

**1-Port 802.3bt to 1-Port 802.3bt
Gigabit PoE++ Extender**

POE-E301

User's Manual

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1. Package Contents

Thank you for purchasing PLANET IEEE 802.3bt PoE++ Extender, POE-E301.

Open the box of the PoE++ Extender and carefully unpack it. The box should contain the following items:

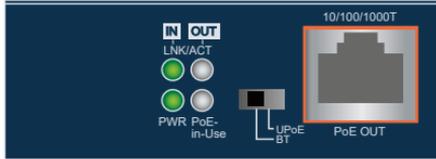
IEEE 802.3bt PoE++ Extender x 1	QR Code Sheet x 1
	

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

2. Product Features

- Compliant with IEEE 802.3bt PoE++ PSE and PD standard
- Backward compatible with IEEE 802.3at/af PoE
- Complies with IEEE 802.3/802.3u/802.3ab 10/100/1000BASE-T
- Extends the range of PoE by an additional 100 meters (328ft.)
- Automatically detects and protects PoE equipment from being damaged by incorrect installation
- Multiple units allowed with daisy-chain installation support
- Forwards both Ethernet data and PoE power to remote device
- No external power cable installation required
- Compact size, wall-mountable design
- Plug-and-Play installation

3.3 LED Definition:



LED	Color	Function	
PWR	Green	Lit:	To indicate the port is receiving 802.3af/at/bt PoE PSE
		Off:	To indicate that the PoE power is not detected.
IN LNK/ACT	Green	Lit:	To indicate the link through port is successfully established.
		Blink:	To indicate the port is actively sending or receiving data.
		Off:	To indicate that the copper port is linked down.
OUT LNK/ACT	Green	Lit:	To indicate the link through port is successfully established.
		Blink:	To indicate the port is actively sending or receiving data.
		Off:	To indicate that the copper port is linked down.
PoE-in-Use	Green (bt mode)	Lit:	To indicate the port is providing PoE in-line power.
		Off:	To indicate the port is not providing PoE in-line power
	Amber (UPOE mode)	Lit:	To indicate the port is providing UPOE in-line power
		Off:	To indicate the port is not providing UPOE in-line power

3.4 DIP Switch

PoE Mode	Function
BT (Default)	This mode makes the POE-E301 series fully support IEEE 802.3af/at/bt standards.
UPOE	This mode makes the POE-E301 series fully support Cisco UPoE or PoH standards

4. Hardware Installation

This section describes the hardware features of the POE-E301. Before connecting any network device to the POE-E301, read this chapter carefully.

4.1 Before Installation

Before your installation, it is recommended to check your network environment. If there are any far-away IEEE 802.3bt/802.3at/802.3af devices that need to be powered on, the POE-E301 can provide you with a way to supply power to this Ethernet device conveniently.

- The POE-E301 is installed between the **PSE** and the **PD**; it is powered by PSE and forwards the Ethernet data and remaining PoE power to the PD.
- The POE-E301 doesn't require an external power supply and it can be installed easily by means of plug and play, meaning the operator does not need to configure the POE-E301.
- The POE-E301 injects power to the PDs without affecting the data transmission performance. It offers a cost-effective and quick solution to extend power and data by an additional 100 meters.



Note

1. To provide you with a better PoE power and data extension quality, we strongly recommend you to use **"Solid UTP Cable"** when installing the POE-E301.
2. The POE-E301 can be installed with a third-party device if the device is compliant with the IEEE 802.3bt/802.3at/802.3af standard.

4.2 Connecting POE-E301 to the PSE

There are 2 RJ45 ports in the PoE-E301, of which the **"PoE IN"** port functions as **"PoE (Data and Power) input"** and the **"PoE OUT"** port on the other side functions as **"PoE (Data and Power) output"**.

Step 1: Connect a standard Cat.5/5e/6 UTP cable from a **PSE**, such as PoE switch, PoE injector hub or single port PoE injector, to the **"PoE IN"** port of the POE-E301.

