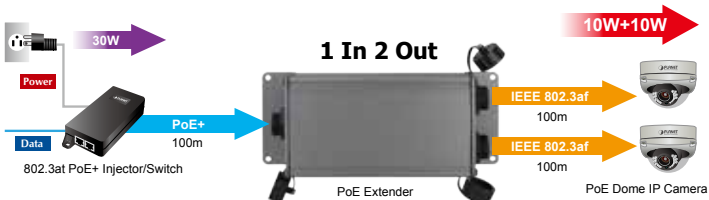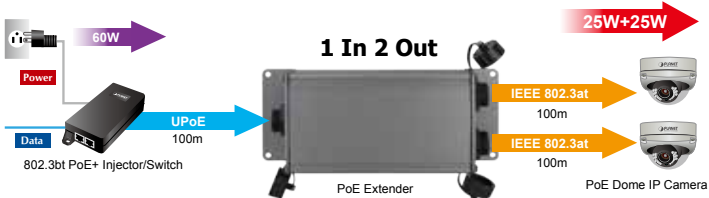# Industrial 1-Port Ultra PoE to 2-Port 802.3bt/at Gigabit PoE Extender

Ultra PoE Solution for Breaking RJ45 100m Limitation

PLANET IPOE-E172 is an industrial IP63-rated 1-port Ultra PoE to 2-port 802.3bt/at Gigabit PoE Extender designed especially for point to multipoint PoE application. The IPOE-E172 can obtain a maximum of 95-watt PoE power from ultra PoE input port and supplies a maximum of 60-watt PoE power budget for 2 PoE output ports, extending both the **Gigabit Ethernet Data** and **IEEE 802.3bt/802.3at Power over Ethernet** over the UTP cable. The IPOE-E172 provides a simple solution for adding PoE ports without running more cabling and achieves more flexible network applications without requiring an external power adapter.

1 In 1 Out

60W · Power · Data · UPoE 100m · 802.3bt PoE+ Injector/Switch · PoE Extender · 50W · IEEE 802.3bt 100m · PoE PTZ IP Camera

1 In 2 Out

60W · Power · Data · UPoE 100m · 802.3bt PoE+ Injector/Switch · PoE Extender · 25W+25W · IEEE 802.3at 100m · IEEE 802.3at 100m · PoE Dome IP Camera

1 In 2 Out

30W · Power · Data · PoE+ 100m · 802.3at PoE+ Injector/Switch · PoE Extender · 10W+10W · IEEE 802.3af 100m · IEEE 802.3af 100m · PoE Dome IP Camera

Physical Port

- **3 10/100/1000BASE-T** Gigabit RJ45 interfaces
  - 1-port **data** + **power input**
  - 2-port **data** + **power output**

Power over Ethernet

- 1-port data + power input
  - Complies with IEEE 802.3bt/at Power over Ethernet end-span/mid-span PD
  - Supports PoE input power up to 95 watts
- 2-port data + power output
  - Complies with IEEE 802.3af/802.3at/802.3bt Power over Ethernet/end-span + mid-span PSE
  - Up to 1 IEEE 802.3bt device powered
  - Up to 2 IEEE 802.3af/802.3at devices powered
  - Supports total PoE budget up to 60 watts for 2 PoE output ports
  - 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
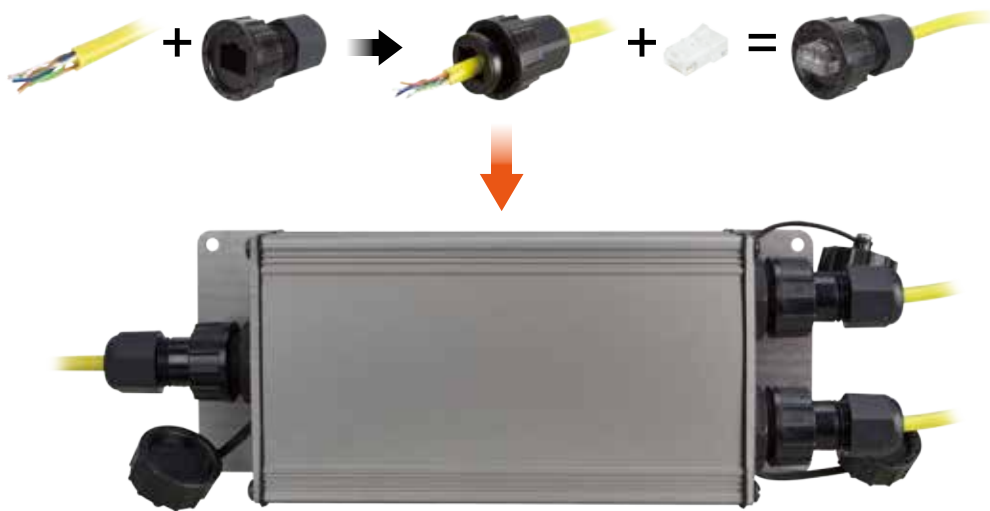
Layer 2 Features

