

## Product Specifications

### Single-Port 10/100/1000Mbps 802.3bt PoE Injector (95 Watts)

### POE-171A-95

Version 1.0

This document contains confidential proprietary information and is property of PLANET. The contents of this document should not be disclosed to unauthorized persons without the written consent of PLANET.

#### Change History:

Revision	Date	Author	Change List
Version 1.0	2018/3/5	Keithy Lin	Initial release

<b>Author</b>	Keithy Lin	<b>Editor:</b>	Mark Kao
<b>Reviewed by:</b>	Jonas Yang	<b>Approved by:</b>	Kent Kang

## 1. PRODUCT DESCRIPTION



### Advanced 802.3bt Ultra PoE Network Solution

PLANET POE-171A-95 is a Single-Port, 802.3bt Power over Ethernet Injector with a maximum of up to 95 watts of power output over Ethernet cables. It is designed specifically to meet the demand for growing higher power required network equipment such as:

- PTZ speed dome
- AIO (All-in-One) touch PC
- Remote digital signage display
- Other network devices that need higher power to work normally

The POE-171A-95 delivers the Ethernet digital data with 54V DC power over the twisted-pair cables as a 95-watt Power over Ethernet Injector, and the connected ultra Power over Ethernet splitter, the POE-172S, will separate the digital data and the power into three optional outputs (12V/19V/24V DC) with distance up to 100 meters.

### Intelligent LED Indicator for PoE Mode and Real-time PoE Usage

The POE-171A-95, when switched to the legacy mode, provides power to those PD devices which do not fully follow the IEEE 802.3af/at/bt standard. The legacy LED will be turned on when the legacy mode is enabled. Moreover, the POE-171A-95 helps users to monitor the current status of PoE power usage easily and efficiently via its advanced LED indication. “PoE Power Usage” displayed on the front panel of the POE-171A-95 has three LED indicators of different power usages. Via the power usage LED, the POE-171A-95 enables the administrator to monitor the status of the power usage of the connected PDs in real time.

### 95 watts of Power over 4-pair UTP

The POE-171A-95 and POE-172S Ultra PoE solutions use the same cabling standard such as IEEE PoE. Instead of delivering power over 2-pair twisted UTP – be it end-span (Pins 1, 2, 3 and 6) or mid-span (Pins 4, 5, 7 and 8), it provides the capability to source up to 95 watts of power by using all the four pairs of

standard Cat. 5e/Cat. 6 Ethernet cabling. In the new 4-pair system, two PSE controllers will be used to power both the data pairs and the spare pairs.

PoE Standard	IEEE 802.3af (802.3at Type 1)	IEEE 802.3at (802.3at Type 2)	IEEE 802.3bt (POE-171A-95)
<b>Maximum Power delivered by PSE</b>	15.4 watts	30 watts	<b>95 watts</b>
<b>Power Available at PD</b>	12.95 watts	25.5 watts	<b>71 watts</b>
<b>Voltage Range</b>	48V	50~57V	<b>52~56V</b>
<b>Twisted-pair Used</b>	2-pair		<b>4-pair</b>
<b>Supported Modes</b>	End-span or Mid-span		<b>End-span + Mid-span</b>
<b>Supported Cabling</b>	Cat. 3/5/5e/6		<b>Cat. 5e/6</b>

### All-in-One and Compact Size Design

It is easy to install the PoE injector by way of Plug and Play and comes with simple troubleshooting, making it easy for business and home users to own it. Besides, the POE-171A-95 comes in compact housing, and provides one 52~56V DC input power jacket, one power LED, PoE-in-use LED and legacy LED. Two RJ45 ports -- Ethernet port and Ethernet + DC port – are on the side panel. Simply plug in the Ethernet cables and DC power cord, and the POE-171A-95 is ready to provide high-speed network communication and the 802.3bt PoE injector functions simultaneously with no need of software configuration.

### Quick and Easy Cabling Installation for PoE Network Deployment

Backward compatible with both 802.3af/at PoE standards, the POE-171A-95 allows users to flexibly deploy standard and high powered devices to transfer data and power simultaneously through one Ethernet cable for up to 100 meters. The POE-171A-95 frees the security IP camera and wireless AP deployment from restrictions of power outlet locations and the additional AC wiring. It thus reduces cables and eliminates the need for electrical outlets on the wall, ceiling or any unreachable place, and most of all, it reduces installation time.

