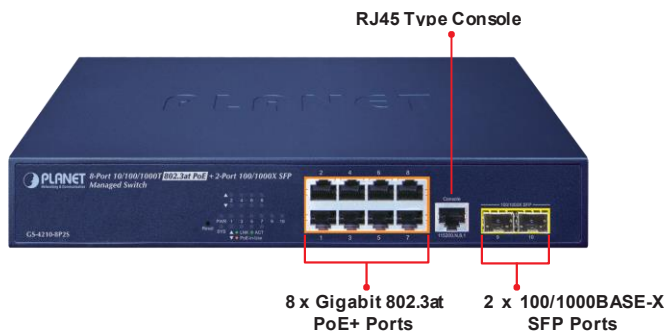


# 8-Port 10/100/1000T 802.3at PoE + 2-Port 100/1000X SFP Managed Switch



## A Perfect Managed PoE+ Switch with Advanced L2/L4 Switching and Security

PLANET GS-4210-8P2S is a cost-optimized, desktop-size Managed Gigabit PoE+ Switch featuring PLANET **intelligent PoE** functions to improve the availability of critical business applications. It provides IPv6/IPv4 dual stack management and built-in L2/L4 Gigabit switching engine along with **8 10/100/1000BASE-T** ports featuring **30-watt 802.3at PoE+** and **2 additional 100/1000BASE-X SFP fiber slots**. With a total power budget of up to **140 watts** for different kinds of PoE applications, it provides a quick, safe and cost-effective Power over Ethernet network solution for small businesses and enterprises.



## Cybersecurity Network Solution to Minimize Security Risks

The GS-4210-8P2S 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**, **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

- **8-Port 10/100/1000BASE-T** Gigabit RJ45 copper with 8-Port **IEEE 802.3at/af PoE** Injector (Port-1 to Port-8)
- **2 100/1000BASE-X** mini-GBIC/SFP ports
- RJ45 console interface for switch basic management and setup

## 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 8 ports of IEEE 802.3af/802.3at devices powered
- Supports PoE power up to 30 watts for each PoE port
- 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
  - Per port PoE function enable/disable
  - PoE port power feeding priority
  - Per PoE port power allocation
  - PD classification detection
  - PD alive check
  - PoE schedule

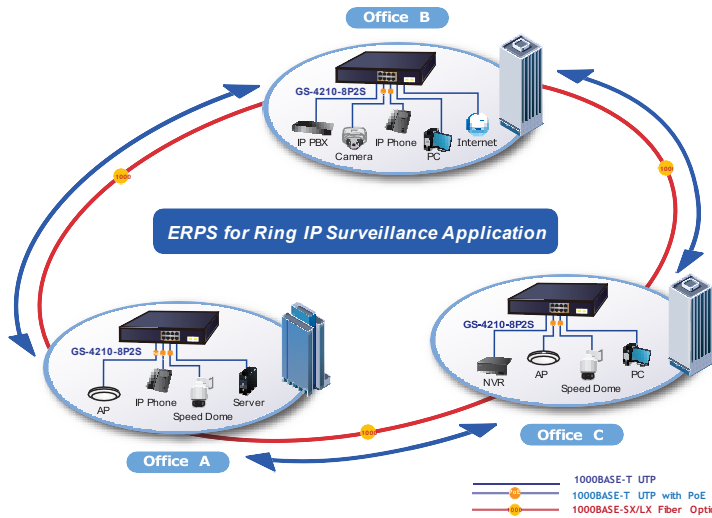
## Layer 2 Features

- Prevents packet loss with back pressure (half-duplex) and IEEE 802.3x pause frame flow control (full-duplex)
- High performance Store and Forward architecture, broadcast storm control, 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 (Protected port)
  - Management VLAN
  - GVRP
- Supports **Spanning Tree Protocol**
  - STP (Spanning Tree Protocol)



### Redundant Ring, Fast Recovery for Critical Network Applications

The GS-4210-8P2S 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 it is the managed PoE switch for surveillance, wireless and VoIP networks, the GS-4210-8P2S features the following special PoE management functions:

- PD Alive Check
- Scheduled Power Recycling
- PoE Schedule
- PoE Usage Monitoring
- PoE Extension

### Intelligent Powered Device Alive-Check

The GS-4210-8P2S 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-4210-8P2S 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, thus reducing the administrator's management burden.

