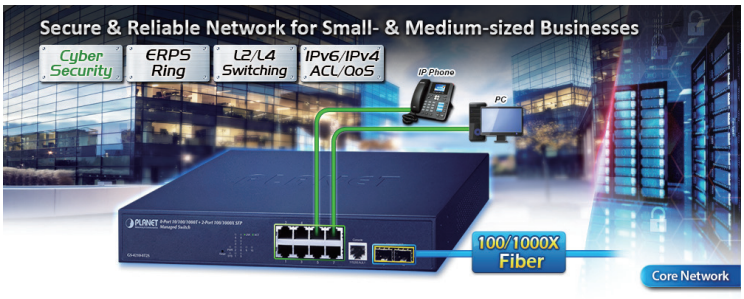
8-Port 10/100/1000T + 2-Port 100/1000X SFP Managed Switch

A Perfect Managed Edge Switch with Advanced L2/L4 Switching and Security

PLANET GS-4210-8T2S is an 8-Port Gigabit Managed Ethernet Switch with SFP interfaces specially designed to build a full Gigabit backbone to reliably transmit and forward data to remote network through fiber optic. It provides 8 **10/100/1000BASE-T copper** ports and **2 extra 100/1000BASE-X SFP fiber optic interfaces** with built-in power system. Besides support for 20Gbps switch fabric to handle extremely large amounts of video, voice and important data in a secure topology, the GS-4210-8T2S provides user-friendly but advanced IPv6 / IPv4 management interfaces and abundant L2 / L4 switching functions. It is the best investment for businesses and SOHOs expanding or upgrading their network infrastructures.



Cybersecurity Network Solution to Minimize Security Risks

The GS-4210-8T2S supports SSHv2 and TLS protocols to provide strong protection against advanced threats. It includes a range of cybersecurity features such as **DHCP Snooping**, **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 10/100/1000BASE-T** Gigabit RJ45 copper ports
- **2 100/1000BASE-X SFP** ports
- RJ45 console interface for switch basic management and setup

Layer 2 Features

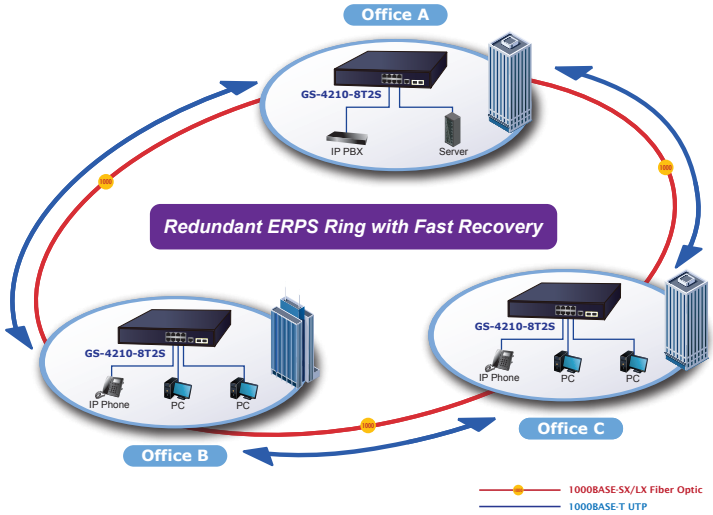
- Prevents packet loss with back pressure (half-duplex) and IEEE 802.3x pause frame flow control (full-duplex)
- High performance Store and Forward architecture, broadcast storm control, runt/CRC filtering eliminates erroneous packets to optimize the network bandwidth
- Supports **VLAN**
  - IEEE 802.1Q 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)
  - 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

Redundant Ring, Fast Recovery for Critical Network Applications

The GS-4210-8T2S 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 and Spanning Tree Protocol (802.1s MSTP) into customer's network to enhance system reliability and uptime in various environments.

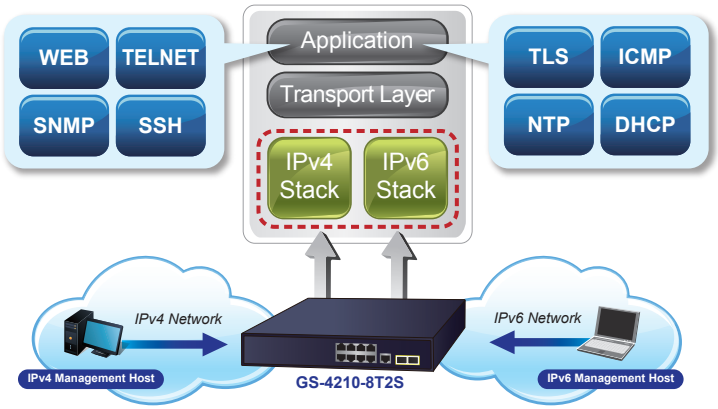


Environmentally-friendly, Fanless Design for Silent Operation

The GS-4210-8T2S 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-4210-8T2S can be deployed in any environment without affecting its performance.

