








1. Package Contents

Thank you for purchasing PLANET 16-Port 10/100TX 802.3at PoE + 2-Port 10/100/1000T + 1-Port shared 1000X SFP Desktop Switch, FGSD-1821P. "802.3at PoE+ Switch" mentioned in this Guide refers to the FGSD-1821P.

Open the box of the 802.3at PoE+ Switch 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 1	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.

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2. Hardware Introduction

2.1 Front Panel

The front panel of the 802.3at PoE+ Switch consists of 16 auto-sensing 10/100BASE-TX RJ45 ports, 2 auto-sensing 10/100/1000BASE-X RJ45 ports and 1 1000BASE-X SFP port. The LED Indicators are also located on the front panel of the 802.3at PoE+ Switch.

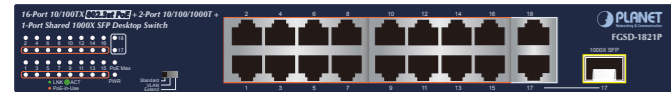


Figure 2-1: FGSD-1821P Switch Front Panel

2.2 LED Indicators

■ System

LED	Color	Function
PWR	Green	Lights to indicate the Switch has power.
PoE (max.)	Green	Off to indicate the PoE power is less than 80% of total power. Lights to indicate the PoE power is above 80%.

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■ Per 10/100BASE-TX Port

LED	Color	Function
10/100 LNK/ACT	Green	Lights to indicate the link through that port is successfully established. 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 PoE DC in-line power.

■ Per 10/100/1000BASE-T Port

LED	Color	Function
10/100/1000 LNK/ACT	Green	Lights to indicate the link through that port is successfully established. Blinks to indicate that the Switch is actively sending or receiving data over that port.




■ Per 1000BASE-X SFP 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.

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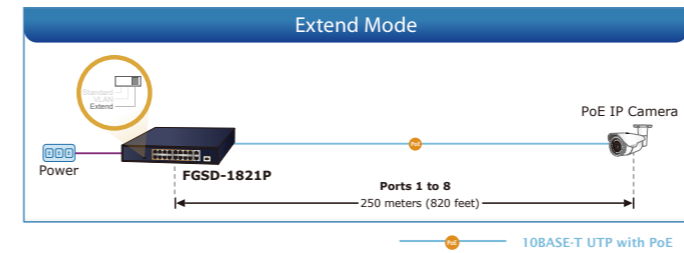
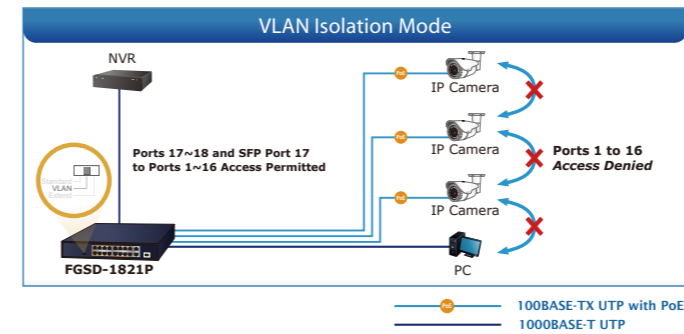
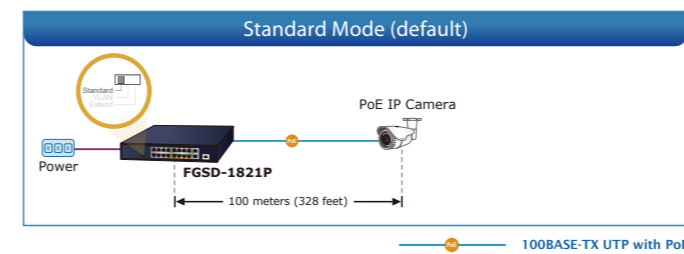
2.3 Multiple Functions of DIP Switch

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

DIP Switch Mode	Function
	This mode makes the 802.3at PoE+ Switch operate as a general switch and all PoE+ ports operate at 10/100Mbps auto-negotiation. All ports can communicate with one another.
	This mode makes the 802.3at PoE+ Switch operate as a VLAN isolation switch and 1. Ports 1 to 16 will isolate respectively. 2. Ports 1 to 16 can only communicate with ports 17~18 (uplink ports) and SFP port 17.
	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.

 Please select a DIP switch mode before powering on the 802.3at PoE+ Switch.

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2.4 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, 5A.



Figure 4-2: FGSD-1821P Switch Rear Panel

■ AC Power Receptacle

 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.

 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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3 Hardware Installation

3.1 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 3-1 shows how to attach brackets to one side of the 802.3at PoE+ Switch.

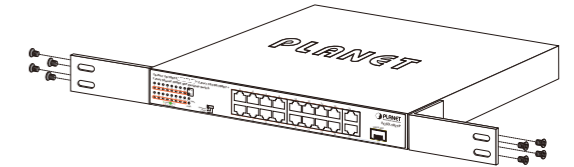



Figure 3-1: Attaching the Brackets to the 802.3at PoE+ Switch

 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.

