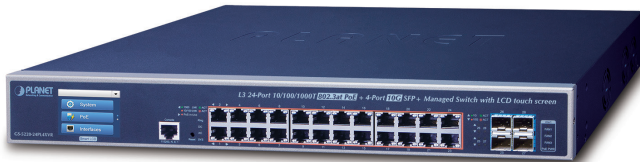


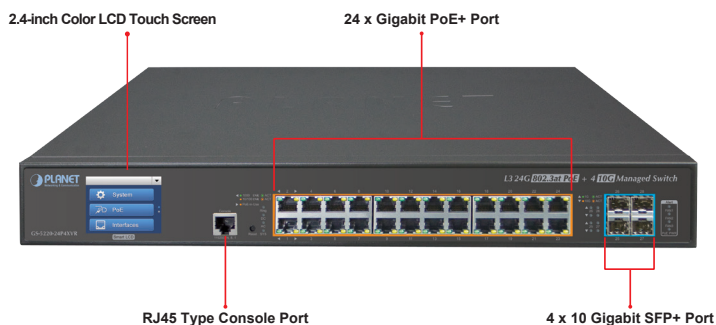
## L3 24-Port 10/100/1000T 802.3at PoE + 4-Port 10G SFP+ Managed Switch with LCD Touch Screen



### Amazing Ultra PoE Managed Switches with Layer 3 Switching and Security

PLANET GS-5220-24P(L)4XV(R) PoE Series of cost-optimized, **1.25U**, Gigabit PoE Managed Switches with LCD Touch Screen features PLANET **intelligent PoE** functions to improve the availability of critical business applications. They provide IPv6/IPv4 dual stack management and built-in **Layer 3 OSPF/static routing** Gigabit switching along with 24 10/100/1000BASE-T ports featuring **36-watt PoE+ and 4 additional 10Gigabit SFP+ ports**. With a total power budget of up to 400/600 watts for different kinds of PoE applications, the GS-5220-24P(L)4XV(R) PoE Series with LCD Touch Screen provides a quick, safe and cost-effective PoE network solution for small businesses and enterprises.

### GS-5220-24P(L)4XV(R)



### Smart and Intuitive LCD Control

PLANET unique **Smart LCD PoE Switches** provide intuitive touch panel on its front panel that facilitates the Ethernet management and PoE PD management. They greatly promote management efficiency in large-scale network, such as enterprises, hotels, shopping malls, government buildings and other public areas, and feature the following special management and status functions:

- IP address, VLAN and QoS configuration
- PoE management and status
- Port management and status/SFP information
- Troubleshooting: cable diagnostic and remote IP ping
- Maintenance: reboot, factory default and save configuration

### Physical Port

- **24 10/100/1000BASE-T** Gigabit RJ45 copper ports with 24-port **IEEE 802.3af/at PoE+** injector
- **4 10GBASE-SR/LR SFP+** slots, compatible with 1000BASE-X and 2500BASE-X SFP
- RJ45 console interface for switch basic management and setup

### Power over Ethernet Plus

- Complies with IEEE 802.3at Power over Ethernet Plus/end-span PSE
- Backward compatible with IEEE 802.3af Power over Ethernet
- Up to 24 ports of IEEE 802.3af/IEEE 802.3at devices powered
- Supports PoE power up to 36 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 admin-mode control
  - PoE port power feeding priority
  - Per PoE port power limitation
  - PD classification detection
  - PoE extend mode control to support power feeding up to a distance of up to 200 meters
- Intelligent PoE features
  - Temperature threshold control
  - PD alive check
  - PoE schedule
  - PD scheduled power-recycle

### Layer 3 Features

- Supports maximum 128 static routes and route summarization
- IP dynamic routing protocol supports OSPFv2
- Routing interface provides per VLAN routing mode

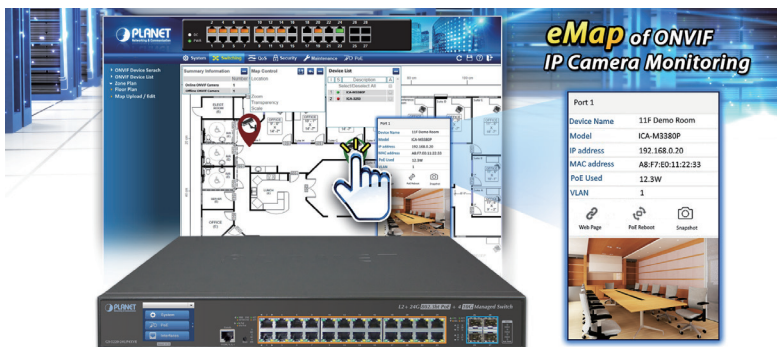
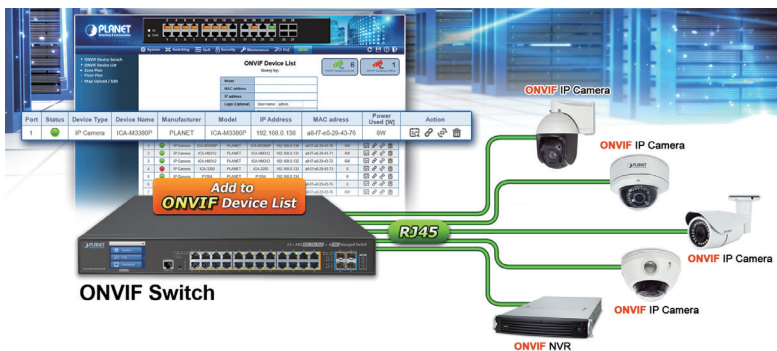
### Layer 2 Features

- 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**



**Convenient and Smart ONVIF Devices with Detection Feature**

PLANET has newly developed an awesome feature -- ONVIF Support -- which is specifically designed for co-operating with Video IP Surveillances. From the GS-5220-24P(L)4XV(R) PoE Series with the LCD Touch Screen GUI, clients just need one click to search and show all of the ONVIF devices via network application. In addition, clients can upload floor images to the switch series, making the deployments of surveillance and other devices easy for planning and inspection purposes. Moreover, clients can get real-time surveillance's information and online/offline status. They allow PoE reboot control from the GUI.



