1. Package Contents

Thank you for purchasing PLANET 16-/24-Port 10/100/1000T 802.3at PoE+ Ethernet Switches, GSW-1820HP and GSW-2620HP. **"802.3at PoE+ Switches"** mentioned in this Guide refers to the GSW-1820HP and GSW-2620HP.

Open the box of the 802.3at PoE+ Switches and carefully unpack it. The box should contain the following items:

The 802.3at PoE+ Switch x 1	User's Manual x 1	Power Cord x 1
SFP Dust Cap x 2	Screws x 8	Rack-mounting Brackets x 2	Rubber Feet x 4

If any of these pieces are missing or damaged, please contact your dealer immediately; if possible, retain the carton including the original packing material, and use them again to repack the product in case there is a need to return it to us for repair.

- 1 -

2. Product Features

➢ Physical Port
  ■ **16-/24-port 10/100/1000BASE-T** Gigabit RJ45 copper
  ■ **2 1000BASE-X** SFP slots
➢ Power over Ethernet
  ■ Complies with IEEE 802.3af/at Power over Ethernet end-span PSE
  ■ Up to 16/24 ports of IEEE 802.3af / 802.3at devices powered
  ■ Supports PoE power up to 30 watts for each PoE port, all power up to 240W PoE budget.
  ■ Each port supports 54V DC power to PoE powered device
  ■ Auto detects powered device (PD)
  ■ Circuit protection prevents power interference between ports
  ■ Remote power feeding up to 100m in standard mode with 250m in extend mode
➢ Switching
  ■ Hardware-based 10/100/1000Mbps auto-negotiation and auto MDI/MDI-X
  ■ Supports IEEE 802.3x flow control for Full-duplex Mode and back-pressure for Half-duplex Mode
  ■ Integrates address look-up engine, supporting 8K absolute MAC addresses
  ■ 9K jumbo frame supports all speeds (10/100/1000Mbps)
  ■ IEEE 802.1Q VLAN transparency
  ◆ Hardware-based DIP switch for **Standard, VLAN** and **Extend** mode selection;
    ◆ **VLAN mode:**
      ➢ For **GSW-1820HP**:
        - Ports 1 to 14 will isolate respectively.
        - Ports 1 to 14 can only communicate with ports 15~16 (uplink ports) and SFP ports 17~18.

- 2 -

➢ For **GSW-2620HP**:
  - Ports 1 to 22 will isolate respectively.
  - Ports 1 to 22 can only communicate with ports 23~24 (uplink ports) and SFP ports 25~26
◆ **Extend mode:** Ports 1 to 8 have a data rate of 10Mbps; the farthest transmission distance up to 250 meters and all ports can communicate with each other.
■ The DIP switch can isolate ports to prevent broadcast storm and defend DHCP spoofing
■ Automatic address learning and address aging
■ Supports Energy-Efficient Ethernet (EEE) function (IEEE 802.3az)
➢ Hardware
  ■ 19-inch rack-mount size, 1U height
  ■ LED indicators for system power, per port PoE ready and PoE activity, speed, Link/Act
  ■ Ethernet Link Energy-saving technology
    - Link down power saving
    - Intelligent scale power based on cable length

3. Product Specifications

Model	GSW-1820HP	GSW-2620HP
Hardware Specifications		
10/100/1000BASE-T Copper Ports	16 auto-MDI/MDI-X ports	24 auto-MDI/MDI-X ports
802.3af/802.3at PoE+ Injector Ports	16	24
1000BASE-X SFP Ports	2	2

- 3 -

DIP Switch	Selectable operation mode ➢ Standard ➢ VLAN ➢ Extend	
Dimensions (W x D x H)	440 x 208 x 44 mm (1U height)	
Enclosure	Metal	
Weight	2.55kg	2.79kg
Power Requirements	100~240V AC, 50/60Hz, 3A max.	100~240V AC, 50/60Hz, 3A max.
Power Consumption/ Dissipation	Max. 275 watts/938 BTU	Max. 282 watts/962 BTU
Thermal Fan	2	
LED	➢ **System:** Power (Green) ➢ **10/100/1000T RJ45 Interfaces** 1000 LNK/ACT (Green), 10/100 LNK/ACT (Amber), PoE (Amber) ➢ **1000X SFP Interfaces** 1000 LNK/ACT (Green)	
Switching Specifications		
Switch Architecture	Store-and-Forward	
Switch Fabric	36Gbps/non-blocking	52Gbps/non-blocking
Switch Throughput@64bytes	26.8Mpps	38.7Mpps
MAC Address Table	8K entries	
Jumbo Frame	9216 bytes	
Flow Control	IEEE 802.3x pause frame for full duplex; back pressure for half duplex	

