

Product Specifications

4-Port Multi-Gigabit 802.3bt PoE++ Injector Hub (160 watts)

UPOE-400

Version 1.0

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Change History:

Revision	Date	Author	Change List
Version 1.0	2020/7/21	Marc Liao	Initial release.

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Reviewed By:		Approved By:	Kent Kang

1. PRODUCT DESCRIPTION



Compact and Robust 802.3bt PoE++ Network Solution

PLANET UPOE-400 4-Port Multi-Gigabit 802.3bt PoE++ Injector Hub features four **10/100/1G/2.5G/5GBASE-T 90-watt 802.3bt type-4 PoE++ injector ports**. With a total PoE budget of 160 watts, it delivers 802.3bt PoE++ power over Ethernet UTP cables which allow data and power to transmit simultaneously to a remote 802.3bt/at powered device (PD). The UPOE-400 provides a quick, safe and cost-effective 802.3bt PoE++ network solution for small businesses and enterprises. It is designed to perfectly upgrade an existing network infrastructure to 802.3bt PoE++ network system without replacing the existing Ethernet switches. It enables the centralization of the power supply.

802.3bt PoE++ Meets High Power Demands of Powered Devices

As the UPOE-400 adopts the IEEE 802.3bt PoE++ standard and PoH technology, it is capable to source up to **90 watts** of power by using all the four pairs of standard Cat5e/6 Ethernet cabling to deliver power and full-speed data to each remote PoE compliant PD. It possesses triple amount of power capacity, when compared with that of the conventional 802.3at PoE+. It is an ideal solution to satisfy the growing demand for higher power consuming network PDs, such as:

- PoE PTZ speed dome cameras
- Network devices
- Thin clients
- AIO (all-in-one) touch PCs, point of sale (POS) and information kiosks
- Remote digital signage displays
- PoE lightings



Quick and Easy 802.3bt/at PoE Network Deployment

The UPOE-400 is installed between a regular Ethernet Switch and the PDs. Four ports are network (Ethernet) ports for data input while the other four ports are PoE++ ports for data and power output. Both power and data are transferred simultaneously over the UTP cables to various 802.3bt/at PDs without affecting the existing network performance and functions. With data and Power over Ethernet from one unit, the UPOE-400 can reduce power cable deployment and eliminate the need for dedicated electrical outlets on the wall, ceiling or any unreachable place.

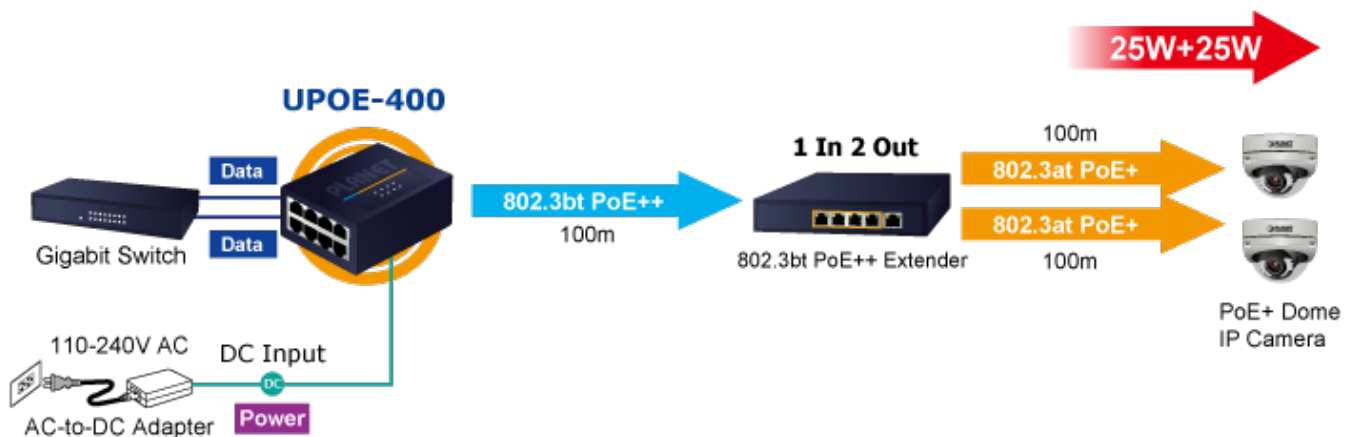
Intelligent LED Indicator for Power Input and Real-time PoE Usage

The UPOE-400 helps users to monitor the current status of power input and PoE power usage easily and efficiently via its advanced LED indication. The **"Power LED"** allows user to know the status of DC power input. The **"PoE Usage"** displayed on the front panel of the UPOE-400 has three amber LED indicators of different power usages indicating **50W**, **100W** and **160W**. Via the power usage LED, the UPOE-400 enables the administrator to monitor the status of the power usage of the connected PDs in real time.



