

## Barometric Pressure Smart Sensor (Part # S-BPA-CM10)

The Barometric Pressure smart sensor is designed to work with the HOBO® Weather Station Logger. The smart sensor has a plug-in modular connector that allows it to be added easily to a HOBO Weather Station. All calibration parameters are stored inside the smart sensor, which automatically communicates configuration information to the logger without any programming or extensive user setup.



Specifications	Barometric Pressure Smart Sensor
Measurement Range	660 to 1070 mbar (19.47 to 31.55 in. Hg)
Accuracy	± 3.0 mbar (0.088 in. Hg) over full pressure range at +25°C (+77°F); maximum error of ±5.0 mbar (0.148 in. Hg) over -40° to +70°C (-40° to +158°F)
Resolution	0.1 mbar (.003 in. Hg)
Drift	1.0 mbar (0.03 in. Hg) per year
Operating Temperature Range	-40° to +70°C (-40° to +158°F)
Environmental Rating	Weatherproof when used inside logger enclosure
Dimensions	4.5 x 4.8 x 1.6 cm (1 3/4 x 1 7/8 x 5/8 in)
Weight	30 g (1 oz)
Bits per Sample	12
Number of Data Channels *	1
Measurement Averaging Option	Yes
Cable Length Available	10 cm (4 in)
Length of Smart Sensor Network Cable *	0.1 m (0.3 ft)
Part Number	S-BPA-CM10
CE Specification	This product meets CE specification EN61326 criterion C for ESD, criterion C for Radiated Immunity, criterion C for Fast Transient, criterion B for Conducted Immunity, criterion A for Power Frequency Magnetic Fields, and criterion B for Radiated Emissions Group 1. To minimize measurement errors due to ambient RF, use the shortest possible probe cable length and keep the probe cable as far as possible from other cables.

\* A single HOBO Weather Station can accommodate 15 data channels and up to 100 m (328 ft) of smart sensor cable (the digital communications portion of the sensor cables).

## Barometric Pressure Smart Sensor

### Inside this Package

- Barometric Pressure smart sensor
- Mounting Accessories: Hook and loop tape

### Mounting

#### Typical Mounting

Self-adhesive hook and loop tape is supplied for mounting the sensor on top of the battery cover inside the logger enclosure (see Figure 1 below).

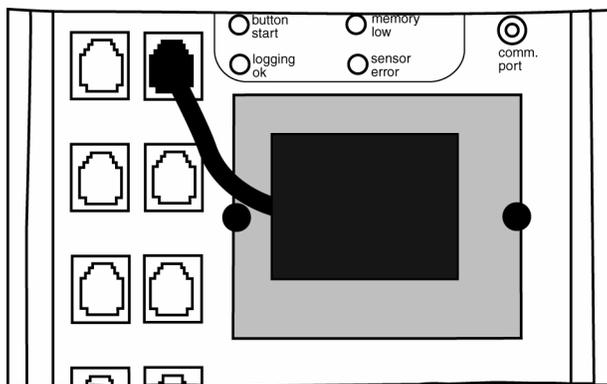


Figure 1: Barometric Pressure Smart Sensor Mounted in the HOBOWeather Station Logger

#### Mounting Considerations

- The Barometric Pressure smart sensor must be used inside the logger housing.
- The Barometric Pressure smart sensor measures the air pressure inside the enclosure. Therefore, the vent at the bottom of the enclosure must be free from obstructions for the sensor to function correctly.
- Refer to the *HOBOWeather Station User's Guide* for more information regarding setting up complete weather stations.

#### Connecting

To start using the Barometric Pressure smart sensor, stop the logger and insert the sensor's modular jack into an available port on the logger. If a port is not available, use a 1-to-2 adaptor (Onset Part # S-ADAPT), which allows you to plug two sensors into one port. The next time the HOBOWeather Station is launched it will automatically detect the new sensor. Note that the HOBOWeather Station supports a maximum of 15 data channels; this sensor uses one data channel. Launch the logger and verify that the sensor is functioning correctly. See the *HOBOWeather Station User's Guide* for more details about connecting smart sensors to the HOBOWeather Station.

## **Operation**

The Barometric Pressure smart sensor supports measurement averaging. When measurement averaging is enabled, data is sampled more frequently than it is logged. The multiple samples are then averaged together and the average value is stored as the data for the interval. For example, if the logging interval is set at 10 minutes and the sampling interval is set at 1 minute, each data point in the data file will be the average of 10 measurements. Measurement averaging is useful for reducing noise in the data. It is recommended that measurement averaging be used when the Barometric Pressure smart sensor is used in a windy location. Note that fast sampling intervals (less than 1 minute) may significantly reduce battery life. Refer to the *HOBO Weather Station User's Guide* for more details about smart sensor operation and battery life.

## **Maintenance**

Use a damp sponge or rag to clean the Barometric Pressure smart sensor housing if it gets dirty or needs to be cleaned. Under no circumstances should the unit be immersed in water or any other cleaning solvent. Do not open the sensor as there are no user serviceable parts inside. The electronics are sensitive to light. Do not remove the black label over the sensor. The sensor will give inaccurate measurements if exposed to light.

## **Verifying Sensor Accuracy**

It is recommended that you check the accuracy of the Barometric Pressure smart sensor annually. The Barometric Pressure smart sensor cannot be re-calibrated. Onset uses precision components to obtain accurate measurements. If the smart sensor is not providing accurate data, then it may be damaged and should be replaced. If you are unsure of the smart sensor's accuracy, you can send the smart sensor back to Onset for re-certification. Contact Onset or your dealer for a Return Merchandise Authorization (RMA) number before sending it.

## **Warranty**

As part of Onset's ongoing efforts to provide 100% customer satisfaction, our Continuing Engineering Group constantly monitors and evaluates all of our products and software. In the unlikely event any significant defect is found, Onset will notify you. If you find a defect, please e-mail us at [loggerhelp@onsetcomp.com](mailto:loggerhelp@onsetcomp.com).

Onset Computer Corporation (Onset) warrants to the original end-user purchaser for a period of **one year** from the date of original purchase that the HOBO product(s) purchased will be free from defect in material and workmanship. During the warranty period Onset will, at its option, either repair or replace products that prove to be defective in material or workmanship. This warranty shall terminate and be of no further effect at the time the product is (1) damaged by extraneous cause such as fire, water, lightning, etc. or not maintained in accordance with the accompanying documentation; (2) modified; (3) improperly installed; (4) repaired by someone other than Onset; or (5) used in a manner or purpose for which the product was not intended.

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### **Returns**

Please direct all warranty claims and repair requests to place of purchase.

Before returning a failed unit directly to Onset, you must obtain a Return Merchandise Authorization (RMA) number from Onset. You must provide proof that you purchased the Onset product(s) directly from Onset (purchase order number or Onset invoice number). Onset will issue an RMA number that is valid for 30 days. You must ship the product(s), properly packaged against further damage, to Onset (at your expense) with the RMA number marked clearly on the outside of the package. Onset is not responsible for any package that is returned without a valid RMA number or for the loss of the package by any shipping company. Loggers and sensors must be clean before they are sent back to Onset or they may be returned to you.

### **Repair Policy**

Products that are returned after the warranty period or are damaged by the customer as specified in the warranty provisions can be returned to Onset with a valid RMA number for evaluation.

### **ASAP Repair Policy**

For an additional charge, Onset will expedite the repair of a returned product.

### **Tune Up Service**

Onset will examine and retest any HOBO data logger or sensor.

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**CE** The CE Marking identifies this product as complying with the relevant directives in the European Union (EU).

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