24-Port Gigabit 802.3bt PoE++ Managed Injector Hub (800 watts)


Ready to Deploy Next Generation IEEE 802.3bt PoE++ Standard

PLANET's newly-improved UPOE-2400G, a high-density, rack-mountable managed 802.3bt PoE++ Managed Injector Hub, features eight 10/100/1000BASE-T **90-watt 802.3bt type-4 PoE++ injector ports** and sixteen 10/100/1000BASE-T **60-watt 802.3bt type-3 PoE++ injector ports** with **PLANET intelligent PoE** functions through web user interface for remote management. With a total PoE budget of 800 watts, it delivers ultra 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-2400G 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 also enables centralization of the power supply and optimizes the installation and power management of remote network devices.
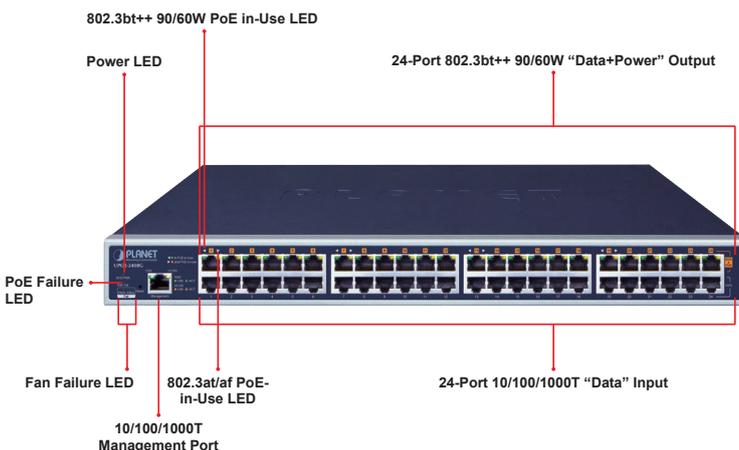
Interface

- 48-port RJ45
  - 24-port 10/100/1000Mbps **"Data input"**
  - 24-port 10/100/1000Mbps **"Data + Power output"**
- One 10/100/1000BASE-T management port

802.3bt Power over Ethernet

- Complies with IEEE 802.3bt Power over Ethernet Plus Plus
- Backward compatible with IEEE 802.3at Power over Ethernet Plus
- Up to 24 ports of IEEE 802.3at/IEEE 802.3bt PoE devices powered
- 8 PoE ports with built-in 802.3bt type-4 PoE 90W or ultra PoE 95-watt injector function (Port-1 to Port-8)
- 16 PoE ports with built-in 802.3bt type-3 PoE 60W or ultra PoE 72-watt injector function (Port-9 to Port-24)
- All PoE ports support 802.3at end-span/mid-span PoE 36W injector function
- Auto detects powered device (PD)
- Circuit protection prevents power interference between ports
- Remote power feeding up to 100 meters

PoE Management

- Per port PoE power schedule
- PoE function enable/disable
- Per port PoE function enable/disable
- Per port PoE operation mode selection
- PoE port power feeding priority
- PD classification detection
- Over temperature protection
- PD alive check
- PoE schedule

Management

- Web interface for remote management
- Supports Network Time Protocol (NTP)
- Firmware upgrade through Web interface
- PLANET Smart Discovery utility automatically finds PLANET devices on the network
- SNMP v1, v2c and v3 for system status monitoring
- SNMP trap for alarm notification of events

