



Power Meter Monitor

**Business and Mission-
Critical Solutions Provider**

MBUS TO MODEBUS BusLink

Data Sheet



Model: PMM0648M
Document: Data Sheet
Document version: 1.1
Date: November 2022



COPYRIGHT NOTICE

The information in this document is subject to change without prior notice to improve reliability, design, and function and does not represent a commitment on the part of the manufacturer.

In no event will the manufacturer be liable for direct, indirect, special, incidental, or consequential damage arising out of the use or inability to use the product or documentation, even if advised of the possibility of such damages.

This document contains proprietary information protected by copyright. All rights are reserved. No part of this manual may be reproduced by any mechanical, electronic, or other means in any form without prior written permission of the manufacturer.

TRADEMARKS

All registered trademarks and product names mentioned herein are used for identification purposes only and may be trademarks and/or registered trademarks of their respective owners.

AMI is a trademark of American Megatrends Inc.

Intel & Atom are trademarks of Intel Corporation

IBM, PC/AT, PS/2&VGA are trademarks of International Business Machines Corporation Microsoft Windows is a trademark of Microsoft Corp. RTL is the trademark of Realtek Semiconductor Co., Ltd.

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.

Contents

DESCRIPTION 4

APPLICATIONS..... 4

KEY FEATURES..... 4

TECHNICAL SPECIFICATIONS 5

HARDWARE CONFIGURATION 5

PINS ASSIGNMENTS 6

ENCLOSURE DIMENSIONS..... 7

ORDERING INFORMATION 8

CONTACT INFORMATION:..... 8

KEY FEATURES

- Simple to set up and cost effective
- Converter dedicated to support up to 250 units of M-Bus meters
- Baud rate: from 300 to 38400 bit/s
- M-Bus short connection protection
- Galvanic isolated power- input and output interfaces
- 1x Ethernet 10/100 port
- 1x Serial RS485 port with power surge $\pm 2.5\text{kV}$ isolation protection
- Overvoltage and reverse polarity protected
- Onboard Termination resistor via dip switch
- Wide range of power supply options 10-60 VDC (10-48 VAC)
- 5000V system/field isolation
- EMI, EMS, EMC and shock protected
- -40 to 80 °C Operating temperature
- 5% to 90% Non-condensing Relative Humidity
- Standard 35mm din rail mounting bracket
- Mounting type: on DIN rail

DESCRIPTION

PMM0648M is a reliable, and simple to set up interface converter that allows M-Bus devices to communicate on a Modbus-TCP network. The gateway decodes M-Bus telegrams making it possible to map meter values to Modbus registers. This enables central control and supervision of measuring devices which usually use the M-Bus protocol.

APPLICATIONS

It can be widely used in but not limited to the following applications

- Industrial monitoring
- Residential monitoring
- Commercial monitoring
- Water/Heat metering
- Electricity metering
- Gas metering

TECHNICAL SPECIFICATIONS

Interfaces

Serial	1x RSR85 port
Ethernet	1x 10/100
USB	1x USB2.0 Type micro-B
MBUS	1 MBUS
LED Indicators	1x LED for Tx and 1x LED for Rx for communication over RS485 port indication

Power Parameters

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

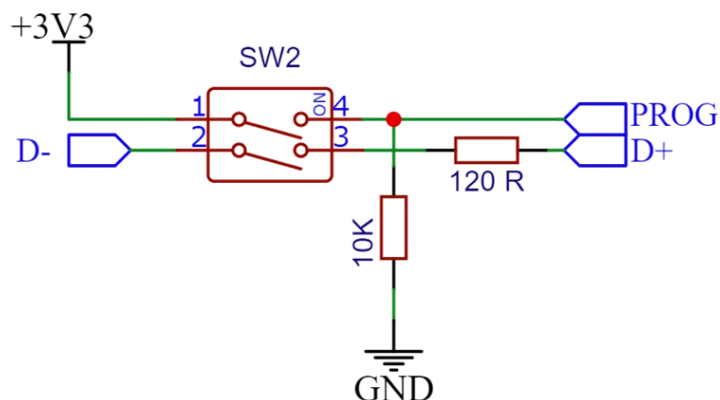
Physical Characteristics

Housing	Polyamide (Nylon 6.66)/PA
Dimensions	3.91x4.37x0.99 inch (99.4x111.2x22.6 mm)
Mounting Options	DIN Rail
Degree of protection	IP45

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.

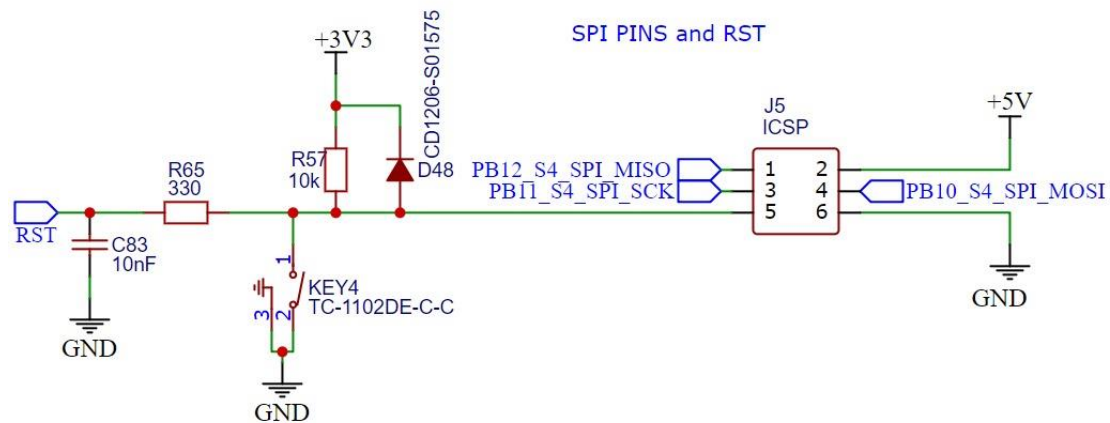


PMM0648M can be alternatively switched between two preprogrammed modes through the second dip switch.

