



# **User Manual: PC-INJ-xy Industrial Injector**

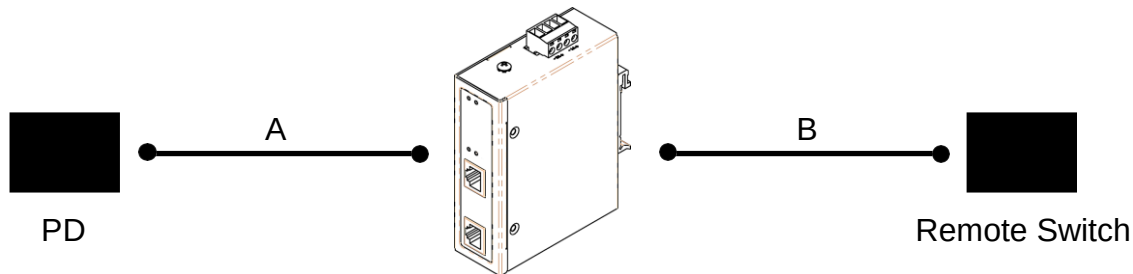
Version 11.2019

## Introduction

This rugged designed industrial PoE injector is equipped with a 30W/60W/95W PSE port. This PSE port can be powered by 48-56 VDC input voltage. With its multi-purpose design, it can also be Din-Rail or wall-mounted. It is an ideal unit for Mobile Base Station (BTS), IP surveillance, traffic monitoring and security applications in critical environments. It can tolerate -40°C to 75°C in harsh environments to perform a reliable network. This product has been rigorously tested in harsh environments for your security, transportation, and telco applications.

## Note

Always make sure the total length of the TX cable DOES NOT exceed 100 meters. Total length is defined as length A + length B.

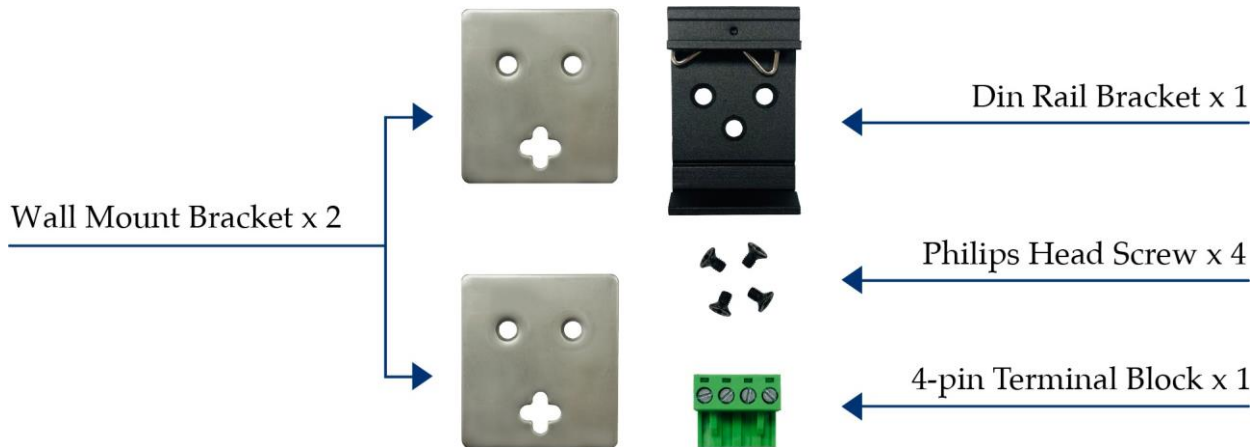


### **Length A + Length B < 100 meters**

POE signal attenuates every meter, the built-in transformer allows the attenuation to reach 100 meters to follow IEEE802.3af/at standards. The higher quality PD you connect to, the more reliable the network will be. When connecting to a poor-quality PD, it cannot generate a strong enough signal for the remote switch. Always make sure you have a high-quality PD to perform your desired network.

## Installation package

This unit can be din-rail mounted or wall-mounted. Din-rail brackets and wall-mount brackets are included.



## Power connection

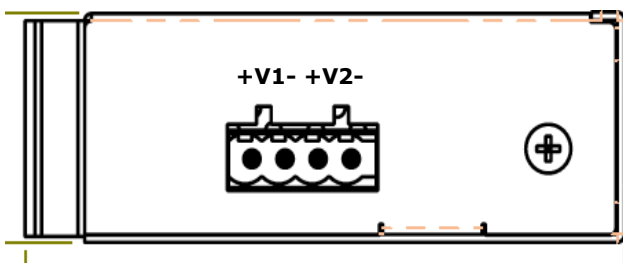
This unit provides a 4 pin terminal block. It can be operated using 48-56VDC power source. Always make sure your input voltage is within this supported voltage range.

