GETTING STARTED

CHAPTER
1

In this Chapter...

Introduction

Overview of this Publication

Modbus is one of the most popular communication protocols in the automation industry because it supports both traditional RS-232/422/485 devices and newly developed industrial Ethernet devices. Many industrial devices, such as PLCs, HMIs, instruments and meters use Modbus as their standard communication protocol. However, the Modbus protocols running over serial and Ethernet are so different that a communication gateway is needed as a bridge for integrating devices from these two networks. The MB-GATEWAY is a Modbus TCP (Ethernet) to Modbus RTU (Serial) Gateway which provides the necessary bridge to connect Modbus RTU (Serial) products to Ethernet LANs.

The Modbus TCP side of the Gateway functions as a TCP Server (slave) while the Modbus RTU side functions as a serial Client (master). The serial side physical interface is RS-422/485 2 or 4 wire so up to 128 Modbus RTU devices can be accessed by a Modbus TCP Client device (up to 12 simultaneous connections). The actual number of Modbus RTU slaves will depend on their individual transceiver loads.

The MB-GATEWAY User Manual describes the installation, configuration, and methods of operation of the MB-GATEWAY Module.

Who Should Read This Manual

This manual contains important information for those who will install, maintain, and/or operate The MB-GATEWAY Module.

Technical Support

We strive to make our manuals the best in the industry. We rely on your feedback to let us know if we are reaching our goal. If you cannot find the solution to your particular application, or, if for any reason you need technical assistance, please call us at:

770–844–4200

Our technical support group will work with you to answer your questions. They are available Monday through Friday from 9:00 A.M. to 6:00 P.M. Eastern Time. We also encourage you to visit our web site where you can find technical and non-technical information about our products and our company.

http://www.automationdirect.com
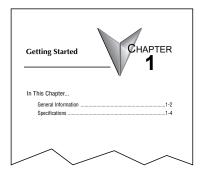
Conventions Used

1

When you see the "notepad" icon in the left-hand margin, the paragraph to its immediate right will be a special note. The word NOTE: in boldface will mark the beginning of the text.

When you see the "exclamation mark" icon in the left-hand margin, the paragraph to its immediate right will be a warning. This information could prevent injury, loss of property, or even death (in extreme cases). The word WARNING: in boldface will mark the beginning of the text.

Key Topics for Each Chapter

The beginning of each chapter will list the key topics that can be found in that chapter.

Getting Started   CHAPTER **1**

In This Chapter...
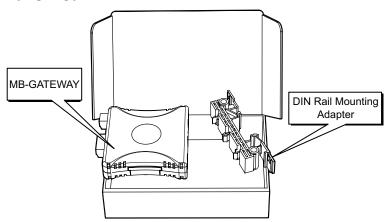
Product Overview

AutomationDirect's MB-GATEWAY is a single port Modbus Gateway module that converts Modbus TCP to Modbus RTU. It supports up to 12 simultaneous Modbus TCP Client (master) Ethernet connections, and up to 128 RTU Server (slave) Serial connections. MB-GATEWAY requires 10VDC to 36VDC from an external power supply. Each module has one RJ45 10/100 Mbps Ethernet port and one RS-422/485 2 or 4 wire Serial Port. It supports NetEdit (Ver 3.8 and later) or Web Browser based configuration tools.

Key features include:

- Automatic Read Function
- RJ45 10/100 Mbps Ethernet Port
- RS-422/485 2 or 4 wire Serial Port
- True failsafe receiver while maintaining EIA/TIA-485 compatibility
- Supports NetEdit and Web Browser configuration tools
- Autodetects Ethernet cable types (MDI/MDX)
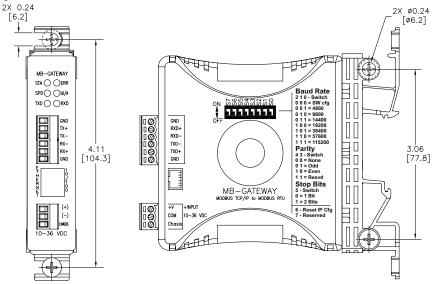- 35mm DIN rail mount

What's in the Box

MB-GATEWAY

DIN Rail Mounting
Adapter

Mounting / Clearance Information

There are two options for mounting the MB-GATEWAY module.

Direct Mounting

The MB-GATEWAY module can be mounted in either a low-profile orientation or a slim-mount orientation using screw holes on the provided mounting adapter. Screws are not provided

2X 0.24
[6.2]

2X Ø0.24
[Ø6.2]

MB−GATEWAY
STA ◯ ◯ERR
SPD ◯ ◯LK/A
TXD ◯ ◯RXD

GND
TX+
TX−
RX−
RX+
GND

E T H E R N E T

10/100

(+)
(−)

CHSIS

10−36 VDC

4.11
[104.3]

GND
RXD+
RXD−
TXD−
TXD+
GND

+V
COM
Chasis

+INPUT
10−36 VDC

Baud Rate
2 1 0 - Switch
0 0 0 = SW cfg
0 0 1 = 4800
0 1 0 = 9600
0 1 1 = 14400
1 0 0 = 19200
1 0 1 = 38400
1 1 0 = 57600
1 1 1 = 115200
Parity
4 3 - Switch
0 0 = None
0 1 = Odd
1 0 = Even
1 1 = Resvd
Stop Bits
5 - Switch
0 = 1 Bit
1 = 2 Bits

6 - Reset IP Cfg
7 - Reserved

ON
OFF

MB−GATEWAY
MODBUS TCP/IP to MODBUS RTU
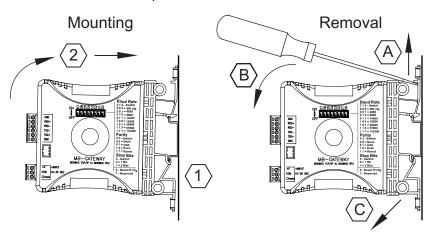
3.06
[77.8]

DIN Rail Mounting

The MB-GATEWAY module can be snapped onto a standard 35 mm x 7.5 mm height DIN rail (Standard: CENELEC EN50022). They can be mounted either vertically or horizontally. Refer to the mechanical drawings that follow for proper mounting.

DIN rail mounting steps:

1. Hook bottom back of unit over the DIN rail.
2. Push top back onto the DIN rail until it snaps into place.

DIN rail removal steps:

A. Pull up on tab at the top of the mounting adapter with a screwdriver.
B. Rotate the bottom of the unit away from the DIN rail.
C. Pull unit down and away from DIN rail.

Agency Approvals

UL/CUL/CE Certification Numbers			
Name	UL/CUL	UL508	CE
MB-GATEWAY	E185989	E185989	Yes