# 1-port 802.3at PoE+ to 2-port 802.3af/at Gigabit PoE Extender

## Physical Port

- **3-port 10/100/1000BASE-T** Gigabit RJ45
- 1-port **data + power input**
- 2-port **data + power output**
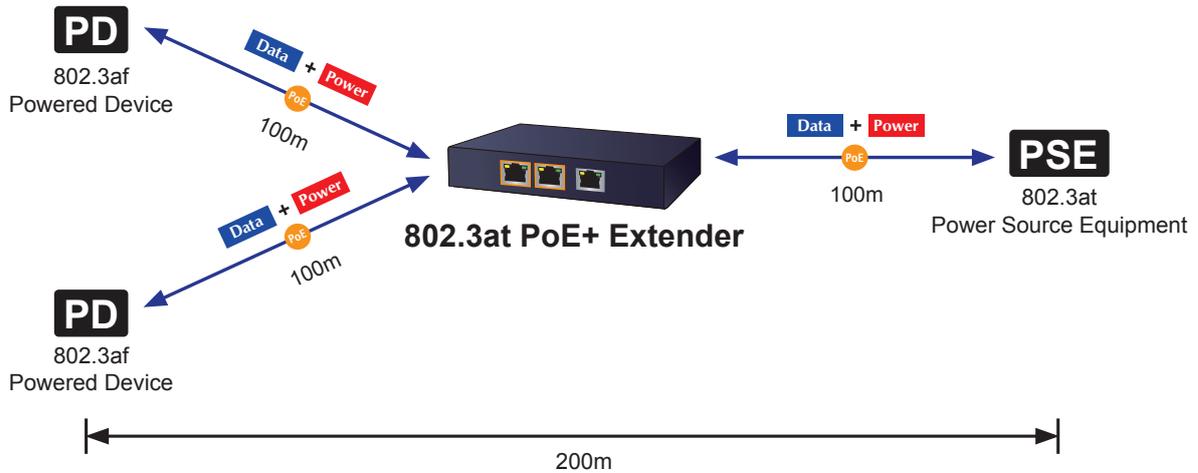
## Power over Ethernet

- 1-port data + power input
  – Complies with IEEE 802.3at Power over Ethernet Plus end-span/mid-span PD
  – Supports PoE input power up to 30.8 watts
- 2-port data + power output
  – Complies with IEEE 802.3af/IEEE 802.3at Power over Ethernet end-span PSE
  – Up to 2 IEEE 802.3af/802.3at devices powered
  – Supports PoE power up to 25 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
- Integrates address look-up engine, supporting 2K absolute MAC addresses
- 10K iumbo packet support
- IEEE 802.1Q VLAN transparency
- Features Store-and-Forward mode with wire-speed filtering and forwarding rates
- IEEE 802.3x flow control for full duplex operation and back pressure for half duplex operation
- Automatic address learning and address aging
- Supports CSMA/CD protocol

## Case and Installation

- No external power cable installation required
- Made of metal, desktop size design
- Wall-mountable, Plug-and-Play installation
- 0 ~ 50 degrees C operating temperature

### PoE Solution for Breaking RJ45 100m Limitation

PLANET POE-E202 is a 1-port PoE+ to 2-port 802.3af/at Gigabit PoE Extender designed especially for point to multipoint PoE application. The POE-E202 can obtain a maximum of 30-watt PoE power from PoE+ input port and supplies a maximum of 25-watt PoE power budget for two PoE output ports, extending both the **Gigabit Ethernet Data** and **IEEE 802.3at/802.3af Power over Ethernet** over the standard 100m (328 ft.) Cat. 5/5e/6 UTP cable to up to two 200m powered devices at the same time.The POE-E202 provides a simple solution for adding PoE ports without running more cabling and achieves more flexible network applications without requiring an external power adapter.



### Plug and Play Installation

The POE-E202 is quite easy to be installed by simple plug and play. It is used between a power source equipment (PSE) and a powered device (PD). The POE-E202 injects power to the PD without affecting the data transmission performance. The POE-E202 offers a cost-effective and quick solution to doubling the standard range of PoE from 100 to 200 meters. The POE-E202 is designed in a compact box containing three RJ45 ports, of which one **"PoE IN"** port functions as **PoE (Data and Power) input** and the other two **"PoE OUT"** ports function as **PoE output**. The **"PoE OUT"** port is also the power injector that transmits DC voltage over the Cat5/5e/6 cable and transfers data and power simultaneously between the PSE and PD.

