CONFIDENTIAL

Product Specifications

24-Port 10/100TX 802.3at PoE + 1-Port Gigabit TP/SFP Combo Ethernet Switch

FGSW-2511P

Version 1.0

Change History:

Revision	Date	Author	Change List
Version 1.0	7/1/2019	Calvin	Initial release

Author	Calvin	Editor:	Mark
Reviewed by:		Approved by:	Kent

1. PRODUCT DESCRIPTION

Centralized Power Distribution for HD IP Surveillance System

The FGSW-2511P, a new PLANET 802.3at PoE Fast Ethernet Switch, provides **24 10/100BASE-TX 802.3at PoE+ ports** with a total of 190 watts of PoE budget, **one 10/100/1000BASE-T** uplink port, and one shared **1000BASE-X SFP** slot. Its PoE power is more than enough for those network applications with Fast Ethernet speed transmission.
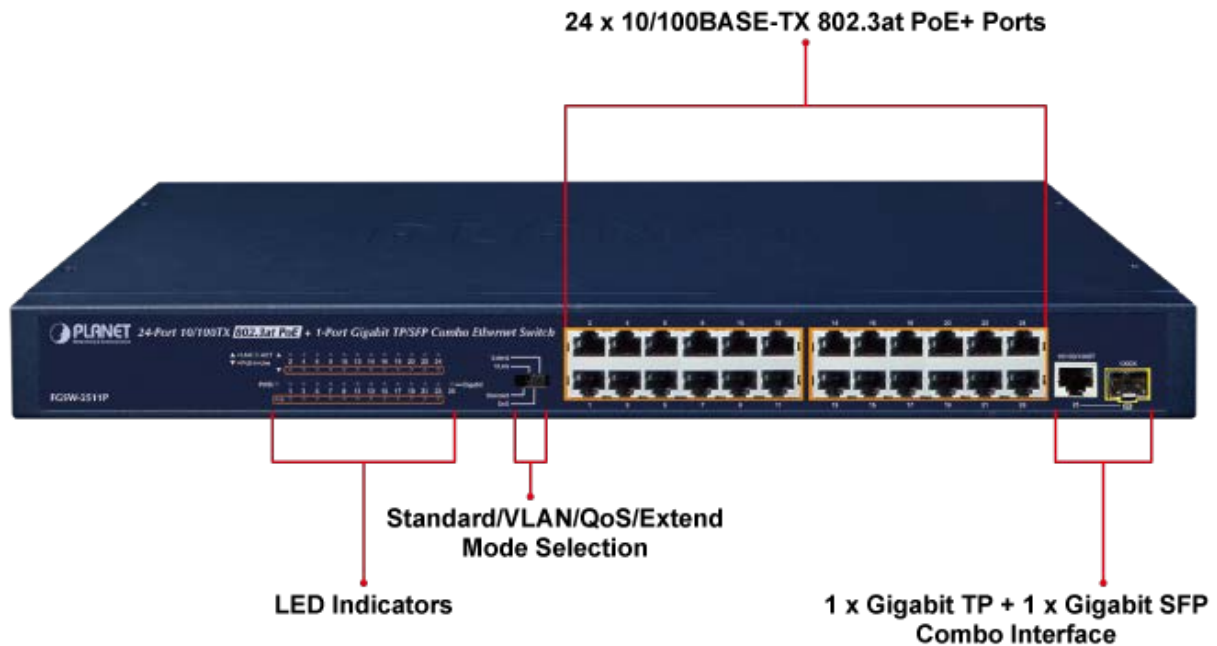

The 24 802.3at PoE+ ports feature PoE power injector function which is able to drive 24 IEEE 802.3at compliant powered devices. The FGSW-2511P also offers a simple, cost-effective and non-blocking wire-speed performance. It comes with a 19-inch metal housing, suitable for desktop deployment in SOHO office or department network application.

