L2+ 24-Port 100/1000X SFP + 8-Port Shared TP + 4-Port 10G SFP+ Managed Switch

Multi-port & Flexible Dual-speed Fiber Optic Connectivity for Long-reach Distance Solution

PLANET GS-5220-16S8CR is a Layer 2+ Managed Gigabit Switch which provides high-density performance and supports **Layer 3 static routing** with **10Gbps uplink** and **multiple SFP fiber** interfaces delivered in a 1U rugged case design. The administrator can flexibly choose the suitable SFP/SFP+ transceiver according to the transmission distance or the transmission speed required to extend the **10G network efficiently**. Besides, with **128Gbps switching fabric**, the GS-5220-16S8CR can handle extremely large amounts of data in a secure topology linking to backbone or high capacity servers for ISP and enterprise VoIP, video streaming, and multicast applications.

High Performance 10Gbps Ethernet Capability

The four SFP+ ports built in the GS-5220-16S8CR boast a high-performance switch architecture that is capable of providing non-blocking switch fabric and wire-speed throughput as high as up to **128Gbps**, which greatly simplifies the tasks of upgrading the LAN for catering to increasing bandwidth demands. Each of the SFP+ ports supports **4 speeds**, **10GBASE-SR/LR**, **2500BASE-X**, **1000BASE-SX/LX and 100BASE-FX**, meaning the administrator can choose the transmission speed required to extend the network efficiently.

Physical Port

- 24 100/1000BASE-X SFP ports (Ports 1 to 24)
- 8 10/100/1000BASE-T Gigabit Ethernet RJ45 ports, shared with Ports 1 to 8
- 4 10GBASE-SR/LR SFP+ slots (Ports XG1 to XG4), backward compatible with 100M/1G/2.5GBASE-X SFP
- RJ45 to DB9 console interface for switch basic management and setup

Switching

- Hardware-based 10/100Mbps, half/full duplex and 1000Mbps full duplex mode, 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
- 16K MAC address table size
- 12K jumbo frame
- Automatic address learning and address aging
- Supports CSMA/CD protocol

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, IEEE 802.1ad) support
  - 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 8 trunk groups, up to 8 ports per trunk group

Redundant Ring, Fast Recovery for Critical Network Applications

The GS-5220-16S8CR 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 harsh environments.

*ERPS Ring for Metropolitan Area Network Application*
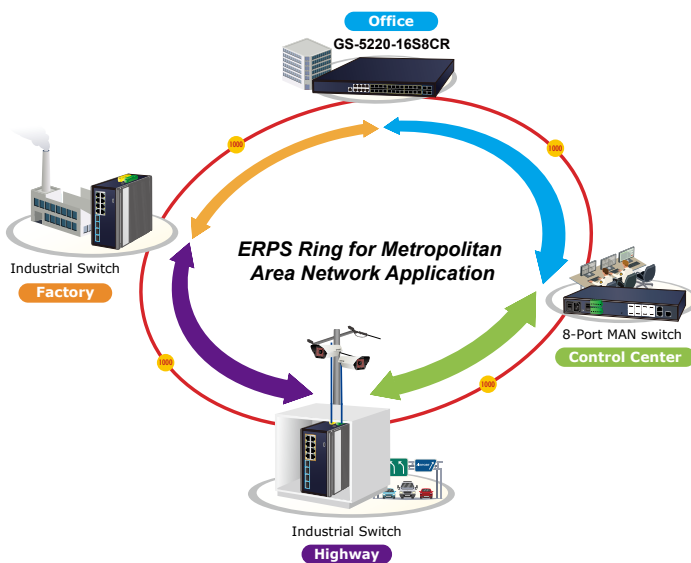
Layer 3 IPv4 VLAN Routing for Secure and Flexible Management

The GS-5220-16S8CR switch not only provides ultra high transmission performance, and excellent Layer 2 and Layer 4 technologies, but also Layer 3 IPv4 VLAN routing feature which allows to cross over different VLANs and different IP addresses for the purpose of having a highly-secure, flexibly-managed and simple networking application.