**PD** 802.3af Powered Device

**PD** 802.3af Powered Device

Data + Power

PoE

100m

Data + Power

PoE

100m

**802.3at PoE+ Extender**

Data + Power

PoE

100m

**PSE** 802.3at Power Source Equipment

200m

## Applications

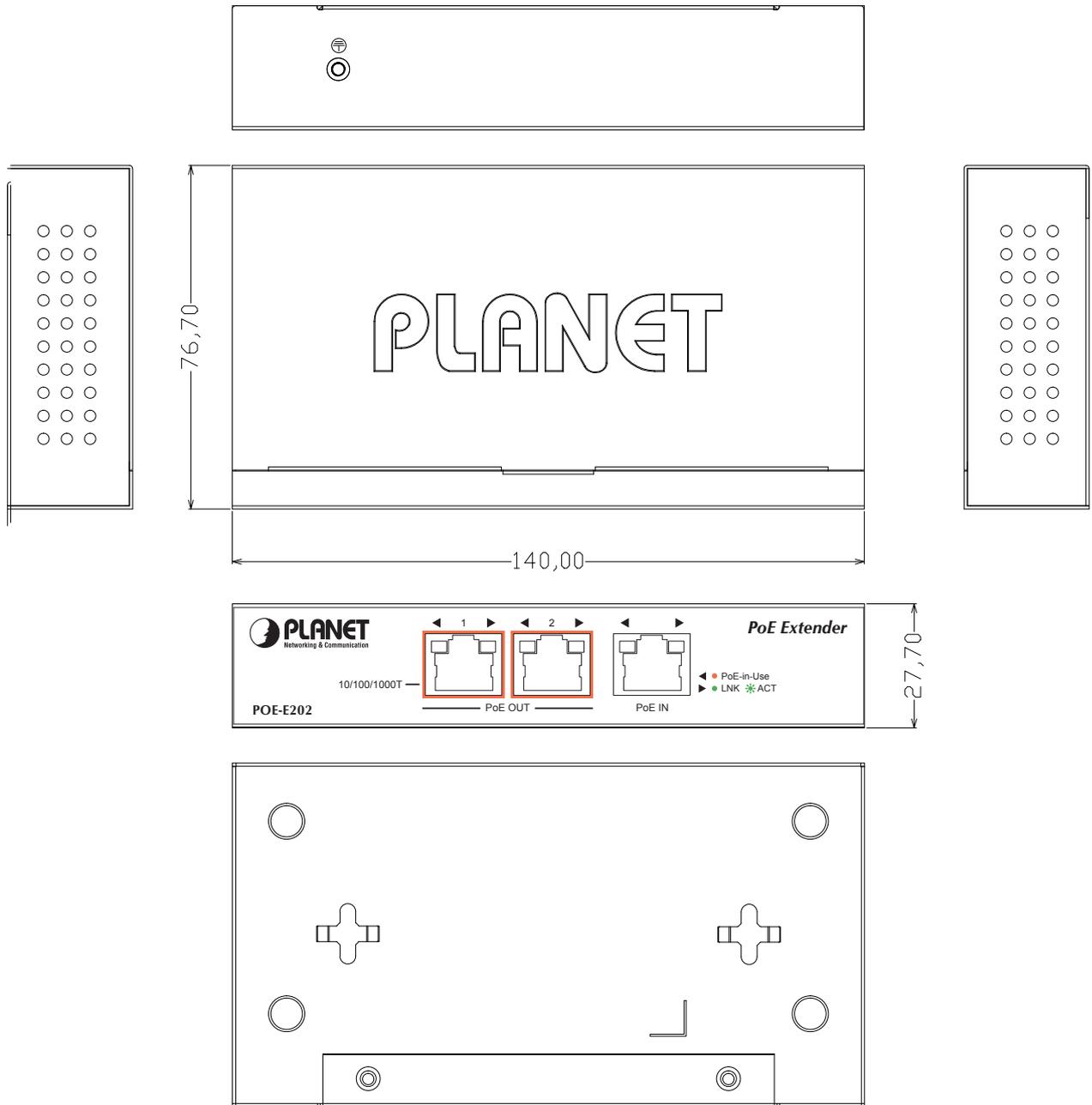*One Power Sourcing for Multi Powered Devices Solution*

Is 100-meter cable long enough for a wide range of IP surveillance deployments? The answer is certainly not.  To achieve the benefits of IP surveillance and the long-distance IP camera distribution, PLANET POE-E202 is quite a useful Gigabit PoE extender if users have most of their network already set up, and hope to expand network communications and overcome cable distance limitations offering connections to devices in locations where traditional networking does not allow.



