1. Introduction

1.1 Packet Contents

Thank you for purchasing **PLANET POE-E101 IEEE 802.3af Power over Ethernet Extender**, your Power over Ethernet Extender package shall contains following contents:

Check the contents of your package for following parts:

Power over Ethernet Extender x 1

User's Manual 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 against to repack the product in case there is a need to return it to us for repair.

1.2 Key Features

- Complies with **IEEE 802.3af Power over Ethernet**
- Extends the range of PoE an additional 100 meters (328ft.)
- Forwards both Ethernet **data** and PoE **power** to remote device
- Auto-detect and protect of PoE equipment from being damaged by incorrect installation
- Multiple units, daisy-chain installation support
- No external power cable installation required
- Compact size, Wall-mountable design
- **Plug-and-Play** installation

1.3 Technical Specification

Model	POE-E101
Interfaces	
LAN IN	1 x 10/100Base-TX Ethernet with IEEE 802.3af PoE **"Data + DC"** in Auto MDI/MDI-X, Auto-negotiation RJ-45 connector
LAN OUT	1 x 10/100Base-TX Ethernet with IEEE 802.3af PoE **"Data + DC"** out Auto MDI/MDI-X, Auto-negotiation RJ-45 connector
Power over Ethernet	
PoE Standard	IEEE 802.3af Power over Ethernet
PoE Power Supply Type	Mid-Span / Type B
PoE Power Output	48V DC, 270mA, Max. 13 Watts
Power Pin Assignment	4/5(+), 7/8(-)
Hardware Specification	
Data Rate	10/100Mbps
Switch Architecture	Store-and-Forward
Switch Throughput	148810pps@64Bytes
Latency	7.840µs

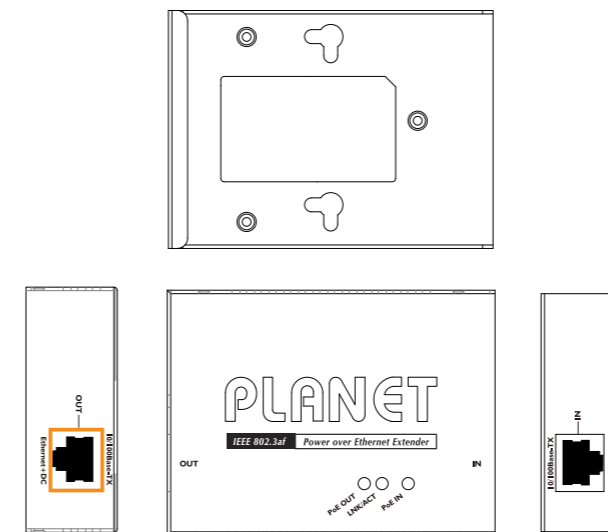| Maximum Frame Size	1552Bytes
Flow Control	Back pressure for Half-Duplex IEEE 802.3x Pause Frame for Full-Duplex
LED Indicators	• 1 x PoE IN (Green) • 1 x LAN Data (Green) • 1 x PoE OUT (Green)
Protection	ESD (Ethernet) : 6KV (TBD) Surge (EFT for power) : 6KV (TBD)
Dimension (W x D x H)	94 x 70 x 26 mm
Weight	215g
Power Requirement	IEEE 802.3af compliant with voltage within 44V-56V DC
Power Consumption	2 Watts (system maximum)
Mechanical	Metal / Wall Mountable
Cable	TIA/EIA-568, Category 5/5e cable
Standards Conformance	
Regulation Compliance	FCC Part 15 Class A, CE

Standard Compliance	IEEE 802.3 10Base-T Ethernet IEEE 802.3u 10/100Base-TX Fast Ethernet IEEE 802.3af Power over Ethernet PSE / Mid-Span IEEE 802.3af Power over Ethernet PD / Mid-Span IEEE 802.3x Flow Control
Environment	
Operating	Temperature: -10 ~ 60 Degree C Relative Humidity: 0 ~ 95% (non-condensing)
Storage	Temperature: -40 ~ 85 Degree C Relative Humidity: 5 ~ 95% (non-condensing)

2. Hardware Description

2.1 Product Outlook

2.2 Ports connection

IN Port	Connect the **PoE IN** port from following 802.3af **PSE** device through a CAT-5e/6 UTP cable: • PoE injector • PoE Injector Hub • PoE Ethernet Switch • Previous POE-E101
OUT Port	Connect the **PoE OUT** port to following 802.3af **PD** device through a CAT-5e/6 UTP cable: • PoE IP Camera • PoE VoIP Phone • PoE Wireless AP • PoE Splitter • Next POE-E101

2.3 LED definition:

LED	Color	Function
PoE IN	Green	**Lights** to indicate the port is providing 48VDC in-line power.
LNK/ ACT	Green	**Lights** to indicate the port is link up. **Blink**: indicate that the extender is actively sending or receiving data over **IN** port.
PoE OUT	Green	**Lights** to indicate the port is providing 48VDC in-line power.

