MOXA®

MGate 5102-PBM-PN
Quick Installation Guide

Second Edition, June 2014

Overview

The MGate 5102-PBM-PN is an industrial Ethernet gateway for PROFIBUS and PROFINET network communication.

Package Checklist

Before installing the MGate 5102-PBM-PN, verify that the package contains the following items:

- 1 MGate 5102-PBM-PN gateway
- RJ45 to DB9 cable (for console use)
- Documentation and software CD
- Quick installation guide
- Warranty card

Optional Accessories:

- DR-45-24: 45W/2A DIN rail 24 VDC power supply with universal 85 to 264 VAC input
- DR-75-24: 75W/3.2A DIN rail 24 VDC power supply with universal 85 to 264 VAC input
- DR-120-24: 120W/5A DIN rail 24 VDC power supply with 88 to 132 VAC/176 to 264 VAC input by switch
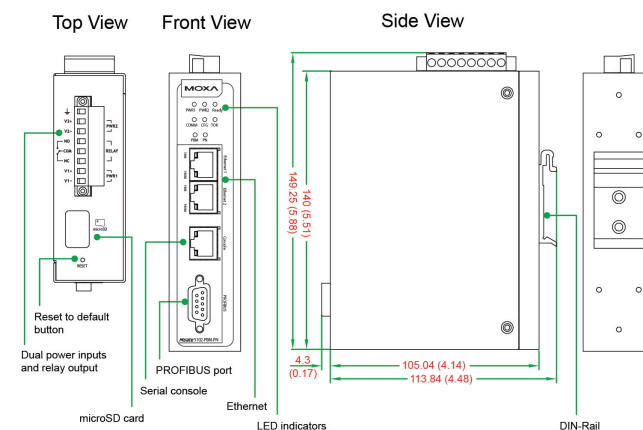- WK-36-01: Wall mounting kit

Please notify your sales representative if any of the above items are missing or damaged.

Hardware Introduction

LED Indicators

LED	Color	Function
PWR1	Green	Power is on
	Off	Power is off
PWR2	Green	Power is on
	Off	Power is off
Ready	Green	Steady on: Power is on and the MGate is functioning normally
		Blinking: The MGate has been located by the MGate Manager's Location function
	Red	Steady on: Power is on and the MGate is booting up
		Blinking: Indicates an IP conflict, or DHCP or BOOTP server is not responding properly
		Fast blinking: microSD card failed
	Off	Power is off or fault condition exists
COMM	Green	Steady on: Data exchange with all slaves
		Blinking: Data exchange with at least one slave
	Red	Bus control error
	Off	No data exchange
CFG	Green	PROFIBUS configuration OK
	Off	No PROFIBUS configuration
TOK	Green	Gateway holds the PROFIBUS token
	Off	Gateway is waiting for the PROFIBUS token
PBM	Green	Steady on: PROFIBUS master is in OPERATE mode
		Blinking: PROFIBUS master is in CLEAR mode
	Red	PROFIBUS master is in STOP mode
	Off	PROFIBUS master is offline
PN	Green	Steady on: PROFINET I/O is connected and controller is in RUN mode
		Blinking: PROFINET I/O is connected but controller is in STOP mode
	Off	No connection with IO Controller
Ethernet	Amber	Steady: 10 Mbps, no data is transmitting
		Blinking: 10 Mbps, data is transmitting
	Green	Steady: 100 Mbps, no data is transmitting
		Blinking: 100 Mbps, data is transmitting
	Off	Ethernet cable is disconnected

Dimensions

Top View   Front View   Side View

Reset to default button

Dual power inputs and relay output

microSD card

PROFIBUS port

Serial console

Ethernet

LED indicators

DIN-Rail

140 (5.51)
149.25 (5.88)
4.3 (0.17)
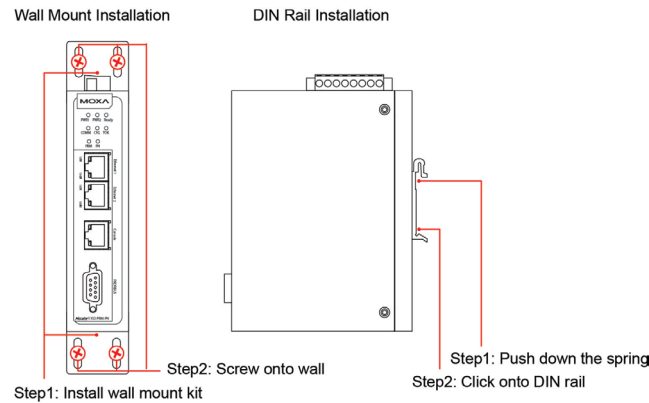105.04 (4.14)
113.84 (4.48)

Reset Button

The reset button is used to load factory defaults. Use a pointed object such as a straightened paper clip to hold the reset button in for five seconds. Release the reset button when the Ready LED stops blinking.