- IEEE 802.1Q tagged VLAN
- Supports provider bridging (VLAN Q-in-Q, IEEE 802.1ad)
- Private VLAN Edge (PVE)
- Protocol-based VLAN
- MAC-based VLAN
- Voice VLAN
- Supports Spanning Tree Protocol
  - IEEE 802.1D Spanning Tree Protocol
  - IEEE 802.1w Rapid Spanning Tree Protocol
  - 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 14 trunk groups, up to 4 ports per trunk group
- 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
- Supports ERPS (Ethernet Ring Protection Switching)
- Compatible with Cisco uni-directional link detection(UDLD) that monitors a link between two switches and blocks the ports on both ends of the link if the link fails at any point between the two devices
- Link Layer Discovery Protocol (LLDP)

**Multicast**

- Supports IPv4 IGMP snooping v1, v2 and v3
- Supports IPv6 MLD snooping v1 and v2
- Querier mode support
- IPv4 IGMP snooping port filtering
- IPv6 MLD snooping port filtering
- Multicast VLAN Registration (MVR) support

**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 on the switch port
- DSCP remarking

**Security**

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

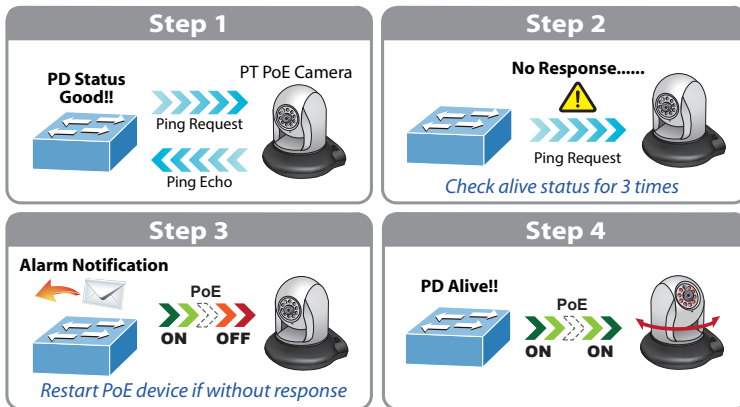
### Built-in Unique PoE Functions for Powered Devices Management

Being the managed PoE switches for surveillance, wireless and VoIP networks, the GS-5220-24P(L)4XV(R) PoE Series with LCD Touch Screen feature the following special PoE management functions:

- PD alive check
- Scheduled power recycling
- PoE schedule
- PoE usage monitoring

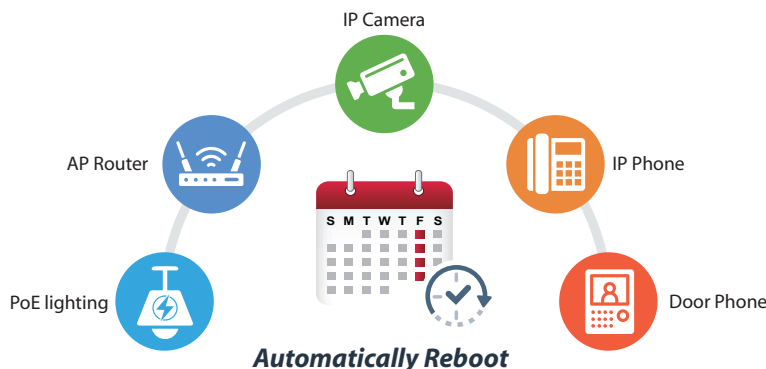
### Intelligent Powered Device Alive Check

The GS-5220-24P(L)4XV(R) PoE Series with LCD Touch Screen 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-5220-24P(L)4XV(R) PoE Series with LCD Touch Screen will resume the PoE port power and bring the PD back to work. They will greatly enhance the network reliability through the PoE port resetting the PD's power source and reducing administrator management burden.



### Scheduled Power Recycling

The GS-5220-24P(L)4XV(R) PoE Series allows each of the connected PoE IP cameras or PoE wireless access points to reboot at a specified time each week. Therefore, they 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-5220-24P(L)4XV(R) PoE Series can effectively control the power supply besides their 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.

