.54 mm header

- **Supply voltage:** 3.3 V
- **Dimensions:** 38 × 22 mm / 1.5 × 0.9 inch
- **Mounting:** 4x M3 holes

Note:

- The board runs on 3.3 V only. It has no voltage regulator, so do not connect the header to 5 V.

SPECIFICATIONS

INTERFACE	I2C, Spi
QWIIC COMPATIBLE	Yes
I2C ADDRESS DEFAULT	0x57
I2C ADDRESS CHANGEABLE	Yes
BREADBOARD COMPATIBLE	Yes
MEASUREMENT TYPES	Air Quality
MEASUREMENT RANGE	0 to 1000 µg/m ³ (PM1, PM2.5, PM10)
MEASUREMENT ACCURACY	±10 µg/m ³ (0 to 100 µg/m ³), ±10 % of reading (101 to 1000 µg/m ³)
IC PART NUMBER	BMV080
SUPPLY VOLTAGE MIN V	3.3
SUPPLY VOLTAGE MAX V	3.3
LOGIC LEVEL	3V3 Only

DOCUMENTS

Main IC Datasheet · EN	https://cms.soldered.com/products/333373/documents/ic-datasheet/333373_ic-datasheet_c928e4.pdf
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LINKS

Full Documentation	https://docs2.soldered.com/soldered-bmv080-particulate-matter-sensor/
Arduino Library	https://github.com/SolderedElectronics/Soldered-BMV080-Arduino-Library

GALLERY