3. Hardware Installation

This product provides two different running speeds – 10Mbps, 100Mbps in the same device and automatically distinguishes the speed of incoming connection.

This section describes the hardware features of POE-E101. Before connecting any network device to the POE-E101, read this chapter carefully.

3.1 Before Installation

Before your installation, it is recommended to check your network environment. If there is any far away IEEE 802.3af devices need to power on, the POE-E101 can provide you a way to supply power for this Ethernet device conveniently and easily.

The POE-E101 is installed between the PSE (Power Source Equipment) and the PD (Powered Device); it is powered by PSE and forwards the Ethernet data and remaining POE power to the PD. The POE-E101 doesn't require an external power supply and it can be installed easily just plug and play; that means the operator does not need to configure the POE-E101. The POE-E101 injects power to the PDs without affecting the data transmission performance. It offers a cost effective and quick solution to extend power and data an additional 100m.

> **Note** The POE-E101 can be installed with third-party device if the device complied with IEEE 802.3af standard.

3.2 Connect POE-E101 to the Power Source Equipment (PSE)

There are 2 RJ-45 ports in the PoE Extender, of which the **"IN"** port functions as **"PoE (Data and Power) input"** and the **"OUT"** port on the other side functions as **"PoE (Data and Power) output"**.

Step 1: Connect a standard Cat5e/6 UTP cable from **Power Source Equipment (PSE)**, such as PoE Switch, PoE Injector hub and single port PoE injector, to the **"IN"** port of POE-E101.

Step 2: The PSE delivers both Ethernet Data and PoE power over UTP cable to the POE-E101 and the **"PoE IN"** LED will be steady on.

> **Note**
> 1. The POE IN LED turn on steady green means POE-E101 is being powered successfully with PoE class 0.
> 2. If POE IN LED does not turn on, please check the remote PSE or the cable with a PC or a network device to see if the cable is correct. Or with an 802.3af device such as the target PD to check the power injection is correct either.

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3.3 Connect POE-E101 to the Powered Device (PD)

Step 3: Connect the additional CAT5e/6 cable that will be used to connect to the remote **Powered Device (PD)** to the **"OUT"** port of POE-E101.
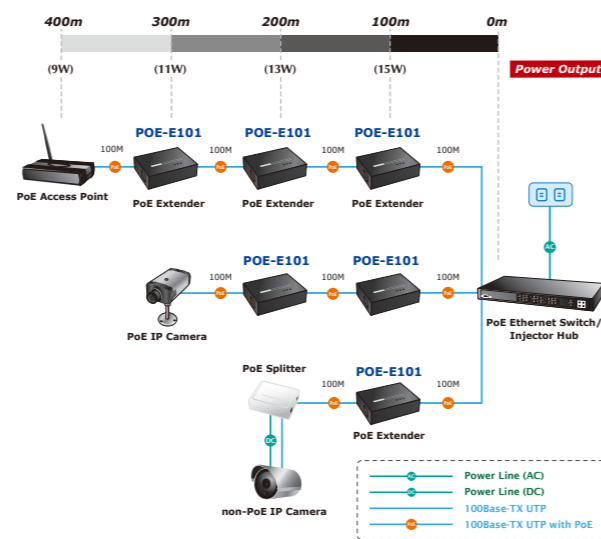
Step 4: The **"OUT"** port is also the power injectors which transmit DC Voltage to the Cat5e/6 cable and transfer data and power simultaneously between the PSE and PD.

Step 5: Once POE-E101 detects the existence of an IEEE 802.3af device, the **"PoE OUT"** LED indicator will be steady, ON to shows it is providing power.
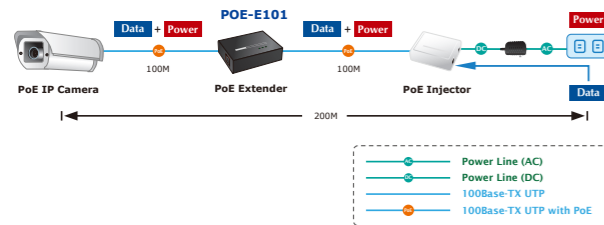
> **Note**
> 1. If the connected device is not fully complying with IEEE 802.3af standard or in-line power device, the PoE OUT LED indicator of POE-E101 will not be steady on.
> 2. According to IEEE 802.3af standard, the POE-E101 will not inject power to the cable if not connecting to a standard IEEE 802.3af device.