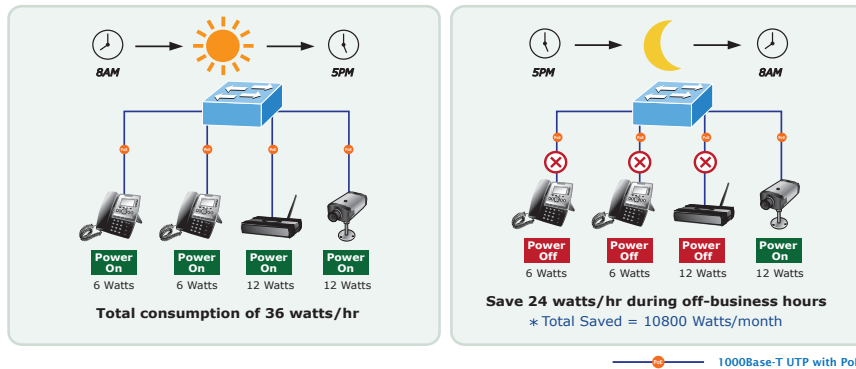
- Built-in RADIUS client to cooperate with the RADIUS servers
- TACACS+ login users access authentication
- RADIUS/TACACS+ users access authentication
- Access Control List
  - IP-based Access Control List (ACL)
  - MAC-based Access Control List
- Source MAC/IP address binding
- **DHCP Snooping** to filter untrusted DHCP messages
- **Dynamic ARP Inspection** discards ARP packets with invalid MAC address to IP address binding
- **IP Source Guard** prevents IP spoofing attacks
- 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 and v2c switch management
  - SSHv2, TLS v1.2 and SNMPv3 secure access
  - 2.4-inch color LCD touch screen
- SNMP Management
  - Four RMON groups (history, statistics, alarms and events)
  - SNMP trap for interface Link Up and Link Down notification
- 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 Option 82
- User Privilege levels control
- NTP (Network Time Protocol)
- Network Diagnostic
  - SFP-DDM (Digital Diagnostic Monitor)
  - ICMPv6/ICMPv4 remote ping
  - Cable diagnostic technology provides the mechanism to detect and report potential cabling issues
- SMTP/Syslog remote alarm
- System Log
- PLANET Smart Discovery Utility for deployment management
- Smart fan with speed control

### Redundant Power System (GS-5220-24P(L)4XVR)

- Redundant 100~240V AC/36-60V DC dual power
- Active-active redundant power failure protection
- Backup of catastrophic power failure on one supply
- Fault tolerance and resilience



**PoE Usage Monitoring**

Via the power usage chart in the web management interface, the GS-5220-24P(L)4XV(R) PoE Series enables the administrator to monitor the status of the power usage of the connected PDs in real time. Thus, they greatly enhance the management efficiency of the facilities.

**Layer 3 Routing Support**

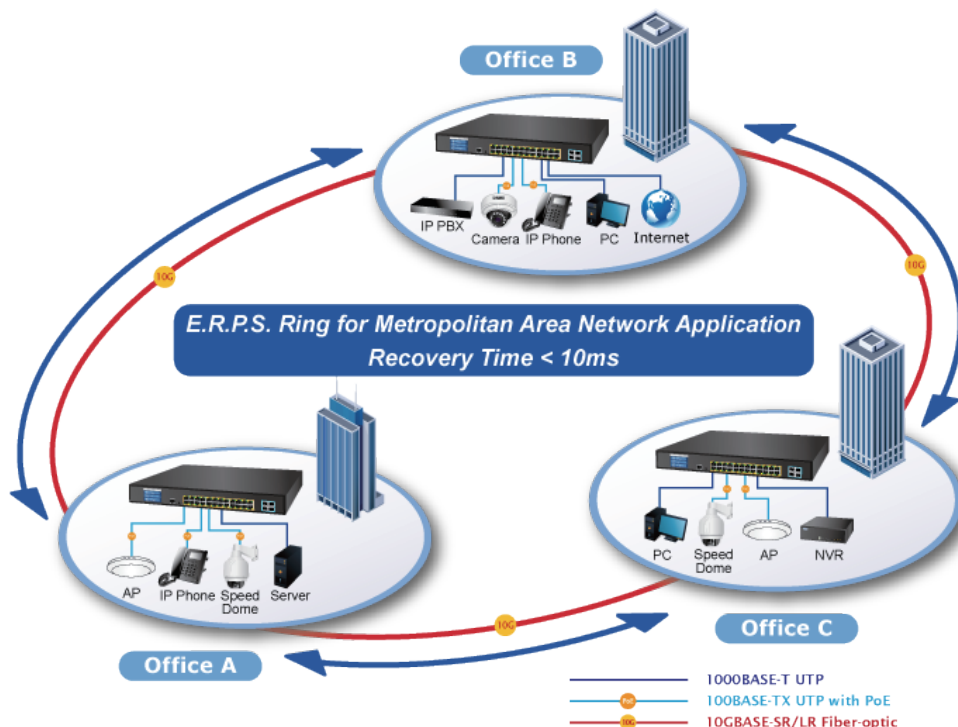
The GS-5220-24P(L)4XV(R) PoE Series enables the administrator to conveniently boost network efficiency by configuring Layer 3 IPv4/IPv6 VLAN static routing manually, and the **OSPFv2** (Open Shortest Path First) settings automatically. The OSPF is an interior dynamic routing protocol for autonomous system based on link state. The protocol creates a database for link state by exchanging link states among Layer 3 switches, and then uses the Shortest Path First algorithm to generate a route table based on that database.

**Network with Cyber Security Helps Minimize Security Risks**

The GS-5220-24P(L)4XV(R) PoE Series comes with enhanced cyber security to fend off cyber threats and cyber attacks. It supports SSHv2 and TLSv1.2 protocols to provide strong protection against advanced threats. Served as a key point to transmit data to customer's critical equipment in a business network, the cyber security feature of the GS-5220-24P(L)4XV(R) PoE Series protects the switch management and enhances the security of the mission-critical network without any extra deployment cost and effort.

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

The GS-5220-24P(L)4XV(R) PoE Series 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), and **redundant power** input system into customer's industrial automation network to enhance system reliability and uptime in harsh factory environments. In a certain simple Ring network, the recovery time of data link can be as fast as 10ms.



