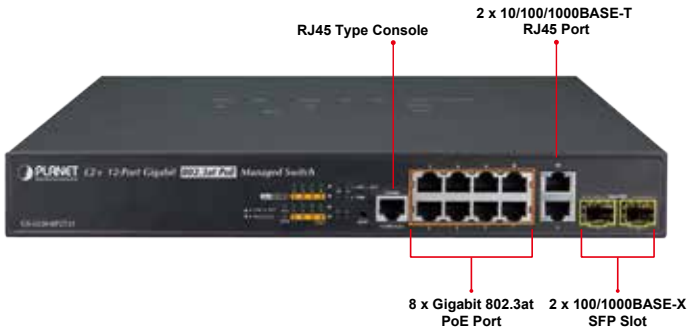
L2+ 8-Port 10/100/1000T 802.3at PoE + 2-Port 10/100/1000T + 2-Port 100/1000X SFP Managed Switch

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

PLANET GS-5220-8P2T2S is a Layer 2+ Managed Gigabit Switch, which supports both IPv4 and IPv6 protocols and Layer 3 static routing capability, and provides 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.



Centralized Power Management for Gigabit Ethernet PoE Networking

To fulfill the needs of higher power required PoE network applications with Gigabit speed transmission, the GS-5220-8P2T2S features high-performance Gigabit IEEE 802.3af PoE (up to 15.4 watts) and IEEE 802.3at PoE+ (up to 30 watts) on all ports. It perfectly meets the power requirement of PoE VoIP phone and all kinds of PoE IP cameras such as IR, PTZ, speed dome cameras or even box type IP cameras with built-in fan and heater for high power consumption.

Physical Port

- 10-Port 10/100/1000BASE-T RJ45 copper with 8-Port IEEE 802.3at/af Power over Ethernet Injector function
- 2 100/1000BASE-X mini-GBIC/SFP slots,
- RJ45 console interface for 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
  - PD power recycling schedule

Layer 2 Features

- Prevents packet loss with back pressure (half-duplex) and IEEE 802.3x pause frame flow control (full-duplex)
- High performance of Store-and-Forward architecture and runt/CRC filtering eliminates erroneous packets to optimize the network bandwidth
- Storm Control support
  - Broadcast/Multicast/Unknown unicast
- Supports VLAN
  - IEEE 802.1Q tagged VLAN
  - Up to 255 VLANs groups, out of 4094 VLAN IDs
  - Supports provider bridging (VLAN Q-in-Q, IEEE 802.1ad)
  - Private VLAN Edge (PVE)
  - Protocol-based VLAN
  - MAC-based VLAN
  - Voice VLAN

The GS-5220-8P2T2S's PoE capabilities also help to reduce deployment costs for network devices as a result of freeing from restrictions of power outlet locations. Power and data switching are integrated into one unit, delivered over a single cable and managed centrally. It thus eliminates cost for additional AC wiring and reduces installation time.

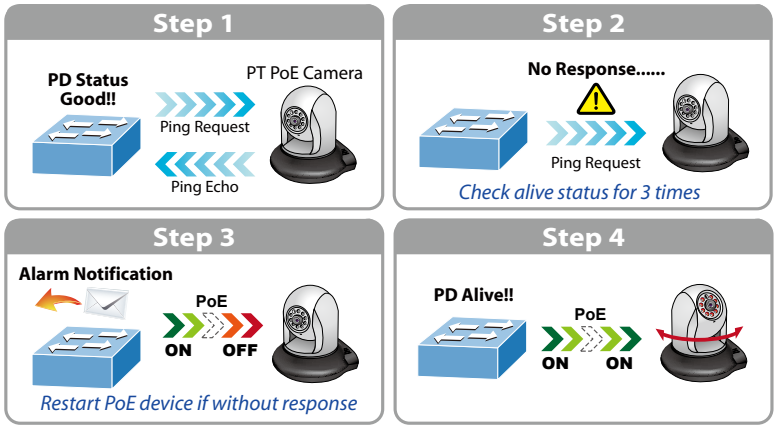
Built-in Unique PoE Functions for Surveillance Management

As a managed PoE Switch for surveillance network, the GS-5220-8P2T2S features intelligent PoE management functions:

- PD Alive Check
- Scheduled Power Recycling
- SMTP/SNMP Trap Event Alert
- PoE Schedule