- 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)
  - Cisco ether-channel (static trunk)
  - Maximum 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

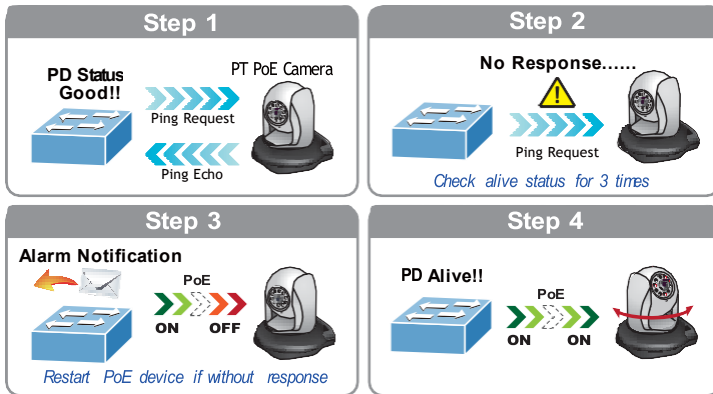
- Ingress/Egress Rate Limit per port bandwidth control
- Storm Control support
  - Broadcast/Unknown-Unicast/Unknown-Multicast
- Traffic classification
  - IEEE 802.1p CoS
  - TOS/DSCP/IP Precedence of IPv4/IPv6 packets
- Strict priority and Weighted Round Robin (WRR) CoS policies

### 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

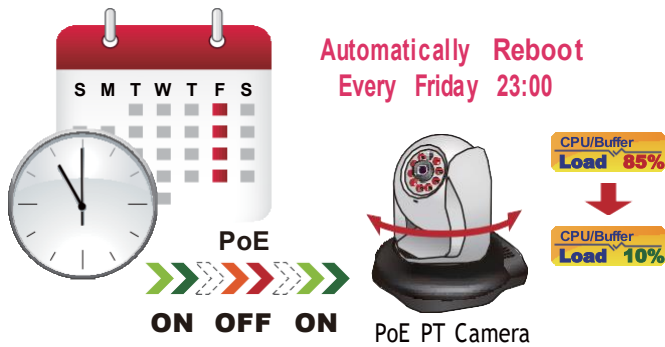
### Security

- Authentication
  - IEEE 802.1X Port-based network access authentication
  - Built-in RADIUS client to co-operate with the RADIUS servers
  - RADIUS/TACACS+ login user access authentication
- Access Control List
  - IPv4/IPv6 IP-based ACL/ACE
  - MAC-based ACL/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



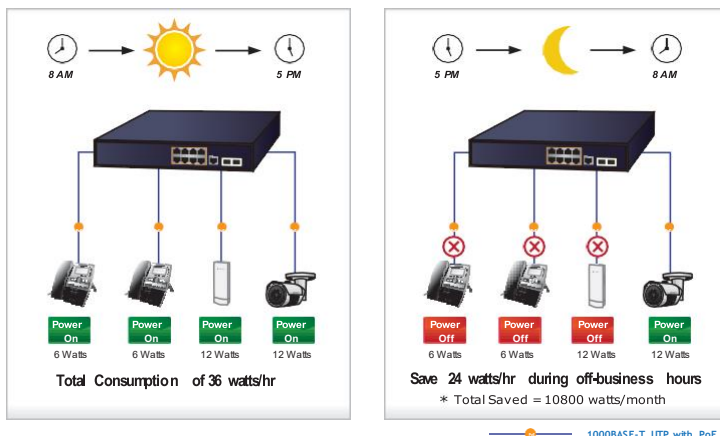
**Scheduled Power Recycling**

The GS-4210-8P2S allows each of the connected PoE IP cameras or PoE wireless access points to reboot at a specified time each week. Therefore, it will reduce the chance of IP camera or AP crash resulting from buffer overflow.



**PoE Schedule for Energy Savings**

Under the trend of energy savings worldwide and contributing to environmental protection, the GS-4210-8P2S 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.



