

12-Port 10/100TX 802.3at PoE + 4-Port 10/100TX 802.3bt PoE + 2-Port Gigabit TP + 2-Port SFP Ethernet Switch with LCD Management



Just “Plug and Watch” for a Quick Solution

PLANET FGSW-2022VHP is an ideal “Plug and Watch” Power over Ethernet solution which provides quick installation, real-time PoE work status monitoring and immediate troubleshooting through its unique LCD display to improve work efficiency and quality without any PC or software required.

The FGSW-2022VHP is equipped with 12 10/100BASE-TX ports featuring 802.3at Power over Ethernet Plus (PoE+) copper interfaces and 4 **10/100BASE-TX ports** featuring **802.3bt PoE++** copper interfaces. With a total PoE power budget of up to 300 watts and non-blocking data switching performance, the FGSW-2022VHP fulfills the demand of sufficient PoE power for HD IP surveillance. It offers a desktop-sized, reliable and visible power solution for small businesses and system integrators deploying Power over Ethernet networks.



Smart and Intuitive LCD Control

The FGSW-2022VHP provides an intuitive color panel on its front panel that facilitates the Ethernet management and PoE PD management. It greatly promotes management efficiency in large-scale networks designed for enterprises, hotels, shopping malls, government buildings and other public areas, and features the following special management and status functions:

- PoE management and status
- Port management and status
- Switch mode includes Standard, VLAN or Extend
- PD type: 802.3bt, UPoE, Legacy
- Budget and bandwidth control
- PD alive check
- Screen saver, fan control and factory default
- Security password

Physical Port

- 16-port 100/1000BASE-TX Fast Ethernet RJ45 copper
- 2 10/100/1000BASE-T TP and 2 1000BASE-X mini-GBIC SFP interfaces

Power over Ethernet

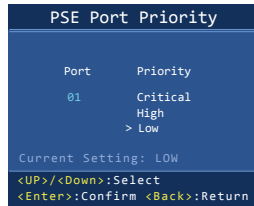
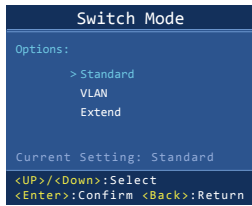
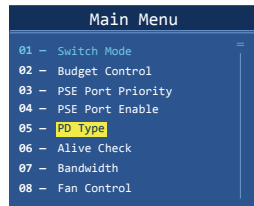
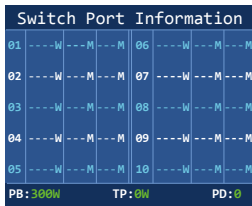
- Complies with IEEE 802.3at/bt Power over Ethernet PSE
- Selectable PoE mode: IEEE 802.3bt/UPoE/Legacy
- Ports 1 to 4 support up to 60 watts; ports 5 to 16 support up to 32 watts
- Each port supports 54V DC power to PoE powered device
- 300-watt PoE budget
- Auto detects powered device (PD)
- Circuit protection prevents power interference between ports
- Remote power feeding up to 100m in standard mode and 250m in extend mode

Smart LCD

- The LCD switch features “Standard”, “VLAN” or “Extend” mode selection; the “Extend” mode features about 45-/20-watt PoE transmission distance of 250m at speed of 10Mbps and VLAN isolation
- The LCD switch is able to isolate ports to prevent broadcast storm and defend DHCP spoofing
- Power low-voltage, power over-voltage and PSE over-temperature protection
- Security password, screen saver, fan control, factory default and save configuration
- PoE management
 - Total PoE power budget control
 - Per port PoE function enable/disable
 - PoE port power feeding priority
 - Per PoE port power limitation
 - PD alive check

Switching

- Hardware-based 10/100/1000Mbps auto-negotiation and auto MDI/MDI-X
- Flow control for full duplex operation and back pressure for half duplex operation