Robust Layer 2 Features

The GS-5220-16S8CR 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-5220-16S8CR 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.
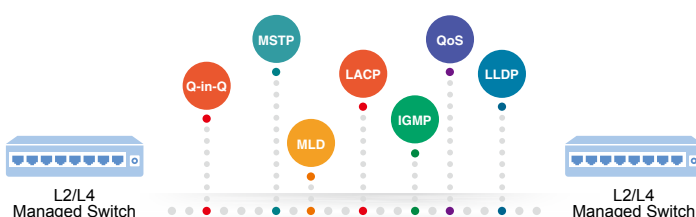
- Provides port mirror (many-to-1)
- Loop protection to avoid broadcast loops
- Supports ERPS (Ethernet Ring Protection Switching)
- Link Layer Discovery Protocol (LLDP)

Layer 3 IP Routing Features

- Supports maximum 32 static routes and route summarization

Quality of Service

- Ingress/Egress Rate Limit per port bandwidth control
- 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

- Storm Control support
  - Broadcast / Multicast / Unknown Unicast
- 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

Efficient Traffic Control

The GS-5220-16S8CR 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/unicast storm control**, **per port bandwidth control**, **802.1p/CoS/IP DSCP QoS priority and remarking**. It guarantees the best performance in VoIP and video stream transmission, and empowers the enterprises to take full advantage of the limited network resources.

Cybersecurity Network Solution to Minimize Security Risks

The GS-5220-16S8CR 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**, **RADIUS** and **TACACS+** user accounts management, **SNMPv3** authentication, and so on to complement it as an all-security solution.

User-friendly Management Interfaces

For efficient management, the GS-5220-16S8CR is equipped with **console**, **Web** and **SNMP** management interfaces.

- ■ With the built-in **Web-based** management interface, the GS-5220-16S8CR offers an easy-to-use, platform-independent management and configuration facility.
- ■ For **text-based** management, the switches can be accessed via Telnet and the console port.
- ■ For standard-based monitor and management software, it offers SNMPv3 connection which encrypts the packet content at each session for secure remote management.

Moreover, the GS-5220-16S8CR offers secure remote management by supporting **SSHv2**, **TLSv1.2** and **SNMP v3** connections which encrypt the packet content at each session.


- – Web switch management
- – Console/Telnet Command Line Interface
- – SNMP v1 and v2c switch management
- – SSHv2, TLSv1.2 and SNMP v3 secure access
- • SNMP Management
  - – SNMP trap for interface Link Up and Link Down notification
  - – Four RMON groups (history, statistics, alarms, and events)
- • 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 HTTP/TFTP
  - – Dual Images
  - – Hardware reset button for system reboot or reset to factory default
- • SNTP Network Time Protocol
- • Network Diagnostic
  - – Cable Diagnostics
  - – ICMPv6/ICMPv4 Remote Ping
  - – SFP-DDM (Digital Diagnostic Monitor)
- • Link Layer Discovery Protocol (LLDP) Protocol and LLDP-MED
- • Event message logging to remote Syslog server
- • PLANET Smart Discovery Utility for deployment management
- • PLANET NMS and NMSViewerPro/CloudViewerPro App for deployment management

Redundant Power System

- • Redundant 100~240V AC/36-72V DC dual power
- • Active-active redundant power failure protection
- • Backup of catastrophic power failure on one supply

IPv6/IPv4 Dual Stack Management

Supporting both IPv6 and IPv4 protocols, the GS-5220-16S8CR 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
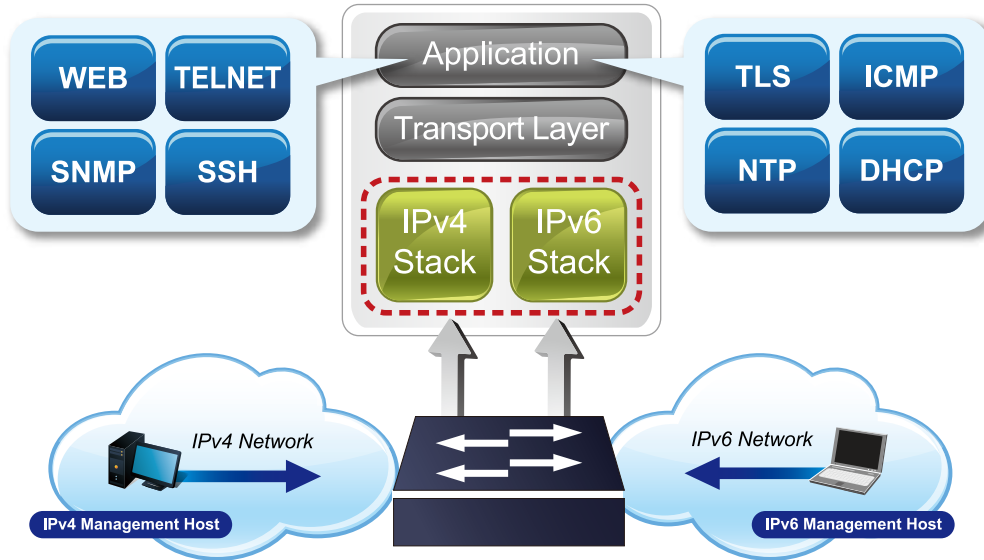
Intelligent SFP Diagnosis Mechanism

