# 16-Port 10/100/1000T 802.3at PoE + 2-Port 1000X SFP Ethernet Switch with LCD PoE Monitor (300W)

## Physical Port

- 16-port 10/100/1000BASE-T Gigabit Ethernet RJ45 copper
- 2 1000BASE-X mini-GBIC SFP interfaces

## Power over Ethernet

- Complies with IEEE 802.3af/at Power over Ethernet end-span PSE
- Up to 16 ports of IEEE 802.3af/802.3at devices powered
- Supports PoE power up to 30.8 watts for each PoE port
- Each port supports 52V DC power to PoE powered device
- 300-watt PoE budget
- Auto detects powered device
- Circuit protection prevents power interference between ports
- Remote power feeding up to 100m in standard mode and 250m in extend mode

## 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
- IEEE 802.1Q VLAN transparency
- Hardware DIP switch for Standard, VLAN and Extend mode selection; the Extend mode features 30-watt PoE transmit distance of 250m at speed of 10Mbps and VLAN isolation
- Solid DIP switch to isolate ports to prevent broadcast storm and defend DHCP spoofing

## Hardware

- 19-inch desktop size, 1U height, rack mountable
- LED indicators for system power, per port PoE ready and PoE activity, speed, Link/Act
- LCD monitor for system status and PoE usage status display
- 2 silent fans to provide stable and efficient power performance

*Just "Plug and Watch" for a Quick Solution*

PLANET GSW-1820VHP 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 GSW-1820VHP is equipped with 16 10/100/1000BASE-T ports featuring 30-watt 802.3at Power over Ethernet Plus (PoE+) copper interfaces and 2 extra 1000BASE-X SFP slots with inner power system. With a total PoE power budget of up to 300 watts and non-blocking data switching performance, the GSW-1820VHP 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.

LCD Monitor    Power LED    16 x 10/100/1000BASE-T 802.3at PoE+

PoE & LNK/ACT Status    Standard/VLAN/ Extend Mode DIP Switch    2 x Gigabit SFP

Gigabit SFP LNK/ACT Status

*Displaying PoE Loading, PoE Usage and System Status*

The LCD monitor of the GSW-1820VHP clearly shows the PoE loading of each port, total PoE power usage and system status, such as overload, low voltage, over voltage and high temperature. With its brand-new LCD monitor, user is able to obtain detailed information about real-time PoE working condition of the GSW-1820VHP directly. Also the Power Budget Control function helps to prevent power budget overloading.
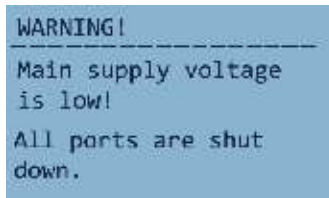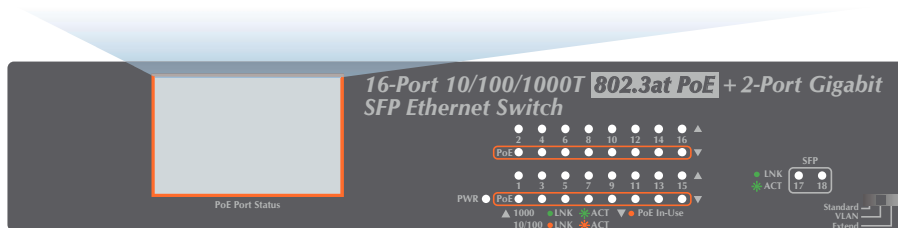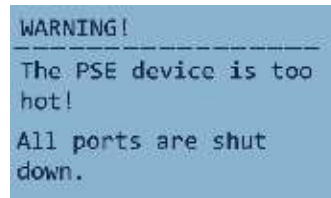
**PoE Port Status**
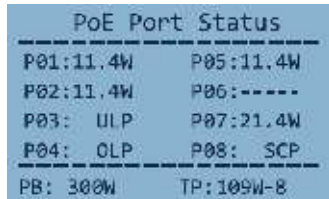