*Cost-effective 10Gbps Uplink Capacity*

10G Ethernet is a big leap in the evolution of Ethernet. The four 10G SFP+ slots of the GS-5220-24P(L)4XV(R) PoE Series support **dual-speed 10GBASE-SR/LR** or **1000BASE-SX/LX**, meaning the administrator now can flexibly choose the suitable SFP/SFP+ transceiver according to the transmission distance or the transmission speed required to extend the network efficiently. They greatly support SMB network to achieve the maximum performance of 10Gbps in a cost-effective way.

*Redundant AC/DC Power Supply to Ensure Continuous Operation*

The GS-5220-24P(L)4XVR is particularly equipped with one 100~240V AC power supply unit and one 36~60V 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 36~60V DC power supply, the GS-5220-24P(L)4XVR are able to act as a telecom-level device that can be located in the electronic room.

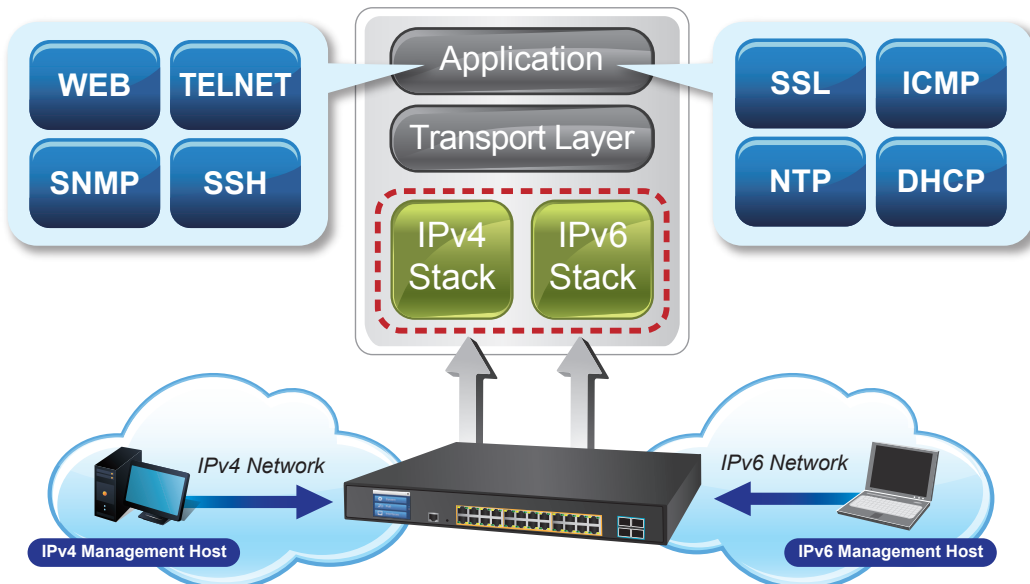


*Environment-friendly, Smart Fan Design for Silent Operation*

The GS-5220-24P(L)4XV(R) PoE Series features a 19-inch metal housing, a low noise design and an effective ventilation system. They support the smart fan technology that automatically controls the speed of the built-in fan to reduce noise and maintain the temperature of the PoE switch for optimal power output capability. It is able to operate reliably, stably and quietly in any environment without affecting its performance.

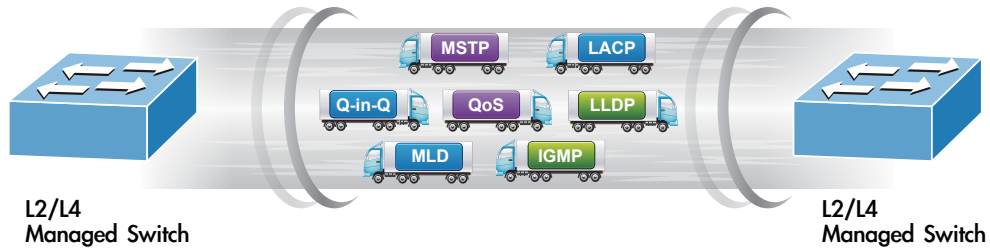
*Solution for IPv6 Networking*

By supporting IPv6/IPv4 dual stack and plenty of management functions with easy and friendly user interfaces, the GS-5220-24P(L)4XV(R) PoE Series is the best choice for IP surveillance, VoIP and wireless service providers to deploy the IPv6 network. They also help the SMBs to step in the IPv6 era with the lowest investment and without having to replace the network facilities while the ISPs construct the IPv6 FTTx edge network.



**Robust Layer 2 Features**

The GS-5220-24P(L)4XV(R) PoE Series can be programmed for advanced switch management functions, 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**. It allows the operation of a high-speed trunk combining with multiple ports.