High Power Budget for PoE Extension

With up to 90-watt PoE output capability, the UPOE-400 can extend much longer distance by using PLANET PoE Extender for powering up the PoE PD which can be installed over a distance of more than 100 meters.



2. PRODUCT FEATURES

➤ **Physical Ports**

- **Four 10/100/1G/2.5G/5GBASE-T** Gigabit RJ45 interfaces
 - 4-port **data + power input**
- **Four 10/100/1G/2.5G/5GBASE-T** Gigabit RJ45 interfaces
 - 4-port **data + power output**

➤ **Power Information**

- 1 DC power jack for +52-54V DC power input
- 100~240V AC, 50/60Hz, 3.33A universal power supply adapter with DC 52V~54V power output

➤ **Power over Ethernet**

- 4-port data + power output
 - Complies with 802.3bt Power over Ethernet Plus Plus end-span and mid-span PSE
 - Backward compatible with IEEE 802.3at Power over Ethernet Plus end-span/mid-span PSE
 - Up to 4 IEEE 802.3at/IEEE 802.3bt PoE devices powered
 - 4 PoE ports with built-in 90-watt 802.3bt PoE++ type 4 PSE or 95-watt PoH PoE injector function
 - 4 PoE ports support 802.3at end-span/mid-span PoE+ 36-watt injector function
 - DIP switch for 802.3bt, PoH and Force mode selection
 - Auto detects powered device (PD)
 - Circuit protection prevents power interference between ports
- Forwards both Ethernet **data** and **PoE** power to remote device over a 100-meter (328ft.) distance

➤ **LED Indicators**

- LED indicators for power LED
- LED indicators for per PoE port operation status
- LED indicators for PoE Usage status (50W, 100W and 160W)

➤ **Hardware**

- Metal case
- Wall-mount design and DIN-rail kit (optional)
- 0 to 50 degrees C operating temperature
- FCC Part 15 Class A, CE
- Plug and Play installation

3. PRODUCT SPECIFICATIONS

3.1 MAIN COMPONENTS

PSE PoE Manager	Microsemi PD69208T4 x 1
802.3bt PoE Controller Unit	Microsemi PD69200R x 1

3.2 FUNCTION SPECIFICATIONS

Model		UPOE-400
Hardware Specifications		
Copper Ports	“Data” Input Ports	4 x RJ45
	“Data + Power” Output Ports	4 x RJ45
LED Indicator	System: Power (Green) PoE-in-Use: 802.3bt/PoH (Green) 802.3at/af (Orange) PoE Usage: 50W/100W/160W (Amber)	
Data Rate	10/100/1000/2500/5000Mbps	
Power Requirements	DC 52~54V	
Power Consumption (Ethernet Full Loading)	System ON without loading AC 110V: 0.4watts/1.3BTU AC 220V: 0.3watts/1BTU Full loading with PoE AC 110V: 242watts/825BTU AC 220V: 236watts/805BTU	
DIP Switch	■ 802.3bt:90W PoE Output ■ PoH + Legacy: 95W PoE Output ■ Force: 60W PoE Output	
Dimensions (W x D x H)	94 x 70.3 x 39.2mm	
Weight	275g	
Enclosure	Metal case	
Installation	Wall-mount and DIN-rail kit (optional)	
Network Cable	Twisted-pair cable up to 100 meters (328ft) 10BASE-T: 4-pair UTP Cat. 3, 4, 5, 5e, 6 100BASE-TX: 4-pair UTP Cat. 5, 5e, 6 1000BASE-T: 4-pair UTP Cat. 5e, 6 2.5G/5GBASE-T: 4-pair UTP Cat.6, 6A,7	
Power over Ethernet		
PoE Standard	IEEE 802.3bt PoE++, 4-pair type 4 PSE Compatible with IEEE 802.3at PoE+ PSE	
PoE Power Supply Type	End-span + Mid-span	
Power Pin Assignment	End-span: 1/2 (-), 3/6 (+); Mid-span: 4/5 (+), 7/8 (-)	
PoE Power Budget (max.)	160 watts	
Number of devices that can be powered	4	
Standards Conformance		
Regulatory Compliance	FCC Part 15 Class A, CE	
Standards Compliance	IEEE 802.3 Ethernet IEEE 802.3u Fast Ethernet IEEE 802.3ab Gigabit Ethernet IEEE 802.3bz 2.5G/5GBASE-T IEEE 802.3af Power over Ethernet IEEE 802.3at Power over Ethernet Plus IEEE 802.3bt Power over Ethernet Plus Plus	

