

**1-Port 802.3bt PoE++ to  
4-Port 802.3af/at Gigabit PoE Extender**

**POE-E304**

User's Manual

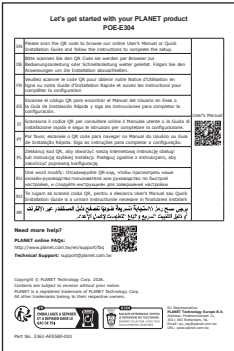
## Table of Contents

|                                      |    |
|--------------------------------------|----|
| 1. Package Contents .....            | 3  |
| 2. Product Features.....             | 4  |
| 3. Product Specifications .....      | 6  |
| 4. Hardware Introduction .....       | 9  |
| 4.1 Product Outlook.....             | 9  |
| 4.2 Ports Connection.....            | 10 |
| 4.3 LED Indicators.....              | 10 |
| 4.4 DIP Switch .....                 | 11 |
| 5. Hardware Installation .....       | 13 |
| 5.1 Before Installation.....         | 13 |
| 5.2 Connecting POE-E304 to PSE ..... | 13 |
| 5.3 Connecting POE-E304 to PD.....   | 14 |
| 5.4 PoE Power Distribution .....     | 15 |
| 6. Power Over Ethernet Budget.....   | 16 |
| 7. Customer Support .....            | 17 |

1. Package Contents

Thank you for purchasing PLANET 1-port IEEE 802.3bt PoE++ to 4-port IEEE 802.3af/at Gigabit PoE Extender, POE-E304. **"Gigabit PoE Extender"** mentioned in this manual refers to the POE-E304.

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

|                                                                                     |                                                                                       |
|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| Gigabit PoE Extender x 1                                                            |                                                                                       |
|   |                                                                                       |
| QR Code Sheet 1                                                                     | Rubber Feet x 4                                                                       |
|  |  |

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.

## 2. Product Features

### ➤ Physical Port

#### ■ Five 10/100/1000BASE-T Gigabit RJ45 interfaces

- 1-port **data + power input**
- 4-port **data + power output**

### ➤ Power over Ethernet

#### ■ 1-port data + power input

- Complies with 802.3bt Power over Ethernet Plus Plus end-span and mid-span PD
- Complies with IEEE 802.3at Power over Ethernet Plus end-span/mid-span PD
- Supports PoE input power up to 95 watts

#### ■ 4-port data + power output

- Complies with IEEE 802.3af/at PoE/end-span PSE
- Up to 4 IEEE 802.3af/802.3at devices powered
- Supports PoE power up to 32 watts for each PoE port
- Auto detects powered device (PD)

#### ■ Extends the range of PoE to an additional 100 meters (328ft.)

#### ■ Forwards both Ethernet **data** and **PoE** power to remote device

### ➤ Layer 2 Features

#### ■ Hardware-based 10/100/1000Mbps auto-negotiation and auto MDI/MDI-X

#### ■ Features Store-and-Forward mode with wire-speed filtering and forwarding rates

#### ■ IEEE 802.3x flow control for full duplex operation and backpressure for half duplex operation

#### ■ Integrates address look-up engine, supporting 2K absolute MAC addresses

#### ■ 16K jumbo frame support

#### ■ Supports ESD protection

- Contact Discharge 6KV DC
- Air Gap Discharge 8KV DC

#### ■ Automatic address learning and address aging

## ➤ Case and Installation

- Made of metal, desktop size design
- DIP switch for multi-operation mode options (Standard/VLAN/Extend) selection
- 0 to 50 degrees C operating Temperature
- No external power cable required for installation
- Wall-mountable, Plug and Play installation



Note

**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 and in IEEE 802.3at is 30 watts.

**PD (powered device)** such as IP phone, network camera or wireless access point is a PoE-enabled terminal that consumes energy supplied by PSE.

