16-Port 10/100BASE-TX 802.3at PoE Switch

FNSW-1600P

User's Manual

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1. Package Contents

Thank you for purchasing PLANET 16-Port 10/100TX 802.3at PoE Switch, FNSW-1600P. Open the box of the PoE Switch and carefully unpack it. The box should contain the following items:

PoE Switch x 1	User's Manual x 1
	
Power Cord x 1	**Accessories x 1**
	

If any of these 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.

2. Product Features

- Physical Port
  - 16 10/100BASE-TX RJ45 ports with IEEE 802.3at PoE+ injector
- Power over Ethernet
  - Complies with IEEE 802.3at Power over Ethernet Plus/mid-span PSE
  - Supports PoE power up to 30 watts for each PoE port
  - 125W PoE power budget
  - Auto detects powered device (PD)
  - Circuit protection prevents power interference between ports
  - Remote power feeding up to 100m
- Switching
  - Hardware-based 10/100Mbps auto-negotiation and auto MDI/MDI-X
  - Flow control for full duplex operation and back pressure for half duplex operation
  - Integrates address look-up engine, supporting 8K absolute MAC addresses
  - Automatic address learning and address aging
- Case and Installation
  - 19-inch desktop size, 1U height
  - LED indicators for PoE ready, PoE activity
  - 2 silent fans to provide stable and efficient power performance
  - Rack-mountable, Plug-and-Play installation


Note

PSE (Power Sourcing Equipment) is a device (switch or hub for instance) that will provide power in a PoE setup. The maximum allowed continuous output power per such device in IEEE 802.3af is 15.4 watts and in IEEE 802.3at is 30 watts.

PD (Powered Device) such as IP phone, network camera or wireless access point is a PoE-enabled terminal that consumes energy supplied by PSE.

3. Product Specifications

Model	FNSW-1600P
Hardware Specifications	
Copper Ports	16 10/100BASE-TX RJ45 auto-MDI/MDI-X ports
PoE Inject Port	16 ports with 802.3at/af PoE injector function with Port-1 to Port-16
LED Indicators	System: Power(Green) Port 1 to Port 16: 10/100 LNK/ACT (Green) PoE-in-Use (Orange)
Switch Architecture	Store-and-Forward
Address Table	8K entries, automatic source address learning and aging
Switch Fabric	3.2Gbps/non-blocking
Throughput (packet per second)	2.38Mpps@64 bytes
Power Requirements	AC 100~240V, 50/60Hz, 2A max.
Power Consumption	Max. 133.3 watts/457.4 BTU
Dimensions (W x D x H)	445 x 207 x 45 mm
Weight	2330g
Power over Ethernet	
PoE Standard	IEEE 802.3af Power over Ethernet/PSE IEEE 802.3at Power over Ethernet Plus/PSE
PoE Power Supply Type	Mid-span
PoE Power Output	Per port 52V DC max. 30.8 watts
Power Pin Assignment	4/5(+), 7/8(-)
PoE Power Budget	125 watts
Standards Conformance	
Regulatory Compliance	FCC Part 15 Class A, CE
Standards Compliance	IEEE 802.3 10BASE-T IEEE 802.3u 100BASE-TX/100BASE-FX IEEE 802.3x flow control and back pressure IEEE 802.3af Power over Ethernet IEEE 802.3at Power over Ethernet Plus
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)

4. Hardware Description

4.1 Front Panel

The front panel of the 16-Port 10/100TX 802.3at PoE switch consists of 16 auto-sensing 10/100Mbps Fast Ethernet RJ45 ports. The LED indicators are also located on the front panel of the FNSW-1600P.

Figure 4-1: FNSW-1600P Switch Front Panel

4.2 Rear Panel

The rear panel of the FNSW-1600P comes with an AC inlet power socket, which accepts input power from 100 to 240V AC, 50-60Hz.