**Management**

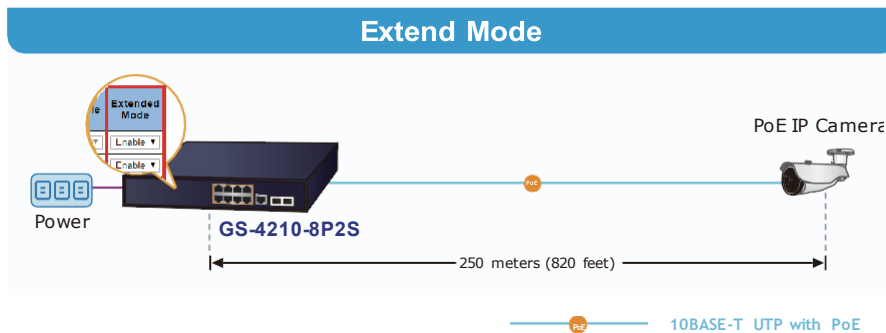
- IPv4 and IPv6 dual stack management
- Switch Management Interface
  - Web switch management
  - Console/Telnet Command Line Interface
  - SNMP v1 and v2c switch management
  - SSHv2, TLSv1.2 and SNMP v3 secure access
- User Privilege Levels Control
- Built-in Trivial File Transfer Protocol (TFTP) client
- BOOTP and DHCP for IP address assignment
- System Maintenance
  - Firmware upload/download via HTTP/TFTP
  - Configuration upload/download via HTTP/TFTP
  - Dual Images
  - Hardware reset button for system reboot or reset to factory default
- SNTP Network Time Protocol
- Cable Diagnostics
- Link Layer Discovery Protocol (LLDP) Protocol and LLDP-MED
- SNMP trap for interface Link Up and Link Down notification
- Event message logging to remote Syslog server
- Four RMON groups (history, statistics, alarms, and events)
- PLANET Smart Discovery Utility for deployment management
- PLANET NMS system and CloudViewer for deployment management

### PoE Usage Monitoring

Via the power usage chart in the web management interface, the GS-4210-8P2S enables the administrator to monitor the status of the power usage of the connected PDs in real time. Thus, it greatly enhances the management efficiency of the facilities.

### 802.3at PoE+ Power and Ethernet Data Transmission Distance Extension

In the “**Extend**” operation mode, the GS-4210-8P2S operates on a per-port basis at 10Mbps duplex operation but can support 20-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 GS-4210-8P2S provides an additional solution for 802.3at/af PoE distance extension, thus saving the cost of Ethernet cable installation.

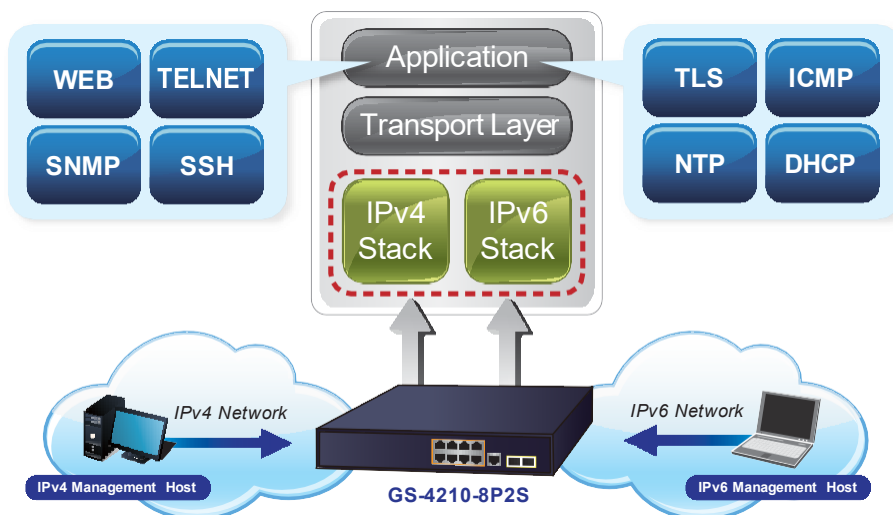


### Environmentally-friendly, Fanless Design for Silent Operation

The GS-4210-8P2S with a desktop-sized metal housing is designed to operate quietly and effectively as it is fanless and comes with optimal power output capability. Thus, the GS-4210-8P2S can be deployed in any environment without affecting its performance.

