MEDIA CONVERTER INDUSTRIAL

ORing

Quick Installation Guide

IGPMC-111GP-BT-24V

Industrial Gigabit PoE Media Converter

Introduction

The **IGPMC-111GP-BT-24V** is a cost-effective solution for the conversion interface between 10/100/1000Base-T(X) and 100/1000Base-X SFP socket; it allows you to extend communication distance by optical fiber. **IGPMC-111GP-BT-24V** supports MDI/MDIX auto detection, so you don't need to use crossover wires. **IGPMC-111GP-BT-24V** also support Power over Ethernet, a system to transmit electrical power up to **90 watts**, along with data, to remote devices over standard twisted-pair cable in an Ethernet network. Each **IGPMC-111GP-BT-24V** has 1x10/100/1000Base-T(X) P.S.E. (Power Sourcing Equipment) port to provide power in a PoE setup.

The **IGPMC-111GP-BT-24V** also supports the **LFP (Link Fault Pass-through)** feature. When one side of the link fails, the other side continues transmitting packets, and waiting for a response that never arrives from the disconnected side. Use the DIP-Switch to enable the LFP function, then **IGPMC-111GP-BT-24V** will force the link to shut down as soon as noticed that the other link has failed, giving the application software a chance to react to the situation.

The **IGPMC-111GP-BT-24V** with wide operating temperature range from -40 ~ 75°C and accepts a wide voltage range from dual 12~57 VDC power inputs, so it is suitable for harsh operating environments. Therefore, the **IGPMC-111GP-BT-24V** is reliable media converter with PoE capability and can satisfy most demand of operating environment.

The product is open type, intended to be installed in and industrial control panel or an enclosure.

Package Contents

The series 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
IGPMC-111GP-BT-24V		X 1
DIN-rail Kit		X 1
Wall-mount Kit		X 2
QIG		X 1
4-pin terminal block		X 1

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.
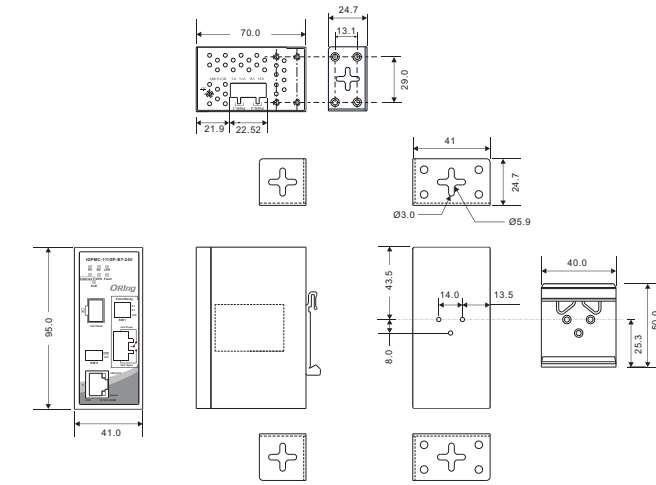
Safety & Warnings

⚠ **Elevated Operating Ambient:** If installed in a closed cabinet, the operating ambient temperature of the rack environment may be greater than room ambient. Therefore, consideration should be given to installing the equipment in an environment compatible with the maximum ambient temperature (Tma) specified by the manufacturer.

⚠ **Reduced Air Flow:** Installation of the equipment should be such that the amount of air flow required for safe operation of the equipment is not compromised.
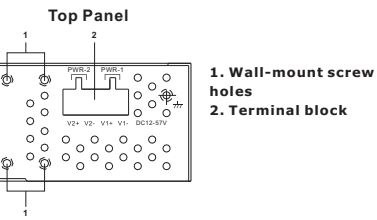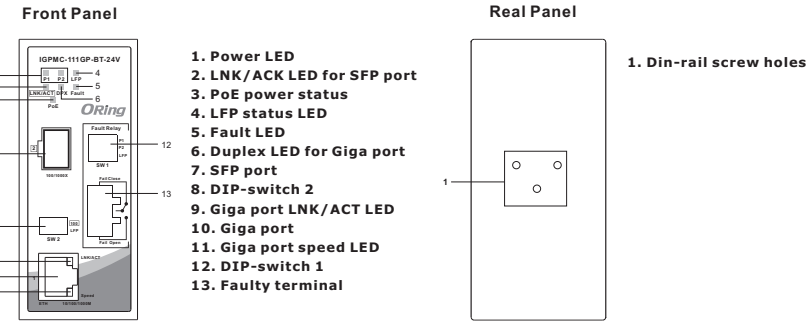
⚠ **Mechanical Loading:** Mounting of the equipment in the din-rail should be such that a hazardous condition is not achieved due to uneven mechanical loading.

