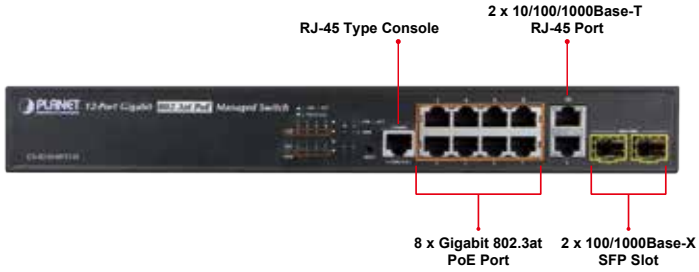
8-Port 10/100/1000T 802.3at PoE + 2-Port 10/100/1000T + 2-Port 100/1000X SFP Managed Switch

A Perfect Managed PoE+ Switch with Full PoE+ Power Budget

The GS-4210-8P2T2S is the new generation of PLANET 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+**, **2 additional Gigabit copper ports** and another **2 extra 100/1000Base-X SFP fiber slots**. Each of the eight Gigabit ports provides 30 watts of power, which means a total power budget of up to **240 watts** can be utilized simultaneously without considering the different types of PoE applications being employed. It provides a quick, safe and cost-effective Power over Ethernet network solution to IP security surveillance for small businesses and enterprises.



Built-in Unique PoE Functions for Powered Devices Management

As a managed PoE Switch for surveillance, wireless and VoIP networks, the GS-4210-8P2T2S features special PoE Management functions:

- PD Alive Check
- Scheduled Power Recycling
- PoE Schedule
- PoE usage monitoring

Intelligent Powered Device Alive-Check

The GS-4210-8P2T2S 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-4210-8P2T2S 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 PD Alive-checking

Physical Port

- **10-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 slots
- RJ45 console interface for switch basic management and setup

Power over Ethernet

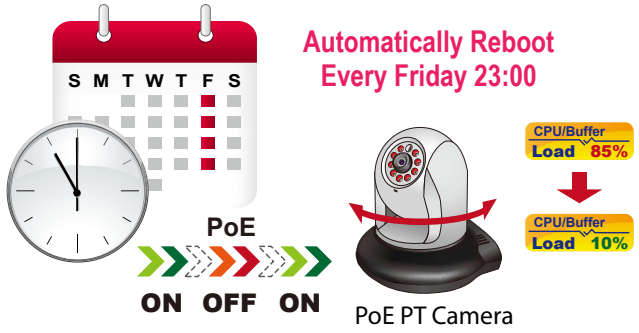
- Complies with IEEE 802.3at High Power over Ethernet End-span PSE
- Complies with IEEE 802.3af Power over Ethernet End-span PSE
- Up to 8 ports of IEEE 802.3af / 802.3at devices powered
- Supports PoE Power up to 30.8 watts for each PoE port
- Auto detects powered device (PD)
- Circuit protection prevents power interference between ports
- Remote power feeding up to 100 meters
- PoE Management
  - Total PoE power budget control
  - Per port PoE function enable/disable
  - PoE Port Power feeding priority
  - Per PoE port power limitation
  - 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)

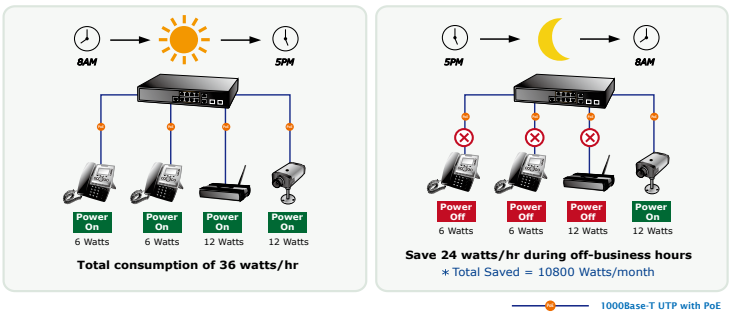
Scheduled Power Recycling

The GS-4210-8P2T2S 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-4210-8P2T2S 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.



PoE Usage Monitoring

Via the power usage chart in the web management interface, the GS-4210-8P2T2S 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.

