DNP3 - Modbus Protocol Gateway

Data Sheet

Model: PMM0404
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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

- Supports Modbus RTU/ASCII/TCP, master/slave and slave/server
- Supports DNP3 serial/TCP/UDP master and outstation (level 2)
- DNP3 master mode supports up to 26600 points
- Supports time-synchronization through DNP3
- Effortless configuration via web-based wizard
- Built-in ethernet cascading for easy wiring
- Embedded traffic monitoring as well as diagnostic information for easy trouble shooting
- MicroSD card for configuration backup and duplication for event logs
- Status monitoring and fault protection for easy maintenance
- Redundant dual DC power inputs and relay output
- Operating temperature: -40 to 75°C
- Storage temperature: -40 to 85°C
- EMI, EMS, EMC and shock protected
- Serial port with power surge 2kV isolation protection
- Security features based on IEC 62443

DESCRIPTION

PMM0404 is a highly configurable industrial ethernet gateway device which is capable of performing protocol conversion on Modbus and DNP3 Networks. It supports Modbus RTU/ASCII/TCP, IEC 60870-5-101 and IEC 60870-5-104 network communications. PMM0404 provides the flexibility needed to fulfill the various conditions that arise with field devices that use different communication protocols to connect to a SCADA system.

PMM0404 gateways support a system log function that records events; users can easily review log data remotely through the web interface. The gateways also support status monitoring and fault protection functions. The status monitoring function notifies a Power SCADA system. When a device gets disconnected or does not respond, in such case the SCADA system gets the status of each end device and then issues alarms to notify operators.

PMM0404 can be contained within multiple hardware chassis which are designed with a wide range of highly configurable communication ports needed in the field. All hardware chassis are rugged, powerful, reliable, fanless industrial computers, covering a wide range of power supply options that offer a high level of performance and low level of power consumption. The system is especially designed to meet all power substations requirements. Furthermore, it covers all field standards of power, reliability and easy configuration.

SOFTWARE SPECIFICATIONS

Ethernet Software Features

Protocols	Modbus TCP Client (Master), Modbus TCP Server (Slave),DNP3 TCP Master, DNP3 TCP Outstation
Configuration Options	Web Console (HTTP/HTTPS), Device Search Utility (DSU), Telnet Console
Time Management	NTP Client

Serial Software Features

Protocols	Modbus RTU/ASCII Master, Modbus RTU/ASCII Slave, DNP3 Serial Master, DNP3 Serial Outstation
Configuration Options	Serial Console

Modbus RTU/ (ASCII Optional)

Mode	Master, Slave
Functions Supported	1, 2, 3, 4, 5, 6, 15, 16, 23
Max. No. of Commands	100

Modbus TCP

Mode	Client (Master), Server (Slave)
Functions Supported	1, 2, 3, 4, 5, 6, 15, 16, 23
Max. No. of Client Connections	16
Max. No. of Server Connections	32
Max. No. of Commands	100

DNP3 Serial

Mode	Master, Outstation
Max. No. of Master Connections	1
Max. No. of Outstation Connections	31
Internal Master Database	Binary Inputs: 8192 points Analog Inputs: 2048 points Counters: 2048 points Binary outputs: 8192 points Analog Outputs; 2048 points
Internal Outstation Database	Binary Inputs: 8192 points Analog Inputs: 2048 points Counters: 2048 points Binary outputs: 8192 points Analog Outputs; 2048 points Binary Input Events: 1024 Analog Input Events: 1024 Counter Events: 1024

DNP3 TCP/UDP

Mode	Master, Outstation
Max. No. of Master Connections	1
Max. No. of Outstation Connections	32

HARDWARE CPU CHASSIS SPECIFICATIONS (2 Options)

Computer

	Option1: CPU Chassis PMM0107	Option2: CPU Chassis PMM0105
CPU	Intel® Atom™ x5-Z8350 CPU	All winner H5 processor, Quad-core 64-bit high-performance Cortex A53
DRAM	4GB DD3RAM	1 GB
Storage	16GB eMMC	N/A
RTC CHIP	CR2032	DS3231
Pre-installed OS	Wind	Linux

Computer Interface

Ethernet	1x 10/100/1000Base-T RJ45	2x ports 10/100
Fiber	1x 1000Base-X SFP	2x 1000Base-X SC fiber optic port
USB	1x USB3.0 Type A	1x USB2.0 type A
Wi-Fi	2.4/5GHz	2.4/5GHz
Serial	1x RS485	1x RS485
Optional Interface	2x customizable communication slots: PMM RS485 Module PMM RS232 Module PMM RS422 Module	2x customizable communication slots: PMM RS485 Module PMM RS232 Module PMM RS422 Module
SD Slot	1x MicroSD	1x MicroSD

Power Parameters

Power Supply Options	10-56 VDC 8-40 VAC 36-72 VDC 25-50 VAC 85-285 VAC / 100-300 VDC	10-56 VDC 8-40 VAC 36-72 VDC 25-50 VAC 85-285 VAC / 100-300 VDC
Power Connector	Phoenix Contact 4 pins 3.5mm	Phoenix Contact 6 pins 3.5mm

Physical Characteristics

Housing	Metal	Metal
Dimensions	5.27*5.27*1.45 inch (134*134*37 mm)	5.27*5.27*1.45 inch (134*134*37 mm)
Mounting Options	Standard 35mm DIN Rail Direct Panel Mounting Front Panel Mounting 19" rack 1U	Standard 35mm DIN Rail Direct Panel Mounting Front Panel Mounting 19" rack 1U

ORDERING INFORMATION

Order Configuration Table					
	PMM010x	**-x**	**-09xx**	**-09xx**	**-09xx**
CPU Chassis					
PMM0107 X86 based industrial computer	-7				
PMM0105 Arm based industrial computer	-5				
Power Supply					
10-56 VDC		-1			
8-40 VAC		-2			
36-72 VDC		-3			
25-50 VAC		-4			
85-285 VAC / 100-300 VDC		-5			
COM Port 1					
RS485			-0912		
RS422			-0913		
RS422			-0914		
RS232			-0915		
COM port 2 (*Same as **COM port 1** options*)				-09xx	
COM port 3 (*Same as **COM port 1&2** options*)					-09xx

Accessories

DIN Mounting Kit (Included 1 Kit)	DIN Rail Mounting Bracket
Wall Mounting Kit (Included 1 Kit)	2x Wall Mounting Bracket
Panel Mounting Kit (Optional)	2x Panel Mounting Bracket
Rack Mounting Kit (Optional)	Rack Mounting Bracket

CONTACT INFORMATION:

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