**To connect power:** This unit supports two power inputs. Follow the printed polarity for +V1-, +V2- and ground. Connect positive wires to V+, connect negative wires to V-, and connect a neutral wire to the ground screw.

+V1- is for power input one connection.

+V2- is for power input two connection.

### Power connecting procedure:



STEP 1 – Take out 4 pin terminal block located in the included mounting kit package.

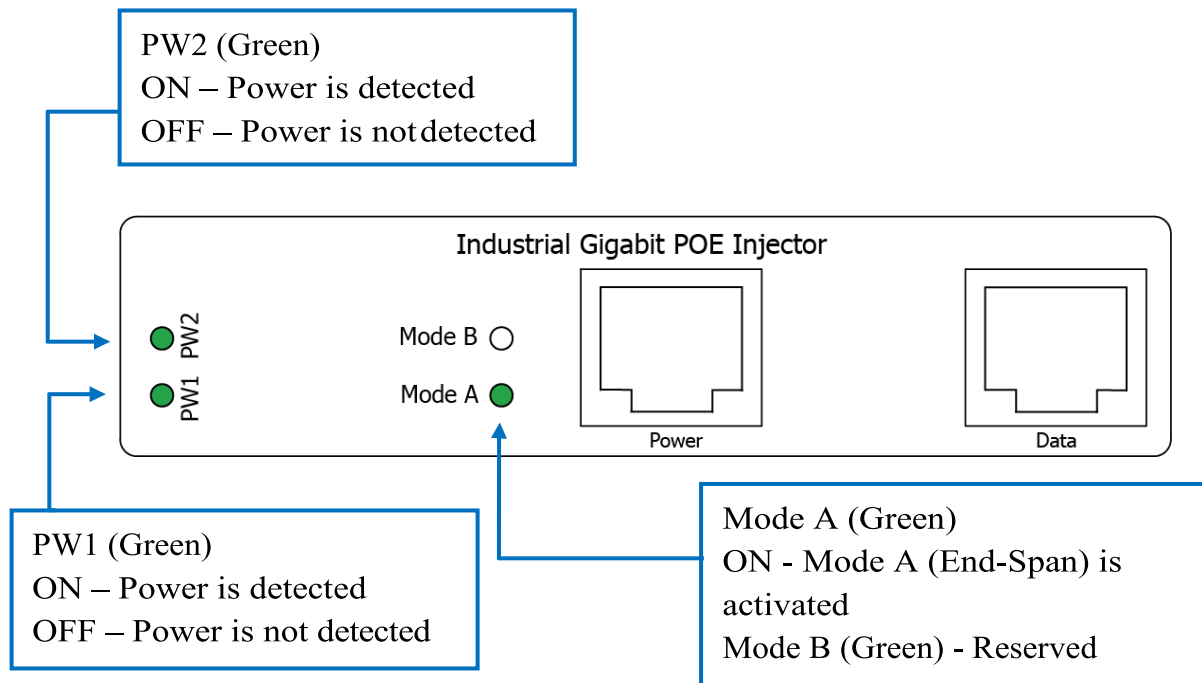
STEP 2 – Connect power wires to +V1- or +V2- with corresponding polarity. Connect the grounding wire to the ground screw.

STEP 3 – Plug into terminal block socket shown above. Polarity needs to match V+ and V-.

