

1. Overview

Thank you for purchasing PLANET **IEEE 802.3at/af Power over Ethernet Injectors**. These PoE injectors work with any powered device (PD) that also supports the IEEE 802.3af/at standards. The models that come with the standards are:

| Model | PoE Standard | Max. PoE Out | Power In | Pass-thru. Speed |
|---------|-----------------|--------------|---------------|------------------|
| POE-152 | IEEE 802.3af | 15.4 watts | 48V DC | 10/100/1000Mbps |
| POE-161 | IEEE 802.3at/af | 30 watts | 52V to 56V DC | 10/100/1000Mbps |

Unless specified, the term **"PoE Injector"** mentioned in the following sections means the models listed above.

- 1 -

3. Product Outlook

POE-152

There are two RJ45 twisted-pair jacks, one 48V DC power socket and two LED indicators.

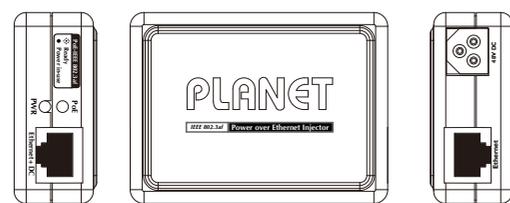


Figure 1: POE-152 Overview

POE-161

There are two RJ45 twisted-pair jacks, one 52V to 56V DC power socket and two LED indicators.

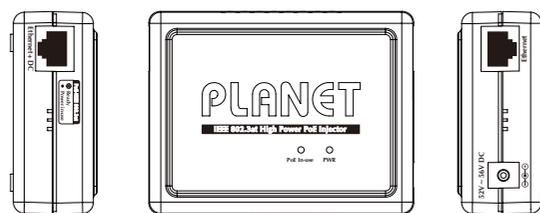


Figure 2: POE-161 Overview

- 3 -

2. Package Contents

Carefully unpack the box of the PoE Injector, which should contain the following items:

| POE-152 | POE-161 |
|---|--|
| <ul style="list-style-type: none"> The 802.3af PoE Injector x 1 User's Manual x 1 48V DC Power Adapter x 1 | <ul style="list-style-type: none"> The 802.3at Power over Ethernet Plus Injector x 1 User's Manual x 1 54V DC Power Adapter x 1 |



If any of these pieces 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 of a need to return for repair.

- 2 -

4. LED Indication

| LED | Description |
|------------|---|
| Power | Lights to indicate that the PoE Injector has power from AC-DC adapter. |
| PoE-in-use | Lights to indicate the PoE Injector is providing DC in-line power. |

5. Hardware Installation

This section describes the hardware features of **PoE Injector**. Before connecting any network device to the **PoE Injector**, refer to this chapter carefully.

- 4 -

5.1 Before Installation

Before the installation, it is recommended to check your network environment. PLANET **PoE Injector** comes with an AC-DC adapter which injects the DC power into the pin of the twisted-pair cable following the IEEE standards. The power and pin assignment relationship is tabled below:

| Model | Required AC-DC Adapter Specs | PoE Pin Assignment |
|---------|---|--------------------|
| POE-152 | Input: 100~240V AC Output: 48V DC | 1/2(+), 3/6(-) |
| POE-161 | Input: 100~240V AC Output: 52V to 56V DC | 4/5(+), 7/8(-) |

Category 5/5e/6 8-wire UTP/STP cabling is required for the installation. 4-wire (pin 1/2, 3/6) UTP cable cannot work with POE-161, but only can work with POE-152 in 10/100BASE-TX Ethernet.



PLANET **PoE Injector** and PLANET **PoE Splitter** (e.g., POE-161S and POE-162S) can be installed in pair. Use of third-party device is allowed if the device complies with IEEE 802.3at or IEEE 802.3af standard.

- 5 -

5.2 PoE Injector Installation

- Connect a standard network cable from switch/workstation to **"Ethernet"** port of **PoE Injector**.
- Connect one end of the long cable to a remote device and the other end to the **"Ethernet+DC"** port
- When connecting the AC adapter to **"48V DC"** of the POE-152 or **"52V to 56V DC"** of the POE-161, the power LED will be "steady on".
- Based on IEEE 802.3af standards, the POE-152 can directly connect with any IEEE 802.3af end-nodes like wireless access point, VoIP phone and IP camera that support IEEE 802.3af Power over Ethernet interface.



