1. Overview

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

Model	PoE Standard	Max. PoE Out	Power In	Pass-thru. Speed
POE-151	IEEE 802.3af	15.4 Watts	48V DC	10/100Mbps
POE-152	IEEE 802.3af	15.4 Watts	48V DC	10/100/1000Mbps
POE-161	IEEE 802.3at / af	30 Watts	56V DC	10/100/1000Mbps

Unless specified, terms of **"PoE Injector"** in the following sections means the model listed above.

2. Package Contents

Upon open the box of the PoE Injector and carefully unpack it. The box should contain the following items:

POE-151 / POE-152	POE-161
● The 802.3af PoE Injector x 1 ● User's Manual x 1 ● DC 48V Power Adapter x 1	● The 802.3at High Power over Ethernet Injector x 1 ● User's Manual x 1 ● DC 56V Power Adapter x 1 ● Power Cord 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.

3. Product Outlook

POE-151 / POE-152

There are two RJ-45 Twisted-Pair jack, one DC 48V Power socket and two LED indicators.

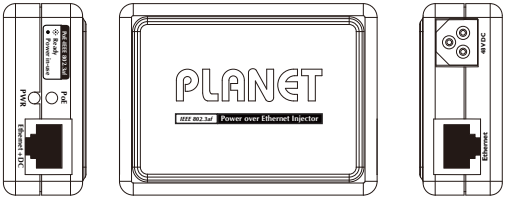

Figure 1: POE-151 / POE-152

POE-161

There are two RJ-45 Twisted-Pair jack, one DC 56V Power socket and two LED indicators.

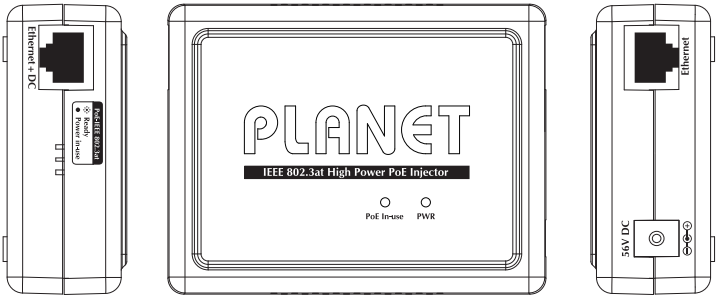

Figure 2: POE-161 Overview

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.

5.1 Before Installation

Before your installation, it is recommended to check your network environment. The PLANET **PoE Injector** is with an AC-DC adapter and inject the DC power into the pin of the twisted pair cable follow the IEEE standard, the power and pin assignment relationship is the table below:

Model	Required AC-DC adapter Spec.	PoE Pin Assignment
POE-151	Input: 100~240V AC Output: 48V DC	4/5(+), 7/8(-)
POE-152		1/2(+), 3/6(-)
POE-161	Input: 100~240C AC Output: 56V DC	4/5(+), 7/8(-)

Category 5/5e/6 UTP/STP cable that with 8-wire are required for the installation. UTP cable with 4-wire (pin 1/2, 3/6) can not work with POE-151/161 and only can work with POE-152 in 10/100Base-TX Ethernet.

PLANET **PoE Injector** and PLANET **PoE Splitter** (ex. POE-151S, POE-152S and POE-162S) can be installed in pair. Use of third-party device is allowed if the device complied with IEEE 802.3at or IEEE 802.3af standard.

5.2 PoE Injector Installation

1. Connect a standard network cable from Switch/workstation to **"Ethernet"** port of **PoE Injector**.
2. Connect the long cable that will be used to connect to the remote device to the port **"Ethernet+DC"**.
3. Connect the AC adapter to **"DC 48V"** of POE-151/POE-152. The power LED will be steady on. Connect the AC adapter to **"DC 56V"** of POE-161. The power LED will be steady on.

4. Connect with IEEE 802.3af devices. Base on IEEE 802.3af standard, the POE-151/POE-152 can directly connect with any IEEE 802.3af end-nodes like wireless access point, VoIP phones and IP camera that support IEEE 802.3af Power over Ethernet interface.

Note	For POE-161, base on IEEE 802.3at standard, the POE-161 can directly connect with any IEEE 802.3at end-nodes such as PTZ (Pan, Tilt & Zoom) IP camera, Speed Dome, high power consumption wireless LAN access point that support IEEE 802.3at Power over Ethernet port.

