

# **IEEE 802.3af PoE Mid-span Injector**

## **User's Guide**

**21.18.1490R**

Doc. 071203-NPOE-100



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## **TRADEMARKS**

Ethernet is a registered trademark of Xerox Corp.

## **FCC NOTICE**

This device complies with Class B Part 15 the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received including the interference that may cause.

## **CE NOTICE**

Marking by the symbol indicates compliance of this equipment to the EMC directive of the European Community. Such marking is indicative that this equipment meets or exceeds the following technical standards:

EMC Class B

EN 50081-1/1992 :EN55022:1994/A1:1995/A2:1997 Class B

EN61000-3-2:2000

EN61000-3-3:1995/A1:2001

EN 55024:1998/A1:2001

IEC 61000-4-2:1995

IEC 61000-4-3:1995

IEC 61000-4-4:1995

IEC 61000-4-5:1995

IEC 61000-4-6:1996

IEC 61000-4-8:1993

IEC 61000-4-11:1994

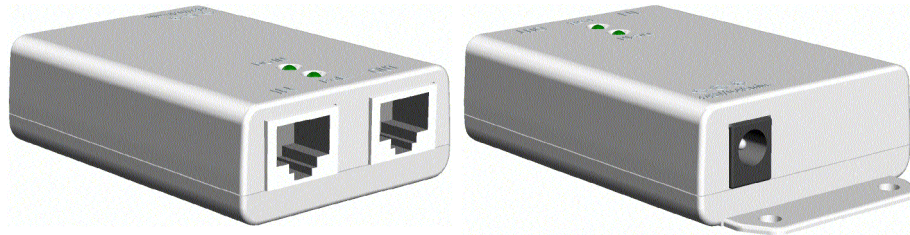
## **SAFETY CAUTION**

To reduce the risk of bodily injury, electrical shock, fire, and damage to the product, observe the following precautions.

- Do not service any product except as explained in your system documentation.
- Opening or removing covers may expose you to electrical shock.
- Only a trained service technician should service components inside these compartments.
- If any of the following conditions occur, unplug the product from the electrical outlet and replace the part or contact your trained service provider:
  - The power cable, extension cable, or plug is damaged.
  - An object has fallen into the product.
  - The product has been exposed to water.
  - The product has been dropped or damaged.
  - The product does not operate correctly when you follow the operating instructions.
- Do not push any objects into the openings of your system. Doing so can cause fire or electric shock by shorting out interior components.
- Operate the product only from the type of external power source indicated on the electrical ratings label. If you are not sure of the type of power source required, consult your service provider or local power company.

## **Introduction**

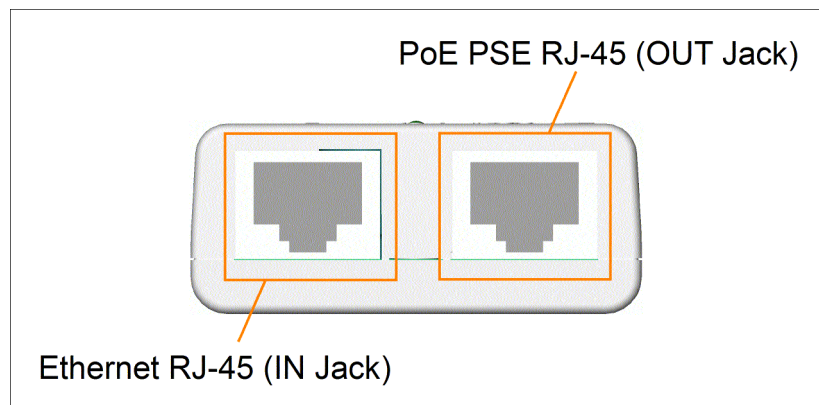
The product is a device designed as a mid-span Power over Ethernet PSE, which is equipped with one-input and one-output RJ-45 connectors to connect directly to an Ethernet cable. It delivers power together with the Ethernet data lines over the Cat.5 cable to a PoE Powered Device such as a Wireless Access Point or a media converter located at place where no commercial outlet is available.



