



# MGate MB3180 Quick Installation Guide

Third Edition, June 2008

## 1. Overview

The MGate MB 3180 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.

## 2. Package Checklist

Before installing the MGate MB 3180 Modbus gateway, verify that the package contains the following items:

- 1 MGate MB3180 Modbus gateway
- 4 stick-on pads
- Document & Software CD
- MGate MB 3180 Quick Installation Guide
- Product Warranty Statement
- Power adapter

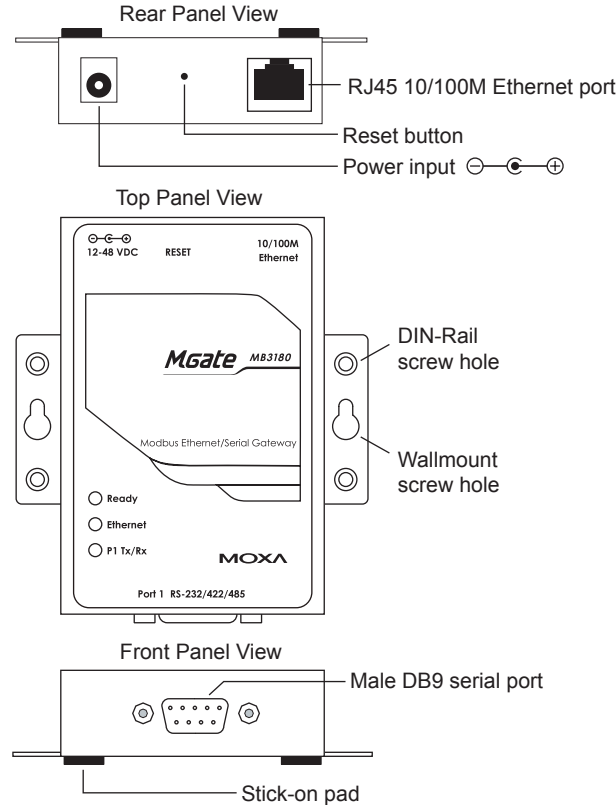
### Optional Accessory

- DK-35A: DIN-rail mounting kit (35 mm)

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

## 3. Hardware Introduction

As shown in the following figures, the MGate MB 3180 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	On: Power is on and the unit is booting up
		Blinking: IP conflict exists, or DHCP or BOOTP server is not responding properly.
	Green	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
Link	Orange	10 Mbps Ethernet connection
	Green	100 Mbps Ethernet connection
	Off	Ethernet cable is disconnected or has a short
Tx/Rx	Orange	Unit is receiving data from device.
	Green	Unit is transmitting data to device.
	Off	No data is being exchanged with device.

## 4. Hardware Installation Procedure

**STEP 1:** After unpacking the MGate MB 3180, connect the power adaptor.

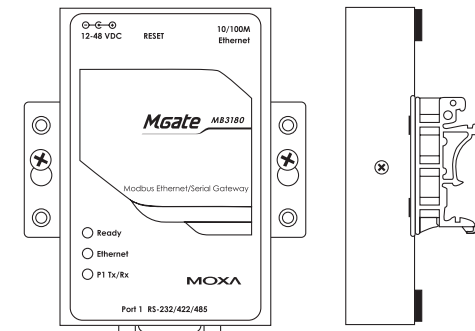
**STEP 2:** Use a standard straight-through Ethernet cable to connect the MGate MB 3180 to a network hub or switch. Use a cross-over Ethernet cable if you are connecting the gateway directly to a PC.

**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

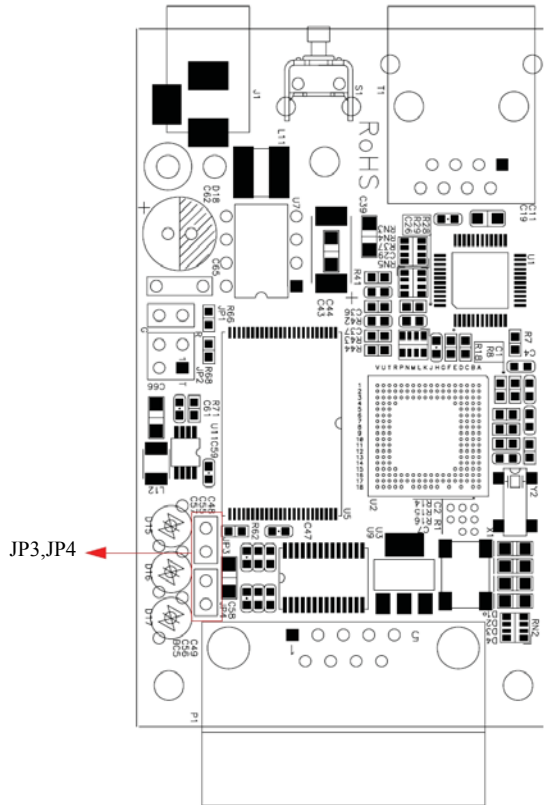
### DIN-rail Mounting



### 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 $\Omega$ , which is the factory default setting, leave the two jumpers open. To set the pull high/low resistors to 1 K $\Omega$ , use the jumper caps to short the two jumpers.

### MGate MB 3180 Jumpers



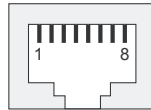
## 5. Software Installation

To install **MGate Manager**, insert the **MGate Document & Software CD** into your PC's CD-ROM drive. Locate and run the setup program, which will be named **MGM\_Setup\_[Version]\_Build\_[DateTime].exe** (e.g., **MGM\_Setup\_Ver1.1.0\_Build\_07041910.exe**) and follow the on-screen instructions.

For more information about MGate Manager, please refer to the MGate MB3000 User's Manual.

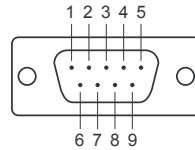
## 6. Pin Assignments

### 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	---	---	---

## 7. Environmental Specifications

### Power Requirements

Power Input	12 to 48 VDC	
Power Consumption	200 mA@12 VDC, 60 mA@48 VDC	
Operating Temperature	0 to 55°C (32 to 131°F)	
Operating Humidity	5 to 95% RH	
Dimensions (W x D x H)	75.2 x 80 x 22 mm	←including ears
	(2.96 x 3.15 x 0.87 in)	
	52 x 80 x 22 mm	←without ears
	(2.05 x 3.15 x 0.89 in)	

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

**MOXA**<sup>®</sup>

Click here for online support:  
[www.moxa.com/support](http://www.moxa.com/support)

The Americas: +1-714-528-6777 (toll-free: 1-888-669-2872)  
Europe: +49-89-3 70 03 99-0  
Asia-Pacific: +886-2-8919-1230  
China: +86-21-5258-9955 (toll-free: 800-820-5036)

© 2008 Moxa Inc., all rights reserved.  
Reproduction without permission is prohibited.