



Solar PV Monitoring & Analytics

Datasheet & Installation Guide Barometric Pressure Sensor [SB100]

Internet of Things

Solar Energy



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MODEL

SB100

DATASHEET

Introduction

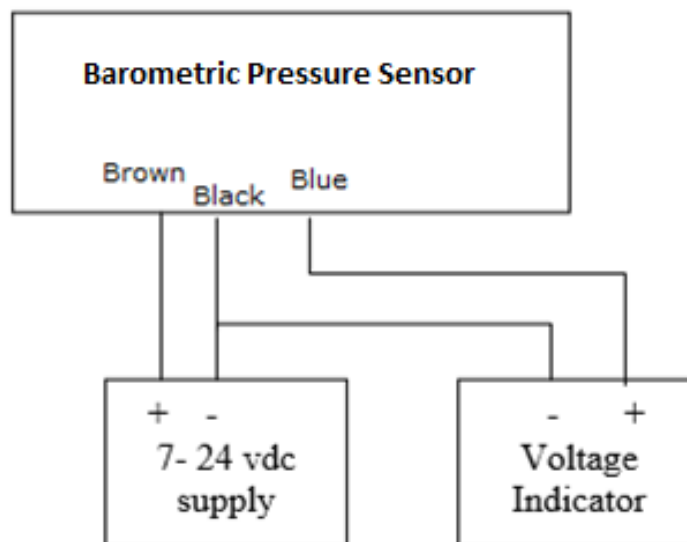
The SB-100 combines excellent performance in a small package size at an affordable price. Typical applications include pressure measurement in weather networks, often for weather forecasting and to correct the output of sensors that are sensitive to pressure changes.

Specifications

Measuring Range	0 to 115kpa
Accuracy	± 0.3%
Supply Voltage	12 to 24V
Housing	Poly Carbonate Enclosure
Protection	IP-65
Output	A. 0 – 5 VDC A, B, C are 3 different models B. 4 – 20 mA C. MODBUS RTU
Operating Temperature	40 to 80 deg C
Operating Humidity	0 to 90%
Weight Approx.	150gms
Wire Color Code	Brown: Supply Black: Gnd Blue : Output



Wiring Diagram



INSTALLATION

Guidelines

The Sensor comes factory-assembled inside an Enclosure.

The sensor can be installed at a location where they are protected from the elements, specifically, precipitation, condensation, and dynamic pressure caused by wind. The data logger enclosure should not be air tight, as the pressure sensor must be exposed to an environment where the pressure varies with ambient pressure. As a result, vent holes in the enclosure are required and should be in the bottom of the enclosure to minimize the impact of dynamic pressure caused by wind.

Tools and Materials Needed

Please make sure you have all the necessary material as mentioned below:

- Wrench or pliers
- Wire cutters and stripper
- Multi meter
- Wire ties and tabs
- Electrical Tapes to cover the wire

Might be needed for mounting:

- Drill with 3/16 in drill bit (4.7 mm) to drill pilot holes
- Adjustable wrench or 11/32 in. wrench and 7/16 in

Location Recommendation

Use the following guidelines to determine the best location for mounting the ambient temperature Sensor

- Install at a location which is free from precipitation, condensation, and dynamic pressure caused by wind
- Do not install over or near sprinklers.

Mounting

Observe the following requirements regarding the mounting location of the module temperature sensor.

Note:

1) Vent is to be kept slightly open to allow expose sensor to an environment where the pressure varies with ambient pressure



Calibration

- If using Modbus sensor, then sensor is factory calibrated.
- If using analog output sensor then use the following info to calibrate:
 - **Output:** 0 - 5 V_{DC} (0 to 115kpa)
 - **Barometric Pressure** in kpa = 23 * Sensor Output voltage (in Volt)

 - **Output:** 4-20mA (0- 115kpa)
 - **Barometric Pressure** in kpa = 7.1875 * (Output in mA - 4)
- If the cable length is insufficient for the installation, additional cable can be added to the existing cable. If this is done, an accuracy de-rating factor must be added to the overall temperature accuracy of this sensor.

It is highly recommended that the calibration be checked annually

Logger Connections

- For ANALOG output connections (Voltage or Current) , please search for '*Installation Guide – Analog Sensors*' on: <https://trackso.in/trackso-installation-manuals/>
- For MODBUS output connections, please search for '*Installation Guide – MODBUS Sensors*' on: <https://trackso.in/trackso-installation-manuals/>

Sensor Maintenance

- Over time, the sensing element may become covered in dust. The dust can be removed using compressed air.
- Under no circumstances should water or cleansing agents be used on the sensing elements. It is recommended that the accuracy of the sensor is verified every 12 months.
- DO NOT remove nesting insects or animals by spraying insect killer of any kind into the sensor as this may damage the sensors.

Disclaimer

This sensor is a low-cost alternative to the Class 1/Class 2 sensors of the same type. Since this sensor fall under no class, there will be some variation in the real vs. expected values. If you wish to minimise the error/deviation in output values, we recommend that you purchase Class 1/Class 2 sensor.

Please note this product is not manufactured by TrackSo, but sold by TrackSo, warranties are only to the limits extended by the original manufacturer.

The document is compiled only to help our customer learn about the product and install it with minimum hassles. We do not manufacture the product mentioned in this document or claim any part of it. Any information or services in this document does not constitute any endorsement or recommendation of such products or services by us. We do not warrant that the information contained in this document will be uninterrupted or error free, or that defects will be corrected. We will not be liable to you or to any other person for any direct, indirect, incidental, punitive or consequential loss, damage, cost or expense of any kind whatsoever from out of your usage of this document or the information provided therein.

Warranty

Applicable Warranty Term & Conditions is available on - <https://trackso.in/warranty/>

Repair - For all returns for repair or warranty claims, the customer must fill out a "Service Form". The form is available from our website at <https://trackso.in/service-form/>. A completed form must be submitted online. TrackSo is unable to process any returns for repair or warranty until this form is received. If the form is not received within three days of product receipt or is incomplete, the product will be returned to the customer at the customer's expense.

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