

MOXA MB3180 Series Modbus Gateway



MOXA MB3180 Series Modbus Gateway Installation Guide

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MOXA MB3180 Series Modbus Gateway



FAQ

- **Q:** How many TCP clients and serial servers can be connected simultaneously?
 - **A:** The MGate MB3180 supports up to 16 TCP clients and 31 serial servers connected at the same time.
- **Q:** What is the default IP address for accessing the MGate MB3180?
 - **A:** The default IP address for accessing the MGate MB3180 is 192.168.127.254.

Overview

The MGate MB3180 is a 1-port Modbus gateway that converts between Modbus TCP and Modbus ASCII/RTU protocols. It allows Ethernet clients (masters) to control serial servers (slaves), or allows serial clients to control Ethernet servers. Up to 16 TCP clients and 31 serial servers 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
- Power adapter

- 4 stick-on pads
- Quick installation guide (printed)
- Warranty card

Optional Accessory

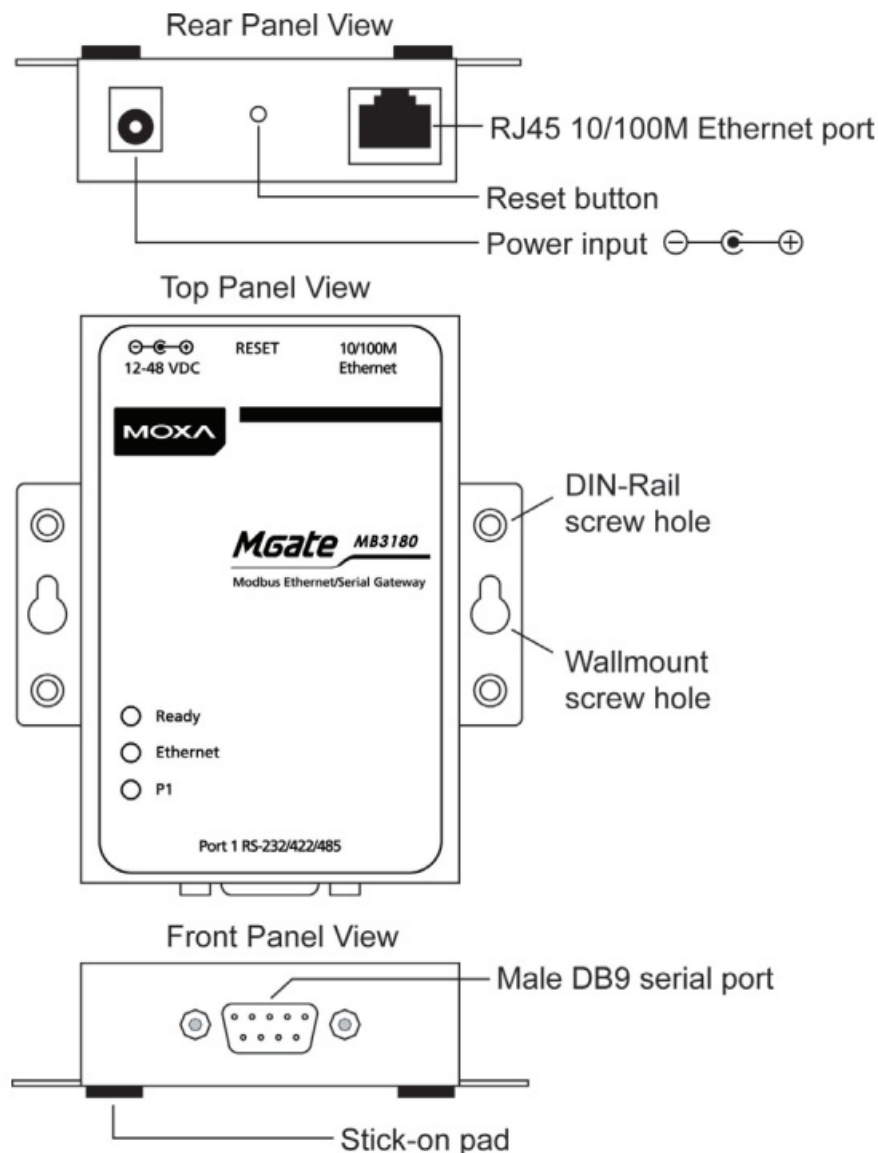
- DK-35A: DIN-rail mounting kit (35 mm)
- Mini DB9F-to-TB Adapter: DB9 female to terminal block adapter

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

NOTE: This product is powered by a listed power source marked “LPS” and is rated 12 to 48 VDC and 0.25 A minimum. The device’s operating temperature when using the power adapter is 0 to 40°C (32 to 104°F), and 0 to 60°C (32 to 140°F) when using an alternative DC power source. If you need additional help purchasing a power source, please contact Moxa for more information.