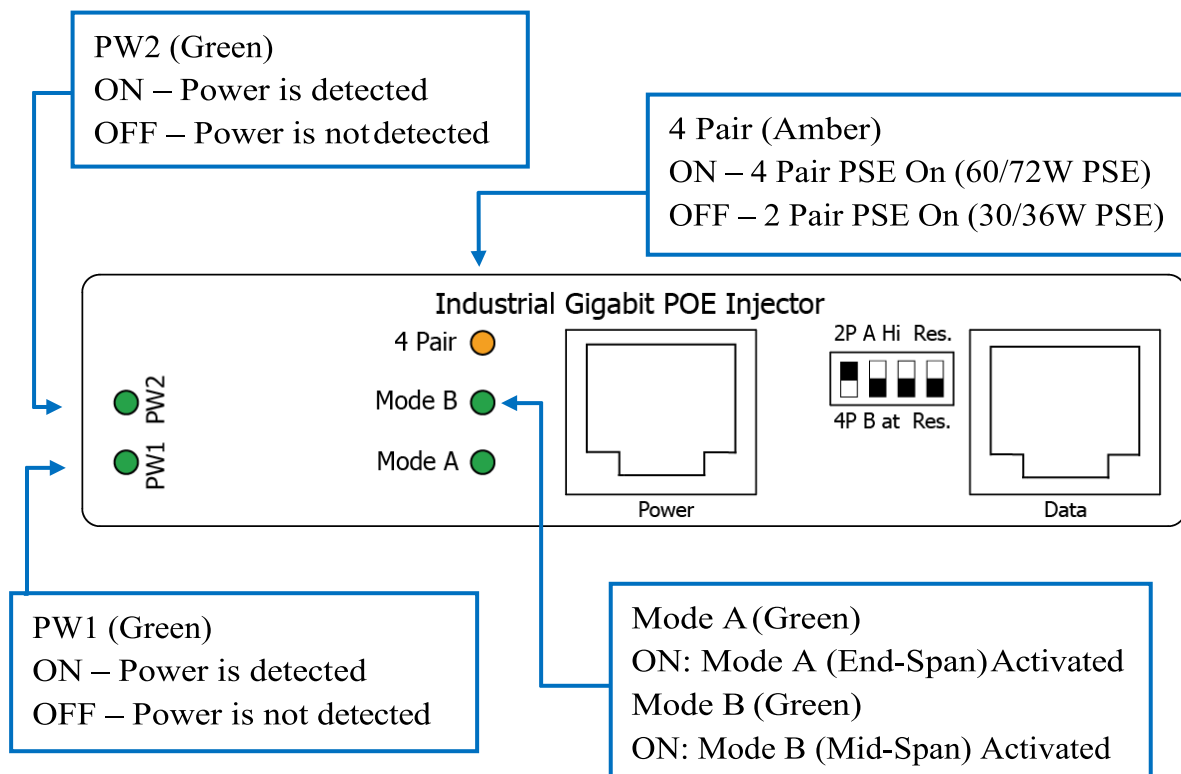
**WARNING** -- Always SHUT OFF power source to connect power wire.

