

Introduction

The **IDS-312L** is an innovative secure one port RS-232/422/485 to two ports LAN device server with standard features of device server, such like TCP/IP interface and versatile operation modes: Virtual Com, Serial Tunnel, TCP Server, TCP Client, and UDP. In addition, the Windows utility, DS-Tool, could configure multiple devices and set up the mappings of Virtual Com. On the other hand, it can simultaneously transfer data up to 5 redundant host PCs to avoid Ethernet connection breakdown or any host PC fails. Further, **IDS-312L** features HTTPS, SSH, and SSL encryption to assure the security of critical data transmission. The device supports RS-232/422/485 and provides dual redundant power inputs, 12~48 VDC, on terminal block to guarantee a non-stop operation. With wide operating temperature, -10~70°C, and rugged IP-30 housing design, the device could operate in the harsh industrial environment. Therefore, **IDS-312L** is the best solution to the high demand of secure serial to Ethernet critical data communication.

The product is open type, intended to be installed in and industrial control panel or an enclosure.

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-312L		X 1
CD		X 1
QIG		X 1
DIN-rail kit		X 1
Wall-Mount Kit		X 2
4-pin terminal block		X 1
Dust cover		X 2

Preparation

Before installation, 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.

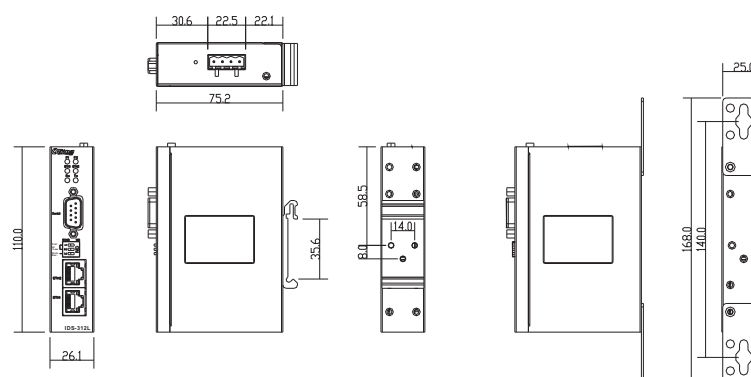
Safety & Warnings

- 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.



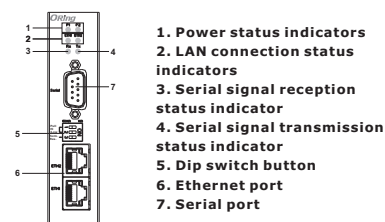
- * Indoor use and pollution degree II, it must be wiped with a dry cloth for clean up the device and label.
- * Utilisation en intérieur et degré de pollution II, il faut l'essuyer avec un chiffon sec pour nettoyer l'appareil et son étiquette.
- * Do not block air ventilation holes.
- * Ne bouchez pas les orifices de ventilation.
- * If the equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired."
- * Si l'appareil est utilisé d'une manière non spécifiée par le fabricant, la protection qu'il apporte peut se voir diminuée."
- * Shall be mounted in the Industrial Control Panel and ambient temperature is not exceed 70 degree C
- * doit être monté dans le panneau de commande industriel et la température ambiante ne doit pas dépasser 70 degrés C

Dimension Unit =mm (Tolerance ±0.5mm)

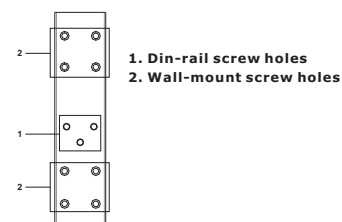


Panel Layouts

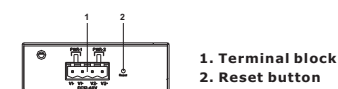
Front Panel



Rear Panel



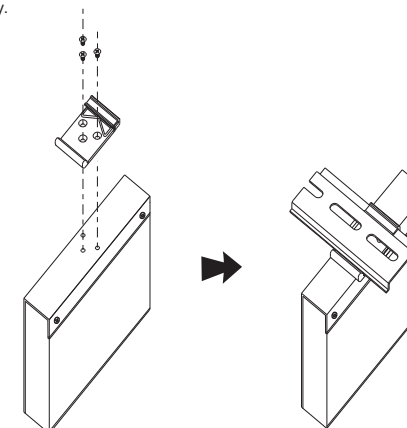
Top Panel



Installation

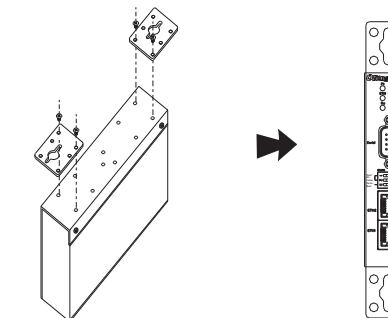
DIN-rail

- 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-mount

- Step 1:** Screw the two pieces of wall-mount kits to the top and bottom panels of the device. A total of eight 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 a screw head through middle of the keyhole-shaped aperture on the plate, and then slide the device downwards. Tighten the screw head for added stability.



Network Connection

The device has two 10/100Base-T(X) Ethernet ports. According to the link type, the AP uses CAT 3, 4, 5, 5e, 6 UTP cables to connect to any other network device (PCs, servers, switches, routers, or hubs).

