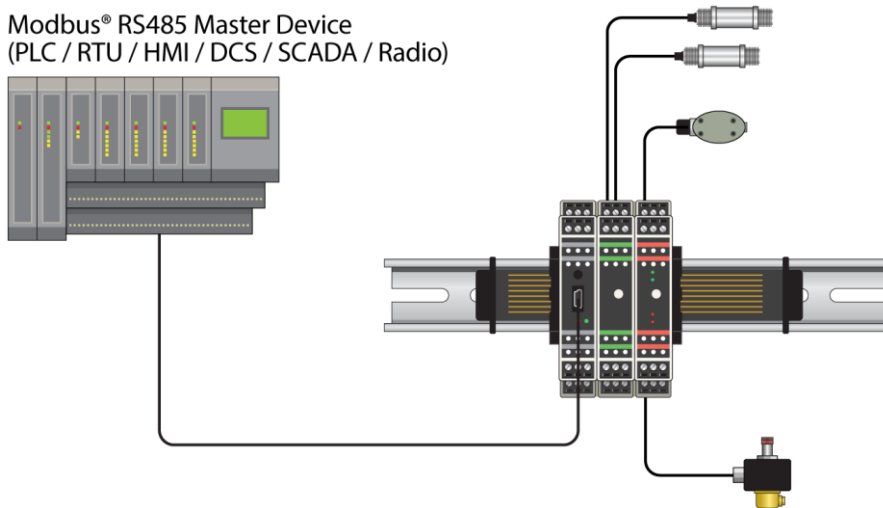# DATASHEET

Modbus® RS485 I/O System
BM-1000-PM1K

The Modbus RS485 I/O System provides an easy and cost-effective way to connect local digital and analog devices to any Modbus master, such as SCADA systems or PLCs. This system requires no configuration or network mapping, as each I/O module appears as a slave device on the Modbus network with a pre-configured data map. I/O modules are conveniently powered from the Modbus RS485 module via the DIN rail mounted DataRail backplane. Up to 16 I/O modules can be added to one Modbus network, making it easy to add the devices you need. The system can also be used in conjunction with ProSoft Frequency Hopping radios for remote applications.

Modbus® RS485 Master Device
(PLC / RTU / HMI / DCS / SCADA / Radio)

Features

♦ *Easy to use*: No software configuration required.

♦ *Easy to install*: Mounts onto a 35 mm DIN rail without any tools.

♦ *Isolated*: Each I/O Module provides field isolated inputs and outputs.

♦ *Scalable*: Modbus RS485 module supports a multitude of I/O Modules. See specs for details.

♦ *Less wire clutter*: Single power termination.

♦ *Flexible*: the same I/O Modules can be utilized for wireless applications with Wireless I/O Radio Kit.

♦ Works with any RS485 Modbus Master / standalone system.

♦ Customize I/O using Digital, 0-10 V, and/or 4-20 mA options.

♦ 24-bit high-resolution Analog inputs.

♦ Wiring label on each device for quick reference.

♦ Color-coded labels for easy device identification.
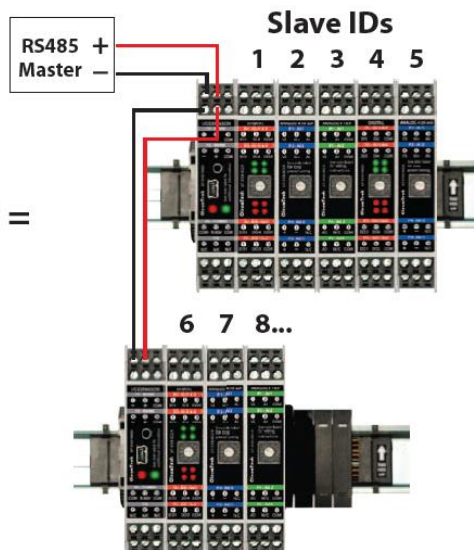
Specifications

Hardware & System

Specification	Description
Unique Features	Works with any Modbus RS485 master device No software configuration required Single point power termination
Maximum Network Capacity*	Max capacity depends on I/O combination. Power Budget Calculator http://psft.com/A7T
I/O Module Slave ID Selection	16-Position rotary switch (+1 for Modbus slave ID)
DIN Rail Mounting Compatibility	35 mm x 7.5 mm DIN rail
DataRail™ (Included w/ Kit)	6.1 in / 156 mm - Supports up to Exp. +5x I/O modules. Other lengths also available.
Auto-Detection of Modules	Yes, via DataRail at power-up
DataRail Mounting Hardware	4-Claw attachment to 35 mm DIN rail with end terminal bracket
Built-In Mounting Hardware	Spring-loaded clip-on system
Wire Gauge	Solid / stranded (AWG) 28-12 gauge
Wire Rating	UL: 300 V RMS, 80 °C and 300 V, 105 °C CSA: 300 V RMS, 105 °C
Warranty	2-Year limited

*When using more than a 5-Module Combination per system, use the Power Budget Calculator to determine maximum I/O Module capacity.

Modbus RS485 Module

Specification	Description
Baud Rate	9600 bits per second
Data Bits	8
Parity / Stop Bits	None / 1
Modbus Slave Addressing	Supports up to 16 addresses / I/O devices*
Red LED (Left)	Power
Green LED (Right)	USB-ready (For firmware update)
Supply Voltage Range	9 to 30 VDC (± 5%)
Reverse Polarity Protection	Yes
Power Consumption	Typical: 20 mA / Max: 24 mA @12 VDC
Packaging Dimensions (WxHxD)	5.5 x 10.1 x 2.8 in / 140 x 257 x 72 mm
Net Dimensions (WxHxD)	0.7 x 3.9 x 4.5 in / 17.5 x 99 x 114 mm
Packaging Weight	0.8 lbs / 363 g
Net Weight	0.3 lbs / 136 g

Safety & Compliance

Specification	Description
Operational Temperature	-40 °C to 80 °C / -40 °F to 176 °F
Storage Temperature	-20 °C to 85 °C / -4 °F to 185 °F
Humidity	0 to 99 %, Non-condensing
Degree of Protection / Housing	IP20 / Plastic
Hazardous Locations	Class I; Division 2 (Zone 2)

Additional Products

ProSoft Technology® offers a full complement of hardware and software solutions for a wide variety of industrial communication platforms. For a complete list of products, visit our web site at: www.prosoft-technology.com

Ordering Information

To order this product, please use the following:

Modbus RS485 I/O System

Modbus RS485 Module Kit

BM-1000-PM1K

Digital I/O

BM-D100-144S (1-Pack)
BM-D100-144D (2-Pack)

Analog 4-20 mA I/O

BM-A420-122S (1-Pack)
BM-A420-122D (2-Pack)

Analog 0-10 V I/O

BM-A010-122S (1-Pack)
BM-A010-122D (2-Pack)

To place an order, please contact your local ProSoft Technology distributor. For a list of ProSoft Technology distributors near you, go to:
www.prosoft-technology.com
and select *Where to Buy* from the menu.