Hardware Installation Procedure

1. Connect the power adapter. Connect the 12-48 VDC power line or DIN rail power supply to the MGate 5102-PBM-PN device's terminal block.
2. Use a PROFIBUS cable to connect the unit to a PROFIBUS slave device.
3. Connect the unit to the PROFINET I/O controller.
4. The MGate 5102-PBM-PN is designed to be attached to a DIN rail or mounted on a wall. For DIN rail mounting, push down the spring and properly attach it to the DIN rail until it "snaps" into place. For wall mounting, install the wall mount kit (optional) first, and then screw the device onto the wall. The following figure illustrates the two mounting options:

Wall Mount Installation   DIN Rail Installation

Step1: Install wall mount kit
Step2: Screw onto wall
Step1: Push down the spring
Step2: Click onto DIN rail

Software Installation Information

To install MGate Manager, insert the MGate Documentation and Software CD into your PC's CD-ROM drive, and then run the following setup program to begin the installation process from the "Software" directory:
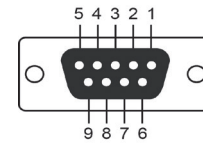
MGM_Setup_[Version]_Build_[DateTime].exe

The filename of the latest version may have the following format: **MGM_Setup_Verx.x.x_Build_xxxxxxxx.exe**.

For detailed information about MGate Manager, refer to the MGate 5102-PBM-PN User's Manual, which can be found in the "Document" directory.
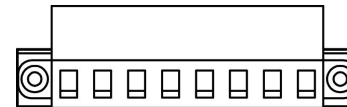
Pin Assignments

PROFIBUS Serial Port (female DB9)

PIN	Signal Name
1	N.C.
2	N.C.
3	PROFIBUS D+
4	RTS
5	Signal common
6	5V
7	N.C.
8	PROFIBUS D-
9	N.C.

Power Input and Relay Output Pinouts

	V2+	V2-	N.O.	Common	N.C.	V1+	V1-
Shielded Ground	DC Power Input 2	DC Power Input 2	N.O.	Common	N.C.	DC Power Input 1	DC Power Input 1

Specifications

Power Requirements	
Power Input	12 to 48 VDC
Power Consumption	430 mA @ 12 VDC, 120 mA @ 48 VDC
Operating Temperature	Standard models: 0 to 60°C (32 to 140°F) Wide temp. models: -40 to 75°C (-40 to 167°F) for T models
Ambient Relative Humidity	5 to 95% RH
Dimensions	36 x 105 x 140 mm (1.42 x 4.13 x 5.51 in)
Reliability	
Alert Tools	Built-in buzzer and RTC
MTBF	980,417 hrs

1. DEMKO Certification number: 13 ATEX 1304499X
   IEC Certification Number: IECEx UL 13.0031X;
2. Ambient Temperature Range (-40°C ≤ Tamb ≤ 75°C)
3. Certification String: Ex nA nC IIC T3 Gc
4. Standards Covered: EN 60079-0:2012/IEC 60079-0 6th Ed. AND EN 60079-15:2010/IEC 60079-15 4th Ed.
5. The conditions of safe usage:
   a. The Ethernet Communications Devices are intended for mounting in a tool-accessible IP54 enclosure and used in an area of not more than pollution degree 2 as defined by IEC 60664-1.
   b. Conductors suitable for use in an ambient temperature greater than 85°C must be used for the power supply terminal.
   c. A 4 mm^2 conductor must be used when connection to the external grounding screw is utilized.
   d. Provisions shall be made, either in the equipment or external to the equipment, to prevent the peak rated voltage being exceeded by the transient disturbances of more than 140%.

Terminal Block (Plug mated with Socket): Rated 300 V, 10 A, 105°C, 12-28 AWG (0.0804 mm2 - 3.31 mm^2) wire size, torque value 4.5 lb-in (0.509 N-m). The input terminal cable size 14 AWG(2.1 mm^2).

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