

## Quick Installation Guide

## Introduction










**IDS-4312D+** is an innovative secure 1 port RS-232/422/485 to 802.11 b/g/n WLAN, up to 150 Mbps, and 2 port 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. The features of NAT Router Pass Through, DDNS, and PPPoE make it more convenient for administrators to configure ORing's device servers through NAT router from different IP domains or Internet via modem remotely. On the other hand, **IDS-4312D+** can simultaneously transfer data up to 5 redundant host PCs to avoid Ethernet connection breakdown or any host PC fails. Further, **IDS-4312D+** features HTTPS, SSH, and SSL encryption to assure the security of critical data transmission.

**IDS-4312D+** supports RS-232/422/485 and provides dual redundant power inputs, 12~48VDC, on terminal block to guarantee a non-stop operation. Further, **IDS-4312D+** features PoE PD (Power Device) function, compliant with IEEE802.3af standard, with 1kv solution on the PoE port. With wide operating temperature, -25~70° C, and rugged IP-30 housing design, **IDS-4312D+** could operate in the harsh industrial environment. Therefore, 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-4312D+		X 1
Wi-Fi Antenna		X 1
QIG		X 1
DIN-rail kit		X 1
Wall-Mount Kit		X 2
4-pin terminal block		X 1
3-pin terminal block		X 1
Dust cover		X 2
CD		X 1






## IDS-4312D+

## Industrial Wireless Device Server

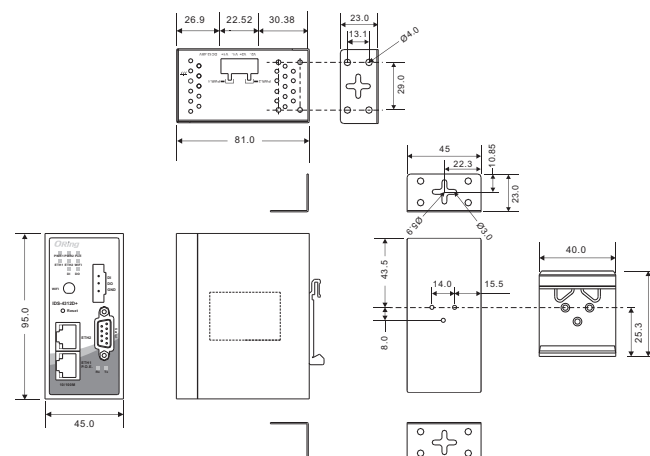
## Preparation

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 &amp; Warnings

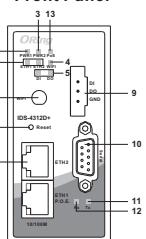
-  **Elevated Operating Ambient:** If installed in a closed environment, make sure the operating ambient temperature is compatible with the maximum ambient temperature (T<sub>ma</sub>) specified by the manufacturer.
-  **Reduced Air Flow:** Make sure the amount of air flow required for safe operation 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 bloquez 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

## Dimension Unit =mm (Tolerance ±0.5mm)



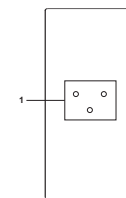
## Panel Layouts

## Front Panel



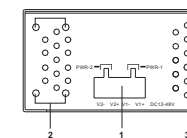
1. LED for Power 1 module
2. LED for Ethernet ports
3. LED for Power 2 module
4. LED for Wi-Fi status
5. LED for Digital I/O port
6. Reset button
7. Ethernet ports (ETH1 as LAN port; ETH2 as WAN port)
8. Wi-Fi antenna connector
9. Digital I/O port
10. Serial port
11. TX status of serial port
12. RX status of serial port
13. PoE indicator

## Rear Panel



## 1. Din-rail screw holes

## Top Panel

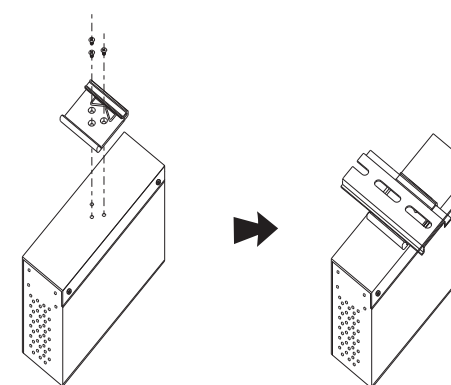


1. Terminal block
2. Wall-mount screw holes
3. Frame ground

## Installation

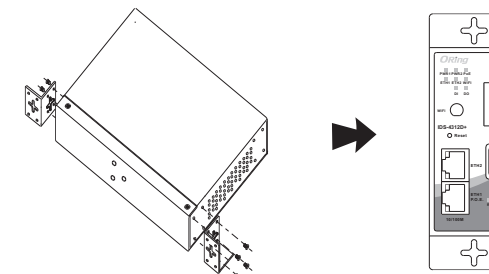
## DIN-rail

- 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 Types and Specifications.