**Powerful Security**

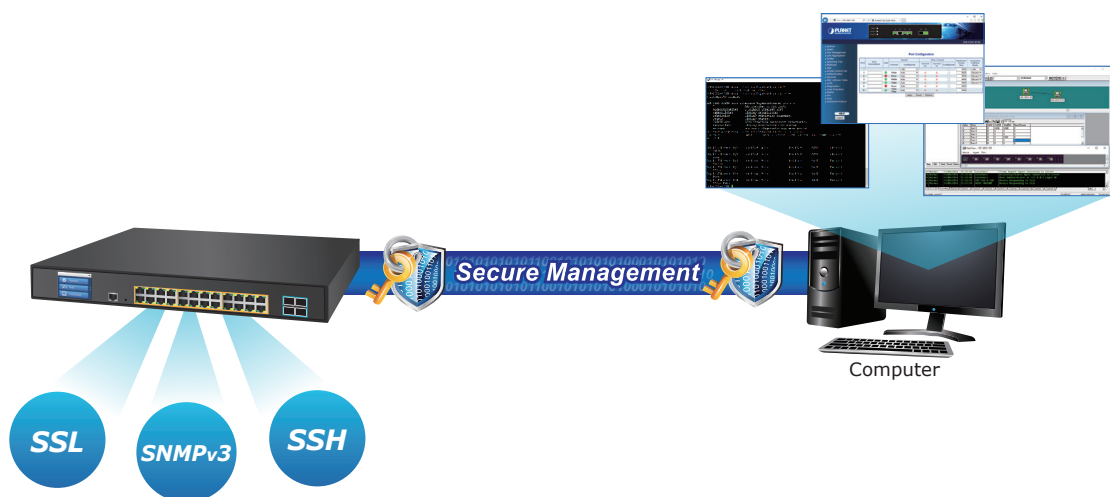
The GS-5220-24P(L)4XV(R) PoE Series offers a comprehensive **Layer 2 to Layer 4 access control list (ACL)** for enforcing security to the edge. It can be used to restrict to network access by denying packets based on source and destination IP address, TCP/UDP port number or defined typical network applications. 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-5220-24P(L)4XV(R) PoE Series 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 construct highly-secure corporate networks with considerably less time and effort than before.

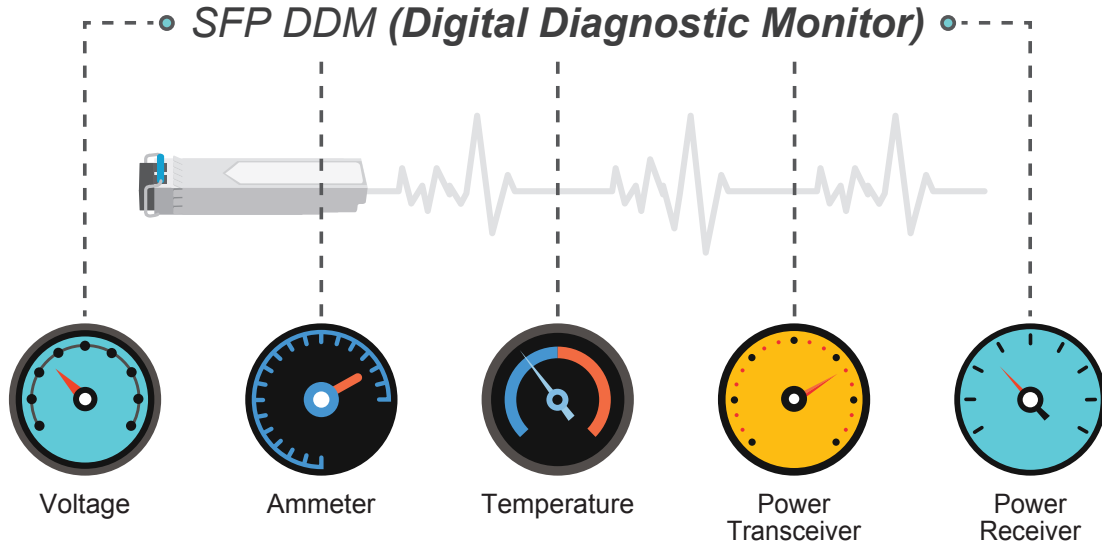
**User-friendly Secure Management**

For efficient management, the GS-5220-24P(L)4XV(R) PoE Series is equipped with console, web and SNMP management interfaces. With the built-in web-based management interface, it offers an easy-to-use, platform independent management and configuration facility. It supports SNMP and it can be managed via any management software based on the standard SNMP v1 or v2 Protocol. For reducing product learning time, the GS-5220-24P(L)4XV(R) PoE Series offers **Cisco-like command** via Telnet or console port and customer doesn't need to learn new command from these switches. Moreover, it offers the remotely secure management by supporting SSHv2, TLSv1.2 and **SNMP v3** connection where the packet content can be encrypted at each session.



*Intelligent SFP/SFP+ Diagnosis Mechanism*

The GS-5220-24P(L)4XV(R) PoE Series 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.