### Intelligent LED Indicator for PoE Mode and Real-time PoE Usage

The POE-171A-95 was built in legacy mode to provide the power to those PD devices that do not follow the IEEE 802.3af/at/bt standard. Moreover, the POE-171A-95 helps users to monitor the current status of PoE power usage easily and efficiently via its advanced LED indication. “PoE Power Usage” displayed on the front panel of the POE-171A-95 has three LED indicators of different power usages. Via the power usage LED, the POE-171A-95 enables the administrator to monitor the status of the power usage of the connected PDs in real time.

## 2. PRODUCT FEATURES

### ➤ **Interface**

- 2 RJ45 interfaces
  - 1-port **Data + Power** output
  - 1-port **Data** input
- 1 DC 52~56V input power socket
- 1 PoE mode (standard/legacy) DIP switch

### ➤ **Power over Ethernet**

- Complies with IEEE 802.3af/at/bt PoE end-span/mid-span PSE
- Supports PoE power up to 95 watts for PoE port
- Auto-detection of PoE IEEE 802.3af/at/bt equipment and devices from being damaged by incorrect installation
- Monitor the status of the total PoE usage in real time
- Auto-detection of DC input voltage
- Remote power feeding up to 100m

### ➤ **Hardware**

- All-in-one compact size design
- LED indicators for Power LED, PoE-in-Use LED, Legacy LED and PoE Usage LED
- Wall-mount design
- Metal case

### 3. PRODUCT SPECIFICATIONS

#### 3.1 MAIN COMPONENTS

PSE Chipset	Microsemi PD69204	x 1
MCU	NUVOTON W78E054D	x 1
PoE Controller	PD69200C	x 1
PoE PSE	PD69204T4	x 1

