



# ORing

# IMG-4312-4G series

**Industrial IEEE 802.11 b/g/n 4G LTE Cellular Router  
with 2x10/100Base-T(X) 1x RS-232/422/485 Gateway**

## Features

- Provide 2x10/100Base-T(x) port and single SIM card slot
- 2/3.5/4G LTE model included
- High Speed Air Connectivity: WLAN interface support 802.11 b/g/n up to 150Mbps link speed
- Support Open VPN, PPTP VPN
- Support DHCP forwarding through PPTP function
- Versatile modes & event alarm by e-mail.
- Event warning by Syslog, Email, SNMP Trap
- Support DNP 3
- Redundant multiple host devices:  
5 host devices: Virtual COM, TCP Server, TCP Client mode, UDP mode(4 IP Ranges)
- 12~48VDC power input on terminal block
- 1KV isolation for PoE P.D. (IMG-4312+-4G)
- Rigid IP-30 housing design
- Din-Rail and panel mounting enabled.
- Support OpenWRT SDK for project



## Introduction

IMG-4312-4G is an innovative 1 port RS-232/422/485 and 4G LTE cellular Gateway with 2 port 10/100Base-T(X) port. IMG-4312-4G also provide IEEE802.11 b/g/n wifi interface which have 150Mbps link speed. It could be configured to connect to the internet by dialing up 2G/3.5G/LTE cellular modem to fulfill demands of various applications rapidly a. In addition, IMG-4312-4G can also transfer data into 5 host PCs simultaneously for backup purposes. In addition, IMG-4312+-4G also provides P.D. feature on ETH1 port which is fully compliant with IEEE802.3af PoE P.D. specification Therefore, IMG-4312-4G is one of the best solutions for applications of wireless and serial communication.

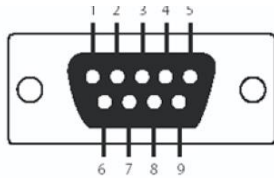
## Application

IMG-4312-4G support 2G/3.5G/LTE Modem dial up. The utility- M2M-Tool which is used to manage and monitor all of the serial ports on IMG-4312-4G.