**Power Over-voltage Protection**
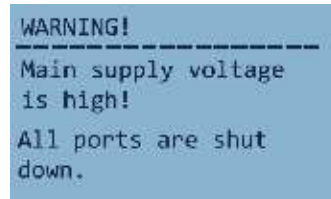


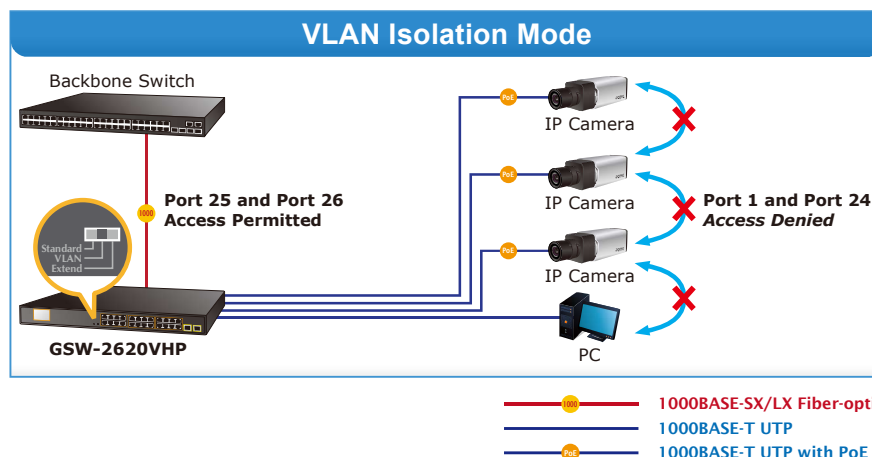**Power Low-voltage Protection**

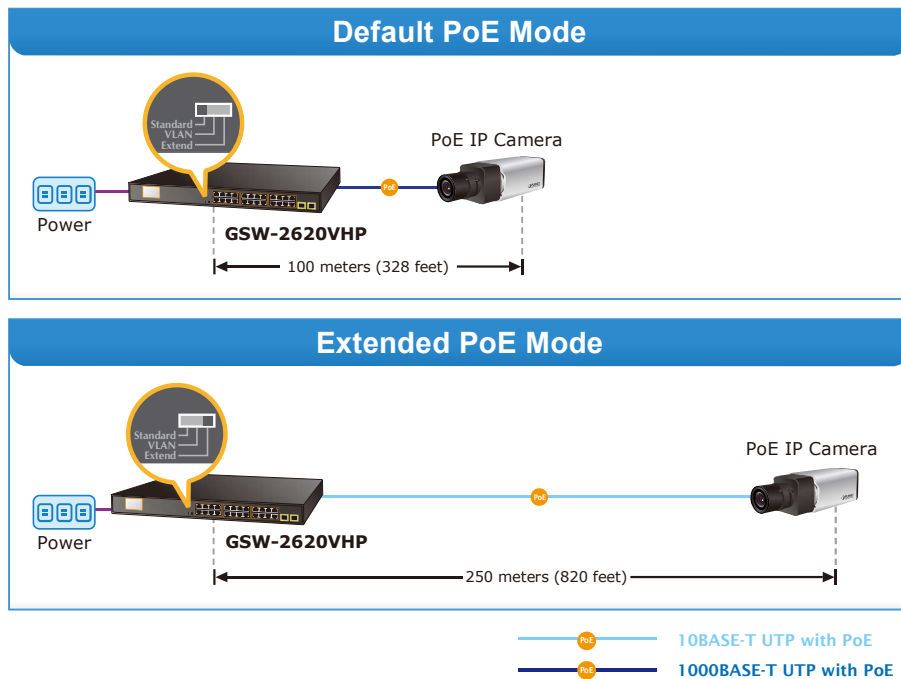

**Power Over Temperature Protection**





*Standard, VLAN and Extend Operation Modes Offered*

The built-in solid DIP switch provides Standard, VLAN and Extend operation modes. The GSW-1820VHP operates as a normal IEEE 802.at/af 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.

**VLAN Isolation Mode**



Backbone Switch

Port 25 and Port 26
Access Permitted

IP Camera

IP Camera

IP Camera

Port 1 and Port 24
*Access Denied*

PC

GSW-2620VHP

1000BASE-SX/LX Fiber-optic
1000BASE-T UTP
1000BASE-T UTP with PoE

In the Extend operation mode, the GSW-1820VHP operates on a per-port basis at 10Mbps duplex operation but can support 30-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 GSW-1820VHP provides an additional solution for 802.3at/af 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.

## Default PoE Mode

PoE IP Camera

Power

GSW-2620VHP

100 meters (328 feet)

## Extended PoE Mode

PoE IP Camera

Power        GSW-2620VHP

250 meters (820 feet)

10BASE-T UTP with PoE
1000BASE-T UTP with PoE

*Flexible Extension Solution*

The two mini-GBIC slots built in the GSW-1820VHP are compatible with the 1000BASE-SX/LX 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 10/20/30/40/50/60/70/120 kilometers (single-mode fiber or WDM fiber). They are well suited for applications within the enterprise data centers and distributions.

