# IMC-150LPI

## Long Reach PoE+ Extender

### Overview

Injecting data and power together, the IMC-150LPI is brand new leading product which break the 100 meters limitation to greater Ethernet transmission distances. Supports 10/100Mbps Ethernet over twisted pair cable (CAT-5, UTP).

Provides user configurable DIP switch selection of LFPT feature and force speed setting. Flexible and freely extends existing Ethernet networks to reach remote IP devices.

The IMC-150LPI PoE+ extender compliant with IEEE 802.3at PoE+ standard, it delivers data and power over Ethernet cable without the distance limitations of traditional copper wires. Extends data and power transmission reach up to 800 meters. Also acting as both power sourcing equipment(PSE) and powered device (PD), power source from PoE+ switch or power with 48VDC input to either local or remote sites.

### Packing List

Before installation, please make sure that you have received the following:

- 1 x IMC-150LPI PoE+ extender
- 1 x Wall-mount kit
- 1 x Din-rail
- Startup Manual

If anything is missing or damaged, contact your distributor or sales representative immediately.

### Datasheet Do uments

The Startup manual and product data sheet can be download on the Advantech's website.

### Notes

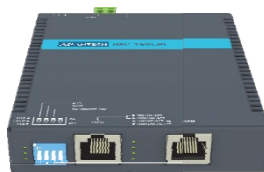| Notes |  |
|---|---|
| For more information on this and other Advantech products, please visit our websites at: | |
| **http://www.advantech.com/products** | |
| For technical support and service: | |
| **http://www.advantech.com/support/** | |
| This startup manual is for IMC-150LPI | |
| P/N: 2049150L00 | 1st Edition |
| | August, 2019 |

### Specifications

- **Compatibility:** IEEE 802.3, 802.3u, 802.3x, 802.3at/af
- **LAN:** 10/100Base-T(X)
- **Connectors:**
  - 1 x 10/100Mbps RJ-45 PD
  - 1 x 10/100Mbps RJ-45 PSE
- **LED Indicators:** PWR, 1-PAIR, PSE
- **DIP Switch:** LFPT, AUTO-Nego, Speed
- **Power:**
  - Power Consumption: Max. 33 W (Full load PoE+)
  - Power Input: 48V DC
  - Power Output 30W
  - Connectors: 2P Pluggable Terminal Block, DC Jack
- **Dimensions (W x H x D):** 92.58 x 21.08 x 98.04 mm (3.65 x 0.83 x 3.86 in.)
- **Enclosure:** IP30
- **Operating Temperature:** -40 ~ 75°C (-40~167°F)
- **Storage Temperature:** -40 ~ 80°C (-40 ~ 176°F)
- **Humidity:** 0 ~ 95% (non-condensing)
- **Railway Trackside:** EN 50121-4
- **EMC:** CE, FCC

### Panel View

**Front Panel View**
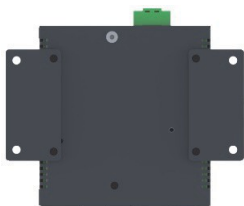


**Top Panel View**



**Rear Panel View**

## Wall Munting

The wall-mount kit should be already be fixed to the back panel of the IMC-150LPI. iI you need to attach the attachment plate, follow the steps as show in the figures below.

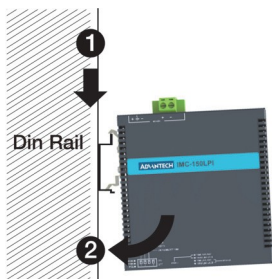1. Loosen the screw and reverse the direction of the attachment wall-mount kit.
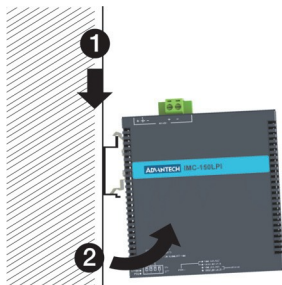
2. Tightening the wall-mount kit with 2 screws

## Din-rail Mounting (Optional Accessory)

1. Installing the DIN-Rail Mounting Kit.

Din Rail

2. Removing the DIN-Rail.

3. Once the screws are fixed in the wall, insert the screw heads then slide the IMC-150LPI. Make sure the IMC-150LPI is tighten stability on the wall.

## Power Connection

The terminal block connector is used for IMC-150LPI AC/DC inputs. See below figures for wiring the redundant power.

1. Insert the positive and negative wires into the V+/V- contacts on the terminal block connector.

2. Tighten the wire-clamps screws to prevent the DC wires coming loose.

48 VDC
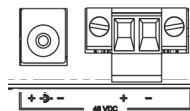
**Warning:** This is a Class A product. In domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

**Avertissement:** Ceci est un produit de classe A. Dans un environnement domestique, ce produit peut provoquer des interférences radio, auquel cas l'utilisateur peut être tenu de prendre les mesures adéquates.