- Hardware-based 10/100Mbps, half/full duplex and 1000Mbps full duplex mode, flow control, 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 back pressure for half duplex operation
- Integrates address look-up engine, supporting 2K absolute MAC addresses
- 9K jumbo frame support in 1000Mbps duplex mode
- Automatic address learning and address aging
- Supports CSMA/CD protocol

Weather-proof RJ45 Ethernet Connector and Shielded Plug

The IPOE-E172 is ideal for installing an extended range of outdoor PoE devices such as outdoor PoE wireless access points, outdoor PoE IP cameras, outdoor PoE IP intercoms and much more. The IPOE-E172 is equipped with 3-port 10/100/1000BASE-T auto-negotiation weather-proof RJ45 connectors and 3 shielded RJ45 plugs for direct attach applications. These shielded RJ45 plugs can make the general UTP cable weather-proof. When connected to the weather-proof RJ45 connector, it provides tight and strong connection, and ensures it comes with the industrial protection rating of IP63 capable of withstanding humidity, dirt, dust, shock, vibrations, heat and cold.

Industrial Case and Installation

- IP63-rated aluminum case
- Wall-mount design
- Waterproof and dustproof
- Supports 2000 VDC Ethernet ESD protection
- -40 to 75 degrees C operating temperature
- No external power cable required for installation
- Plug and Play installation

Environmentally Hardened Design

With industrial-level IP63-rated aluminum case, the IPOE-E172 provides a high level of immunity against electromagnetic interference, and is able to protect itself from dust and water ingress and to operate under the temperature range from **-40 to 75 degrees C**. All these features ensure the highest level of reliability for mission-critical applications in any difficult environment.

