

# MGate™ 5102-PBM-PN Series

Preliminary

1-port PROFIBUS-to-PROFINET gateways



- > Protocol conversion between PROFIBUS and PROFINET
- > Automatic scan of PROFIBUS devices, and easy configuration
- > microSD card for configuration backup
- > Built-in Ethernet cascading for easy wiring
- > Redundant dual DC power inputs and relay output supported
- > Embedded I/O monitoring and diagnostic tools
- > Web-based GUI for I/O data visualization
- > -40 to 75°C wide operating temperature models available



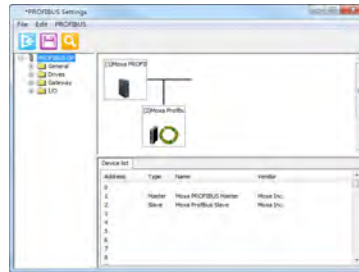
## Overview

The MGate 5102-PBM-PN gateway provides a communication portal between PROFIBUS devices (e.g., PROFIBUS PLC or drive) and the PROFINET host. All models are protected with a rugged metallic casing, are DIN rail mountable, and offer optional built-in optical

isolation. The PROFIBUS and Ethernet status LED indicators are provided for easy maintenance. The rugged design is suitable for industrial applications such as oil & gas, power, process automation, and factory automation.

## Easy Setup Tools

Both the Windows MGate Manager utility and web console support the AutoScan function, which makes configuration and operation easy. AutoScan automatically detects all connected PROFIBUS slave devices and their available I/O modules, allowing you to configure your gateways very quickly, and a data mapping table is provided. Furthermore, one click is all that's needed to export all PROFIBUS I/O modules to a GSDML file to assist in the configuration of the PROFINET controller (e.g., a Siemens PLC).



## Various Maintenance Functions

The MGate 5102-PBM-PN provides a web console and Telnet console for remote maintenance, with both consoles supporting encryption commutation functions such as HTTPS and SSH to prevent unauthorized access. The status and changes in I/O data of all PROFIBUS slaves can be monitored remotely via the web console,

and users can also review the log from the web console to see which system events have occurred. A relay output alarm is provided for the power input and Ethernet cable status. These functions make it easy for maintenance engineers to troubleshoot and maintain devices.

## Redundant Power Inputs

The MGate 5102-PBM-PN has dual power inputs for greater reliability. The power inputs allow simultaneous connections to two live DC power sources to provide uninterrupted operation even if one power

source fails. The higher level of reliability makes these advanced PROFIBUS master to PROFINET gateways ideal for demanding industrial applications.

## Specifications

### PROFIBUS Interface

**Protocol:** PROFIBUS DP-V1 Master  
**Number of Ports:** 1  
**Data Rate:** 9600 bps to 12 Mbps  
**Connector:** DB9 female  
**Isolation:** 2 kV (built-in)

### Ethernet Interface

**Protocol:** PROFINET RT  
**Number of Ports:** 2 (1 IP)  
**Speed:** 10/100 Mbps, Auto MDI/MDIX  
**Connector:** 8-pin RJ45

**Magnetic Isolation Protection:** 1.5 kV built-in

### Serial Signals (Serial Console)

**Connector:** 8-pin RJ45  
**RS-232:** TxD, RxD, RTS, CTS, DTR, DSR, DCD, GND

### Software

**Configuration Options:** Windows utility, serial console, web console (HTTP/HTTPS), Telnet/SSH console  
**Utilities:** MGate Manager for Windows 2000, Windows XP/2003/ Vista/2008/7 x86/x64

### Physical Characteristics

**Housing:** Metal  
**Weight:** 500 g  
**Dimensions:** 36 x 105 x 140 mm (1.42 x 4.13 x 5.51 in)

### Environmental Limits

**Operating Temperature:**  
 Standard Models: 0 to 60°C (32 to 140°F)  
 Wide Temp. Models: -40 to 75°C (-40 to 167°F)  
**Storage Temperature:** -40 to 85°C (-40 to 185°F)  
**Ambient Relative Humidity:** 5 to 95% (non-condensing)

