

Quick Installation Guide

IGMG-P83244GC+-D4G






Industrial Cellular M2M Gateway

Introduction

IGMG-P83244GC+-D4G is a breakthrough innovation product which is a combine powerful hardware and software IoT gateway. It is using dual core ARMv7 Cortex-A9 CPU operating speed up to 1.3 GHz. It integrates 8 ports industrial Ethernet which 6 ports in switch mode for LAN and 2 ports in standalone for WAN, and 4 SFP fiber in combo ports and provides LTE 4G connectivity with AT&T® certification and dual SIM card support. It is also built in mSATA storage 64GB(optionally up to 256GB) for huge IOT data collection. There are two serial ports RS232/422/485 and RS422/485 which both can support Modbus RTU serial protocol to connect with serial devices and providing all-in-one solutions to help user build up highly reliable and user-friendly SCADA and IOT system for variant industrial automation applications. IGMG-P83244GC+-D4G also supports VPN client/server including IPsec, OPENSLL VPN. It can provide remote access service through ORing-PaaS platform and NAT/firewall to protect networking security.

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
IGMG-P83244GC+-D4G		X 1
CD		X 1
QIG		X 1
Mounting Kit		X 2
LTE Antenna		X 2

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.

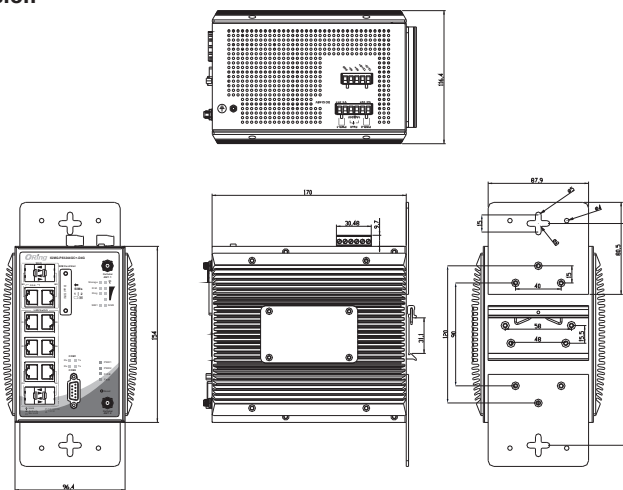
Safety & Warnings

-  **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.

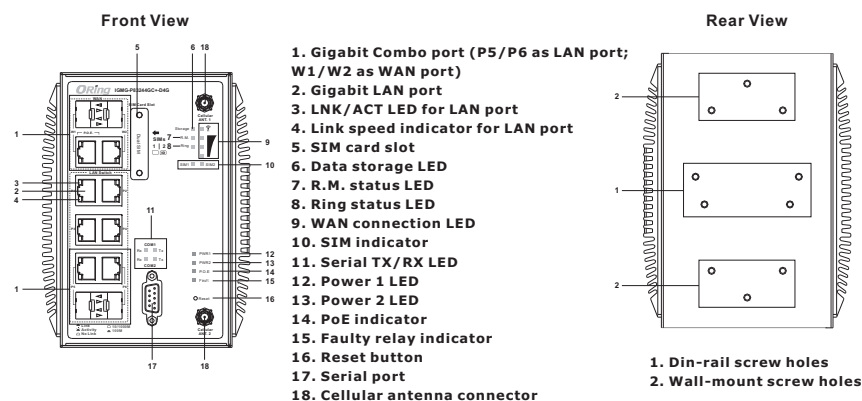


Circuit Overloading: Consideration should be given to the connection of the equipment to the supply circuit and the effect that overloading of the circuits might have on overcurrent protection and supply wiring. Appropriate consideration of equipment nameplate ratings should be used when addressing this concern.