The GS-5220-16S8CR supports **SFP-DDM (Digital Diagnostic Monitor)** function that greatly helps network administrator to easily monitor real-time parameters of the SFP and SFP+ transceivers, such as optical output power, optical input power, temperature, laser bias current, and transceiver supply voltage.

SFP DDM (Digital Diagnostic Monitor)

Voltage   Ammeter   Temperature   Power Transceiver   Power Receiver
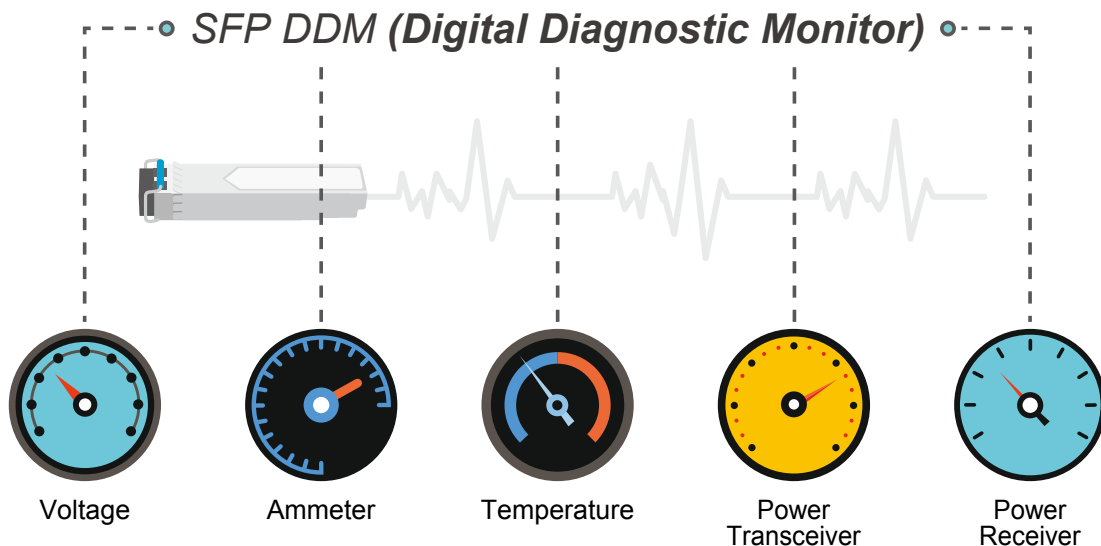
Redundant AC/DC Power Supply to Ensure Continuous Operation

The GS-5220-16S8CR is particularly equipped with one 100~240V AC power supply unit and one 36~72V DC power supply unit to provide an enhanced reliable and scalable redundant power supply. The continuous power system is specifically designed to fulfill the demands of high-tech facilities requiring the highest power integrity. With the 36~72V DC power supply, the GS-5220-16S8CR is able to act as a telecom-level device that can be located in the electronic room.

Remote Management Solution

PLANET's **Universal Network Management System (UNI-NMS)**, **NMSViewerPro** and **CloudViewerPro app** provide robust support for IT staff in effectively managing and monitoring all network devices, including the GS-5220-16S8CR, from remote locations. Tailored for deployment in both enterprises and industries where the GS-5220-16S8CR is utilized remotely, these systems enable the identification of bugs or faulty conditions without the need for on-site visits. With PLANET's Remote Management Solution, businesses of all types can now be swiftly and efficiently managed through a unified platform, streamlining operational oversight.