## **Features**

- IEEE 802.3af PSE standard compliance
- Mix Ethernet signals and 48V power into one RJ-45 port
- Delivers 48VDC power up to 15.4W
- Delivers power over Cat.5 up to 100 meters
- Discovery of IEEE 802.3af compliant powered devices (PD)
- Auto power shutdown when no connection
- Auto power shutdown protection when non-802.3af PD is detected
- Overload power shutdown protection
- Over-current power shutdown protection
- Short circuit power shutdown protection
- Compact
- Wall mounting support
- Plug and play

## **Specifications**



### **◆ Ethernet RJ-45 (IN Jack)**

Connector	Shielded RJ-45
Connection Support	Ethernet, Fast Ethernet, Gigabit Ethernet
Cable	Cat. 5, 5e

### **◆ PoE PSE RJ-45 (OUT Jack)**

Connector	Shielded RJ-45
PSE Pin 4,5	Positive V <sub>PORT</sub> (48VDC)
PSE Pin 7,8	Negative V <sub>PORT</sub> (48VDC)
Cable	4-pair Cat. 5, 5e
Length	Mid-span up to 100m (LAN IN cable + PoE OUT cable)

### **◆ PoE PSE**

Discovery resistance	15K ~ 33K
Classification	Class 0 ~ 4
Power delivery	15.4W max.
Under voltage protection	V <sub>PORT</sub> < 43V
Over voltage protection	53V < V <sub>PORT</sub>
Over current detection	350 mA < I <sub>PORT</sub> < 400 mA for 75ms
Maximum current limit	400 mA < I <sub>PORT</sub> < 450 mA for 75ms
Under current detection	7.5mA for 300~400ms
DC disconnect	5 mA < I <sub>PORT</sub> < 10 mA



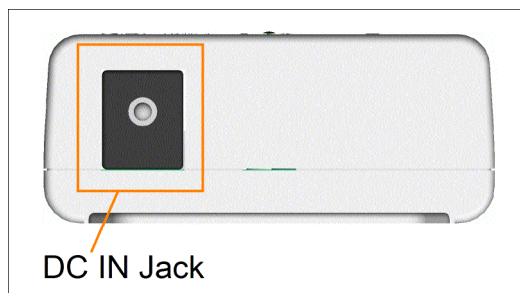
#### ◆ LED Indication

POWER

Power status (green)

PoE

PoE power status (green)



#### ◆ DC IN Jack

Connector

Power Jack

Input voltage

+48VDC supplied by external power adapter

Input current

DC 0.4A min.

#### ◆ Environment

Temperature

Operating: -5 ~ 50°C,

Storage: -20 ~ 85 °C

Relative humidity

5% ~ 95% non-condensing

#### ◆ Mechanical

Housing

Plastic

Mounting

Wall mounting (screw support)

Dimension 50mm x 80mm x 21mm

◆ **AC-DC48V Power Adapter**

Rated input voltage	100 ~ 240VAC
Rated frequencies	50 ~ 60Hz
Input voltage range	90 ~ 264VAC
Input frequency range	47~63Hz
Input AC plug	IEC320 C14 plug (3-pin)
Output voltage	+48VDC (+/-5%)
Output current	DC 0.5A max.
Max. output power	24W
Consumption at no load	0.5W max.
Output DC plug	- + (O +).
Power cord	IEC320 type

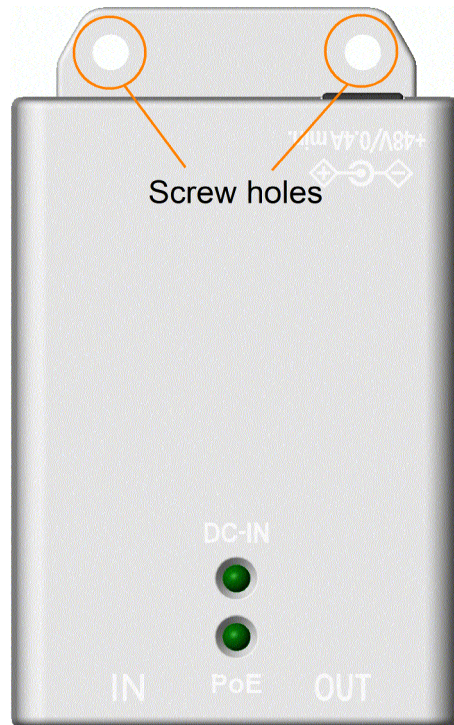




## **Installation**

### **Screw mounting on a wall**

The case is featured two holes on the case. Screw the injector over the screw holes on a wall securely.