Figure 4-2: FNSW-1600P Switch Rear Panel

Power Notice

1. The device is a power-required device, meaning 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.
2. In some areas, installing a surge suppression device may also help to protect your FNSW-1600P from being damaged by unregulated surge or current to the FNSW-1600P or the power adapter.

LED Definition

System

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

Per 10/100Mbps Port

LED	Color	Function
PoE-in-Use	Orange	**Lights** to indicate the port is providing 52V DC in-line power.
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.

5. Hardware Installation

This section describes the functionalities of the PoE switch's components and guides you to installing it on the desktop and rack mount. Basic knowledge of networking is assumed. Please read this chapter completely before continuing.

5.1 Desktop Installation

To install the Switch on the desktop, simply follow the steps below:

Step1: Attach the rubber feet to the recessed areas on the bottom of the Switch, as shown in Figure 5-1.

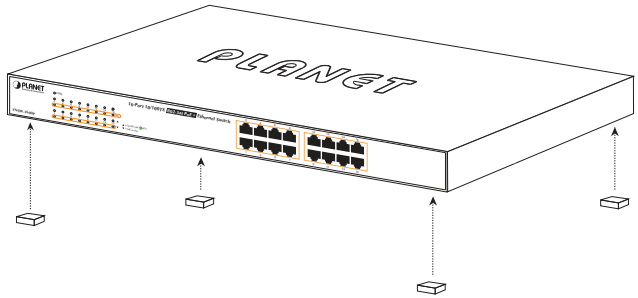

Figure 5-1: Attaching the Rubber Feet to the Switch

Step 2: Place the Switch on the desktop near an AC power source.

Step 3: Keep enough ventilation space between the Switch and the surrounding objects.

Step 4: Connect your Switch to 802.3af/at complied powered devices and other network devices.

A. Connect one end of a standard network cable to the 10/100TX RJ45 ports on the front panel of the Switch.

B. Connect the other end of the cable to the network devices such as printer servers, workstations and router.

Step 5: Supply power to the Switch.

A. Connect one end of the power cable to the Switch.

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

When the Switch receives power, the power LED should remain solid green.

5.2 Rack Mounting

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

Step 1: Place your 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 Switch with supplied screws attached to the package. Figure 5-2 shows how to attach brackets to one side of the Switch.

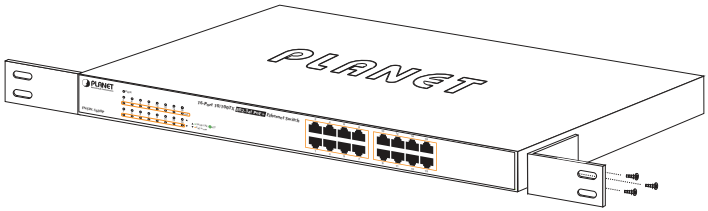

Figure 5-2: Attaching the Brackets to the Switch.

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.

Step 5: After the brackets are attached to the Switch, use suitable screws to securely attach the brackets to the rack, as shown in Figure 5-3.