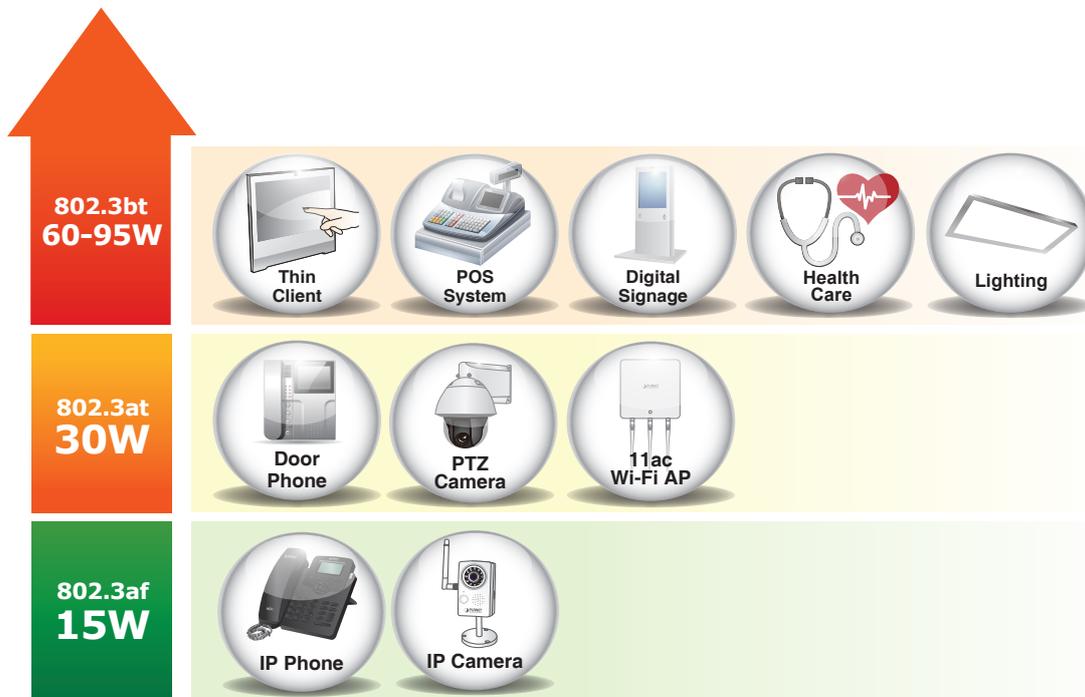## 802.3bt PoE++ – 60~95-watt Power over 4-pair UTP Solution

As the UPOE-2400G adopts the IEEE 802.bt PoE++ standard and PoH technology, it is capable to source up to **95 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 powered device (PD). It possesses triple amount of power capability than the conventional 802.3at PoE+ and 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

- System log/remote syslog

Hardware

- 19-inch rack mountable; 1U height
- Reset button for resetting to default setting and system reboot
- LED indicators for PoE ready and PoE activity
- LED indicators for power alert and fan alert

**802.3bt
60-95W**

Thin Client | POS System | Digital Signage | Health Care | Lighting

**802.3at
30W**

Door Phone | PTZ Camera | 11ac Wi-Fi AP
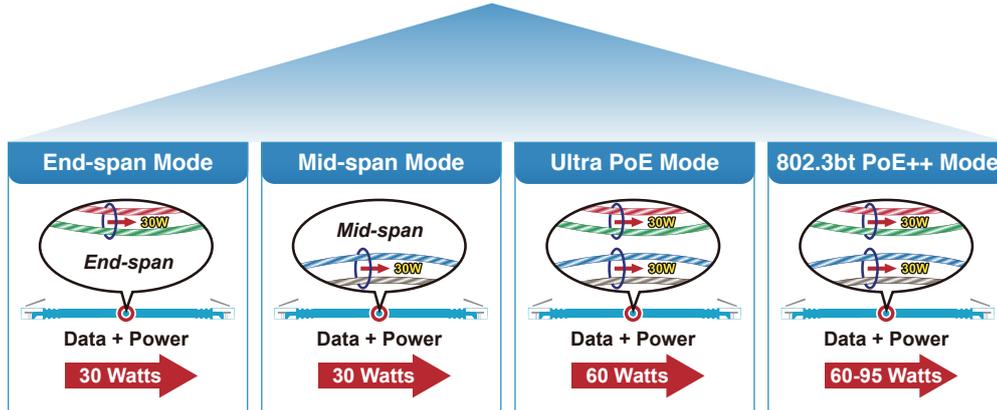
**802.3af
15W**

IP Phone | IP Camera

Advanced PoE Power Output Mode Management

To meet the demand of various powered devices consuming stable PoE power, the UPOE-2400G supports rich PoE operation modes including 90-watt 802.3bt type-4 PoE++ mode, 95-watt PoH (Power over HD-BASE-T) mode and 4-pair force mode to solve the incompatibility of non-standard 4-pair PoE PDs in the field.

