



**Mid-span 802.3at
High Power PoE Injector
Installation Guide
KPOE-100P**



Doc. 110816

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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 A	
EN 61000-6-3:2007	IEC 61000-6-3:2007
EN 55022:2006/A1:2007	CISPR 22:2005 Class A
EN 61000-3-2:2006	IEC 61000-3-2:2005
EN 61000-3-3:2008	IEC 61000-3-3:2008
EN 55024:1998/A1:2001/A2:2003	CISPR 24:1997
EN 61000-4-2:2009	IEC 61000-4-2:2008
EN 61000-4-3:2006/A1:2008	IEC 61000-4-3:2006
EN 61000-4-4:2004	IEC 61000-4-4:2004
EN 61000-4-5:2006	IEC 61000-4-5:2005
EN 61000-4-6:2009	IEC 61000-4-6:2008
EN 61000-4-8:1993/A1:2001	IEC 61000-4-8:1998/A1:2000
EN 61000-4-11:2004	IEC 61000-4-11:2004

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-100P 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 a place where no commercial outlet is available.



PoE Standard

IEEE 802.3af standard is often abbreviated as “PoE”. IEEE 802.3at PoE standard is also known as “PoE+” or “PoE plus”. The standard parameters are:

Property	PoE (802.3at Type 1)	PoE+ (802.3at Type 2)
Power at PD	12.95W	25.5W
Max. power delivered by PSE	15.4W	34.2W
Voltage range at PSE	44 ~ 57VDC	50 ~ 57VDC
Voltage range at PD	37 ~ 57VDC	42.5 ~ 57VDC
Max. current	350mA	600mA

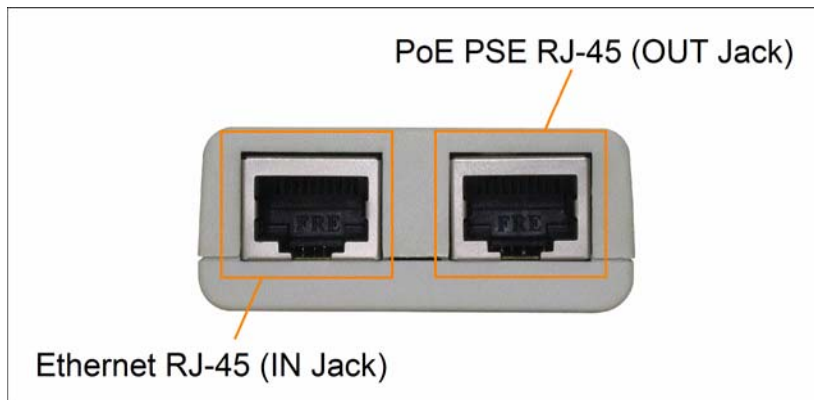
Power level	802.3at Type	Power range at PD	Class Description
Class 0	Type 1 (PoE)	0.44 ~ 12.94W	Unimplemented
Class 1	Type 1 (PoE)	0.44 ~ 3.84W	Very low power
Class 2	Type 1 (PoE)	3.84 ~ 6.49W	Low power
Class 3	Type 1 (PoE)	6.49 ~ 12.95W	Mid. power
Class 4	Type 2 (PoE+)	12.95 ~ 25.5W	High power

Class 4 is valid for 802.3at devices, not allowed for 802.3af devices. An 802.3af device presenting a class 4 is considered non-compliant and, instead, will be treated as a Class 0 device.

