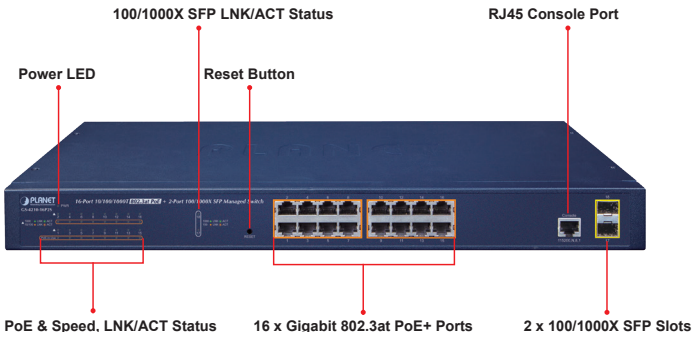
16-Port 10/100/1000T 802.3at PoE + 2-Port 100/1000X SFP Managed Switch

Cost-optimized Managed PoE+ Switch with Advanced L2/L4 Switching and Security

PLANET GS-4210-16P2S is an ideal Gigabit PoE Switch which provides cost-effective advantage to local area network and is widely accepted in the SMB office network. It offers **intelligent Layer 2 data packet switching** and **management functions**, **friendly web user interface** and **stable operation**. The model complies with **IEEE 802.3at Power over Ethernet Plus (PoE+)** at an affordable price. The GS-4210-16P2S is equipped with **16 10/100/1000BASE-T** Gigabit Ethernet ports and **2 100/1000BASE-X** SFP interfaces with inner power system. Its **16** Gigabit Ethernet ports integrated with 802.3at PoE+ injector function on all ports. It offers a rack-mountable, affordable, safe and reliable power solution for SMBs deploying Power over Ethernet networks, or requiring enhanced data security and network traffic management.



Cybersecurity Network Solution to Minimize Security Risks

The GS-4210-16P2S supports SSHv2 and TLS protocols to provide strong protection against advanced threats. It includes a range of cybersecurity features such as DHCP Snooping, IP Source Guard, dynamic ARP Inspection Protection, 802.1x port-based network access control, RADIUS and TACACS+ user accounts management, SNMPv3 authentication, and so on to complement it as an all-security solution.

Physical Port

- **16 10/100/1000BASE-T** Gigabit Ethernet RJ45 ports with **IEEE 802.3at PoE+** Injector
- **2 100/1000BASE-X** mini-GBIC/SFP slots
- 1 RJ45 console interface for switch basic management and setup
- Reset button for system factory default and reboot

Switching

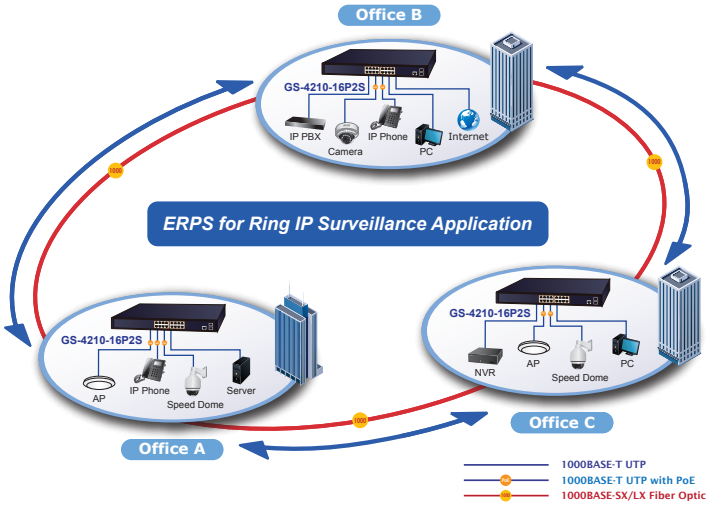
- Hardware-based 10/100Mbps, half/full duplex and 1000Mbps full duplex mode, flow control and auto-negotiation, and auto MDI/MDI-X
- Features Store-and-Forward mode with wire-speed filtering and forwarding rates
- IEEE 802.3x flow control for full duplex operation and back pressure for half duplex operation
- 9K jumbo frame
- Automatic address learning and address aging
- Supports CSMA/CD protocol