Distance Extended for Transmission of Power and Data

The built-in solid DIP switch provides "**Standard**", "**VLAN**", "**QoS**" and "**Extend**" operation modes.
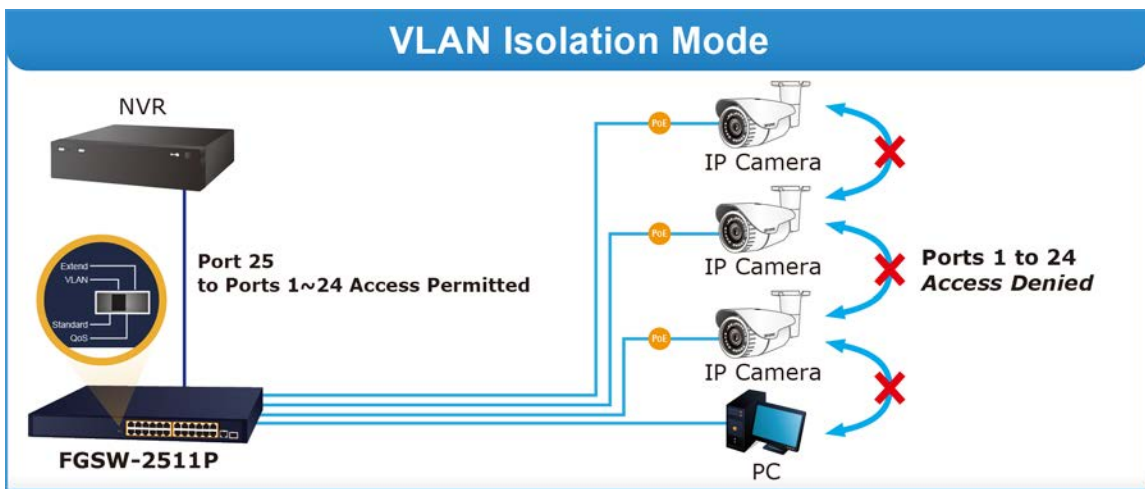
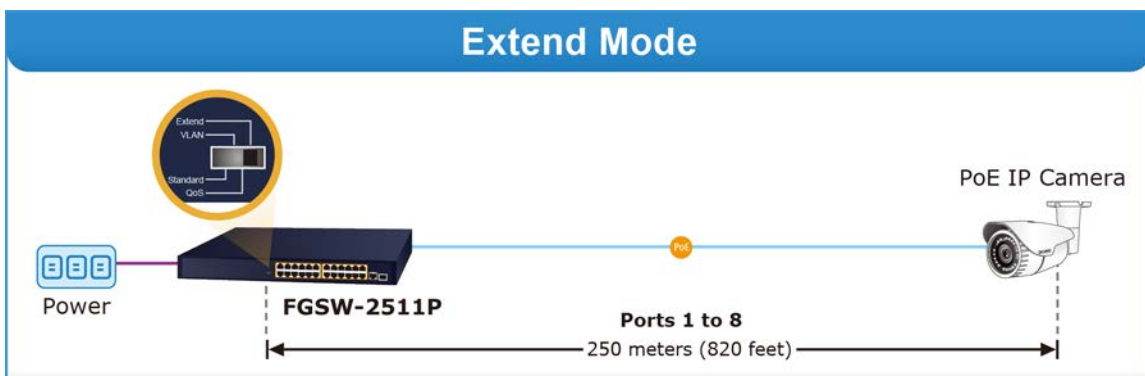- In the "**Standard**" operation mode, the FGSW-2511P operates as a normal IEEE 802.3at PoE+ Switch.
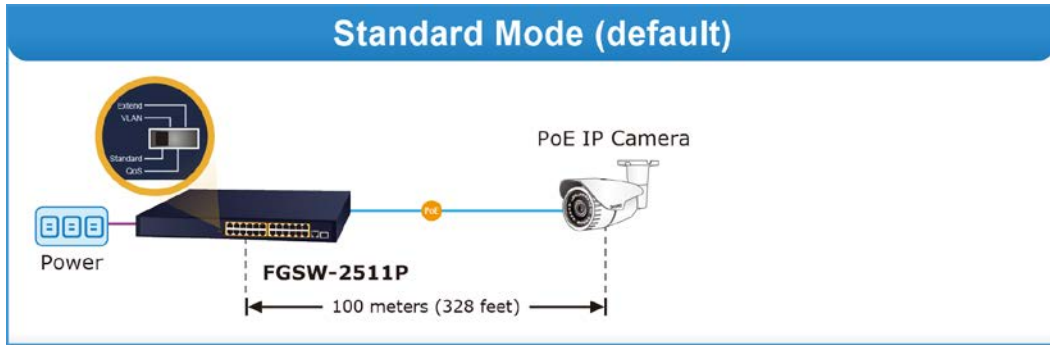
■ The "**VLAN**" operation mode features port-based VLAN function that can help to prevent the IP camera's multicast or broadcast storm from influencing each other.