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 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 adapter. Make sure that the adapter is connected to an earthed socket outlet.

• STEP 2:

- Use a standard straight-through Ethernet cable to connect the MGate MB3180 to a network hub or switch. Use a crossover Ethernet cable if you are connecting the gateway directly to a PC.

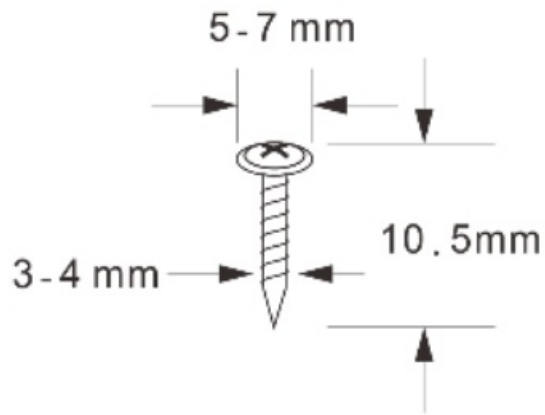
• STEP 3:

- Connect your device to the MGate MB3180's serial port.

• STEP 4:

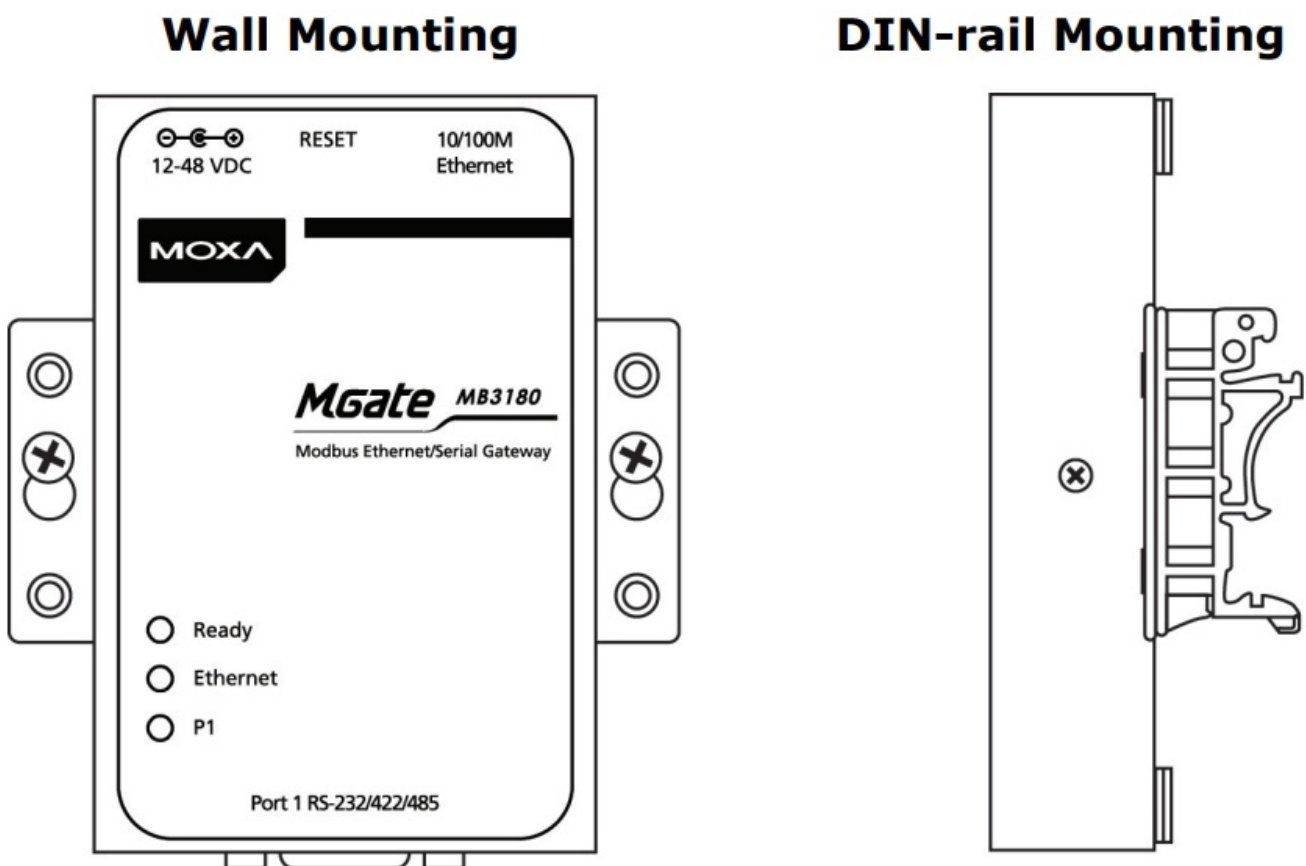
- Place or mount the MGate MB3180. The unit may be placed on a horizontal surface such as a desktop, mounted on a DIN rail, or mounted on the wall.