*M2M Gateway Connection*

## Pin Definition

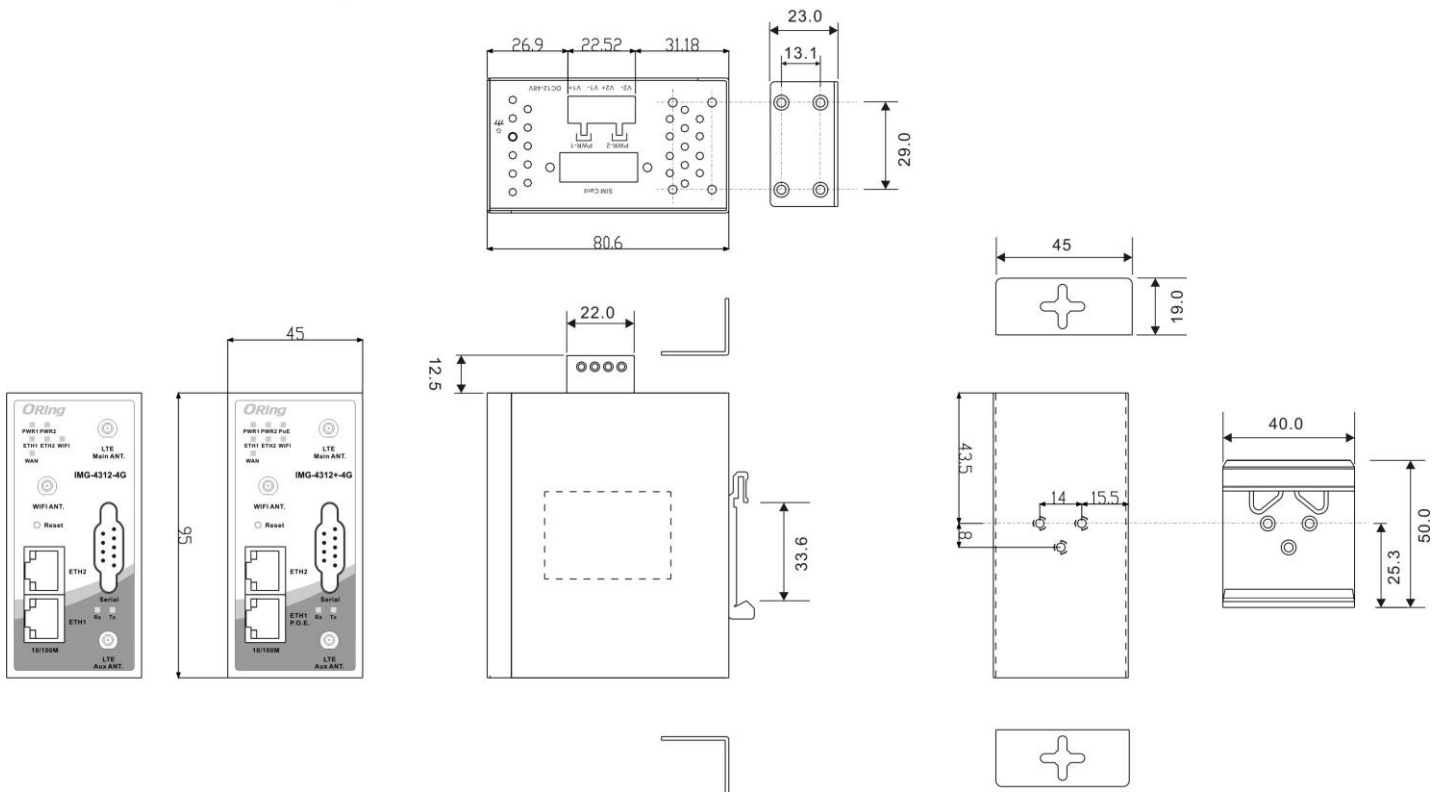


DB9 connector

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

## Dimension

Dimension (Unit =mm)



## Specifications

ORing Device Server Model	IMG-4312-4G	IMG-4312+4G
<b>Physical Ports</b>		
10/100 Base-T(X) Ports in RJ45 Auto MDI/MDIX	2	
PoE P.D Port	P.O.E.Present at ETH1 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>8</sup> ohms min	
Sim card slot	1	
<b>Cellular Interface</b>		
Antenna Connector	2 x SMA Female	
Cellular Standard	GSM / GPRS/ EGPRS/ EDGE / WCDMA / HSDPA / HSUPA /LTE	
Band Option	<p><b>America(US grade)</b>            LTE:            1900(B2)/1700(B4)/850(B5)/700(B13)/700(B17)/1900(B25) MHz            CDMA/EVDO rev. a/b:            800/1900            UMTS/HSDPA/HSUPA/HSPA+/DC-HSPA+:            850/900/1700/1900/2100 MHz            GSM/GPRS/EDGE:            850/900/1800/1900 MHz</p> <p><b>Europe(EU grade)</b>            LTE:            2100(B1)/1800(B3)/2600(B7)/900(B8)/800(B20) MHz            UMTS/HSDPA/HSUPA/HSPA+/DC-HSPA+:            800/850/900/1900/2100 MHz            GSM/GPRS/EDGE:            850/900/1800/1900 MHz</p> <p><b>Taiwan (TW grade)</b>            LTE:            2100(B1)/1800(B3)/850(B5)/2600(B7)/900(B8)/750(B28) MHz            UMTS/HSDPA/HSUPA/HSPA+/DC-HSPA+:            850/900/1900/2100 MHz            GSM/GPRS/EDGE:            850/900/1800/1900 MHz</p>	
<b>Wifi Interface</b>		
Antenna 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 channels )	
Transmission Rate	802.11b: 1/2/5.5/11 Mbps 802.11g: 6/9/12/18/24/36/48/54 Mbps 802.11n(40MHz): UP to 150 Mbps	
Transmit Power	802.11b: 19dBm ±1.5dBm 802.11g: 17dBm ±1.5dBm 802.11n(2.4G@20MHz): 16dBm ±1.5dBm 802.11n(2.4G@40MHz): 14dBm ±1.5dBm	
Receiver Sensitivity	802.11b: -90dBm ±2dBm@1Mbps 802.11g: -72dBm ±2dBm@54Mbps 802.11n(2.4G@40MHz,MCS7): -68dBm ±2dBm	
Encryption Security	WEP: (64-bit ,128-bit key supported) WPA/WPA2 :802.11i(WEP and AES encryption)	

	WPA-PSK (256-bit key pre-shared key supported) 802.1X Authentication supported TKIP encryption	
<b>Serial Ports</b>		
Connector	DB9 x 1	
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>LED indicators</b>		
Power indicator	3 x LEDs, PWR 1(2)(PoE) / Ready: Green On: Power is on	
10/100TX RJ45 port indicator	2 x LEDs, Green for port Link/Act at 100Mbps.	
Serial TX / RX LEDs:	Red: Serial port is receiving data Green: Serial port is transmitting data	
WIFI LED	1 x LED, Green: WIFI Link /ACT	
WAN LED	1 x LED, Green On : Power is on and functioning Normal	
<b>Power</b>		
Redundant Input power	Dual DC inputs. 12-48VDC on 6-pin terminal block	
Power consumption (Typ.)	3W	3.5W
Overload current protection	Present	
Reverse polarity protection	Present on terminal block	
<b>Physical Characteristic</b>		
Enclosure	IP-30	
Dimension (W x D x H)	45(W)x80.6(D)x95(H) mm	
Weight (g)	368	372
<b>Environmental</b>		
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	
<b>Regulatory approvals</b>		
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	
<b>Warranty</b>	5 years	

## Packing List

- **IMG-4312-4G x 1**
- **Wall-Mount Kit x 1**
- **2.4G wifi antenna x 1**
- **CD x 1**
- **Din-Rail Kit x 1**
- **LTE antenna x 2**
- **Quick Installation Guide x 1**

## Optional Accessories

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- **DR-45 series : 45 Watts power supply**
- **DR-120 series : 120 Watts power supply**
- **DR-75 series : 75 Watts power supply**