Step 2: The PSE delivers both Ethernet data and PoE power over UTP cable to the POE-E301 and the “PWR” LED will be steady on.



Note

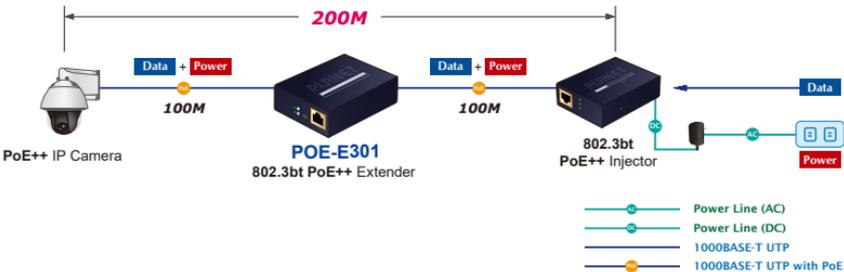
1. The green **PWR** LED means the POE-E301 is being powered successfully.
2. If the **PWR** LED does not light up, check whether the cable connecting to a remote PSE, or the cable with a PC or a network device is correct or not. Or check whether the wattage of power to an IEEE 802.3at/802.3af powered device is right or not.

4.3 Connecting POE-E301 to the PD

Step 3: Connect the additional Cat.5/5e/6 cable from the “PoE OUT” port of the POE-E301 to a remote PoE PD.

Step 4: The “PoE OUT” port is a power injector that transmits data and power simultaneously between the PSE and PD.

Step 5: Once the POE-E301 detects a UPOE PD device, the “PoE-in-Use” LED indicator will light up in amber to show it is providing power. That light-up shows in Green when it detects an IEEE 802.3bt PoE device.





Note

1. Each POE-E301 can withstand a maximum of 2.4 watts. Check the total power consumption of your IEEE 802.3bt/at/af PD and the POE-E301 before you make the daisy-chain connection. If the overall power consumption is overloaded, the local PSE could shut down the whole power system.
2. Each POE-E301 provides an extended distance of 100 meters over the Cat.5/5e/6 UTP cable.



Caution

Use of other non-standard cable could result in unstable connection.

4.5 Grounding the Device

Grounding the device must be done, complete grounding wired with the device, otherwise, sudden lightning could cause fatal damage to the device.

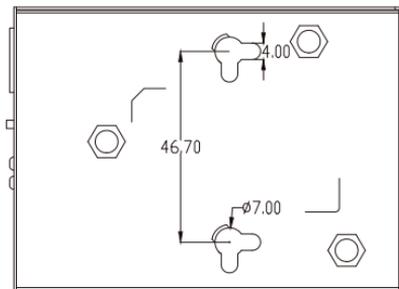


4.6 Wall-mount Installation

To install the POE-E301 on the wall, please follow the instructions described below.

Step 1: Find the wall that you want to mount the POE-E301 on.

Step 2: Refer to the picture below to screw the two screws on the wall. The distance between the 2 screws is 46.7mm and the line through them must be horizontal

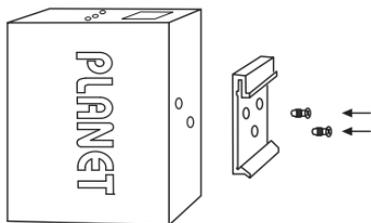


Step 3: Hang the POE-E301 on the screws from the wall.