⚠ **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 bouchez 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 utilise d'une maniere non specifiee par le fabricant, la protection qu'il apporte peut se voir diminuee."
* Shall be mounted in the Industrial Control Panel and ambient temperature is not exceed 75 degree C
* doit être monté dans le panneau de commande industriel et la température ambiante ne doit pas dépasser 75 degrés C

Dimension Unit =mm (Tolerance ±0.5mm)

Panel Layouts

Front Panel

Real Panel

1. Power LED
2. LNK/ACK LED for SFP port
3. PoE power status
4. LFP status LED
5. Fault LED
6. Duplex LED for Giga port
7. SFP port
8. DIP-switch 2
9. Giga port LNK/ACT LED
10. Giga port
11. Giga port speed LED
12. DIP-switch 1
13. Faulty terminal

1. Din-rail screw holes

Top Panel

1. Wall-mount screw holes
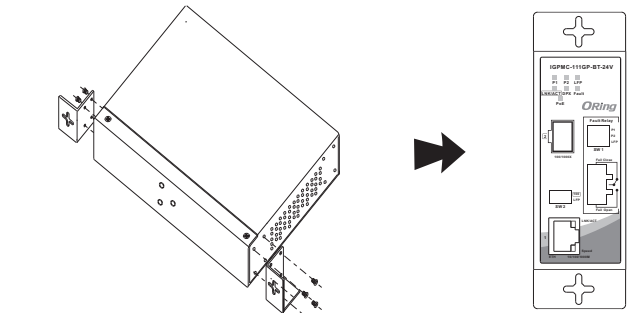2. Terminal block

Installation

DIN-rail Installation

Step 1: Slant the switch and screw the Din-rail kit onto the back of the switch, right in the middle of the back panel.
Step 2: Slide the switch onto a DIN-rail from the Din-rail kit and make sure the switch clicks into the rail firmly.
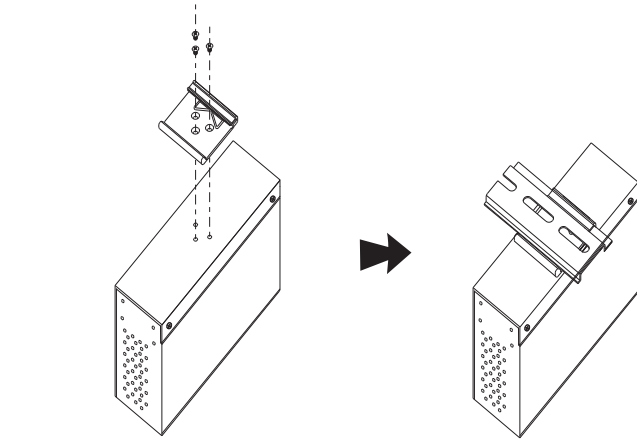
Wall-mounting

Step 1: Screw the two pieces of wall-mount kits onto both sides of the switch. A total of eight screws are required, as shown below.
Step 2: Use the switch, with wall mount plates attached, as a guide to mark the correct locations of the four screws.
Step 3: Insert four screw heads through the large parts of the keyhole-shaped apertures, and then slide the switch downwards. Tighten the four screws for added stability.

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● Network Connection

The device has a standard Ethernet port. According to the link type, the device uses CAT 3, 4, 5, 5e UTP cables to connect to any other network devices (Pcs, servers, switches, routers, or hubs). Please refer to the following table for cable specifications.