**WARNING** -- Any exceeded input voltage will not make this unit function and may damage this unit.

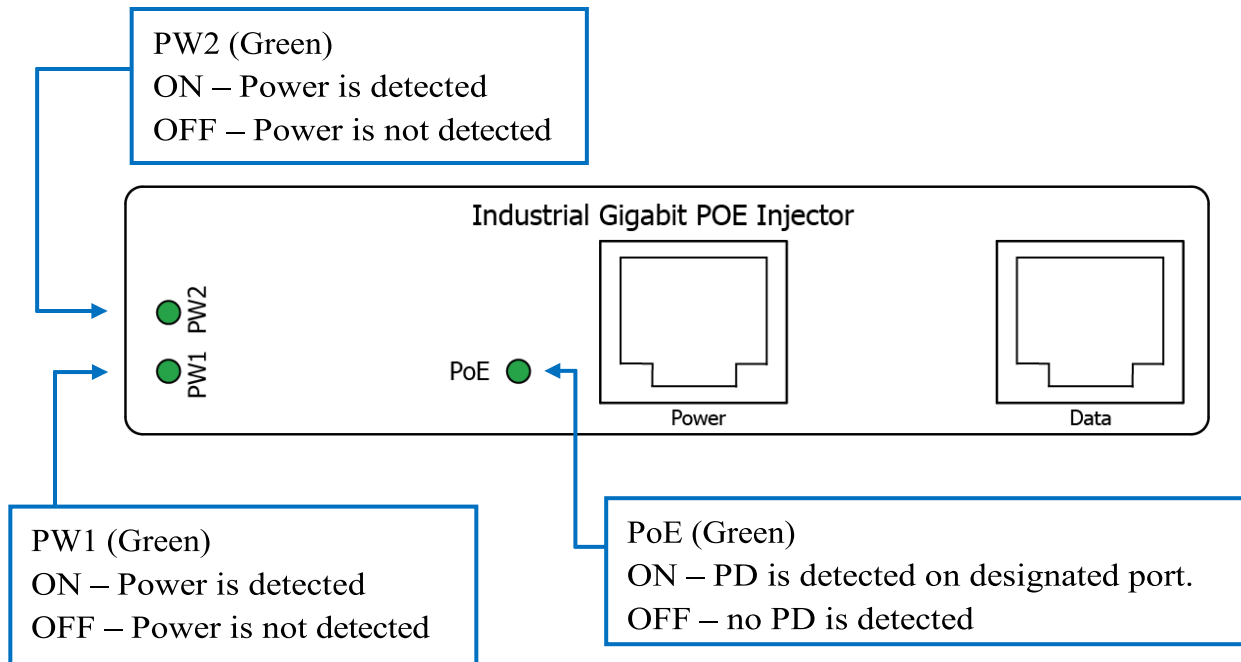
## LED indicator – PC-INJ-30W



## LED indicator – PC-INJ-60W



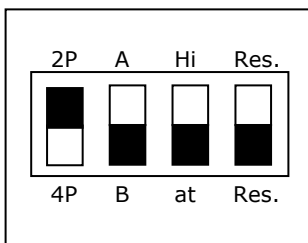
## LED indicator – PC-INJ-95-B



## Dip Switch function (For PC-INJ-60W only)

This unit is equipped with 4 pin Dip-Switch located on the front panel. Adjust the Dip-Switch setting will change the default function of this unit.

Table shown as below is the features of these Dip-Switch function. You may change the Dip-Switch setting to your desired environment.



|       |          |                               |
|-------|----------|-------------------------------|
| DIP 1 | 2P       | 2 Pair (30/36Watts)           |
|       | 4P       | 4 Pair (60/72Watts) (default) |
| DIP 2 | A        | Mode A End-Span (default)     |
|       | B        | Mode B Mid-Span               |
| DIP 3 | Hi       | High power 36W (default)      |
|       | at       | IEEE802.3at 30W               |
| DIP 4 | Reserved |                               |