- 4 -

Power over Ethernet		
PoE Standard	IEEE 802.3at Power over Ethernet Plus/PSE	
PoE Power Supply Type	End-span: 1/2 (+), 3/6 (-)	End-span: 1/2 (+), 3/6 (-)
PoE Power Output	Per port 54V DC, 300mA. max. 15.4 watts (IEEE 802.3af) Per port 54V DC, 600mA. max. 30 watts (IEEE 802.3at)	
PoE Power Budget	240 watts	
Number of PDs, 7 watts	16	24
Number of PDs, 15.4 watts	15	15
Number of PDs, 30 watts	8	8
Standards Conformance		
Regulatory Compliance	FCC Part 15 Class A, CE	
Standards Compliance	IEEE 802.3 10BASE-T IEEE 802.3u 100BASE-TX IEEE 802.3ab Gigabit 1000BASE-T IEEE 802.3z Gigabit SX/LX IEEE 802.3x flow control and back pressure IEEE 802.3af Power over Ethernet IEEE 802.3at Power over Ethernet Plus IEEE 802.3az Energy-Efficient Ethernet	
Environment		
Operating	Temperature: 0 ~ 50 degrees C Relative Humidity: 5 ~ 95% (non-condensing)	
Storage	Temperature: -10 ~ 70 degrees C Relative Humidity: 5 ~ 95% (non-condensing)	

- 5 -

4. Hardware Introduction

4.1 Front Panel

The Front Panel of the 802.3at PoE+ Switch consists of 16/24 auto-sensing 10/100/1000Mbps Ethernet RJ45 ports. The LED Indicators are also located on the front panel of the 802.3at PoE+ Switch.

Figure 4-1: GSW-1820HP Switch Front Panel

Figure 4-2: GSW-2620HP Switch Front Panel

4.2 LED Indicators

■ System

LED	Color	Function
PWR	Green	**Lights** to indicate the Switch has power.

- 6 -

■ Per 10/100/1000BASE-T Port

LED	Color	Function
1000 LNK/ACT	Green	**Lights** to indicate the link through that port is successfully established at 1000Mbps. **Blinks** to indicate that the Switch is actively sending or receiving data over that port.
10/100 LNK/ACT	Amber	**Lights** to indicate the link through that port is successfully established at 10/100Mbps. **Blinks** to indicate that the Switch is actively sending or receiving data over that port.
PoE in Use	Amber	**Lights** to indicate the port is providing 54V DC in-line power.

■ Per 1000BASE-X SFP Interface

LED	Color	Function
1000 LNK/ACT	Green	**Lights** to indicate the link through that port is successfully established at 1000Mbps. **Blinks** to indicate that the Switch is actively sending or receiving data over that port.

4.3 Multiple Functions of DIP Switch

The front panel of the 802.3at PoE+ Switch provides one DIP switch for **Standard**, **VLAN** and **Extend** mode selections. The detailed descriptions are shown in the following table.
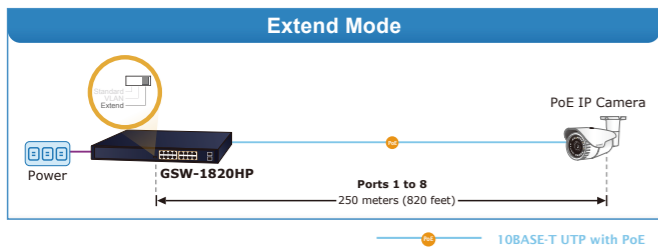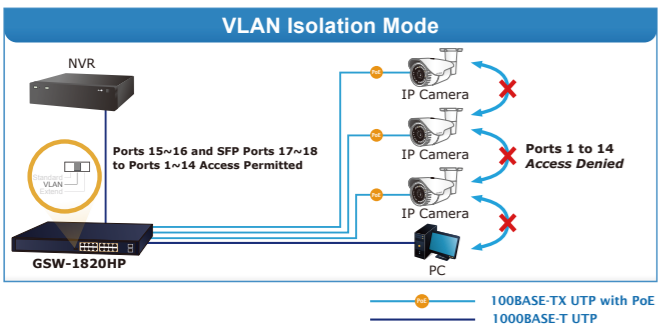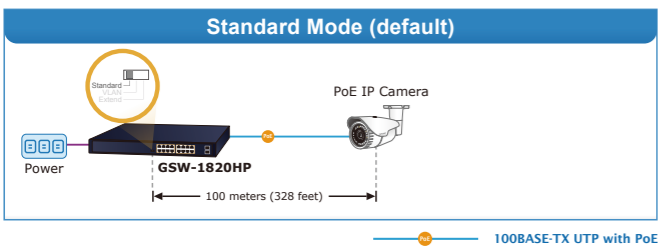
- 7 -

