

Quick Installation Guide

IMG-W6121+-M12 Series






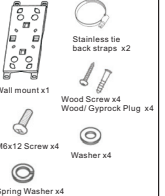
EN50155 Industrial IP-67 M2M
Gateway

Introduction

The IMG-W6121+-3G/4G-M12 is an innovative IEEE802.11 a/b/g/n WLAN access point VPN gateway with two RS-232 serial ports and one 10/100/1000Base-T(X) port with PoE P.D. function. The combination of two serial ports and one Ethernet port allows the device to connect to serial devices and networked devices at the same time. The device can be configured to connect to the Internet by dialing up the 3.5G/4G cellular modem. Therefore, it can be used in various applications through WLAN connections. With an IP-67 waterproof casing and PoE support, the device can be deployed in harsh outdoor environments where power supply is difficult to come by. Furthermore, the device can also transfer SSL encryption data to five host PCs simultaneously for backup purposes.

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
IMG-W6121+-3G/4G-M12		1
CD		1
2.4GHz/5GHz Antenna		2
Cellular Antenna		1
QIG		1
Mounting Installation Package	 <ul style="list-style-type: none"> Wall mount x1 Wood Screw x4 Wood/Gyrocock Plug x4 M6x12 Screw x4 Washer x4 Spring Washer x4 Stainless tie back straps x2 	1

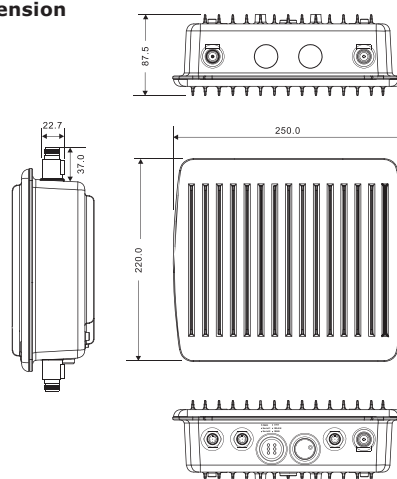
Preparation

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

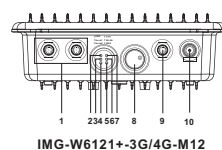
-  When installed outdoors, make sure the connectors on the panel are facing down to prevent water intrusion.
-  Do not remove the water-proof casing, and do not touch or move the device when the antennas are transmitting or receiving signals.
-  When installing the device, make sure to keep the radiating at a minimum distance of 20 cm (7.9 inches) from all persons to minimize the potential for human contact during normal operation.
-  Do not operate the device near unshielded blasting caps or in an otherwise explosive environment unless the device has been modified for such use by qualified personnel.

Dimension



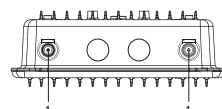
Panel Layouts

Bottom Panel



1. Serial ports
2. Power LED
3. Serial port 1 status LED
4. Serial port 2 status LED
5. WAN status LED
6. WLAN status LED
7. Ethernet port status LED
8. SIM card
9. Ethernet port
10. Cellular antenna connector

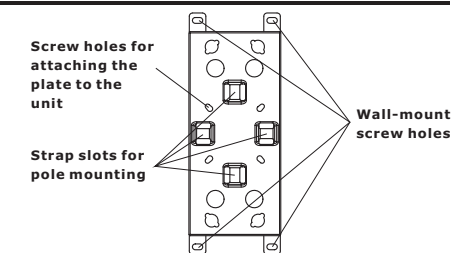
Top Panel



1. Wi-Fi antenna connector

Installation

The device can be fixed to a pole or the wall using the supplied mounting plate. Make sure the connectors on the bottom panel are facing down when installing to prevent water intrusion.

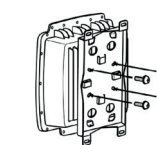


Wall-mount

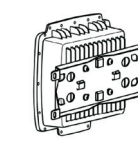
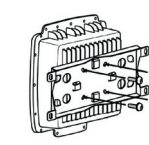
Follow the steps below to install the device to the wall.

Step 1: Attach the mounting plate to the back of the device using four screws. The plate can be attached vertically or horizontally to the device depending on the space available.