#### 3.2 FUNCTION SPECIFICATIONS

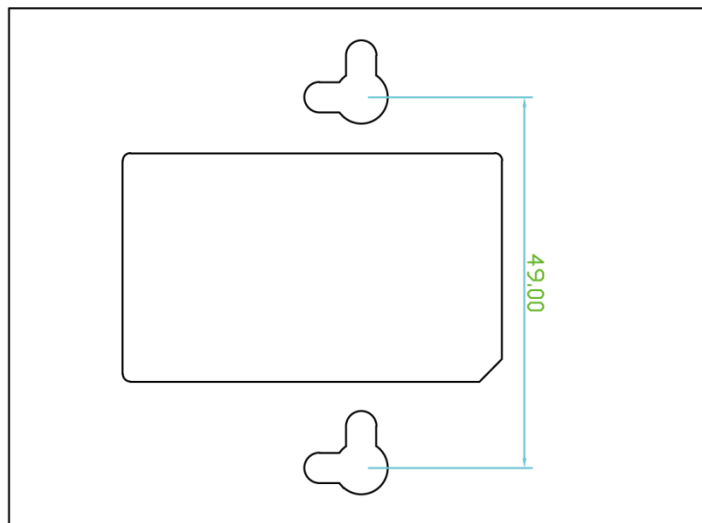
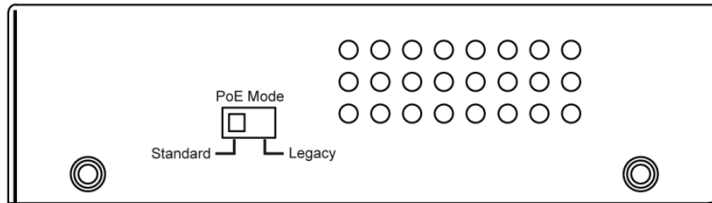
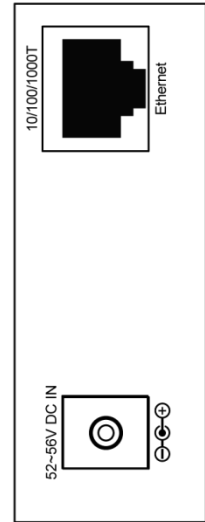
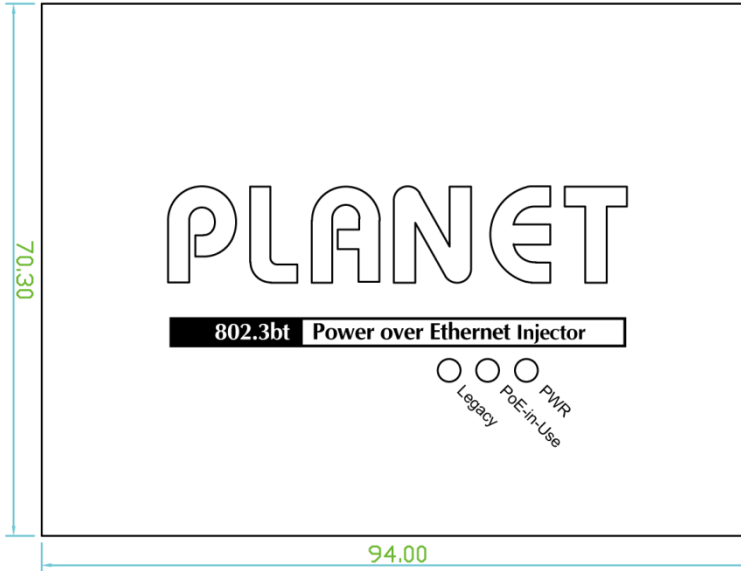
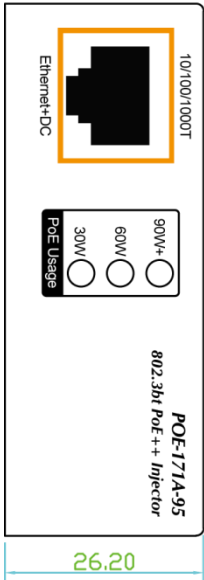
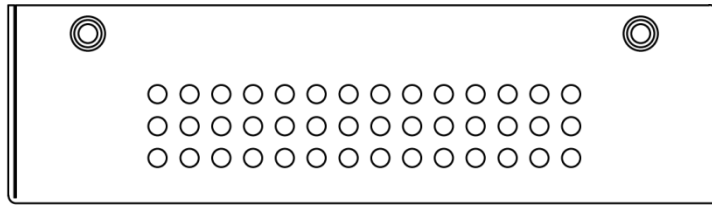
<b>Product</b>		<b>POE-171A-95</b>
<b>Hardware Specifications</b>		
<b>Interface</b>	<b>Input Port</b>	1 x RJ45 STP Data In
	<b>Output Port</b>	1 x RJ45 STP PoE (Data + Power) Out
	<b>DC Socket</b>	1 x 52~56V DC input socket
<b>Network Cable</b>		Twisted-pair cable up to 100 meters (328ft) 10BASE-T: 4-pair UTP Cat3, 4, 5, 5e, 6 100BASE-TX: 4-pair UTP Cat5, 5e, 6 1000BASE-T: 4-pair UTP Cat5e, 6
<b>LED Indicator</b>		System: Power x 1 ( <b>Green</b> ) PoE Port: PoE-in-Use x 1 ( <b>Orange</b> ) Legacy mode: Legacy x 1 ( <b>Orange</b> ) PoE Usage: PoE Usage x 3 ( <b>Orange</b> )
<b>Data Rate</b>		10/100/1000Mbps
<b>Dimensions (W x D x H)</b>		94 x 70.3 x 26.2 mm
<b>Weight</b>		250g
<b>Unit Output Voltage</b>		DC 52~56V
<b>Power Requirements</b>		DC 52-56V, 2.5A max.
<b>Power Consumption</b>		130 watts max.
<b>No. of devices that can be powered</b>		1
<b>Power over Ethernet</b>		
<b>PoE Standard</b>		IEEE 802.3af/at/bt Ultra PoE PSE
<b>PoE Power Output Budget</b>		DC 52~56V / 95-watt PoE via 4-pair DC 52~56V / 30-watt PoE via 2-pair
<b>PoE Power Supply Type</b>		End-span + Mid-span
<b>Power Pin Assignment</b>		Pair 1 End-span: 1/2 (-), 3/6 (+) Pair 2 Mid-span: 4/5 (+), 7/8 (-)
<b>Standards Conformance</b>		
<b>Standards Compliance</b>		IEEE 802.3 10BASE-T Ethernet IEEE 802.3u 100BASE-TX Fast Ethernet IEEE 802.3ab 1000BASE-T Gigabit Ethernet IEEE 802.3bt 4-pair Power over Ethernet IEEE 802.3at Power over Ethernet Plus IEEE 802.3af Power over Ethernet