Cable	Type	Max. Length	Connector
10Base-T	Cat. 3, 4, 5 100-ohm	UTP 100 m (328 ft)	RJ45
100Base-TX	Cat. 5 100-ohm UTP	UTP 100 m (328 ft)	RJ45

Configurations

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

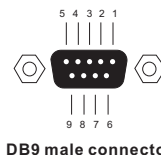
10/100 Base-T(X) RJ-45			10/100 Base-T(X) RJ-45	
Pin Number	MDI port	MDI-X port	Pin Number	Assignment
1	TD+(transmit)	RD+(receive)	1	TD+
2	TD-(transmit)	RD-(receive)	2	TD-
3	RD+(receive)	TD+(transmit)	3	RD+
4	Not used	Not used	4	Not used
5	Not used	Not used	5	Not used
6	RD-(receive)	TD-(transmit)	6	RD-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

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

DB9 serial port

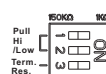
The device can be connected to a serial device using a DB9 cable. The DB9 connector supports RS232 / RS422 / RS485 operation modes. Please refer to the following table for the pin assignments of the DB9 connector.

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



DB9 male connector

Dip Switch



SW No.	Description
#1	150K / 1K Ohm Pull High/Low Resistor
#2	
#3	Enable / Disable Terminal Resistor

Wiring

Power inputs

This device supports dual redundant power supplies, Power Supply 1 (PWR1) and Power Supply 2 (PWR2). The connectors for PWR1 and PWR2 are located on the terminal block.

STEP 1: Insert the negative/positive DC wires into the V-/V+ terminals, respectively.

STEP 2: To keep the DC wires from pulling loose, use a small flat-blade screwdriver to tighten the wire-clamp screws on the front of the terminal block connector.



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.

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

LED	Color	Status	Description
PWR 1/2	Green	On	Power is on and function normally
ETH 1/2	Green	On	Port is connected
		Blinking	Data Transmitted
RX / TX	Amber	On	Receiving Serial data
	Green	On	Transmitting Serial data

Follow the steps below to log in and access the system:

1. Launch the Internet Explorer and type in IP address of the device. The default static IP address is **192.168.10.2**



2. Log in with the default user name "admin" and password is "admin" also. However, you can set up a password later in the management page. After logging in, you should see the following screen. For more information on configurations, please refer to the user manual. For information on operating the device server using ORing's DS-Tool management utility, please go to ORing website.



Resetting

To restore the device configurations back to the factory defaults, press the **Reset** button for a few seconds. Once the power indicator starts to flash, release the button. The device will then reboot and return to factory defaults.

Contact for maintenance and repair service:

ORing

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Specifications

ORing Device Server Model	IDS-312L
Physical Ports	
10/100Base-T(X) Ports in Auto MDI/MDIX	2
Serial Ports	
Connector	DB9 x 1
Operation Mode	RS-232/422/485
Serial Baud Rate	110 bps to 921.6 Kbps
Data Bits	7, 8
Parity	odd, even, none, mark, space
Stop Bits	1, 1.5, 2
RS-232	TxD, RxD, RTS, CTS, DTR, DSR, DCD, GND
RS-422	Tx-, Tx+, Rx+, Rx-
RS-485	4 wire: Tx-, Tx+, Rx+, Rx- 2 wire: Data-, Data
Flow Control	XON/XOFF, RTS/CTS, DTR/DSR
Network Protocol	
Protocol	ICMP, IP, TCP, UDP, DHCP, BOOTP, SSH, DNS, SNMP, V1/V2c, HTTPS, SMTP
Power	
Redundant Input power	Dual DC inputs. 12~48VDC on 4 pin terminal block * Supplied by SELV source evaluated by UL 61010-1 or 61010-2-201 power supply only. * Fourni par la source SELV évaluée uniquement par l'alimentation UL 61010-1 or 61010-2-201.
Power Consumption(Typ.)	0.05A-0.1A
Overload current protection	Present
Reverse polarity protection	Present
Physical Characteristic	
Enclosure	IP-30 Metal (non UL certified)
Dimension (W x D x H)	26(W)x75(D)x110(H) mm (1.02 x 2.95 x 4.33 inch.)
Weight (g)	227g
Environmental	
Storage Temperature	-40 to 85°C (-40 to 185°F)
Operating Temperature	-40 to 70°C (-14 to 140°F)
Operating Humidity	5% to 95% Non-condensing
Operating Altitude	Up to 2000m
Regulatory Approvals	
EMI	FCC Part 15B, CISPR 32 (EN55032 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, UL61010-1, UL61010-2-201
Warranty	5 years



Warning [AVERTISSEMENT]

Take into consideration the following guidelines before wiring the device [Tenez compte des directrices suivantes avant de câbler l'appareil.]
 1. Terminal block is mating with Plug and suitable for 12-24AWG. Torque value 4.5 lb-in. [Le bornier est compatible avec les connecteurs et convient pour 12-24AWG. Valeur de couple 4,5 lb-in.]
 2. The temperature rating of the input connection cable should higher than 105°C [La température de service nominale du câble d'entrée doit être supérieure à 105 °C]