

BME280 temperature / humidity / pressure breakout

Adafruit · MPN 2652 · category: env-sensor

Canonical record: <https://partsgraph.ai/catalog/parts/adafruit-bme280>

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ELECTRICAL

VDDIO interface voltage: **1.2–3.6 V** · datasheet p.2

Current @ 1 Hz (H+P+T): **3.6 µA** · datasheet p.2

Sleep current: **0.1 µA** · datasheet p.2

Current @ 1 Hz (H+T): **1.8 µA** · datasheet p.2

Current @ 1 Hz (P+T): **2.8 µA** · datasheet p.2

Start-up time, max (ms): **2** · datasheet p.8

VDD ripple, max: **50 mVpp** · datasheet p.8

Sensor power modes: **sleep mode, forced mode and normal mode** · datasheet p.14

3.3V regulator + level shifting on board: **Yes** · vendor page

PERFORMANCE

Humidity range: **0–100 %** · datasheet p.2

Pressure RMS noise: **0.2 Pa** · datasheet p.2

Pressure absolute accuracy: **±1 hPa** · vendor page

Temperature accuracy: **±1.0°C** · vendor page

Humidity response time (τ63%): **1 s** · datasheet p.2

Humidity hysteresis (±%RH): **1 %** · datasheet p.2

Pressure offset temp coefficient (±Pa/K): **1.5 Pa/K** · datasheet p.2

Humidity resolution (%RH): **0.008** · datasheet p.9

Humidity RMS noise, highest oversampling (%RH): **0.02** · datasheet p.9

Pressure output resolution (Pa): **0.18** · datasheet p.11

Temperature accuracy @25 °C (°C): **±0.5** · datasheet p.11

Temperature output resolution (°C): **0.01** · datasheet p.12

Internal IIR filter: **Yes** · datasheet p.18

Altimeter accuracy: **±1 meter** · vendor page

Altitude noise: **0.25 m** · vendor page

INTERFACE

I2C bus speed (max): **3.4 MHz** · datasheet p.2

SPI bus speed (max): **10 MHz** · datasheet p.2

Chip ID: **0x60** · datasheet p.26

I2C modes supported: **Standard, Fast and High Speed** · datasheet p.32

STEMMA QT / Qwiic form factor: **Yes** · vendor page

MECHANICAL

Board dimensions: **25.2mm x 18.0mm x 4.6mm** · vendor page

Sensor package (bare IC): **2.5 mm x 2.5 mm x 0.93 mm** · datasheet p.2

COMPLIANCE

RoHS: **RoHS compliant** · datasheet p.2

Halogen-free: **Yes** · datasheet p.2

Moisture sensitivity: **MSL1** · datasheet p.2

Lead-free soldering: **Yes** · datasheet p.45

GENERAL

Pressure range: **300–1100 hPa** · datasheet p.2

Temperature range: **-40–85 °C** · datasheet p.2

Humidity accuracy: **3 %** · datasheet p.2

VDD (bare IC): **1.71–3.6 V** · datasheet p.2

INDICATIVE PRICES

Adafruit: \$14.95 USD · as of 2026-08-22 · <https://www.adafruit.com/product/2652>

The Pi Hut: £14.40 GBP · as of 2026-08-22 · <https://thepihut.com/products/adafruit-bme280-i2c-or-spi-temperature-humidity-pressure-sensor>

Prices are indicative and dated, captured only from vendors' machine-stated markup. Availability is never claimed.

SOURCES — THE AUTHORITATIVE DOCUMENTS

Bosch BME280 datasheet: <https://www.bosch-sensortec.com/media/boschsensortec/downloads/datasheets/bst-bme280-ds002.pdf>

sha-256 a2ccdb449fec94380742fe8eec851a11d9bd4142252d332b34682b4deecd7d89

Adafruit product page: <https://www.adafruit.com/product/2652>

The Pi Hut product page: <https://thepihut.com/products/adafruit-bme280-i2c-or-spi-temperature-humidity-pressure-sensor>

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