

MGate 5102-PBM-PN Series

1-port PROFIBUS-to-PROFINET gateways

Vertrieb durch



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Features and Benefits

- Protocol conversion between PROFIBUS and PROFINET
- Supports PROFINET IO device
- Supports PROFIBUS DP V1 master
- Automatic scan of PROFIBUS devices and easy configuration
- Web-based GUI for I/O data visualization
- Built-in Ethernet cascading for easy wiring
- microSD card for configuration backup/duplication and event logs, and data buffering when cloud connection is lost
- Embedded I/O monitoring and diagnostic information for easy troubleshooting
- Status monitoring and fault protection for easy maintenance
- Supports redundant dual DC power inputs and 1 relay output
- -40 to 75°C wide operating temperature models available
- Serial port with 2 kV isolation protection

Certifications

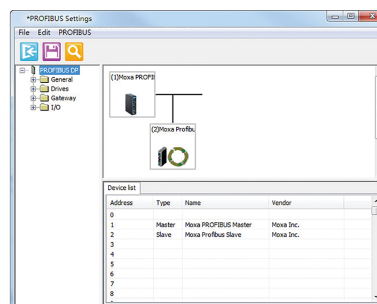


Introduction

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, 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 and 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).



A Variety of 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 connection to 2 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

| | |
|---------------------------------------|--|
| Ethernet Interface | |
| 10/100BaseT(X) Ports (RJ45 connector) | 2 (auto MDI/MDI-X connection) |
| Magnetic Isolation Protection | 1.5 kV (built-in) |
| Ethernet Software Features | |
| Configuration Options | Web Console (HTTP/HTTPS) Device Search Utility (DSU) MGate Manager Telnet Console |
| Management | ARP DHCP Client DNS HTTP HTTPS SMTP SNMP Trap SNMPv1/v2c/v3 TCP/IP Telnet SSH UDP NTP Client |
| MIB | RFC1213, RFC1317 |
| Time Management | NTP Client |
| Industrial Protocols | PROFINET IO Device |
| Security Functions | |
| Authentication | Local database |
| Encryption | HTTPS AES-128 AES-256 SHA-256 |
| Security Protocols | SNMPv3 SNMPv2c Trap HTTPS (TLS 1.3) |
| Serial Interface | |
| Console Port | RS-232 (TxD, RxD, GND), 8-pin RJ45 (115200, n, 8, 1) |
| Serial Software Features | |
| Configuration Options | Serial Console |
| Industrial Protocols | PROFIBUS DP-V1 Master |
| PROFIBUS Interface | |
| Industrial Protocols | PROFIBUS DP |
| No. of Ports | 1 |
| Connector | DB9 female |
| Baudrate | 9600 bps to 12 Mbps |
| Isolation | 2 kV (built-in) |
| Signals | PROFIBUS D+, PROFIBUS D-, RTS, Signal Common, 5V |

PROFIBUS

| | |
|------------------|--------------|
| Mode | DP-V1 Master |
| Input Data Size | 1024 bytes |
| Output Data Size | 1024 bytes |

PROFINET

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|---------------------------------------|--------------------|
| Mode | IO Device |
| Max. No. of IO Controller Connections | 1 (for read/write) |
| Input Data Size | 1024 |
| Output Data Size | 1024 |

Memory

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|--------------|---------------------------------|
| microSD Slot | Up to 32 GB (SD 2.0 compatible) |
|--------------|---------------------------------|

Power Parameters

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|-----------------|-----------------------------------|
| Input Voltage | 12 to 48 VDC |
| Input Current | 430 mA @ 12 VDC |
| Power Connector | Screw-fastened Euroblock terminal |

Relays

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|------------------------|------------------------------|
| Contact Current Rating | Resistive load: 2 A @ 30 VDC |
|------------------------|------------------------------|

Physical Characteristics

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|------------|---|
| Housing | Metal |
| IP Rating | IP30 |
| Dimensions | 36 x 105 x 140 mm (1.42 x 4.14 x 5.51 in) |
| Weight | 500 g (1.10 lb) |

Environmental Limits

| | |
|--|---|
| Operating Temperature | MGate 5102-PBM-PN: 0 to 60°C (32 to 140°F) MGate 5102-PBM-PN-T: -40 to 75°C (-40 to 167°F) |
| Storage Temperature (package included) | -40 to 85°C (-40 to 185°F) |
| Ambient Relative Humidity | 5 to 95% (non-condensing) |

Standards and Certifications

| | |
|---------------------|--|
| EMC | EN 55032/35 |
| EMI | CISPR 32, FCC Part 15B Class B |
| EMS | IEC 61000-4-2 ESD: Contact: 8 kV; Air: 15 kV IEC 61000-4-3 RS: 80 MHz to 1 GHz: 10 V/m IEC 61000-4-4 EFT: Power: 4 kV; Signal: 2 kV IEC 61000-4-5 Surge: Power: 2 kV IEC 61000-4-6 CS: 150 kHz to 80 MHz: 10 V/m; Signal: 10 V/m IEC 61000-4-8 PFMF |
| Safety | IEC 60950-1 EN 62368-1 UL 508 |
| Hazardous Locations | ATEX |

| | | |
|-----------|---------------------------------|---|
| | Class I Division 2 IECEX | Vertrieb durch AMC AMC – Analytik & Messtechnik GmbH Chemnitz Heinrich-Lorenz-Str. 55 Tel.: +49/371/38388-0 09120 Chemnitz Fax: +49/371/38388-99 E-Mail: info@amc-systeme.de Web: www.amc-systeme.de |
| Freefall | IEC 60068-2-32 | |
| Shock | IEC 60068-2-27 | |
| Vibration | IEC 60068-2-6 IEC 60068-2-64 | |

