WIRELESS ACCESS POINT Router INDUSTRIAL

ORing

Quick Installation Guide

IAR-142(+)-3G

Industrial Wireless LAN Access Point Router

Introduction

The **IAR-142(+)-3G** is a reliable IEEE 802.11 b/g/n WLAN VPN router with two 10/100Base-T(X) ports where one for LAN and the other one for WAN. It supports 802.1X and MAC filter for security control and can be operate in three routing modes: Dynamic/Static IP Route, PPPoE Authentication, and Modem Dial-up. In the mode of Modem Dial-up, it supports GPRS/3G/3.5G modem via the internal 3G module. You can set up a WLAN environment that fulfills demands of various applications by dialing up cellular modems. In addition, the WAN port of the device is P.D.-enabled which is fully compliant with IEEE802.3af PoE specification. This feature extends the layout up to 100 meters.

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.

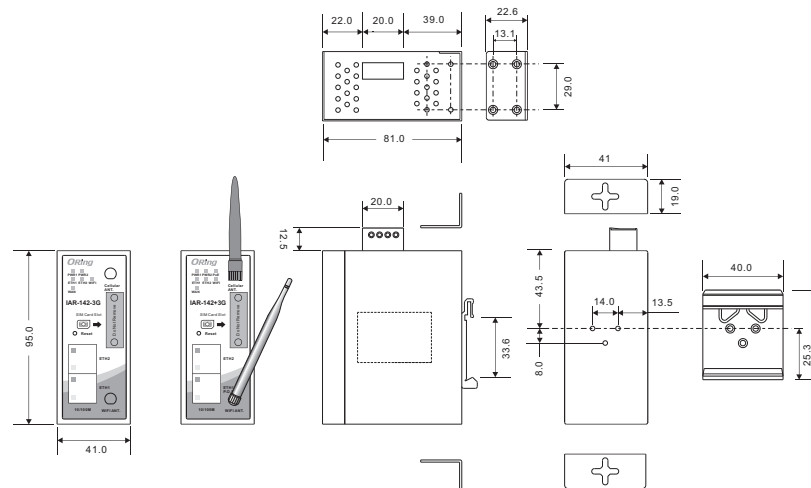| Contents	Pictures	Number
IAP-420-3G or IAP-420+-3G		X 1
CD		X 1
3G Antenna		X 1
Wi-Fi Antenna		X 1
QIG		X 1
DIN-rail kit		X 1
Wall-Mount Kit		X 2
4-pin terminal block		X 1
Dust cover		X 2

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.
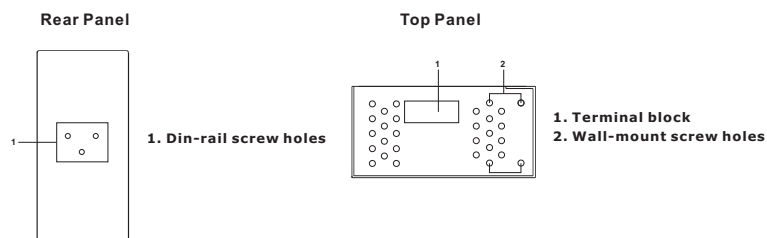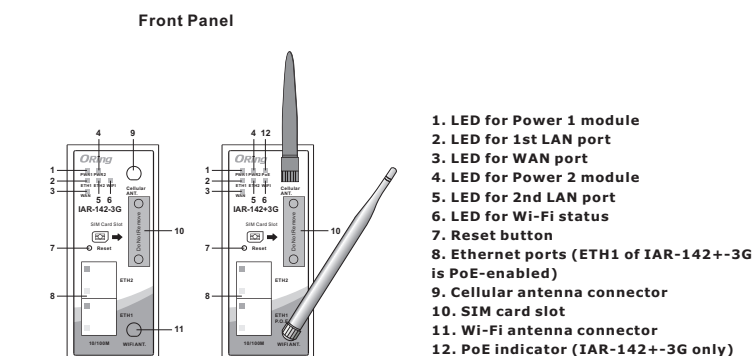
Safety & Warnings

⚠ **Elevated Operating Ambient:** If installed in a closed environment, make sure the operating ambient temperature is compatible with the maximum ambient temperature (Tma) 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

Front Panel

1. LED for Power 1 module
2. LED for 1st LAN port
3. LED for WAN port
4. LED for Power 2 module
5. LED for 2nd LAN port
6. LED for Wi-Fi status
7. Reset button
8. Ethernet ports (ETH1 of IAR-142+-3G is PoE-enabled)
9. Cellular antenna connector
10. SIM card slot
11. Wi-Fi antenna connector
12. PoE indicator (IAR-142+-3G only)