Environment-friendly, Smart Fan Design for Silent Operation

The GS-4210-8P2T2S features a desktop-sized metal housing, a low noise design and an effective ventilation system. It supports the smart fan technology to automatically control the speed of the built-in fan to reduce noise and maintain the temperature of the PoE switch for optimal power output capability. The GS-4210-8P2T2S is able to operate reliably, stably and quietly in any environment without affecting its performance.

IPv6 / IPv4 Dual Stack

Supporting both IPv6 and IPv4 protocols, the GS-4210-8P2T2S helps the SMBs to step in the IPv6 era with the lowest investment as its network facilities need not to be replaced or overhauled if the IPv6 FTTx edge network is set up.

  - 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)
  - Cisco ether-channel (Static Trunk)
  - Maximum 8 trunk groups, up to 8 ports per trunk group
- Provides port mirror (many-to-1)
- Loop protection to avoid broadcast loops

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

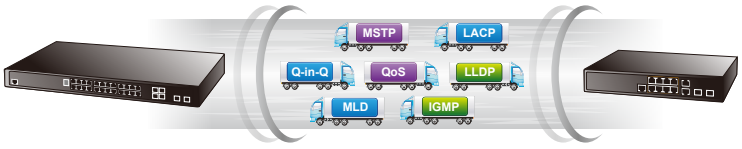
- Supports IGMP Snooping v2 and v3
- Supports MLD Snooping v1, v2
- IGMP Querier mode support
- IGMP Snooping port filtering
- MLD Snooping port filtering

Security

- Authentication
  - IEEE 802.1X Port-based network access authentication
  - Built-in RADIUS client to co-operate with the RADIUS servers

Robust Layer 2 Features

The GS-4210-8P2T2S 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-4210-8P2T2S allows the operation of a high-speed trunk to combine with multiple ports such as a 16Gbps fat pipe, 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-4210-8P2T2S 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

PLANET GS-4210-8P2T2S offers comprehensive IPv4 / IPv6 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 and device authentication, which can be deployed with RADIUS to ensure the port level security and block illegal users. With the Protected Port function, communication between edge ports can be prevented to guarantee user privacy. Furthermore, Port Security function allows to limit the number of network devices on a given port.

Advanced Network Security

The GS-4210-8P2T2S also provides DHCP Snooping, IP Source Guard and Dynamic ARP Inspection functions to prevent IP snooping from attack and discard ARP packets with invalid MAC address. The network administrators can now construct highly secured corporate networks with considerably less time and effort than before.

Friendly and Secure Management

For efficient management, the GS-4210-8P2T2S is equipped with console, Web, Telnet and SNMP management interfaces. With the built-in Web-based management interface, the GS-4210-8P2T2S offers an easy-to-use, platform-independent management and configuration facility. By supporting standard Simple Network Management Protocol (SNMP), the switch can be managed via any standard management software. For text-based management, the switch can be accessed via Telnet and the console port. Moreover, the GS-4210-8P2T2S offers secure remote management by supporting SSH, SSL and SNMPv3 connections which encrypt the packet content at each session.

Intelligent SFP Diagnosis Mechanism

The GS-4210-8P2T2S 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.

  - RADIUS / TACACS+ login user access authentication
- Access Control List
  - IPv4 / IPv6 IP-based ACL
  - MAC-based ACL
- 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
- SSH/SSL

Management

- IPv4 and IPv6 dual stack management
- Switch Management Interface
  - Web switch management
  - Telnet Command Line Interface
  - SNMP v1, v2c and v3
  - SSH / SSL 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 through Web interface
  - 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
- Smart fan with speed control

Flexibility and Long-distance Extension Solution

The GS-4210-8P2T2S provides 2 extra Gigabit TP interfaces supporting 10/100/1000Base-T RJ45 copper to connect with surveillance network devices such as NVR, Video Streaming Server or NAS to facilitate surveillance management. Or through these dual-speed fiber SFP slots, it can also connect with the 100Base-FX / 1000Base-SX/LX SFP (Small Form-factor Pluggable) fiber transceiver 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 up to above 10/20/30/40/50/70/120 kilometers (single-mode fiber or WDM fiber). They are well suited for applications within the enterprise data centers and distributions.