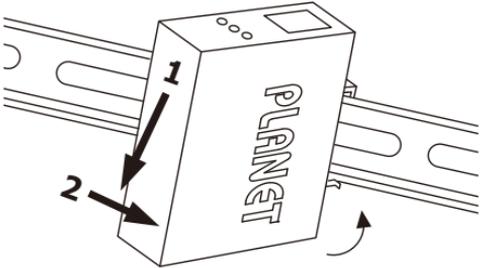
4.7 DIN-rail Mounting (Optional)

There are two DIN-rail holes on the left side of the POE-E301 that allows it to be easily mounted on the DIN rail. If the DIN-rail mounting is opted, the DIN-rail mounting kit (RKE-DIN) has to be ordered as it is not included in the package. The following steps for DIN-rail mounting are shown below:

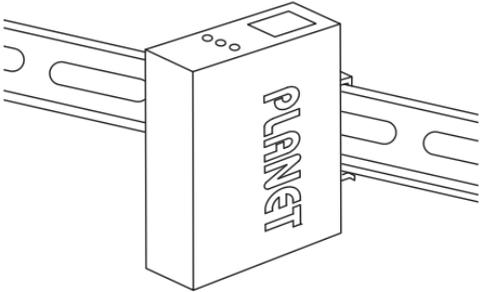
Step 1: Screw the DIN-rail bracket on the POE-E301.



Step 2: First put the upper DIN-rail bracket on to the rail shown below and then the lower bracket on to the rail to finish the mounting.



Step 3: Make sure the POE-E301 unit is tightly fixed on the track.



Caution

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

5. Product Specifications

Model	POE-E301
Interfaces	
PoE IN	1 x 10/100/1000BASE-T Ethernet with IEEE 802.3bt/at/af PoE "Data + DC" in Auto MDI/MDI-X, auto-negotiation RJ45 connector
PoE OUT	1 x 10/100/1000BASE-T Ethernet with IEEE 802.3bt/at/af PoE "Data + DC" out Auto MDI/MDI-X, auto-negotiation RJ45 connector
DIP Switch	PoE power feeding options (BT/UPOE) selection
Power over Ethernet	
PoE Standard	IEEE 802.3bt PoE++ Power over Ethernet Plus Backward compatible with IEEE 802.3at/af Power over Ethernet
PoE Power Supply Type	4 pair Mode/Type 4
Power Pin Assignment	1/2 (+), 3/6 (-); 4/5 (+), 7/8 (-)
PoE Power Output	44V~55V DC, 510mA; max. 65 watts
Maximum Distance	400 meters with daisy-chain installation of 3 units (Refer to section 4.4)
Hardware Specifications	
Data Rate	10/100/1000Mbps
Dimensions (W x D x H)	94 x 70 x 26 mm
Weight	258g
Power Requirements	IEEE 802.3bt PoE++ compliant with voltage within 52V-56V DC IEEE 802.3at PoE compliant with voltage within 44V-56V DC
System Power Consumption	2.4 watts (System on)
Case	Metal
Installation	Wall or DIN-rail mounting

Protection	ESD (Ethernet): 2KV Surge (EFT for power): 2KV
LED Indicators	PWR (Green) PoE IN: TP 10/100/1000BASE-T (Green) PoE OUT: TP 10/100/1000BASE-T (Green) PoE-in-Use (Green: BT PD; Amber UPOE PD)
Network Cable	10BASE-T: 4-pair UTP Cat. 5 up to 100m (328ft) 100BASE-TX: 4-pair UTP Cat. 5 up to 100m (328ft) 1000BASE-T: 4-pair UTP Cat. 5e, 6, 7 up to 100m (328ft) EIA/TIA-568 100-ohm STP (100m or 328ft)
Switching Specifications	
Switch Architecture	Store-and-Forward
Switch Throughput	10Mbps: 14880pps@64Bytes 100Mbps: 148810pps@64Bytes 1000Mbps: 1488000pps@64Bytes
Maximum Frame Size	9K bytes
Flow Control	Back pressure for half duplex IEEE 802.3x pause frame for full duplex
Standards Conformance	
Regulatory Compliance	FCC Part 15 Class A, CE
Standard Compliance	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 Plus IEEE 802.3x Flow Control
Environment	
Temperature	Operating: -10~60 degrees C Storage: -40~85 degrees C
Humidity	Operating: 5% to 95%, Storage: 5% to 95% (non-condensing)