IPv6/IPv4 Dual Stack Management

Supporting both IPv6 and IPv4 protocols, the GS-4210-8T2S 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-4210-8T2S 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

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

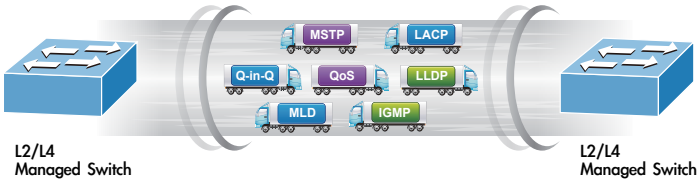
Security

- 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

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

snooping, and MLD snooping. Via the link aggregation, the GS-4210-8T2S 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.



- 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 NMS System and Smart Discovery Utility for deployment management

Efficient Traffic Control

The GS-4210-8T2S 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-4210-8T2S 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 and MAC-based user and device 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-4210-8T2S is equipped with Command line, Web and SNMP management interfaces.

■ With the built-in Web-based management interface, the GS-4210-8T2S 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.

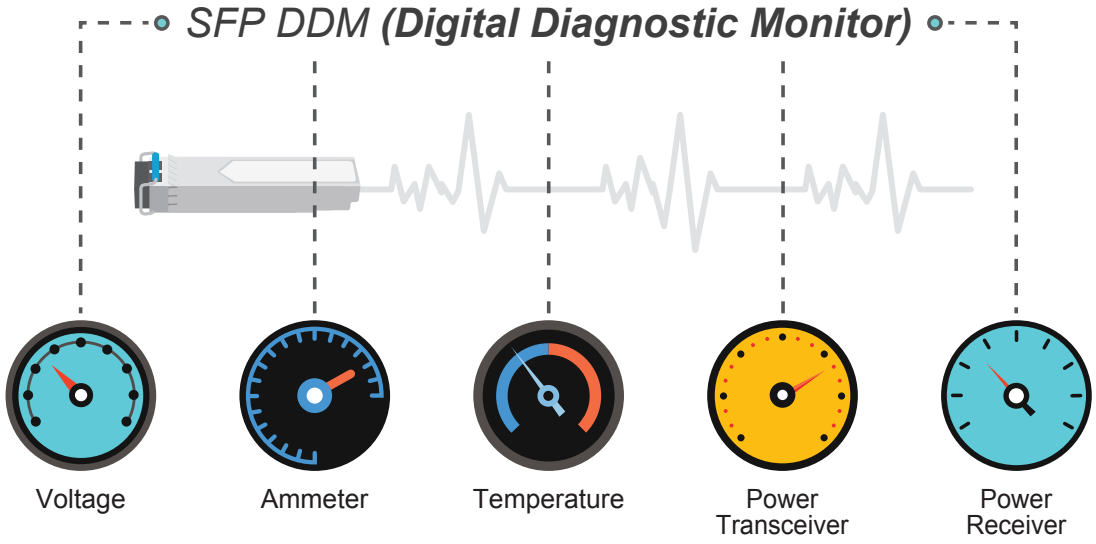
Moreover, the GS-4210-8T2S offers secure remote management by supporting SSHv2, TLSv1.2 and SNMP v3 connections which encrypt the packet content at each session.

Flexible Long-distance Extension Solution

The two mini-GBIC ports built in the GS-4210-8T2S 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-4210-8T2S 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.



