24-Port 100/1000 SFP Managed Stackable Switch with 8 Shared TP Ports

Physical Port

- **24 100/1000Base-X mini-GBIC / SFP slots**
- **8-Port 10/100/1000Base-T** RJ-45 copper, shared with port 1 to 8
- **2 HDMI-like 5GbE** Stacking interfaces
- **RS-232 DB9** console interface for Switch basic management and setup

Stacking

- Hardware stack up to **16** units and **384** Gigabit ports
- **Single IP address stack management**
- Stacking architecture supports Chain and Ring mode
- Plug and Play connectivity
- Mirror across stack
- Link Aggregation groups spanning multiple switches in a stack
- Hardware learning with MAC table synchronization across stack

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, broadcast storm control 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 4041 VLAN IDs
  - Provider Bridging (VLAN Q-in-Q) support (IEEE 802.1ad)
  - Private VLAN Edge (PVE)
- 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

Multi-Port / Flexible Dual-Speed Fiber Optic Connection for Distance Extension Solution

The FTTx network applications are part of our life particularly for the business and home use today. To carry out the long-distance networking deployment for FTTx and Metro system, PLANET introduces the latest Layer 2 Managed Core Fiber Switch SGSW-24240 series providing SFP slots with multiple ports in the 1U high case. Each of the SFP slots supports **Dual-Speed** and **1000Base-SX / LX** or **100Base-FX**, meaning the administrator now can flexibly choose the suitable SFP transceiver according to not only the transmission distance but also the transmission speed required. PLANET SGSW-24240 fiber switch series is designed to help ISPs, campuses and enterprises improve their backbone and workgroup network applications by high performance, long distance and stable transmission quality. In addition to being a secure, fast and various central exchange platforms for fiber optic network, the SGSW-24240 series brings the network service providers unprecedented convenience experience by offering the high flexibility and advantages.

Cost-effective IPv6 Managed Gigabit Switch Solution

The SGSW-24240 series supports both IPv4 and IPv6 management functions. It can work with original network structure (IPv4) and also support the new network structure (IPv6) in the future. With easy and friendly management interfaces and plenty of management functions included, the SGSW-24240 series is the best choice for ISPs to build the IPv6 FTTx edge service and for SMBs to connect with the IPv6 network.

Resilient Deployment Switch for Growing Long-Reach Networking of Enterprise, Telecoms and Campus

The SGSW-24240 Switch series is the Layer 2 Stackable Managed Gigabit Switch series which provides **24 100/1000 dual-speed SFP slots, 8 shared Gigabit TP ports**, and **2 dedicated High-Speed HDMI-like interfaces** for stacking with the series of switches. By applying the SGSW-24240 Switch series, up to **16 units**, **384 fiber-optical ports** can be managed by a stacking group and you can add ports and functionality as needed. The 2 built-in stacking ports providing 5Gbps bandwidth and up to 20Gbps Bi-directional speed can handle extremely large amounts of data in a secure topology linking for backbone or high capacity network server with 68Gbps switching fabric per unit. The stacking technology also enables the chassis-based switches to be integrated into SGSW-24240 Managed Switch series at a lower cost.

High Reliability Stacking Management

The SGSW-24240 series applies the advantage of stackable technology to managing the stack group with **one single IP address**, which helps network managers to easily manage a stack of switches instead of connecting and setting each unit one by one. Through its high bandwidth tunnel and stacking technology, the SGSW-24240 series gives the enterprises, service providers and Telecoms flexible control over port density, uplinks and switch stack performance. Stack redundancy of the SGSW-24240 series ensures data integrity be retained even if one switch in the stack fails. You can even hot-swap switches without disrupting the network, which greatly simplifies the tasks of upgrading the LAN for catering to increasing bandwidth demands.