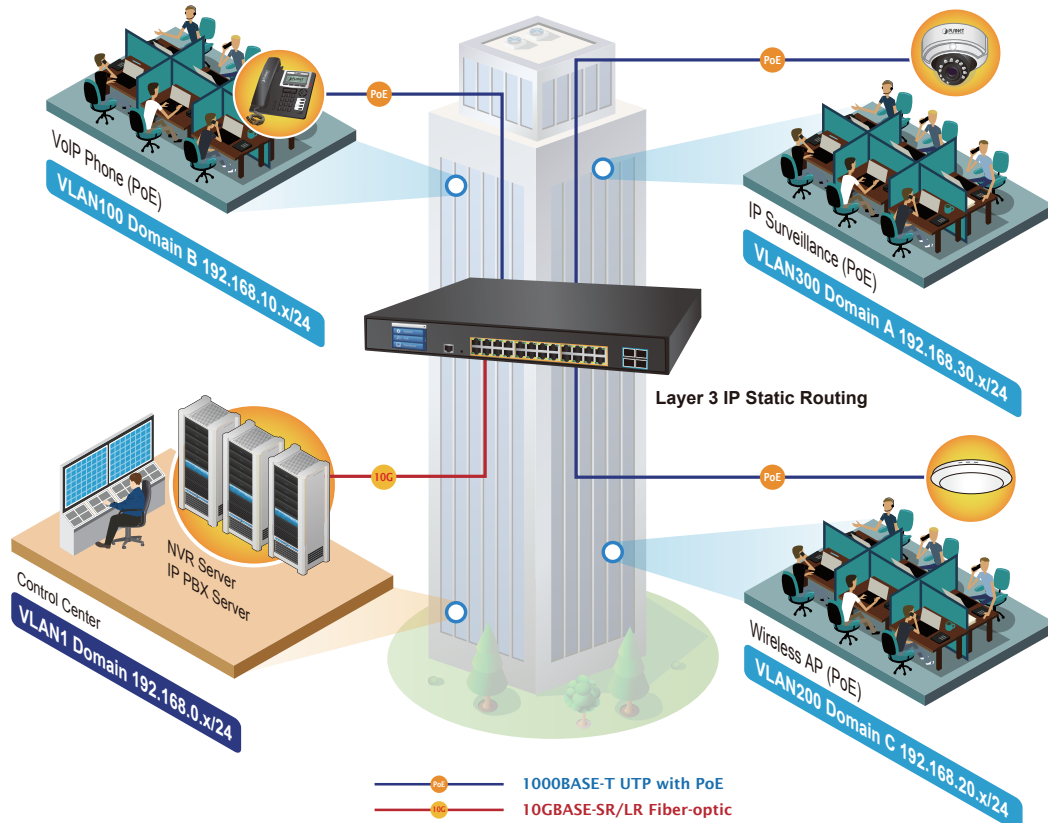


## Applications

*Layer 3 VLAN Static Routing and PoE Application*

The GS-5220-24P(L)4XV(R) PoE Series features PoE that combines up to 36-watt power output per port, and PoE budget is up to 400/600 watts which can deploy up to 24 PoE PD devices. With the built-in robust IPv4/IPv6 Layer 3 traffic routing protocol, the GS-5220-24P(L)4XV(R) PoE Series ensures reliable routing between VLANs and network segments. The routing protocols can be applied by VLAN interface with up to 128 routing entries. It is certainly a cost-effective and ideal solution for enterprises.

## VLAN Routing + PoE Applications



## Specifications

Product	GS-5220-24P4XV	GS-5220-24PL4XVR
<b>Hardware Specifications</b>		
Hardware Version	2	
Copper Ports	24 10/100/1000BASE-T RJ45 auto-MDI/MDI-X ports	
SFP+ Slots	4 10GBASE-SR/LR SFP+ interfaces (Port-25 to Port-28) Compatible with 1000BASE-X and 2500BASE-X SFP transceiver	
Console	1 x RS232-to-RJ45 serial port (115200, 8, N, 1)	
DRAM	512Mbytes	
Flash	64Mbytes	
Reset Button	< 5 sec: System reboot > 5 sec: Factory default	
Dimensions (W x D x H)	440 x 300 x 56 mm, 1.25U height	
Copper Ports	8 10/100/1000BASE-T RJ45 auto-MDI/MDI-X ports	
Weight	4635g	5439g
Power Requirements – AC	AC 100~240V, 50/60Hz, 7A	AC 100~240V, 50/60Hz, 8A
Power Requirements – DC	--	DC 36~60V, 2A
ESD Protection	6KV DC	
Fan	3 smart fans	
LED	System: SYS (Green), AC/PWR (Green) DC (Green) (GS-5220-24P(L)4XVR) Ring (Green) Fan1/2/3 Alert (Red), PoE PWR Alert (Red) PoE Ethernet Interfaces (Port-1 to Port-24): PoE-in-use (Orange) Ethernet Interfaces (Port-1 to Port-24): 1000 LNK/ACT (Green), 10/100 LNK/ACT (Orange) 1/10G SFP+ Interfaces (Port-25 to Port-28): 1G (Green), 10G (Orange)	
<b>Switching Specifications</b>		
Switch Architecture	Store-and-Forward	
Switch Fabric	128Gbps/non-blocking	
Throughput	95.23Mpps@64Bytes	
Address Table	16K entries, automatic source address learning and aging	
Shared Data Buffer	32M bits	
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 54V DC, 36 watts (max.)	Per port 52V DC, 36 watts (max.)
Power Pin Assignment	End-span: 1/2(-), 3/6(+)	
PoE Power Budget	400 watts (max.)	600 watts (max.)
PoE Ability PD @ 7 watts	24 units	24 units
PoE Ability PD @ 15 watts	24 units	24 units
PoE Ability PD @ 30 watts	13 units	20 units
<b>PoE Management Functions</b>		
Active PoE Device Alive Detection	Yes	
PoE Power Recycling	Yes, daily or predefined schedule	
PoE Schedule	4 schedule profiles	
PoE Extend Mode	Yes, max. 160 to 200 meters	
PoE System Management	System PoE Admin control Total PoE power budget control Auto power input and PoE budget control PoE Legacy mode Over-temperature threshold alarm PoE usage threshold alarm	
PoE Port Management	Port Enable/Disable/Schedule Port Priority	