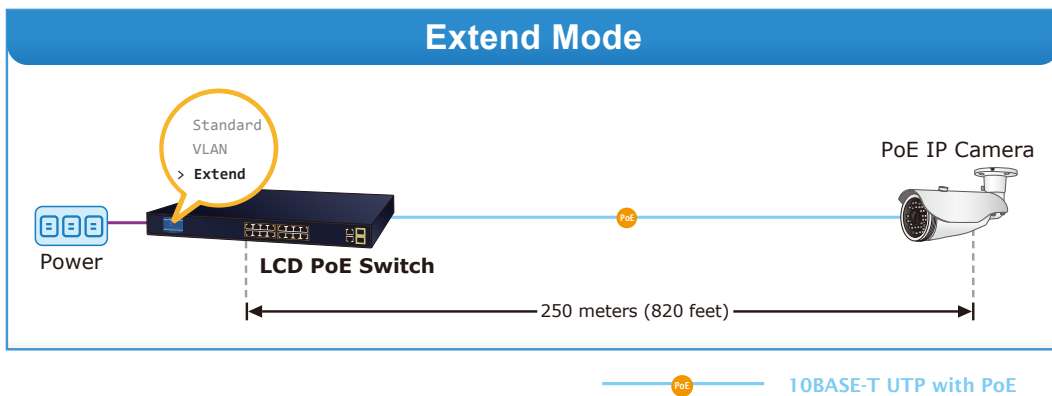
- 9K Frame size
- Integrates address look-up engine, supporting 8K absolute MAC addresses
- Automatic address learning and address aging

Hardware

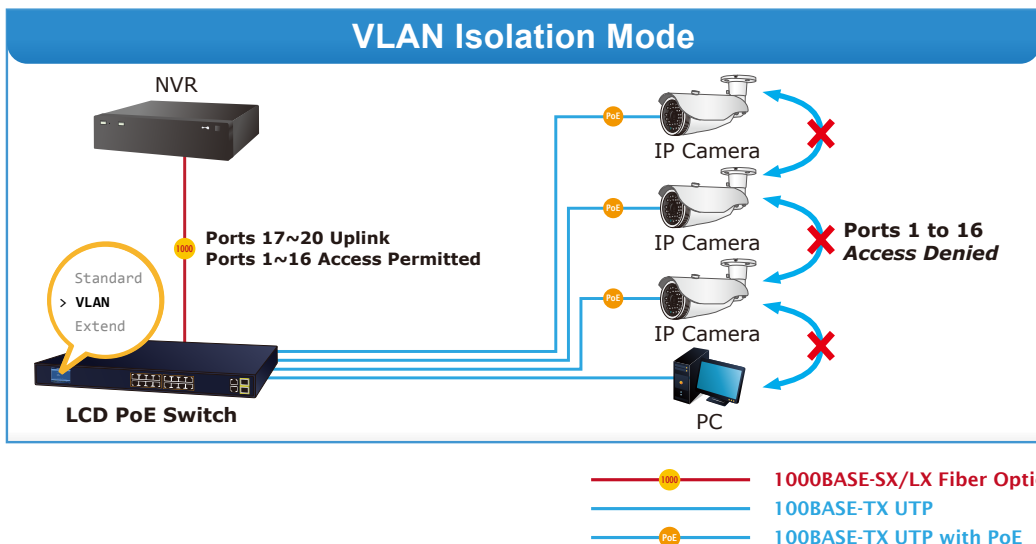
- 19-inch desktop size, 1U height, rack mountable
- 2-inch color LCD with smart management functions
- LED indicators for system power, per port PoE ready and PoE activity, speed, Link/Act
- 3 silent fans to provide stable and efficient power performance
- Supports contact discharge of ±6KV DC and air discharge of ±8KV DC for Ethernet ESD protection
- Supports ±6KV surge immunity

Standard, VLAN or Extend Operation Mode

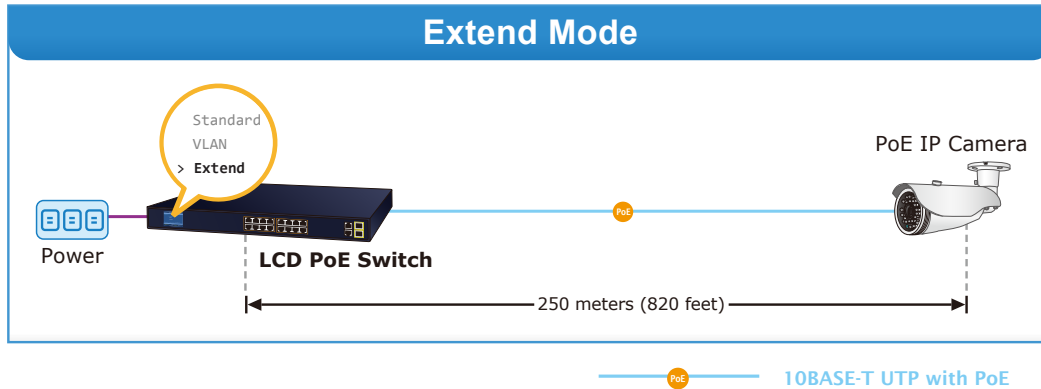
The FGSW-2022VHP provides Standard, VLAN or Extend operation mode. The FGSW-2022VHP operates as a normal IEEE 802.3at/bt PoE switch in the Standard operation mode.