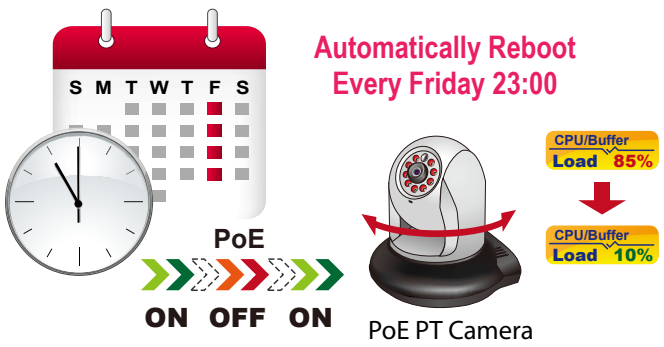
Intelligent Powered Device Alive Check

The GS-5220-8P2T2S can be configured to monitor a connected PD (Powered Device) status in real time via ping action. Once the PD stops working and it is without response, the GS-5220-8P2T2S 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, thus reducing administrator management burden.



Scheduled Power Recycling

The GS-5220-8P2T2S allows each of the connected PDs to reboot at a specified time each week. Therefore, it will reduce the chance of PD crash resulting from buffer overflow.



- Supports 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, spanning tree by VLAN
  - BPDU Guard
- Supports Link Aggregation
  - 802.3ad Link Aggregation Control Protocol (LACP)
  - Cisco ether-channel (static trunk)
  - Maximum 6 trunk groups, up to 8 ports per trunk group
  - Up to 16Gbps bandwidth (full duplex mode)
- Provides port mirror (many-to-1)
- Port mirroring to monitor the incoming or outgoing traffic on a particular port
- Loop protection to avoid broadcast loops

Layer 3 IP Routing Features

- Supports maximum 32 static routes and route summarization

Quality of Service

- Ingress Shaper and Egress Rate Limit per port bandwidth control
- 8 priority queues on all switch ports
- Traffic classification
  - IEEE 802.1p CoS
  - TOS/DSCP/IP Precedence of IPv4/IPv6 packets
  - IP TCP/UDP port number
  - Typical network application
- Strict priority and Weighted Round Robin (WRR) CoS policies
- Supports QoS and In/Out bandwidth control on each port
- Traffic-policing policies on the switch port
- DSCP remarking

Multicast

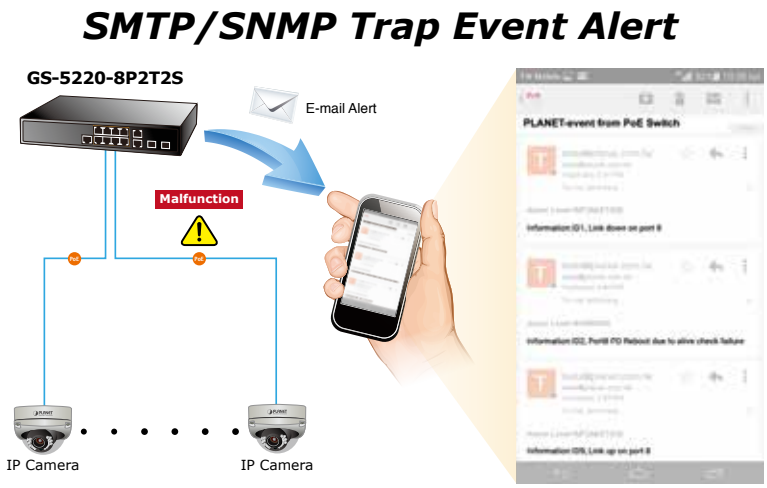
- Supports IGMP Snooping v1, v2 and v3
- Supports MLD Snooping v1 and v2
- Querier mode support
- IGMP Snooping port filtering
- MLD Snooping port filtering
- Multicast VLAN Registration (MVR) support

Security

- Authentication
  - IEEE 802.1x Port-based/MAC-based network access authentication

