

# MGate™ 5101-PBM-MN Series

## 1-port PROFIBUS-to-Modbus TCP gateways



- > Protocol conversion between PROFIBUS and Modbus TCP
- > Automatic scan of PROFIBUS devices for easy configuration
- > Redundant dual DC power inputs and relay output supported
- > Embedded data packet analyzer and diagnostic tool
- > Web-based GUI for I/O data visualization
- > -40 to 75°C wide operating temperature models available



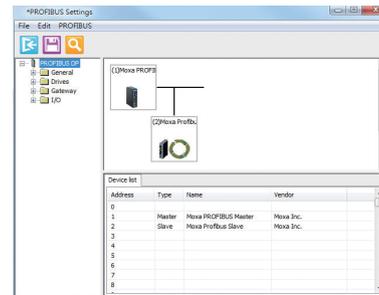
### : Overview

The MGate 5101-PBM-MN gateway provides a communication portal between PROFIBUS devices (e.g. PROFIBUS drives or instruments) and Modbus TCP hosts. 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/gas, power, process automation, and factory automation.

### : Windows Utility for Easy Configuration and Traffic Monitoring

The MGate Manager utility provides a user friendly interface to make configuration and operation as easy as possible. Moxa's innovative AutoScan function can automatically detect all connected PROFIBUS slave devices and their available I/O modules to quickly complete gateway configuration, after which an easy to read data mapping table is created to assist in the configuration of Modbus TCP master (e.g. SCADA, PLC) settings. In addition, users can configure import/export maintenance functions, and use embedded monitoring tools to maintain Modbus communication packets logs, which can be used for troubleshooting.



### : Various Maintenance Functions

The MGate 5101-PBM-MN provides Web console and Telnet console for remote maintenance. Each also supports encryption commutation functions such as HTTPS and SSH for preventing unauthorized access. The log functions are provided in firmware such as connection event of Modbus or PROFIBUS for maintenance. Users can monitor each

I/O data and review the log through the web console remotely. A relay output alarm is provided for the power input status. It gives maintenance engineers an additional tool for troubleshooting and maintenance.

### : Redundant Power Inputs

The MGate 5101-PBM-MN 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 Modbus TCP gateways ideal for demanding industrial applications.

### : Specifications

#### Ethernet Interface

- Number of Ports:** 1
- Speed:** 10/100 Mbps, Auto MDI/MDIX
- Connector:** 8-pin RJ45
- Magnetic Isolation Protection:** 1.5 kV (built-in)

#### Modbus TCP

- Operation Modes: Modbus TCP Slave/Master

#### 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)

**Serial Signals** (Serial Console)

**RS-232:** TxD, RxD, RTS, CTS, DTR, DSR, DCD, GND

**Software**

**Configuration Options:** Serial Console, Windows Utility, Web Console (HTTP/HTTPS), Telnet/SSH Console

**Utilities:** MGate Manager for Windows 2000/XP/2003/Vista/Server 2008/7/8 (x86/x64), Windows Server 2008 R2/2012 (x64)

**Support:** AutoScan, MXview, SNMP (v1, v2, v3), Private MIB

**Physical Characteristics**

**Housing:** Metal, IP30 protection

**Weight:** 500 g

**Dimensions:** 36 x 105 x 140 mm (1.42 x 4.14 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)

**Altitude:** Up to 2000 m (795 hPa), higher altitudes on demand

*Note: Please contact Moxa if you require products guaranteed to function properly at higher altitudes.*

**Power Requirements**

**Input Voltage:** 12 to 48 VDC

**Power Connector:** Terminal block

**Power Consumption:** 365 mA @ 12 VDC

**Standards and Certifications**

**Safety:** UL 60950-1, EN 60950-1

**Hazardous Location:**

UL/cUL Class 1 Division 2 Groups A/B/C/D (Pending),

ATEX Zone 2 Ex nA nC IIC T3 Gc (Pending),

IECEx (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 2,

EN 61000-4-4 (EFT) Level 3,

EN 61000-4-5 (Surge) Level 3,

EN 61000-4-6 (CS) Level 3,

EN 61000-4-8 (PFMF) Level 1

**Shock:** IEC 60068-2-27

**Freefall:** IEC 60068-2-32

**Vibration:** IEC 60068-2-6

**Reliability**

**MTBF (mean time between failures):** 540,026 hrs

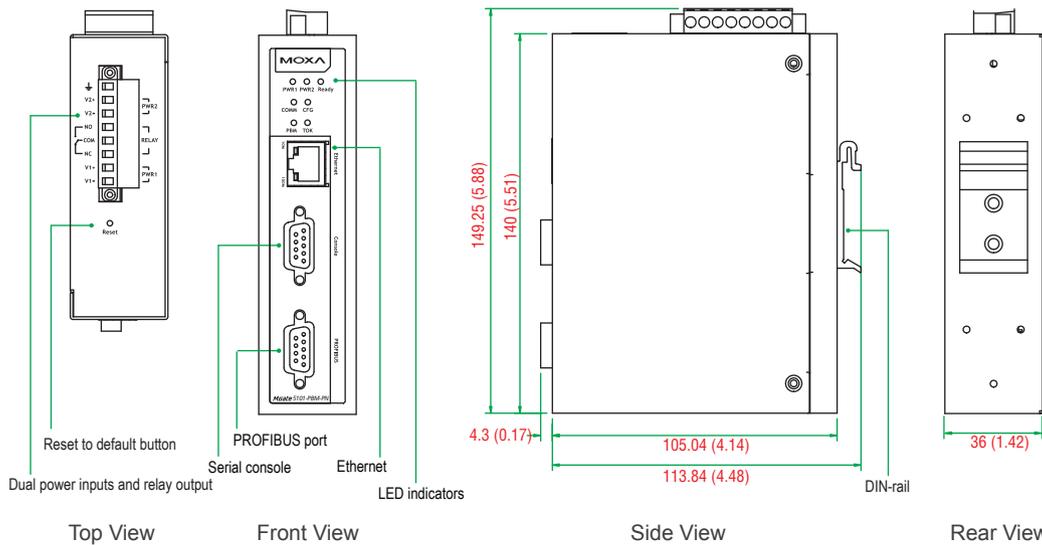
**Warranty**

**Warranty Period:** 5 years

**Details:** See [www.moxa.com/warranty](http://www.moxa.com/warranty)

**Dimensions**

Unit: mm (inch)



**Ordering Information**

**Available Models**

**MGate 5101-PBM-MN:** 1-port PROFIBUS master to Modbus TCP gateway, 12-48 VDC, 0 to 60°C operating temperature

**MGate 5101-PBM-MN-T:** 1-port PROFIBUS master to Modbus TCP gateway, 12-48 VDC, -40 to 75°C operating temperature

**Optional Accessories** (can be purchased separately)

**MXview:** Moxa industrial network management software with 50, 100, 250, 500, 1000, or 2000 nodes

**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 5101-PBM-MN PROFIBUS master to Modbus TCP gateway
- Documentation and software CD
- Quick installation guide (printed)
- Warranty card