### Power Requirements

**Input Voltage:** 12 to 48 VDC  
**Power Connector:** Terminal block  
**Power Consumption:** 365 mA @ 12 VDC

### Standards and Certifications

**Safety:** UL 508, EN 60950-1  
**Hazardous Location:** UL/cUL Class 1 Division 2 Groups A/B/C/D, ATEX Zone 2 (pending)  
**EMC:** CE, FCC  
**EMI:** EN 55022 Class A, FCC Part 15 Subpart B Class A  
**EMS:**

EN 55024,  
 EN 61000-4-2 (ESD) Level 3,  
 EN 61000-4-3 (RS) Level 3,  
 EN 61000-4-4 (EFT) Level 4,  
 EN 61000-4-5 (Surge) Level 3,  
 EN 61000-4-6 (CS) Level 3,  
 EN 61000-4-8,  
 EN 61000-4-11,  
 EN 61000-4-12

**Shock:** IEC 60068-2-27  
**Freefall:** IEC 60068-2-32  
**Vibration:** IEC 60068-2-6

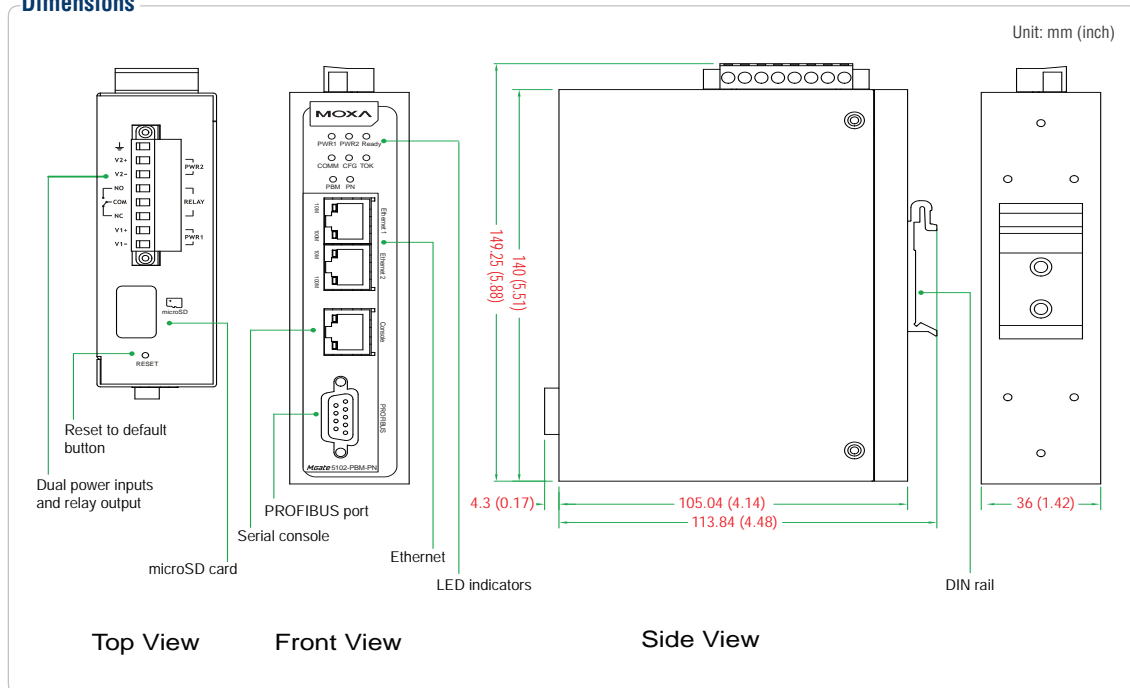
### Reliability

**MTBF (mean time between failures):** 980,417 hrs

### Warranty

**Warranty Period:** 5 years  
**Details:** See [www.moxa.com/warranty](http://www.moxa.com/warranty)

## Dimensions



## Ordering Information

### Available Models

**MGate 5102-PBM-PN:** 1-port PROFIBUS-to-PROFINET gateway, 12-48 VDC, 0 to 60°C operating temperature

**MGate 5102-PBM-PN-T:** 1-port PROFIBUS-to-PROFINET gateway, 12-48 VDC, -40 to 75°C operating temperature

### Optional Accessories (can be purchased separately)

**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-36-02:** Wall mounting kit

### Package Checklist

- 1 MGate 5102-PBM-PN PROFIBUS-to-PROFINET gateway
- Documentation and software CD
- Quick installation guide (printed)
- Warranty card

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