

PRODUCT DATASHEET



BMP388 Temperature and Pressure Sensor Breakout

333316

The BMP388 sensor offers precise temperature and pressure measurements with low power consumption, ideal for IoT and portable applications.

Full product documentation, files and tutorials: solde.red/333316

CORE ATTRIBUTES

SKU 333316

BARCODE 732388653706

DESCRIPTION

Achieve highly accurate pressure, altitude, and temperature measurements with the **BMP388 Temperature & Pressure Sensor Breakout**. Based on Bosch Sensortec's next-generation barometric sensor, this breakout delivers exceptional precision while maintaining ultra-low power consumption, making it ideal for Arduino, ESP32, RP2040, and battery-powered IoT applications. With a simple I2C interface and dual Qwiic connectors, integration into your project is fast, clean, and solder-free.

The BMP388 offers outstanding measurement accuracy across a wide pressure range from **300 hPa to 1250 hPa**, enabling precise altitude tracking, weather monitoring, indoor navigation, and drone applications. Compared to earlier generations, it provides improved temperature stability and lower noise, supporting resolutions down to **0.016 Pa** and temperature accuracy up to **±0.3 °C**. The sensor also features configurable oversampling, an internal IIR filter, and a **512-byte FIFO buffer**, allowing you to balance power consumption, responsiveness, and data quality depending on your application

Designed for flexibility, this breakout includes **two Qwiic connectors** for easy daisy-chaining, standard **I2C header pins**, and a dedicated **interrupt pin** for data-ready and FIFO events. This makes it especially suitable for low-power systems where the microcontroller can sleep until new data is available. Whether you're building a portable weather station, altitude logger, drone controller, or smart navigation device, the BMP388 breakout delivers reliable, professional-grade sensing in a compact and developer-friendly form.

TECHNICAL DETAILS

- High-precision barometric pressure and temperature sensing
- Wide pressure range: 300 - 1250 hPa
- Excellent relative accuracy: ±8 Pa (≈ ±0.66 m altitude)
- Low power consumption: as low as 3.4 µA @ 1 Hz
- I2C interface with header pins
- 2× Qwiic connectors for fast, solder-free wiring
- Built-in 512-byte FIFO buffer

- Configurable interrupt pin (data ready, FIFO watermark, FIFO full)
- Operating temperature range: -40 °C to +85 °C

SPECIFICATIONS

INTERFACE	I2C
QWIIC COMPATIBLE	Yes
I2C ADDRESS DEFAULT	0x76
BREADBOARD COMPATIBLE	Yes
MEASUREMENT TYPES	Temperature, Pressure
MEASUREMENT RANGE	Pressure 300 to 1100 hPa
MEASUREMENT ACCURACY	Pressure +/-8 Pa
IC PART NUMBER	BMP388
SUPPLY VOLTAGE MIN V	3.3
SUPPLY VOLTAGE MAX V	5
LOGIC LEVEL	3V3 Or 5V
OPERATING CURRENT (mA)	0.0034 mA
SLEEP CURRENT uA	2

LINKS

Arduino Library	https://github.com/SolderedElectronics/Soldered-BMP388-Arduino-Library
Full Documentation	https://docs.soldered.com/bmp388/overview/
Hardware Details	https://docs.soldered.com/bmp388/hardware/
Arduino Library Documentation	https://docs.soldered.com/bmp388/arduino/getting-started/
mim_package	https://checkmim.com/packages/solderedelectronics+Soldered-BMP388-MicroPython-Library
MicroPython Module	https://github.com/SolderedElectronics/Soldered-BMP388-MicroPython-Library

GALLERY