Vertical

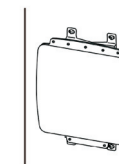
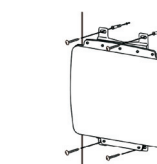


Horizontal



Step 2: Hold the device upright against the wall.

Step 3: Insert four screws through the holes at the top and bottom of the plate and fasten the screws to the wall.

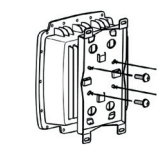


Pole-mount

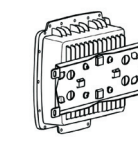
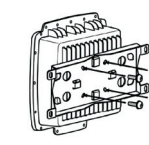
You can mount the device to a pole using the adjustable steel band straps included in the kit. Follow the steps below:

Step 1: Attach the mounting plate to the back of the device using four screws. The plate can be attached vertically or horizontally to the device based on the space available.

Vertical



Horizontal

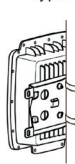


Step 2: Thread the two supplied metal mounting straps through the large slots on the mounting plate and then put the straps around the pole.

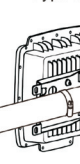
Type 1



Type 2



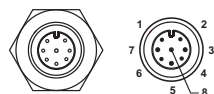
Type 3



Network Connection

The device has two 10/100/1000 Base-T(X) Ethernet ports. According to the link type, the device uses CAT 3,4, 5, 5e, UTP cables to connect to any other network device (Pcs, servers, switches, routers, or hubs). Please refer to the following table for cable specifications.

Cable	Type	Max. Length	Connector
10Base-T	Cat. 3, 4, 5 100-ohm	UTP 100 m (328 ft)	M12
100Base-TX	Cat. 5 100-ohm UTP	UTP 100 m (328 ft)	M12
1000Base-T	Cat. 5/Cat. 5e 100-ohm UTP	UTP 100 m (328 ft)	M12



Serial Port Pin Definition

M12 Female connector		M12 male connector	
Pin No.	Description	Pin No.	Description
1	BI_DC+	1	RXD
2	BI_DD+	2	DCD
3	BI_DD-	3	RTS
4	BI_DA-	4	DSR
5	BI_DB+	5	GND
6	BI_DA+	6	DTR
7	BI_DC-	7	TXD
8	BI_DB-	8	CTS

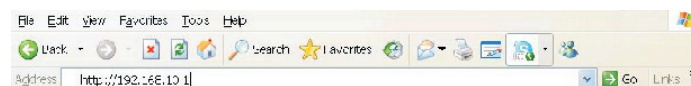
Configurations

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

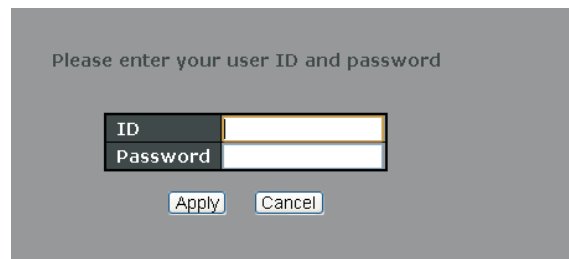
LED	Color	Status	Description
PWR	Green	On	Power is supplied over Ethernet
Serial 1/2	Green	Blinking	Transmitting data
ETH	Green	On	Port is linked
		Blinking	Transmitting data
WLAN	Green	On	WLAN is activated
		Blinking	Transmitting data
WAN	Green	On	Modem is connected

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

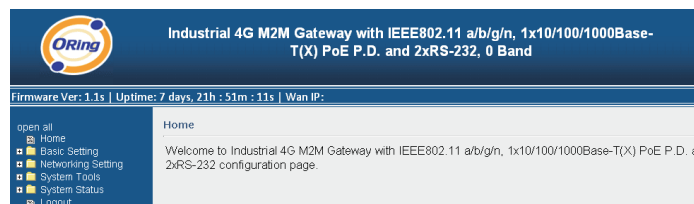
1. Launch the Internet Explorer and type in IP address of the device. The default static IP address is **192.168.10.1**



2. Log in with default user name and password (both are **admin**).



3. 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.



