

# MGate 5101-PBM-MN Quick Installation Guide

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## Overview

The MGate 5101-PBM-MN is an industrial Ethernet gateway for PROFIBUS and Modbus TCP network communication.

## Package Checklist

Before installing the MGate 5101-PBM-MN, verify that the package contains the following items:

- 1 MGate 5101-PBM-MN gateway
- Documentation and Software CD
- Quick Installation Guide (printed)
- Product Warranty Statement

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

## Optional Accessories (can be purchased separately):

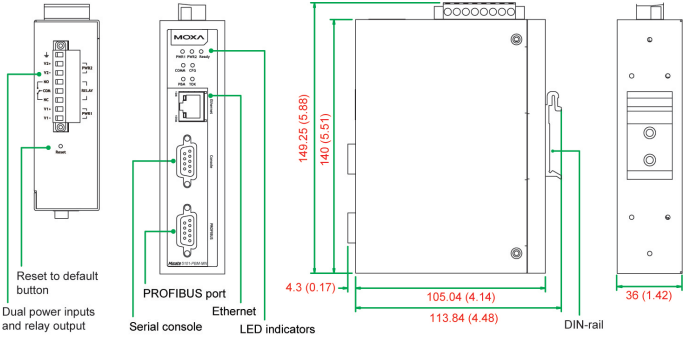
- CBL-F9M9-150: DB9-female-to-DB9-male serial cable, 150 cm
- CBL-F9M9-20: DB9-female-to-DB9-male serial cable, 20 cm
- Mini DB9F-to-TB: DB9-female-to-terminal-block connector
- WK-36-01: Wall-mounting kit

## 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 the DHCP or BOOTP server is not responding properly
	Off	Power is off or fault condition exists
COMM	Off	No data exchange
	Green	Data exchange with all slaves
	Green, flashing	Data exchange with at least one slave (not all configured slaves can communicate with gateway)
	Red	Bus control error
CFG	Off	No PROFIBUS configuration
	Green	PROFIBUS configuration OK
PBM	Off	PROFIBUS master is offline
	Red	PROFIBUS master is in STOP mode
	Green, flashing	PROFIBUS master is in CLEAR mode
	Green	PROFIBUS master is in OPERATE mode
TOK	Green	Gateway holds the PROFIBUS token

LED	Color	Function
	Off	Gateway is waiting for the PROFIBUS token
Ethernet	Amber	Steady: 10Mbps, no data is transmitting
		Blinking: 10Mbps, data is transmitting
	Green	Steady: 100Mbps, no data is transmitting
		Blinking: 100Mbps, data is transmitting
Off	Ethernet cable is disconnected	



## 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 down for five seconds. Release the reset button when the Ready LED stops blinking.

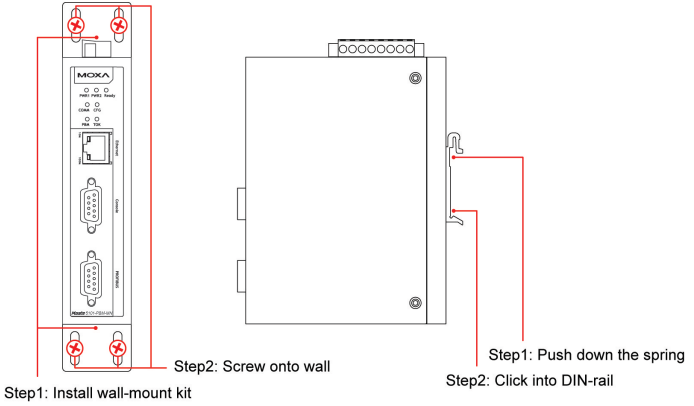
## Hardware Installation Procedure

- STEP 1:** Connect the power adapter. Connect the 12-48 VDC power line or DIN-rail power supply with the MGate 5101-PBM-MN device's terminal block.
- STEP 2:** Use a PROFIBUS cable to connect the unit to a PROFIBUS slave device.
- STEP 3:** Connect the unit to the Modbus TCP device.
- STEP 4:** The MGate 5101-PBM-MN series 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**

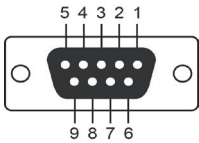


**Software Installation Information**

To install MGate Manager, insert the MGate Document & Software CD into your PC's CD-ROM drive. Once the installation window opens, click the Installation button and follow the onscreen instructions. For more detailed information about MGate Manager, click the Documents button and select the MGate 5101-PBM-MN User's Manual.

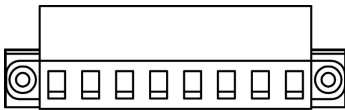
**Pin Assignments**

**PROFIBUS Serial Port (Female DB9)**



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

**Power Input and Relay Output Pinouts**



	V2+	V2-				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	365 mA @ 12 VDC, 100 mA @ 48 VDC
Operating Temperature	0 to 60°C (32 to 140°F) -40 to 75°C (-40 to 167°F) for -T model
Operating 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	540,026 hrs.



ATEX: DEMKO 14 ATEX 1288X Rev. 0

IECEX: IECEX UL 14.0023X

Marking string: Ex nA nC IIC T4 Gc

Standards covered:

EN 60079-0: 2012+A11:2013/IEC 60079-0: Ed 6.0

EN 60079-15:2010/IEC 60079-15: Ed 4.0

Ambient temperature range:

0°C to 60°C (For models without suffix -T)

-40°C to 75°C (For models with suffix -T only)

Field-wiring connection:

The device uses a terminal block, solder on the power distribution board, suitable for 12-24 AWG wire size, torque value 4.5 lb-in ( 0.51 N-m).

Battery information: Battery is not user replaceable.

Installation instructions:

- A 4 mm<sup>2</sup> conductor must be used when the connection to the external grounding screw is utilized.
- Conductors suitable for use at an ambient temperature of 84°C must be used for the power supply terminal.

Special conditions for safe use:

- The device is to be installed in an IECEX/ATEX Certified IP54 enclosure and accessible only through the use of a tool.
- The device is for use in an area of not more than pollution degree 2 in accordance with IEC 60664-1.

For installations in hazardous locations (Class 1, Division 2):

- Devices are to be installed in an enclosure with a tool-removable cover or door, suitable for the environment.
- The equipment must be suitable for use in Class 1, Division 2, Groups A, B, C, D, or nonhazardous locations only.
- WARNING - EXPLOSION HAZARD - Do not disconnect equipment unless power has been switched off or the area is known to be nonhazardous.
- WARNING - EXPLOSION HAZARD - Substitution of any components may impair suitability for Class 1, Division 2.

- WARNING - EXPOSURE TO SOME CHEMICALS MAY DEGRADE THE SEALING PROPERTIES OF THE MATERIALS USED IN THE FOLLOWING DEVICE: Sealed Relay Device U21.

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