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3.4 Multiple PoE Extender Installation

The POE-E101 PoE Extender supports multiple units, daisy-chain installation. They can be employed in series for even longer distances based on remote PoE IP Camera or PoE Wireless Access Point power requirement.

Step 1: Connect the additional CAT5e/6 cable from the **"OUT"** port of the first POE-101, the other end of the UTP cable be used to connect to the **"IN"** port of remote / next POE-E101.

Step 2: The **"PoE OUT"** LED indicator of the first POE-101 will be steady to shows it is providing power to next PoE Extender.

Step 3: The **"PoE IN"** LED on the next POE-101 will steady on.

Step 4: Connect the additional CAT5e/6 cable to the remote PoE powered device to the **"OUT"** port of next or third POE-E101.

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> **Note**
> 1. Per POE-E101 will take 2 watts maximum for the system itself, please check the total power consumption of your 802.3af PD and the POE-E101 before you make the daisy-chain connection. If the overall power consumption is overloaded, the local PSE could shutdown the whole power system.
> 2. Per POE-E101 cable segment is limited in 100 meters Cat5e/6 UTP wire from its IN/OUT port to the other data end, use of any other non standard cable or over distance could results in unstable connection.

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IEEE 802.3af

Power over Ethernet Extender

POE-E101 Cost-effective PoE Range Extension Solution

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User's Manual

PLANET Technology Corp.

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3.5 Optional - DIN-Rail mounting

There are two DIN-Rail holes on the left side of the POE-E101 that allows the converter can be easily installed with DIN-Rail mounting. The PLANET optional DIN-Rail mounting Kit – RKE-DIN can be order separately. When need to replace the wall mount application with DIN-Rail application on the POE-E101, please refer to following figures to screw the DIN-Rail on the converter. To hang the POE-E101, follow the below steps:
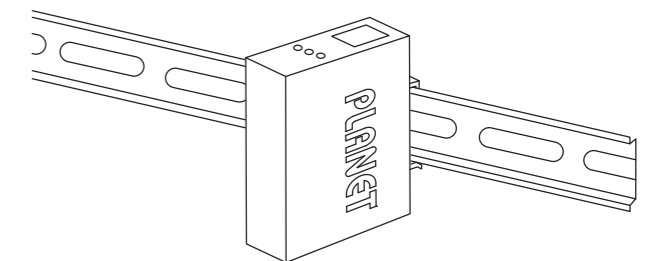
Step 1: screw the DIN-Rail on the POE-E101.
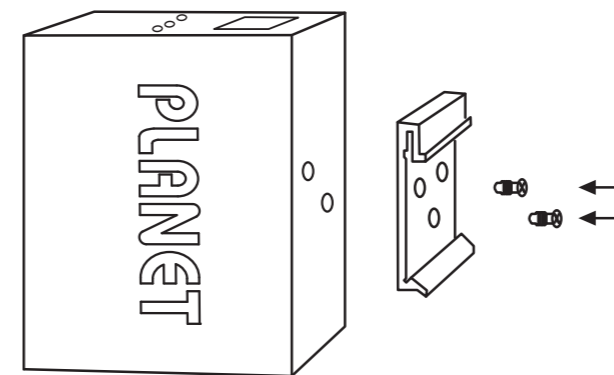
Step 2: Lightly press the button of DIN-Rail into the track.
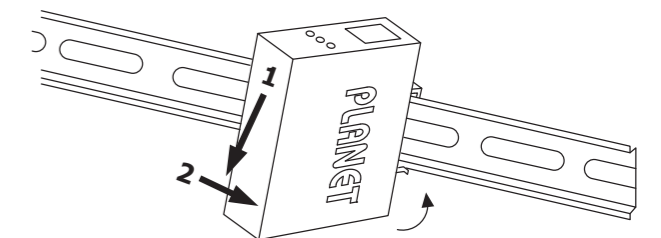
Step 3: Check the DIN-Rail is tightly on the track.

> ⚠ You must use the screws supplied with the mounting brackets. Damage caused to the parts by using incorrect screws would invalidate your warranty.

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