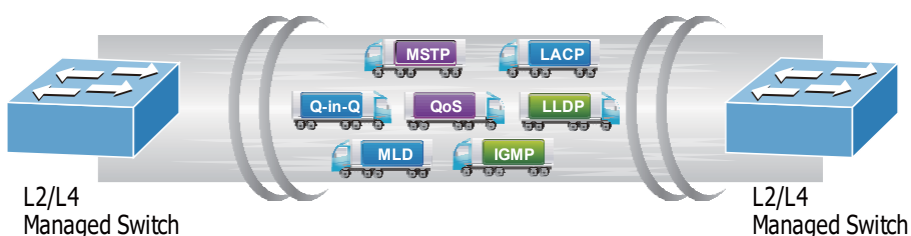
### IPv6/IPv4 Dual Stack Management

Supporting both IPv6 and IPv4 protocols, the GS-4210-8P2S helps the SMBs to step in the IPv6 era with the lowest investment as its network facilities need not be replaced or overhauled if the IPv6 FTTx edge network is set up.



### Robust Layer 2 Features

The GS-4210-8P2S can be programmed for advanced switch management functions such as dynamic port link aggregation, 802.1Q VLAN and **Q-in-Q VLAN**, **Multiple Spanning Tree protocol (MSTP)**, loop and **BPDU guard**, **IGMP snooping**, and **MLD snooping**. Via the link aggregation, the GS-4210-8P2S allows the operation of a high-speed trunk to combine with multiple ports, and supports fail-over as well. Also, the **Link Layer Discovery Protocol (LLDP)** is the Layer 2 protocol included to help discover basic information about neighboring devices on the local broadcast domain.



### Efficient Traffic Control

The GS-4210-8P2S is loaded with robust QoS features and powerful traffic management to enhance services to business-class data, voice, and video solutions. The functionality includes broadcast/multicast **storm control**, per port **bandwidth control**, IP DSCP QoS priority and remarking. It guarantees the best performance for VoIP and video stream transmission, and empowers the enterprises to take full advantage of the limited network resources.

### Powerful Security

The GS-4210-8P2S offers comprehensive Layer 2 to Layer 4 Access Control List (ACL) for enforcing security to the edge. It can be used to restrict network access by denying packets based on source and destination IP address, TCP/UDP ports or defined typical network applications. Its protection mechanism also comprises 802.1x Port-based user authentication. With the private VLAN function, communication between edge ports can be prevented to ensure user privacy. The network administrators can now construct highly-secure corporate networks with considerably less time and effort than before.

### Friendly and Secure Management

For efficient management, the GS-4210-8P2S is equipped with Command line, Web and SNMP management interfaces.

- With the built-in **Web-based** management interface, the GS-4210-8P2S offers an easy-to-use, platform-independent management and configuration facility.
- For **text-based** management, it can be accessed via Telnet and the console port.
- By supporting the standard SNMP protocol, the switch can be managed via any SNMP-based management software.

Moreover, the GS-4210-8P2S offers secure remote management by supporting **SSHv2**, **TLSv1.2** and **SNMP v3** connections which encrypt the packet content at each session.

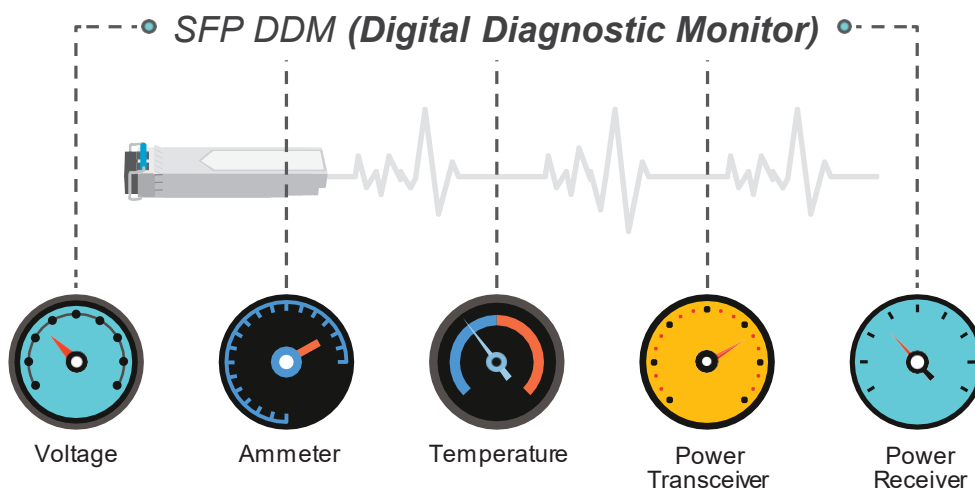


### Flexible Long-distance Extension Solution

The two mini-GBIC ports built in the GS-4210-8P2S support SFP auto-detection and dual speed as it features **100BASE-FX** and **1000BASE-SX/LX SFP** (small form-factor pluggable) fiber transceivers to uplink to backbone switch and monitoring center in long distance. The distance can be extended from 550 meters to 2 kilometers (multi-mode fiber) and to 10/20/40/60/80/120 kilometers (single-mode fiber or WDM fiber). They are well suited for applications within the enterprise data centers and distributions.