Power over Ethernet

- Complies with IEEE 802.3at Power over Ethernet Plus, end-span PSE
- Backward compatible with IEEE 802.3af Power over Ethernet
- Up to 16 ports of IEEE 802.3af/802.3at devices powered
- Supports PoE Power up to 30.8 watts for each PoE port
- 220-watt PoE budget
- Auto detects powered device (PD)
- Circuit protection prevents power interference between ports
- Remote power feeding up to 100 meters in standard mode and 250m in extend mode
- PoE Management
  - Total PoE power budget control
  - Per port PoE function enable/disable
  - PoE Port Power feeding priority
  - Per PoE port power limitation
  - PoE delay
  - PD classification detection
- Intelligent PoE features
  - PoE usage threshold control
  - PD alive check

Redundant Ring, Fast Recovery for Critical Network Applications

The GS-4210-16P2S supports redundant ring technology and features strong, rapid self-recovery capability to prevent interruptions and external intrusions. It incorporates advanced **ITU-T G.8032 ERPS (Ethernet Ring Protection Switching)** technology, Spanning Tree Protocol (802.1s MSTP) into customer's network to enhance system reliability and uptime in various environments.



Built-in Unique PoE Functions for Powered Devices Management

As the PoE managed switch for surveillance, wireless and VoIP networks, the GS-4210-16P2S features special PoE management functions:

- PD alive check
- Scheduled power recycling
- PoE schedule
- PoE usage monitoring
- PoE Extension

Intelligent Powered Device Alive Check

The GS-4210-16P2S can be configured to monitor connected PD (Powered Device) status in real time via ping action. Once the PD stops working and responding, the GS-4210-16P2S will resume the PoE port power and bring the PD back to work. It will greatly enhance the network reliability through the PoE port resetting the PD's power source and reducing administrator management burden.

- PoE schedule

Layer 2 Features

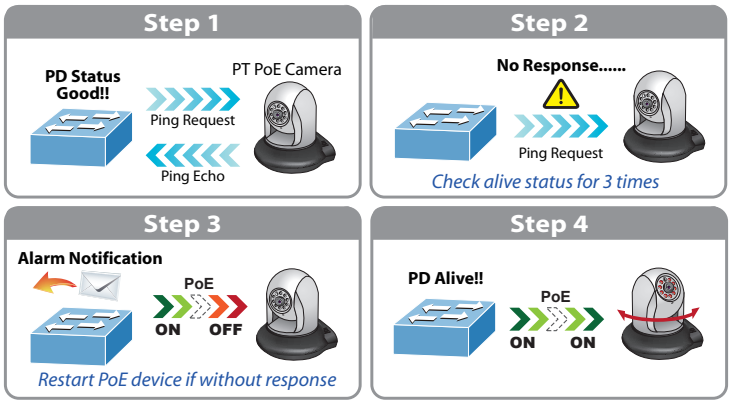
- Prevents packet loss with back pressure (half-duplex) and IEEE 802.3x pause frame flow control (full-duplex)
- High performance Store and Forward architecture, runt/CRC filtering eliminates erroneous packets to optimize the network bandwidth
- Supports **VLAN**
  - IEEE 802.1Q tagged VLAN
  - Provider Bridging (VLAN Q-in-Q) support (IEEE 802.1ad)
  - Protocol VLAN
  - Voice VLAN
  - Private VLAN
  - Management VLAN
  - GVRP
- Supports **Spanning Tree Protocol**
  - STP (Spanning Tree Protocol)
  - RSTP (Rapid Spanning Tree Protocol)
  - MSTP (Multiple Spanning Tree Protocol)
  - STP BPDU Guard, BPDU Filtering and BPDU Forwarding
- Supports Link Aggregation
  - IEEE 802.3ad Link Aggregation Control Protocol (LACP)
  - 1 LACP group, up to 2 ports per LACP group
  - Cisco ether-channel (static trunk)
  - 1 trunk group, up to 2 ports per trunk group
- Provides port mirror (many-to-1)
- Loop protection to avoid broadcast loops
- Supports ERPS (Ethernet Ring Protection Switching)

Quality of Service

- Ingress/Egress Rate Limit per port bandwidth control
- Storm Control support
  - Broadcast, Unknown Unicast, and Unknown Multicast
- Traffic classification
  - IEEE 802.1p CoS
  - DSCP/IP Precedence of IPv4/IPv6 packets
- Strict priority and Weighted Round Robin (WRR) CoS policies