Applications

Multi Fiber Routing Switch for Wide-coverage PoE IP Surveillance Applications

With 24 SFP fiber interfaces with 8 shared Gigabit ports and Layer 3 IP static routing capability, the GS-5220-16S8CR provides a cost-effective and high-performance solution for enterprises, network service providers, campuses and telecoms.
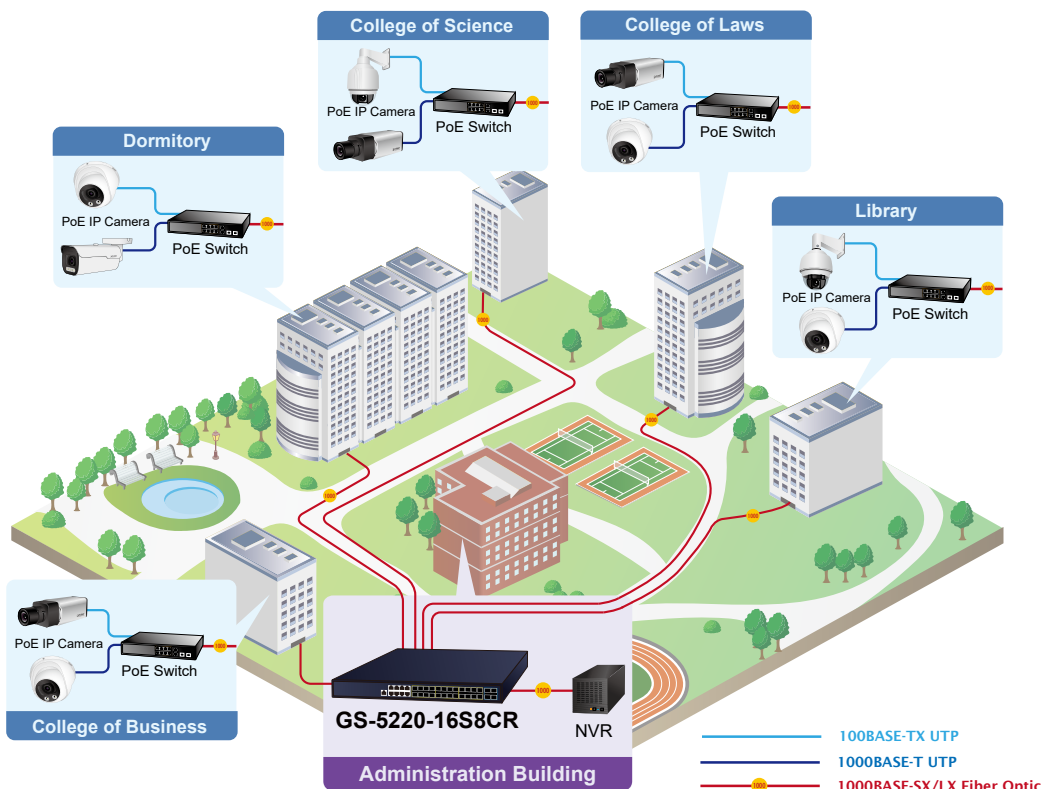
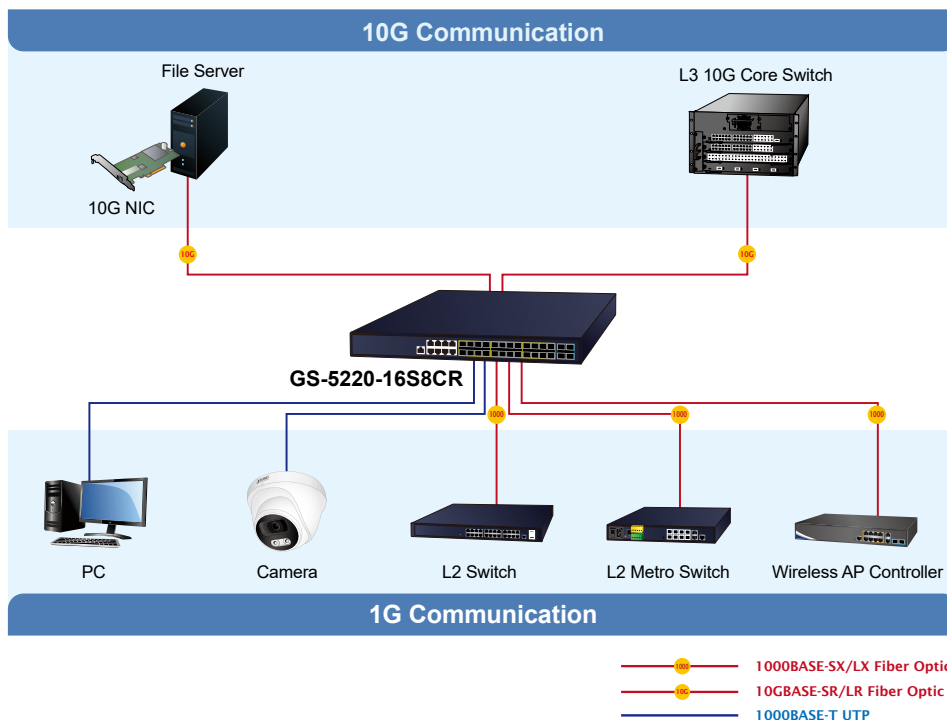### High Availability Mesh Networking Solution for Big Data System