Dimension



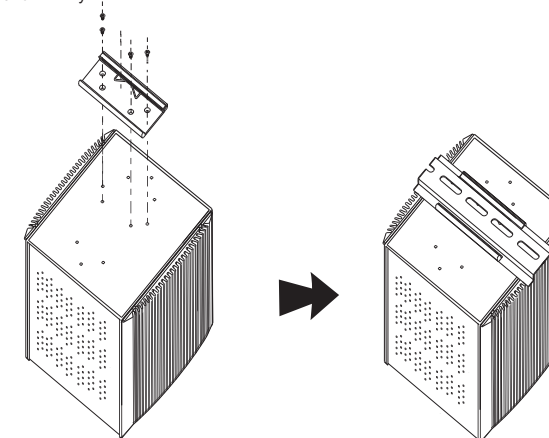
Panel Layouts



Installation

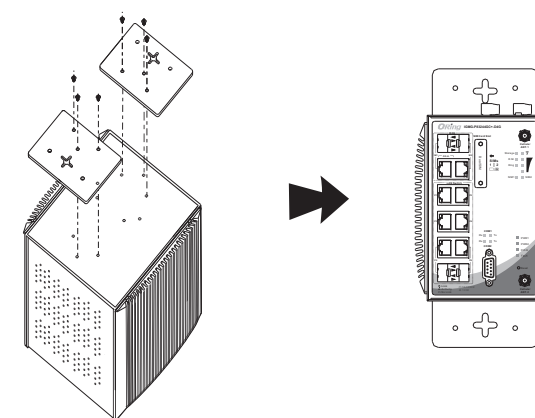
DIN-rail Installation

- 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-mounting

- Step 1:** Screw the two pieces of wall-mount kits onto both ends of the rear panel of the device. A total of six 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 wall-mounting screws.
- Step 3:** Insert a screw head through the large part of the keyhole-shaped aperture on the plate, and then slide the device downwards. Tighten the screw for added stability.



Network Connection

The device has two 10/100/1000Base-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 Types and Specifications:

Cable	Type	Max. Length	Connector
10Base-T	Cat. 3, 4, 5 100-ohm	UTP 100 m (328 ft)	RJ-45
100Base-TX	Cat. 5 100-ohm UTP	UTP 100 m (328 ft)	RJ-45
1000Base-T	Cat. 5/Cat 5e 100-ohm UTP	UTP 100 m (328 ft)	RJ-45

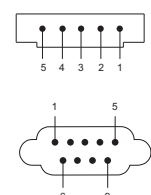
For pin assignments for different types of cables, please refer to the following tables.

10/100 Base-T(X) RJ-45 port		1000Base-T RJ-45 port	
Pin Number	Assignment	Pin Number	Assignment
1	TD+	1	BI_DA+
2	TD-	2	BI_DA-
3	RD+	3	BI_DB+
4	Not used	4	BI_DC+
5	Not used	5	BI_DC-
6	RD-	6	BI_DB-
7	Not used	7	BI_DD+
8	Not used	8	BI_DD-

10/100 Base-T(X) MDI/MDI-X			1000Base-T MDI/MDI-X		
Pin Number	MDI port	MDI-X port	Pin Number	MDI port	MDI-X port
1	TD+(transmit)	RD+(receive)	1	BI_DA+	BI_DB+
2	TD-(transmit)	RD-(receive)	2	BI_DA-	BI_DB-
3	RD+(receive)	TD+(transmit)	3	BI_DB+	BI_DA+
4	Not used	Not used	4	BI_DC+	BI_DD+
5	Not used	Not used	5	BI_DC-	BI_DD-
6	RD-(receive)	TD-(transmit)	6	BI_DB-	BI_DA-
7	Not used	Not used	7	BI_DD+	BI_DC+
8	Not used	Not used	8	BI_DD-	BI_DC-

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

Serial Port Pin Definition



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

Wiring

Power inputs

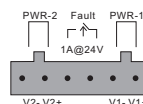
The device supports dual redundant power supplies, Power Supply 1 (PWR1) and Power Supply 2 (PWR2). The connections for PWR1, PWR2 and the RELAY are located on the terminal block.

STEP 1: Insert the negative/positive 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.

Relay contact

The two sets of relay contacts of the 6-pin terminal block connector are used to detect user-configured events. The two wires attached to the fault contacts form an close circuit when a user-configured event is triggered. If a user-configured event does not occur, the fault circuit remains opened.



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.