The VLAN operation mode features the 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, the FGSW-2022VHP operates on a per-port basis at 10Mbps duplex operation but can provide 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-2022VHP provides an additional solution for 802.3at/bt PoE distance extension, thus saving the cost of Ethernet cable installation. Its VLAN isolation function isolates ports so as to prevent broadcast storm and defend DHCP spoofing in the Extend operation mode.



Flexible Extension Solution

The two mini-GBIC slots built in the FGSW-2022VHP are compatible with the 1000BASE-X SFP (small form-factor pluggable) fiber transceiver, uplinked to the backbone switch and monitoring center in long distance. The distance can be extended from 550 meters (multi-mode fiber) to 10/20/40/80/120 kilometers (single-mode fiber or WDM fiber). They are well suited for applications within the enterprise data centers and distributions.

Robust Protection

The FGSW-2022VHP provides contact discharge of $\pm 6\text{KV}$ DC and air discharge of $\pm 8\text{KV}$ DC for Ethernet ESD protection. It also supports $\pm 6\text{KV}$ surge immunity to improve product stability and protects users' networks from devastating ESD attacks, making sure the flow of operation does not fluctuate.

Easy Installation and Cable Connection

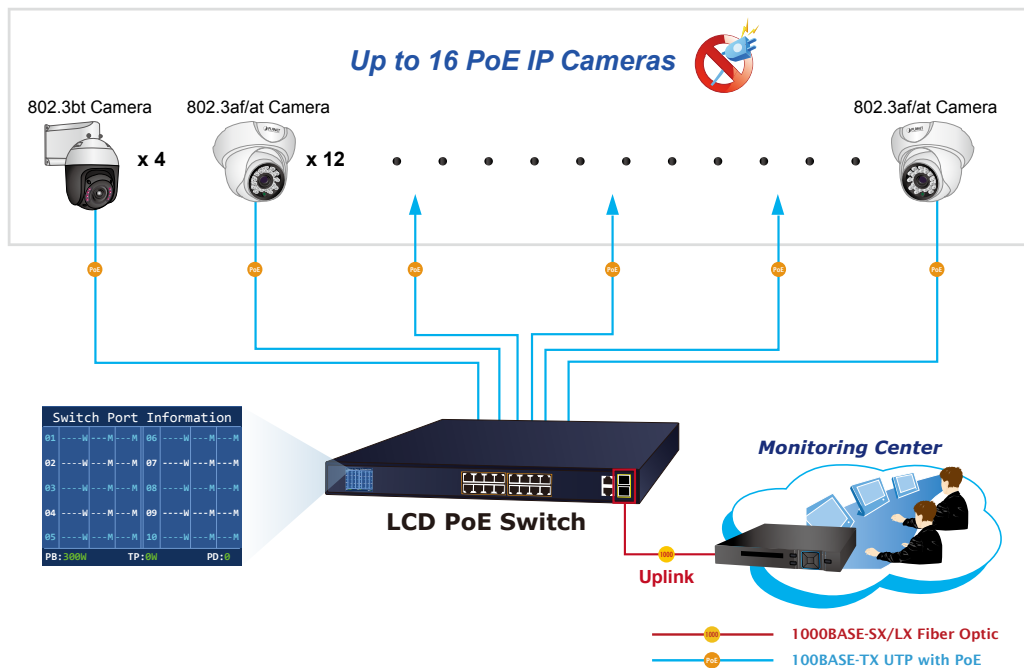
As data and power are transmitted over one cable, the FGSW-2022VHP does not need a second cable and electrical outlets on the wall, ceiling or any unreachable place. Thus, it helps to lower the installation costs and simplify the installation effort. All the RJ45 copper interfaces of the FGSW-2022VHP support 10/100Mbps auto-negotiation for optimal speed detection through RJ45 Cat. 5e/6 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.

