



MGate MB3180

Quick Installation Guide

Fourth Edition, May 2014

Overview

The MGate MB3180 is a 1-port Modbus gateway that converts between Modbus TCP and Modbus ASCII/RTU protocols. It can be used to allow Ethernet masters to control serial slaves, or to allow serial masters to control Ethernet slaves. Up to 16 TCP masters and 31 serial slaves can be connected simultaneously.

Package Checklist

Before installing the MGate MB3180 Modbus gateway, verify that the package contains the following items:

- 1 MGate MB3180 Modbus gateway
- 4 stick-on pads
- Document & Software CD
- Quick Installation Guide
- Product Warranty Statement
- Power adaptor

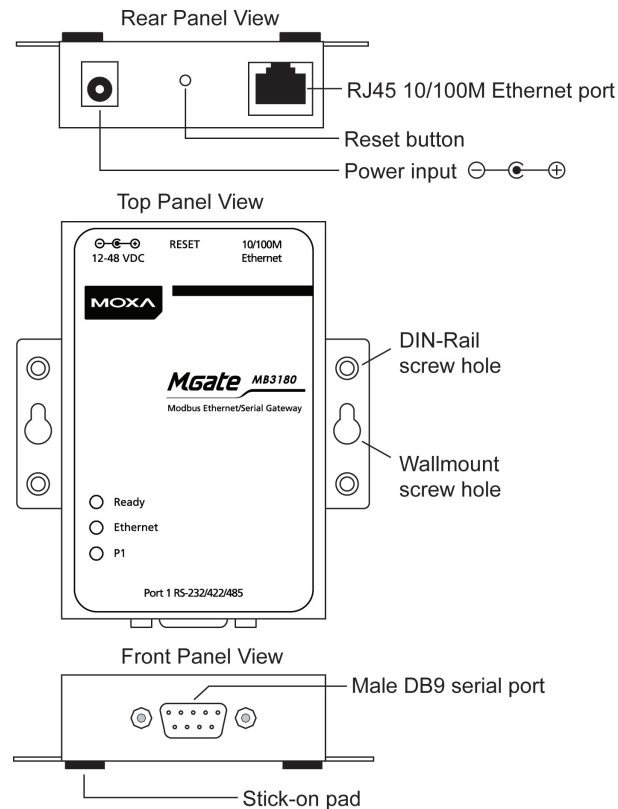
Optional Accessory

- **DK-35A:** DIN-rail mounting kit (35 mm)
- **Mini DB9F-to-TB Adaptor:** DB9 female to terminal block adapter
- **DR-4524:** 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

Notify your sales representative if any of the above items is missing or damaged.

Hardware Introduction

As shown in the following figures, the MGate MB3180 has one DB9 male port for transmitting serial data.



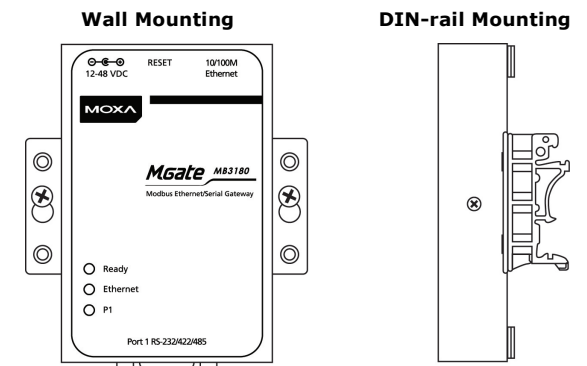
Reset Button—The reset button is used to load factory defaults. Using a pointed object such as a straightened paper clip to hold the reset button down for five seconds. Release the reset button when the Ready LED stops blinking in order to load the factory defaults.

LED Indicators—Three LED indicators are located on the top panel:

| Name | Color | Function |
|----------|--------|--|
| Ready | Red | Steady on: Power is on and the unit is booting up |
| | | Blinking: IP conflict exists, or DHCP or BOOTP server is not responding properly |
| | Green | Steady on: Power is on and the unit is functioning normally |
| | | Blinking: Unit has been found by the Location command in MGate Manager |
| | Off | Power is off or power error condition exists |
| Ethernet | Orange | 10 Mbps Ethernet connection |
| | Green | 100 Mbps Ethernet connection |
| | Off | Ethernet cable is disconnected or has a short |
| P1 | Orange | Unit is receiving data from device. |
| | Green | Unit is transmitting data to device. |
| | Off | No data is being exchanged with device. |

Hardware Installation Procedure

- STEP 1:** After unpacking the MGate MB3180, connect the power adaptor.
- STEP 2:** Use a standard straight-through Ethernet cable to connect the MGate MB3180 to a network hub or switch. Use a cross-over Ethernet cable if you are connecting the gateway directly to a PC.
- STEP 3:** Connect your device to the MGate MB3180's serial port.
- STEP 4:** Place or mount the MGate MB3180. The unit may be placed on a horizontal surface such as a desktop, mounted on a DIN-rail, or mounted on the wall.

