KTI

NETWORKS

Mid-span 802.3af PoE Injector

Installation Guide

KPOE-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 KPOE-100 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.
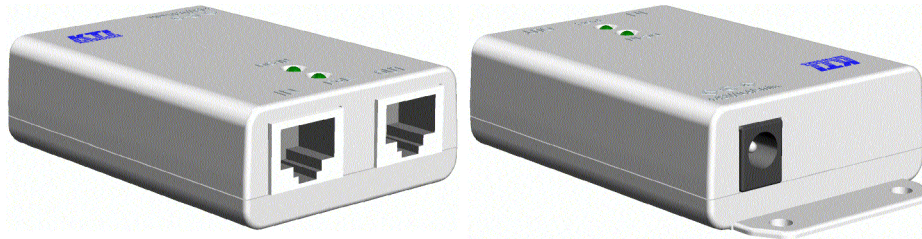
Features

- 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

PoE PSE RJ-45 (OUT Jack)

Ethernet RJ-45 (IN Jack)
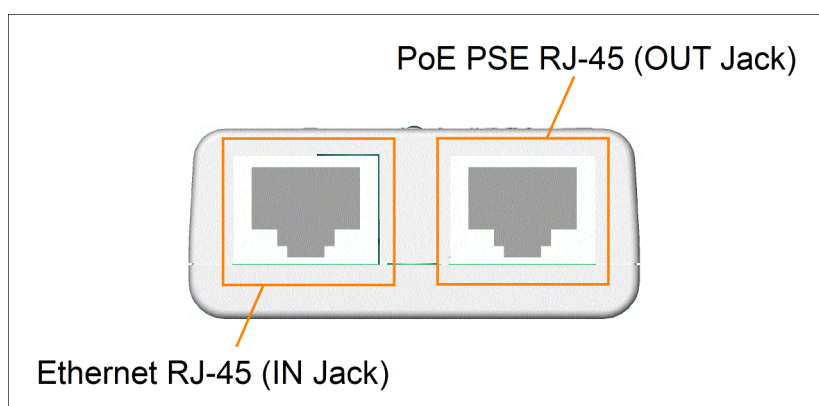
◆ **Ethernet RJ-45 (IN Jack)**

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_{PORT} (48VDC)
PSE Pin 7,8	Negative V_{PORT} (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	$V_{PORT} < 43V$
Over voltage protection	$53V < V_{PORT}$
Over current detection	350 mA $< I_{PORT} <$ 400 mA for 75ms
Maximum current limit	400 mA $< I_{PORT} <$ 450 mA for 75ms
Under current detection	7.5mA for 300~400ms
DC disconnect	5 mA $< I_{PORT} <$ 10 mA

DC IN LED

PoE LED

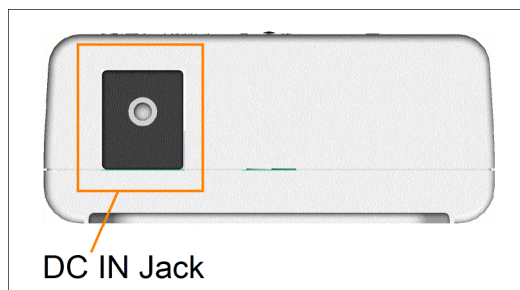◆ **LED Indication**

POWER   Power status (green)

PoE   PoE power status (green)

DC IN Jack

◆ **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 ^{o}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

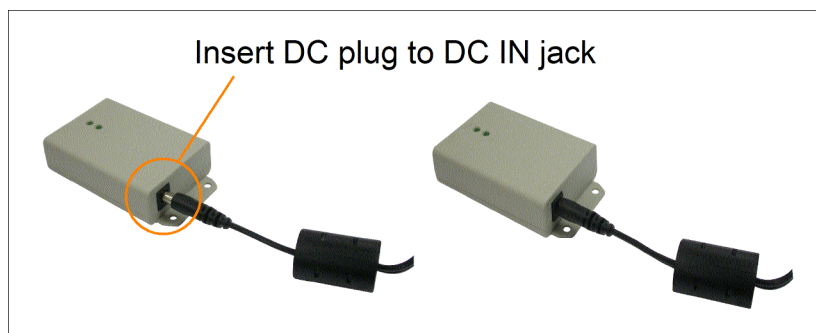The case is featured two holes on the case. Screw the injector over the screw holes on a wall securely.

