

PoE Injector

P0E-173

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Ultra Power over Ethernet Injector



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1. Package Contents

Thank you for purchasing PLANET Single-Port 10/100/1000Mbps Ultra PoE Injector, POE-173.

Model	LAN Port Speed	PoE Standard	PoE Budget
POE-173	10/100/1000Mbps	Ultra PoE, backward compatible with IEEE 802.3at/af standard	60 watts

The term "**Ultra PoE Injector**" in the following section of this User's Manual means the POE-173.

The box of the Single-Port 10/100/1000Mbps Ultra PoE Injector should contain the following items:

- ◆ The Single-Port 10/100/1000Mbps Ultra PoE Injector x 1
- ◆ User's Manual x 1
- ◆ AC Power Cord x 1

If any of these are missing or damaged, please contact your dealer immediately; if possible, retain the carton including the original packing material, and use them again to repack the product in case there is a need to return it to us for repair.

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PD (Powered Device) such as IP phones, network cameras or wireless access points is a PoE-enabled terminal by PSE and thus it consumes energy.

3. Product Specifications

Product	POE-173	
Hardware Specifications		
Interface	LAN	1 x RJ45 STP, "Data" Input Port
	PoE	1 x RJ45 STP, "Data + Power" Output Port
	AC Connector	1 x AC input power socket, IEC-320 C6
Network Cable	Ultra PoE (60W)	4-pair UTP Cat. 5, 5e, 6 up to 100m (328ft)
	802.3af / at PoE (15W / 30W)	2-pair UTP Cat. 3, 4, 5, up to 100m (328ft)
LED Indicator		System: Power x 1 (Green) PoE Port: Active, PoE ready / In Use x 1 (Green)
Data Rate		10/100/1000Mbps
Dimensions (W x D x H)		115 x 62.5 x 31 mm
Weight		177g
Unit Output Voltage		DC 50V, 1.2A

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2. Product Features

■ Interface

- 2 x RJ45 interface
 - 1-Port **Data + Power** output
 - 1-Port **Data input**
- 1 x AC 100-240V input power socket

■ Power over Ethernet

- Ultra Power over Ethernet PSE
- Up to 60 watts of power on 4-pair UTP cable
- Backward compatible with IEEE 802.3at/af PD device
- Auto-detection of PoE IEEE 802.3at/af equipment and devices to check whether there's any damage done via incorrect installation
- Remote power feeding up to 100m

■ Hardware

- All-in-one compact size design
- Internal power supply
- LED indicators for Power LED and Active LED (PoE ready / In-use)



PSE (Power Sourcing Equipment) is a device (switch, or hub for instance) that will provide power in a PoE setup. The maximum allowed continuous output power per such device in IEEE 802.3af is 15.4 watts, in IEEE 802.3at is 30 watts and Ultra PoE is 60 watts.

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Power Requirements	100-240V AC @50/60Hz, 1.5A max.
Power Consumption	60 watts max.
Operating Temperature	0 ~ 50 degrees C
Storage Temperature	-10 ~ 70 degrees C
Operating Humidity	5 ~ 95%, Relative Humidity, non-condensing
Storage Humidity	5 ~ 95%, Relative Humidity, non-condensing
Power over Ethernet	
PoE Standard	Ultra PoE over 4-pairs UTP cable, IEEE 802.3at High Power over Ethernet End-Span / Mid-Span PSE
PoE Power Supply Type	End-Span + Mid-Span
Power Pin Assignment	Pair 1 End-Span: 1/2(+), 3/6(-) Pair 2 Mid-Span: 4/5(+), 7/8(-)
PoE Power Output	DC 50V / 60-watt PoE via 4-pairs DC 50V / 30-watt PoE via 2-pairs
Standards Conformance	
Standards Compliance	IEEE 802.3 10BASE-T Ethernet IEEE 802.3u 100BASE-TX Fast Ethernet IEEE 802.3ab 1000BASE-T Gigabit Ethernet IEEE 802.3at Power over Ethernet Plus IEEE 802.3af Power over Ethernet
Regulation Compliance	FCC Part 15 Class B, CE

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4. Product Outlook

Figure 1: An overview of Ultra PoE Injector.