### 3. Product Specifications

|                           |                                                                                                                                                                |
|---------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Model                     | POE-E304                                                                                                                                                       |
| Hardware Specifications   |                                                                                                                                                                |
| Network Connector         | <b>PoE In Port</b><br>- 1 x 10/100/1000BASE-T Ethernet with IEEE 802.3bt PoE++ " <b>Data + DC</b> " in<br>- Auto MDI/MDI-X, auto-negotiation RJ45 connector    |
|                           | <b>PoE Out Port</b><br>- 4 x 10/100/1000BASE-T Ethernet with IEEE 802.3af/at PoE " <b>Data + DC</b> " out<br>- Auto MDI/MDI-X, auto-negotiation RJ45 connector |
| Switch Architecture       | Store-and-Forward switch architecture                                                                                                                          |
| MAC Address Table         | 2K MAC address table with auto learning function                                                                                                               |
| Packet Buffer             | 1Mbits                                                                                                                                                         |
| Switch Fabric             | 10Gbps                                                                                                                                                         |
| Switch Throughput         | 7.44Mpps @ 64 bytes                                                                                                                                            |
| Flow Control              | IEEE 802.3x pause frame for full duplex<br>Back pressure for half duplex                                                                                       |
| Jumbo Frame               | 16Kbytes                                                                                                                                                       |
| Enclosure                 | Metal case                                                                                                                                                     |
| Installation              | Desktop/Wall mountable                                                                                                                                         |
| Dimensions<br>(W x D x H) | 168 x 93 x 32mm                                                                                                                                                |
| Weight                    | 415g                                                                                                                                                           |
| ESD Protection            | ±8KV air gap discharge<br>±6KV contact discharge                                                                                                               |
| Power Requirements        | PoE In: IEEE 802.3bt or 4-pair 802.3at PoE+ compliant with voltage within 50-56V DC<br>External DC: 50~56V DC                                                  |

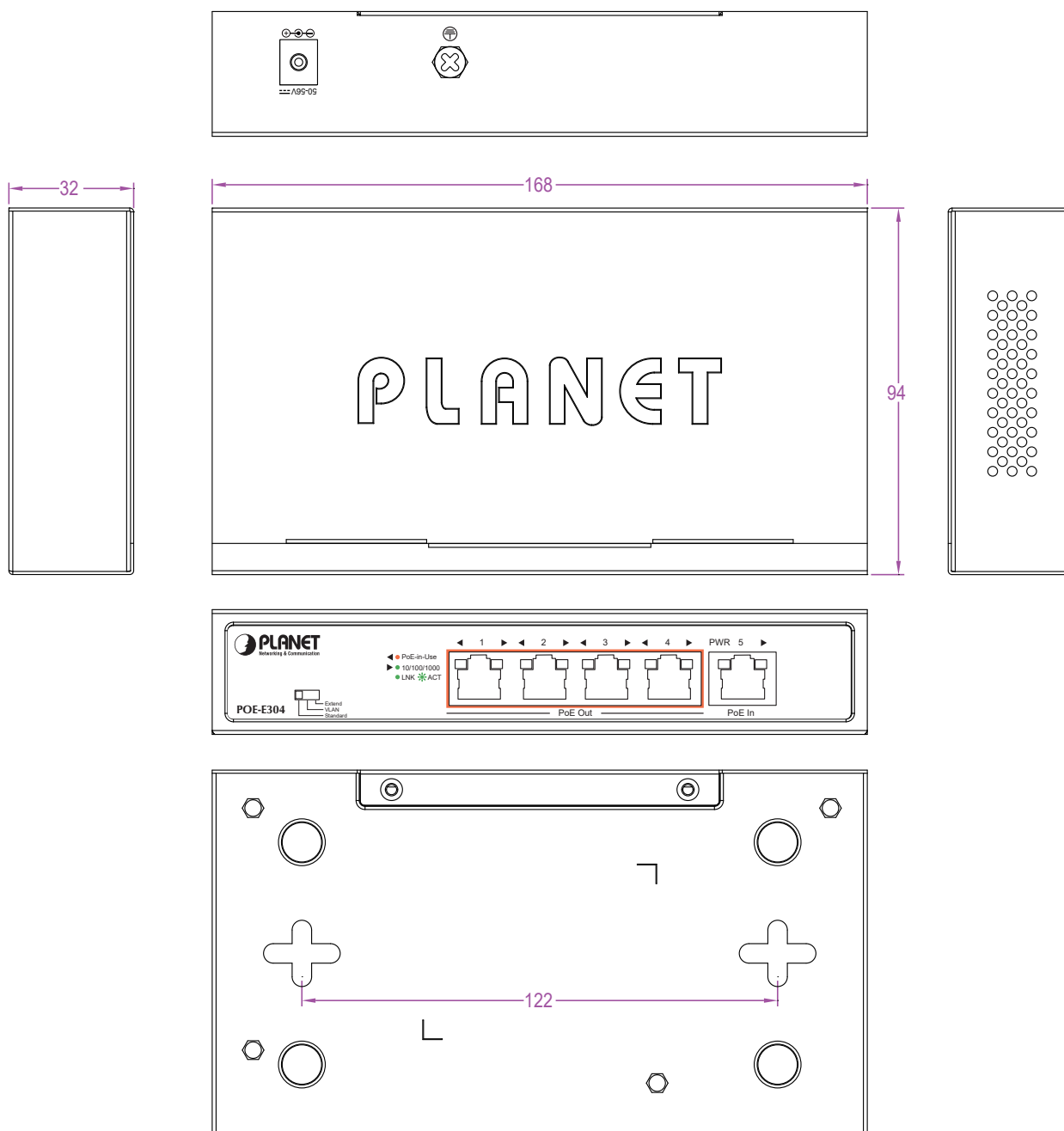
|                      |                                                                                                                                                                                                    |
|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Power Consumption    | Max. 1.1 watts/3.75 BTU (Power on without any connection)<br>Max. 69.3 watts/236 BTU (Full loading with 802.bt PoE++ Switch Input)                                                                 |
| LED                  | <b>System</b><br>PWR (Amber)<br><b>PoE Input Port (Port 5):</b><br>10/100/1000 LNK/ACT (Green)<br><b>PoE Output Ports (Ports 1~4):</b><br>10/100/1000 LNK/ACT (Green)<br>PoE: Power-in-use (Amber) |
| DIP Switch           | Multi-operation mode options (Standard/VLAN/Extend) selection                                                                                                                                      |
| Power over Ethernet  |                                                                                                                                                                                                    |
| PoE Standard         | <b>PoE In Port</b><br>IEEE 802.3bt PoE++ Type 4 standard PD<br>IEEE 802.3at PoE+ end-span/mid-span PD                                                                                              |
|                      | <b>Per PoE Out Port</b><br>IEEE 802.3at Power over Ethernet Plus end-span PSE                                                                                                                      |
| PoE Power            | <b>PoE In Port</b><br>50~56V DC, max. 95 watts<br><b>Per PoE Out Port</b><br>49~55 DC, max. 30.8 watts                                                                                             |
| Power Pin Assignment | <b>PoE In Port</b><br>1/2(-), 3/6(+); 4/5(+), 7/8 (-) or 1/2(+), 3/6(-), 4/5(+), 7/8(-)<br><b>Per PoE Out Port</b><br>1/2(-), 3/6(+)                                                               |
| PoE Power Budget     | 65 watts (max.) @ 802.3bt PoE++ Type 4 input                                                                                                                                                       |