### Intelligent SFP Diagnosis Mechanism

The GS-4210-8P2S supports **SFP-DDM (Digital Diagnostic Monitor)** function that can easily monitor real-time parameters of the SFP for network administrator, such as optical output power, optical input power, temperature, laser bias current, and transceiver supply voltage.

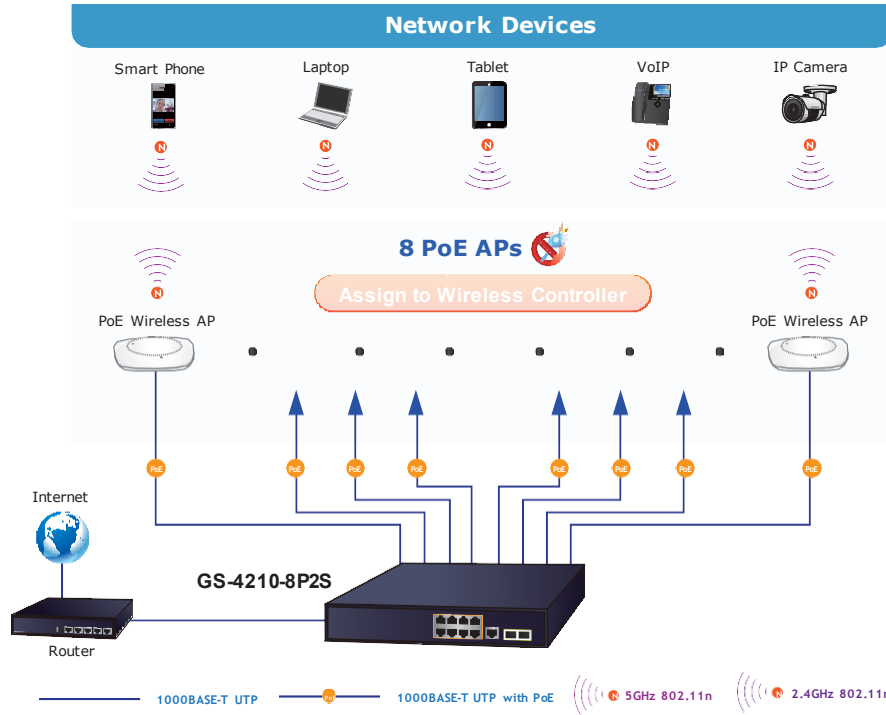


## Applications

### High Scalability for Today's 8-channel IP Surveillance Solution

The GS-4210-8P2S comes with non-blocking design and SFP fiber-optic modules, bringing network infrastructure higher flexibility but lower in cost. Providing eight 10/100/1000BASE-T 802.3at PoE+ ports and two Gigabit SFP ports, the GS-4210-8P2S can easily build a video surveillance on the NVR system for the SOHO/SMBs. For instance, it can work with eight PoE IP cameras and extend the network infrastructure easily for today's businesses.