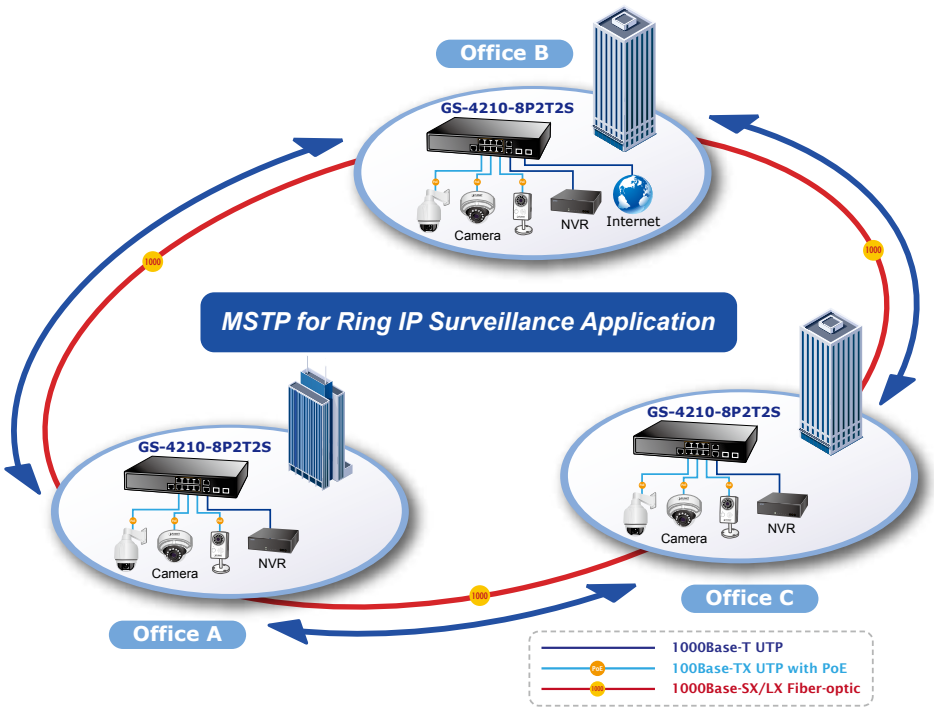
Intelligent SFP Diagnosis Mechanism

The GS-4210-8P2T2S 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

Multiple Spanning Tree Protocol with PoE IP Surveillance System for SMBs / Workgroups

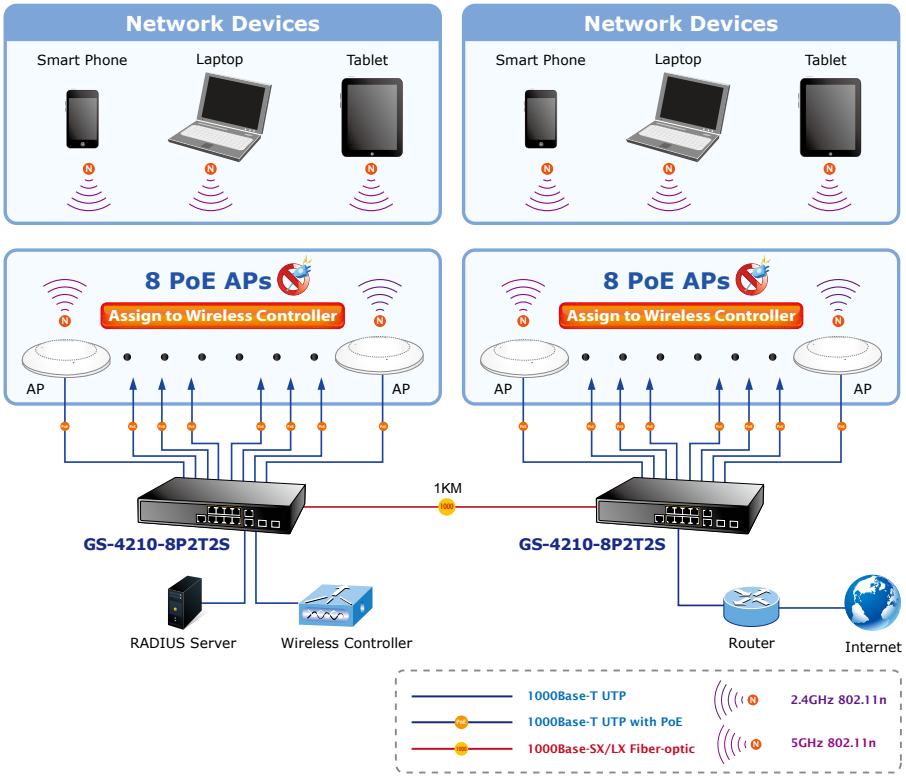
The GS-4210-8P2T2S features strong rapid self-recovery capability to prevent interruptions and external intrusions. It incorporates Multiple Spanning Tree Protocol (802.1s MSTP) into customer's automation network to enhance system reliability and uptime. Applying the IEEE 802.3at Power over Ethernet standard, the GS-4210-8P2T2S can directly connect with any IEEE 802.3at end-nodes like PTZ (Pan, Tilt & Zoom) network cameras and PTZ speed dome cameras. The GS-4210-8P2T2S can easily build a power centrally controlled IP Camera system for the enterprises. For instance, it can work with an 8-channel NVR to perform comprehensive security monitoring with 8 IP cameras via one Gigabit TP port, and surf on the Internet via the other Gigabit SFP port.