|                       |                                                                                                                                                                                                                                                                                         |
|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Standard Conformance  |                                                                                                                                                                                                                                                                                         |
| Regulatory Compliance | FCC Part 15 Class A, CE                                                                                                                                                                                                                                                                 |
| Standard Compliance   | IEEE 802.3 Ethernet<br>IEEE 802.3u Fast Ethernet<br>IEEE 802.3ab Gigabit Ethernet<br>IEEE 802.3x Flow Control<br>IEEE 802.3af Power over Ethernet<br>IEEE 802.3at Power over Ethernet Plus<br>IEEE 802.3bt Power over Ethernet Plus Plus<br>IEEE 802.3az Energy Efficient Ethernet(EEE) |
| Environment           |                                                                                                                                                                                                                                                                                         |
| Operating             | Temperature: 0 ~ 50 degrees C<br>Relative Humidity: 5 ~ 95% (non-condensing)                                                                                                                                                                                                            |
| Storage               | Temperature: -10 ~ 70 degrees C<br>Relative Humidity: 5 ~ 95% (non-condensing)                                                                                                                                                                                                          |

## 4. Hardware Introduction

### 4.1 Product Outlook

The three-view diagram of the Gigabit PoE Extender consists of one auto-sensing 10/100/1000BASE-T 802.3bt PoE++ In port, and four auto-sensing 10/100/1000BASE-T 802.3af/802.3at PoE+ Out ports, one standard/VLAN/Extend DIP switch. The LED Indicators are also located on the port of Gigabit PoE Extender front panel.