Robust Layer 2 Features

The SGSW-24240 series can be programmed for advanced switch management functions such as dynamic Port link aggregation, Q-in-Q VLAN, private VLAN, Multiple Spanning Tree protocol (MSTP), Layer 2 to Layer 4 QoS, bandwidth control and IGMP Snooping. The SGSW-24240 series provides 802.1Q Tagged VLAN, and the VLAN groups allowed will be maximally up to 255. Via supporting port aggregation, the SGSW-24240 series allows the operation of a high-speed trunk to combine multiple ports. It enables a maximum of up to 12 groups of 16 ports for port link aggregation, and supports fail-over as well.

Easy and Friendly Traffic Control

PLANET SGSW-24240 series is loaded with powerful but easy traffic management and QoS features to enhance services offered by telecoms. The QoS features include wire-speed Layer 4 traffic classifiers and bandwidth limitation that are particularly useful for multi-tenant unit, multi business unit, Telco, or Network Service Provider applications like VoIP, video streaming and multicast applications. The embedded handy QoS configuration wizard helps you set up a typical network application rules easily and quickly via Web interface. The SGSW-24240 series also empowers the enterprises or campuses to take full advantages of the limited network resources and guarantees the best performance in Voice and Video conferencing transmission.

Efficient and Secure Management

For efficient management, the SGSW-24040 series Managed Ethernet Switch is equipped with console, WEB and SNMP management interfaces. With the built-in Web-Based management interface, the SGSW-24040 series offers an easy-to-use, platform-independent management and configuration facility. The SGSW-24040 series supports standard Simple Network Management Protocol (SNMP) and can be managed via any standard-based management software. For text-based management, the SGSW-24040 series can be accessed via Telnet and the console port. Moreover, the SGSW-24040 series offers secure remote management by supporting SSH, SSL and SNMPv3 connection which encrypt the packet content at each session.

- Supports Link Aggregation
  - 802.3ad Link Aggregation Control Protocol (LACP)
  - Cisco ether-channel (Static Trunk)
  - Maximum 12 trunk groups, up to 16 ports per trunk group
  - Up to 32Gbps bandwidth(Duplex Mode)
- Provides Port Mirror (many-to-1)
- Port Mirroring to monitor the incoming or outgoing traffic on a particular port

Quality of Service
- Ingress Shaper and Egress Rate Limit per port bandwidth control
- 4 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
- QoS Control List Wizard makes QoS creation and configuration easier and more quickly
- DSCP remarking
- Voice VLAN

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

Security
- IEEE 802.1x Port-based / MAC-based network access authentication
- Built-in RADIUS client to co-operate with the RADIUS servers
- TACACS+ login users access authentication
- RADIUS / TACACS+ users access authentication
- IP-based Access Control List (ACL)

Enhanced Security

The SGSW-24240 series 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 consists of 802.1x Port-based and MAC-based user and device authentication. With the private VLAN function, communications between edge ports can be protected to ensure user privacy. The new SGSW-24240 Series', net security also provides DHCP Snooping, IP Source Guard and Dynamic ARP Inspection functions to prevent IP snooping from attack and discarding ARP packets with invalid MAC address. The network administrators can now construct highly-secured corporate networks with considerably less time and effort than before.

AC / DC Power Redundant to Ensure Continuous Operation

Particularly for the SGSW-24240R, it is equipped with one 100~240V AC power supply unit and one DC -48V power supply unit to provide an enhanced reliable and scalable redundant power supply installation. The continuous power system is specifically designed to fulfill the demands of high tech facilities requiring the highest power integrity. The -48V DC power supply implemented makes the SGSW-24240R the telecom level device that can be located in the electronic room.