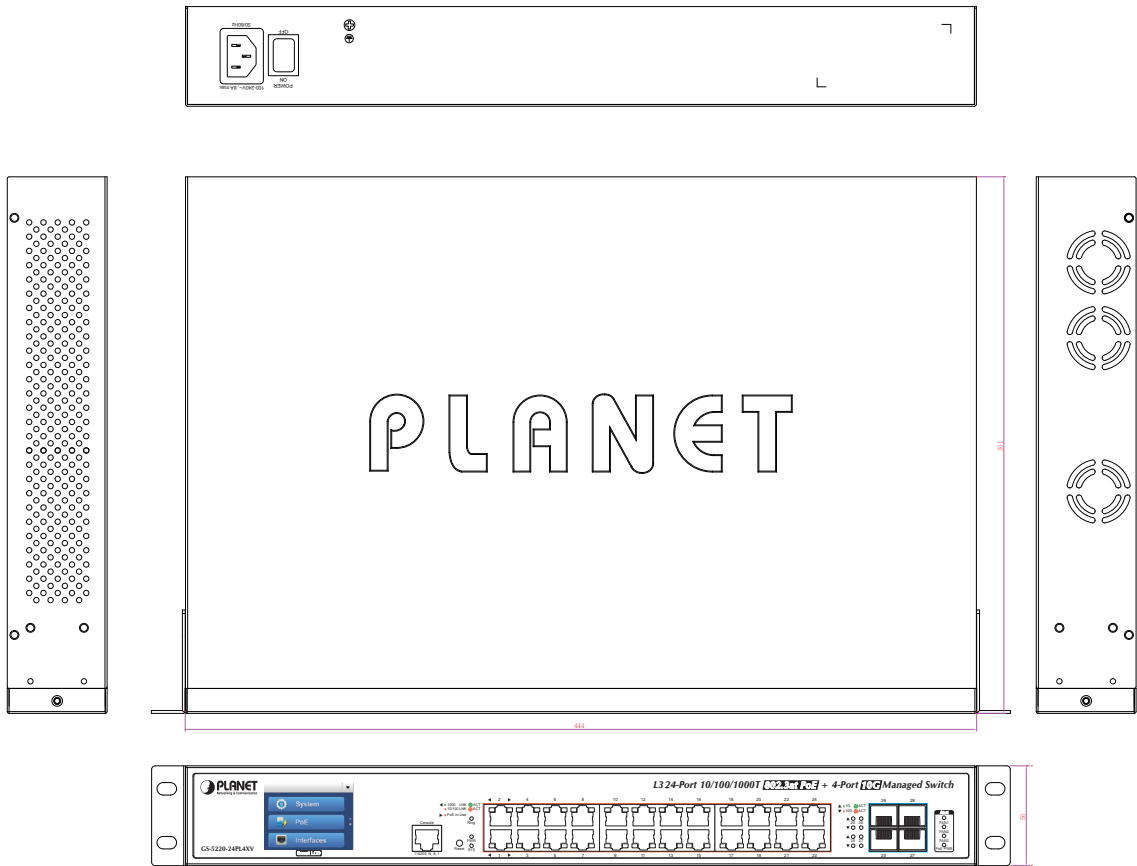


Layer 3 Functions	
IP Interfaces	Max. 128 VLAN interfaces
Routing Table	Max. 128 routing entries
Routing Protocols	IPv4 OSPFv2 IPv4 hardware static routing IPv6 hardware static routing
Layer 2 Management Functions	
Port Configuration	Port disable/enable Auto-negotiation 10/100/1000Mbps full and half 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	IEEE 802.1Q tagged VLAN IEEE 802.1ad Q-in-Q tunneling Private VLAN Edge (PVE) MAC-based VLAN Protocol-based VLAN VLAN Translation GVRP Voice VLAN MVR (Multicast VLAN registration) Up to 4K VLAN groups, out of 4095 VLAN IDs
Link Aggregation	IEEE 802.3ad LACP/static trunk 14 groups with 4 port 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)
IGMP Snooping	IGMP (v1/v2/v3) snooping IGMP querier mode support Up to 255 multicast groups
MLD Snooping	MLD (v1/v2) snooping MLD querier mode support Up to 255 multicast groups
Bandwidth Control	Per port bandwidth control Ingress: 100Kbps~1000Mbps Egress: 100Kbps~1000Mbps
Ring	Support ERPS, complies with ITU-T G.8032 Recovery time < 10ms with 3 units Recovery time < 50ms with 16 units
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
Security Functions	
Access Control List	IP-based ACL/MAC-based ACL Up to 256 entries
Security	Port Security IP source guard Dynamic ARP inspection Command line authority control based on user level
AAA	RADIUS client TACACS+ client
Network Access Control	IEEE 802.1x port-based network access control MAC-based authentication Local/RADIUS authentication
Switch Management	
Basic Management Interfaces	Console; Telnet Web browser SNMP v1, v2c; 2.4-inch color LCD touch screen

Secure Management Interfaces	SSHv2, TLSv1.2, SNMP v3	
System Management	Firmware upgrade by HTTP protocol through Ethernet network Configuration upload/download through HTTP Remote syslog System log LLDP protocol NTP PLANET Smart Discovery Utility	
Event Management	Remote syslog Local system log SMTP	
ONVIF	ONVIF device discovery ONVIF device monitoring Floor Map	
SNMP MIBs	RFC 1213 MIB-II RFC 1493 Bridge MIB RFC 1643 Ethernet MIB RFC 2863 Interface MIB RFC 2665 Ether-Like MIB RFC 2819 RMON MIB (Groups 1, 2, 3 and 9) RFC 2737 Entity MIB RFC 2618 RADIUS Client MIB	RFC 2863 IF-MIB RFC 2933 IGMP-STD-MIB RFC 3411 SNMP-Frameworks-MIB RFC 4292 IP Forward MIB RFC 4293 IP MIB RFC 4836 MAU-MIB IEEE 802.1X PAE LLDP
<b>Standards Conformance</b>		
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 802.3ae 10Gb/s Ethernet 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 802.1ad Q-in-Q VLAN stacking 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 RFC 3810 MLD v2 ITU-T G.8032 ERPS Ring
<b>Environment</b>		
Operating	Temperature: 0 ~ 50 degrees C Relative Humidity: 5 ~ 95% (non-condensing)	
Storage	Temperature: -10 ~ 70 degrees C Relative Humidity: 5 ~ 95% (non-condensing)	