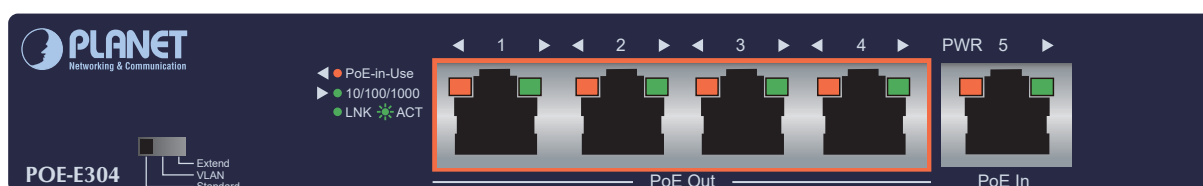


Dimensions (W x D x H): 168 x 94 x 32 mm

## 4.2 Ports Connection

|              |                                                                                                                                                                                                                                                                                                               |
|--------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PoE IN Port  | <p>Connect the <b>PoE IN</b> port from the following 802.3bt PoE++ <b>PSE</b> devices through a Cat5/5e/6 UTP cable:</p> <ul style="list-style-type: none"> <li>● 802.3bt PoE++/UPOE/PoH injector</li> <li>● 802.3bt PoE++/UPOE/PoH injector hub</li> <li>● 802.3bt PoE++/UPOE/PoH Ethernet switch</li> </ul> |
| PoE OUT Port | <p>Connect the <b>PoE OUT</b> port to the following 802.3at/af <b>PD</b> devices through a Cat5/5e/6 UTP cable:</p> <ul style="list-style-type: none"> <li>● PoE IP camera</li> <li>● PoE VoIP phone</li> <li>● PoE wireless AP</li> <li>● PoE splitter</li> </ul>                                            |

## 4.3 LED Indicators



### ■ 802.3bt PoE In Port

| LED                 | Color | Function                                                                                                                                                                                          |
|---------------------|-------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 10/100/1000 LNK/ACT | Green | <p><b>Lights</b> to indicate the link through that port is successfully established at 10/100/1000Mbps.</p> <p><b>Blinks</b> to indicate that the port is actively sending or receiving data.</p> |
| PWR                 | Amber | <p><b>Lights</b> to indicate the device is powered on.</p>                                                                                                                                        |