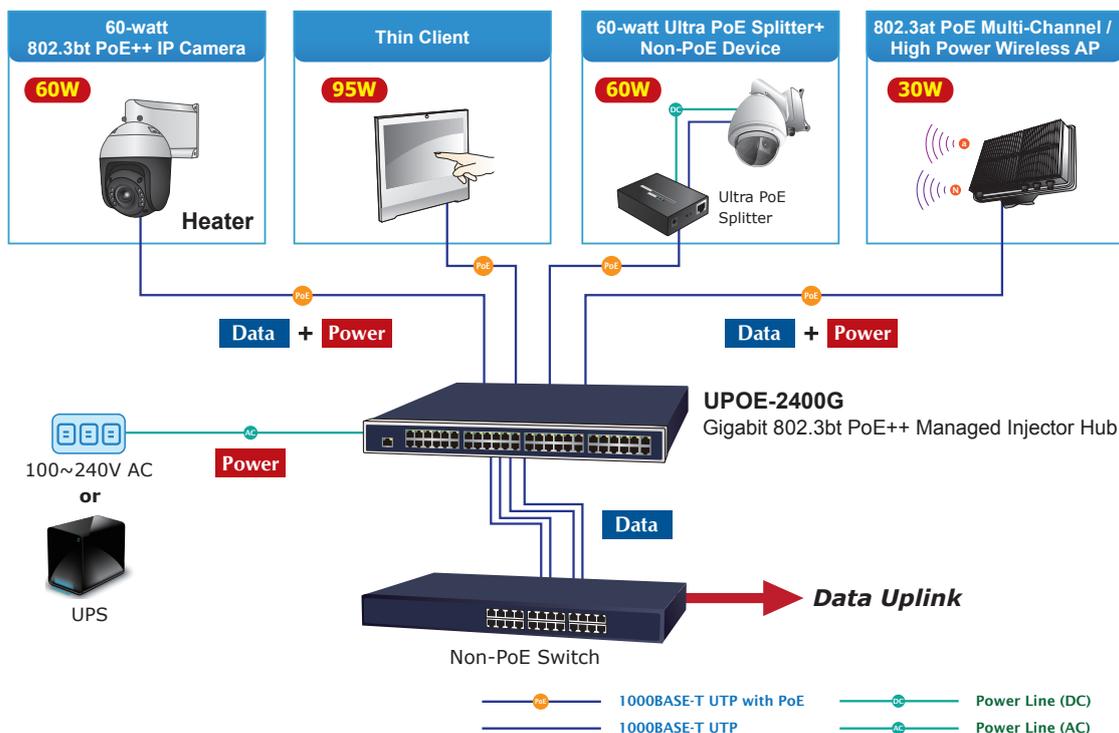| PoE Watts	PoE Operation Mode	Power Output Mode
95W	UPoE/PoH	(Pins 1, 2, 3, 6 + Pins 4, 5, 7, 8)
90W	802.3bt PoE++	(Pins 1, 2, 3, 6 + Pins 4, 5, 7, 8)
72W	UPoE/PoH	(Pins 1, 2, 3, 6 + Pins 4, 5, 7, 8)
60W	802.3bt PoE++	(Pins 1, 2, 3, 6 + Pins 4, 5, 7, 8)
60W	Force Power	(Pins 1, 2, 3, 6 + Pins 4, 5, 7, 8)
36W	End-span PoE	(Pins 1, 2, 3, 6)
36W	Mid-span PoE	(Pins 4, 5, 7, 8)

Selectable End-span/Mid-span/UPoE 802.3bt PoE++ Power Inline Mode

Port	Description	PoE Function	Schedule	Power Mode	Porce Power	Priority	Device Class	Current Used[mA]	Powered Used [W]	Power Limit [W]
1		Enable ▼	Profile 1 ▼	BT ▼	Off ▼	High ▼	--	0	0	90
2		Enable ▼	Profile 1 ▼	BT ▼	Off ▼	High ▼	--	0	0	90
3		Enable ▼	Profile 1 ▼	BT ▼	Off ▼	High ▼	--	0	0	90

