

Introduction

IDS-M311 is a 1-port Modbus gateway which converts signals between Modbus TCP and Modbus RTU/ASCII devices. The device is able to support up to 31 RTU/ASCII devices with its serial port, thus can effectively connect a high density of Modbus nodes to the same network. You can use the Web configuration interface to configure multiple devices and set up IDS-M311 operation modes for different application requirements. IDS-M311 supports RS-232/422/485 and provides dual redundant power inputs guarantee a non-stop operation.

Package Contents

The device is shipped with the following items. If any of these items is missing or damaged, please contact your customer service representative for assistance.

Contents	Pictures	Number
IDS-M311		X 1
CD		X 1
DIN-rail Kit		X 1
Wall-mount Kit		X 1
QIG		X 1

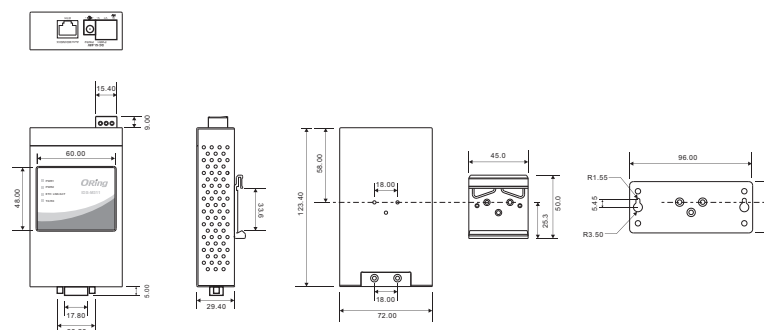
Preparation

Before you begin installing the device, make sure you have all of the package contents available and a PC with Microsoft Internet Explorer 6.0 or later, for using web-based system management tools.

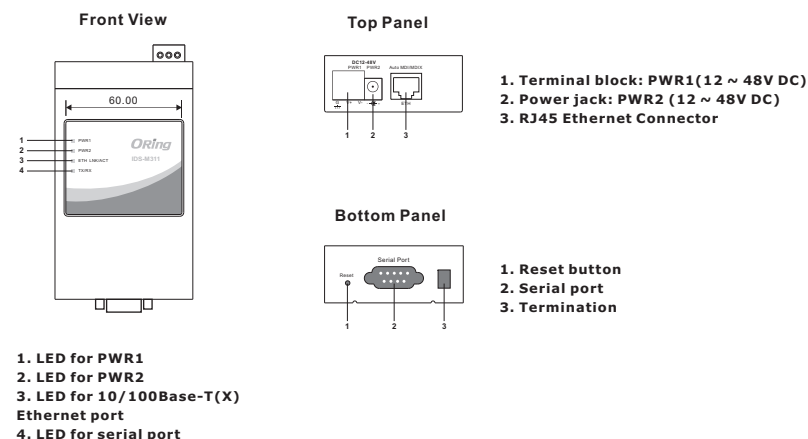
Safety & Warnings

- Elevated Operating Ambient:** If installed in a closed environment, make sure the operating ambient temperature is compatible with the maximum ambient temperature (T_{ma}) specified by the manufacturer.
- Reduced Air Flow:** Make sure the amount of air flow required for safe operation of the equipment is not compromised during installation.
- Mechanical Loading:** Make sure the mounting of the equipment is not in a hazardous condition due to uneven mechanical loading.
- Circuit Overloading:** Consideration should be given to the connection of the equipment to the supply circuit and the effect that overloading of the circuits might have on overcurrent protection and supply wiring. Appropriate consideration of equipment nameplate ratings should be used when addressing this concern.

Dimension



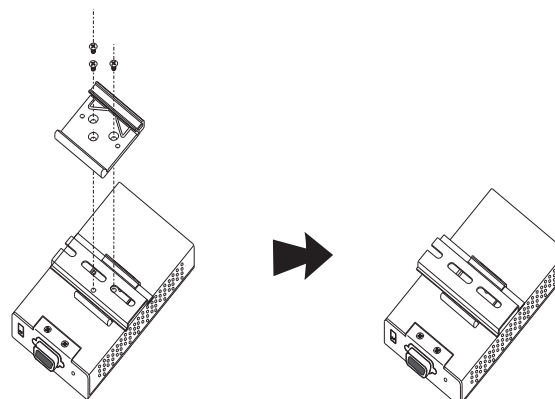
Panel Layouts



Installation

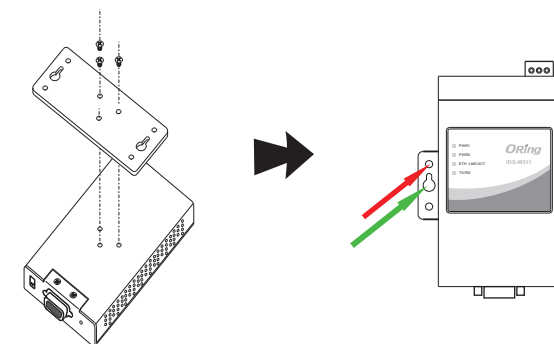
DIN-rail Installation

Step 1: Slant the device and screw the Din-rail kit onto the back of the device, right in the middle of the back panel.
Step 2: Slide the device onto a DIN-rail from the Din-rail kit and make sure the device clicks into the rail firmly.