<b>Regulatory Compliance</b>	FCC Part 15 Class A, CE
<b>Environment</b>	
<b>Operating Temperature</b>	0 ~ 50 degrees C
<b>Storage Temperature</b>	-10 ~ 70 degrees C
<b>Operating Humidity</b>	5 ~ 90%, relative humidity, non-condensing
<b>Storage Humidity</b>	5 ~ 90%, relative humidity, non-condensing
<b>Standard Accessories</b>	
<b>Package Contents</b>	<ul style="list-style-type: none"> <li>● POE-171A-95</li> <li>● User's manual</li> <li>● 100 ~ 240V AC-to-DC power adaptor</li> <li>● AC power cord</li> </ul>

### 3.3 PHYSICAL SPECIFICATIONS:

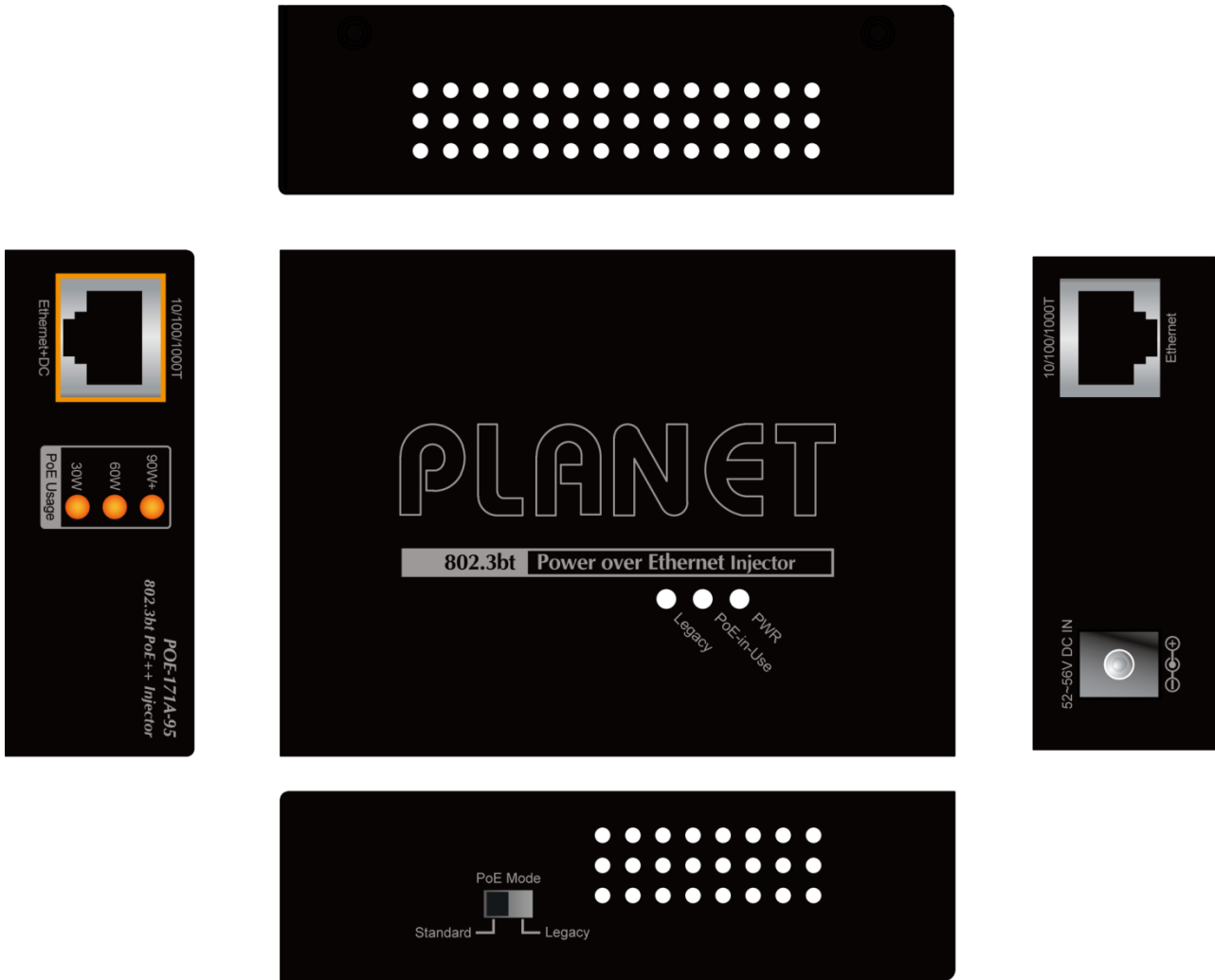
- **Dimensions (W x D x H)**  
94 x 70.3 x 26.2 mm
  