Intelligent PoE Power Budget Alert

The IPOE-E172 helps users to monitor the current status of PoE power usage easily via its advanced LED indication, which is called "**Budget Alert**" on the front panel of the IPOE-E172. When the PoE output power reaches 50 watts, this Budget Alert LED will light up.
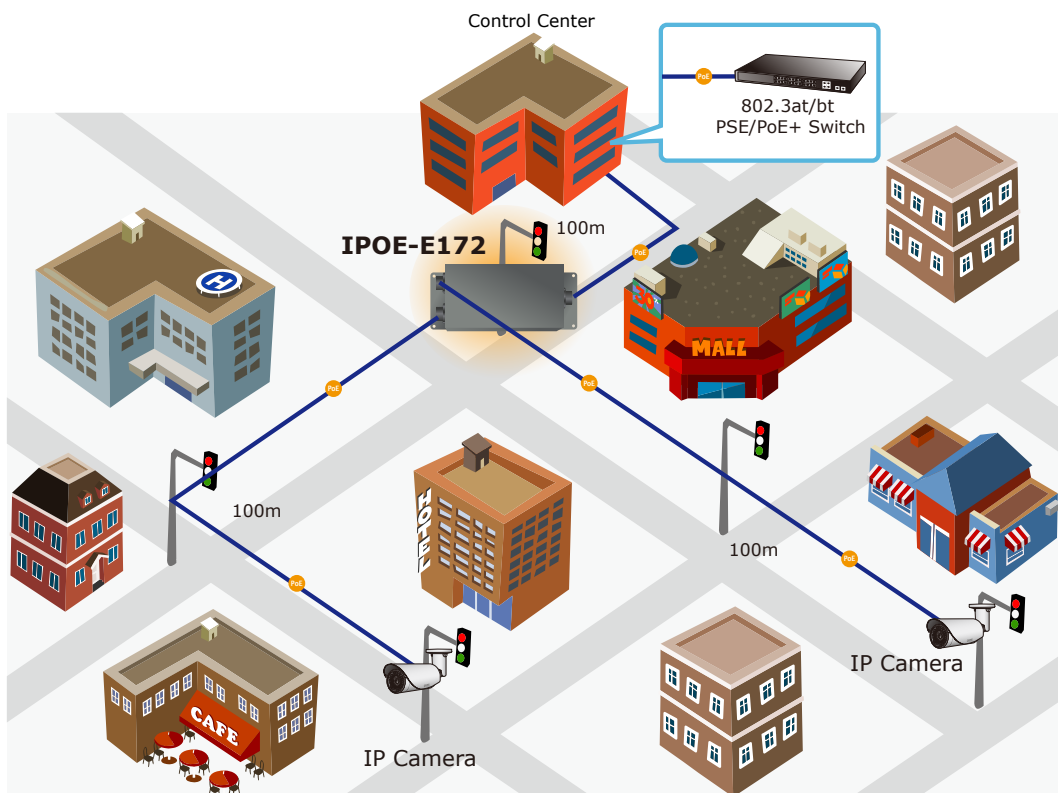
Plug and Play, and Easy Cabling Installation

The IPOE-E172 is quite easy to be installed by simply Plug and Play. It is used between a power source equipment (PSE) and a powered device (PD). The IPOE-E172 injects power to the PD without affecting the data transmission performance. The IPOE-E172 offers a cost-effective and quick solution to doubling the standard range of PoE from 100 to 200 meters. The IPOE-E172 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 on the other side function as **PoE (Data and Power) 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.
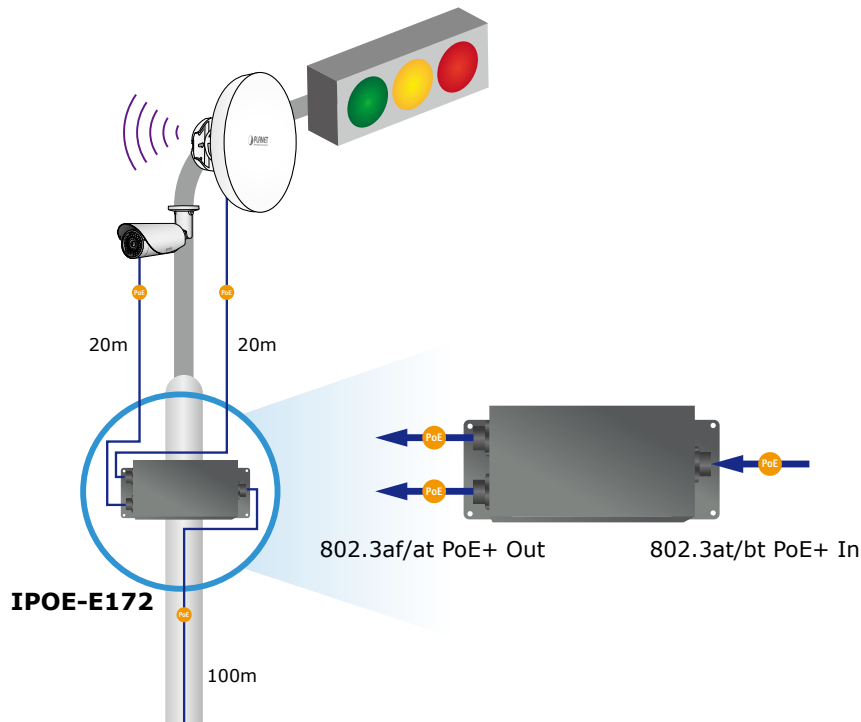
Applications

One Power Sourcing for Multi Powered Devices Solution

To achieve the benefits of IP surveillance and the long-distance IP camera distribution, PLANET IPOE-E172 is quite a useful device for users who have most of their network already set up, and wish to expand network communications and overcome cable distance limitations offering connections to devices in locations where traditional networking does not allow.