Wall-mounting

Step 1: Screw the wall-mount kit onto the rear panel of the device. A total of three screws are required, as shown below.
Step 2: Use the device, with wall mount plates attached, as a guide to mark the correct locations of the four screws.
Step 3: Insert screws through the round screw holes (the red arrow as below) on the sides or through the key hole-shaped aperture (the green arrow as below) in the middle of the plate and fasten the screw to the wall with a screwdriver.
Step 4: If the screw goes through the cross-shaped aperture, slide the device down before tightening the screw.



Network Connection

The IDS-M311 have standard Ethernet port. According to the link type, the device uses CAT 3,4,5,5e UTP cables to connect to any other network devices (PCs, servers, switches, routers, or hubs). Please refer to the following table for cable specifications.

Cable Types and Specifications:

Cable	Type	Max. Length	Connector
10BASE-T	Cat. 3, 4, 5 100-ohm	UTP 100 m (328 ft)	RJ-45
100BASE-TX	Cat. 5 100-ohm UTP	UTP 100 m (328 ft)	RJ-45

For pin assignments for different types of cables, please refer to the following tables.

10/100 Base-T(X) RJ-45		10/100 Base-T(X) MDI/MDI-X		
Pin Number	Assignment	Pin Number	MDI port	MDI-X port
1	TD+	1	TD+(transmit)	RD+(receive)
2	TD-	2	TD-(transmit)	RD-(receive)
3	RD+	3	RD+(receive)	TD+(transmit)
4	Not used	4	Not used	Not used
5	Not used	5	Not used	Not used
6	RD-	6	RD-(receive)	TD-(transmit)
7	Not used	7	Not used	Not used
8	Not used	8	Not used	Not used

Note: "+" and "-" signs represent the polarity of the wires that make up each wire pair.

DB9 serial port

The device can be connected to a serial device using a DB9 cable. The DB9 connector supports RS-232 / RS-422 / RS-485 operation modes. Please refer to the following table for the pin assignments of the DB9 connector.



Pin #	RS-232	RS-422	RS-485 (4 wire)	RS-485 (2 wire)
1	DCD	RXD -	RXD -	
2	RXD	RXD +	RXD +	
3	TXD	TXD +	TXD +	DATA +
4	DTR	TXD -	TXD -	DATA -
5	GND	GND	GND	GND
6	DSR			
7	RTS			
8	CTS			
9	RI			

RS-232 mode act as DTE

Wiring

Grounding

Grounding and wire routing help limit the effects of noise due to electromagnetic interference (EMI). Run the ground connection from the ground screws to the grounding surface prior to connecting devices.

Power inputs

The device has two sets of power inputs in the form of DC power jack and terminal. The power input connectors are located on the top panel alongside the Ethernet port. Follow the steps below to wire the power input on the terminal block.
Step 1: insert the negative / positive wires into the V-/V+ terminals, respectively.
Step 2: to keep the wires from pulling loose, use a small flat-blade screwdriver to tighten the wire-clamp screws on the front of the terminal block connector.

Configurations

After installing the device, the green power LED should turn on. Please refer to the following table for LED indication.

LED	Color	Status	Description
PW1/2	Red	On	Power module 1 activated
		Blinking	DHCP servers do not respond properly
	Green	On	Power is on and function normally
ETH	Green	On	Port running at 100Mbps
LNK/ACT	Amber	On	Port running at 10Mbps
TX / RX	Red	On	Receiving data
		Green	Transmitting data

Specifications

Oring Device Model	IDS-M311
Physical Ports	
10/100 Base-T(X) Ports in RJ45 Auto MDI/MDIX	1
Serial Ports	
Connector	DB9 (male) x 1
Operation Mode	RS-232 / RS-422 / 4(2)-Wire RS-485. Which can be configured by Web interface
Serial Baud Rate	110 bps to 115.2 Kbps
Data Bits	5, 6, 7, 8
Parity	odd, even, none, mark, space
Stop Bits	1, 1.5, 2
RS-232	TxD, RxD, RTS, CTS, DTR, DSR, DCD, RI, GND
RS-422	Tx+, Tx-, Rx+, Rx-, GND
RS-485 (4-wire)	Tx+, Tx-, Rx+, Rx-, GND
RS-485 (2-wire)	Data+, Data-, GND
Flow Control	XON/XOFF, RTS/CTS, DTR/DSR
Network Protocol	
Protocol	ICMP, IP, TCP, UDP, DHCP, BOOTP, DNS, SNMP V1/V2c, HTTPS, SMTP, DDNS, PPPoE, Modbus TCP
Power	
Redundant Input power	Dual DC inputs. 12-48VDC on 3-pin terminal block and power jack
Power consumption(Typ.)	4 watts
Overload current protection	Present
Reverse polarity protection	Present on terminal block
Physical Characteristic	
Enclosure	IP-30
Dimension (W x D x H)	72(W)x29.4(D)x123.4(H) mm (2.83x1.16x4.86 inch.)
Weight (g)	294g
Environmental	
Storage Temperature	-40 to 85°C (-40 to 185°F)
Operating Temperature	-40 to 85°C (-40 to 185°F)
Operating Humidity	5% to 95% Non-condensing
Regulatory Approvals	
Power Automation	IEC 61850-3, IEEE 1613
EMI	FCC Part 15, CISPR (EN55022) class A
EMS	EN61000-4-2 (ESD) EN61000-4-3 (RS) EN61000-4-4 (EFT) EN61000-4-5 (Surge) EN61000-4-6 (CS) EN61000-4-8 EN61000-4-11
Shock	IEC60068-2-27
Free Fall	IEC60068-2-32
Vibration	IEC60068-2-6
Safety	EN60950-1
Warranty	5 years



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