■ In the "**Extend**" operation mode, PoE Port-1 to Port-8 of the FGSW-2511P can support 25-watt PoE power output over a distance of up to **250** meters overcoming the 100m limit on Ethernet UTP cable.

With this brand-new feature, the FGSW-2511P provides an additional solution for 802.3af/at PoE distance extension, thus saving the cost of Ethernet cable installation. Its VLAN isolation function isolates each port so as to prevent broadcast storm and defend DHCP spoofing in the "VLAN" operation mode.

Gigabit Uplink Port

The FGSW-2511P comes with one combo uplink interface with a transfer rate of 1000Mbps to ensure high-speed data and video transmission, and reliable assurance for connection between the surveillance system and outside network where the eight PoE+ ports can be used to their full potential.

Fiber-Optic Link Capability Enables Extension of Network Deployment

The mini-GBIC slot built in the FGSW-2511P supports **1000BASE-SX/LX SFP** (small form-factor pluggable) fiber-optic modules, meaning the administrator now can flexibly choose the suitable SFP transceiver based on the transmission distance or the transmission speed required to extend the network efficiently. The distance can be extended from 550 meters to 2 kilometers (multi-mode fiber) and 10/20/30/40/50/60/70/120 kilometers (single-mode fiber or WDM fiber). They are well suited for applications to uplink to backbone switch and monitoring center in long distance.

Robust Protection

The FGSW-2511P protects against the ESD 4kV surge to improve product stability and also protects users' networks from devastating ESD attacks, making sure the flow of operation does not fluctuate.

Easy Installation and Cable Connection

As data transfer and high PoE are transmitted over a cable, the FGSW-2511P is able to reduce the need of extended cables and electrical outlets on the wall, ceiling or any unreachable place. It helps to lower the installation costs and simplify the installation effort. All RJ45 copper interfaces of the FGSW-2511P support 10/100Mbps or 10/100/1000Mbps auto-negotiation for optimal speed detection through RJ45 Category 6, 5 or 5e cable. It also supports standard auto-MDI/MDI-X that can detect the type of connection to any Ethernet device without requiring special straight-through or crossover cables.

2. PRODUCT FEATURES

▶ **Physical Interface**

- ■ 24 10/100BASE-TX RJ45 copper ports
- ■ One 10/100/1000BASE-T Gigabit RJ45 copper port
- ■ One shared 1000BASE-X SFP interface
- ■ Hardware-based DIP switch for "Standard", "VLAN", "QoS" or "Extend" mode selection

▶ **Power over Ethernet**

- ■ Complies with IEEE 802.3at Power over Ethernet Plus mid-span PSE
- ■ Up to 24 IEEE 802.3af/at devices powered
- ■ Supports PoE power up to 30 watts for each PoE port
- ■ 190-watt PoE budget
- ■ Each PoE port supports 52V 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
- ■ The "Extend" mode features 25-watt PoE transmit distance of 250m at speed of 10Mbps

▶ **Switching**

- ■ Hardware-based 10/100Mbps and 10/100/1000Mbps 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 16K absolute MAC addresses
- ■ Automatic address learning and address aging
- ■ Solid DIP switch to isolate ports to prevent broadcast storm and defend DHCP spoofing