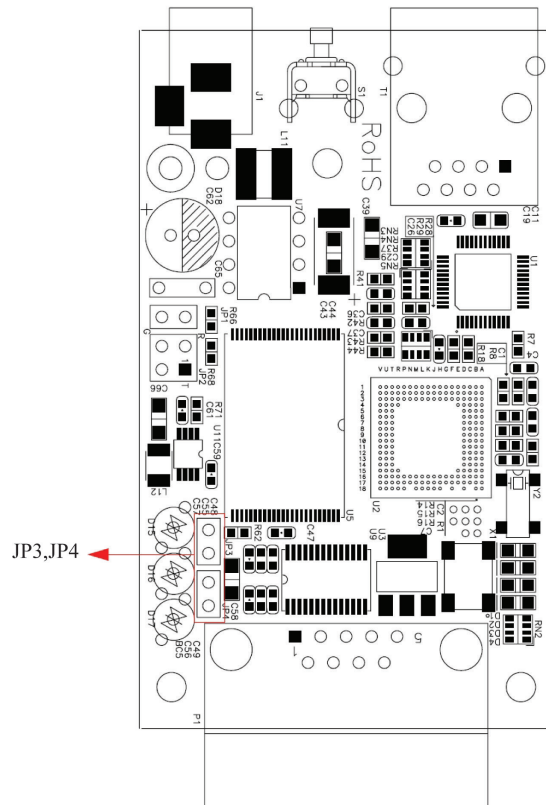


Adjustable Pull High/Low Resistors for the RS-485 Port

In some critical RS-485 environments, you may need to add termination resistors to prevent the reflection of serial signals. When using termination resistors, it is important to set the pull high/low resistors correctly so that the electrical signal is not corrupted. Jumpers JP3 and JP4 are used to set the pull high/low resistor values for the serial port. To

Set the pull high/low resistors to 150 K Ω , which is the factory default setting, leave the two jumpers open. To set the pull high/low resistors to 1 K Ω , use the jumper caps to short the two jumpers.

MGate MB3180 Jumpers



JP3,JP4

Software Installation

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

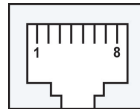
The filename of the latest version may have the following format:

MGM_Setup_Verx.x.x_Build_xxxxxxxx.exe.

For detailed information about MGate Manager, refer to the MGate MB3000 User's Manual, which can be found in the "Document" directory.

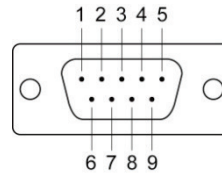
Pin Assignments

Ethernet Port (RJ45)



| Pin | Signals |
|-----|---------|
| 1 | Tx+ |
| 2 | Tx- |
| 3 | Rx+ |
| 6 | Rx- |

Serial Port (Male DB9)



| Pin | RS-232 | RS-422/485 (4W) | RS-485 (2W) |
|-----|--------|-----------------|-------------|
| 1 | DCD | TxD-(A) | --- |
| 2 | RxD | TxD+(B) | --- |
| 3 | TxD | RxD+(B) | Data+(B) |
| 4 | DTR | RxD-(A) | Data-(A) |
| 5 | GND | GND | GND |
| 6 | DSR | --- | --- |
| 7 | RTS | --- | --- |
| 8 | CTS | --- | --- |
| 9 | --- | --- | --- |

Environmental Specifications

Power Requirements

| | |
|-----------------------|-----------------------------|
| Power Input | 12 to 48 VDC |
| Power Consumption | 200 mA@12 VDC, 60 mA@48 VDC |
| Operating Temperature | 0 to 60°C (32 to 140°F) |
| Storage Temperature | -40 to 85°C (-40 to 185°F) |
| Operating Humidity | 5 to 95% RH |

Dimensions

| | |
|---------------|---|
| With ears: | 22 x 75 x 80 mm (0.87 x 2.95 x 3.15 inch) |
| Without ears: | 22 x 52 x 80 mm (0.87 x 2.05 x 3.15 inch) |

| | |
|-----------------------|--|
| Surge Protection | 15 KV ESD for serial port |
| Magnetic Isolation | 1.5 KV for Ethernet |
| Power Line Protection | 4 KV burst (EFT), EN61000-4-4 2 KV surge, EN61000-4-5 |

Regulatory Approvals FCC Class A, CE Class A, UL , CUL, TUV

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