With highly-flexible, highly-extendable and easy-to-install features, the GS-5220-16S8CR offers up to 128Gbps data exchange speed via optical fiber interface and the transmission distance can be extended to 120km. The GS-5220-16S8CR features strong, rapid, self-recovery capability to prevent interruptions and external intrusions. It incorporates IEEE 802.1s MSTP (Multiple Spanning Tree Protocol, spanning tree by VLAN) into customer's automation network to enhance system reliability and uptime. The GS-5220-16S8CR is the ideal solution for data centers, service providers and telecoms to build redundant connection and establish high bandwidth for Big Data server farm.
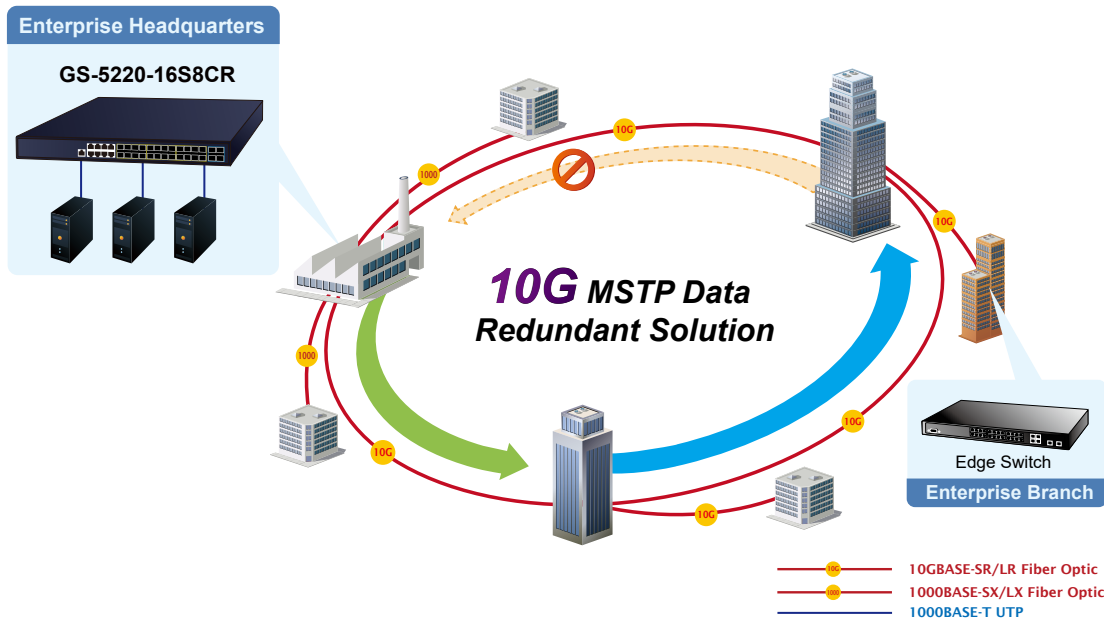
Excellent Solution to Core/Data Center Security and QoS Switch

The GS-5220-16S8CR performs **128Gbps** non-blocking switch fabric so it can easily provide a local 10Gbps high bandwidth Ethernet network for the backbone of your department. With the four built-in SFP+ ports, the GS-5220-16S8CR provides the uplink to the backbone network through the 10G Ethernet LR/SR SFP+ modules. It further improves the network efficiency and protects the network clients by offering the security and QoS features.