Based on IEEE 802.3at standards, the POE-161 can directly connect with any IEEE 802.3at end-nodes such as PTZ (Pan, Tilt & Zoom) IP camera, speed dome camera and high power consumption wireless LAN access point that support IEEE 802.3at Power over Ethernet port.

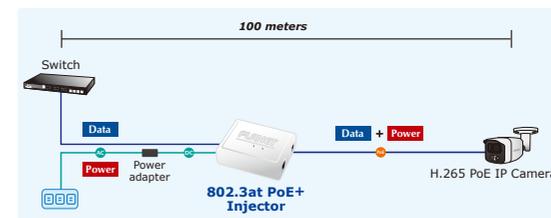


Figure 3: Connection to IEEE 802.3af/at Device

- 6 -

Once the POE-152 detects the existence of an IEEE 802.3af device, the LED indicator will be steady ON to show it is providing power. The same goes to the POE-161 that detects the existence of an IEEE 802.3at/af device.



If the connected device does not fully comply with IEEE 802.3af standards, the LED indicator of the POE-152 will not be "steady on".



- Since the POE-161 PoE port supports 52V to 56V DC PoE power output, please check to make sure that the powered device's acceptable DC power range is from 52V to 56V DC. Otherwise, it will damage the PD.
- If the connected device does not fully comply with IEEE 802.3at/af Power over Ethernet, the LED indicator of the POE-161 will not be "steady on".

5.3 PoE Injector and PoE Splitter Installation

For non-PoE remote device or Ethernet equipment, the **PoE Injector** and **PoE Splitter** can run in pair to provide DC power to those devices. The table below shows the models of PLANET **PoE Splitter**:

| Model | PoE Standards | DC Power Out | Pass-thru. Speed |
|----------|-----------------|--------------|------------------|
| POE-161S | IEEE 802.3af/at | 5V/12V DC | 10/100/1000Mbps |
| POE-162S | IEEE 802.3af/at | 12V/24V DC | 10/100/1000Mbps |

- Follow Steps 1, 2 and 3 of Section 5.2 for the connection.
- Connect the UTP cable in the package from **"Ethernet"** of the **PoE splitter** to the RJ45 port of remote device.
- Connect properly DC plug from **"DC OUT"** of PoE Splitter to a remote device

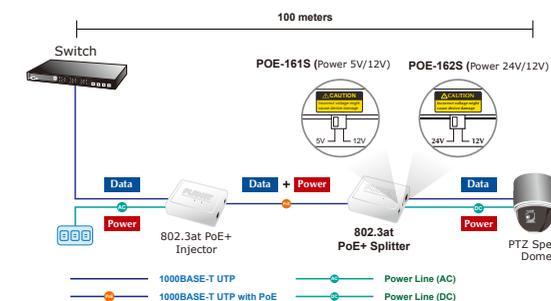


Figure 4: Connection Architecture via PoE Injector and PoE Splitter



Please ensure the PoE Splitter output voltage is correct before applying power to remote device; otherwise, it may damage the remote device.

- 8 -

6 Product Specifications

POE-152 & POE-161

| Product | POE-152 | POE-161 |
|-------------------------|--|---|
| Hardware Specifications | | |
| Interface | "Data" Input Port: 1 x RJ45 STP | |
| | "PoE (Data + Power)" Output Port: 1 x RJ45 STP | |
| | DC Input Power Socket: 1 x 48V DC | DC Input Power Socket: 1 x 52V to 56V |
| LED Indicator | System: Power x 1 (Yellow) PoE Port: PoE-in-Use x 1 (Green) | System: Power x 1 (Green) PoE Port: PoE-in-Use x 1 (Green) |
| Network Cable | UTP Cat. 5/5e/6, up to 100m (328ft) | |
| Data Rate | 10/100/1000Mbps | |
| Dimensions (W x D x H) | 73 x 55 x 24 mm | 95 x 70 x 25 mm |
| Weight | 50g | 83g |
| Unit Input Voltage | 48V DC, 0.4A | 52V to 56V DC, 0.74A Max. |