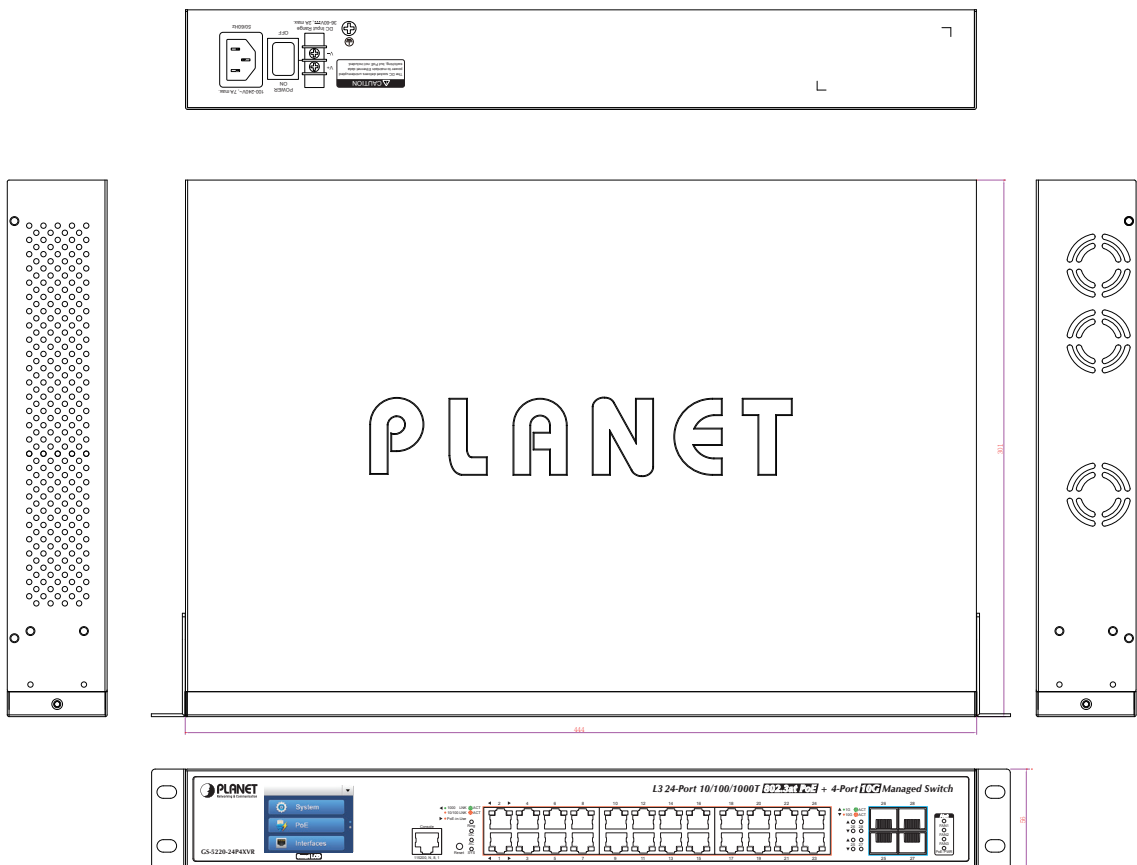
## Dimensions

GS-5220-24P(L)4XV



Unit: mm

GS-5220-24P(L)4XVR



Unit: mm

## Ordering Information

GS-5220-24P4XV	L3 24-Port 10/100/1000T 802.3at PoE + 4-Port 10G SFP+ Managed Switch with LCD Touch Screen (400W)
GS-5220-24PL4XVR	L3 24-Port 10/100/1000T 802.3at PoE + 4-Port 10G SFP+ Managed Switch with LCD Touch Screen and Redundant Power (600W)

## Available 10Gbps Modules

CB-DASFP-0.5M	10G SFP+ Directly-attached Copper Cable (0.5m in length)
CB-DASFP-2M	10G SFP+ Directly-attached Copper Cable (2m in length)
MTB-RJ	Mini GBIC 10G TP Module - 30m
MTB-SR	10GBASE-SR mini-GBIC module - 300m
MTB-LR	10GBASE-LR mini-GBIC module - 10km
MTB-LA20	10GBASE-LX (WDM,TX:1270nm) mini-GBIC module - 20km
MTB-LB20	10GBASE-LX (WDM,TX:1330nm) mini-GBIC module - 20km
MTB-LA40	10GBASE-LX (WDM,TX:1270nm) mini-GBIC module - 40km
MTB-LB40	10GBASE-LX (WDM,TX:1330nm) mini-GBIC module - 40km
MTB-LA60	10GBASE-LX (WDM,TX:1270nm) mini-GBIC module - 60km
MTB-LB60	10GBASE-LX (WDM,TX:1330nm) mini-GBIC module - 60km

## Available 1000Mbps Modules

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 - 20km
MGB-L40	SFP-Port 1000BASE-LX mini-GBIC module - 40km
MGB-L80	SFP-Port 1000BASE-LX mini-GBIC module - 80km
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