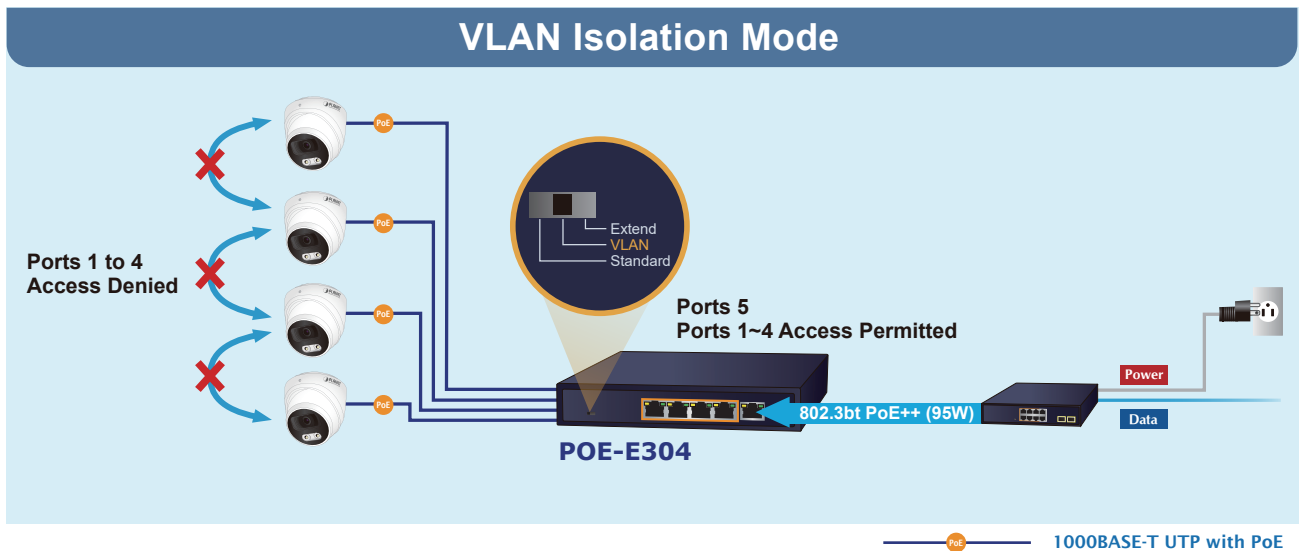
### ■ 802.3at/af PoE Out Ports

| LED                 | Color | Function                                                                                                                                                                                          |
|---------------------|-------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 10/100/1000 LNK/ACT | Green | <p><b>Lights</b> to indicate the link through that port is successfully established at 10/100/1000Mbps.</p> <p><b>Blinks</b> to indicate that the port is actively sending or receiving data.</p> |
| PoE-in-Use          | Amber | <p><b>Lights</b> to indicate the port is providing DC in-line power output.</p>                                                                                                                   |

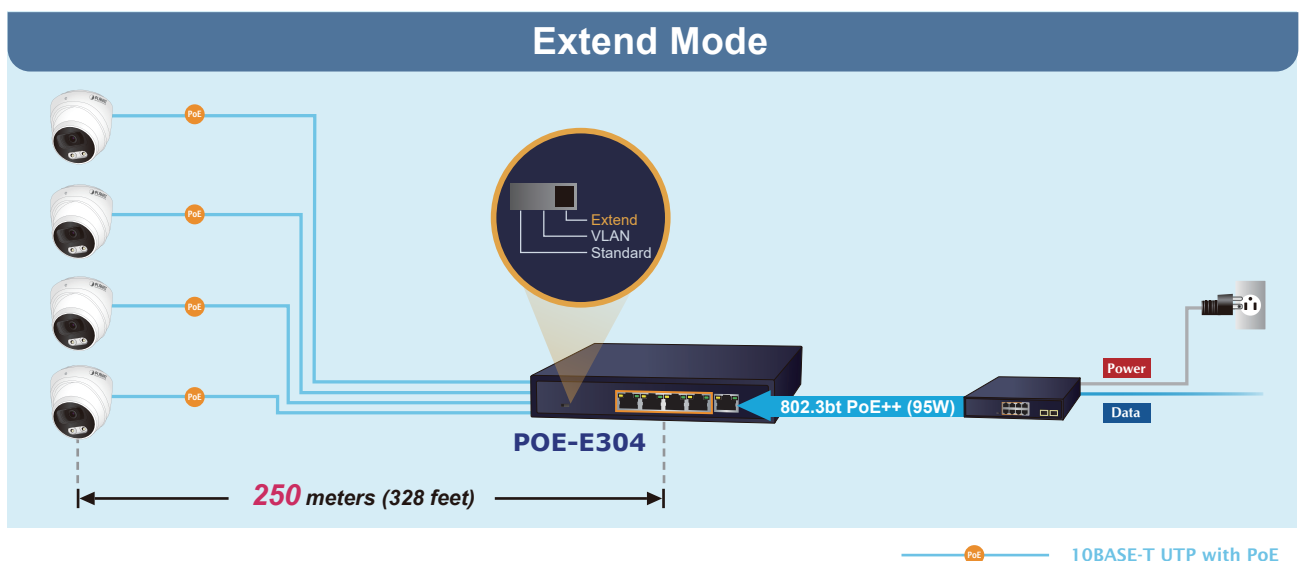
## 4.4 DIP Switch

The POE-E304 offers "**Standard**", "**VLAN**" or "**Extend**" mode. The POE-E304 operates as a normal Gigabit Ethernet Switch in the "**Standard**" operation mode.

The "**VLAN**" operation mode features port-based VLAN function that can help to prevent the connected clients' multicast or broadcast storm from influencing each other.



In the "**Extend**" operation mode, the POE-E304 operates on a per-port basis at 10Mbps duplex operation but can transmit data over a distance of up to 250 meters overcoming the 100m limit on Ethernet UTP cable. With this brand-new feature, the POE-E304 provides an additional solution for distance extension, thus saving the cost of Ethernet cable installation.