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 M2M Model	IMG-W6121+-3G-M12	IMG-W6121+-4G-M12
Physical Ports	1 (8-pin M12 A coding Female connector)	
10/100/1000 Base-T(X) Ports in M12 Auto MDI/MDIX with PoE P.D.		
SIM Card Slot	1	
Cellular Interface		
Cellular Standard	GSM / GPRS / EGPRS / EDGE / WCDMA / HSDPA / HSUPA	GSM / GPRS / EGPRS / EDGE / WCDMA / HSDPA / HSUPA/LTE
Band options	America (US) UMTS/HSDPA/HSUPA/HSPA+/DC-HSPA+ : 800/850/1900/2100 MHz GSM/GPRS/EDGE: 850/900/1800/1900 MHz Europe(EU) UMTS/HSDPA/HSUPA/HSPA+/DC-HSPA+ : 900/2100 MHz GSM/GPRS/EDGE: 900/1800/1900 MHz	America (US) LTE: 700/1700/2100 MHz UMTS/HSDPA/HSUPA/HSPA+/DC-HSPA+ : 800/850/1900/2100 MHz GSM/GPRS/EDGE: 850/900/1800/1900 MHz Europe(EU) LTE: 800/900/1800/2100/2600 MHz UMTS/HSDPA/HSUPA/HSPA+/DC-HSPA+ : 900/2100 MHz GSM/GPRS/EDGE: 900/1800/1900 MHz
Antenna Connector	N-type Female	
Antenna	GSM/DCS/UMT 3G antenna x1	GSM/DCS/UMT/LTE 4G antenna x1
WLAN Interface		
Antenna and Connector	N-type Female	
Antenna	Wi-Fi ANT x2	
Radio Frequency Type	DSSS, OFDM	
Modulation	IEEE802.11a : OFDM with BPSK, QPSK, QAM, 64QAM IEEE802.11b: CCK, DQPSK, DBPSK IEEE802.11g : OFDM with BPSK, QPSK, 16QAM, 64QAM IEEE802.11n: BPSK, QPSK, 16QAM, 64QAM	
Frequency Band	America / FCC : 2.412~2.462 GHz (11 channels) 5.180~5.240 GHz & 5.745~5.825 GHz (9 channels) Europe CE / ETSI : 2.412~2.472 Ghz (13 channels) 5.180~5.240 Ghz (4 channels)	
Transmission Rate	IEEE801.11b: 1/ 2/ 5.5/ 11 Mbps IEEE801.11a/g: 6/ 9/ 12/ 18/ 24/ 36/ 48/ 54 Mbps IEEE802.11n: up to 300Mbps	
Transmit Power	802.11a: 12dBm ±1.5 dBm 802.11b: 17dBm ±1.5 dBm 802.11g: 15dBm ±1.5 dBm 802.11gn HT20: 13dBm ±1.5 dBm@150Mbps 802.11gn HT40: 12dBm ±1.5 dBm@300Mbps 802.11an HT20: 12dBm ±1.5 dBm@150Mbps 802.11an HT40: 12dBm ±1.5 dBm@300Mbps	

Receiver Sensitivity	802.11a: -68dBm±2.0dB @ 54 Mbps 802.11b: -82dBm±2.0dB @ 11Mbps 802.11g: -68dBm±2.0dB @ 54Mbps 802.11gn HT20: -64dBm±2.0dB @150Mbps 802.11gn HT40: -60dBm±2.0dB @300Mbps 802.11an HT20: -64dBm±2.0dB @150Mbps 802.11an HT40: -60dBm±2.0dB @300Mbps
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
Serial Ports	
Connector	2 (8-pin M12 A coding Male connector)
Operation Mode	RS-232
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
Serial signals	RS-232 : TxD, RxD, DCD, RTS, CTS, DSR, DTR, GND
Power	
Power Input	48VDC on PoE port compliant with IEEE802.3af standard
Power Consumption(Typ.)	6.5 Watts
Overload current protection	Present
Physical Characteristic	
Enclosure	IP-67
Dimension (W x D x H)	250(W) x 220(D) x 87(H) mm (9.84 x 8.66 x 3.4 inch.)
Weight (g)	2653 g
Environmental	
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
Regulatory Approvals	
EMI	FCC Part 15, CISPR (EN55022) class A, EN50155 (EN50121-3-2, EN55011, EN50121-4)
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, EN61373
Safety	EN60950-1
Warranty	5 years

ORing
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ROHS, FCC, CE

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