

# Product Specifications

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

### POE-E202

Version 1.0

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#### Change History:

Revision:	Date:	Author:	Change List
Version 1.0	2016/7/5	Marc Liao	Initial Release

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Reviewed By:		Approved By:	Kent Kang

## 1. PRODUCT DESCRIPTION



### 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.

## 2. PRODUCT FEATURES

### ➤ **Physical Port**

- **3-port 10/100/1000BASE-BASE-T** Gigabit RJ45 interface
  - 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 jumbo 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 backpressure 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

### 3. PRODUCT SPECIFICATIONS

#### 3.1 MAIN COMPONENTS

Switch ASIC	Realtek RTL8367N-VB	x 1
PoE PSE Controller	Microsemi PD69104B	x 1
PoE PD Controller	Texas Instruments TPS2378	x 1

#### 3.2 FUNCTION SPECIFICATIONS

<b>Model</b>	<b>POE-E202</b>
<b>Interfaces</b>	
<b>PoE IN</b>	1 x 10/100/1000BASE-T Ethernet with IEEE 802.3at PoE <b>“Data + DC power”</b> in auto MDI/MDI-X, auto-negotiation RJ45 connector
<b>PoE OUT</b>	2 x 10/100/1000BASE-T Ethernet with IEEE 802.3at/802.3af PoE <b>“Data + DC power”</b> out auto MDI/MDI-X, auto-negotiation RJ45 connector
<b>Power over Ethernet</b>	
<b>PoE Standard</b>	<b>“PoE In” Port</b> IEEE 802.3at Power over Ethernet Plus end-span/mid-span PD class 4 PD <b>Per “PoE Out” Port</b> IEEE 802.3at Power over Ethernet Plus end-span PSE IEEE 802.3af Power over Ethernet end-span PSE
<b>PoE Power Supply Type</b>	End-span (Type A)
<b>PoE Power</b>	<b>“PoE In” Port</b> 52~56V DC, max. 30.8 watts <b>Per “PoE Out” Port</b> 44~55V DC, max. 25 watts
<b>Power Pin Assignment</b>	<b>“PoE In” Port</b> 1/2 (+), 3/6 (-); 4/5 (+), 7/8 (-) <b>Per “PoE Out” Port</b> 1/2 (+), 3/6 (-)
<b>Hardware Specifications</b>	
<b>Data Rate</b>	10/100/1000Mbps
<b>MAC Address Table</b>	2K
<b>Data Buffer</b>	2Mbits
<b>Switch Architecture</b>	Store-and-Forward
<b>Switch Fabric</b>	6Gbps
<b>Switch Throughput</b>	4.46Mpps @ 64 bytes
<b>Jumbo Frame</b>	10KB
<b>Flow Control</b>	IEEE 802.3x pause frame for full duplex Back pressure for half duplex
<b>LED Indicators</b>	“PoE In” Port: PoE-in-Use x 1 ( <b>orange</b> ), LNK/ACT x 1 ( <b>green</b> ) “PoE Out” Port 1: PoE-in-Use x 1 ( <b>orange</b> ), LNK/ACT x 1 ( <b>green</b> ) “PoE Out” Port 2: PoE-in-Use x 1 ( <b>orange</b> ), LNK/ACT x 1 ( <b>green</b> )
<b>Protection</b>	ESD (Ethernet): 2KV (TBD) Surge (EFT for power): 2KV (TBD)
<b>Enclosure</b>	Metal
<b>Installation</b>	Wall mountable
<b>Power Requirements</b>	IEEE 802.3at compliant with voltage within 52V-56V DC
<b>Power Consumption</b>	1.6 watts/5.5BTU (System on with PoE input) 2.2 watts/7.5BTU (Ethernet full loading without PoE function)

	36 watts/122.8BTU (Full loading with PoE function)
<b>Network Cable</b>	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, up to 100m (328ft) EIA/TIA-568 100-ohm STP (100m, 328ft)
<b>Standard Conformance</b>	
<b>Standard Compliance</b>	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

### 3.3 PHYSICAL SPECIFICATIONS:

■ **Dimensions:**

140 x 77 x 28 mm (W x D x H)