PoE Wi-Fi Hotspot Solution with Extended Network Infrastructure for Public Spaces

The GS-4210-8P2T2S comes with non-blocking design, desktop size and SFP fiber-optic modules, bringing network infrastructure higher flexibility but lower in cost. Providing eight 10/100/1000Base-T PoE ports, two 10/100/1000Base-T copper ports, in-line power interfaces and two Gigabit SFP interfaces, the GS-4210-8P2T2S can easily build a Networking Authentication on Wireless LAN Controllers system for the enterprises. For instance, it can work with the Wireless Controller and RADIUS Server to perform comprehensive security for wireless user authentication with powered APs.

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



Specifications

Product	GS-4210-8P2T2S
Hardware Specifications	
Copper Ports	10 x 10/100/1000Base-T RJ45 Auto-MDI/MDI-X ports
SFP/mini-GBIC Slots	2 x 100/1000Base-X SFP interfaces with Port-11 to Port-12. 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)
Switch Architecture	Store-and-Forward
Switch Fabric	24Gbps / non-blocking
Switch Throughput@64Bytes	17.76Mpps
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
Reset Button	< 5 sec: System reboot > 5 sec: Factory default
LED	PWR, SYS, LNK/ACT, PoE In-Use, 1000
Dimensions (W x D x H)	330 x 200 x 44.5 mm, 1U height
Weight	2kg
Power Requirements	AC 100~240V, 50/60Hz, auto-sensing
ESD Protection	6KV DC
Power Consumption / Dissipation	320 watts (max.) / 1091.8 BTU
Enclosure	Metal
Power over Ethernet	
PoE Standard	IEEE 802.3af / 802.3at PoE / PSE
PoE Power Supply Type	End-span
PoE Power Output	Per Port 56V DC, 30.8 watts (max.)
Power Pin Assignment	1/2(+), 3/6(-)
PoE Power Budget	240 watts (max.) @ 25 degrees C 200 watts (max.) @ 50 degrees C
PoE Ability PD @ 15.4 watts	8 units
PoE Ability PD @ 30 watts	8 units
Layer 2 Functions	
Port Mirroring	TX / RX / both Many-to-1 monitor
VLAN	802.1Q tagged-based VLAN Up to 256 VLAN groups, out of 4094 VLAN IDs 802.1ad Q-in-Q tunneling Voice VLAN Protocol VLAN Private VLAN (Protected port) GVRP
Link Aggregation	IEEE 802.3ad LACP and static trunk Supports 8 groups of 8-port trunk
Spanning Tree Protocol	STP / RSTP / MSTP
IGMP Snooping	IGMP (v2/v3) Snooping IGMP Querier Up to 256 multicast groups
MLD Snooping	MLD (v1/v2) Snooping, up to 256 multicast groups
Access Control List	IPv4/IPv6 IP-based ACL / MAC-based ACL
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