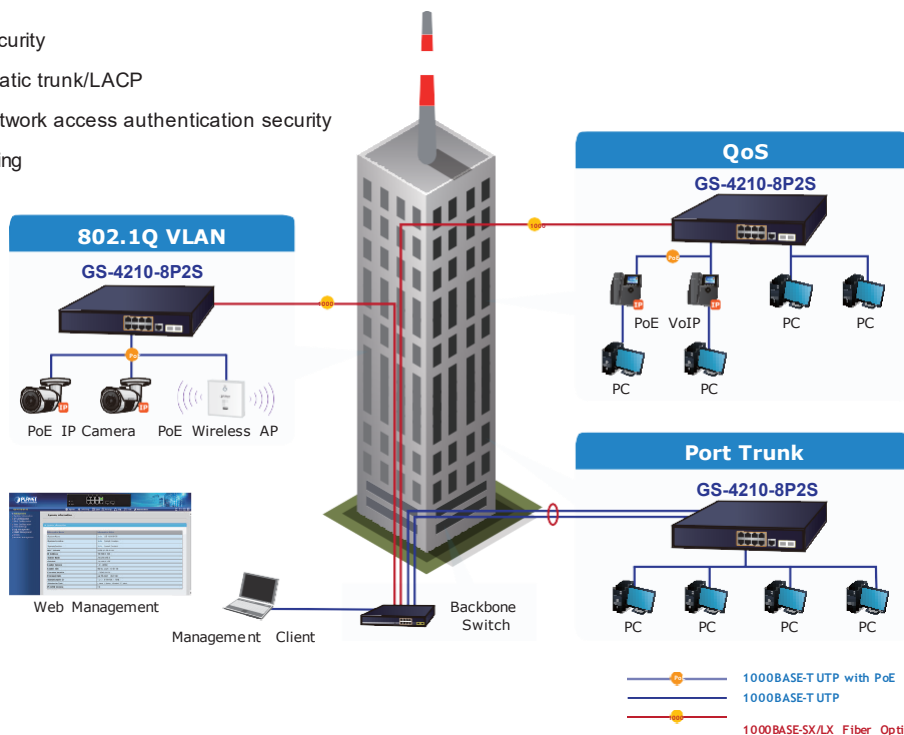
### High Scalability & Best Security for Today's Wireless Networking Solution



### Department/Workgroup 802.3at PoE+ Network

Providing 8 PoE+ in-line power interfaces, the GS-4210-8P2S can easily build a power that centrally controls IP phone system, IP camera system and wireless AP group for enterprises. The GS-4210-8P2S delivers full ports of 802.3at compliant Gigabit Ethernet network connectivity with high-performance and cost-effective advantages for the increasing number of PoE IP telephones, PoE IP cameras, PoE wireless access points and other devices applied at the edge of the small or medium enterprise network. The GS-4210-8P2S improves the network efficiency and protects the network clients with the powerful features:

- Layer 2 to Layer 4 security
- QoS/802.1Q VLAN/static trunk/LACP
- 802.1x port-based network access authentication security
- Multicast IGMP snooping



## Specifications

Product	GS-4210-8P2S
<b>Hardware Specifications</b>	
Copper Ports	8 x 10/100/1000BASE-T RJ45 Auto-MDI/MDI-X ports
SFP Ports	2 x 100/1000BASE-X SFP interfaces Supports 100/1000Mbps dual mode and DDM
PoE Injector Port	8 ports with 802.3at/af PoE injector function with Port-1 to Port-8
Console	1 x RS-232-to-RJ45 serial port (115200, 8, N, 1)
Reset Button	< 5 sec: System reboot > 5 sec: Factory default
Dimensions (W x D x H)	280 x 180 x 44 mm, 1U height
Weight	1.6kg
Enclosure	Metal
Power Requirements	AC 100~240V, 50/60Hz, 2.5A, auto-sensing
Power Consumption/ Dissipation	170 watts (max.)/580BTU
ESD Protection	Contact Discharge <b>6KV</b> DC Air Discharge <b>8KV</b> DC
Fan	Fanless design
LED	<b>System:</b> PWR x1 ( <b>Green</b> ) SYS x1 ( <b>Green</b> ) <b>Per PoE Port (Port 1 to Port 8):</b> LNK/ACT x1 ( <b>Green</b> ) PoE-in-use x1 ( <b>Orange</b> ) <b>Per Gigabit SFP Port (Port 9 to Port 10):</b> 100/1000 LNK/ACT x1 ( <b>Green</b> )
<b>Switching Specifications</b>	
Switch Architecture	Store-and-Forward
Switch Fabric	20Gbps/non-blocking
Switch Throughput@64Bytes	14.88Mpps
Address Table	8K entries
Shared Data Buffer	4.1 megabits
Flow Control	IEEE 802.3x pause frame for full duplex Back pressure for half duplex
Jumbo Frame	10K bytes
<b>Power over Ethernet</b>	
PoE Standard	IEEE 802.3af/802.3at PoE / PSE
PoE Power Supply Type	End-span
PoE Power Output	Per Port 56V DC, 30 watts (max.)
Power Pin Assignment	1/2(-), 3/6(+)
PoE Power Budget	140 watts (max.) @ 25 degrees C 120 watts (max.) @ 50 degrees C
Number of 802.3af PDs	8 units
Number of 802.3at PDs	5 units
PoE Management	PD Alive Check Scheduled Power Recycling PoE Schedule PoE Usage Monitoring PoE Extension
<b>Layer 2 Functions</b>	
Port Mirroring	TX/RX/both Many-to-1 monitor Up to 4 sessions
VLAN	IEEE 802.1Q tagged-based VLAN IEEE 802.1ad Q-in-Q tunneling Voice VLAN Protocol VLAN Private VLAN (Protected port) GVRP Up to 256 VLAN groups, out of 4094 VLAN IDs
Link Aggregation	IEEE 802.3ad LACP/Static Trunk Supports 1 trunk groups with 2 ports per trunk