## Specifications

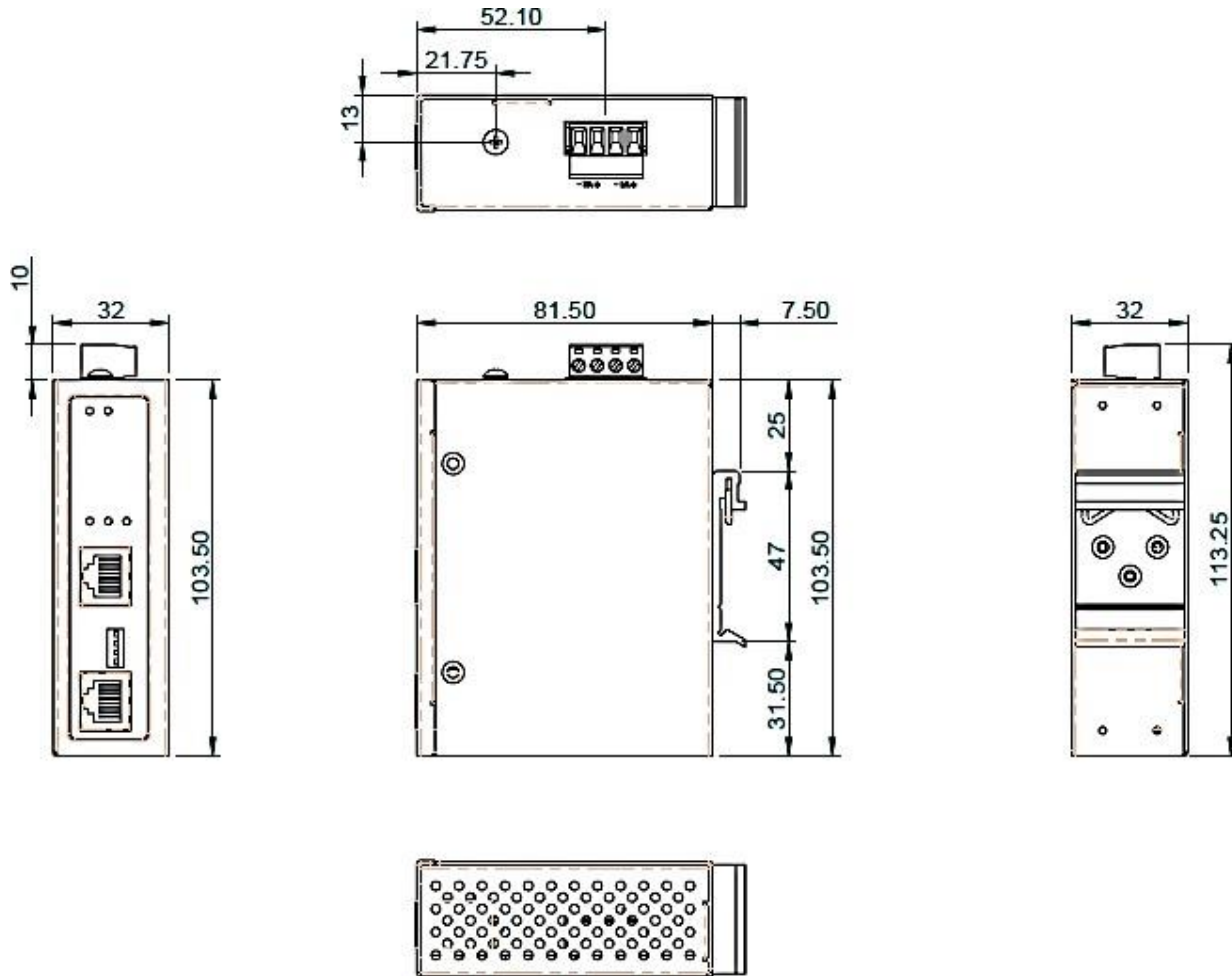
|                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| IEEE Standard               | IEEE 802.3 10Base-T Ethernet<br>IEEE 802.3u 100Base-TX Fast Ethernet<br>IEEE 802.3ab 1000Base-T Gigabit Ethernet<br>IEEE802.3af for POE<br>IEEE802.3at for POE+<br><b>PC-INJ-95-B</b> only: Compliant with 95W Power over HDBaseT (PoH) standard (Microsemi)                                                                                                                                                                                                                                                                                                                                                                                          |
| Network Connector           | 1xRJ-45 10/100/1000BaseT(X) Data<br>1xRJ-45 10/100/1000BaseT(X) Data with PoE output power                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Network Cable               | UTP/STP above Cat.5e Cable<br>EIA/TIA-568 10-ohm (100m)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Protocol                    | CSMA/CD                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| LED                         | <b>PC-INJ-30W</b><br>PW1 (Green): ON – Power is detected<br>PW2 (Green): ON – Power is detected<br>Mode A (Green): For End-Span PoE power 1,2,3,6<br>Mode B (Green): Reserved<br><hr/> <b>PC-INJ-60W</b><br>PW1 (Green): ON – Power is detected<br>PW2 (Green): ON – Power is detected<br>Mode A (Green): ON – End Span PD detected<br>Mode B (Green): ON – Mid Span PD detected<br>4 Pair (Amber): ON – 60W PSE is in active mode<br>OFF – 30W PSE is in active mode<br><hr/> <b>PC-INJ-95-B</b><br>PW1 (Green): ON – Power is detected<br>PW2 (Green): ON – Power is detected<br>PoE: ON – 95W PSE is in active mode.<br>OFF – PSE is in idle mode. |
| POE Pin Assignment          | Default: Mode A for Pin 1 (V-), 2 (V-), 3 (V+), 6 (V+)<br>Mode B for Pin 4 (V+), 5 (V+), 7 (V-), 8 (V-)<br><b>PC-INJ-60W</b> only:<br>DIP switch setting can be changed to Mode B (Mid-Span), V+, V+, V-, V- for pin 4, 5, 7, 8                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Reverse polarity protection | Present                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Overload current protection | Present                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Power Supply                | Redundant Dual DC 48V-56V power input                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Power Consumption           | 1 W@48 VDC full load, Without POE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| POE power                   | Max total PoE power 36/72/95watts at 56VDC input                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Removable Terminal Block    | Provide 4 pin terminal block<br>Wire range: 0.34mm^2 to 2.5mm^2<br>Solid wire (AWG):12-24/14-22<br>Stranded wire (AWG): 12-24/14-22<br>Torque:5lb-In/0.5Nm/0.56Nm<br>Wire Strip length: 7-8mm                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

|                                  |                                          |
|----------------------------------|------------------------------------------|
| Operating Temperature            | -40°C to 75°C                            |
| Operating Humidity               | 5% to 95% (Non-condensing)               |
| Storage Temperature              | -40°C to 85°C                            |
| MTBF (mean time between failure) | >500,000 hrs (MIL-HDBK-217F) at 25°C     |
| Housing                          | Rugged Aluminum, IP30 Protection         |
| Case Dimension (L X W X D)       | 103.5 x 32 x 81.5 mm (L x W x D)         |
| Installation mounting            | DIN Rail and Wall Mount options included |

## Certifications

|               |                               |
|---------------|-------------------------------|
| Safety        | UL 60950-1                    |
| Safety        | IEC EN60950-1                 |
| EMC/EMS       | CE, FCC, VCCI                 |
| EMI           | FCC Part 15 Subpart B Class A |
| EN 60068-2-6  | Vibration                     |
| EN 60068-2-27 | Shock                         |
| EN 60068-2-32 | Free Fall                     |

## Housing Dimension (mm)



### NOTE:

Housing dimension is for purpose of showing product Length, Width, Height, din-rail, and terminal block's position and dimension. Please reference the LED Indicator Page for correct port order.