Applications

Perfectly-integrated Solution for PoE IP Camera and NVR System

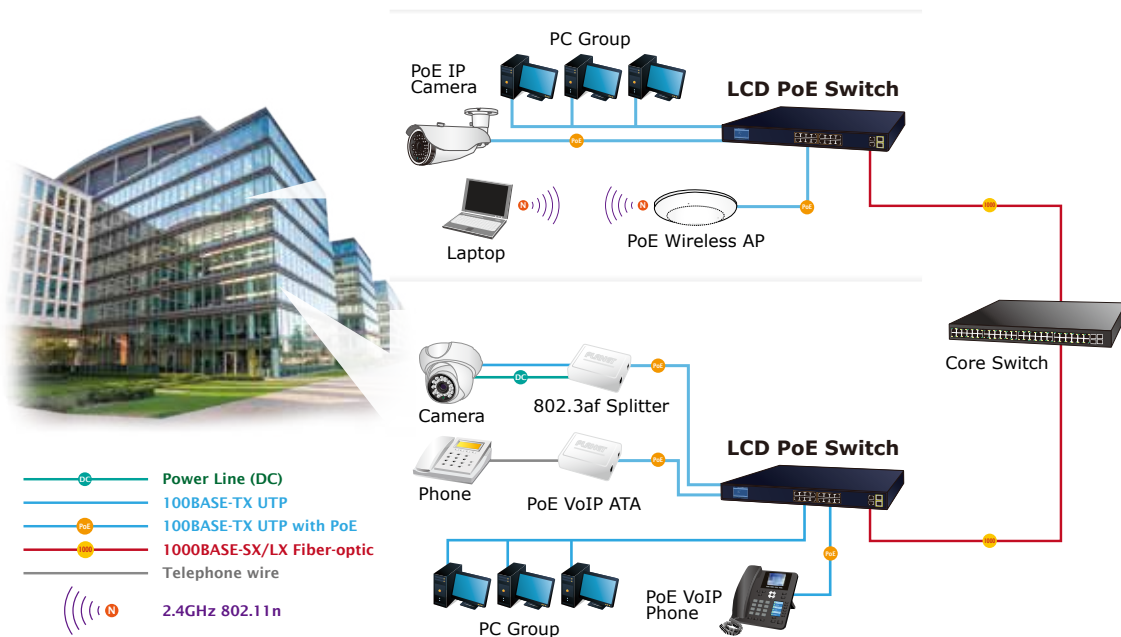
To fulfill the needs of the high power consumption of PoE network applications, the FGSW-2022VHP provides 4 IEEE 802.3bt PoE++ ports and 12 IEEE 802.3at PoE+ ports that combine up to 60/30 watts of power output and data per port over one Cat. 5e/6 Ethernet cable. With its 11.2Gbps high-performance switch architecture and 300-watt PoE power budget, the FGSW-2022VHP is an ideal device for catering to a medium-scale IP surveillance or public PoE networks at a lower total cost.

For instance, one FGSW-2022VHP can be combined with one 16-channel NVR, 4 PoE speed dome cameras and 12 PoE IP cameras as a kit for the administrators to centrally and efficiently manage the surveillance system in the local LAN and the remote site via Internet. The recorded video files from the 16 PoE cameras powered by the FGSW-2022VHP can be saved in the 16-channel NVR systems or surveillance software to perform comprehensive security monitoring.



Department/Workgroup PoE Switch

Providing 4 802.3bt PoE++ and 12 802.3at PoE+ in-line power interfaces, the FGSW-2022VHP can easily build a power that centrally controls IP phone system, IP camera system and wireless AP group for enterprises. Cameras can be installed around the corner in the company or campus for surveillance demands. Without the power-socket limitation, the FGSW-2022VHP makes the installation of cameras easier and more efficient.