Screw holes

Wall mounting

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

Mounting hole on the back

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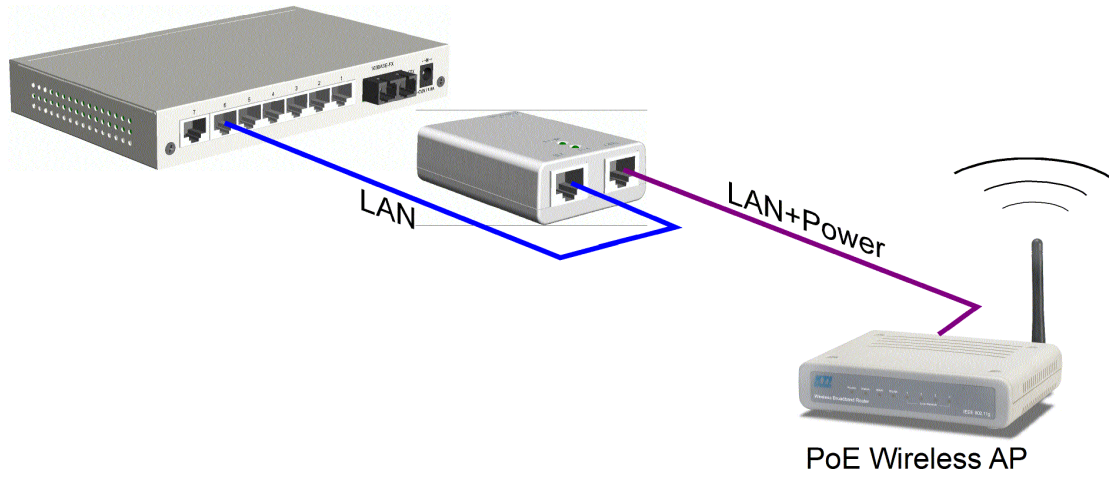
Connecting network cables
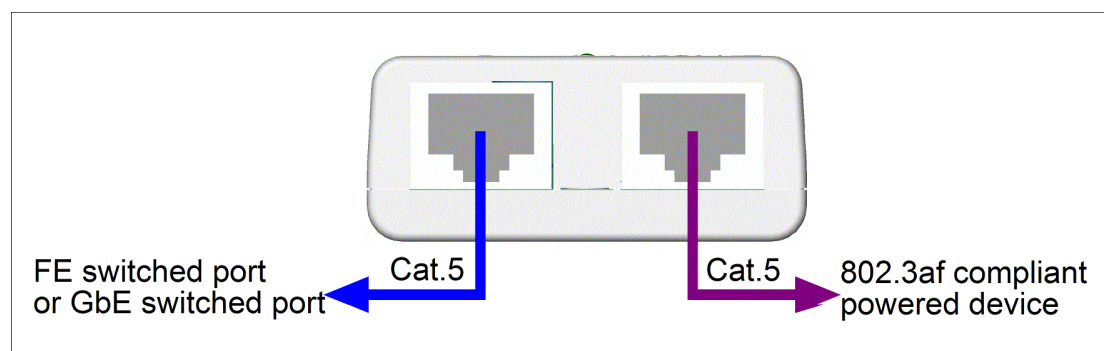
1. Connect IN jack to the switched port of a Fast Ethernet switch or Gigabit Ethernet switch.
2. Connect OUT jack to the 802.3af compliant powered device via PoE over Cat.5.

Application

Supporting PoE wireless Access Point (802.3af PD)

LAN

LAN+Power

PoE Wireless AP

Supporting PoE media converter (802.3af PD)

LAN

LAN+Power

PoE
media converter

Fiber