*Guaranteed Protection for a Smooth Operation*

The GSW-1820VHP 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 and power are transmitted over one cable, the GSW-1820VHP 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 GSW-1820VHP support 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.
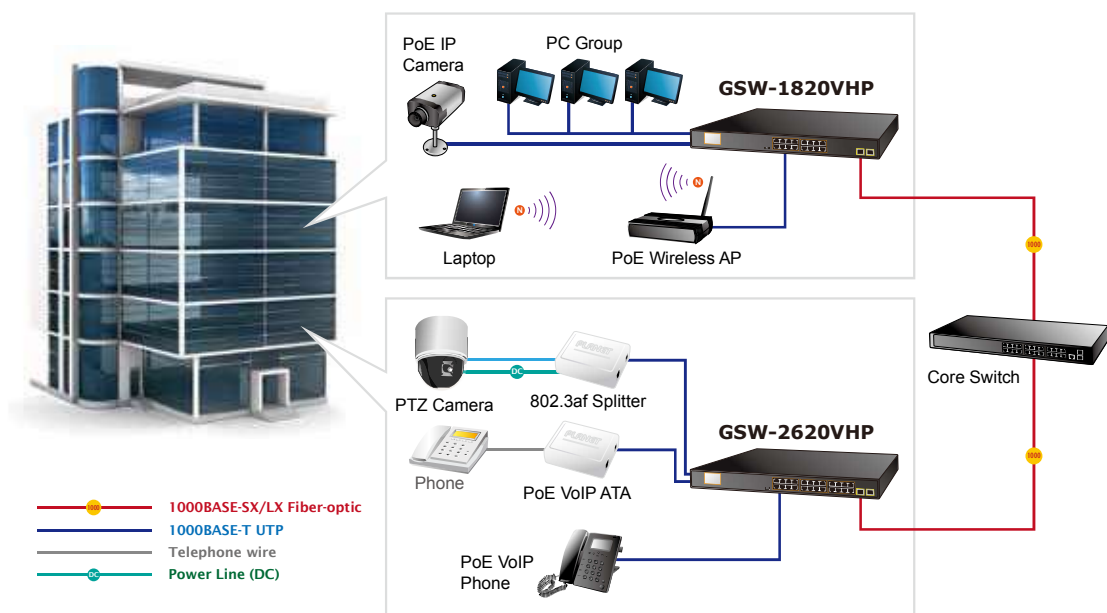
# Applications

## Perfectly-integrated Solution for PoE IP Camera and NVR System

With its 36Gbps high-performance switch architecture and 300-watt PoE power budget, the recorded video files from the 16 PoE IP cameras powered by the GSW-1820VHP are saved in the 16-channel NVR systems or surveillance software in the monitoring center for possible backup references.
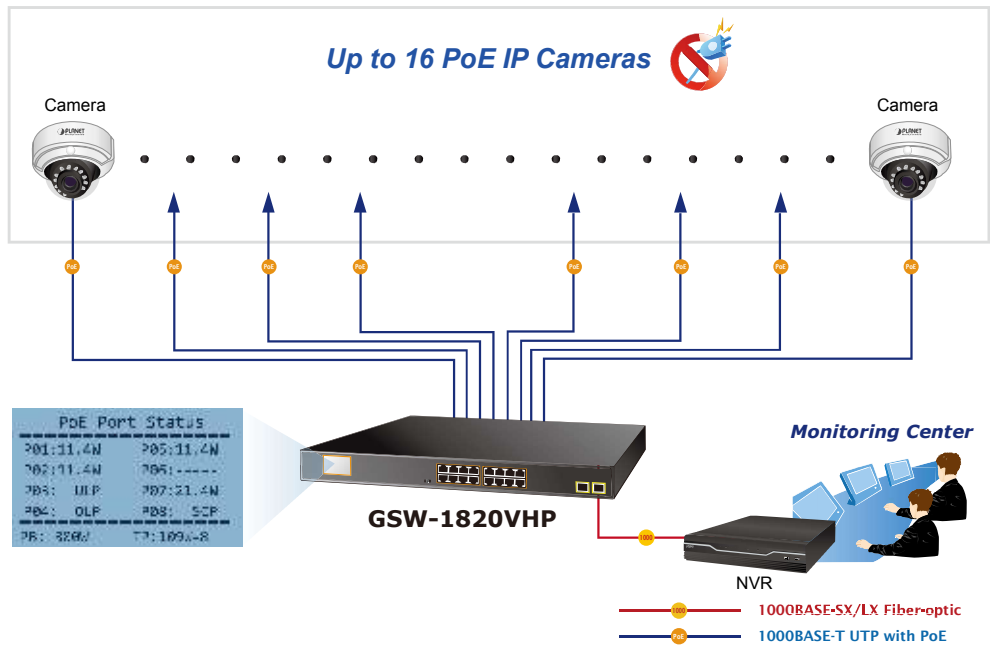