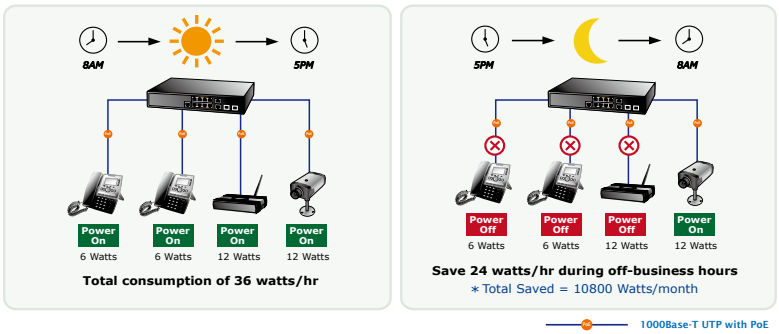
SMTP/SNMP Trap Event Alert

Though most NVR or camera management software offers SMTP email alert function, the GS-5220-8P2T2S further provides event alert function to help to diagnose the abnormal device owing to whether or not there is a break of the network connection, loss of PoE power or the rebooting response by the PD Alive Check process.



PoE Schedule for Energy Saving

Besides being used for IP surveillance, the GS-5220-8P2T2S is certainly applicable to build any PoE network including VoIP and wireless LAN. Under the trend of energy saving worldwide and contributing to the environmental protection on the Earth, the GS-5220-8P2T2S 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 and enterprises save energy and budget.



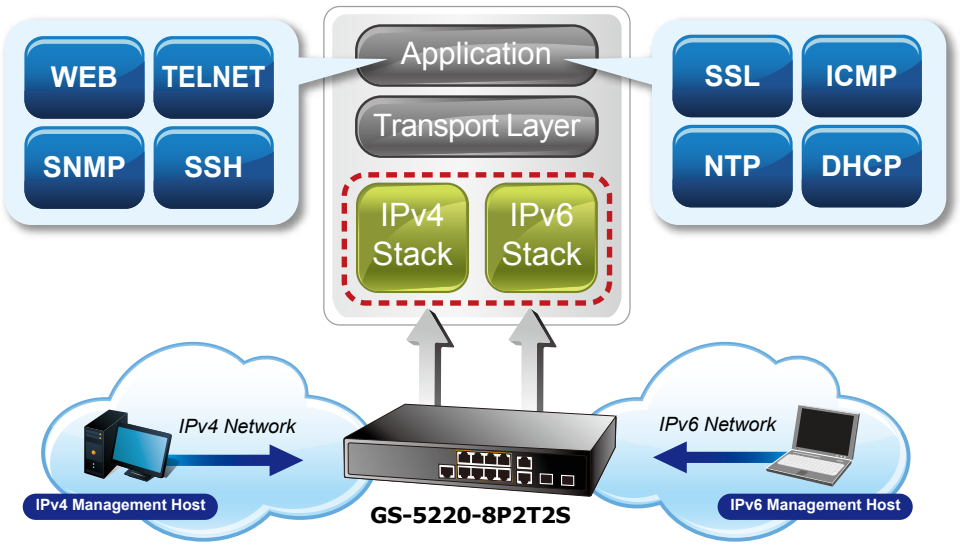
  - Built-in RADIUS client to co-operate with the RADIUS servers
  - TACACS+ login users access authentication
  - RADIUS/TACACS+ users access authentication
- Access Control List
  - IP-based Access Control List (ACL)
  - MAC-based Access Control List
- Source MAC/IP address binding
- DHCP Snooping to filter un-trusted DHCP messages
- Dynamic ARP Inspection discards ARP packets with invalid MAC address to IP address binding
- IP Source Guard prevents IP spoofing attacks
- Auto DoS rule to defend DoS attack
- IP address access management to prevent unauthorized intruder

Management

- IPv4 and IPv6 dual stack management
- Switch Management Interfaces
  - Console/Telnet Command Line Interface
  - Web switch management
  - SNMP v1, v2c, and v3 switch management
  - SSH/SSL secure access
- IPv6 IP Address/NTP/DNS management
- Built-in Trivial File Transfer Protocol (TFTP) client
- BOOTP and DHCP for IP address assignment
- System Maintenance
  - Firmware upload/download via HTTP/TFTP
  - Reset button for system reboot or reset to factory default
  - Dual Images
- DHCP Relay
- DHCP Option82
- User Privilege levels control
- NTP (Network Time Protocol)
- Link Layer Discovery Protocol (LLDP) and LLDP-MED
- Network Diagnostic
  - ICMPv6/ICMPv4 Remote Ping
  - Cable Diagnostic technology provides the mechanism to detect and report potential cabling issues
- SMTP/Syslog remote alarm
- Four RMON groups (history, statistics, alarms and events)
- SNMP trap for interface Linkup and Linkdown notification
- System Log
- PLANET Smart Discovery Utility for deployment management