- 9 -

| | | |
|-----------------------|--------------------------|----------------------|
| Regulatory Compliance | FCC Class B, CE mark | FCC Class A, CE mark |
| Environment | | |
| Operating Temperature | 0 ~ 50 degrees C | |
| Storage Temperature | -10 ~ 70 degrees C | |
| Humidity | 5 ~ 90% (non-condensing) | |

- 11 -

| | | |
|---|--------------------------------------|---|
| Power Requirements | 100-240V AC, 50/60Hz | |
| Power Consumption | 15.4 watts max. | 30 watts max. |
| Power over Ethernet | | |
| PoE Standards | IEEE 802.3af Power over Ethernet/PSE | IEEE 802.3at/af Power over Ethernet/PSE |
| PoE Power Output | 48V DC/ 15.4 watts | 52V to 56V DC/ 30 watts |
| PoE Power Supply Type | End-span | Mid-span |
| Power Pin Assignment | 1/2(+), 3/6(-) | 4/5(+), 7/8(-) |
| Standards Conformance | | |
| IEEE 802.3/802.3u 10/100BASE-TX Fast Ethernet | ■ | ■ |
| IEEE 802.3ab 1000BASE-T Gigabit Ethernet | ■ | ■ |
| IEEE 802.3af Power over Ethernet | ■ | ■ |
| IEEE 802.3at Power over Ethernet | - | ■ |

- 10 -



User's Manual



PLANET Technology Corp.

10F., No. 96, Minquan Rd., Xindian Dist., New Taipei City 231, Taiwan

2350-AF0100-009

Warning:
This device is compliant with Class A of CISPR 32. In a residential environment this device may cause radio interference.



Energy Saving Note of the Device
This power required device does not support Standby mode operation. For energy savings, please remove the DC plug or slide the hardware-based Power Switch to the OFF position to disconnect the device from the power circuit. Without removing the DC plug from or switching off the device, the device will still consume power from the power source. In view of Saving the Energy and reducing the unnecessary power consumption, it is strongly suggested to power off or to remove the DC plug from the device if this device is not intended to be active.



EC Declaration of Conformity

I hereby confirm that the following equipment complies with the requirements set out in the Council Directive on the Approximation of the Laws of the Member States relating to Electromagnetic Compatibility Directive on (2014/30/EU).

Type of Product:
IEEE 802.3af Power over Ethernet Injector

Model:
POE-152

Produced by:
Manufacturer's Name: **Planet Technology Corporation**
Manufacturer's Address: 10F., No.96, Minquan Rd., Xindian Dist., New Taipei City 231, Taiwan, R.O.C.

For the evaluation regarding the EMC, the following standards were applied:

| | |
|--------------|------------------|
| EN 55032 | (2015 + AC:2016) |
| EN 61000-3-2 | (2014) |
| EN 61000-3-3 | (2013) |
| EN 55024 | (2010 + A1:2015) |
| EN 55035 | (2017) |

Person responsible for making this declaration
Name: Kent Kang
Title: Director

Taiwan
Country

July 26, 2018
Date

Kent Kang
Legal Signature

PLANET TECHNOLOGY CORPORATION

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EC Declaration of Conformity

I hereby confirm that the following equipment complies with the requirements set out in the Council Directive on the Approximation of the Laws of the Member States relating to Electromagnetic Compatibility Directive on (2014/30/EU).

Type of Product:
IEEE 802.3at Gigabit High Power over Ethernet Injector

Model:
POE-161

Produced by:
Manufacturer's Name: **Planet Technology Corporation**
Manufacturer's Address: 10F., No.96, Minquan Rd., Xindian Dist., New Taipei City 231, Taiwan, R.O.C.

For the evaluation regarding the EMC, the following standards were applied:

| | |
|--------------|------------------|
| EN 55032 | (2015 + AC:2016) |
| EN 61000-3-2 | (2014) |
| EN 61000-3-3 | (2013) |
| EN 55024 | (2010 + A1:2015) |

Person responsible for making this declaration
Name: Kent Kang
Title: Director

Taiwan
Country

May 11, 2017
Date

Kent Kang
Legal Signature

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