### **Wall mounting**

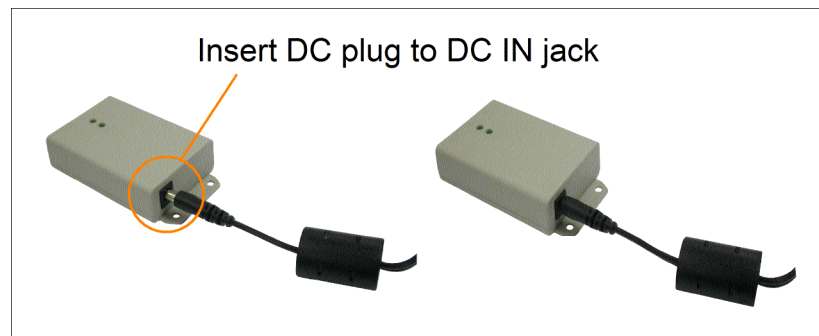
The case bottom is designed with a hole for mounting the injector on a wall.





### Inserting DC power plug first

Insert the DC cable of the power adapter to the injector DC IN jack as shown below:

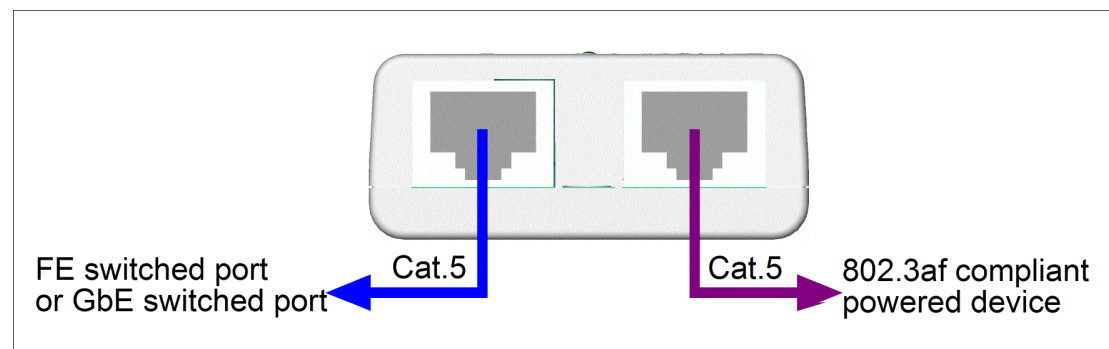


### Applying AC power

The AC-DC48V power adapter used to supply the 48VDC power for the injector can receive AC voltage within a range of +90 ~ 264VAC. It supports the commercial power available worldwide. Use a proper AC power cable matching the AC outlet in your area.

**Note:** Make sure the DC plug is properly seated in the DC jack before applying AC power.

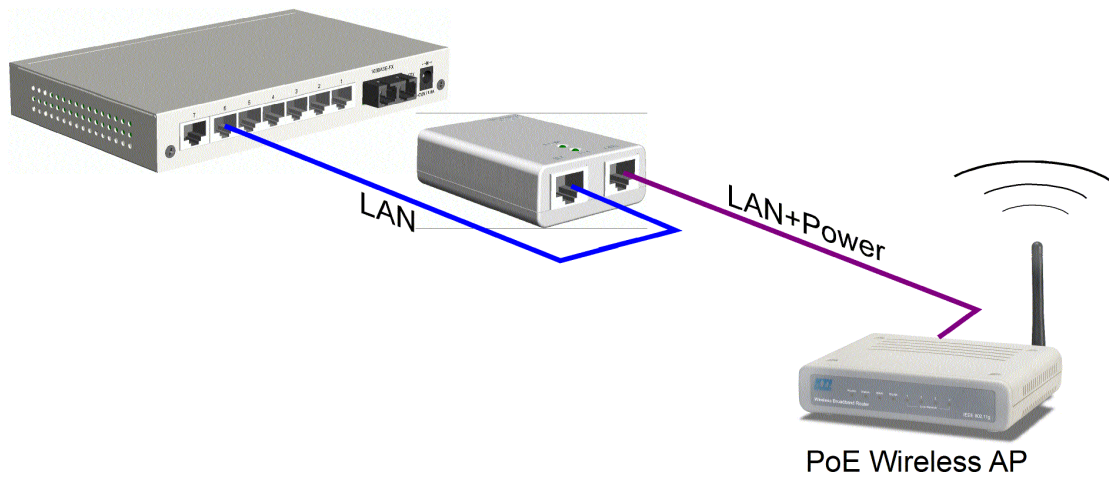
### Connecting network cables



1. Connect IN jack to the switched port of a Fast Ethernet switch or Gigabit Ethernet switch.
2. Connect OUT jack to the 802.3af compliant powered device via PoE over Cat.5.

## **Application**

Supporting PoE wireless Access Point (802.3af PD)



Supporting PoE media converter (802.3af PD)