Environment	
Temperature	Operating: 0~50 degrees C Storage: -10~70 degrees C
Humidity (non-condensing)	Operating: 5~95% Storage: 5~95%

3.3 PHYSICAL SPECIFICATIONS

Dimensions:

94 x 70.3 x 39.2mm (W x D x H)

Weight:

275g

■ Product Outlook

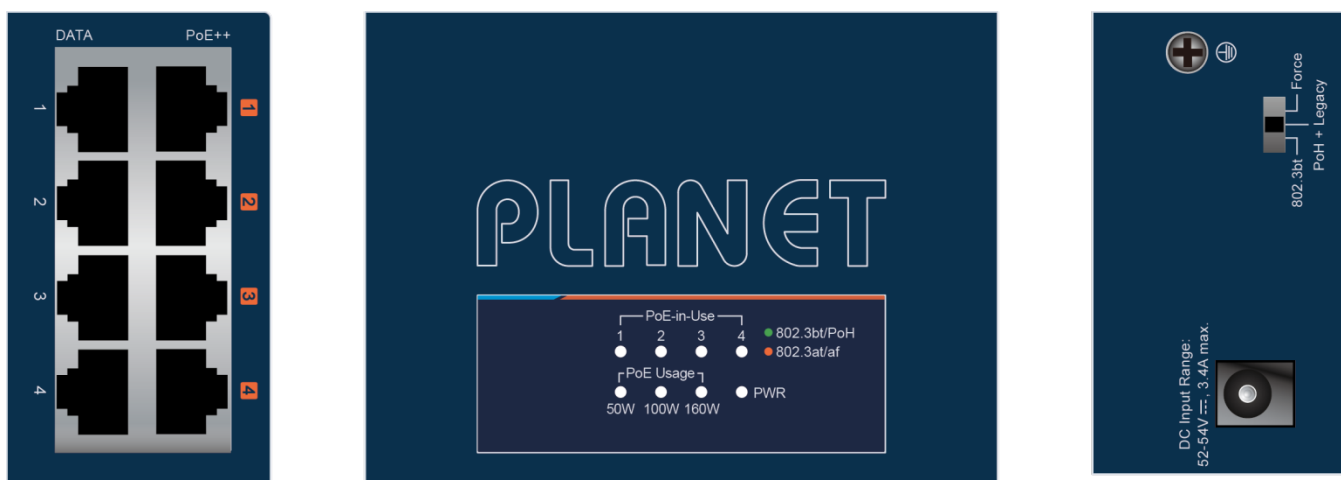


Figure 1: UPOE-400 Product Outlook View

■ Left Panel

The left panel of the UPOE-400 consists of four “Data” input ports and four “Data + Power” output ports within 10Mbps/100Mbps/1Gbps/2.5Gbps/5Gbps operating speed support.

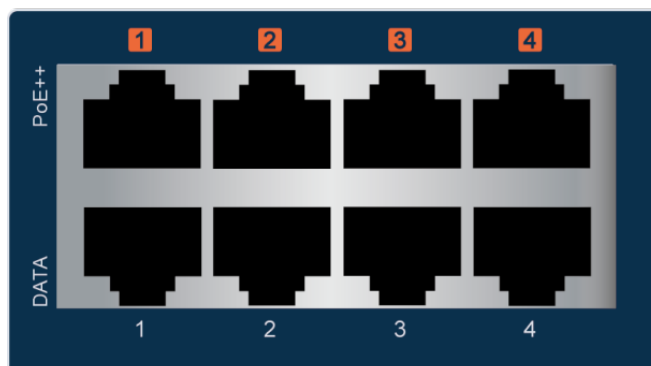


Figure 2: UPOE-400 Left Panel View

■ Front Panel

The front panel of the UPOE-400 consists of one power LED, four “**PoE-in-Use**” LEDs and three “**PoE Usage**” LEDs.