Solution for IPv6 Networking

With the support for IPv6/IPv4 protocol, and easy and friendly management interfaces, the GS-5220-8P2T2S is the best choice for IP surveillance, VoIP and wireless service providers to connect with the IPv6 network. It also helps SMBs to step in the IPv6 era with the lowest investment and without having to replace the network facilities even though ISPs establish the IPv6 FTTx edge network.



IPv4 and IPv6 VLAN Routing for Secure and Flexible Management

To help customers stay on top of their businesses, the GS-5220-8P2T2S not only provides ultra high transmission performance and excellent layer 2 technologies, but also offers IPv4/IPv6 VLAN routing feature which allows to crossover different VLANs and different IP addresses for the purpose of having a highly-secure, flexible management and simpler networking application.

Robust Layer2 Features

The GS-5220-8P2T2S can be programmed for advanced switch management function, such as dynamic port link aggregation, Q-in-Q VLAN, Multiple Spanning Tree Protocol (MSTP), Layer 2/4 QoS, bandwidth control and IGMP/MLD snooping. The GS-5220-8P2T2S allows the operation of a high-speed trunk combining multiple ports. Supporting 6 trunk groups, it enables a maximum of up to 8 ports per trunk and supports connection fail-over as well.

Powerful Security

The SGS-5220-8P2T2S 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 port number 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.

Enhanced Security and Traffic Control

The GS-5220-8P2T2S 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 administrator can now build highly-secure corporate networks with considerably less time and effort than before.

User-friendly Secure Management

For efficient management, the GS-5220-8P2T2S is equipped with console, web and SNMP management interfaces. With the built-in web-based management interface, theGS-5220-8P2T2S offers an easy-to-use, platform independent management and configuration facility. The GS-5220-8P2T2S supports SNMP and it can be managed via any management software based on the standard SNMP v1 and v2 protocols. For reducing product learning time, the GS-5220-8P2T2S offers Cisco-like command via Telnet or console port and customer doesn't need to learn new command from these switches. Moreover, the GS-5220-8P2T2S offers remote secure management by supporting SSH, SSL and SNMPv3 connection which can encrypt the packet content at each session.

Flexible and Extendable Solution

The 2 mini-GBIC SFP slots built in the GS-5220-8P2T2S support dual speed as it features 100BASE-FX and 1000BASE-SX/LX SFP (Small Form-factor Pluggable) fiber-optic modules. Now the administrator can flexibly choose the suitable SFP transceiver according to not only the transmission distance, but also the transmission speed required. The distance can be extended from 550 meters to 2km (multi-mode fiber) and up to 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-5220-8P2T2S supports SFP-DDM (Digital Diagnostic Monitor) function that greatly helps network administrator to easily monitor real-time parameters of the SFP transceivers, such as optical output power, optical input power, temperature, laser bias current, and transceiver supply voltage.

