



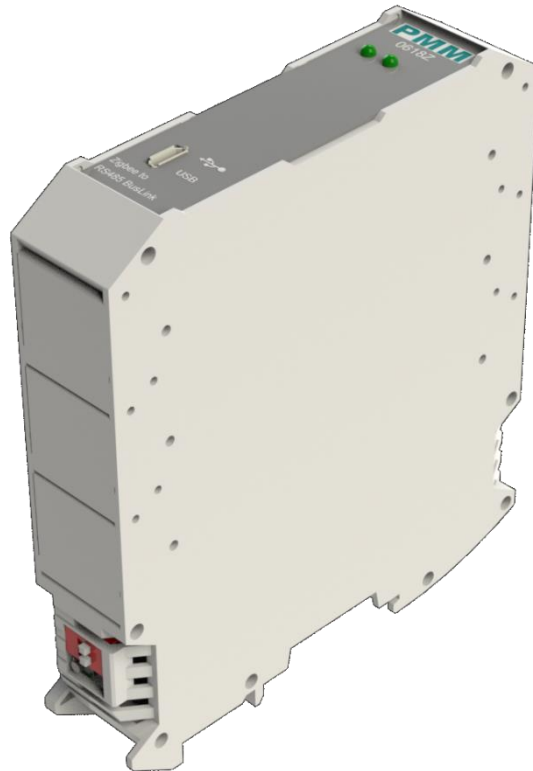
Power Meter Monitor

**Business and Mission-**

**Critical Solutions Provider**

## ZIGBEE to RS485 BusLink

# Data Sheet



**Model:** PMM0618L

**Document:** Data Sheet

**Document version:** 1.1

**Date:** November 2022

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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](http://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

- Simple to set up and cost effective
- Support Modbus protocol devices
- Protocol converter from Modbus/RTU to ZigBee
- Coordinator function for a ZigBee network
- Local memory stores battery powered sensors data
- Transparent bridge towards other Modbus devices
- External antenna
- 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

## DESCRIPTION

PMM0618Z is a reliable, and simple to set up interface converter that implements data exchange. It allows the user to monitor and control RS485 devices and reach extremely long ranges. It provides ultra-long range spread spectrum communication, and high interference immunity while minimizing current consumption.

An interface between a PLC or a Personal Computer and the network of 4-noks ZigBee devices using a universal standard protocol such as Modbus/RTU via RS485 serial interface. The use of Modbus protocol guarantees an immediate use of all commercial PLC and many SCADA for PCs. Its role in the ZigBee network is Coordinator: i.e., it forms an active part of creating the network and maintaining wireless traffic from and to other similar devices.

Furthermore, it can function as parent device for battery powered sensors of the same family and saves data that they asynchronously send regardless of Modbus requests. In conjunction with the bridge ZR-BR-485-EM, this gateway offers a transparent Modbus channel.

## APPLICATIONS

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

- Drive and positioning of Single or Dual Axis Solar Trackers
- Integration of Sat Control equipment into existing control-room technology
- Automatic update of firmware from Sigma via (OTA)
- Data interface in accordance with the MODBUS communication standards in the field of automation technology
- Simple and fast installation, high reliability  
Possibility of replacing the LoRa and ZigBee interface without replacing the converter
- Direct communication with the Sigma Solar Server via RS485 Service Interface
- Meets the requirements of the EU Low-Voltage Directive for grid safety management
- ZigBee Wireless network, easy installation which means no communication cables for installation on ground
- Less chances of spreading damages due to lightning strike

## TECHNICAL SPECIFICATIONS

### Interfaces

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

### Power Parameters

Input Power Supply Options	9-56 VDC (10-40 VAC)
Power Connector	Phoenix Contact 4 pins 3.5mm

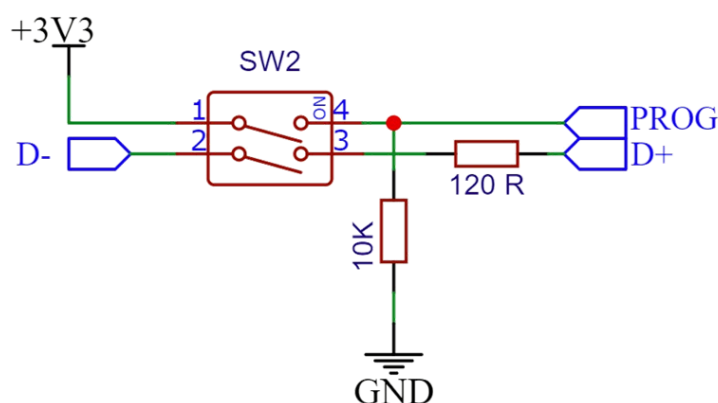
### Physical Characteristics

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.

