



Power Meter Monitor

Business and Mission-

Critical Solutions Provider

Ethernet - Serial Media Converter

Data Sheet



Model: PMM0501

Document: Data Sheet

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DECLARATION OF CONFORMITY

This restriction is subject to protect the operational process of the system in the business environment, which will produce, use, and transmit radiofrequency energy. Harmful interference to radio communication could result if instructions to the correct installation and usage were not applied. The interference prevention cannot be guaranteed even with proper installation according to the manual. If the device causes a bad effect on the radio / TV signal. The user could preclude that by turning the device on/off.

When this device produces some harmful interference, the user can use the following measure to solve the interference problem:

1-Setting the receiving antenna's direction or location to increase the distance between this device and receiver.

2-Plug in the device's power connector into different circuits of the power outlet with the receiver.

3-If any technical support is needed, the dealer or experienced radio/TV technical personnel must be informed.

TECHNICAL SUPPORT AND SERVICE

Visit Pmm-usa.us to browse FAQs and get further details.

User should collect the following information before submitting technical support and service requests:

- Product name, model and serial number.
- Installed software (operating system, OS version, installed applications and so on).
- Full description of the problem
- Detailed information about every error.

SAFETY INSTRUCTIONS

- Only trained and qualified personnel can install, operate, or maintain the device.
- Before starting the installation, all safety precautions must be read, and warning labels affixed to the device must be observed. Doing so protects the device from damage and ensures your safety.
- Safety precautions provided in this document may not cover all safety aspects, note to always remain mindful of safety.
- PMM is not liable for any consequence that results from violation of regulations pertaining to safe operations or safety codes pertaining to design, production, and equipment usage.
- DO NOT use liquids or decontamination spray to clean the device surface and assure that it is totally disconnected while cleaning.
- Take all measures to prevent device drop before or during installation.
- Prior to connecting the device to power source, ensure the source and device voltage and power are 100% matched.
- Keep the cables in a suitable covered place.
- If the device is not used for a long time, shut off the power to avoid the damages by transient overvoltage.
- DO NOT allow any liquid flow into the device; to avoid fire or short circuit.
- The recommended storage temperature range should NOT be less than 30°C OR higher than 85°C.



Warning:

- Read the power source and device inlet carefully.
- Handle device with both hands.
- Clean and maintain the device using recommended, safe and suitable methods.



Caution:

If any unauthorized changes of settings or repairs are done without PMM approval; then user's rights of controlling this device will be canceled.

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KEY FEATURES

- Converts smoothly Between Ethernet to serial (bridge)
- Up to 4 simultaneous Ethernet masters
- Can be used as Modbus converter through using PMM Vcom windows software
- Effortless configuration via web-based wizard
- 32-bit ARM core microcontroller, with 48 MHz clock
- Embedded traffic monitoring with diagnostic information for easy trouble shooting
- Baud rate: up to 1Mbps
- Operating temperature: -40 to 75oC (-40° to 167°F)
- EMI, EMS, EMC and shock protected
- 10-56VDC Supply voltage with Overvoltage and reverse polarity protection
- 2 or 4 Serial ports with power surge $\pm 2.5\text{kV}$ isolation protection

DESCRIPTION

PMM0501 hardware provides the flexibility needed to fulfill the various conditions that arise with field devices that use different communication protocols to connect any type of industrial solution network such as the SCADA system. This slave device is effortlessly incorporated into an existing Modbus TCP network from any Modbus RTU device.

PMM0501 industrial grade media converter can function under harsh environmental conditions of any site. It is especially designed to meet all power substations and PV plants requirements. Furthermore, it covers all field standards of power, reliability, easy configuration and long- lasting life.

This device can be ordered with multiple powersupply ratings to select from.

APPLICATIONS

PMM0501 can perform efficiently and effectively in the PV, substation and industrial applications as:

- Ethernet - RS485 General Converter

TECHNICAL SPECIFICATIONS

Interfaces

Serial	2 or 4 customized Serial ports of the following options: <ul style="list-style-type: none">Isolated RSR85 portIsolated RS422 portIsolated RS232 port
Ethernet	1x 10/100/1000Base-T RJ45
LED Indicators	2x LED for full duplex

Power Parameters

Input Power Supply Options	10-48 VAC / 10-60 VDC
Power Connector	Phoenix Contact 4 pins 3.5mm

Physical Characteristics

Housing	Plastic
Dimensions	Dimensions 4.05 x 4.05 x 1.45 inch (103 x 103 x 36.83mm)
Mounting Options	DIN Rail

ORDERING INFORMATION

Order Configuration Table

PMM0501 (2x Serial Ports)		-09xx
COM Port 1		
RS485 (PMM0912)		-0912
COM Port 2		
RS485 (PMM0912)		-0912
PMM0501 (4x Serial Ports)		-09xx
COM Port 1		
RS485 (PMM0912)		-0912
COM Port 2		
RS485 (PMM0912)		-0912
COM Port 3		
RS485 (PMM0912)		-0912
COM Port 4		
RS485 (PMM0912)		-0912