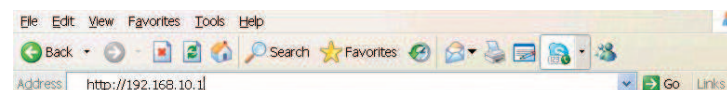
Configurations

After installing the device, the green power LED should turn on. Please refer to the following tablet for LED indication.

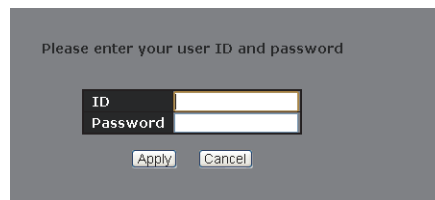
LED	Color	Status	Description
PWR1/2	Green	On	Power is on and function normally
PoE	Green	On	PoE enabled
Fault	Amber	On	Faulty relay (power failure or port disconnected)
WAN	Green	On	WLAN is activated (Strength: 1<30%, 2 >30% <60%, 3>75%)
		Blinking	Transmitting data
Storage	Green	Blinking	Data access
R.M	Green	On	Reserved
Ring	Green	On	Reserved
SIM 1/2	Green	On	SIM card is activated
10/100/1000Base-T(X) Ethernet ports			
LNK/ACT	Green	On	Port is connected
		Blinking	Transmitting data
Speed	Amber	On	Port running at 1000Mbps.
		Off	Port running at 100Mbps.
Serial ports			
Rx	Red	On	Port is receiving data
Tx	Green	On	Port is transmitting data

Follow the steps to set up the card:

1. Launch the Internet Explorer and type in IP address of the switch. 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.

Resetting

To restore the switch configurations back to the factory defaults, press the **Reset** button for 5 seconds.

Specifications

ORing M2M Model	IGMG-P83244GC+-D4G
Physical Ports	4
10/100/1000 Base-T(X) Ports in RJ45 Auto MDI/MDIX	

Gigabit Combo port with 10/100/1000Base-T(X) and 100/1000Base-X SFP ports	4
Cellular Interface	
Cellular Standard	GSM / GPRS / EGPRS / EDGE / WCDMA / HSDPA / HSUPA/HSPA+/LTE
SIM card slot	2
Band options	America (US) LTE: 700/1700/2100MHz UMTS/HSDPA/HSUPA/HSPA+/DC-HSPA+: 800/850/1900/2100MHz GSM/GPRS/EDGE: 850/900/1800/1900MHz
	Europe (EU) LTE: FDD:2100(B1)/1800(B3)/2600(B7)/900(B8)/800(B20) MHz TDD:2600(B38)/2300(B40)/2500(B41) MHz UMTS/HSDPA/HSUPA/HSPA+/DC-HSPA+: 2100(B1)/900(B8) MHz GSM/GPRS/EDGE: 900/850 MHz
Antenna Connector (SMA Female)	2
Serial Ports	
Connector	Terminal Block x 1 (Port 1), DB9 male x 1 (Port 2)
Operation Mode	Port 1 : RS-422/RS-485(2W/4W), Which can be configured by utility Port 2 : RS-232/RS-422/RS-485(2W/4W), Which can be configured by utility
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, RI, GND
RS-422	Tx-, Tx+, Rx+, Rx-, GND
RS-485	4 wire: Tx+, Tx-, Rx+, Rx-, GND 2 wire: D+, D-
Fault contact	
Relay	Relay output to carry capacity of 1A at 24VDC
Power	
Redundant Input power	Dual DC inputs. 12~48VDC on 6 pin terminal block
Power Consumption(Typ.)	18 Watts
Overload current protection	Present
Reverse polarity protection	Present
Physical Characteristic	
Enclosure	IP-30
Dimension (W x D x H)	116.4mm W x 170mm D x 154mm H (4.6" W x 6.7" D x 6.1" H inch.)
Weight (g)	2400 g
Environmental	
Storage Temperature	-40 to 85°C (-40 to 185°F)
Operating Temperature	-40 to 75°C (-40 to 167°F)
Operating Humidity	5% to 95% Non-condensing
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))
Shock	IEC60068-2-27
Free Fall	IEC60068-2-31
Vibration	IEC60068-2-6
Safety	EN60950-1
MTBF	140345.5955 hrs
Warranty	5 years

ORing

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