Midspan
Endspan
UPOE
BT

End-span Mode	Mid-span Mode	Ultra PoE Mode	802.3bt PoE++ Mode
End-span	Mid-span		
Data + Power	Data + Power	Data + Power	Data + Power
30 Watts	30 Watts	60 Watts	60-95 Watts

Quick and Easy 802.3bt/at PoE Network Deployment

The UPOE-2400G is installed between a regular Ethernet Switch and the PDs. There are totally 48 RJ45 STP ports on the front panel of the UPOE-2400G, of which the 24 ports are on the lower stack functioned as "Data input" while the other 24 ports are on the upper stack functioned as "PoE (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.

60-watt 802.3bt PoE++ IP Camera 60W

Heater

Thin Client 95W

60-watt Ultra PoE Splitter+ Non-PoE Device 60W

Ultra PoE Splitter

802.3at PoE Multi-Channel / High Power Wireless AP 30W

Data + Power

Data + Power

UPOE-2400G
Gigabit 802.3bt PoE++ Managed Injector Hub

100~240V AC
or
UPS
Power

Data

Data Uplink

Non-PoE Switch

| | 1000BASE-T UTP with PoE | | Power Line (DC) |
| | 1000BASE-T UTP | | Power Line (AC) |

With data and Power over Ethernet from one unit, the UPOE-2400G can reduce power cable deployment and eliminate the need for dedicated electrical outlets on the wall, ceiling or any unreachable place.

User-friendly Web Management Interface

To efficiently manage the powered devices, the UPOE-2400G provides remote **Web management interface** in which administrators can control the system and PoE functions for powered devices. It can automatically detect the power status of each port and show messages on its Web management interface. These features also provide users with a cost-effective way to manage the device via Internet whenever they are at work or at home.

PoE Temperature Unit

1	2	3	4	5	6
68°C / 154°F	73°C / 163°F	46°C / 115°F	52°C / 126°F	54°C / 129°F	54°C / 129°F

Power Allocation — 104.4%

Port	Description	PoE Function	Schedule	Power Mode	Force Power	Priority	Device Class	Current Used [mA]	Powered Used [W]	Power Limit[W]
1		Enable ▼	Profile1 ▼	BT ▼	Off ▼	High ▼	8	1547	82.7	90
2		Enable ▼	Profile1 ▼	BT ▼	Off ▼	High ▼	8	1720	92	90
3		Enable ▼	Profile1 ▼	BT ▼	Off ▼	High ▼	8	1737	92.9	90
4		Enable ▼	Profile1 ▼	BT ▼	Off ▼	High ▼	8	1710	91.4	90
5		Enable ▼	Profile1 ▼	BT ▼	Off ▼	High ▼	8	1535	82.1	90
6		Enable ▼	Profile1 ▼	BT ▼	Off ▼	High ▼	8	1710	91.4	90
7		Enable ▼	Profile1 ▼	BT ▼	Off ▼	High ▼	8	1146	61.3	90
8		Enable ▼	Profile1 ▼	BT ▼	Off ▼	High ▼	4	462	24.7	90
9		Enable ▼	Profile1 ▼	BT ▼	Off ▼	High ▼	4	492	26.3	60
10		Enable ▼	Profile1 ▼	BT ▼	Off ▼	High ▼	4	240	12.8	60
11		Enable ▼	Profile1 ▼	BT ▼	Off ▼	High ▼	4	236	12.6	60
12		Enable ▼	Profile1 ▼	BT ▼	Off ▼	High ▼	4	237	12.6	60
13		Enable ▼	Profile1 ▼	BT ▼	Off ▼	High ▼	4	500	26.7	60
14		Enable ▼	Profile1 ▼	BT ▼	Off ▼	High ▼	4	520	27.8	60
15		Enable ▼	Profile1 ▼	BT ▼	Off ▼	High ▼	4	508	27.1	60
16		Enable ▼	Profile1 ▼	BT ▼	Off ▼	High ▼	3	62	3.3	60
17		Enable ▼	Profile1 ▼	BT ▼	Off ▼	High ▼	3	164	8.7	60
18		Enable ▼	Profile1 ▼	BT ▼	Off ▼	High ▼	--	0	0	60
19		Enable ▼	Profile1 ▼	BT ▼	Off ▼	High ▼	--	0	0	60
20		Enable ▼	Profile1 ▼	BT ▼	Off ▼	High ▼	--	0	0	60
21		Enable ▼	Profile1 ▼	BT ▼	Off ▼	High ▼	--	0	0	60
22		Enable ▼	Profile1 ▼	BT ▼	Off ▼	High ▼	--	0	0	60
23		Enable ▼	Profile1 ▼	BT ▼	Off ▼	High ▼	--	0	0	60
24		Enable ▼	Profile1 ▼	BT ▼	Off ▼	High ▼	6	1095	58.5	60
Total								15621	835	