## ■ DIP Switch

| DIP Switch Mode    | Function                                                                                                                                                                                                                                       |
|--------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Standard (default) | This mode makes the POE-E304 operate as a general switch and all ports operate at 10/100/1000Mbps auto-negotiation.                                                                                                                            |
| VLAN               | This mode makes the POE-E304 operate as a VLAN isolation switch and <ol style="list-style-type: none"><li>1. Port 1 to port 4 will isolate respectively.</li><li>2. Port 1 to port 4 can only communicate with port 5 (uplink port).</li></ol> |
| Extend             | This mode makes the POE-E304 operate as a distance extension switch and port 1 to port 4 can only transmit distance of 250m at speed of 10Mbps.                                                                                                |



Note

Change the DIP switch setting and the POE-E304 must power off/power on to take effect.

## 5. Hardware Installation

### 5.1 Before Installation

The POE-E304 is installed between the PSE and the PD; it is powered by PSE and forwards the Ethernet data and remaining PoE power or an external power supply to the PD. It can be installed easily by just Plug and Play without affecting the data transmission performance.



Note

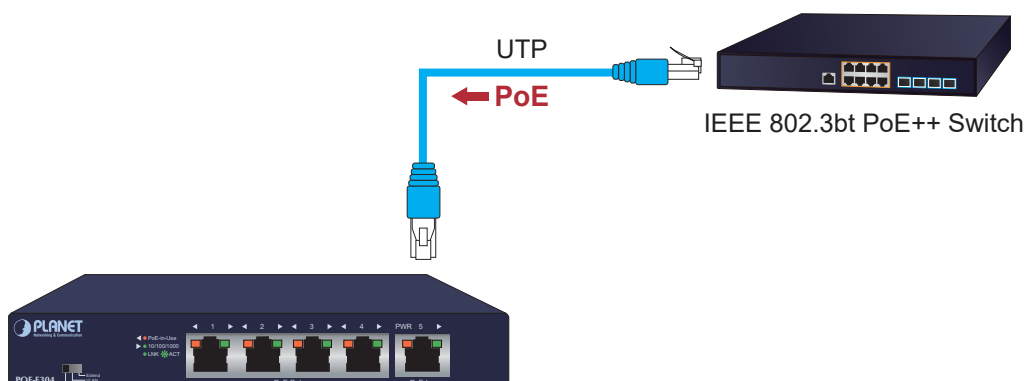
1. To provide you with better PoE power and data extension quality, we strongly recommend that you use **"Solid UTP Cable"** when installing the POE-E304.
2. The POE-E304 can be installed with a third-party device if the device complies with IEEE 802.3at/af standard.

### 5.2 Connecting POE-E304 to PSE

This section describes how to install Gigabit PoE Extender and make connection to it. Please read the following descriptions and perform the procedures in the order being presented.

There are 5 RJ45 ports in the Gigabit PoE Extender, of which the **"PoE IN"** port functions as **"PoE (Data and Power) input"** and the four **"PoE Out"** ports function as **"PoE (Data and Power) output"**.

**Step 1:** Connect a standard Cat5e/6 UTP cable from **PSE**, such as PoE++ switch, PoE++ injector hub and single port PoE++ injector, to the **"PoE IN"** port of the Gigabit PoE Extender.



**Step 2:** The PSE delivers both Ethernet data and PoE power over UTP cable to the Gigabit PoE Extender.



Note

1. When the PoE-in-Use LED turns steady amber, it means the Gigabit PoE OUT is supplying power successfully from PSE.
2. If the PoE-in-use LED is not lit, please check the remote PSE or the cable connecting to a PC or a network device to see if the cable is correct.

