

# IPMC-111PB++-60W



IPMC-111PB++-60W

➔ **Industrial mini type Ethernet to fiber High power PoE++ media converter with 1x10/100Base-T(X) P.S.E. and 1x100Base-FX, SFP socket**

## Features

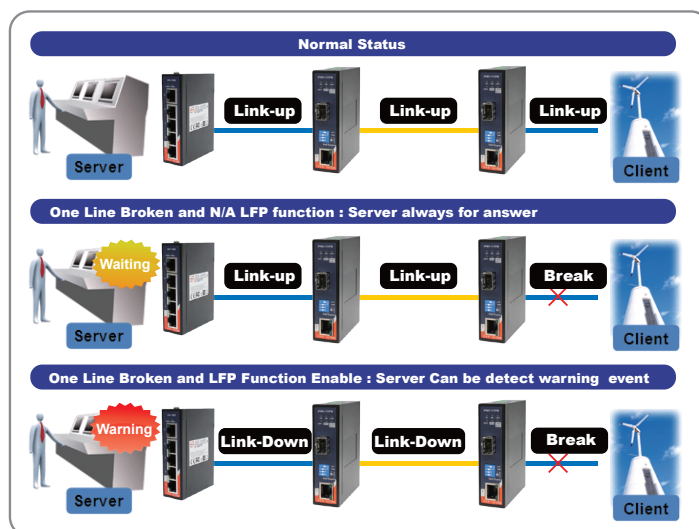
- Supports 1 port 10/100Base-T(X) P.S.E. auto-negotiation and auto-MDI/MDI-X
- Support Ethernet to fiber or Ethernet to SFP port
- Support **LFP (Link Fault Pass-through)** function
- Supports full/half duplex operation
- **P.S.E.** fully compliant with IEEE802.3at standard, provide up to **60Watts**
- Supports store and forward transmission
- Provided DIP-Switch to setting function and PoE mode selectable
- High reliability and rigid IP-30 housing
- DIN-Rail and wall mounting enabled



## Introduction

IPMC-111PB++-60W is a cost-effective solution for the conversion interface between 10/100Base-T(X) and 100Base-FX, it allows you to extend communication distance by optical fiber. IPMC-111PB++-60W supports MDI/MDIX auto detection, so you don't need to use crossover wires. IPMC-111PB++-60W also support Power over Ethernet, a system to transmit electrical power up to **60 watts**, along with data, to remote devices over standard 4-pair cable in an Ethernet network. Each IPMC-111PB++-60W has 1x10/100Base-T(X) P.S.E. (Power Sourcing Equipment) port to provide power in a PoE setup. IPMC-111PB with wide operating temperature range from -40 ~ 75°C and accepts a wide voltage range from dual 50~57 VDC power inputs, so it is suitable for harsh operating environments.

IPMC-111PB++-60W 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 IPMC-111PB++-60W will force the link to shutdown as soon as noticed that the other link has failed, to notice the administrator to react to the situation. Therefore, the IPMC-111PB++-60W is reliable media converter with PoE capability and can satisfy most demand of operating environment.



Connections of the LFP function

The diagram illustrates a PoE network topology for a control center. At the center is a **RGS-7168GCP** switch. It is connected via orange fiber optic lines to eight **IPMC-111PB** media converters. Each media converter is connected via green PoE lines to a camera. A **Control Center** monitor is also connected to the switch. Callouts provide details for the **IPMC-111PB** and **RGS-7168GCP** devices.

**IPMC-111PB**  
Media Converter  
+P.S.E.(PoE)

**RGS-7168GCP**

Legend: Orange line = Optic Fiber, Green line = PoE Link

### Connections of the media converters

(Unit=mm)

## Connector and Pin Definition

### 10/100 Base-T(X)

| Pin | RJ-45 Output (Data and Power) |                                    |
|-----|-------------------------------|------------------------------------|
|     | Symbol                        | Description                        |
| 1   | Rx+ (Vdc1+)                   | Data Receive and Feeding power(+)  |
| 2   | Rx- (Vdc1+)                   | Data Receive and Feeding power(+)  |
| 3   | Tx+ (Vdc1-)                   | Data Transmit and Feeding power(-) |
| 4   | NC (Vdc2+)                    | Not Connected and Feeding power(+) |
| 5   | NC (Vdc2+)                    | Not Connected and Feeding power(+) |
| 6   | Tx- (Vdc1-)                   | Data Transmit and Feeding power(-) |
| 7   | NC (Vdc2-)                    | Not Connected Feeding power(-)     |
| 8   | NC (Vdc2-)                    | Not Connected Feeding power(-)     |