High Performance Server Service

Specifications

Product	GS-5220-16S8CR
Hardware Specifications	
Copper Ports	8 10/100/1000BASE-T RJ45 auto-MDI/MDI-X ports (combo), shared with Ports 1 to 8
SFP/mini-GBIC Slots	24 100/1000BASE-X SFP interfaces (Ports 1 to 24) Compatible with 100BASE-FX SFP transceiver
SFP+ Slots	4 10GBASE-SR/LR SFP+ interfaces (Ports XG1 to XG4) Backward compatible with 100M/1G/2.5GBASE-SX/LX/BX transceivers
Console	1 x RS-232-to-RJ45 serial port (115200, 8, N, 1)
Reset Button	< 5 sec: System reboot > 5 sec: Factory default
CPU	MIPS 800MHz
RAM	512Mbytes
Flash Memory	32Mbytes
Power Requirements	AC: 100~240V, 50/60Hz — DC: 36-72V
Power Consumption	36.2 watts/102.9 BTU
Dimensions (W x D x H)	440 x 260 x 44 mm, 19-inch, 1U height
Enclosure	Metal
Weight	3495g
LED	System: PWR (Green), SYS (Green) Ports: LNK/ACT (Green)
Switching	
Switch Architecture	Store-and-forward
Switch Fabric	128Gbps/non-blocking
Switch Throughput@64Bytes	95.23Mpps @64Bytes
Address Table	16K MAC address table with auto learning function
Shared Data Buffer	12Mbits
Flow Control	IEEE 802.3x pause frame for full-duplex Back pressure for half-duplex
Jumbo Frame	12KBytes
Layer 2 Functions	
Port Mirroring	TX/RX/both Many-to-1 monitor Up to 4 sessions
VLAN	802.1Q tagged-based VLAN 802.1ad Q-in-Q tunneling(VLAN stacking) Voice VLAN Protocol VLAN Private VLAN (Protected port) GVRP Management VLAN Up to 256 VLAN groups, out of 4094 VLAN IDs
Link Aggregation	IEEE 802.3ad LACP/Static Trunk - Static Port Trunking, (8 ports/ 8 groups max.) - Dynamic LACP (8 ports/ 8 groups max.)
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 snooping v2,v3 IGMP querier Up to 256 multicast groups
MLD Snooping	IPv6 MLD snooping v2, v3, up to 256 multicast groups
QoS	8 mapping ID to 8 level priority queues - Port number - 802.1p priority - DSCP/IP precedence of IPv4/IPv6 packets Traffic classification based, strict priority and WRR Ingress/Egress Rate Limit per port bandwidth control

Ring	Supports ERPS, and complies with ITU-T G.8032 Recovery time < 450ms
Layer 3 Functions	
IP Interfaces	Max. 64 VLAN interfaces
Routing Table	Max. 32 routing entries
Routing Protocols	IPv4 hardware static routing
Security Functions	
Access Control List	IPv4/IPv6 IP-based ACL/MAC-based ACL IPv4/IPv6 IP-based ACE/MAC-based ACE Max. 256 ACL entries
Port Security	Built-in RADIUS client to co-operate with RADIUS server RADIUS/TACACS+ user access authentication
MAC Security	IP-MAC port binding MAC filter Static MAC address, max. 256 static MAC entries
Enhanced Security	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	RS232 to RJ45 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, NMSViewerPro and CloudViewerPro APP
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
	IEEE 802.3 10BASE-T IEEE 802.1ab LLDP IEEE 802.3u 100BASE-TX/100BASE-FX IEEE 802.3az Energy Efficient Ethernet (EEE) IEEE 802.3z Gigabit SX/LX RFC 768 UDP IEEE 802.3ab Gigabit 1000BASE-T(X) RFC 783 TFTP IEEE 802.3bz 2.5GBASE-X RFC 791 IP IEEE 802.3ae 10Gb/s Ethernet RFC 792 ICMP IEEE 802.3x Flow Control and Back Pressure RFC 2068 HTTP IEEE 802.3ad Port Trunk with LACP RFC 1112 IGMP v1 IEEE 802.1D Spanning Tree Protocol RFC 2236 IGMP v2 IEEE 802.1w Rapid Spanning Tree Protocol RFC 3376 IGMP v3 IEEE 802.1s Multiple Spanning Tree Protocol RFC 2710 MLD v1 IEEE 802.1p Class of Service RFC 3810 MLD v2 IEEE 802.1Q VLAN Tagging ITU G.8032 ERPS Ring
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-5220-16S8CR	L2+ 24-Port 100/1000X SFP + 8-Port Shared TP + 4-Port 10G SFP+ Managed Gigabit Switch with Redundant AC/DC Power