DIP Switch Mode	Function
Standard VLAN Extend	This mode makes the 802.3at PoE+ Switch operate as a general switch and all PoE ports operate at 10/100/1000Mbps auto-negotiation. All ports can communicate with one another.
Standard VLAN Extend	This mode makes the 802.3at PoE+ Switch operate as a **VLAN isolation** switch and For GSW-1820HP: 1. Ports 1 to 14 will isolate respectively. 2. Ports 1 to 14 can only communicate with ports 15~16 (uplink ports) and SFP ports 17~18. For GSW-2620HP: 1. Ports 1 to 22 will isolate respectivelyy. 2. Ports 1 to 22 can only communicate with ports 23~24 (uplink ports) and SFP ports 25~26.
Standard VLAN Extend	This mode makes the 802.3at PoE+ Switch operate as a Long Reach PoE switch and 1. Ports 1 to 8 support farthest transmission distance of up to 250 meters 2. Ports 1 to 8 have a data rate of 10Mbps 3. All ports can communicate with one another.

Note: Please adjust the DIP switch before powering on the 802.3at PoE+ Switch.

- 8 -

Standard Mode (default)

Power — GSW-1820HP — PoE IP Camera

100 meters (328 feet)

— 100BASE-TX UTP with PoE

VLAN Isolation Mode

NVR

Ports 15~16 and SFP Ports 17~18 to Ports 1~14 Access Permitted

GSW-1820HP

IP Camera
IP Camera — Ports 1 to 14 Access Denied
IP Camera

VLAN

PC

— 100BASE-TX UTP with PoE
— 1000BASE-T UTP

Extend Mode

Power — GSW-1820HP — PoE IP Camera

Ports 1 to 8
250 meters (820 feet)

— 10BASE-T UTP with PoE

4.4 Rear Panel

The rear panel of the 802.3at PoE+ Switch indicates an AC power socket, which accepts input power from 100 to 240V AC, 50-60Hz, 3A.
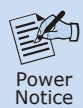

Figure 4-3: GSW-1820HP Switch Rear Panel

Figure 4-4: GSW-2620HP Switch Rear Panel

■ AC Power Receptacle

Power Notice	The device is a power-required device, which means it will not work till it is powered. If your networks should be active all the time, please consider using UPS (Uninterrupted Power Supply) for your device. It will prevent you from network data loss or network downtime.
Power Notice	In some areas, installing a surge suppression device may also help to protect your 802.3at PoE+ Switch from being damaged by unregulated surge or current to the 802.3at PoE+ Switch or the power adapter.

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5. Hardware Installation

5.1 Rack Mounting

To install the 802.3at PoE+ Switch in a 19-inch standard rack, follow the instructions described below.

Step 1: Place your 802.3at PoE+ Switch on a hard flat surface, with the front panel positioned towards your front side.

Step 2: Attach a rack-mount bracket to each side of the 802.3at PoE+ Switch with supplied screws attached to the package. Figure 5-1 shows how to attach brackets to one side of the 802.3at PoE+ Switch.
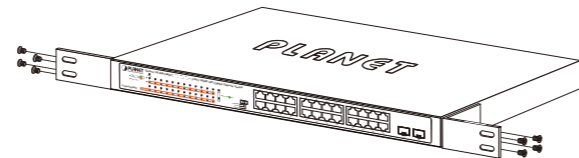

Figure 5-1: Attaching the Brackets to the 802.3at PoE+ Switch.

⚠ Caution	You must use the screws supplied with the mounting brackets. Damage caused to the parts by using incorrect screws would invalidate the warranty.