Features

- IEEE 802.3at PoE PSE standard compliance
- Mix Ethernet signals and DC power into one RJ-45 port
- Discovery support for IEEE 802.3af and 802.3at compliant powered devices (PD)
- Delivers DC power up to 30W at RJ-45 port output for Type 2 PD
- Supports 2-event classification for Type 2 PD
- Delivers power over Cat.5 up to 100 meters
- Auto power shutdown when no connection
- Auto power shutdown protection when non-802.3 PoE 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

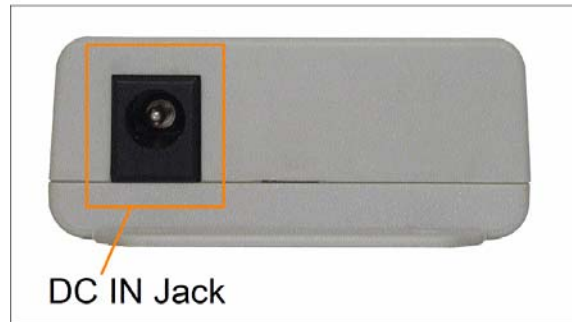
◆ PoE PSE RJ-45 (OUT Jack)

Connector	Shielded RJ-45
PSE Pin 4,5	Positive V _{PORT} (56VDC)
PSE Pin 7,8	Negative V _{PORT} (56VDC)
Cable	4-pair Cat. 5, 5e

Length	Mid-span up to 100m (LAN IN cable + PoE OUT cable)
◆ PoE PSE	
Classification Support	Type 1 Class 0 ~ 3 Type 2 Class 4 with 2-Event classification
Power delivery	15.4W max. for Type 1 PD 30W max. for Type 2 PD
Protection	Incompliant PD detection PD disconnection Over current Short-circuit
Over current detection	Class 1: 112 mA Class 2: 206 mA Class 0 & Class 3: 375 mA Class 4: 638 mA
Maximum current limit	Class 0 ~ Class 3: 425 mA Class 4: 850mA



◆ LED Indication	
POWER	DC IN Power status (green)
PoE	PoE power status (green)



◆ **DC IN Jack**

Connector	Power Jack
Input working voltage	45 ~ 57VDC for Type 1 PDs 51 ~ 57VDC for Type 2 and Type 1 PDs
Power supply	+56VDC supplied by external power adapter

◆ **Environment**

Temperature	Operating: -5 ~ 50°C, Storage: -30 ~ 80 °C
Relative humidity	5% ~ 95% non-condensing

◆ **Mechanical**

Housing	Plastic
Mounting	Wall mounting (screw support)
Dimension	50mm x 80mm x 21mm

◆ **AC-DC56V Power Adapter**

Input voltage	90 ~ 264VAC
Input frequency range	47~63Hz
Input AC plug	IEC320 C14 plug (3-pin)
Output voltage	+56VDC (+1.5/-3%)
Output current	DC 1.16A max.
Max. output power	65W
Output DC plug	- (0 +.
Power cord	IEC320 type