Applications

Carrier-class Backbone Switch for the Campus and Community

For small area network communication on the campus or in the community, PLANET SGSW-24240 Managed Stackable Switch series enables an affordable and scalable network deployment. Multiple SGSW-24240 Switch series may be connected together to constitute a **chain** or **ring stack topology** using the 5Gbps stacking ports as interconnect links. Up to 16 units and **384** high-density Gigabit Ethernet ports can be managed by a stacking group with a single IP address. Furthermore, up to 384 mini-**GBIC / SFP ports** are available for remote uplink connectivity in a stacking group and provide the uplink to the edge network through 1000Base-SX/LX or 100Base-FX SFP modules. The SGSW-24240 stackable switching system gives you the flexibility to expand small area network when needed.
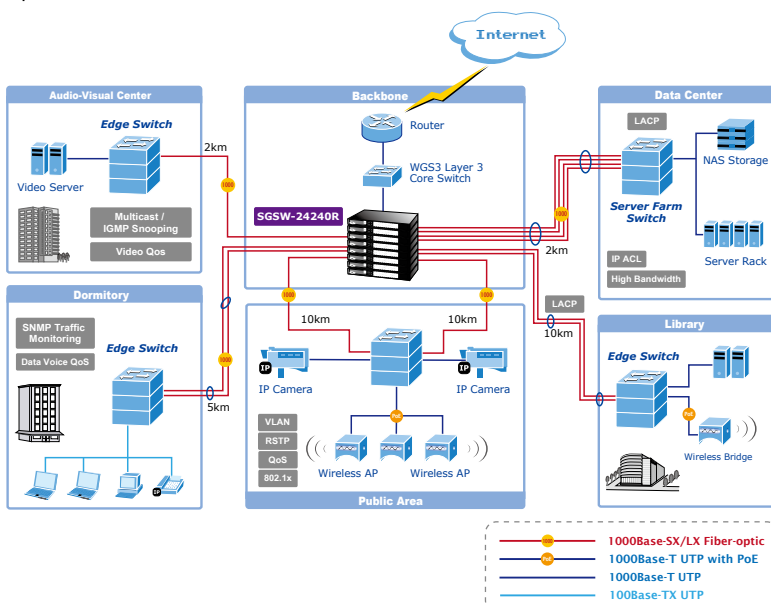
- MAC-based Access Control List
- Source MAC / IP address binding
- DHCP Snooping to filter un-trusted DHCP messages
- Dynamic ARP Inspection discards ARP packets with invalid MAC address to IP address binding
- IP Source Guard prevents IP spoofing attacks
- Auto DoS rule to defend DoS attack
- IP address access management to prevent unauthorized intruder

Management
- Switch Management Interfaces
  - Console / Telnet Command Line Interface
  - Web switch management
  - SNMP v1, v2c, and v3 switch management
  - SSH / SSL secure access
- Four RMON groups (history, statistics, alarms, and events)
- IPv6 IP Address / NTP / DNS management
- Built-in Trivial File Transfer Protocol (TFTP) client
- BOOTP and DHCP for IP address assignment
- Firmware upload/download via HTTP / TFTP
- DHCP Relay and Relay Option 82
- User Privilege levels control
- NTP (Network Time Protocol)
- Link Layer Discovery Protocol (LLDP) Protocol
- Cable Diagnostic technology provides the mechanism to detect and report potential cabling issues
- Reset button for system reboot or reset to factory default
- PLANET Smart Discovery Utility for deploy management
- ICMPv6

## Redundant Power System (SGSW-24240R)
- 100~240V AC / -48V DC Dual power redundant
- Active-Active redundant power failure protection
- Backup of catastrophic power failure on one supply

FTTX / MAN Application

The SGSW-24240 series offers multiple flexible fiber-optic connective capability and helps to extend the coverage from backbone to edge network applications. The stackable fiber switch also provides high scalability for current and future network infrastructure as they can flexibly work with other PLANET SGSW Gigabit Switch series to meet the various networking requirements and simplify the network deployment and management of metro access networks.