Spanning Tree Protocol	STP, IEEE 802.1D Spanning Tree Protocol RSTP, IEEE 802.1w Rapid Spanning Tree Protocol MSTP, IEEE 802.1s Multiple Spanning Tree Protocol STP BPDU Guard, BPDU Filtering and BPDU Forwarding
IGMP Snooping	IPv4 IGMP (v2/v3) Snooping IPv4 IGMP Querier Up to 256 multicast groups
MLD Snooping	IPv6 MLD (v1/v2) Snooping Up to 256 multicast groups
QoS	8 mapping ID to 8 level priority queues - Port number - 802.1p priority - 802.1Q VLAN tag - DSCP field in IP packet Traffic classification based, strict priority and WRR
Ring	Supports ERPS, and complies with ITU-T G.8032
<b>Security Functions</b>	
Access Control List	IPv4/IPv6 IP-based ACL MAC-based ACL
Security	IP-MAC port binding MAC filter Static MAC address DHCP Snooping and DHCP Option82 DoS attack prevention ARP inspection IP source guard
AAA	Built-in RADIUS client to co-operate with RADIUS server
Network Access Control	IEEE 802.1X – Port-based authentication RADIUS/TACACS+ user access authentication
<b>Management Functions</b>	
Basic Management Interfaces	RS232 Console Web browser Telnet SNMP v1, v2c
Secure Management Interfaces	SSHv2, TLS v1.2, SNMP v3
System Management	Firmware upgrade by HTTP/TFTP protocol through Ethernet network LLDP protocol SNTP PLANET Smart Discovery Utility PLANET NMS System
Event Management	Remote/Local Syslog System log
SNMP MIBs	RFC 1213 MIB-II RFC 1215 Generic Traps RFC 1493 Bridge MIB RFC 2674 Bridge MIB Extensions RFC 2737 Entity MIB (Version 2) RFC 2819 RMON (1, 2, 3, 9) RFC 2863 Interface Group MIB RFC 3635 Ethernet-like MIB RFC 3621 Power Ethernet MIB
<b>Standards Conformance</b>	
Regulatory Compliance	FCC Part 15 Class A, CE

Standards Compliance	IEEE 802.3 10BASE-T	IEEE 802.3af Power over Ethernet
	IEEE 802.3u 100BASE-TX/100BASE-FX	IEEE 802.3at Power over Ethernet Plus
	IEEE 802.3z Gigabit SX/LX	RFC 768 UDP
	IEEE 802.3ab Gigabit 1000T	RFC 793 TFTP
	IEEE 802.3x flow control and back pressure	RFC 791 IP
	IEEE 802.3ad port trunk with LACP	RFC 792 ICMP
	IEEE 802.1D Spanning Tree protocol	RFC 2068 HTTP
	IEEE 802.1w Rapid Spanning Tree protocol	RFC 1112 IGMP version 1
	IEEE 802.1s Multiple Spanning Tree protocol	RFC 2236 IGMP version 2
	IEEE 802.1p Class of Service	RFC 3376 IGMP version 3
	IEEE 802.1Q VLAN tagging	RFC 2710 MLD version 1
	IEEE 802.1x Port Authentication Network Control	RFC 3810 MLD version 2
	IEEE 802.1ab LLDP	ITU G.8032 ERPS Ring
<b>Environment</b>		
Operating	Temperature: 0 ~ 50 degrees C Relative Humidity: 5 ~ 95% (non-condensing)	
Storage	Temperature: -20 ~ 70 degrees C Relative Humidity: 5 ~ 95% (non-condensing)	

## Ordering Information

GS-4210-8P2S	8-Port 10/100/1000T 802.3at PoE + 2-Port 100/1000X SFP Managed Switch
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## Related PoE Products