Installation

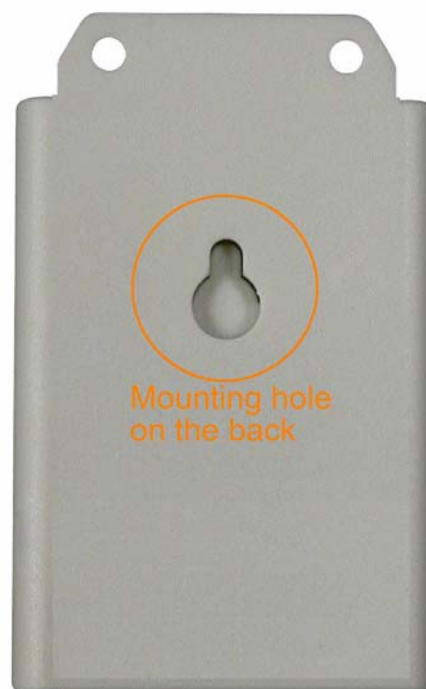
Screw mounting on a wall

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



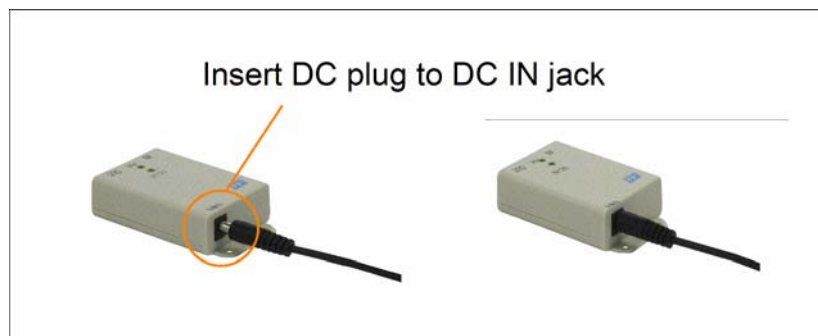
Wall mounting

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:

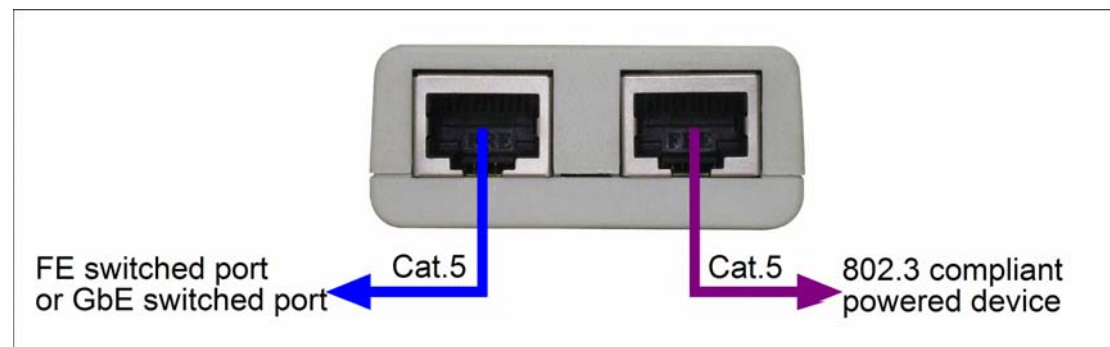


Applying AC power

The AC-DC56V power adapter used to supply the 56VDC 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.

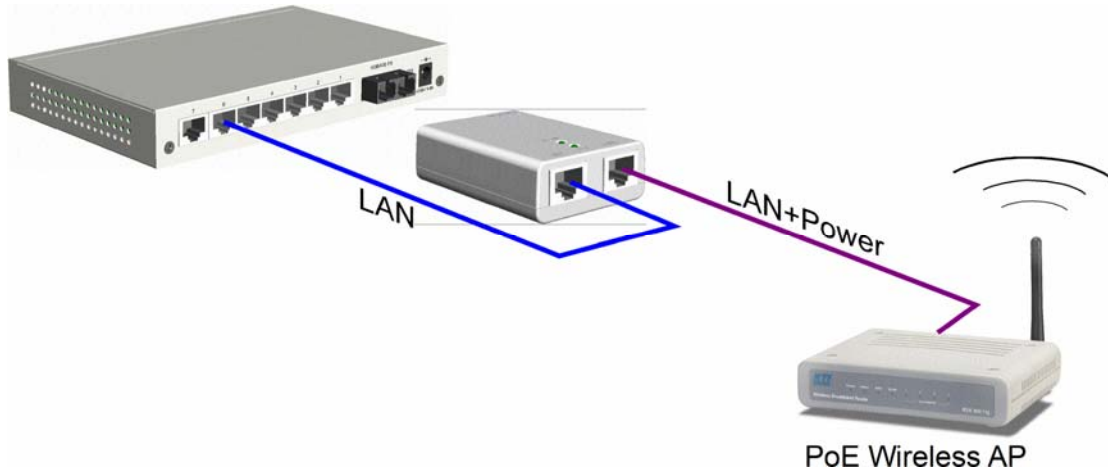
Connecting network cables



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

Applications

Supporting PoE wireless Access Point (802.3 compliant PD)



Supporting PoE media converter (802.3 compliant PD)