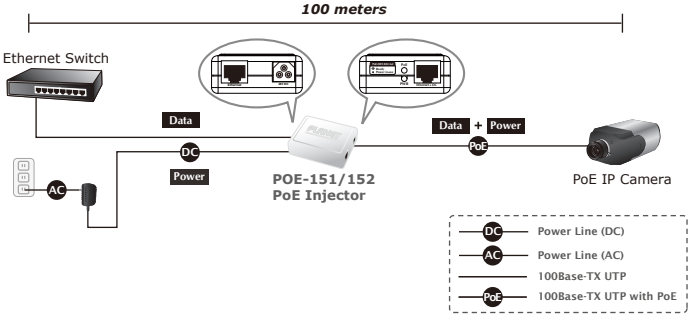

Figure 3: Connection to IEEE 802.3af Device

5. Once POE-151/POE-152 detects the existence of an IEEE 802.3af device, the LED indicator will be steady ON to shows it is providing power. The same to POE-161 that detects the existence of an IEEE 802.3at / af device.

Note	If the connected device is not fully complying with IEEE 802.3af standard, the LED indicator of POE-151/POE-152 will not be steady on.

Note	1. Since the POE-161 PoE port supports 56V DC PoE power output, please check and assure the Powered Device (PD) acceptable DC power range is from 52 to 56V DC. Otherwise, it will damage the Powered Device (PD). 2. If the connected device is not fully complying with IEEE 802.3at / af Power over Ethernet, the LED indicator of 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 runs in pair to provide DC Power for those devices, the table below shows the model of PLANET **PoE Splitters**:

Model	PoE Standard	DC Power Out	Pass-thru. Speed
POE-151S	IEEE 802.3af	5V / 12V DC	10/100Mbps
POE-152S	IEEE 802.3af	5V / 12V DC	10/100/1000Mbps
POE-162S	IEEE 802.3at	12V / 24V DC	10/100/1000Mbps

1. Follow step 1, step 2 and step 3 of Section 5.2 for the connection.
2. Connect the UTP cable in the package from **"Ethernet"** of the **PoE splitter** to the RJ-45 port of remote device.
3. Connect proper DC plug from **"DC OUT"** of PoE Splitter to the remote device.

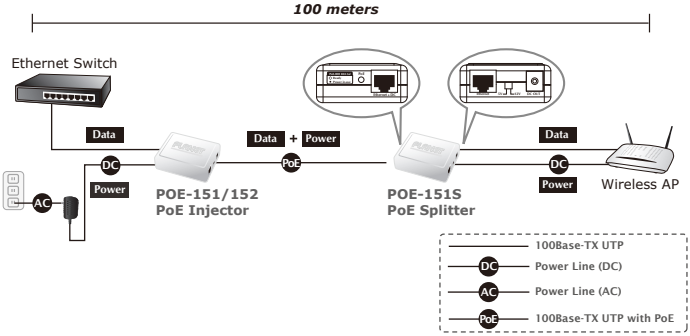

Figure 4: Connection Architecture via PoE Injector and PoE Splitter

Note

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

6. Product Specification

Product		POE-151	POE-152	POE-161
Hardware Specification				
Interface	"Data" Input Port	1 x RJ-45 STP		
	"PoE (Data+Power)" Output Port	1 x RJ-45 STP		
	DC Input power socket	1 x 48V DC		1 x 56V DC
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		10/100Mbps	10/100/1000Mbps	10/100/1000Mbps
Dimension (W x D x H)		73 x 55 x 24 mm	73 x 55 x 24 mm	95 x 70 x 25 mm
Weight		50g	50g	83g
Unit Input Voltage		DC 48V, 0.4A	DC 48V, 0.4A	DC 56V, 0.53A
Power Requirement		100-240V AC, 50/60Hz		
Power Consumption		15.4 Watts max.	15.4 Watts max.	30 Watts max.
Power over Ethernet				
PoE Standard		IEEE 802.3af Power over Ethernet / PSE		IEEE 802.3at / af Power over Ethernet / PSE
PoE Power Output		DC 48V / 15.4 Watts		DC 56V / 30 Watts
PoE Power supply Type		Mid-Span	End-Span	Mid-Span
Power Pin Assignment		4/5(+), 7/8(-)	1/2(+), 3/6(-)	4/5(+), 7/8(-)
Standards Conformance				
IEEE 802.3 10Base-T Ethernet		■	■	■
IEEE 802.3u 100Base-TX Fast Ethernet		■	■	■
IEEE 802.3ab 1000Base-T Gigabit Ethernet		-	■	■
IEEE 802.3af Power over Ethernet		■	■	■
IEEE 802.3at Power over Ethernet		-	-	■
Regulation Compliance		FCC Class B, CE mark	FCC Class B, CE mark	FCC Class A, CE mark
Environment				
Operating Temperature		0 ~ 50 Degree C		
Storage Temperature		-10 ~ 70 Degree C		
Humidity		5 ~ 90% (Non-condensing)		