Cable Types and Specifications:

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

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

10/100Base-T(X) P.S.E. RJ-45 Definition	
Pin No.	Assignment
#1	TD+ with PoE Power input +
#2	TD- with PoE Power input +
#3	RD+ with PoE Power input -
#4	Not used
#5	Not used
#6	RD- with PoE Power input -
#7	Not used
#8	Not used

1000Base-T P.S.E. RJ-45 Pin Definition	
Pin No.	Description
#1	BI_DA+ with PoE Power input +
#2	BI_DA- with PoE Power input +
#3	BI_DB+ with PoE Power input -
#4	BI_DC+
#5	BI_DC-
#6	BI_DB- with PoE Power input -
#7	BI_DD+
#8	BI_DD-

DIP Switch Setting

3-PIN DIP-Switch 1		Description	
DIP-Switch No.	Function		DIP-Switch Status
1	Power-1 failure detection	ON	When power-1 failure, enable relay output
		OFF	Disable power-1 failure detection
2	Power-2 failure detection	ON	When power-2 failure, enable relay output
		OFF	Disable power-2 failure detection
3	LFP warning detection	ON	LFP signals when detected, enable relay output
		OFF	Disable LFP signals detection

2-PIN DIP-Switch 2		Description	
DIP-Swith No.	Function		DIP-Switch Status
1	100/1000Base-FX mode selection	ON	100Base-FX mode
		OFF	1000Base-FX mode
2	LFP function	ON	Enable LFP function
		OFF	Disable LFP function

● Wiring

The switch supports dual redundant power supplies which are located on the 4-pin 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.

PWR2 PWR1
V2+ V2- V1+ V1-

⁙ 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 indication table

LED	Color	Status	Description
PW1	Green	On	DC power module 1 activated
PW2	Green	On	DC power module 2 activated
PoE	Green	On	Power is supplied over Ethernet cable
Fault	Amber	On	An unexpected event occurred
10/100/1000 Base-T(X) RJ45 Port			
LNK/ACT	Green	On	Port is linked
		Blinking	Acting
		Off	Port is disconnected
Speed	Amber	On	Port running at 100Mbps
		Off	Port running at 10Mbps
	Green	On	Port running at 1000Mbps
Duplex	Green	On	Full-Duplex
		Off	Half-Duplex
SFP Port			
LNK/ACT	Green	On	Port is linked
LFP			
Status	Amber	On	LFP function failed

⁙ Specifications

ORing Media Converter Model	IGPMC-111GP-BT-24V
Physical Ports	
10/100/1000 Base-T(X) Ports in RJ45 Auto MDI/MDIX	1
100/1000Base-X SFP port	1
Technology	
Ethernet standards	IEEE 802.3i for 10Base-T IEEE 802.3u for 100Base-TX and 100Base-FX IEEE 802.3ab for 1000Base-T IEEE 802.3z for 1000Base-X IEEE 802.3at/bt PoE specification
Jumbo Frame	10K Bytes (1G mode only)
Fault contact	
Relay	Relay output to carry capacity of 1A at 24VDC at pin terminal block
Power	
Input power	Dual 12 ~ 57 VDC voltage power inputs in 4-pin terminal block ⚠ * Supplied by SELV or double insulation source evaluated by UL 61010-1 or 61010-2-201 power supply only. * Fourni par la source SELV ou double isolation évaluée uniquement par l'alimentation UL 61010-1 or 61010-2-201.
PoE Power Output	IEEE 802.3at(30W) mode : >=12VDC IEEE 802.3bt(60/90W) mode:>=24VDC
Power consumption(Typ.)	5Watts (PoE output is not included)
Overload current protection	Present
Reverse polarity protection	Present
Physical Characteristic	
Dimension (W x D x H)	41 (W) x 70 (D) x 95 (H)mm (1.61 x 2.76 x 3.74 inch)
Weight (g)	300g

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
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: Contact 4KV, Air 8KV), IEC/EN 61000-4-3 (RS: 3V), IEC/EN 61000-4-4 (EFT Power 0.5KV, Signal 0.5KV), IEC/EN 61000-4-5 (Surge: Power 0.5KV, RJ45 1KV), IEC/EN 61000-4-6 (CS: 3V), IEC/EN 61000-4-8(PFMF)
Safety	EN 62368-1
Shock	IEC60068-2-27
Free Fall	IEC60068-2-31
Vibration	IEC60068-2-6
MTBF	1,183,306 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.]

⚠ **Warning. Hot Surface**
AVERTISSEMENT : SURFACE(S) CHAUDE(S)

Contact for maintenance and repair service:

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RoHS FC CE

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