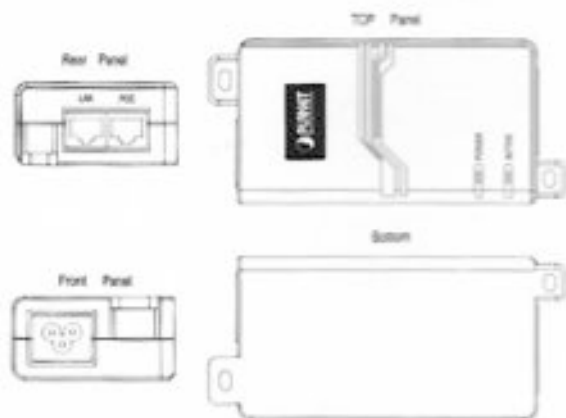


Figure 1: POE-173 Outlook

LED Indicators

LED	Color	Function
POWER	Green	It indicates that the Ultra PoE Injector has power.
ACTIVE	Green	It indicates the port is providing 50V DC in-line power.

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5. Hardware Installation

The following section describes the hardware features of Ultra PoE Injector. Before connecting any network device to the Ultra PoE Injector, read this chapter carefully.

5-1. Before Installation

The POE-173 is backward compatible with IEEE 802.3af PoE and IEEE 802.3at high power PoE standard. It is equipped with an AC power cord with 100-240V AC input and injects DC 50V power into the pin of the twisted pair cable (pair 1/2 [+], 3/6 [-] and pair 4/5[+], 7/8[-]) for 60-watt Ultra PoE injection.

Before connecting the POE-173 to your powered device (PD), please check to ensure that your powered device (PD) can accept 60-watt PoE power through pin 1/2 (+) & 3/6 (-) and pin 4/5 (+) & 7/8 (-). Otherwise, it will damage your powered device (PD).

Please also note: **DO NOT** connect POE-173 POE port to your non-PoE network equipment Ethernet interface. Otherwise, it will damage your network equipment.

If there is difficulty in finding a power socket for AC-DC Adapter of your non-PoE network device, the Ultra PoE Injector and POE-171S (Ultra PoE Splitter) can provide you with DC power for this Ethernet device conveniently and easily.

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Note

The Ultra PoE Injector and POE-171S can be installed in pair. However, the use of the third-party device is allowed if the device complies with IEEE 802.3at Power over Ethernet Plus and a maximum of 30 watts of output capability.



Note

Since the ultra PoE injector PoE port supports 50V DC PoE power output, please check and assure the Powered Device's (PD) acceptable DC power range is 50V DC; otherwise, it will damage the Powered Device (PD).

Ultra PoE Injector Installation

Due to the backward capability of IEEE 802.3at/af PoE standard, the Ultra PoE Injector can directly connect with any IEEE 802.3at/af end-nodes such as PTZ (Pan, Tilt & Zoom) speed dome network cameras, color touch-screen voice over IP (VoIP) telephones, and multi-channel wireless LAN access points. The screen in Figure 2 is shown below.

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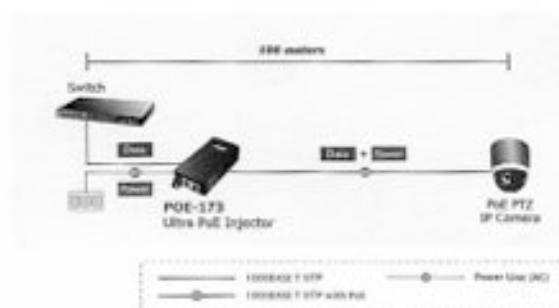


Figure 2: Connection to IEEE 802.3at / 802.3af Powered Devices

1. Connect the AC power cord to "AC slot" of Ultra PoE Injector; the "POWER" LED will be on steadily.
2. Connect a standard network cable from Switch / workstation to "LAN" port of Ultra PoE Injector.
3. Connect the long cable to the port (PoE) of the remote PoE PD device.
4. Connect with IEEE 802.3at/af devices.