■ **Weight:**

234g

■ **Front Panel**



■ **LED Definition**

■ **802.3at PoE IN Port**

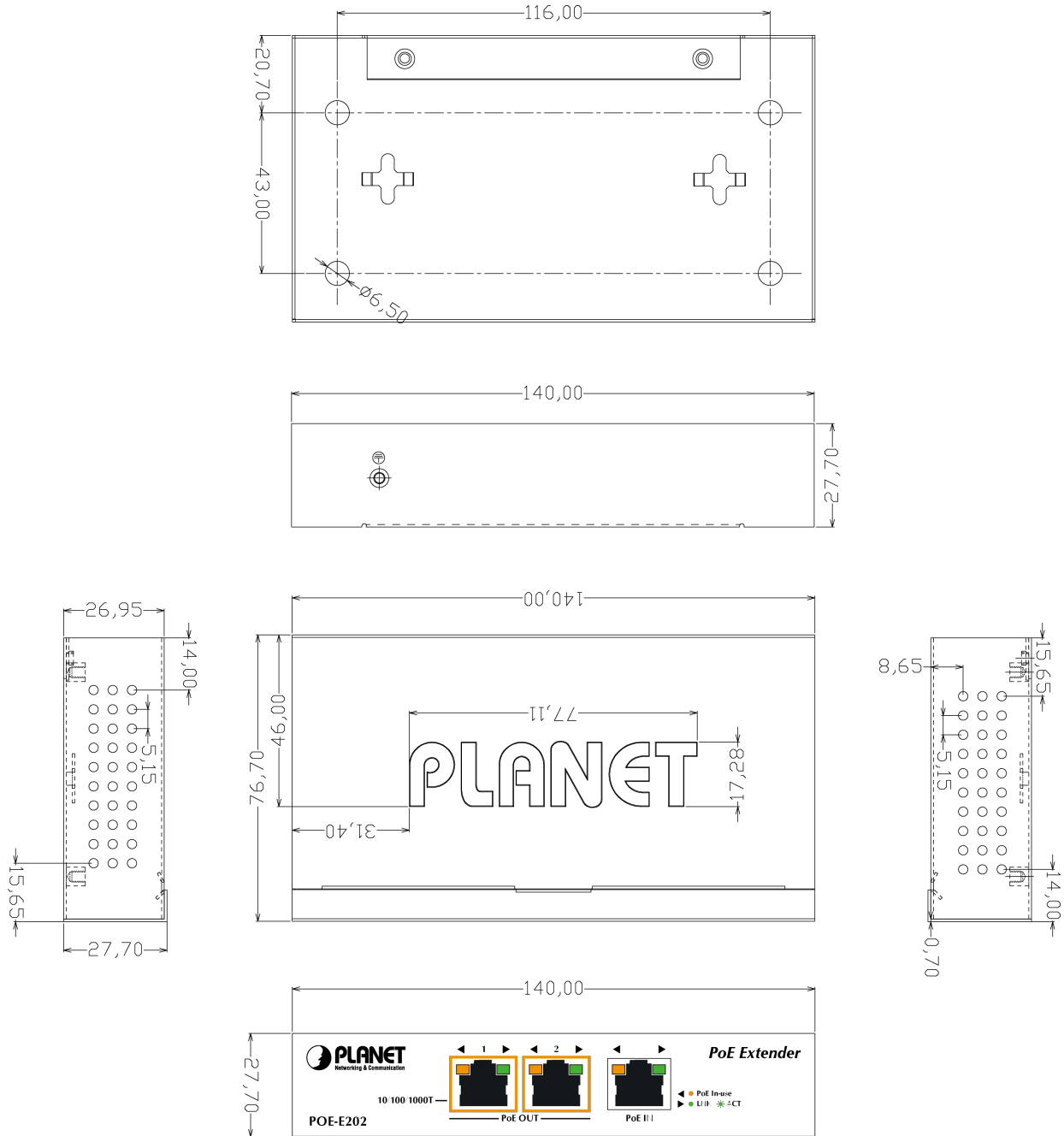
LED	Color	Function
PoE-in-Use	Orange	Lights to indicate the port is receiving 52V-56V DC in-line power input.
10/100/1000 LNK/ACT	Green	Lights to indicate the link through that port is successfully established at 10/100/1000Mbps. Blinks to indicate that the port is actively sending or receiving data.

■ **802.3at/af PoE Out Ports**

LED	Color	Function
PoE-in-Use	Orange	Lights to indicate the port is providing 52V-56V DC in-line power output.
10/100/1000 LNK/ACT	Green	Lights to indicate the link through that port is successfully established at 10/100/1000Mbps. Blinks to indicate that the port is actively sending or receiving data.

## ■ Product Outlook

The front panel of the POE-E202 consists of one auto-sensing 10/100/1000BASE-T 802.3af PoE IN port, and two auto-sensing 10/100/1000BASE-T 802.3af/802.3at PoE Out ports. The LED Indicators are also located on the port of Gigabit PoE Extender front panel.



## 3.4 ENVIRONMENTAL SPECIFICATION

### Operating:

- Temperature:** 0°C ~ 50 degrees C
- Relative Humidity:** 5% ~ 95% (non-condensing)

### Storage:

- Temperature:** -10°C ~ 70 degrees C
- Relative Humidity:** 5% ~ 95% (non-condensing)

### 3.5 ELECTRICAL SPECIFICATIONS

#### Power over Ethernet Capability

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



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

When PSE/PoE Switch output is DC 52V

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

When PSE/PoE Switch output is DC 56V

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

### 3.6 REGULATORY COMPLIANCE

FCC Part 15 Class A, CE

### 3.7 RELIABILITY

MTBF > 50,000 hrs @ 25 degrees C

### 3.8 BASIC PACKAGING

- POE-E202 x 1
- User's Manual x 1

### 3.9 PACKING DIMENSIONS

- Dimensions: Box** 163 (W) x 122 (D) x 94 mm (H)
- Dimensions: Carton** 628 (W) x 344 (D) x 321 mm (H)
- Weight (Total):** TBD (gross weight)
- Quantity:** 30pcs in one carton