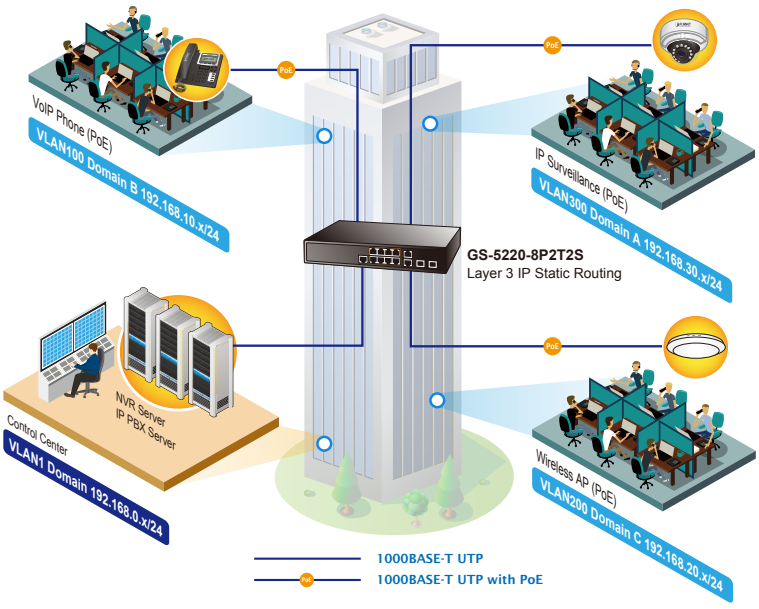
Applications

Layer 2+ VLAN Static Routing and PoE Application

With the built-in robust IPv4/IPv6 Layer 3 traffic routing protocols, the GS-5220-8P2T2S ensures reliable routing between VLANs and network segments. The routing protocols can be applied by VLAN interface with up to 32 routing entries. The GS-5220-8P2T2S is certainly a cost-effective and ideal solution for enterprises.

Providing up to 8 Gigabit High-power PoE ports and in-line power interface, the GS-5220-8P2T2S High-power PoE Switch can easily build a centrally-controlled power network shared by wireless Gigabit AP, IP phone system, or mega-pixel IP camera system group for the enterprises.

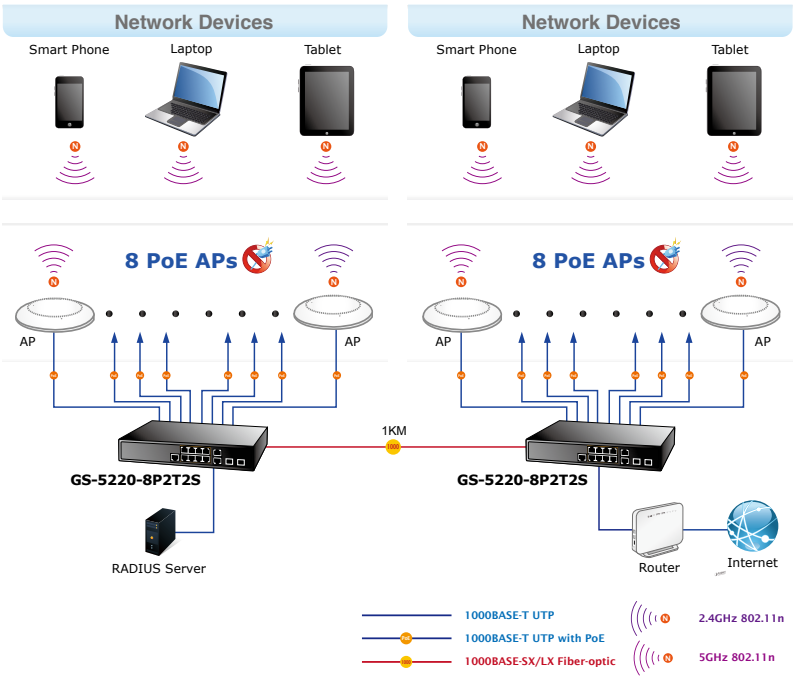
VLAN Routing + PoE Applications



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

The GS-5220-8P2T2S 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-5220-8P2T2S 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

Model	GS-5220-8P2T2S
Hardware Specifications	
Copper Ports	10 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 RJ45 serial port (115200, 8, N, 1)
Switch Architecture	Store-and-Forward
Switch Fabric	24Gbps/non-blocking
Throughput	17.76Mpps@64Bytes
Address Table	8K entries, automatic source address learning and aging
Shared Data Buffer	1392KB
Flow Control	IEEE 802.3x pause frame for full-duplex Back pressure for half-duplex
Jumbo Frame	9KB
Reset Button	< 5 sec: System reboot > 5 sec: Factory default
LED	System: Fan Alert (Green), SYS (Green), PWR (Green) 10/100/1000T RJ45 Interfaces (Port 1 to Port 8): 10/100/1000Mbps LNK/ACT (Green) PoE-in-Use (Orange) 10/100/1000T RJ45 Interfaces (Port 9 to Port 10): LNK/ACT (Green) 1000Mbps (Orange) 100/1000Mbps SFP Combo Interfaces (Port 11 to Port 12): LNK/ACT (Green) 1000Mbps (Orange)