The IPOE-E172 industrial 1-port ultra PoE to 2-port 802.3bt/at Gigabit PoE Extender, powered by a PSE over standard RJ45 cable, requires very little installation time and does not require any additional setup or programming. The ultra PoE injector port of the PSE supplies IEEE 802.3bt PoE power to the IPOE-E172 and then the IPOE-E172 converts the power for 2 powered devices that are IEEE 802.3af/at PoE standard compliant, meaning any additional power adapter for IP cameras and wireless access points is not necessary.
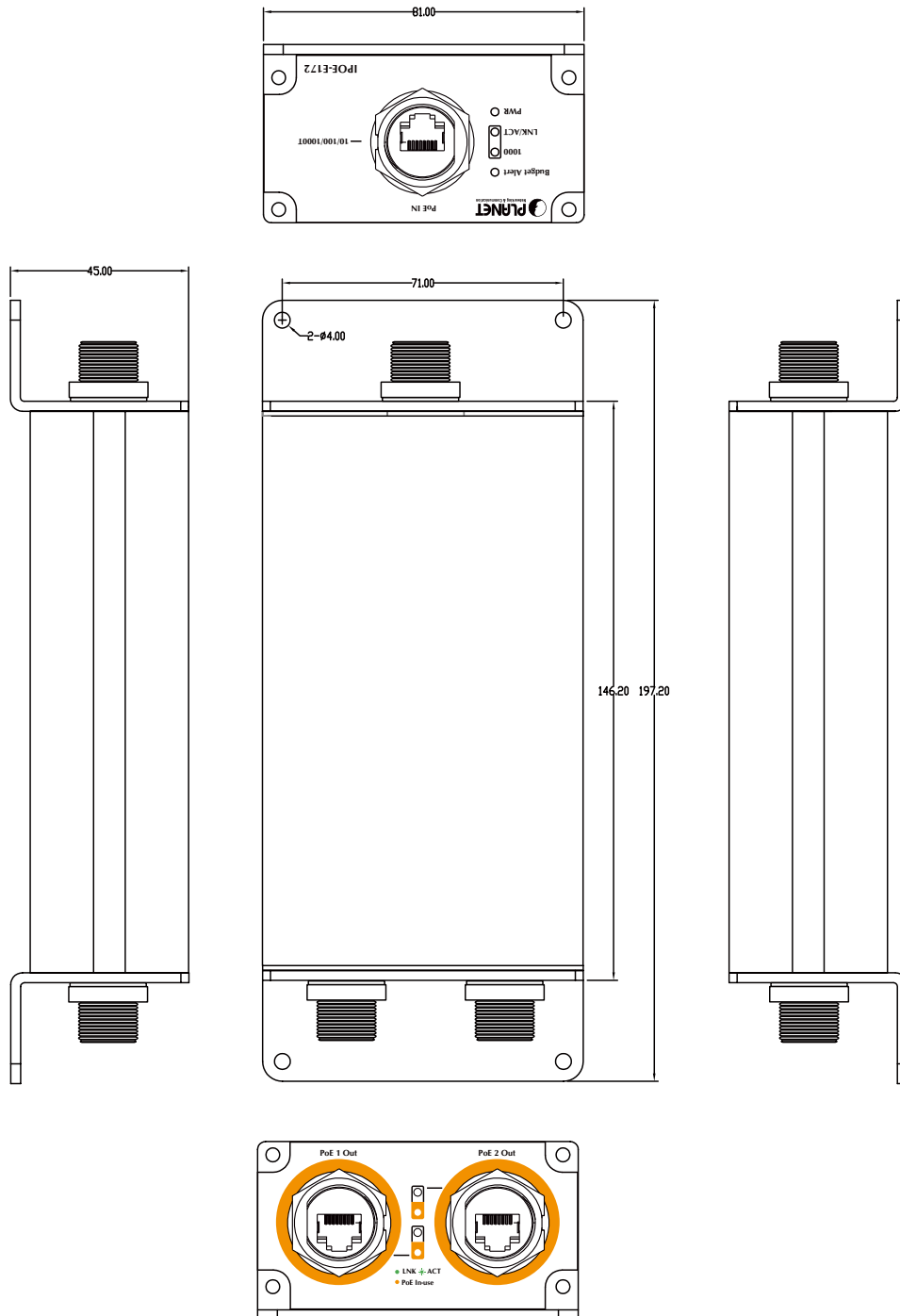