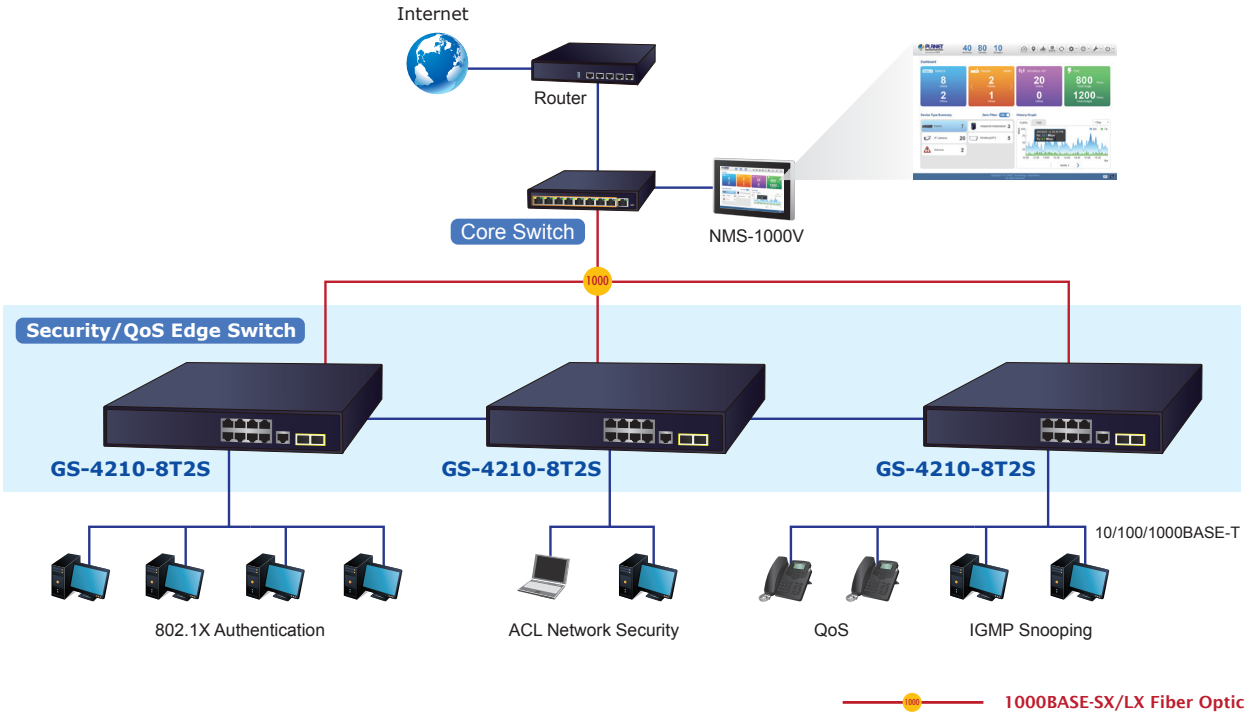
Applications

Department / Edge Security and QoS Switches for SMBs

The GS-4210-8T2S connects up to 10 high-speed workstations in the Ethernet environment, in which its two SFP mini-GBIC interfaces uplink to a department backbone. Moreover, the Switch provides 20 Gigabit per second switch fabric and high bandwidth for backbone connection. The GS-4210-8T2S improves the network efficiency and protects the network clients with the following powerful features:

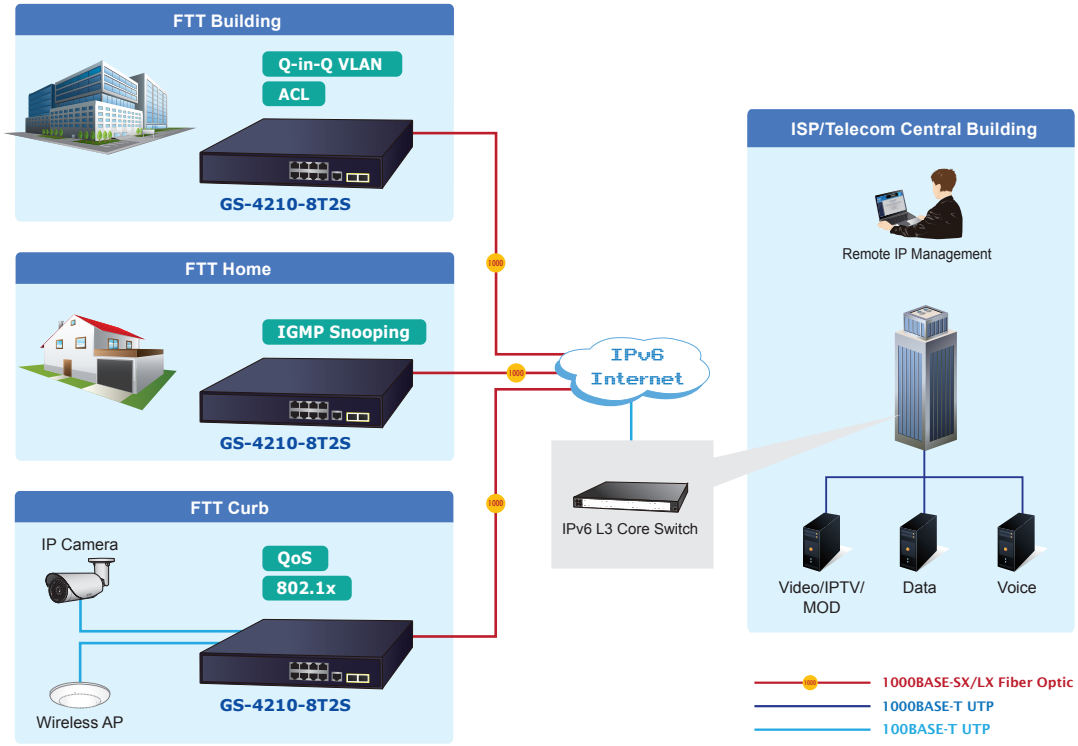
- IPv6 / IPv4 dual stack management
- Layer 2 to Layer 4 security and QoS
- 802.1x Port-based network access authentication security
- IPv4 Multicast IGMP and IPv6 MLD Snooping

