

MGate MB3180

Quick Installation Guide

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Technical Support Contact Information **www.moxa.com/support**

Moxa Americas:

Toll-free: 1-888-669-2872

Tel: 1-714-528-6777

Fax: 1-714-528-6778

Moxa China (Shanghai office):

Toll-free: 800-820-5036

Tel: +86-21-5258-9955

Fax: +86-21-5258-5505

Moxa Europe:

Tel: +49-89-3 70 03 99-0

Fax: +49-89-3 70 03 99-99

Moxa Asia-Pacific:

Tel: +886-2-8919-1230

Fax: +886-2-8919-1231

Moxa India:

Tel: +91-80-4172-9088

Fax: +91-80-4132-1045



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P/N: 1802031800012



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 adapter

Optional Accessory

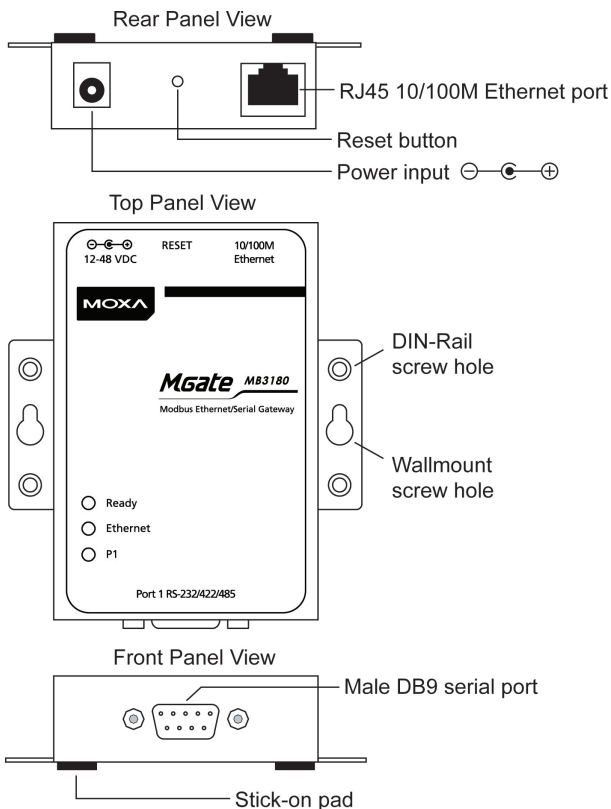
- **DK-35A:** DIN-rail mounting kit (35 mm)
- **Mini DB9F-to-TB Adaptor:** DB9 female to terminal block adapter
- **DR-4524:** 45W/2A DIN-rail 24 VDC power supply with universal 85 to 264 VAC input
- **DR-75-24:** 75W/3.2A DIN-rail 24 VDC power supply with universal 85 to 264 VAC input
- **DR-120-24:** 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.

NOTE The operating temperature of the power adapter in the box is from 0 to 40 °C. If your application is out of this range, please use a power adapter supplied by UL Listed External Power Supply (The power output meets SELV and LPS and is rated 12 - 48 VDC; minimum current is 0.73 A). Moxa has power adapters with wide temperature range (-40 to 75 °C, -40 to 167 F), the PWR-12150-(plug type)-SA-T series, for your reference.

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.

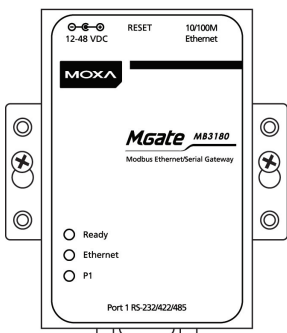
LED Indicators—Three LED indicators are located on the top panel:

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.

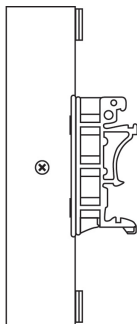
Hardware Installation Procedure

- 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.

Wall Mounting



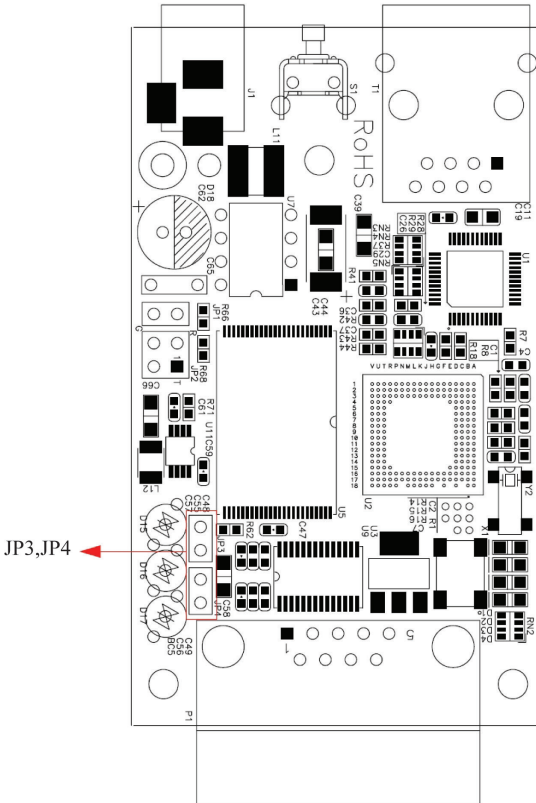
DIN-rail Mounting



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



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.

The MGate MB3180 also supports login via a web browser.

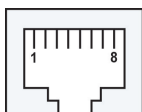
Default IP address: **192.168.127.254**

Default account: **admin**

Default password: **moxa**

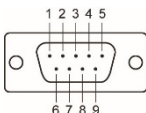
Pin Assignments

Ethernet Port (RJ45)



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

Serial Port (Male DB9)



Pin	RS-232	RS-422/485 (4-Wire)	RS-485 (2-Wire)
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