MTBF

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|-----------|-----------------|
| Time | 980,417 hrs |
| Standards | Telcordia SR332 |

Warranty

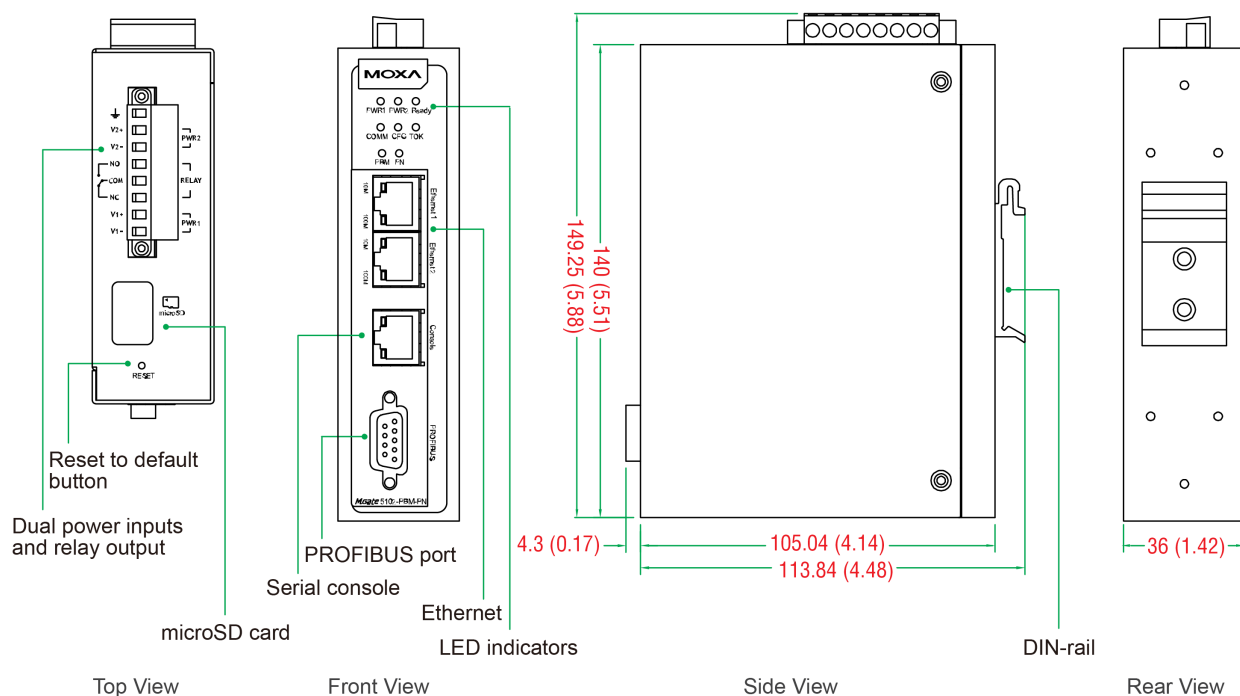
| | |
|-----------------|--|
| Warranty Period | 5 years |
| Details | See www.moxa.com/warranty |

Package Contents

| | |
|------------------|---|
| Device | 1 x MGate 5102-PBM-PN Series gateway |
| Installation Kit | 1 x DIN-rail kit |
| Documentation | 1 x quick installation guide 1 x warranty card |

Dimensions

Unit: mm (inch)



Ordering Information

| Model Name | Operating Temp. |
|---------------------|-----------------|
| MGate 5102-PBM-PN | 0 to 60°C |
| MGate 5102-PBM-PN-T | -40 to 75°C |

Accessories (sold separately)

Cables

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|-----------------|--|
| CBL-F9M9-150 | DB9 female to DB9 male serial cable, 1.5 m |
| CBL-F9M9-20 | DB9 female to DB9 male serial cable, 20 cm |
| CBL-RJ45F9-150 | 8-pin RJ45 to DB9 female serial cable, 1.5m |
| CBL-RJ45SF9-150 | 8-pin RJ45 to DB9 female serial cable with shielding, 1.5m |

Connectors

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|-----------------|--|
| Mini DB9F-to-TB | DB9 female to terminal block connector |
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DIN-Rail Mounting Kits

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|----------|---------------------------------|
| DK-25-01 | DIN-rail mounting kit, 2 screws |
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Wall-Mounting Kits

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| WK-36-02 | DIN-rail/wall-mounting kit, 2 plates, 6 screws |
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Power Cords

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|-------------|--|
| CBL-PJTB-10 | Non-locking barrel plug to bare-wire cable |
|-------------|--|

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