- Turn on the dip switch (closed circuit) on mode number one to enable the device to run in the first functional programmed mode.
- Turn on the dip switch (closed circuit) on mode number two to enable the device to run in the second functional programmed mode.
- In case of not choosing any modes by the user the device will run in the general/default mode.

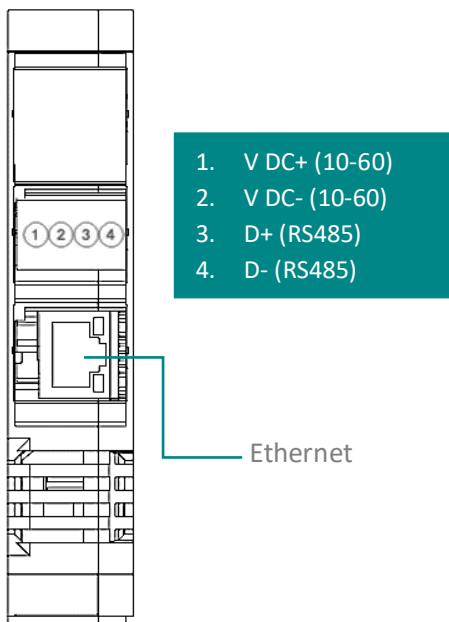
In addition, there is a reset button enabling the user to reset the device to the default settings.

- In order to reset the device; push the reset button.
- The device will reset automatically to the default settings.

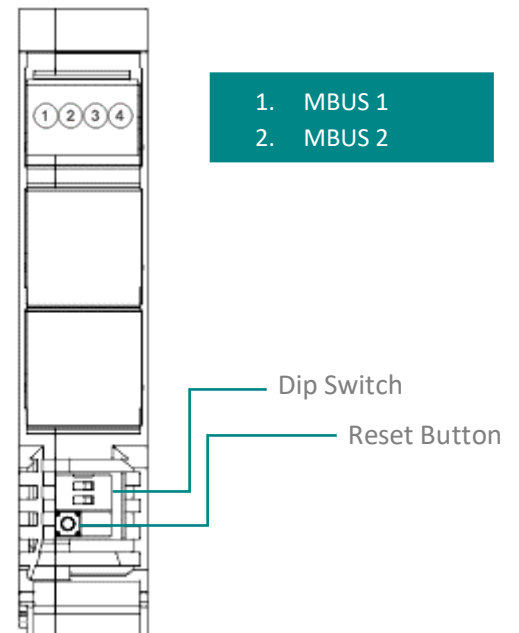


PINS ASSIGNMENTS

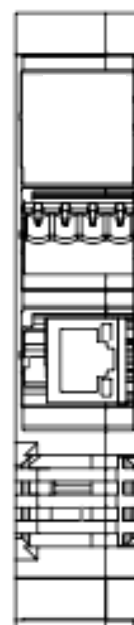
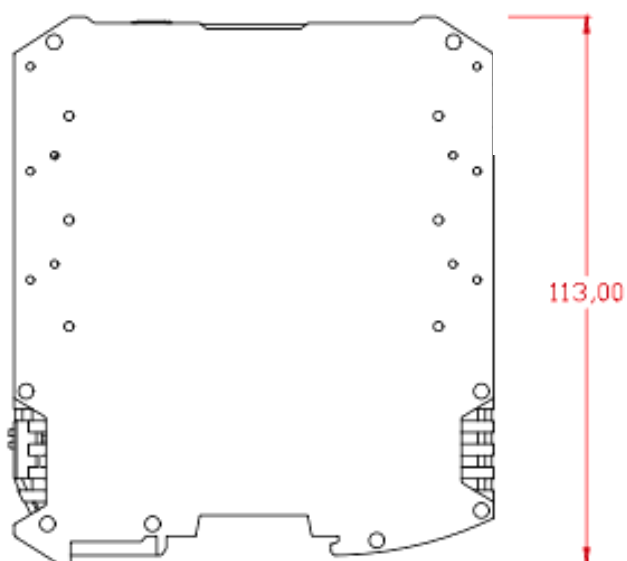
TOP VIEW



BOTTOM VIEW



ENCLOSURE DIMENSIONS



ORDERING INFORMATION

Order Configuration Table

PMM0648M		-09xx
COM Port 1		
RS485 (PMM0912)		-0912
COM port 2 (Same as COM port 1 options)		-09XX
RS485 (PMM0912)		-0912

Accessories

DIN Mounting Kit (Included 1 Kit)	DIN Rail Mounting Bracket
-----------------------------------	---------------------------

CONTACT INFORMATION:

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