## Ideal PoE Switch for All Enterprises

Providing sixteen 802.3at PoE+ in-line power interfaces, the GSW-1820VHP 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 need for power sockets, the GSW-1820VHP makes the installation of cameras easier and more efficient.

# Specifications

| Model | GSW-1820VHP |
|---|---|
| **Hardware Specifications** | |
| 10/100/1000BASE-T MDI/MDIX Ports | 16 |
| 1000BASE-X SFP Interfaces | 2 |
| PoE Injector Port | 16 ports with 802.3at/af PoE injector function with Port-1 to Port-16 |
| Switch Architecture | Store-and-Forward |
| Switch Fabric | 36Gbps/non-blocking |
| Switch Throughput@64 bytes | 26.8Mpps@64Bytes |
| MAC Address Table | 8K entries, automatic source address learning and aging |
| Maximum Frame Size | 9K bytes |
| Flow Control | IEEE 802.3x pause frame for full-duplex<br>Back pressure for half-duplex |
| LED | **System:**<br>  Power (Green)<br>**10/100/1000BASE-T RJ45  Interfaces:**<br>  10/100Mbps LNK/ACT (Orange)<br>  1000Mbps LNK/ACT (Green)<br>**1000BASE-X SFP  Interfaces:**<br>  1000Mbps LNK/ACT (Green)<br>**PoE Interfaces:**<br>  PoE-in-Use (Orange) |
| LCD Monitor | – PoE loading of each port<br>– Total PoE power usage<br>– Total PoE budget<br>– System status, such as overload, low voltage, over voltage and high temperature |
| DIP Switch | Selectable operation mode<br>– Standard<br>– VLAN<br>– Extend + VLAN |
| Dimensions (W x D x H) | 233 x 440 x 44 mm (1U height) |
| Enclosure | Metal |
| Weight | 3.3kg |
| Power Requirements | AC 100~240V, 50/60Hz, 5A max. |
| Power Consumption/Dissipation | Max. 330 watts/1132 BTU |
| Thermal Fan | 2 |
| **Power over Ethernet** | |
| PoE Standard | IEEE 802.3af Power over Ethernet/PSE<br>IEEE 802.3at Power over Ethernet Plus/PSE |
| PoE Power Supply Type | End-span |
| PoE Power Output | Per port 52V DC, 600mA. max. 30 watts |
| Power Pin Assignment | 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<br>IEEE 802.3u 100BASE-TX<br>IEEE 802.3ab Gigabit 1000BASE-T<br>IEEE 802.3z Gigabit SX/LX<br>IEEE 802.3x flow control and back pressure<br>IEEE 802.3af Power over Ethernet<br>IEEE 802.3at Power over Ethernet Plus |
| **Standards Conformance** | |
| Operating | Temperature: 0 ~ 50 degrees C<br>Relative Humidity: 5 ~ 95% (non-condensing) |
| Storage | Temperature: -10 ~ 70 degrees C<br>Relative Humidity: 5 ~ 95% (non-condensing) |

## Ordering Information

| GSW-1820VHP | 16-Port 10/100/1000T 802.3at PoE + 2-Port 1000X SFP Gigabit Ethernet Switch with LCD PoE Monitor |
|---|---|

## Related  PoE Products

| GSD-1002VHP | 8-Port 10/100/1000T 802.3at PoE + 2-Port 10/100/1000T Desktop Switch with LCD PoE Monitor |
|---|---|
| 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 (120 Watts) |
| FGSW-1822VHP | 16-Port 10/100TX 802.3at PoE + 2-Port Gigabit TP/SFP Combo Ethernet Switch with LCD PoE Monitor (300W) |
| FGSW-2622VHP | 24-Port 10/100TX 802.3at PoE + 2-Port Gigabit TP/SFP Combo Ethernet Switch with LCD PoE Monitor (300W) |

**GSW-1820VHP**