GS-4210-8P2T2S	8-Port 10/100/1000T 802.3at PoE + 2-Port 10/100/1000T + 2-Port 100/1000X SFP Managed Switch
GS-4210-8T2S	8-Port 10/100/1000T + 2-Port 100/1000X SFP Managed Switch
POE-161S	IEEE 802.3at Gigabit Power over Ethernet Plus Splitter with 5V/12VDC output (10/100/1000Mbps)
POE-162S	IEEE 802.3at Gigabit Power over Ethernet Plus Splitter with 12V/24VDC output (10/100/1000Mbps)
IPOE-162S	Industrial IEEE 802.3at Gigabit High Power over Ethernet Splitter
POE-E201	IEEE 802.3at Power over Gigabit Ethernet Extender
POE-E202	1-Port 802.3at PoE+ to 2-Port 802.3af/at Gigabit PoE Extender

## Available 1000Mbps Modules

Gigabit Ethernet Transceiver (1000BASE-X SFP)

Model	DDM	Speed (Mbps)	Connector Interface	Fiber Mode	Distance	Wavelength (nm)	Operating Temp.
MGB-GT	--	1000	Copper	--	100m	--	0 ~ 60 degrees C
MGB-SX(V2)	YES	1000	LC	Multi Mode	550m	850nm	0 ~ 60 degrees C
MGB-SX2(V2)	YES	1000	LC	Multi Mode	2km	1310nm	0 ~ 60 degrees C
MGB-LX(V2)	YES	1000	LC	Single Mode	20km	1310nm	0 ~ 60 degrees C
MGB-L40	YES	1000	LC	Single Mode	40km	1310nm	0 ~ 60 degrees C
MGB-L80	YES	1000	LC	Single Mode	80km	1550nm	0 ~ 60 degrees C
MGB-L120(V2)	YES	1000	LC	Single Mode	120km	1550nm	0 ~ 60 degrees C

Gigabit Ethernet Transceiver (1000BASE-BX, Single Fiber Bi-directional SFP)

Model	DDM	Speed (Mbps)	Connector Interface	Fiber Mode	Distance	Wavelength (TX)	Wavelength (RX)	Operating Temp.
MGB-LA10(V2)	YES	1000	WDM(LC)	Single Mode	10km	1310nm	1550nm	0 ~ 60 degrees C
MGB-LB10(V2)		1000	WDM(LC)	Single Mode	10km	1550nm	1310nm	0 ~ 60 degrees C
MGB-LA20(V2)	YES	1000	WDM(LC)	Single Mode	20km	1310nm	1550nm	0 ~ 60 degrees C
MGB-LB20(V2)		1000	WDM(LC)	Single Mode	20km	1550nm	1310nm	0 ~ 60 degrees C
MGB-LA40(V2)	YES	1000	WDM(LC)	Single Mode	40km	1310nm	1550nm	0 ~ 60 degrees C
MGB-LB40(V2)		1000	WDM(LC)	Single Mode	40km	1550nm	1310nm	0 ~ 60 degrees C
MGB-LA80	YES	1000	WDM(LC)	Single Mode	80km	1490nm	1550nm	0 ~ 60 degrees C
MGB-LB80		1000	WDM(LC)	Single Mode	80km	1550nm	1490nm	0 ~ 60 degrees C

## Available 100Mbps Modules

### Fast Ethernet Transceiver (100BASE-X SFP)

Model	Speed (Mbps)	Connector Interface	Fiber Mode	Distance	Wavelength (nm)	Operating Temp.
MFB-FX	100	LC	Multi Mode	2km	1310nm	0 ~ 60 degrees C
MFB-F20	100	LC	Single Mode	20km	1310nm	0 ~ 60 degrees C
MFB-F40	100	LC	Single Mode	40km	1310nm	0 ~ 60 degrees C
MFB-F60	100	LC	Single Mode	60km	1310nm	0 ~ 60 degrees C
MFB-F120	100	LC	Single Mode	120km	1310nm	0 ~ 60 degrees C

### Fast Ethernet Transceiver (100BASE-BX, Single Fiber Bi-directional SFP)

Model	Speed (Mbps)	Connector Interface	Fiber Mode	Distance	Wavelength (TX)	Wavelength (RX)	Operating Temp.
MFB-FA20	100	WDM(LC)	Single Mode	20km	1310nm	1550nm	0 ~ 60 degrees C
MFB-FB20	100	WDM(LC)	Single Mode	20km	1550nm	1310nm	0 ~ 60 degrees C