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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 3-2.

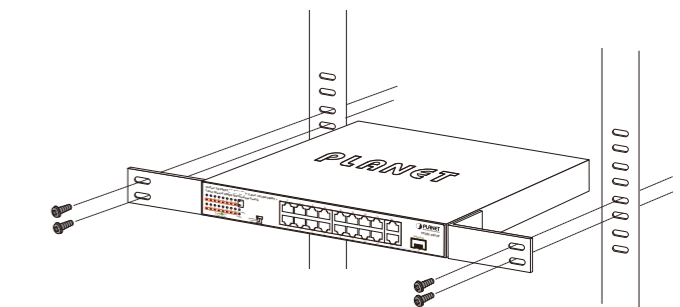


Figure 3-2: Mounting the 802.3at PoE+ Switch in a Rack

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

- 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.
- 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.

- Connect one end of the power cable to the 802.3at PoE+ Switch.
- 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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3.2 Installing the SFP Transceiver

The sections describe how to insert an SFP transceiver into an SFP port 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 3-3 shows.

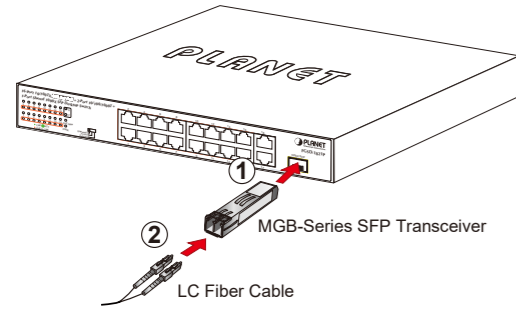


Figure 3-3: Plugging In the SFP Transceiver

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:

<https://www.planet.com.tw/en/product/mgb-series-transceiver>

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.

- 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.
- 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.

4. Product Specifications

Model	FGSD-1821P
Hardware Specifications	
Fast Ethernet Copper Ports	16 x 10/100BASE-TX RJ45 auto-MDI/MDI-X ports
Gigabit Ethernet Copper Ports	2 x 10/100/1000BASE-T RJ45 auto-MDI/MDI-X ports (Port-17 shared with SFP port)
SFP Ports	1 x 1000BASE-SX/LX/BX SFP interface (shared with Port-17)
DIP Switch	Selectable operation mode > Standard > VLAN > Extend
Dimensions (W x D x H)	280 x 180 x 44 mm (1U height)
Enclosure	Metal
Weight	1800g
Power Requirements	100~240V AC, 50/60Hz, 5A max.
Power Consumption/Dissipation	Max. 207 watts/706 BTU
Thermal Fan	1
ESD Protection	Contact discharge of ±6KV DC, Air discharge of ±8KV DC
Surge Protection	Differential Mode ±4KV, Common Mode ±6KV

Installation	Desktop or rack-mount installation
LED	<ul style="list-style-type: none"> > System: Power (Green) PoE Max. (Green) > 10/100TX RJ45 Ports 10/100 LNK/ACT (Green) PoE-in-Use (Amber) > 10/100/1000T RJ45 Ports 10/100/1000 LNK/ACT (Green) > 1000X SFP Ports 1000 LNK/ACT (Green)
Switching	
Switch Architecture	Store-and-Forward
Switch Fabric	7.2Gbps/non-blocking
Switch Throughput@64bytes	5.36Mpps
MAC Address Table	16K entries
Jumbo Frame	16K bytes
Flow Control	IEEE 802.3x pause frame for full duplex; back pressure for half duplex
Power over Ethernet	
PoE Standard	IEEE 802.3at Power over Ethernet Plus/PSE
PoE Injector Ports	16
PoE Power Supply Type	End-span: 1/2 (+), 3/6 (-)
PoE Power Output	Per port 55V DC, 600mA. max. 30 watts
PoE Power Budget	185 watts



www.PLANET.com.tw

16-Port 10/100TX 802.3at PoE + 2-Port 10/100/1000T + 1-Port Shared 1000X SFP Desktop Switch

FGSD-1821P

PLANET Technology Corp.

10F., No. 96, Minquan Rd., Xindian Dist., New Taipei City 231, Taiwan

2351-AK3380-000

Warning:
This device is compliant with Class A of CISPR 32. In a residential environment this device may cause radio interference.



Energy Saving Note of the Device
This power required device does not support Standby mode operation. For energy savings, please remove the power cable to disconnect the device from the power circuit. Without removing the power cable, the device will still consume power from the power source. In view of Saving the Energy and reducing the unnecessary power consumption, it is strongly suggested to remove the power cable from the device if this device is not intended to be active.

Number of PDs, 7 watts	16
Number of PDs, 15.4 watts	12
Number of PDs, 30 watts	6
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)

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

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