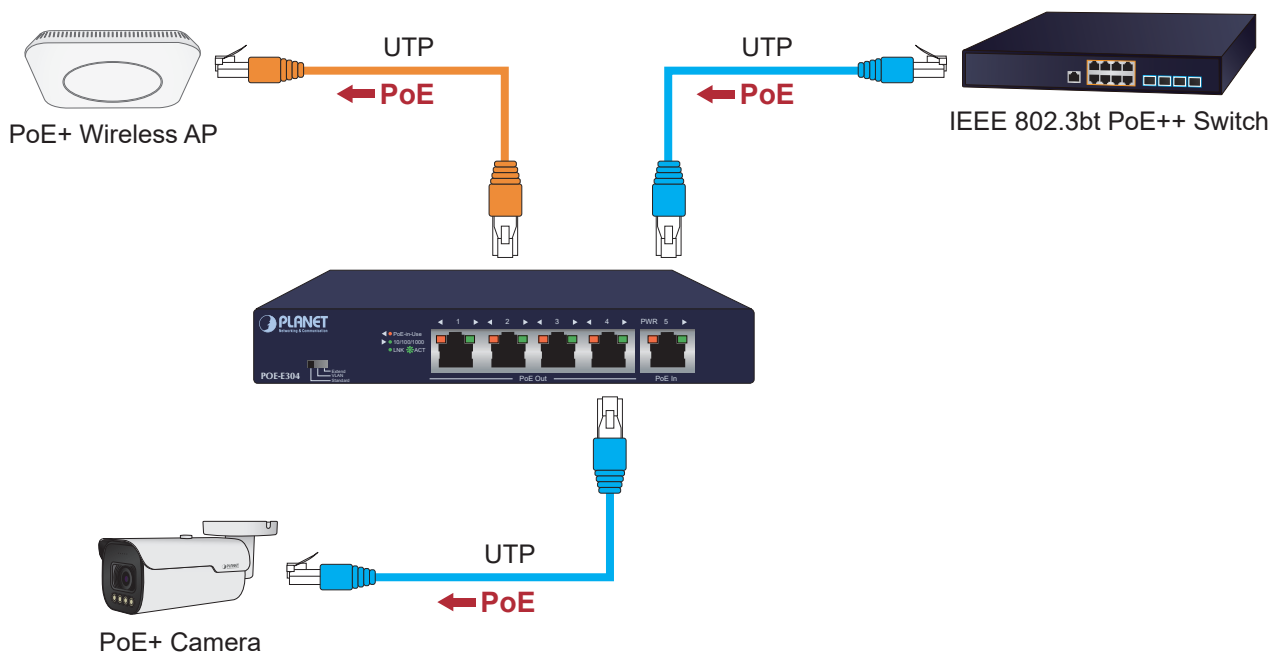


Caution

Never connect any **non-standard** PoE PSE to the Gigabit PoE Extender or else it will damage the device permanently.

### 5.3 Connecting POE-E304 to PD

**Step 1:** Connect the additional Cat5e/6 cable that will be used to connect to the remote **PD** to the **"PoE Out"** port of the Gigabit PoE Extender.



**Step 2:** The **"PoE Out"** port is also the power injector which transmits DC voltage to the Cat5e/6 cable and transfer data and power simultaneously between the PSE and PD.

**Step 3:** Once the Gigabit PoE Extender detects the existence of an IEEE 802.3af/at device, the **"PoE-in-Use"** LED indicator will be lit steadily, showing it is providing power.