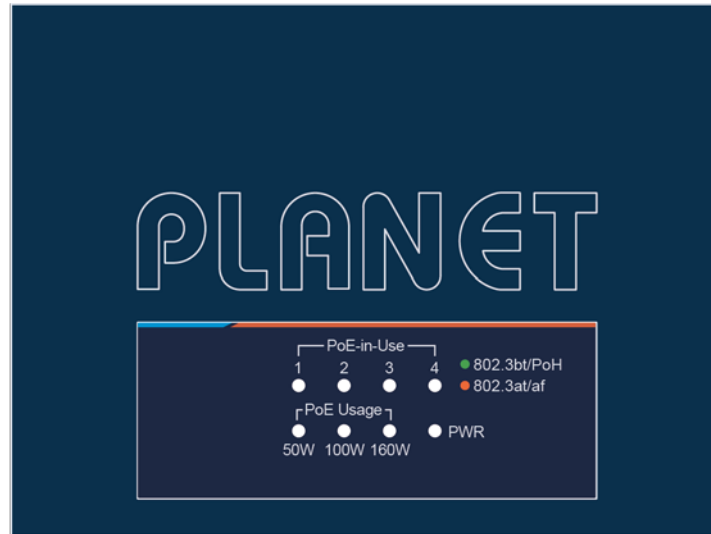


Figure 3: UPOE-400 Front Panel View

■ System LEDs

LED	Color	Function
PWR	Green	Lights to indicate UPOE-400 has power.
PoE Usage	Amber	50W, 100W, 160W Lights to indicate the system consumes over 50-/100-/160-watt PoE power budget. Blinks to indicate the system consumes less 50-/100-/160-watt PoE power budget.

■ 802.3bt PoE++ TP Interface LEDs

LED	Color	Function
PoE-in-Use	Green	Lights to indicate that the port is providing 802.3bt PoE++/PoH/ Force power to remote powered device.
		Off to indicate that the port is not providing PoE power to remote powered device.
	Amber	Lights to indicate that the port is providing 802.3af/at PoE+ power to remote powered device.
		Off to indicate that the port is not providing PoE power to remote powered device.

■ Right Panel

The right panel of the UPOE-400 consists of one DC power jack, one DIP switch for “802.3bt”, “PoH + Legacy” and “Force” modes selection, and one ground screw.



Figure 4: UPOE-400 Right Panel View

Power Information

The power jack of UPOE-400 measures 2.1mm in the central post and requires +52-54V DC power input.

