

MGate MB3480 Series Quick Installation Guide

Version 7.4, May 2024

Technical Support Contact Information
www.moxa.com/support

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P/N: 1802034800019



Overview

The MGate MB3480 is a 4-port Modbus gateway that converts between Modbus TCP and Modbus RTU/ASCII 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 124 serial servers can be connected simultaneously.

NOTE This equipment is intended to be used in a restricted access location.

Package Checklist

Before installing the MGate MB3480 Modbus gateway, verify that the package contains the following items:

- 1 MGate MB3480 Modbus gateway
- Power adapter
- 4 Stick-on pads
- Quick installation guide (printed)
- Warranty card

Optional Accessory

- **DK-35A:** For 35 mm DIN-rail; includes 4 screws (M3x8mm)
- **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 365 mA minimum. The device's operating temperature when using the power adapter is 0 to 40°C (32 to 104°F), and 0 to 55°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.

NOTE Two supplies (DC jack and terminal block) are provided, and they do not connect to the power at the same time.

NOTE If you are using a Class I adapter, the power cord needs to be connected to a socket outlet with an earthing connection.

Hardware Introduction

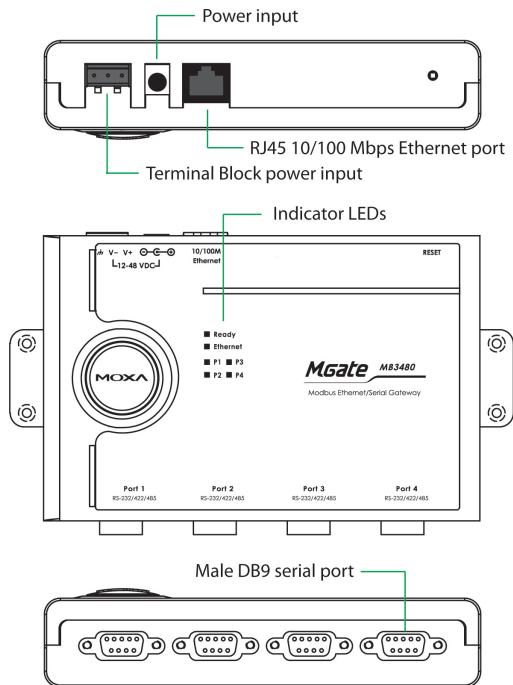


ATTENTION

Before you connect the MGate MB3480 to the DC power inputs, make sure the DC power source voltage is stable.

- The wiring of the input terminal block shall be installed by a skilled person.
- Wire type: Cu
- Only use 28 to 18 AWG wire size, torque value of 0.5 N-m.
- One individual conductor at a clamping point.

As shown in the following figures, the MGate MB3480 has four DB9 male ports for transmitting serial data.



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

LED Indicators—Six 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 did not respond properly.
	Green	Steady on: Power is on and the unit is functioning normally.
		Blinking: Unit has found by the Location command in MGate Manager.
Off	Power is off or power error condition exists.	
Link	Orange	10 Mbps Ethernet connection.
	Green	100 Mbps Ethernet connection.
	Off	Ethernet cable is disconnected or has a short.
P1/P2/ P3/P4	Orange	Unit is receiving data from device.
	Green	Unit is transmitting data to device.
	Off	No data is being exchanged with device.

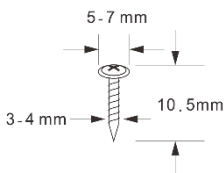
Hardware Installation Procedure

- STEP 1:** After unpacking the unit, connect the power supply or power adapter to the unit. Make sure that the adapter is connected to an earthed socket outlet.
- STEP 2:** Use a standard straight-through Ethernet cable to connect the unit 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 desired port on the unit.
- STEP 4:** Place or mount the unit. 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

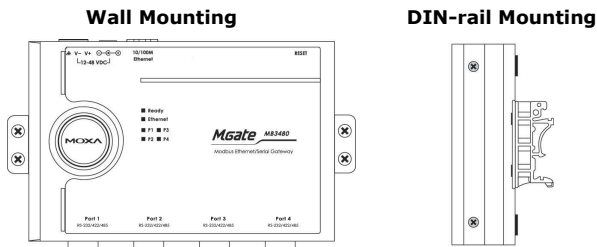
The unit comes with two metal plates for mounting onto a wall or inside a cabinet. Attach the plates to the unit's rear panel with the provided screws. With the plates attached, use screws to mount the unit on a wall.