Apply Refresh Auto Refresh ☐

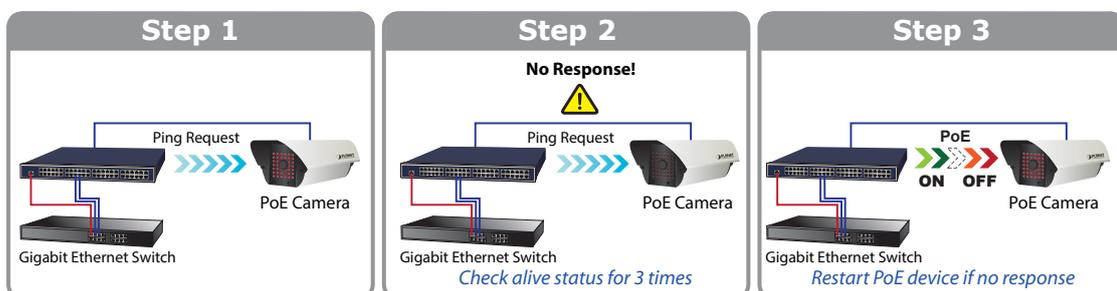## Built-in Unique PoE Functions for Powered Device Management

As it is the managed PoE++ Injector Hub for VoIP, wireless and surveillance networks, the UPOE-2400G features the following special PoE management functions:

- PoE schedule
- PD alive check
- Scheduled power recycling
- BT, UPoE, end-span, mid-span or force mode selectable in PoE Power Output Mode
- PoE usage monitoring
- Over temperature protection

Intelligent Powered Device Alive Check

PLANET's Managed PoE products adopt not only Power over Ethernet technology, but also automated PD monitoring and real-time PoE status. The UPOE-2400G can be configured to monitor connected PD's status in real time via ping action through the uplinked Ethernet switch. Once the PD stops working and responding, the UPOE-2400G will recycle the PoE port power and bring the PD back to work. It also will greatly enhance the network reliability in that the PoE port will reset the PD power, thus reducing administrator's management burden.

PoE PD Alive Check

| Step 1	Step 2	Step 3
Ping Request → PoE Camera / Gigabit Ethernet Switch	No Response! ⚠ Ping Request → PoE Camera / Gigabit Ethernet Switch / Check alive status for 3 times	PoE ON OFF → PoE Camera / Gigabit Ethernet Switch / Restart PoE device if no response