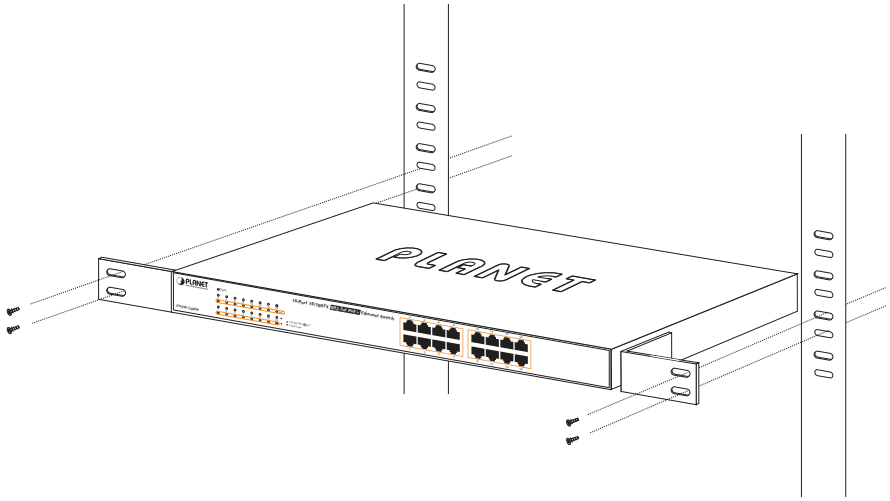

Figure 5-3: Mounting the Switch in a Rack

Step 6: Proceed with Steps 4 and 5 of **Section 5.1 Desktop Installation** to connect the network cabling and supply power to your Switch.

6. Troubleshooting

This chapter contains information to help you solve problems. If the Switch is not functioning properly, make sure the Ethernet Switch was set up according to instructions in this manual.

The Link LED is not lit

Solution:

Check the cable connection and remove duplex mode of the Switch.

Performance is bad

Solution:

Check the full duplex status of the Switch. If the Ethernet Switch is set to full duplex and the partner is set to half duplex, then the performance will be poor.

100BASE-TX port link LED is lit, but the traffic is irregular

Solution:

Check whether the attached device is not set to full duplex. Some devices use a physical or software switch to change duplex modes. Auto-negotiation may not recognize this type of full-duplex setting.

Why the Switch doesn't connect to the network

Solution:

1. Check the LNK/ACT LED on the switch.
2. Try another port on the Switch.
3. Make sure the cable is installed properly.
4. Make sure the cable is the right type.
5. Turn off the power. After a while, turn on power again.

Why it cannot be powered on after connecting PoE device to FNSW-1600P

Solution:

1. Please check what cable type is used for connecting the FNSW-1600P (port 1 to port 16) to the other end. The cable should be an 8-wire UTP, Category 5 or above, and EIA568 cable within 100 meters. A cable with only 4-wire, short loop or over 100 meters will affect the power supply.
2. Please make sure the device is fully complied with IEEE 802.3af/at standard.

What is the power output of each PoE port?

Solution:

1. Each PoE port supports **52V DC, 535mA**, and a maximum power output of **30 watts**, which are detected and injected by the standard of IEEE 802.3at.
2. Each PoE port supports **52V DC, 275mA**, and a maximum power output of **15.4 watts**, which are detected and injected by the standard of IEEE 802.3af.

7. Customer Support

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

PLANET online FAQ:
http://www.planet.com.tw/en/support/faq.php?type=1

Switch support team mail address:
support_switch@planet.com.tw

EC Declaration of Conformity

For the following equipment:

*Type of Product: FNSW-1600P
*Model Number: 16-Port 10/100Base-TX PoE Fast Ethernet Switch

* Produced by:
Manufacturer's Name : **Planet Technology Corp.**
Manufacturer's Address: 10F., No.96, Minquan Rd., Xindian Dist.,
New Taipei City 231, Taiwan R.O.C.

is herewith confirmed to comply with the requirements set out in the Council Directive on the Approximation of the Laws of the Member States relating to Electromagnetic Compatibility Directive on (2014/30/EU) and Low Voltage Directive 2014/35/EU.

For the evaluation regarding the EMC, the following standards were applied:

EN 55032	(2012+AC:2013)
EN 61000-3-2	(2014)
EN 61000-3-3	(2013)
EN 55024	(2010)
EN60950-1	(2006+A11:2009+A1:2010+A12:2011)

Responsible for marking this declaration if the:

☒ **Manufacturer** ☐ **Authorized representative established within the EU**

Authorized representative established within the EU (if applicable):

Company Name: **Planet Technology Corp.**

Company Address: **10F., No.96, Minquan Rd., Xindian Dist., New Taipei City 231, Taiwan R.O.C.**

Person responsible for making this declaration

Name, Surname **Kent Kang**

Position / Title : **Director**

Taiwan *Place*

March 21, 2017 *Date*

Legal Signature