IEEE 802.3af PoE VoIP Phone

**Office Area**

**POE-E202**

802.3at PSE/PoE Switch

**Control Room**

IEEE 802.3af PoE IP Camera

**Warehouse**

1000BASE-T UTP ———————— PoE ——— 1000BASE-T UTP with PoE

# Specifications

| Model | POE-E202 |
|---|---|
| **Interfaces** | |
| PoE IN | 1 x 10/100/1000BASE-T Ethernet with IEEE 802.3at PoE **"Data + DC power"** in auto MDI/MDI-X, auto-negotiation RJ45 connector |
| PoE OUT | 2 x 10/100/1000BASE-T Ethernet with IEEE 802.3at/802.3af PoE **"Data + DC power"** out auto MDI/MDI-X, auto-negotiation RJ45 connector |
| **Power over Ethernet** | |
| PoE Standard | **"PoE In" Port**<br>  IEEE 802.3at Power over Ethernet Plus end-span/mid-span PD class 4 PD<br>**Per "PoE Out" Port**<br>  IEEE 802.3at Power over Ethernet Plus end-span PSE<br>  IEEE 802.3af Power over Ethernet end-span PSE |
| PoE Power Supply Type | End-span (Type A) |
| PoE Power | **"PoE In" Port**<br>  52~56V DC, max. 30.8 watts<br>**Per "PoE Out" Port**<br>  44~55V DC, max. 25 watts |
| Power Pin Assignment | **"PoE In" Port**<br>  1/2 (+), 3/6 (-); 4/5 (+), 7/8 (-)<br>**Per "PoE Out" Port**<br>  1/2 (+), 3/6 (-) |
| **Hardware Specifications** | |
| Data Rate | 10/100/1000Mbps |
| MAC Address Table | 2K |
| Data Buffer | 2Mbits |
| Switch Architecture | Store-and-Forward |
| Switch Fabric | 6Gbps |
| Switch Throughput | 4.46Mpps @ 64 bytes |
| Jumbo Frame | 10KB |
| Flow Control | IEEE 802.3x pause frame for full duplex<br>Back pressure for half duplex |
| LED Indicators | "PoE In" Port: PoE-in-Use x 1 (amber), LNK/ACT x 1 (green)<br>"PoE Out" Port 1: PoE-in-Use x 1 (amber), LNK/ACT x 1 (green)<br>"PoE Out" Port 2: PoE-in-Use x 1 (amber), LNK/ACT x 1 (green) |
| Protection | ESD (Ethernet): 2KV (TBD)<br>Surge (EFT for power) : 2KV (TBD) |
| Enclosure | Metal |
| Installation | Wall mountable |
| Dimensions (W x D x H) | 140 x 77 x 28 mm |
| Weight | 258g |
| Power Requirements | IEEE 802.3at compliant with voltage within 52V-56V DC |
| Power Consumption | 1.6 watts/5.5BTU (System on with PoE input)<br>2.2 watts/7.5BTU (Ethernet full loading without PoE function)<br>36 watts/122.8BTU (Full loading with PoE function) |
| Network Cable | 10BASE-T: 4-pair UTP Cat. 5 up to 100m (328ft)<br>100BASE-TX: 4-pair UTP Cat. 5 up to 100m (328ft)<br>1000BASE-T: 4-pair UTP Cat. 5e, 6, up to 100m (328ft)<br>EIA/TIA-568 100-ohm STP (100m, 328ft) |
| **Standard Conformance** | |
| Regulatory Compliance | FCC Part 15 Class A, CE |
| Standard Compliance | IEEE 802.3 10BASE-T Ethernet<br>IEEE 802.3u 100BASE-TX Fast Ethernet<br>IEEE 802.3ab 1000BASE-T Gigabit Ethernet<br>IEEE 802.3af Power over Ethernet<br>IEEE 802.3at Power over Ethernet Plus<br>IEEE 802.3x Flow Control |
| **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) |

## Three View Diagram

76,70

140,00

| 1 | 2 | | PoE Extender |

10/100/1000T

POE-E202

PoE OUT          PoE IN

● PoE-in-Use
● LNK ✴ ACT

27,70

*Unit: mm*

## Ordering Information

| POE-E202 | 1-port 802.3at PoE+ to 2-port 802.3af/at Gigabit PoE Extender |

## Related Products

| POE-E201 | IEEE 802.3at Power over Gigabit Ethernet Extender |
| POE-E304 | 1-Port 802.3bt PoE++ to 4-Port 802.3af/at Gigabit PoE Extender |
| IPOE-E174 | Industrial 1-Port 802.3bt PoE++ to 4-Port 802.3af/at Gigabit PoE Extender |
| IPOE-E302 | Industrial IP67 1-Port 802.3bt PoE++ to 2-Port 802.3at/bt PoE++ Extender |

# Power over Ethernet Out Capability

**(C)**
PoE Output Capacity

**(B)** → 

**(A)** →

**POE-E202**

PSE 802.3at PoE+ Switch

(A): Distance
(B): Distance
(C): Watts

With different distance and different PoE input source, it will inflect the PoE output capability. Please refer to the table below.

When PSE/PoE Switch output is 52V DC

| A (Distance) | B (Distance) | C (Watts) |
|---|---|---|
| 100M | 20M | 21.6 |
| 100M | 60M | 20.7 |
| 100M | 100M | 19.7 |

When PSE/PoE Switch output is 56V DC

| A (Distance) | B (Distance) | C (Watts) |
|---|---|---|
| 100M | 20M | 21.1 |
| 100M | 60M | 20.2 |
| 100M | 100M | 19.3 |

FC C€ CE

**POE-E202**