Mounting the MGate MB3480 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 MB3480 on a DIN rail. When mounting the unit on a DIN rail, make sure that it is oriented with the metal springs on top.



WARNING

The danger of an explosion exists if the battery is incorrectly replaced. Replace the battery only with the same or an equivalent type as recommended by the manufacturer. Discard used batteries according to the manufacturer's instructions.

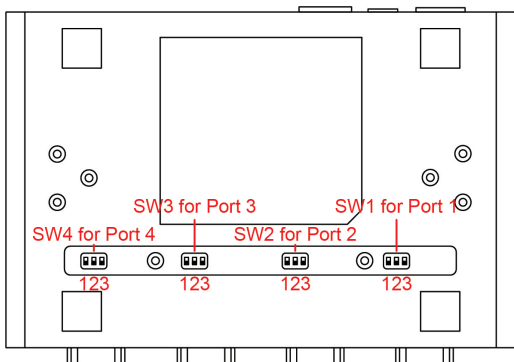
NOTE The battery replacement must be handled by authorized personnel only. The warranty is voided if the product is disassembled, modified, or repaired in any way by any persons unauthorized to do so by Moxa Inc.

Termination Resistor and Adjustable Pull High/Low Resistors

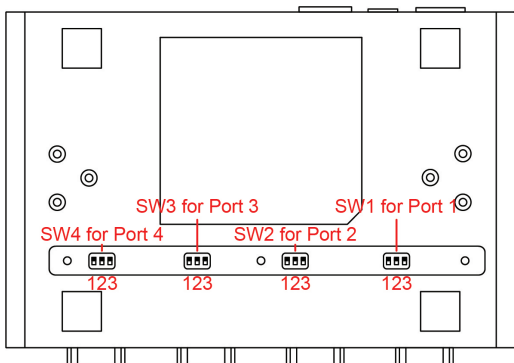
For some RS-485 environments, you may need to add termination resistors to prevent the reflection of serial signals. When using termination resistors, it is important to set the pull high/low resistors correctly so that the electrical signal is not corrupted. For each serial port, DIP switches are used for termination resistor and pull high/low resistor settings. To access these switches, loosen the screws on both sides of the device and open the cover. To enable the 120 Ω termination resistor, set switch 3 on the assigned DIP switch to ON; set it to OFF (the default setting) to disable the termination resistor. To set the pull high/low resistors to 150 K Ω (the default setting), set switches 1 and 2 on the assigned DIP switch to the OFF position; set them both to ON for 1 K Ω .

MGate MB3480 DIP Switches

HW version v1.3.3 or earlier



HW version v1.4.0 or later



Pull High/low Resistors for the RS-485 Port

SW	1	2	3
	Pull High	Pull Low	Terminator
ON	1 K Ω	1 K Ω	120 Ω
OFF	150 K Ω	150 K Ω	-

Default

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 MB3480 also supports login via a web browser.

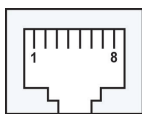
Default IP address: **192.168.127.254**

Default account: **admin**

Default password: **moxa**

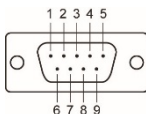
Pin Assignments

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	365 mA max. @ 12 VDC
Operating Temperature	0 to 55°C (32 to 140°F)
Storage Temperature	-40 to 85°C (-40 to 185°F)
Operating Humidity	5 to 95% RH
Dimensions	
With ears:	35.5 x 102.7 x 181.3 mm (1.40 x 4.04 x 7.14 inch)
Without ears:	35.5 x 102.7 x 157.2 mm (1.40 x 4.04 x 6.19 inch)