Specifications

Model	FGSW-2022VHP
Hardware Specifications	
Copper Ports	16 10/100BASE-TX RJ45 auto-MDI/MDI-X ports with port-1 to port-16 2 10/100/1000BASE-T RJ45 auto-MDI/MDI-X ports with port-17 to port-18
SFP/mini-GBIC Slots	2 1000BASE-X SFP interfaces with port-19 to port-20
PoE Injector Ports	4 ports with 802.3bt PoE++ injector function with port-1 to port-4 12 ports with 802.3at PoE+ injector function with port-5 to port-16
Switch Architecture	Store-and-Forward
Switch Fabric	11.2Gbps/non-blocking
Throughput (packet per second)	8.3Mpps@64 bytes packet
MAC Address Table	8K entries
Jumbo Frame	9K bytes
Flow Control	IEEE 802.3x pause frame for full duplex; back pressure for half duplex
LED Indicators	System: Power (Green) 10/100BASE-TX RJ45 Interfaces: 10/100Mbps LNK/ACT (Green) PoE-in-Use (Amber) 1000BASE-X SFP Interfaces: LNK/ACT (Green) 1000Mbps (Green) 10/100/1000BASE-T TP Interfaces: LNK/ACT (Green) 100Mbps (Red) 1000Mbps (Green)
LCD Monitor (W x D)	40.6 x 30.5 mm, 2-inch
Buttons	Menu, Enter, Back, Up and Down
Dimensions (W x D x H)	233 x 440 x 44 mm (1U height)
Enclosure	Metal
Weight	3.3kg
Power Requirements	100~240V AC, 50/60Hz, 5A max.
Power Consumption/ Dissipation	Max. 330 watts/1132 BTU
Thermal Fan	3
ESD Protection	Contact discharge of ±6KV DC Air discharge of ±8KV DC
Surge Protection	±6KV
Power over Ethernet	
PoE Standard	IEEE 802.3bt PoE++ PSE (Port 1-4) IEEE 802.3af/at PoE+ PSE (Port 5-16)
PoE Power Supply Type	802.3bt/UPoE/Legacy (Port 1-4) End-span (Port 5-16)
PoE Power Output	Per PoE++ port 54V DC, 1.2A. max. 60 watts Per PoE+ port 54V DC, 600mA. max. 32 watts
Power Pin Assignment	802.3bt: 1/2 (+), 3/6 (-), 4/5 (+), 7/8 (-) End-span: 1/2 (+), 3/6 (-)
PoE Power Budget	300 watts
Max. Number of Class 2 PDs	16
Max. Number of Class 3 PDs	16
Max. Number of Class 4 PDs	11
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 802.3bt PoE++ (Type 3)

Environment	
Operating	Temperature: -10 ~ 60 degrees C Relative Humidity: 5 ~ 90% (non-condensing)
Storage	Temperature: -15 ~ 70 degrees C Relative Humidity: 5 ~ 90% (non-condensing)

Ordering Information

FGSW-2022VHP	12-Port 10/100TX 802.3at PoE + 4-Port 10/100TX 802.3bt PoE + 2-Port Gigabit TP + 2-Port SFP Ethernet Switch with LCD Management
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Related Products

GSW-1820VHP	16-Port 10/100/1000T 802.3at PoE + 2-Port 1000X SFP Gigabit Ethernet Switch with LCD PoE Monitor (300W)
GSW-2620VHP	24-Port 10/100/1000T 802.3at PoE + 2-Port 1000X SFP Gigabit Ethernet Switch with LCD PoE Monitor (300W)
FGSD-1022VHP	8-Port 10/100TX 802.3at PoE + 2-Port Gigabit TP/SFP Combo Desktop Switch with LCD PoE Monitor (120W)
FGSW-1822VHP	16-Port 10/100TX 802.3at PoE + 2-Port Gigabit TP + 2-Port SFP Ethernet Switch with LCD PoE Monitor
FGSW-2622VHP	24-Port 10/100TX 802.3at PoE + 2-Port Gigabit TP/SFP Combo Ethernet Switch with LCD PoE Monitor (300W)
ICA-3250	1080p IR Bullet PoE IP Camera
ICA-4250	1080p IR Dome PoE IP Camera
ICA-3460V	H.265 4MP PoE Bullet IR IP Camera with Vari-focal Lens
ICA-4460V	H.265 4MP PoE Dome IR IP Camera with Vari-focal Lens
VIP-1120PT	High Definition Color PoE IP Phone
VIP-2140PT	High Definition Color PoE IP Phone with Dual Display
ICF-1800	HD Touch Screen Android Multimedia Conferencing Phone

Accessories

MGB-Series Transceiver	1000BASE-SX/LX SFP Transceiver
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