Accessories

DIN Mounting Kit (Included 1Kit)	DIN Rail Mounting Bracket
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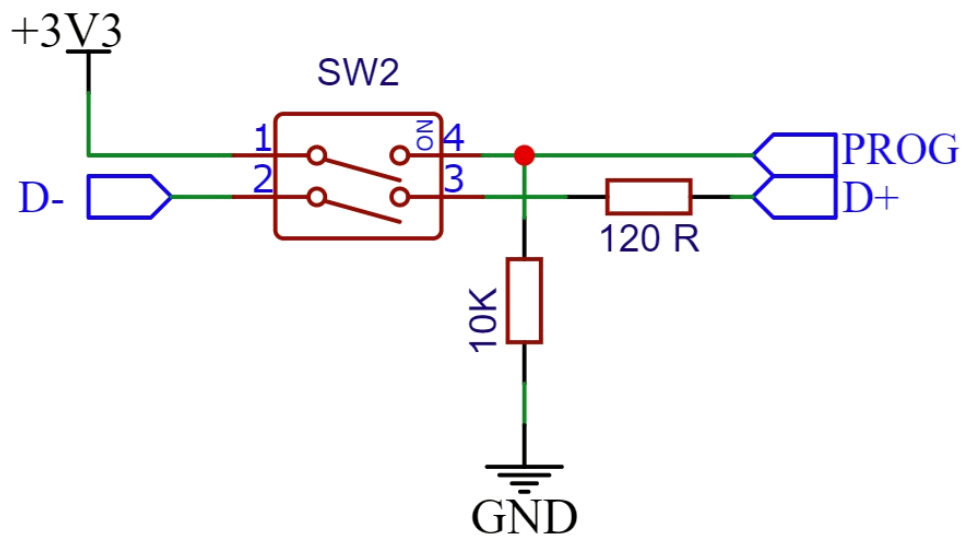
CONTACT INFORMATION:

For direct inquiries or any customized orders,
contact us on sales@Pmm-usa.us

HARDWARE CONFIGURATION

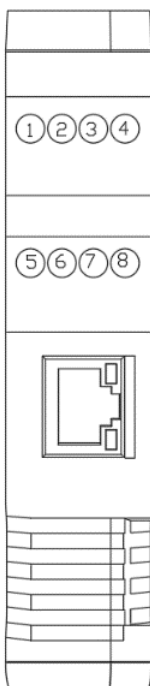
Termination resistor is needed to avoid data-corrupting reflections and expand the network between D+ and D- lines for the RS485.

- Turn on the dip switch (closed circuit) to have a termination resistor of 120Ω between D+ and D- lines.
- The other dip switch is for PROG mode, it is used to switch between two customized modes. As shown in the figure below.



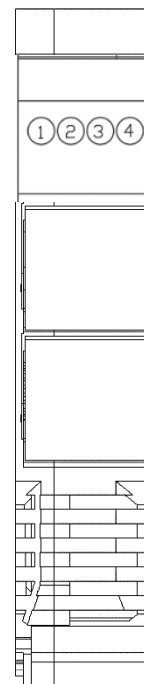
PINS ASSIGNMENTS

TOP VIEW



1. D- (RS485)
2. D+ (RS485)
3. Earth
4. Earth
5. V DC+ (9-56)
6. V DC- (9-56)
7. Earth
8. Earth

BOTTOM VIEW



1. D+ (RS485)
2. Earth
3. D- (RS485)
4. Earth

HARDWARE CONNECTIONS

- **Connecting Power**

PMM0501 has customized power supply options including: 10-48V AC and 10-60V DC based on these options connect the power line to the terminal block (POWER) as shown in the figure below.

PMM0501 does not have on/off switch thus the device turns on automatically when receiving power.

- **Connecting Serial Device**

PMM0501 has two or four serial ports; If you are connecting an RS485 multidrop network with multiple devices, note the following:

1. All devices that are connected to a single serial port must use the same protocol (i.e., either Modbus RTU or Modbus ASCII).
2. For the first port connect the D+ with pin no.1 and D- with pin no.2 and Earth with pin no.7 or 8 as illustrated in the pin's assignments to complete the connection successfully.
3. For the second port connect the D+ with pin no.1 and D- with pin no.3 and Earth with pin no.2 or 4 as illustrated in the pin's assignments to complete the connection successfully.
4. Turn on the dip switch to have 120 Ω termination resistor between the D+ and D- lines. Refer hardware configuration section.

- **Connecting to a Host or the Network**

There is a 10/100 Ethernet port at the unit's front panel. This port is used to connect the unit with a host or Ethernet network.

ENCLOSURE DIMENSIONS