The SGSW-24240 series applies the **double tag VLAN (Q-in-Q)** technology to provide low cost and easy operation for service providers carrying traffic for multiple customers across their networks. It allows the service providers to offer certain services such as Internet access on VLANs for specific customers and meanwhile still can provide other types of services for other customers on other VLANs.
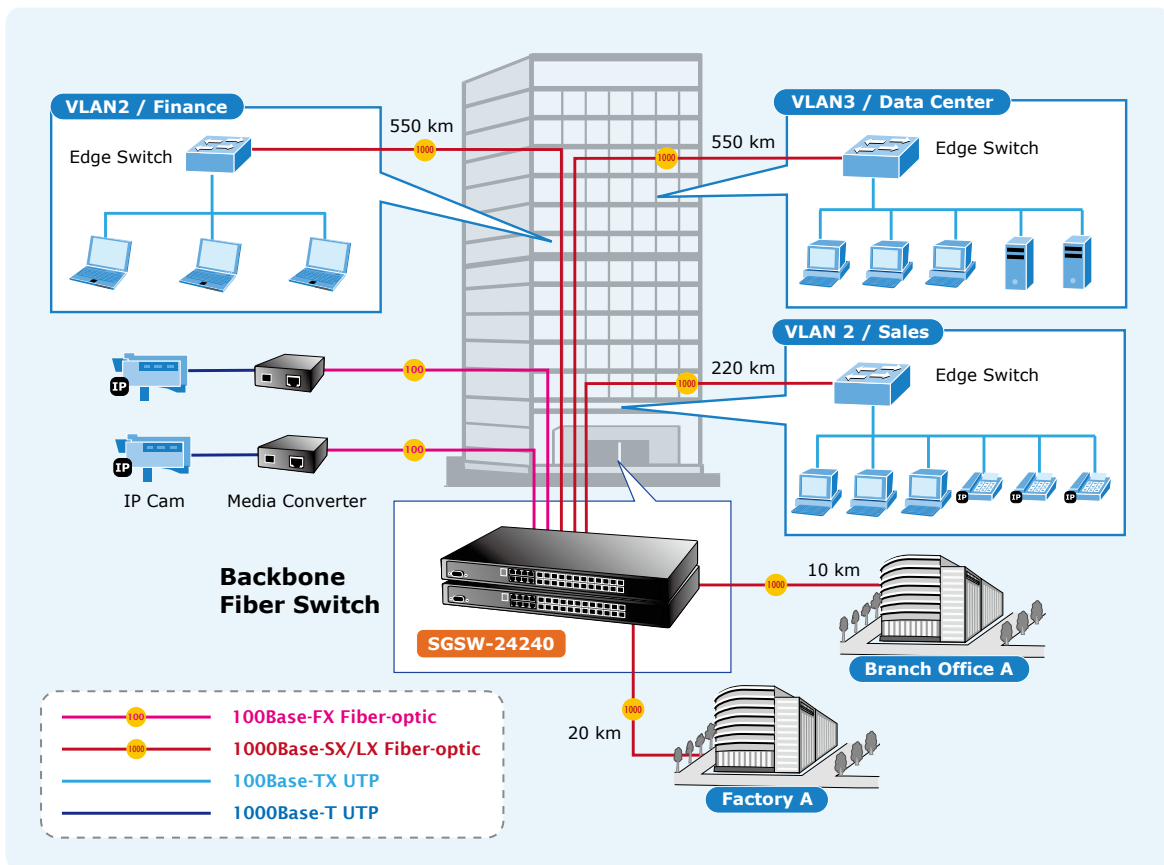
With **SNMPv3** support, the SNMPv3 security structure in the SGSW-24240 consists of various security models, with each model having its own security levels for the ISPs and service providers.
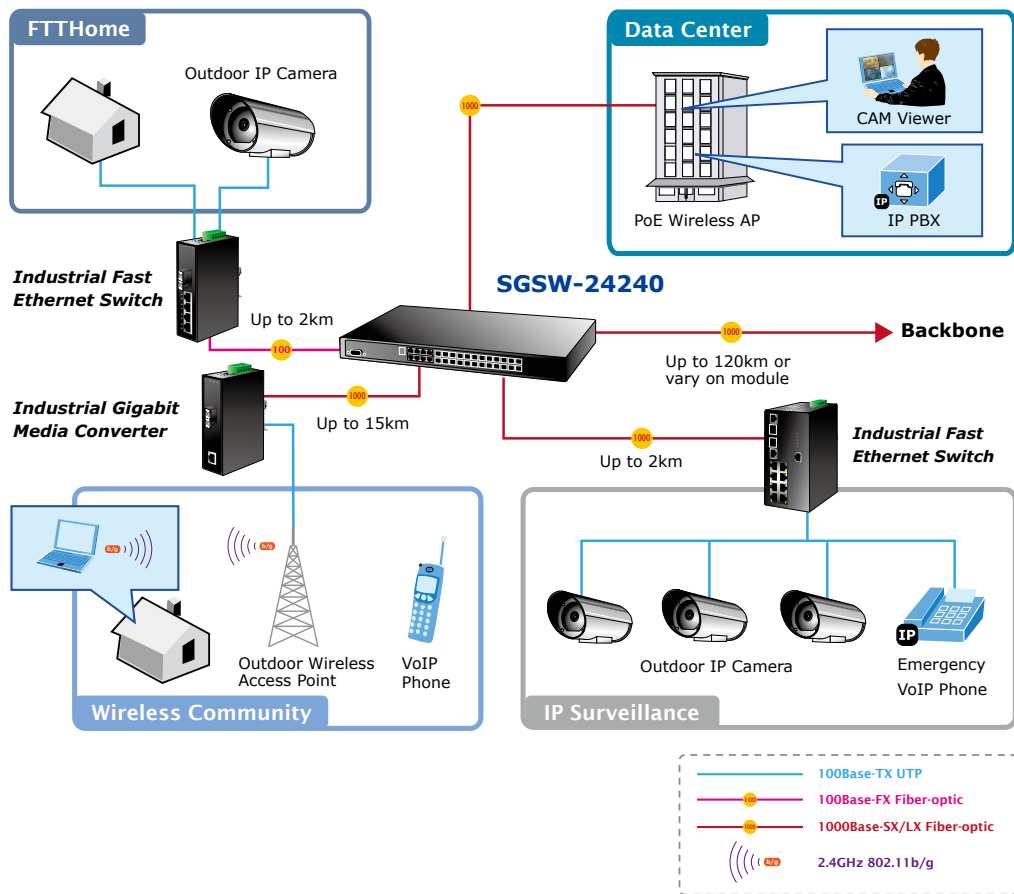
High-performance, High-density and Highly-reliable Enterprise Backbone Switch