**Warning:** 1) an UL Listed Class II power adapter suitable for use at Tma 50 degree C whose output meets ES1 (or SELV), PS2 (or LPS) and is rated 48VDC 1.36A min., or 2) an UL Listed Class II DC power source suitable for use at Tma 85 degree C whose output meets ES1 (or SELV), PS2 (or LPS) and is rated 48VDC, 1.36A min.

Avertissement: 1) un adaptateur secteur de classe II, répertorié UL, approprié pour une utilisation à 50 degrés Celsius, dont la sortie est conforme aux normes ES1 (ou SELV), PS2 (ou LPS) et une tension nominale de 48Vcc 1.36A min. ou 2) une source d'alimentation CC de classe II répertoriée UL pouvant être utilisée à une température de 85 degrés Celsius dont la sortie est conforme à ES1 (ou SELV), PS2 (ou LPS) et d'une puissance nominale de 48Vcc, 1.36A min

## DIP Switch Settings

The default setting for each DIP switch is ON. Please see the following table for detail configuration.



| DIP Switch | Name | Setting | Description |
|---|---|---|---|
| PIN 1 | LFPT | ON | LFPT feature enabled. The default value. |
| | | OFF | LFPT feature disabled. |
| PIN 2 | AUTO | ON | Auto-Nego enabled. The default value. |
| | | OFF | Auto-Nego disabled and change to force speed. Configure PIN 3 to select connection speed. |
| PIN 3 | SPEED | ON | 100Mbps The default value. |
| | | OFF | 10Mbps |
| PIN 4 | | | Reserve for future use. |

## LED Indicators

The LED definition is described in the table below.
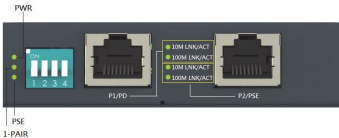


| LED | Color | State | Description |
|---|---|---|---|
| PWR | Green | ON | Multiple power input. DC jack, terminal block and PD. |
| | | OFF | No powered. |
| 1-PAIR | Green | ON | When link with 1-PAIR cable. |
| | | OFF | When link with 2-PAIR cable. |
| PSE | Green | ON | When PoE PSE works. |
| | | OFF | No works. |
| P1/PD 10M LNK/ACT | Green | ON | Link / active at 10Mbps |
| | | OFF | No link. |
| P1/PD 100M LNK/ACT | Green | ON | Link / active at 100Mbps |
| | | OFF | No link. |
| P2/PSE 10M LNK/ACT | Green | ON | Link / active at 10Mbps |
| | | OFF | No link. |
| P2/PSE 100M LNK/ACT | Green | ON | Link / active at 100Mbps |
| | | OFF | No link. |

## Installation Diagram

### 1. PoE Pass-Through



### 2. Local PoE Injection



### 3. Remote PoE Injection



## Installation Instructions

1. **Set LFPT function and data rate via DIP Switch**
   Keep the default values on the device, or locate the LFPT function or data rate via DIP switches.
   Note: The data rate should be configured the same on both local and remote side.

2. **Connect P2/PSE as extended port with local unit**
   Connect the port 2 (PSE) for extended distance transmission with local unit.

3. **Connect P1/PD as extended port with remote unit**
   Connect the port 1 (PD) for extended distance transmission with remote unit.
   Note: The PoE could be only available in 2-pair mode.

4. **Connect Ethernet Network**
   Wiring CAT5/5e cable to connect Local unit to PoE switch or network and Remote unit to PD device.

5. **Connect the power**
   Power input through the followings:
   - Local Power: 48VDC input via DC Jack or 48~55VDC via terminal block
   - PoE Pass-Through: Powered by PoE switch, no external power required.
   - PoE Injection: 48~55VDC

> **ATTENTION:**
> Make sure the AC/DC power source voltage is stable, and do not plug the IMC-150LPI via the same power source to avoid generating power circuit looping damage.

## Approximate Maximum Extended Distances

**IMC-150LPI Data Range**

| RATE | UTP 1-PAIR | UTP 2-PAIR |
|------|-----------|-----------|
| 10Mbps | 800m | 250m |
| 100Mbps | 300m | 500m |

**IMC-150LPI PoE Ragne**

| Power Souce (Watts) | 10Mbps | 100Mbps |
|------|--------|---------|
| PD PoE Class 2 (6.5W) | 800m | 500m |
| PD PoE Class 3 (13W) | 300m | 300m |
| PD PoE Class 4 (22W) | 200m | 200m |
| Local Power Injection 30W | 100m | 100m |

**NOTE:**

The extended distances figures are based on a 48VDC external power input and 50V PSE PoE power source. Transmission distances and power could be influenced by factors such as cable quality, the number of connectors and environmental conditions.

PoE over extended distance is only available in 2-PAIR mode.