Related PoE Products

XGS-5240-24X2QR	Layer 2+ 24-Port 10G SFP+ + 2-Port 40G QSFP+ Stackable Managed Switch
MGSW-24160F	L2+ 16-Port 100/1000BASE-X SFP + 8-Port 10/100/1000BASE-T Managed Metro Ethernet Switch
MGSD-10080F	6-Port 100/1000X SFP + 2-Port 1G/2.5G SFP + 2-Port 10/100/1000T Managed Metro Ethernet Switch

Available SFP/SFP+ Modules

10 Gigabit Ethernet Transceiver (10GBASE-T)

Model	Speed (Mbps)	Connector Interface	Fiber Mode	Distance	Wavelength	Operating Temp.
MTB-RJ	10G	Copper	--	30m	--	0 ~ 70°C

10 Gigabit Ethernet Transceiver (10GBASE-SX/LX SFP+)

Model	Speed (Mbps)	Connector Interface	Fiber Mode	Distance	Wavelength	Operating Temp.
MTB-SR	10G	Dual LC/UPC	Multi-Mode	300m	850nm	0 ~ 60°C
MTB-SR2	10G	Dual LC/UPC	Single Mode	2km	1310nm	0 ~ 60°C
MTB-LR	10G	Dual LC/UPC	Single Mode	10km	1310nm	0 ~ 60°C
MTB-LR20	10G	Dual LC/UPC	Single Mode	20km	1310nm	0 ~ 60°C
MTB-LR40	10G	Dual LC/UPC	Single Mode	40km	1310nm	0 ~ 60°C
MTB-LR60	10G	Dual LC/UPC	Single Mode	60km	1550nm	0 ~ 60°C
MTB-LR80	10G	Dual LC/UPC	Single Mode	80km	1550nm	0 ~ 60°C

10 Gigabit Ethernet Transceiver (10GBASE-BX, Single Fiber Bi-directional SFP+)

Model	Speed (Mbps)	Connector Interface	Fiber Mode	Distance	Wavelength (TX)	Wavelength (RX)	Operating Temp.
MTB-LA10	10G	Simplex LC/UPC	Single Mode	10km	1270nm	1330nm	0 ~ 60°C
MTB-LB10	10G	Simplex LC/UPC	Single Mode	10km	1330nm	1270nm	0 ~ 60°C
MTB-LA20	10G	Simplex LC/UPC	Single Mode	20km	1270nm	1330nm	0 ~ 60°C
MTB-LB20	10G	Simplex LC/UPC	Single Mode	20km	1330nm	1270nm	0 ~ 60°C
MTB-LA40	10G	Simplex LC/UPC	Single Mode	40km	1270nm	1330nm	0 ~ 60°C
MTB-LB40	10G	Simplex LC/UPC	Single Mode	40km	1330nm	1270nm	0 ~ 60°C
MTB-LA60	10G	Simplex LC/UPC	Single Mode	60km	1270nm	1330nm	0 ~ 60°C
MTB-LB60	10G	Simplex LC/UPC	Single Mode	60km	1330nm	1270nm	0 ~ 60°C
MTB-LA70	10G	Simplex LC/UPC	Single Mode	70km	1270nm	1330nm	0 ~ 60°C
MTB-LB70	10G	Simplex LC/UPC	Single Mode	70km	1330nm	1270nm	0 ~ 60°C