Wall or Cabinet Mounting



- Mounting the MGate MB3180 onto a wall requires two screws.
- The head of the screws should be 5.0 to 7.0 mm in diameter, the shaft should be 3.0 to 4.0 mm in diameter, and the length of the screws should be at least 10.5 mm.

DIN-rail Mounting



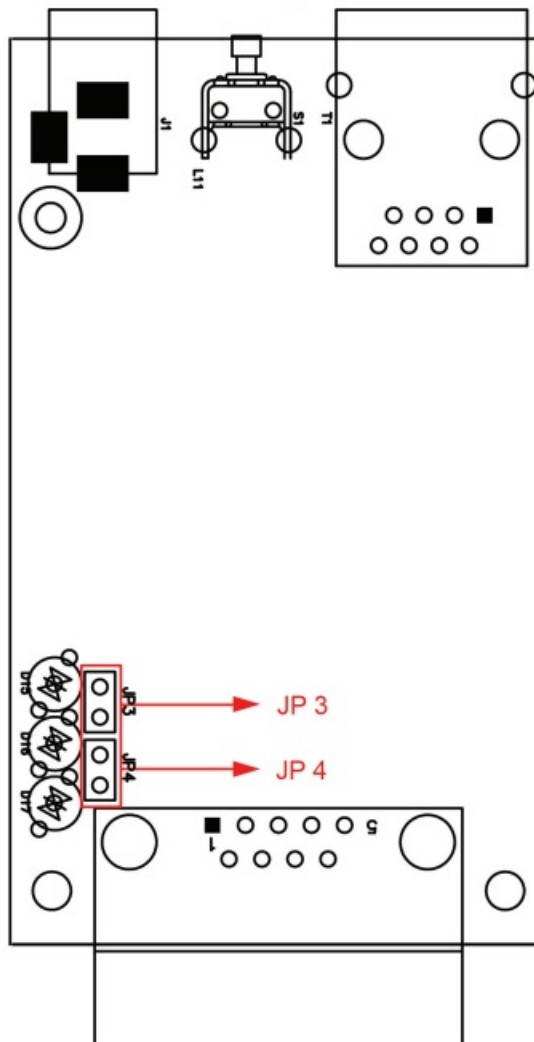
- DIN-rail attachments can be purchased separately to mount the MGate MB3180 on a DIN rail.

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 access these jumpers, loosen the screws on both sides of the device and open the cover. 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



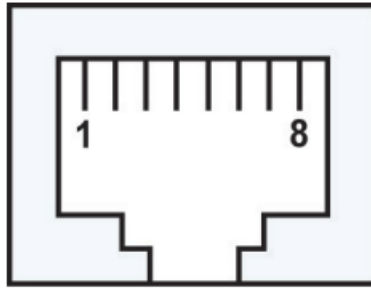
Software Installation

You can download the MGate Manager, User's Manual, and Device Search Utility (DSU) from Moxa's website: www.moxa.com. Please refer to the User's Manual for additional details on using the MGate Manager and DSU. The MGate MB3180 also supports login via a web browser.

- **Default IP address:** 192.168.127.254
- **Default account:** admin
- **Default password:** moxa

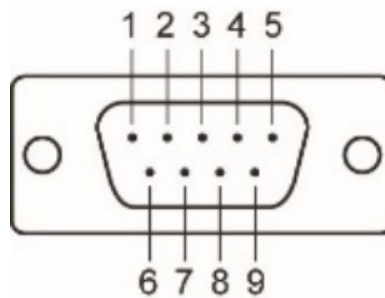
Pin Assignments

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	—	—	—

P/N: 1802031800015



Documents / Resources

<div><div>MGate MB3180 Series</div><div>Quick Installation Guide</div><div>Version 3.3, May 2024</div><div>For full support contact information, please refer to the support page.</div><div></div><div>© 2024 Moxa Inc. All rights reserved.</div><div></div></div>	<div><div>MOXA MB3180 Series Modbus Gateway [pdf] Installation Guide</div><div>MB3180 Series Modbus Gateway, MB3180 Series, Modbus Gateway, Gateway</div></div>
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References

- [M Moxa - Your Trusted Partner in Automation](#)
- [M Moxa - Support](#)
- [User Manual](#)

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