▶ **Hardware**

- ■ 19-inch rack-mount size, 1U height
- ■ LED indicators for PoE ready/activity and LINK/ACT
- ■ Internal AC power supply
- ■ Supports Energy-Efficient Ethernet (EEE) function (IEEE 802.3az)

PLANET
Networking & Communication

3. PRODUCT SPECIFICATIONS

3.1 MAIN COMPONENTS

Switch ASIC	IC+ IP1829A	x 1
CPU	IC+ IP211	x 1
Fast Ethernet PHY	IP1829A built-in	
Giga PHY	Qualcomm Atheros AR8033	x 2
PoE PSE	MAX5980	x 3
Power Supply		x 1

3.2 FUNCTION SPECIFICATIONS

Model	FGSW-2511P
Hardware Specifications	
10/100Mbps Ports	24 10/100BASE-TX MDI/MDI-X RJ45 ports
Gigabit Ports	1 10/100/1000BASE-T MDI/MDI-X RJ45 port
SFP Slot	1 1000BASE-X SFP interface, shared with Gigabit RJ45 copper
PoE Inject Port	24-port with 802.3at PoE injector function (Port-1 to Port-24)
LED Display	System: ● Power (Green) 10/100BASE-TX RJ45 Interface: ● LNK/ACT (Green, Port-1 to Port-24) ● PoE (Amber, Port-1 to Port-24) 10/100/1000BASE-T RJ45 and 1000BASE-X combo Interface: ● LNK/ACT (Green, Port 25)
DIP Switch	4 operation modes: Standard/QoS/VLAN/Extend
Switch Architecture	Store and Forward
MAC Address Table	16K MAC address table with auto learning function
Switch Fabric	6.8Gbps
Switch Throughput	5.06Mpps @64bytes
Maximum Packet Size	16K bytes
Flow Control	Back pressure for half duplex IEEE 802.3x pause frame for full duplex
Power Requirements	AC 100~240V, 3A max.
Power Consumption	205 watts, 699.5 BTU
Dimensions (W x D x H)	440 x 200 x 45 mm
Weight	2419 g

ESD Protection	Contact discharge of ±6KV DC Air discharge of ±8KV DC
Surge Immunity	±4KV
Power over Ethernet	
PoE Standard	IEEE 802.3at Power over Ethernet Plus/PSE
PoE Power Supply Type	Mid-span
Power Pin Assignment	4/5 (+), 7/8(-)
PoE Power Output	Per Port 52V DC, 600mA. max. 30 watts (IEEE 802.3at) Per Port 52V DC, 300mA. max. 15.4 watts (IEEE 802.3af)
PoE Power Budget	190 watts
Number of PDs, 7 watts	24
Number of PDs, 15 watts	12
Number of PDs, 30 watts	6
Standard Conformance	
EMI Safety	CE, FCC
Standard Compliance	IEEE 802.3 Ethernet IEEE 802.3u Fast Ethernet IEEE 802.3ab Gigabit 1000BASE-T IEEE 802.3z Gigabit SX/LX IEEE 802.3x Flow Control IEEE 802.3af Power over Ethernet IEEE 802.3at Power over Ethernet Plus IEEE 802.3z Energy Efficient Ethernet
Environment	
Operating Environment	0 ~ 50 degrees C
Storage Environment	-10 ~ 70 degrees C
Operating Humidity	5 ~ 95%, relative humidity, non-condensing
Storage Humidity	5 ~ 95%, relative humidity, non-condensing

3.3 PHYSICAL SPECIFICATIONS:
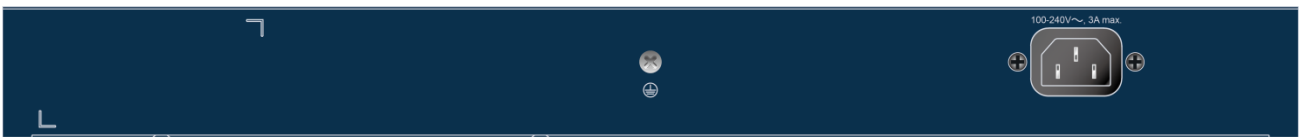
■ **Dimensions**

440 x 200 x 45 mm (W x D x H)