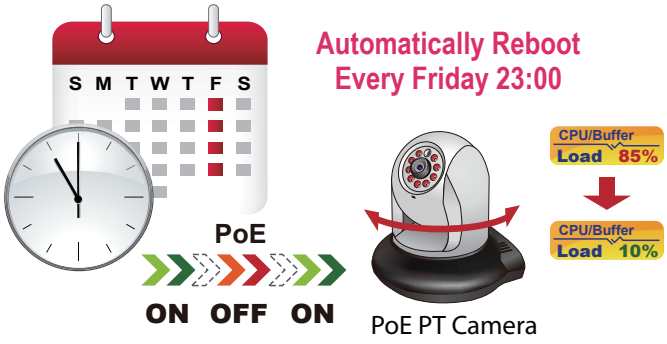
Multicast

- Supports IPv4 IGMP snooping v2 and v3
- Supports IPv6 MLD snooping v1, v2
- IGMP querier mode support
- IGMP snooping port filtering
- MLD snooping port filtering



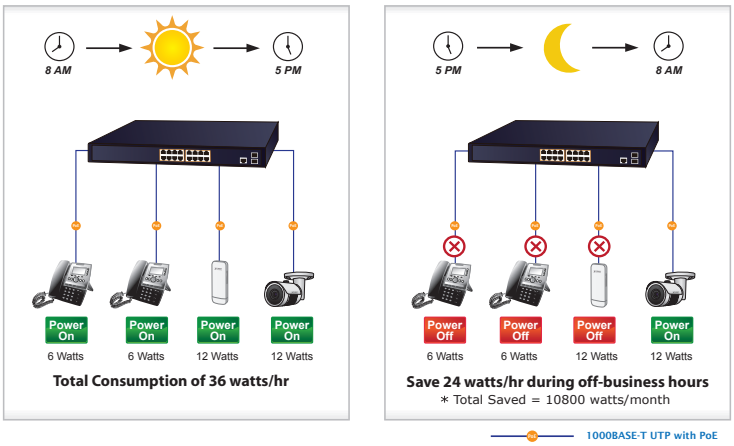
Scheduled Power Recycling

The GS-4210-16P2S allows each of the connected PoE IP cameras or PoE wireless access points to reboot at a specific time each week. Therefore, it will reduce the chance of IP camera or AP crash resulting from buffer overflow.



PoE Schedule for Energy Saving

Under the trend of energy saving worldwide and contributing to environmental protection, the GS-4210-16P2S can effectively control the power supply besides its capability of giving high watts power. The **"PoE schedule"** function helps you to enable or disable PoE power feeding for each PoE port during specified time intervals and it is a powerful function to help SMBs or enterprises save power and money. It also increases security by powering off PDs that should not be in use during non-business hours.



Security

- Authentication
  - IEEE 802.1X port-based network access authentication
  - Built-in RADIUS client to co-operate with the RADIUS servers
  - DHCP Option 82
  - RADIUS/TACACS+ login user access authentication
- Access Control List
  - IPv4/IPv6 IP-based ACL
  - IPv4/IPv6 IP-based ACE
  - MAC-based ACL
  - MAC-based ACE
- MAC Security
  - Static MAC
  - MAC Filtering
- Port security for source MAC address entries filtering
- DHCP snooping to filter distrusted DHCP messages
- Dynamic ARP Inspection discards ARP packets with invalid MAC address to IP address binding
- IP source guard prevents IP spoofing attacks
- DoS attack prevention

Management

- IPv4 and IPv6 dual stack management
- Switch management interface
  - Web switch management
  - Console/Telnet Command Line Interface
  - SNMP v1 and v2c switch management
  - SSHv2, TLSv1.2 and SNMP v3 secure access
- SNMP Management
  - Four RMON groups (history, statistics, alarms and events)
  - SNMP trap for interface link up and link down notification
- User privilege levels control
- Built-in Trivial File Transfer Protocol (TFTP) client
- BOOTP and DHCP for IP address assignment
- System maintenance
  - Firmware upload/download via HTTP/TFTP
  - Configuration upload/download through web interface
  - Dual images
  - Hardware reset button for system reboot or reset to factory default
- SNTP Network Time Protocol
- Network Diagnostic