Once Ultra PoE Injector detects the existence of an IEEE 802.3at / 802.3af device, the ACTIVE LED indicator will be on steadily to show it is providing power.

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Note

If the connected device is not fully complying with IEEE 802.3at / 802.3af Power over Ethernet or in-line power device, the LED indicator of Ultra PoE Injector will not be on steadily.

The Ultra PoE Injector and Splitter Installation

Below are steps showing how to install the PLANET Ultra PoE Injector (POE-173) and Ultra PoE Splitter (POE-171S) in pair.

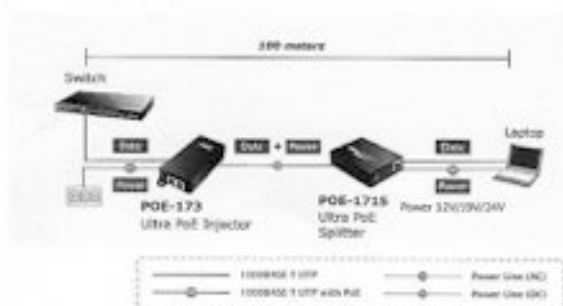


Figure 3: Topology of the Connection of POE-173 and POE-171S

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1. Connect the AC power cord to "AC slot" of Ultra PoE Injector; the "POWER" LED will be on steadily.
2. Connect a standard network cable from "POE" port of Ultra PoE Injector to "PoE In" port of POE-171S. The "ACTIVE" LED of Ultra PoE Injector and POE In-use LED of POE-171S will light up continuously.
3. Connect a standard network cable from Switch / workstation to "LAN" port of Ultra PoE Injector.
4. Connect the UTP cable in the package from "Ethernet" port of POE-171S to the RJ45 port of remote device.
5. Adjust proper DC power output and connect DC plug from "DC OUT" of POE-171S to remote device.
6. Power on the remote device and its power LED indicator will remain on.

Note

Please make sure the POE-171S output voltage is correct before applying power to remote device. The POE-171S provides DC12V/19V/24V power output.

The Ultra PoE Injector and PoE Extender Installation

Below are steps showing how to install the PLANET Ultra PoE Injector (POE-173) and 802.3at PoE+ Extender (POE-E201) to extend the distance of networking.



Figure 4: Topology of the Connection of POE-173 and POE-E201

1. Connect the AC power cord to "AC slot" of Ultra PoE Injector; the "POWER" LED will be on steadily.
2. Connect a standard network cable from "POE" port of Ultra PoE Injector to the "IN" port of POE-E201.
3. The Ultra PoE Injector delivers both Ethernet Data and PoE power over UTP cable to the POE-E201 and the "ACTIVE" LED of Ultra PoE Injector and "PoE IN" LED of POE-E201 will light up continuously.

4. Connect the additional standard network cable to the remote Powered Device (PD) via the "OUT" port of POE-E201.
5. The "OUT" port is also the power injectors which transmits DC voltage to the standard network cable and transfer data and power simultaneously between the Ultra PoE Injector and PD.
6. Once POE-E201 detects the existence of an IEEE 802.3at / 802.3af device, the "PoE OUT" LED indicator will be on steadily to show it is providing power.

Note

1. If the connected device is not fully complying with IEEE 802.3at / 802.3af standard or in-line power device, the PoE OUT LED indicator of POE-E201 will not be on steadily.
2. According to IEEE 802.3at / 802.3af standard, the POE-E201 will not inject power to the cable if not connected to a standard IEEE 802.3at / 802.3af device.