Security	IEEE 802.1X – Port-based authentication Built-in RADIUS client to co-operate with RADIUS server RADIUS / TACACS+ user access authentication IP-MAC port binding MAC filter Static MAC address DHCP Snooping and DHCP Option82 STP BPDU guard, BPDU filtering and BPDU forwarding DoS attack prevention ARP inspection IP source guard
Management Functions	
Basic Management Interfaces	Web browser / Telnet / SNMP v1, v2c Firmware upgrade by HTTP / TFTP protocol through Ethernet network Remote / Local Syslog System log LLDP protocol SNTP
Secure Management Interfaces	SSH, SSL, SNMP v3
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
Standards Conformance	
Regulation Compliance	FCC Part 15 Class A, CE
Standards Compliance	IEEE 802.3 10Base-T IEEE 802.3u 100Base-TX/100Base-FX IEEE 802.3z Gigabit SX/LX IEEE 802.3ab Gigabit 1000T IEEE 802.3x flow control and back pressure IEEE 802.3ad port trunk with LACP IEEE 802.1D Spanning Tree protocol IEEE 802.1w Rapid Spanning Tree protocol IEEE 802.1s Multiple Spanning Tree protocol IEEE 802.1p Class of Service IEEE 802.1Q VLAN tagging IEEE 802.1x Port Authentication Network Control IEEE 802.1ab LLDP IEEE 802.3af Power over Ethernet IEEE 802.3at High Power over Ethernet RFC 768 UDP RFC 793 TFTP RFC 791 IP RFC 792 ICMP RFC 2068 HTTP RFC 1112 IGMP version 1 RFC 2236 IGMP version 2 RFC 3376 IGMP version 3 RFC 2710 MLD version 1 RFC 3810 MLD version 2
Environment	
Operating	Temperature: 0 ~ 50 degrees C Relative Humidity: 5 ~ 95% (non-condensing)
Storage	Temperature: -10 ~ 70 degrees C Relative Humidity: 5 ~ 95% (non-condensing)

Ordering Information

GS-4210-8P2T2S	8-Port 10/100/1000T 802.3at PoE + 2-Port 10/100/1000T + 2-Port 100/1000X SFP Managed Switch

Related Products

GS-4210-24P2S	24-Port 10/100/1000T 802.3at PoE + 2-Port 100/1000X SFP Managed Switch
GSD-1020S	8-Port 10/100/1000Mbps + 2-Port 100/1000X SFP Managed Desktop Switch
GSD-1002M	8-Port 10/100/1000Mbps + 2-Port 100/1000X SFP Managed Desktop Switch
POE-162S	IEEE 802.3at Gigabit High Power over Ethernet Splitter
POE-E201	IEEE 802.3at Power over Gigabit Ethernet Extender

Available Modules for GS-4210-8P2T2S

MGB-GT	SFP-Port 1000Base-T Module
MGB-SX	SFP-Port 1000Base-SX mini-GBIC module - 220/550m
MGB-LX	SFP-Port 1000Base-LX mini-GBIC module - 10km
MGB-L30	SFP-Port 1000Base-LX mini-GBIC module - 30km
MGB-L50	SFP-Port 1000Base-LX mini-GBIC module - 50km
MGB-L70	SFP-Port 1000Base-LX mini-GBIC module - 70km
MGB-L120	SFP-Port 1000Base-LX mini-GBIC module - 120km
MGB-LA10	SFP-Port 1000Base-LX (WDM,TX:1310nm) mini-GBIC module - 10km
MGB-LB10	SFP-Port 1000Base-LX (WDM,TX:1550nm) mini-GBIC module - 10km
MGB-LA20	SFP-Port 1000Base-LX (WDM,TX:1310nm) mini-GBIC module - 20km
MGB-LB20	SFP-Port 1000Base-LX (WDM,TX:1550nm) mini-GBIC module - 20km
MGB-LA40	SFP-Port 1000Base-LX (WDM,TX:1310nm) mini-GBIC module - 40km
MGB-LB40	SFP-Port 1000Base-LX (WDM,TX:1550nm) mini-GBIC module - 40km

Available 100Mbps Modules for GS-4210-8P2T2S

MFB-FX	SFP-Port 100Base-FX Transceiver (1310nm)-2km
MFB-F20	SFP-Port 100Base-FX Transceiver (1310nm)-20km
MFB-F40	SFP-Port 100Base-FX Transceiver (1310nm)-40km
MFB-F60	SFP-Port 100Base-FX Transceiver (1310nm)-60km
MFB-FA20	SFP-Port 100Base-BX Transceiver (WDM,TX:1310nm)-20km
MFB-FB20	SFP-Port 100Base-BX Transceiver (WDM,TX:1550nm)-20km

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