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

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

10/100 Base-T(X) RJ-45 Pin Assignments		10/100 Base-T MDI/MDI-X Pin Assignments		
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

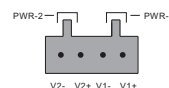
## Wiring

### 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.

## Configurations

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
PW1	Green	On	DC power module 1 activated
PW2	Green	On	DC power module 2 activated
PoE	Green	On	PoE enabled
10/100Base-T(X) RJ45 Port			
LNK/ACT	Green	On	Port is linked and transmitting data
Serial Port			
Rx	Red	On	Port is receiving data
Tx	Green	On	Port is transmitting data
WiFi Connection			
LNK/ACT	Green	Blinking	Wireless network is linked
Digital I/O			
DI/DO	Green	On	Digital I/O activated

## Specifications

ORing Device Server Model	IDS-4312D+
<b>Physical Ports</b>	
10/100Base-T(X) Ports in Auto MDI/MDIX	2
PoE P.D. port	<b>P.O.E. Present at ETH1</b> Power Device (IEEE 802.3af): IEEE 802.3af compliant input interface Over load & short circuit protection Isolation Voltage: 1000 VDC min. Isolation Resistance: 10 <sup>9</sup> ohms min
DI/DO	<b>DI x 1, DO x 1</b> DI: Logic level 1:5V~30V, Logic level 0:0V~2V DO: Maximum Voltage is 30V, Maximum Current is 20mA
<b>Wifi Interface</b>	
Antenna and Connector	1 x RP-SMA Female
Modulation	IEEE802.11b: CCK, DQPSK, DBPSK IEEE802.11g: OFDM IEEE802.11n: BPSK, QPSK, 16-QAM, 64-QAM
Frequency Band	America / FCC : 2.412~2.462 GHz (11 channels) Europe CE / ETSI : 2.412~2.472 GHz (13 channel)
Transmission Rate	802.11b: 1/ 2/ 5.5/ 11 Mbps 802.11g: 6/ 9/ 12/ 18/ 24/ 36/ 48/ 54 Mbps 802.11n(MHz): UP to 150 Mbps
Transmit Power	802.11b: 19dBm ±1.5 dBm 802.11g: 17dBm ±1.5 dBm 802.11n(2.4G@20MHz): 16dBm ±1.5dBm 802.11n(2.4G@40MHz): 14dBm ±1.5dBm
Receiver Sensitivity	802.11b: -90dBm±2.0dB @ 11Mbps 802.11g: -72dBm±2.0dB @ 54Mbps 802.11n(2.4G@40MHz, MCS7): -68dBm ±2dBm
Encryption Security	WEP: (64-bit, 128-bit key supported) WPA/WPA2: (WEP and AES encryption) 802.11i WPA-PSK (256-bit key pre-shared key supported) 802.1X Authentication supported TKIP encryption
<b>Serial Port</b>	
Connector	DB9 x1
Operation Mode	RS-232/422/485
Serial Baud Rate	110 bps to 115.2 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, RI, GND
Flow Control	XON/XOFF, RTS/CTS, DTR/DSR
<b>Network Protocol</b>	
Protocol	ICMP, IP, TCP, UDP, DHCP, BOOTP, SSH, DNS, SNMP V1/ V2c, HTTPS, SMTP, DDNS, PPPoE
<b>Power</b>	
Redundant Input power	Dual DC Inputs. 12~48VDC on 4 pin terminal block PoE input 48VDC  * Supplied by SELV or double insulation source evaluated by UL 61010-1 or 61010-2-201 power supply only. * Fourni par source SELV ou double Isolation évaluée uniquement par l'alimentation UL 61010-1 or UL 61010-2-201.
Power Consumption(Typ.)	7 Watts Max.
Overload current protection	Present
Reverse polarity protection	Present on terminal block
<b>Physical Characteristic</b>	
Enclosure	IP-30 (non UL certified)
Dimension (W x D x H)	45(W)x81(D)x95(H) mm (1.77 x 3.19 x 3.74 inch.)
Weight (g)	395g
<b>Environmental</b>	
Storage Temperature	-40 to 85°C (-40 to 185°F)
Operating Temperature	-25 to 70°C (-13 to 158°F)
Operating Humidity	5% to 95% Non-condensing
Operating Altitude	Up to 2000m

Regulatory Approvals	
EMC	CE EMC (EN 55024, EN 55032), FCC Part 15 B
EMI	EN 55032, CISPR32, EN 61000-3-2, EN 61000-3-3, FCC Part 15 B Class A
EMS	EN 55024, (IEC/EN 61000-4-2(ESD), IEC/EN 61000-4-3(RS), IEC/EN 61000-4-4(EFT), IEC/EN 61000-4-5(Surge), IEC/EN 61000-4-6(CS), IEC/EN 61000-4-8(PFMF) IEC/EN 61000-4-11(DIP))
WiFi	EN 301 489-1/-17(2.4G), EN 300 328(2.4G), FCC Part 15C(2.4G)
Shock	IEC60068-2-27
Free Fall	IEC60068-2-31
Vibration	IEC60068-2-6
Safety	UL61010-1/-2-201
MTBF	381084.210 hrs
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]

3. Use Copper Conductors Only.

[Utilisez uniquement des conducteurs en cuivre.]

Contact for maintenance and repair service:

**ORing**

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