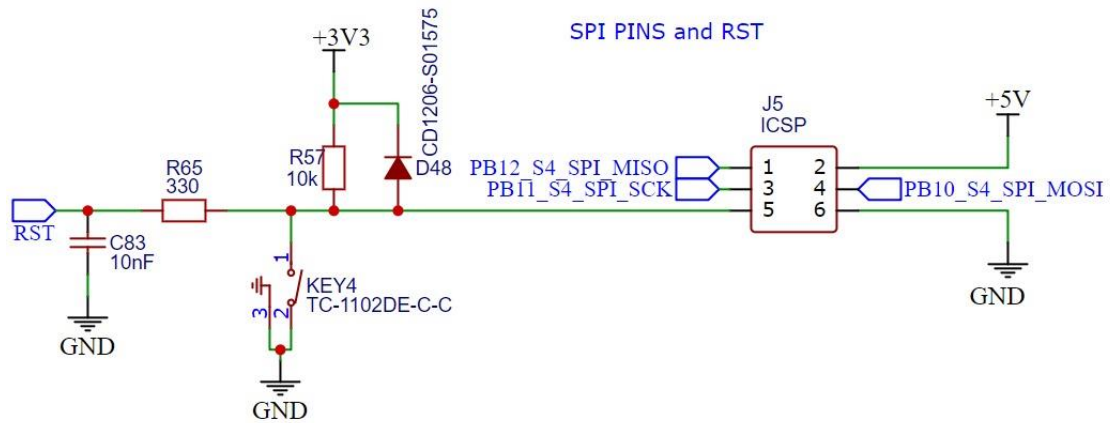


PMM0618Z can be alternatively switched between two preprogrammed modes through the second dip switch.

- 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.

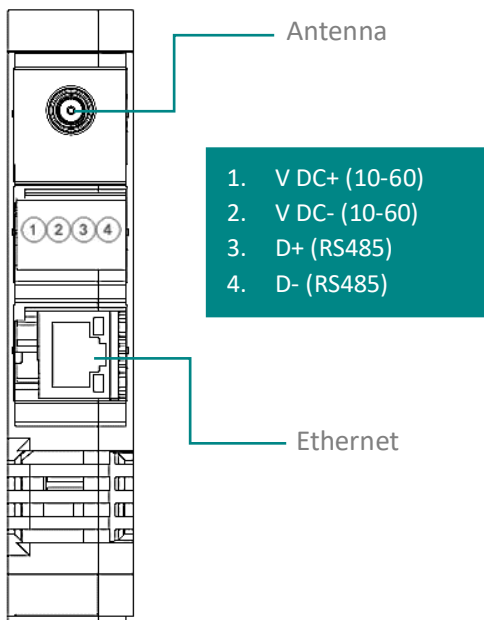
In addition, there is a reset button enabling the user to reset the device to the default settings.

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

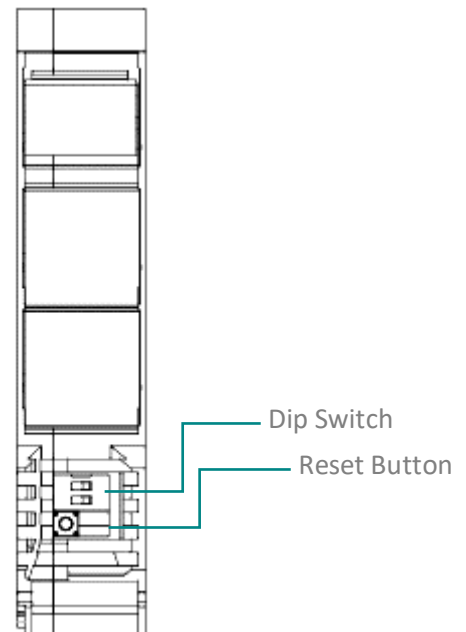


## PINS ASSIGNMENTS

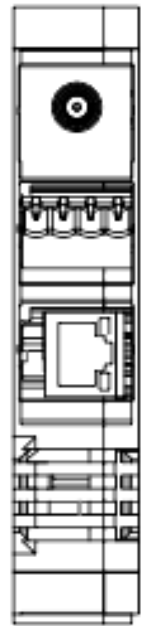
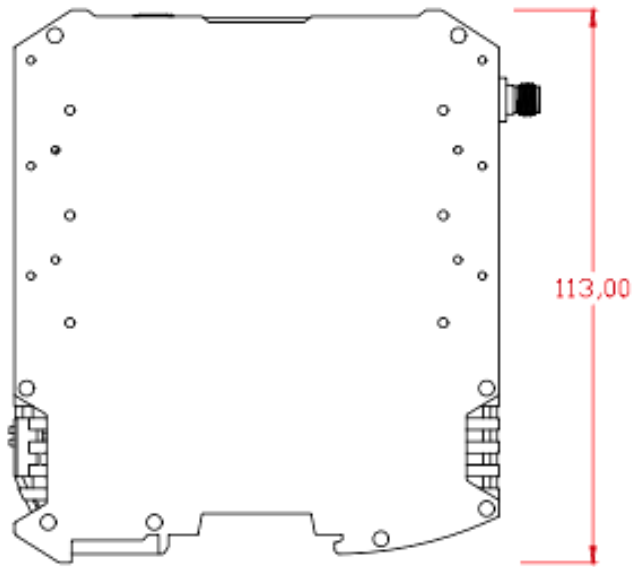
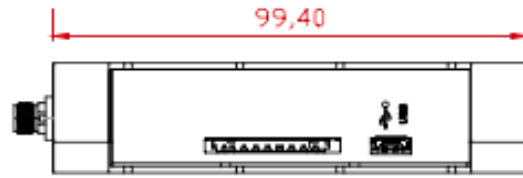
### TOP VIEW



### BOTTOM VIEW



## ENCLOSURE DIMENSIONS



## ORDERING INFORMATION

### Order Configuration Table

<b>PMM0618Z</b>	-09xx
<b>COM Port 1</b>	
RS485 (PMM0912)	-0912
<b>COM port 2 (Same as COM port 1 options)</b>	-09XX
RS485 (PMM0912)	-0912

### Accessories

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

For direct inquiries or any customized orders, contact us on [sales@Pmm-usa.us](mailto:sales@Pmm-usa.us)