PoE Schedule for Energy Savings

Under the trend of energy saving worldwide and contributing to environmental protection on the Earth, the UPOE-2400G can effectively control the power supply besides its capability of giving high watts power. The built-in **"PoE schedule"** function helps you to enable or disable PoE power feeding for each PoE port during specified time intervals and it is a powerful function to help SMBs or enterprises save power and money. It also increases security by powering off PDs that should not be in use during non-business hours.
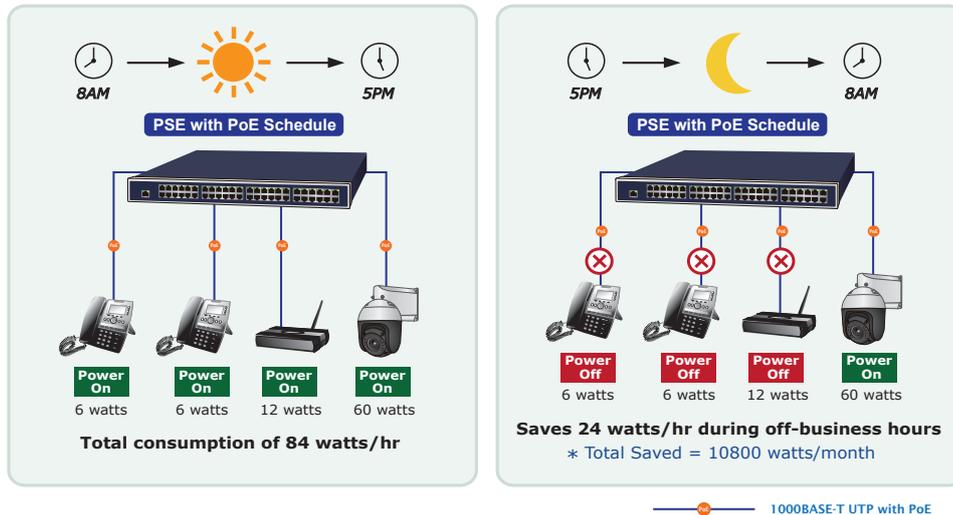
Scheduled Power Recycling

The UPOE-2400G allows each of the connected PoE IP cameras or PoE wireless access points to reboot at a specific time each week. Therefore, it will reduce the chance of IP camera or AP crash resulting from buffer overflow.
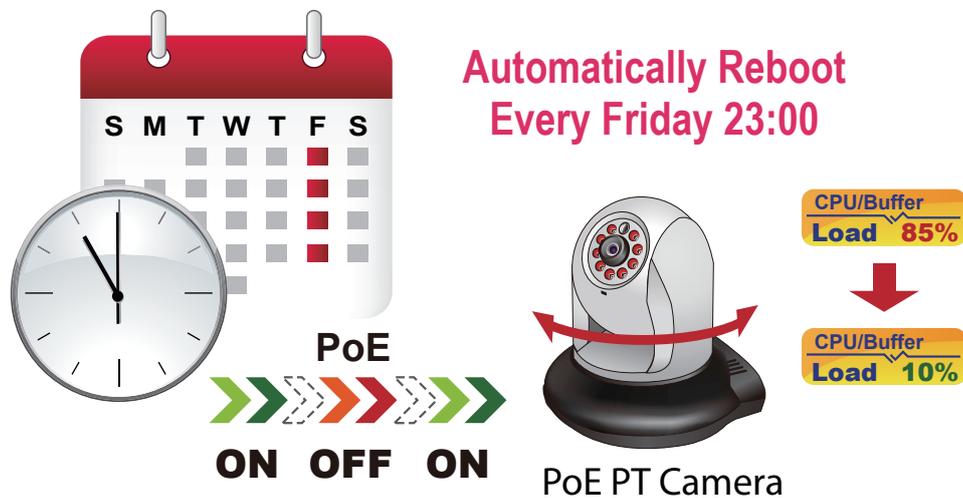
PoE Usage Monitoring

Via the power usage chart in the web management interface, the UPOE-2400G 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 95-watt PoE output capability, the UPOE-2400G can extend much longer distance by using PLANET PoE Extender for powering up the PoE PD which can be installed over more than 100 meters away. By daisy-chaining multiple PLANET PoE Extenders, it offers the great flexibility of doubling, tripling or quadrupling the distance of PoE network.

Smart Fan Design for Silent Operation

The UPOE-2400G features a low noise design and an effective ventilation system. It supports the smart fan technology that automatically controls the speed of the built-in fan to reduce noise and maintain the temperature of the 802.3bt PoE++ Managed Injector Hub for optimal power output capability. The UPOE-2400G is able to operate reliably, stably and quietly in any environment without affecting its performance.

Applications

Gigabit PoE++ and PoE+ Network Deployment

The UPOE-2400G provides the easiest way to power your Ethernet devices such as IP camera on the ceiling and the wireless access point installed on the top of the building. With 24 10/100/1000BASE-T Gigabit Ethernet ports, the UPOE-2400G supports full 54V DC power for any remote IEEE 802.3at/IEEE 802.3bt powered device (PD).