Rear Panel

1. Din-rail screw holes

Top Panel

1. Terminal block
2. Wall-mount screw holes

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.
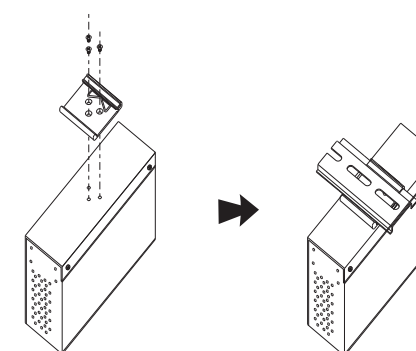
Wall-mount

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.
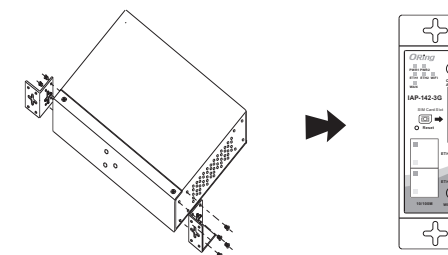
Network Connection

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

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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.

PWR-2   PWR-1

V2+ V2- V1+ V1-

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.
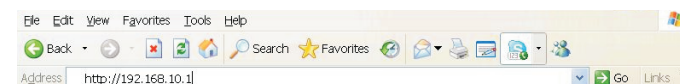
Configurations

After installing the device and connecting cables, the green power LED should turn on. Please refer to the following tablet for LED indication.
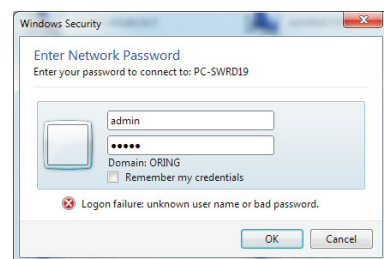
LED	Color	Status	Description
PWR1	Green	On	DC power 1 activated
PWR2	Green	On	DC power 2 activated
PoE	Green	On	Power is supplied over Ethernet cable
ETH1	Green	On	Port is linked
		Blinking	Data being transmitted
ETH2	Green	On	Port is linked
		Blinking	Data being transmitted
WLAN	Green	Blinking	WLAN is activated /Link
WAN	Green	Blinking	Cellular modem ready

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 **192.168.10.1**

File Edit View Favorites Tools Help
Back · · · Search · Favorites
Address http://192.168.10.1 Go Links

2. Log in with default user name and password (both are admin). 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 using Oring's Open-Vision management utility, please go to ORing website.

Windows Security
Enter Network Password
Enter your password to connect to: PC-SWRD19
admin
••••••
Domain: ORING
Remember my credentials
Logon failure: unknown user name or bad password.
OK   Cancel

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.

Specifications

ORing WLAN Access Point Router Model	IAR-142-3G	IAR-142+-3G
Physical Ports		
10/100Base-T(X) Ports in Auto MDI/MDIX	2	
PoE P.D. port	-	Present at ETH Fully compliant with IEEE 802.3af Power Device specification Over load & short circuit protection Isolation Voltage: 1000 VDC min. Isolation Resistance: 10^6 ohms min
Sim Card Slot	1	
Cellular Interface		
Antenna Connector	1 x Reverse SMA Female	
Cellular Standard	GSM / GPRS/ EGPRS/ EDGE/ WCDMA/ HSDPA/ HSUPA	
Band Option	Dual-band: HSUPA 1900/2100 MHZ Quad-band: GSM/ GPRS/ EDGE 850/ 900/ 1800/ 1900 MHZ WCDMA/ HSDPA 850/ 900/1900/2100 MHz	
WLAN Interface		
Antenna and Connector	1 x Reverse 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	801.11b: 1/ 2/ 5.5/ 11 Mbps 801.11g: 6/ 9/ 12/ 18/ 24/ 36/ 48/ 54 Mbps 802.11n(MHz): UP to 150 Mbps	
Transmit Power	802.11b: 13.5dBm ±1.5 dBm 802.11g: 13.5dBm ±1.5 dBm 802.11n(2.4G@20MHz): 13.5dBm ±1.5dBm 802.11n(2.4G@40MHz): 13.5dBm ±1.5dBm	
Receiver Senstivity	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	
Wireless Security	SSID broadcast disable	
Power		
Redundant Input power	Dual DC inputs. 12~48VDC on 4 pin terminal block	
Power Consumption(Typ.)	5 watts	
Overload current protection	Present	
Reverse polarity protection	Present	
Physical Characteristic		
Enclosure	IP-30	
Dimension (W x D x H)	41(W)x81(D)x95(H) mm (1.61 x 3.19 x 3.74 inch.)	
Weight (g)	400g	410g
Environmental		
Storage Temperature	-40 to 85°C (-40 to 185°F)	
Operating Temperature	-10 to 60°C (14 to 140°F)	
Operating Humidity	5% to 95% Non-condensing	
Regulatory Approvals		
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, EN61373	
Free Fall	IEC60068-2-32	
Vibration	IEC60068-2-6	
Safety	EN60950-1	
Warranty	5 years	

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