



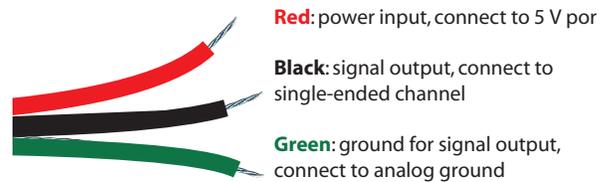
Barometric Pressure Sensor

Owners Manual
Model: BPS

Barometric Pressure Sensor

The BPS uses a silicon pressure sensor with specialized circuitry to boost and linearize the output. The sensor is small and should be housed inside the same enclosure with the datalogger.

Wiring the Sensor



Converting mV output to kPa

The relationship between the mV output and pressure is linear. The conversion factor is 0.0218 kPa per mV. The offset varies somewhat from sensor to sensor and is approximately 11.4 kPa. The range of the offset value is 10.8-12.0. By adjusting this value slightly the measured pressure can be matched to local reported pressure.

Normalizing to Sea Level

Before it is reported, atmospheric pressure is often normalized to sea level. The equation below can be used to find the difference in barometric pressure at a given elevation (E; in meters) and the equivalent pressure at sea level. That value (dP) is then added to the offset in the measurement instruction.

$$dP = 101.325 \left\{ 1 - \left(1 - \frac{E}{44307.69231} \right)^{5.25328} \right\}$$

Specifications

Accuracy	± 1.5 %
Sensitivity	45.9 mV per kPa
Operating range	-40 to 125 °C
Storage temperature	-40 to 125 °C
Pressure range	15 to 115 kPa
Input power	5.0 V DC
Current draw	7.0 mA DC
Response time	1.0 ms
Full scale output	5.0 V DC
Wire	20 cm pigtail
Mass	2 g
Dimensions	5 x 1.5 cm
Warranty	1 year parts and labor



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