- **Weight**  
250g

■ **Diagram**



**Dimensions ( unit = mm )**

■ **Product Outlook**



■ **LED Indicators**

LED	Color	Function
PWR	Green	Lights to indicate the 802.3bt PoE injector has power.
PoE-in-Use	Orange	Lights to indicate the device is providing PoE power.
Legacy	Orange	Lights to indicate the device is working in Legacy mode.
PoE Usage	Orange	<ul style="list-style-type: none"> <li>● <b>Monitor DC input voltage:</b> When user powers on POE-171A injector series by DC adapter, the injector will detect the DC input voltage and then PoE Usage LED will flash three times. <b>30W:</b> Flashing three times means the DC input voltage is 48~51V. <b>60W:</b> Flashing three times means the DC input voltage is 52~54V. <b>90W+:</b> Flashing three times means the DC input voltage is 55~56V.</li> <li>● <b>Monitor power usage:</b> <b>30W:</b> 1. Off to indicate the PoE usage is less than 14W.</li> </ul>



		<ol style="list-style-type: none"> <li>2. Blinks to indicate that the PoE usage is around 15W to 29W.</li> <li>3. Lights to indicate the PoE usage is around 30W to 44W.</li> </ol> <p><b>60W:</b></p> <ol style="list-style-type: none"> <li>1. Blinks to indicate that the PoE usage is around 45W to 59W.</li> <li>2. Lights to indicate the PoE usage is around 60W to 74W.</li> </ol> <p><b>90W+:</b></p> <ol style="list-style-type: none"> <li>1. Blinks to indicate that the PoE usage is around 75W to 89W.</li> <li>2. Lights to indicate the PoE usage is maximum.</li> </ol>
--	--	--

■ **PoE Mode**

PoE Mode	Description
Standard	Fully conforms to the IEEE 802.3af/at/bt standard.
Legacy	The legacy detection is to identify the PD devices that do not fully follow the IEEE 802.3af/at/bt standard and their unique electrical signatures to enable the PoE injector to provide the power to those PD devices.

### 3.4 ENVIRONMENTAL SPECIFICATIONS

■ **Operating:**

**Temperature:** 0°C ~50 degrees C

**Relative Humidity:** 5% ~ 90% (non-condensing)

■ **Storage:**

**Temperature:** -10°C ~70 degrees C

**Relative Humidity:** 5% ~ 90% (non-condensing)

### 3.5 ELECTRICAL SPECIFICATIONS

#### Power over Ethernet Capability

■ **Power Requirement:**

DC 52-56V, 2.5A max.

■ **Input Voltage:**

DC 52~56V

### 3.6 REGULATORY COMPLIANCE

FCC Part 15 Class A, CE

### 3.7 RELIABILITY

MTBF > 50,000Hrs @ 25 degrees C

### 3.8 BASIC PACKAGING

- POE-171A-95 x 1
- User's Manual x 1
- 100 ~ 240V AC-to-DC Power Adaptor x 1
- AC Power Cord x 1

### 3.9 PACKING DIMENSIONS

**Box Dimensions (W x D x H):** 255 x 214 x 65 mm

**Weight:** 1000g

**Carton Dimensions (W x D x H):** 540 x 360 x 450 mm

**Carton Weight:** 20.5kg

**Quantity:** 20pcs in one carton