The advanced functionality of the GS-4210-8T2S eliminates traditional issues associated with the use of Ethernet. Users can be separated with advanced VLAN functionality to enhance security. It makes the GS-4210-8T2S one of the best and most cost-effective switch solutions for SMBs.



FTTX / MAN Application Switch

The GS-4210-8T2S features SNMPv3 and RMON Groups security functions. The SNMPv3 security structure consists of security models and helps to isolate each model with its own security levels to enhance the security protections in the FTTX and MAN Network. With its two built-in dual-speed SFP slots, the deployment distance of the GS-4210-8T2S can be extended from 550 meters (multi-mode fiber) to above 10/50/70/120 kilometers (single-mode fiber), thus providing a high-performance edge service for FTTx solutions. To build a network solution of FTTH (Fiber to the Home) or FTTC (Fiber to the Curb) for ISPs, and FTTB (Fiber to the Building) for enterprises, the various distances of SFP (small-form factor) and Bidi (WDM) transceivers are optional for customers' choices. For security and various applications, the SFP ports of the GS-4210-8T2S can be configured with VLAN settings and connected to different units, offices, floors, houses and departments.



Specifications

Product	GS-4210-8T2S
Hardware Specifications	
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
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	1315 g
Enclosure	Metal
Power Requirements	AC 100~240V, 50/60Hz, 2.5A, auto-sensing
Power Consumption/ Dissipation	6.8 watts / 23.2 BTU
ESD Protection	Contact Discharge **6KV** DC Air Discharge **8KV** DC
Fan	Fanless design
LED	**System**: PWR x1(**Green**) SYS x1 (**Green**) **Per PoE Port (Port 1 to Port 8)**: LNK/ACT x1 (**Green**) **Per Gigabit SFP Port (Port 9 to Port 10)**: 100/1000 LNK/ACT x1 (**Green**)
Switching Specifications	
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
Layer 2 Functions	
Port Mirroring	TX/RX/both Many-to-1 monitor Up to 4 sessions
VLAN	IEEE 802.1Q tagged 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 Supports1 trunk group with 2 ports per trunk
Spanning Tree Protocol	IEEE 802.1D Spanning Tree Protocol (STP) IEEE 802.1w Rapid Spanning Tree Protocol (RSTP) IEEE 802.1s Multiple Spanning Tree Protocol (MSTP) 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

Security Functions		
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	
Management Functions		
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	
Standards Conformance		
Regulatory 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 Power over Ethernet Plus 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 ITU G.8032 ERPS Ring
Environment		
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-4210-8T2S	8-Port 10/100/1000T+ 2-Port 100/1000X SFP Managed Switch

Related Product

GS-4210-8P2S	8-Port 10/100/1000T 802.3at PoE + 2-Port 100/1000X SFP Managed Switch
GS-4210-8HP2S	2-Port 10/100/1000T 802.3bt PoE + 6-Port 10/100/1000T 802.3at PoE + 2-Port 100/1000X SFP Managed Switch
GS-4210-16T2S	16-Port Layer 2 Managed Gigabit Ethernet Switch w/2 SFP Interfaces
GS-4210-24T4S	24-Port 10/100/1000T + 4-Port 100/1000X SFP Managed Gigabit Switch
GS-4210-24T4SR	24-Port 10/100/1000T + 4-Port 100/1000X SFP Managed Gigabit Switch with 36-72V DC Redundant Power
GS-4210-16UP4C	16-Port 10/100/1000T 802.3bt PoE++ plus 4-Port Gigabit TP/SFP Combo Managed Switch
GS-4210-24UP4C	24-Port 10/100/1000T 802.3bt PoE++ plus 4-Port Gigabit TP/SFP Combo Managed Switch

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

PLANET Technology Corporation

11F., No.96, Minquan Rd., Xindian Dist., New Taipei City 231, Taiwan (R.O.C.)

Tel: 886-2-2219-9518 Fax: 886-2-2219-9528

Email: sales@planet.com.tw www.planet.com.tw