DIP Switch Information

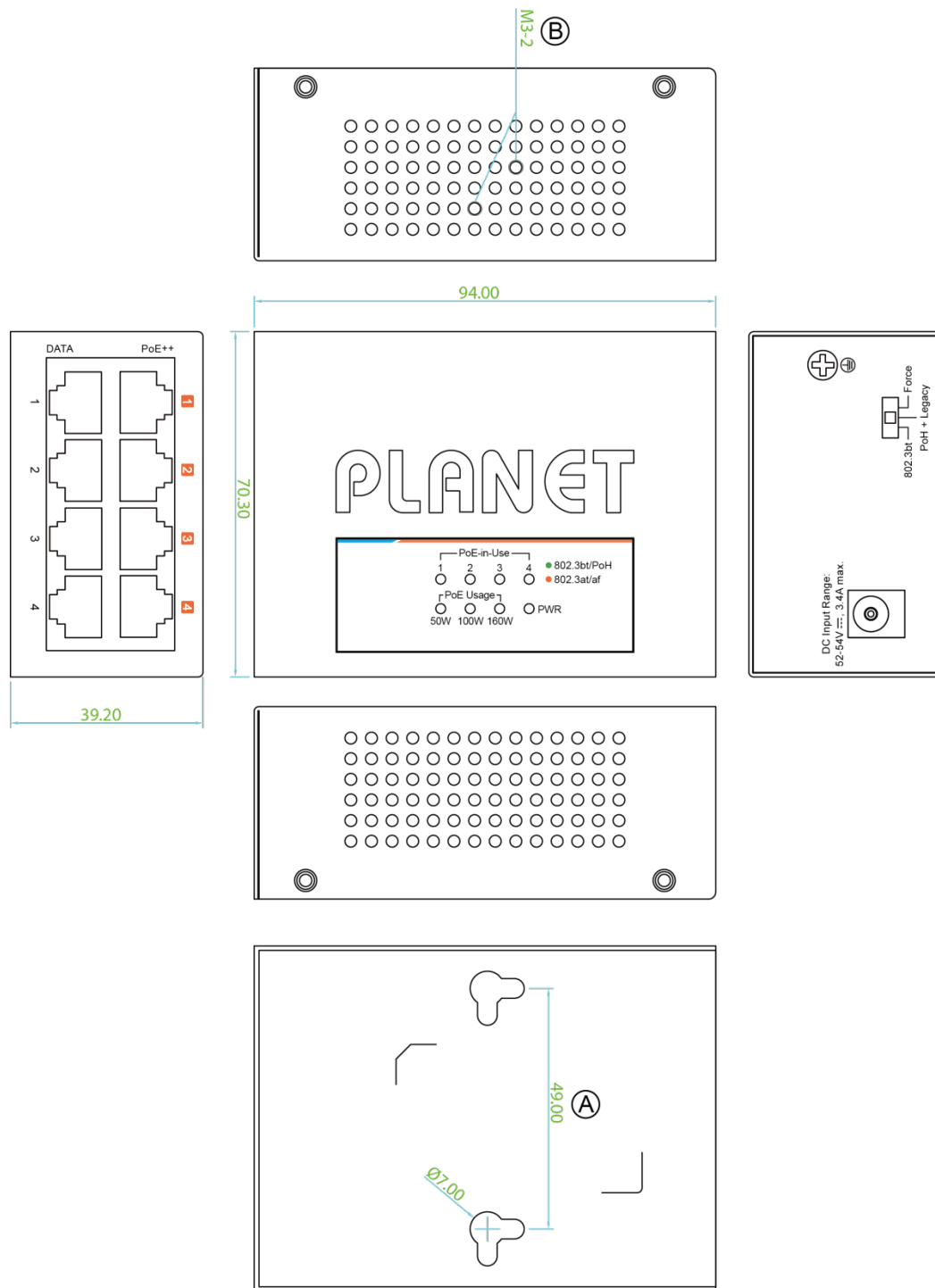
To meet the demand of various powered devices consuming stable PoE power, the UPOE-400 provides one DIP switch for three PoE operation mode options as shown in the following table.

DIP Switch Mode	Function
802.3bt	This mode makes the UPOE-400 operate as 90-watt 802.3bt PoE++ type 4 PSE.
PoH + Legacy	This mode makes the UPOE-400 operate as 95-watt PoH (Power over HD-BASE-T) PSE with Legacy function.
Force	This mode makes the UPOE-400 operate as 4-pair 60-watt force PoE PSE.

CAUTION:

1. Power off the PoE++ injector Hub before adjusting the DIP switch and then power it on.
2. Before connecting the “Data + Power” output port to powered device (PD), make sure that it accepts PoE input via DIP switch setting to prevent damage.
3. 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.
4. Before connecting the PoE++ injector Hub to your powered device (PD), please check to ensure that your powered device (PD) can accept 60-watt PoE power through pin 1/2 ((-) & 3/6 (+) and pin 4/5 (+) & 7/8 (-). Otherwise, it will damage your powered device (PD).

■ **Dimensions:**



Unit: mm

Figure 5: Dimensions of UPOE-400

Remark:

A: The distance between two wall mounting holes.

B: The holes for option DIN-Rail Kit mounting (RKE-DIN).

3.4 ENVIRONMENTAL SPECIFICATIONS

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 SPECIFICATION

Input Voltage: DC 52~54V

External Switch Adapter: DC 54V/180W, 3.33A

Power consumption:

■ **System on without any devices attached**

Input Voltage	110V/60Hz	220V/50Hz
Watt	0.4W	0.3W
BTU	1.3BTU	1BTU

■ **System on with Full Loading**

Input Voltage	110V/60Hz	220V/50Hz
Watt	242W	236W
BTU	825BTU	805BTU

3.6 REGULATORY COMPLIANCE

FCC Class A, CE.

3.7 RELIABILITY

MTBF > 50,000 hrs @ 25 degrees C

3.8 BASIC PACKAGING

■ UPOE-400	x 1
■ User's Manual	x 1
■ DC 54V/180W, 3.33A Switch Adapter	x 1
■ AC Power Cord	x 1

3.9 PACKING INFORMATION

Box Dimensions (W x D x H):	180 x 334 x 72 mm
Weight (with power supply):	1.25kg
Carton Dimensions (W x D x H):	580 x 360 x 305 mm
Carton Weight (with power supply):	15.0kg
Quantity:	12pcs in one carton