

# Analog Input Expansion Board

## Description

The Analog Input Expansion Board accepts up to eight analog signals. On-board dip switches select either 0 to 5 V or 4 to 20 mA operation for each channel. The board is compatible with virtually any sensor with an analog output, such as pressure transducers, ultrasonic level gauges, and flow meters. It 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

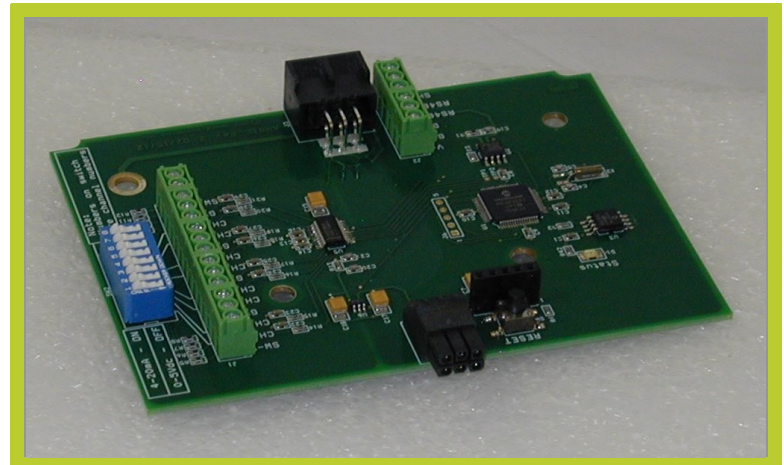
Real time data can be gathered via the industry standard ModBus RTU protocol. Whether being used with a DataGarrison Station or a third party device, pre-defined ModBus registers are available for data logging, transmission, and real time display.

## 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.



**“There's no easier way to get analog signals online.”**

**-DataGarrison Systems Engineer Skip Pelletier**

## Features

- Plug-and-play with DataGarrison Stations.
- Ultra-low power consumption.
- Eight analog inputs available.
- Wide operating temperature (-40 to 85C).
- High quality 16-bit resolution in each channel.
- Stackable design allows 10 or more expansion boards to be used together.
- Can be used with Smart Sensor Expansion Board.
- Compatible with industry standard ModBus devices and networks.

# Analog Input 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: 3
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 16-bit unsigned integer format. Full scale (65535) corresponds to either 5 V or 20 mA depending on dip switch position. A reading of zero likewise corresponds to 0 V or 0 mA.

## 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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