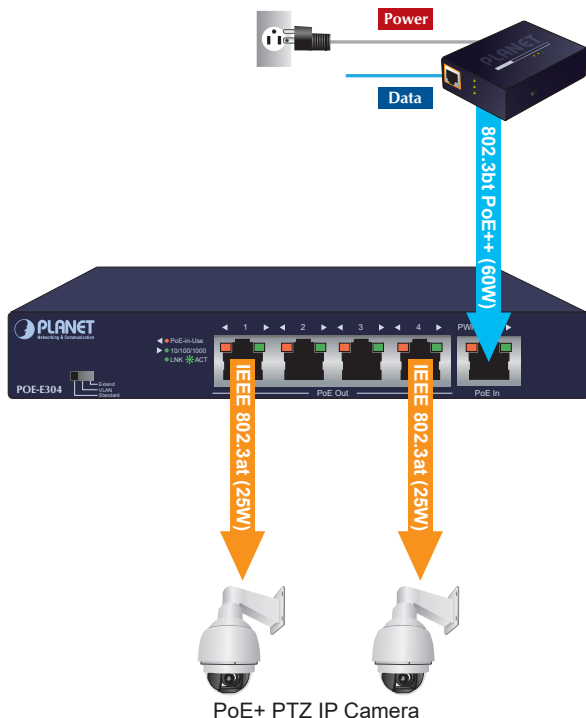
Note

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

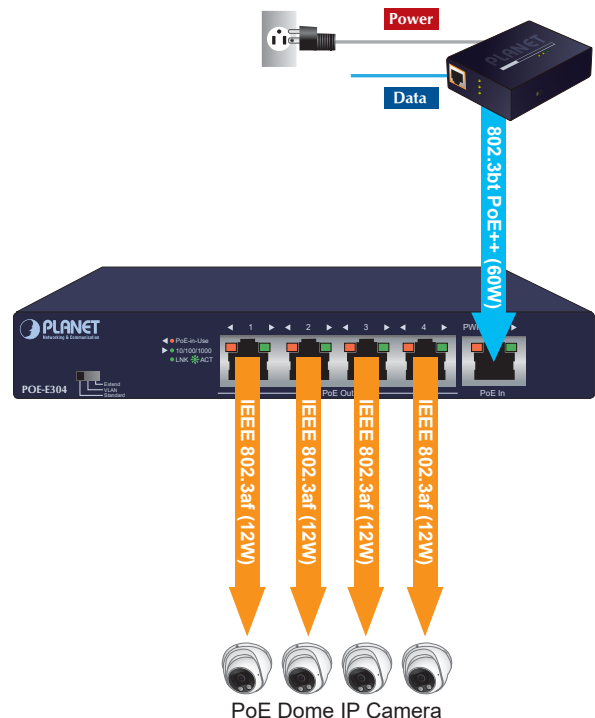
## 5.4 PoE Power Distribution

The POE-E304 can obtain a maximum of 95-watt PoE power from IEEE 802.3bt PoE++ input port and supplies a maximum of 65-watt PoE power budget to four PoE output ports, extending both the reach of **Gigabit Ethernet Data** and IEEE 802.3af/802.3at PoE over the standard 100m (328 ft.) Cat 5/5e/6 UTP cable to up to 200m at the same time.

### 1 In 2 Out



### 1 In 4 Out



## 6. Power Over Ethernet Budget

The following table lists how many PoE devices can be powered by POE-E304:

| Power Source                         | PoE Output Budget* | Max. Number of PDs supported |         |
|--------------------------------------|--------------------|------------------------------|---------|
| IEEE 802.3at PoE+ PSE                | 25 watts max.      | Class 4 PD@25-watt           | 1 unit  |
|                                      |                    | Class 3 PD@15-watt           | 1 unit  |
|                                      |                    | Class 2 PD@7-watt            | 3 units |
| IEEE 802.3bt PoE PSE                 | 65 watts max.      | Class 4 PD@25-watt           | 2 units |
|                                      |                    | Class 3 PD@15-watt           | 4 units |
|                                      |                    | Class 2 PD@7-watt            | 9 units |
| External Power Adapter – 56V DC, 74W | 65 watts max.      | Class 4 PD@25-watt           | 2 units |
|                                      |                    | Class 3 PD@15-watt           | 4 units |
|                                      |                    | Class 2 PD@7-watt            | 9 units |



Note

1. The PoE Output Budget means the 4-port PD aggregated power output. The aggregated power consumption will be below 65 watts if with **IEEE 802.3bt PoE++** PSE.
2. If the PoE output, whose power source is **IEEE 802.3at PoE+**, is more than 25 watts, the device will be shut down.

## **7. Customer Support**

Thank you for purchasing PLANET products. You can browse our online FAQ resource at PLANET web site first to check if it could solve your issue. If you need more support information, please contact PLANET support team.

PLANET online FAQs:

<https://www.planet.com.tw/en/support/faq>

PLANET support team mail address:

[support@planet.com.tw](mailto:support@planet.com.tw)

Copyright © PLANET Technology Corp. 2026.

Contents are subject to revision without prior notice.

PLANET is a registered trademark of PLANET Technology Corp.

All other trademarks belong to their respective owners

EU Representative

**PLANET Technology Europe B.V.**

Address: Posthoornstraat 11, 3011 WD Rotterdam, NL

Email: [eu\\_rep@planet.com.tw](mailto:eu_rep@planet.com.tw)

URL: [www.planet.com.tw](http://www.planet.com.tw)

### **FCC Warning**

This device has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the Instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Warning:

- 1) This device must be earthed.
- 2) For indoor use only!

### **CE Mark Warning**

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

### **WEEE Warning**



To avoid the potential effects on the environment and human health as a result of the presence of hazardous substances in electrical and electronic equipment, end users of electrical and electronic equipment should understand the meaning of the crossed-out wheeled bin symbol. Do not dispose of WEEE as unsorted municipal waste and have to collect such WEEE separately.