2.5 Gigabit Ethernet Transceiver (2500BASE-SX/LX SFP)

Model	Speed (Mbps)	Connector Interface	Fiber Mode	Distance	Wavelength	Operating Temp.
MGB-2GSR	2.5G	Dual LC/UPC	Multi-Mode	300m	850nm	0 ~ 70°C
MGB-2GLR2	2.5G	Dual LC/UPC	Single Mode	2km	1310nm	0 ~ 70°C
MGB-2GLR20	2.5G	Dual LC/UPC	Single Mode	20km	1310nm	0 ~ 70°C

2.5 Gigabit Ethernet Transceiver (2500BASE-BX, Single Fiber Bi-directional SFP)

Model	Speed (Mbps)	Connector Interface	Fiber Mode	Distance	Wavelength (TX)	Wavelength (RX)	Operating Temp.
MTB-2GLA20	2.5G	Simplex LC/UPC	Single Mode	20km	1310nm	1550nm	0 ~ 70°C
MTB-2GLB20	2.5G	Simplex LC/UPC	Single Mode	20km	1550nm	1310nm	0 ~ 70°C

Gigabit Ethernet Transceiver (1000BASE-T)

Model	Speed (Mbps)	Connector Interface	Fiber Mode	Distance	Wavelength	Operating Temp.
MGB-GT	1G	Copper	--	100m	--	0 ~ 60°C

Gigabit Ethernet Transceiver (1000BASE-SX/LX SFP)

Model	Speed (Mbps)	Connector Interface	Fiber Mode	Distance	Wavelength	Operating Temp.
MGB-SX	1G	Dual LC/UPC	Multi-Mode	550m	850nm	0 ~ 60°C
MGB-SX2	1G	Dual LC/UPC	Multi-Mode	2km	1310nm	0 ~ 60°C
MGB-LX	1G	Dual LC/UPC	Single Mode	20km	1310nm	0 ~ 60°C
MGB-L40	1G	Dual LC/UPC	Single Mode	40km	1310nm	0 ~ 60°C
MGB-L80	1G	Dual LC/UPC	Single Mode	80km	1550nm	0 ~ 60°C
MGB-L120	1G	Dual LC/UPC	Single Mode	120km	1550nm	0 ~ 60°C

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

Model	Speed (Mbps)	Connector Interface	Fiber Mode	Distance	Wavelength (TX)	Wavelength (RX)	Operating Temp.
MGB-LA10	1G	Simplex LC/UPC	Single Mode	10km	1310nm	1550nm	0 ~ 60°C
MGB-LB10	1G	Simplex LC/UPC	Single Mode	10km	1550nm	1310nm	0 ~ 60°C
MGB-LA20	1G	Simplex LC/UPC	Single Mode	20km	1310nm	1550nm	0 ~ 60°C
MGB-LB20	1G	Simplex LC/UPC	Single Mode	20km	1550nm	1310nm	0 ~ 60°C
MGB-LA40	1G	Simplex LC/UPC	Single Mode	40km	1310nm	1550nm	0 ~ 60°C
MGB-LA40	1G	Simplex LC/UPC	Single Mode	40km	1550nm	1310nm	0 ~ 60°C
MGB-LA80	1G	Simplex LC/UPC	Single Mode	80km	1490nm	1550nm	0 ~ 60°C
MGB-LB80	1G	Simplex LC/UPC	Single Mode	80km	1550nm	1490nm	0 ~ 60°C

Fast Ethernet Transceiver (100BASE-FX SFP

Model	Speed (Mbps)	Connector Interface	Fiber Mode	Distance	Wavelength	Operating Temp.
MFB-FX	100M	LC	Multi-Mode	2km	1310nm	0 ~ 60°C
MFB-F20	100M	LC	Single Mode	20km	1310nm	0 ~ 60°C
MFB-F40	100M	LC	Single Mode	40km	1310nm	0 ~ 60°C
MFB-F60	100M	LC	Single Mode	60km	1310nm	0 ~ 60°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	100M	WDM/ Bidi LC	Single Mode	20km	1310nm	1550nm	0 ~ 60°C
MFB-FB20	100M	WDM/ Bidi LC	Single Mode	20km	1550nm	1310nm	0 ~ 60°C

GS-5220-16S8CR