To control the power system of your networking devices, the UPOE-2400G can directly co-work with network devices such as PoE IP phone to build VoIP telephony network in the office. The 802.3bt PoE++ injector hub can be directly connected to any third-party IEEE 802.3bt and 802.3at PoE compliant devices installed within 100 meters. Furthermore, the UPOE-2400G can extend much longer distance by using PLANET PoE Extender for powering up the PoE PD which can be installed over more than 100 meters away.

Specifications

Product	UPOE-2400G	
Hardware		
Interface	"Data" Input Ports	24 x RJ45
	"Data + Power" Output Ports	24 x RJ45
	Management Port	1 x RJ45; 10/100/1000BASE-T, auto-negotiation, auto-MDI/MDIX
Data Rate		10/100/1000Mbps
LED		System: SYS PWR x 1 (**green**) PoE Failure x 1 (**red**) Fan Failure x 2 (**red**) Management port x 2: 1000 (**green**), 10/100(**orange**) Per PoE Port: 802.3bt/UPoE PoE-in-use x 1 (**green**) 802.3at PoE-in-use x1 (**orange**)
Power Requirements		100-240V AC, 50/60 Hz, 15A
Power Consumption		1000 watts (max.)/3412BTU
Ventilation		Fan x 3
Dimensions (W x D x H)		440 x 300 x 44.5 mm, 1U height
Enclosure		Metal
Weight		5.5kg
Power over Ethernet		
PoE Standard		802.3bt PoE++ PSE Backward compatible with IEEE 802.3at PoE PSE
PoE Power Supply Type		■ 802.3bt ■ UPoE ■ End-span ■ Mid-span ■ Force
Power Pin Assignment		■ 802.3bt: 1/2(-), 3/6(+), 4/5(+), 7/8(-) ■ UPoE: 1/2(-), 3/6(+), 4/5(+), 7/8(-) ■ End-span: 1/2(-), 3/6(+) ■ Mid-span: 4/5(+), 7/8(-)
PoE Power Budget		800 watts (max.)
Number of 90W 802.3bt Type-4 PDs		8
Number of 60W 802.3bt Type-3 PDs		13
Number of 802.3at PDs		24
Management		
Management Interface		Web, PLANET Smart Discovery Utility
Management Feature		Setup of system/management functions Web firmware upgrade SNMP trap for alarm notification of events
PoE Management		Power limit by consumption PoE admin mode Per port power schedule Per port power enable/disable Per port PoE operation mode selection Power feeding priority Over temperature protection Current per port usage and status Total power consumption PD alive check Scheduled power recycling
Standards Conformance		
Regulatory Compliance		FCC Part 15 Class A, CE
Standards Compliance		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 802.3bt Power over Ethernet Plus Plus RFC 768: UDP RFC 791: IP RFC 2068 HTTP RFC 1157: SNMP v1 RFC 1902: SNMP v2c RFC 2273: SNMPv3 RFC 5424: Syslog

Network Cable	10BASE-T: 4-pair UTP Cat5 up to 100m (328ft)
	100BASE-TX: 4-pair UTP Cat5 up to 100m (328ft)
	1000BASE-T: 4-pair UTP Cat5e/6 up to 100m (328ft)
	EIA/TIA- 568 100-ohm STP (100m)
Standards Conformance	
Operating	Temperature: 0 ~ 50 degrees C
	Relative Humidity: 5 ~ 90% (non-condensing)
Storage	Temperature: -10 ~ 70 degrees C
	Relative Humidity: 5 ~ 90% (non-condensing)

Ordering Information

| UPOE-2400G | 24-Port Gigabit 802.3bt PoE++ Managed Injector Hub (800 watts) |

PLANET Technology Corporation

11F., No.96, Minquan Rd., Xindian Dist., New Taipei City 231, Taiwan (R.O.C.)
Tel: 886-2-2219-9518   Fax: 886-2-2219-9528
Email: sales@planet.com.tw   www.planet.com.tw

FC CE