Specifications

Model	IPOE-E172
Hardware Specifications	
Network Connector	**PoE In Port** 1 x 10/100/1000BASE-T Ethernet with 802.3bt/at PoE "**Data + Power**" in, auto MDI/MDI-X, auto-negotiation RJ45 connector **PoE Out Port** 2 x 10/100/1000BASE-T Ethernet with IEEE 802.3af/at/bt PoE "**Data + Power**" out, 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
Data Buffer	1Mbit
Switch Fabric	6Gbps
Switch Throughput	4.46Mpps @ 64 bytes
Flow Control	IEEE 802.3x pause frame for full duplex Back pressure for half duplex
Jumbo Frame	9KB
ESD Protection	2KV DC
Enclosure	IP63 aluminum case
Installation	Wall-mount kit
LED Display	System: PWR (green) Budget Alert (Red) PoE Input Port: LNK/ACT (green) 1000 (green) Per PoE Output Port: LNK/ACT (green) PoE-in-Use (orange)

Cable	Twisted-pair cable : 10BASE-T: 2-pair UTP Cat3, 4, 5 up to 100 meters 100BASE-TX: 2-pair UTP Cat5, 5e up to 100 meters 1000BASE-T: 4-pair UTP Cat5e, 6 up to 100 meters
Dimensions (W x D x H)	199.6 x 81 x 40 mm
Weight	373g
Power Consumption	60 watts/204BTU (Full loading with PoE function)

Power over Ethernet	
PoE Standard	**PoE In Port** IEEE 802.3bt/at Power over Ethernet end-span/mid-span PD class 4 PD **Per PoE Out Port** IEEE 802.3bt 4-pair Power over Ethernet end-span + mid-span PSE IEEE 802.3at Power over Ethernet Plus end-span + mid-span PSE IEEE 802.3af Power over Ethernet end-span + mid-span PSE
PoE Power Supply Type	**PoE In Port** 44~57V DC, max. 95 watts **Per PoE Out Port** 44~55V DC, max. 60 watts
Power Pin Assignment	**PoE In Port** 1/2 (+), 3/6 (-); 4/5 (+), 7/8 (-) **Per PoE Out Port** 1/2 (-), 3/6 (+); 4/5 (+), 7/8 (-)

Standards Conformance	
Regulatory Compliance	FCC Part 15 Class A, CE
Stability Testing	IEC 60068-2-32 (free fall) IEC 60068-2-27 (shock) IEC 60068-2-6 (vibration)
Standards Compliance	IEEE 802.3 Ethernet IEEE 802.3u Fast Ethernet IEEE 802.3ab Gigabit Ethernet IEEE 802.3x Flow Control IEEE 802.3af Power over Ethernet IEEE 802.3at Power over Ethernet Plus IEEE 802.3bt 4-pair Power over Ethernet

Environment	
Operating	Temperature: -40 ~ 75 degrees C Relative Humidity: 5 ~ 95% (non-condensing)
Storage	Temperature: -40 ~ 85 degrees C Relative Humidity: 5 ~ 95% (non-condensing)

Accessory	
Standard Accessories	User's Manual x 1 Waterproof RJ45 Connector x 3 Wall-mounted Kit x 1

Three View Diagram

Ordering Information

IPOE-E172	Industrial 1-Port Ultra PoE to 2-Port 802.3bt/at Gigabit PoE Extender

FC CE

IPOE-E172