**Note:** pins 3/6/7/8 (-Vdc) should not be shorted to ground

## Specifications

| ORing Media Converter Model                             | IPMC-111PB++-60W                                                                                                                                                                                                                                                                                                                                                              |
|---------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Physical Ports</b>                                   |                                                                                                                                                                                                                                                                                                                                                                               |
| 10/100 Base-T(X) with P.S.E. Port in RJ45 Auto MDI/MDIX | 1                                                                                                                                                                                                                                                                                                                                                                             |
| 100Base-X SFP port                                      | 1                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Technology</b>                                       |                                                                                                                                                                                                                                                                                                                                                                               |
| Ethernet Standards                                      | IEEE 802.3 for 10Base-T<br>IEEE 802.3u for 100Base-TX and 100Base-FX<br>IEEE 802.3x for Flow control<br>IEEE 802.3at PoE specification                                                                                                                                                                                                                                        |
| Processing                                              | Store-and-Forward                                                                                                                                                                                                                                                                                                                                                             |
| <b>LED indicators</b>                                   |                                                                                                                                                                                                                                                                                                                                                                               |
| Power indicator                                         | Green : Power LED x 2 (ON : power input on-line / (OFF) power input off-line                                                                                                                                                                                                                                                                                                  |
| 10/100Base-T(X) RJ45 port indicator                     | Green for port Link/Act – (ON) Link up / (Blinking) Acting / (OFF) 10Mbps or Link down<br>Green for port duplex indicator – (ON) Full-Duplex / (OFF) Half-Duplex                                                                                                                                                                                                              |
| 100Base-FX fiber port indicator                         | Green for fiber port Link/Act – (ON) Link up / (Flash) Acting / (OFF) Link down<br>Green for fiber port duplex indicator – (ON) Full-Duplex / (OFF) Half-Duplex                                                                                                                                                                                                               |
| LFP state indicator                                     | Amber LED – (ON) LFP function happen / (OFF) LFP function disable                                                                                                                                                                                                                                                                                                             |
| PoE indicator                                           | Green for P.S.E. indicator                                                                                                                                                                                                                                                                                                                                                    |
| <b>DIP Switch for function</b>                          |                                                                                                                                                                                                                                                                                                                                                                               |
| DIP-Switch setting                                      | DIP-Switch 1 for LFP mode selection : (ON) enable / (OFF) disable<br>DIP-Switch 2 for Ethernet speed selection : (ON) 10Mbps / (OFF) 10/100Mbps Auto-negotiate<br>DIP-Switch 3 for Ethernet full/half duplex selection : (ON) Half-duplex / (OFF) Full/Half-Duplex Auto-negotiate<br>DIP-Switch 4 for fiber full/half duplex selection : (ON) Half-Duplex / (OFF) Full-Duplex |
| <b>DIP Switch for PoE mode</b>                          |                                                                                                                                                                                                                                                                                                                                                                               |
| DIP Switch 1/2* <b>NOTE1</b>                            | DIP Switch 1/2 (OFF): PoE P.S.E set to master and Asynchronize mode.<br>DIP Switch 1/2 (ON) : PoE P.S.E set to synchronize mode(default)                                                                                                                                                                                                                                      |
| <b>Power</b>                                            |                                                                                                                                                                                                                                                                                                                                                                               |
| Input power                                             | Dual 50~57 VDC voltage power inputs at 4-pin terminal block                                                                                                                                                                                                                                                                                                                   |
| Power consumption (Typ.)                                | 3 Watts (Not include PD's device)                                                                                                                                                                                                                                                                                                                                             |
| Short circuit protection                                | Present                                                                                                                                                                                                                                                                                                                                                                       |
| Reverse polarity protection                             | Present                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Physical Characteristic</b>                          |                                                                                                                                                                                                                                                                                                                                                                               |
| Enclosure                                               | IP-30                                                                                                                                                                                                                                                                                                                                                                         |
| Dimension (W x D x H)                                   | 26.1 (W) x 70 (D) x 95 (H)mm (1.03 x 2.76 x 3.74 inch)                                                                                                                                                                                                                                                                                                                        |

|                             |                                                                                                                                                                                     |
|-----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Weight (g)                  | 228g                                                                                                                                                                                |
| <b>Environmental</b>        |                                                                                                                                                                                     |
| Storage Temperature         | -40 to 85°C (-40 to 185°F)                                                                                                                                                          |
| Operating Temperature       | -40 to 75°C (-40 to 158°F)                                                                                                                                                          |
| Operating Humidity          | 5% to 95% Non-condensing                                                                                                                                                            |
| <b>Regulatory approvals</b> |                                                                                                                                                                                     |
| 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                        | 2067004hr                                                                                                                                                                           |
| Warranty                    | 5 years                                                                                                                                                                             |

**\*Note1: (1) By default, the output value of the high power PoE++ is in Sync mode which supports PoE af/at-compliant P.D. devices.**

**(2) If you cannot enable the 60W PTZ camera, please set the DIP switch to Async mode and reconnect power. This mode only supports Dual P.D mode. You may not connect to an af/at-compliant P.D. device with this mode.**

## Ordering Information

IPMC-1 **A B C** B++-60W

| Code Definition | 10/100Base-T(X)<br>Port Number | Fiber Port Number   | Fiber Port Type             |
|-----------------|--------------------------------|---------------------|-----------------------------|
| <b>Option</b>   | - <b>1</b> : 1 port            | - <b>1</b> : 1 port | - <b>P</b> : 100Base-FX SFP |

| Available Model                                                                                                                                                                        | Model Name       | Description                                                                                                                                                                                                  |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                                                                        | IPMC-111PB++-60W | Industrial mini type Ethernet to fiber High power PoE++ media converter with 1x10/100Base-T(X) P.S.E. and 1x100Base-FX, SFP socket                                                                           |
| <b>Packing List</b> <ul style="list-style-type: none"> <li>IPMC-111PB++-60W x 1</li> <li>Wall-Mount Kit x 1</li> <li>Quick Installation Guide x 1</li> <li>Din-Rail Kit x 1</li> </ul> |                  | <b>Optional Accessories (Can be purchased separately)</b> <ul style="list-style-type: none"> <li>SFP100 series : 100Mbps SFP optical transceiver</li> <li>DR/SDR/DRP series DIN-Rail power supply</li> </ul> |



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- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



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