■ **Weight**

2,419g

■ **Front Panel**

■ **Rear Panel**

■ **LED Definition**

■ **System**

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

■ **Per 10/100BASE-TX PoE+ Port**

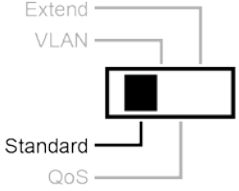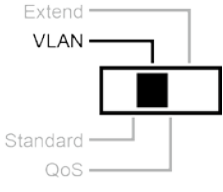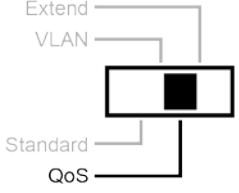| LED	Color	Function
LNK/ACT	**Green**	**Lights** to indicate the PoE+ Switch is successfully connecting to the network at 10/100Mbps. **Blinks** to indicate that the Switch is actively sending or receiving data over that port.
PoE-in-use	**Amber**	Lights to indicate the port is providing 52V DC in-line power. (1-24 ports)

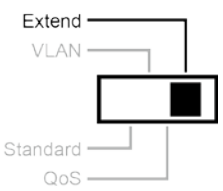■ **10/100/1000BASE-T and 1000BASE-X combo Port**

LED	Color	Function
LNK/ACT	**Green**	Lights to indicate the Switch is successfully connecting to the network. Blinks to indicate that the Switch is actively sending or receiving data over that port.

■   **Multiple Functions DIP Switch**

The front panel of FGSW-2511P provides one DIP switch for **Standard**, **QoS**, **VLAN** or **Extend** mode selection. The detailed descriptions are shown in the following table.

DIP Switch Mode	Function
	This mode makes the FGSW-2511P operate as a general switch and all PoE ports operate at 10/100Mbps auto-negotiation. All ports can communicate with each
	This mode makes the FGSW-2511P operate as a VLAN isolation switch and 1. **Port 1 to port 24** will isolate respectively. 2. Port 1 to port 24 can only communicate with **port 25** (uplink port).
	1. **Port 1 to Port 8** supports port priority, optimize port cache 2. All ports can communicate with each other
	This mode makes the FGSW-2511P operate as a Long Reach PoE switch and 1. **Port 1 to Port 8** support farthest transmission distance of up to **250 meters** 2. Port 1 to Port 8 rate down to 10Mbps 3. All ports can communicate with each other

3.4 ENVIRONMENTAL SPECIFICATIONS

Operating:

Temperature: 0 ~ 50 degrees C

Relative Humidity: 5 ~ 95% (non-condensing)

Storage:

Temperature: -10 ~ 70 degrees C

Relative Humidity: 5 ~ 95% (non-condensing)

3.5 ELECTRICAL SPECIFICATIONS

Power Requirements: 100~240V AC

Power Consumption:

Power Input \ Condition	System ON	Ethernet + PoE (190W) Full Loading
AC 90V	7.6W	209W
AC 110V	7.5W	206W
AC 230V	7.7W	208W
AC 264V	7.8W	207W

3.6 REGULATORY COMPLIANCE

FCC Part 15 Class A, CE

3.7 RELIABILITY

MTBF > 50,000hrs @ 25 degrees C

3.8 BASIC PACKAGING

- The FGSW-2511P   x 1
- User's Manual   x 1
- Power Cord   x 1
- 19" Rack Mounting Kit   x 1
- Rubber Feet   x 4
- SFP Dust Cap   x 1

3.9 PACKING INFORMATION

Box Dimensions (W x D x H):	555 x 295 x 88 mm
Gross Weight:	3.41kg
Carton Dimensions (W x D x H):	572 x 370 x 315 mm
Total Weight:	14.45kg
Quantity:	4pcs in one carton