Step 3: Secure the brackets tightly.

Step 4: Follow the same steps to attach the second bracket to the opposite side.

Step 5: After the brackets are attached to the 802.3at PoE+ Switch, use suitable screws to securely attach the brackets to the rack, as shown in Figure 5-2.
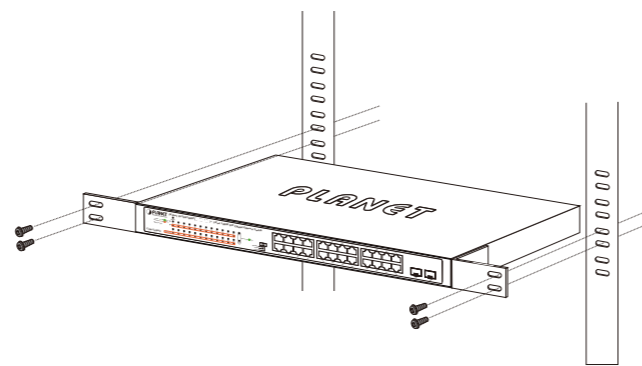

Figure 5-2: Mounting the 802.3at PoE+ Switch in a Rack

Step 6: Connect your 802.3at PoE+ Switch to 802.3af/802.3at complied PDs and other network devices.

A. Connect one end of a standard network cable to the 10/100/1000BASE-T RJ45 ports on the front panel of the 802.3at PoE+ Switch.

B. Connect the other end of the cable to the network devices such as printer servers, workstations or routers, etc.

Step 7: Supply power to the 802.3at PoE+ Switch.

A. Connect one end of the power cable to the 802.3at PoE+ Switch.

B. Connect the power plug of the power cable to a standard wall outlet.

When the 802.3at PoE+ Switch receives power, the power LED should remain solid Green.

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www.PLANET.com.tw

16/24-Port 10/100/1000T 802.3at PoE + 2-Port 1000X SFP Gigabit Ethernet Switch

GSW-1820HP/GSW-2620HP

5.2 Installing the SFP Transceiver

The sections describe how to insert an SFP transceiver into an SFP slot of the 802.3at PoE+ Switch.

The SFP transceivers are hot-pluggable and hot-swappable. You can plug in and out the transceiver to/from any SFP port without having to power down the 802.3at PoE+ Switch, as Figure 5-3 shows.
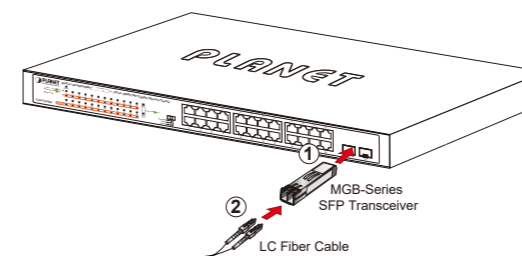

①
② MGB-Series SFP Transceiver
LC Fiber Cable

Figure 5-3: Plug In the SFP Transceiver

■ Approved PLANET SFP Transceivers

PLANET 802.3at PoE+ Switch supports both single mode and multi-mode SFP transceivers. The website link of approved PLANET SFP transceivers is shown below:
http://www.planet.com.tw/en/product/product.php?id=11027

Note	It is recommended to use PLANET SFP on the 802.3at PoE+ Switch. If you insert an SFP transceiver that is not supported, the 802.3at PoE+ Switch will not recognize it.

1. Before we connect the 802.3at PoE+ Switch to the other network device, we have to make sure both sides of the SFP transceivers are with the same media type, for example, 1000BASE-SX to 1000BASE-SX; 1000BASE-LX to 1000BASE-LX.

2. Check whether the fiber-optic cable type matches with the SFP transceiver requirement.

   ➢ To connect to 1000BASE-SX SFP transceiver, please use the multi-mode fiber cable with one side being the male duplex LC connector type.

   ➢ To connect to 1000BASE-LX SFP transceiver, please use the single-mode fiber cable with one side being the male duplex LC connector type.

Customer Support

Thank you for purchasing PLANET products. You can browse our online FAQ resource on PLANET Web site first to check if it could solve your issue. If you need more support information, please contact PLANET support team.

PLANET online FAQs:
https://www.planet.com.tw/en/support/faq

Support team mail address
support@planet.com.tw