

Smart Sensor Expansion Board

Description

The Smart Sensor Expansion Board accepts up to twelve HOB0® Smart Sensors, such as the plug-and-play Temperature, Relative Humidity, Soil Moisture, and Wind Speed sensors. The board connects directly to DataGarrison Stations or can be dropped into any third party ModBus RTU network.

Up to 15 Expansion Boards can be stacked together. And any combination of Expansion Boards (Smart Sensor or Analog Input boards) can be stacked together.

ModBus Protocol

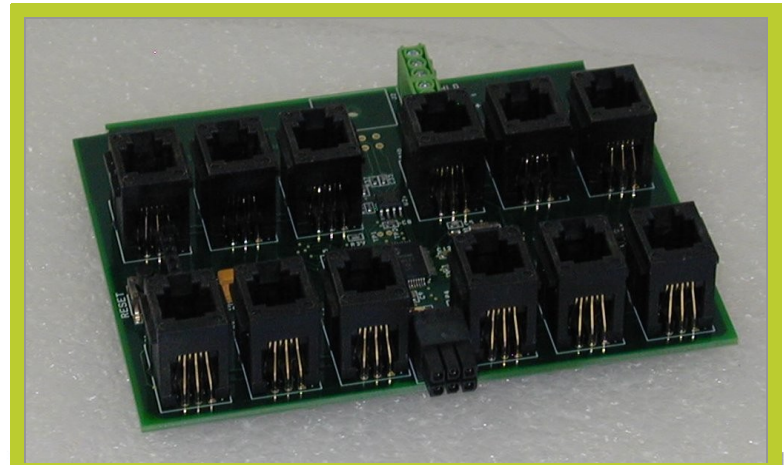
Real time data from HOB0® Smart Sensors can be gathered via the industry standard ModBus RTU protocol. Whether being used with a DataGarrison Station or a third party device, pre-defined ModBus registers are available for data logging, transmission, or real time display.

Low Power Operation

Both the Analog and Smart Sensor Expansion Boards use an average of less than 100 uA during standard operation. This means they can be used in most remote locations with as little as a 1 watt solar panel and 2 AH battery. The standard charging system of DataGarrison Stations is more than twice this size and provides ample power to accept several Expansion Boards at once. All DataGarrison Stations employ Smart Charging solar technology that automatically compensates for temperature variations, maximizing the electrical conversion of incoming solar energy.

Industrial Temperature Range

All Expansion Boards are designed to operate between -40 and 85 C.



**“It's more than an expansion board,
It's a HOB0® to ModBus Interface.”**

-DataGarrison Lead Engineer Glenn Greenough

Features

- Plug-and-play with DataGarrison Stations.
- Ultra-low power consumption.
- 12 channels (up to 36 parameters) available.
- Wide operating temperature (-40 to 85C).
- HOB0® Smart Sensor to ModBus Interface.
- Stackable design allows 10 or more expansion boards to be used together.
- Can be used with Analog Expansion Board.
- Compatible with industry standard ModBus devices and networks.

Smart Sensor Expansion Board

Specifications

Temperature Range	-40 to 85 C (-40 to 185 F)
Voltage and Current	5 to 14 volts. Maximum current 500 mA. Average Current Consumption < 100 uA.
Weight	0.2 kg
Dimensions	12.7 X 7.6 X 2.5 cm (5 X 4 X 1 inches)
Environmental Rating	Not NEMA rated. Must be installed inside a NEMA rated weatherproof enclosure for outdoor use.
Communication	ModBus RTU. Default Baud Rate: 19200. Default ModBus Address: 129
LED	A slow flashing LED indicates proper operation. Rapid flickering LED indicates RS-485 line activity. Press reset button if LED is off or solid.
Data Format	Sensor data available in ASCII and integer format. Integer values must be divided by 1000. See the attached ModBus register map for details.

DataGarrison Station Plug-and-play Compatibility

With the push of a button, data from the Expansion Board will be transmitted directly to a secure user account at DataGarrison.com when installed in a pre-configured DataGarrison Station.



**DON'T CLIMB A MOUNTAIN TO
GET YOUR DATA**

DataGarrison Stations
<https://DataGarrison.com>

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