Power Requirements		100~240V AC, 50/60Hz
Power Consumption (Full Loading)		320 watts/1091.9 BTU (max.)
ESD Protection		6KV DC
Dimensions (W x D x H)		330 x 200 x 43.5 mm, 1U height
Weight		2kg
Power over Ethernet		
PoE Standard		IEEE 802.3af/802.3at PoE/PSE
PoE Power Supply Type		End-span
PoE Power Output		Per port 54V DC, max. 30.8 watts
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 @ 7 watts	8 units
	PD @ 15.4 watts	8 units
	PD @ 30.8 watts	8 units
Layer2 Management Functions		
Basic Management Interfaces		Console, Telnet, Web browser, SNMP v1, v2c
Secure Management Interfaces		SSH, SSL, SNMP v3
Port Configuration		Port disable/enable Auto-negotiation 10/100/1000Mbps full and half duplex mode selection Flow Control disable/enable
Port Status		Display each port's speed duplex mode, link status, flow control status, auto negotiation status, trunk status
Port Mirroring		TX/RX/Both Many-to-1 monitor
VLAN		802.1Q tagged based VLAN, up to 255 VLAN groups Q-in-Q tunneling Private VLAN Edge (PVE) MAC-based VLAN Protocol-based VLAN Voice VLAN MVR (Multicast VLAN Registration) Up to 255 VLAN groups, out of 4094 VLAN IDs
Link Aggregation		IEEE 802.3ad LACP/Static Trunk Supports 6 trunk groups with 8 ports per trunk
QoS		Traffic classification based, strict priority and WRR 8-level priority for switching - Port number - 802.1p priority - 802.1Q VLAN tag - DSCP/TOS field in IP packet
IGMP Snooping		IGMP (v1/v2/v3) Snooping, up to 255 multicast groups IGMP Querier mode support
MLD Snooping		MLD (v1/v2) Snooping, up to 255 multicast groups MLD Querier mode support
Access Control List		IP-based ACL/MAC-based ACL Up to 256 entries
Bandwidth Control		Per port bandwidth control Ingress: 100Kbps~1000Mbps Egress: 100Kbps~1000Mbps
SNMP MIBs		RFC 1213 MIB-II RFC 2863 IF-MIB RFC 1493 Bridge MIB RFC 1643 Ethernet MIB RFC 2863 Interface MIB RFC 2665 Ether-Like MIB RFC 2737 Entity MIB RFC 2819 RMON MIB (Groups 1, 2, 3 and 9) RFC 2618 RADIUS Client MIB RFC 3411 SNMP-Frameworks-MIB IEEE 802.1X PAE LLDP MAU-MIB Power over Ethernet MIB
Layer 3 Functions		
IP Interfaces		Max. 8 VLAN interfaces
Routing Table		Max. 32 routing entries
Routing Protocols		IPv4 software static routing IPv6 software static routing
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 1000BASE-SX/LX IEEE 802.3ab 1000BASE-T 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 v1 RFC 2236 IGMP v2 RFC 3376 IGMP v3 RFC 2710 MLD v1 FRC 3810 MLD v2
Environments		
Operating	Temperature: 0 ~ 50 degrees C Relative Humidity: 5 ~ 95% (non-condensing)	
Storage	Temperature: -10 ~ 70 degrees C Relative Humidity: 5 ~ 95% (non-condensing)	

Related Products

GS-5220-8P2T2S	L2+ 8-Port 10/100/1000T 802.3at PoE + 2-Port 10/100/1000T + 2-Port 100/1000X SFP Managed Switch

Related Products

WGSW-20160HP	16-Port 10/100/1000Mbps 802.3at PoE + 4-Port Gigabit TP/SFP Combo Managed Switch
WGSW-24040HP4	24-Port 10/100/1000Mbps 802.3at PoE + 4-Port Shared SFP Managed Switch (440 watts)
WGSW-48040HP	L2+ 48-Port 10/100/1000T 802.3at PoE + 4-Port Shared 100/1000X SFP Managed Switch with Hardware Layer3 IPv4/IPv6 Static Routing

Available Modules for GS-5220-8P2T2S series

MGB-GT	SFP-Port 1000BASE-T Module
MGB-SX	SFP-Port 1000BASE-SX mini-GBIC module
MGB-LX	SFP-Port 1000BASE-LX mini-GBIC module
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
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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