Gigabit Ethernet supported equipment has become the fundamental unit of Enterprises and Network servers. The SGSW-24240 stackable Gigabit Switch series can easily provide the cost-effective, high-density and high-bandwidth applications. Dedicated stacking features built into the SGSW-24240 switch series makes all devices in the stack operate together as one much larger switch providing multiple high performance Gigabit Ethernet network for backbone of enterprise or telecoms. The SGSW-24240 switch series is ideal to be used as a server farm switch connecting servers. With the dynamic link aggregation function, a 16 GB fat pipe is provided for connecting to the backbone if required.

The dual power supplies provide the **SGSW-24240R** the non-stop network service. Besides the AC power input, the DC power supply can be chosen as **-48V DC** power input source or **redundant power** for the SGSW-24240R. The SGSW-24240R can take electrical power either from the AC outlet, the DC outlet or both for redundancy.

Specifications

Model	SGSW-24240	SGSW-24240R
Hardware Specifications		
Copper Ports	8 10/100/1000Base-T RJ-45 ports, shared with port 1 to 8 Supports Auto-negotiation and Auto-MDI / MDI-X	
SFP / mini-GBIC Slots	24 SFP interfaces 1000Base-SX/LX SFP transceiver compatible 100Base-FX SFP transceiver compatible SFP transceiver type and speed auto detection	
Console	1 x RS-232 DB9 serial port (115200, 8, N, 1)	
Switch Processing Scheme	Store-and-Forward	
Switch Fabric	68Gbps	
Address Table	8K entries	
Share Data Buffer	1392 kilobytes	
Flow Control	IEEE 802.3x Pause Frame for Full-Duplex Back pressure for Half-Duplex	
Jumbo Frame	10Kbytes	
LED	System: Power, Master Ports: 10/100/1000 Link/Act, SFP Link, Stack Port Link	
Reset Button	< 5 sec: System reboot > 5 sec: Factory Default	
Dimensions (W x D x H)	440 x 200 x 44.5 mm, 1U height	
Weight	3 KG	
Power Consumption	Max. 50 watts / 170.5 BTU	
Power Requirements	100~240V AC, 50/60Hz	■ 100~240V AC, 50/60Hz ■ -48V DC @ 0.6A, Range: -30 ~ -60V
Stacking		
Stacking Ports	Two 5Gbps HDMI-Like interface	
Stacking Numbers	16	
Stacking Bandwidth	10Gbps (Full-Duplex)	
Stack ID Display	7-Segment LED Display (1~9, A~F,0)	
Stack Topology	Ring / Chain / Back-to-Back stack	
Layer 2 Function		
Basic Management Interfaces	Console, Telnet, Web Browser, SNMPv1, 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 Bandwidth control on each port	
VLAN	802.1Q Tagged Based VLAN Port-Based VLAN Q-in-Q Private VLAN Edge (PVE) Up to 255 VLAN groups, out of 4094 VLAN IDs	
Spanning Tree Protocol	IEEE 802.1D Spanning Tree IEEE 802.1w Rapid Spanning Tree IEEE 802.1s Multiple Spanning Tree Up to 8 MST instances	
Link Aggregation	IEEE 802.3ad LACP / Static Trunk Support 12 groups of 16-Port trunk support	
QoS	Traffic classification based, Strict priority and WRR 4-level priority for switching - Port Number - 802.1p priority - 802.1Q VLAN tag DSCP/TOS field in IP Packet Policy-Based QoS	

IGMP Snooping	IGMP (v1/v2/v3) Snooping, up to 255 multicast Groups IGMP Querier mode support
Access Control List	IP-Based ACL / MAC-Based ACL Up to 256 entries
SNMP MIBs	RFC-1493 Bridge MIB RFC-1643 Ethernet MIB RFC-2863 Interface MIB RFC-2665 Ether-Like MIB RFC-2819 RMON MIB RFC-2737 Entity MIB RFC-2618 RADIUS Client MIB RFC-2933 IGMP-STD-MIB RFC3411 SNMP-Frameworks-MIB IEEE 802.1X PAE LLDP MAU-MIB

Standards Conformance	
Regulation Compliance	FCC Part 15 Class A, CE
Safety	UL, cUL
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 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

Environment	
Operating	Temperature: 0 ~ 50 degrees C Relative Humidity: 20 ~ 95% (non-condensing)
Storage	Temperature: -40 ~ 70 degrees C Relative Humidity: 20 ~ 95% (non-condensing)

Ordering Information

SGSW-24240	24-Port 100/1000 SFP Slots with 8 Shared TP Managed Stackable Switch
SGSW-24240R	24-Port 100/1000 SFP Slots with 8 Shared TP Managed Stackable Switch / -48V DC Redundant Power

Related Products

SGSW-24040	24-Port 10/100/1000Mbps with 4 Shared SFP Managed Stackable Switch
SGSW-24040R	24-Port 10/100/1000Mbps with 4 Shared SFP Managed Stackable Switch / -48V DC Redundant Power
SGSW-24040P	24-Port Gigabit PoE Managed Stackable Switch / 220W
SGSW-24040P4	24-Port Gigabit PoE Managed Stackable Switch / 380W

Accessories

CB-STX50	0.5-meter 5Gbps Stacking Cable with Crossed-HDMI connector (Standard package)
CB-STX200	2-meter 5Gbps Stacking Cable with Crossed-HDMI connector

Available Modules for SGSW-24240 / SGSW-24240R

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
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

SGSW-24240 / SGSW-24240R