24-Port 10/100/1000Mbps with 4 Shared SFP Managed Stackable Switch

High-Density, Resilient Deployment Switch Solution for Growing Gigabit Networking of Enterprise, Campus and Data Center

For the growing Gigabit network demand, PLANET provides new generation Stackable Gigabit Switch solution, SGSW-24040 series Switch to fulfill the need of large scale of network deployment in the enterprises, Telecoms or campus. The PLANET SGSW-24040 series Switch, the SGSW-24040 and the SGSW-24040R, is the Layer 2 Managed Stackable Gigabit Switch which provides 24 10/100/1000Mbps Gigabit Ethernet ports, 4 shared Gigabit SFP slots, and 2 dedicated High-Speed HDMI-like interfaces for stacking with the series of switches. Up to 16 units, 384 Gigabit Ethernet ports can be managed by a stacking group and you can add ports and functionality as needed. The 2 built-in stacking ports providing ports and functionality as needed. The 2 built-in stacking ports providing 5Gbps bandwidth and up to 20Gbps Bi-directional speed, it 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-24040 series Managed Switch but without the expensive up-front cost.

Cost-effective IPv6 Managed Gigabit Switch Solution for SMB

The SGSW-24040 series which 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-24040 series is the best choice for ISP to build the IPv6 FTTx edge service and for SMB to connect with the IPv6 network.

High Reliability Stacking Management

The SGSW-24040 series applies the advantage of stackable technology to manage 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-24040 series gives the enterprises, service providers and Telecoms flexible control over port density, uplinks and switch stack performance. Stack redundancy of the SGSW-24040 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-24040 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-24040 series provides 802.1Q Tagged VLAN, and the VLAN groups allowed will be maximally up to 255. Via aggregation of supporting ports, the SGSW-24040 series allows the operation of a high-speed trunk combining multiple ports. It enables maximum up to 12 groups of 16 ports for port link aggregation, and supports fail-over as well.

Easy and Friendly Traffic Control

PLANET SGSW-24040 series is loaded with powerful but easy traffic management and QoS features to enhance services offered by telecoms. The functionality includes QoS features such as wire-speed Layer 4 traffic classifiers and bandwidth limiting that are particular useful for multi-tenant unit, multi business unit, Telco, or Network Service Provide applications, such as 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-24040 series also empowers the enterprises or campus 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.

Data Sheet

Enhanced Security

The SGSW-24040 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 comprises 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. New SGSW-24040 series net Security 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 administrators can now construct highly secured corporate networks with considerably less time and effort than before.

Flexibility and Extension Solution

The four mini-GBIC slots built in the SGSW-24040 series support Dual-Speed, 100Base-FX and 1000Base-SX/LX SFP (Small Form-factor Pluggable) fiber-optic modules, that means, the administrator now can flexibly choose the suitable SFP transceiver according to the transmission distance or the transmission speed required. The distance can be extended from 550 meters (Multi-Mode fiber) up to above 10/50/70/120 kilometers (Single-Mode fiber or WDM fiber). They are well suited for applications within the enterprise data centers and distributions.

AC / DC Power Redundant to Ensure Continuous Operation (SGSW-24040R)

Particularly for the SGSW-24040R, 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 SGSW-24040R the telecom level device that can be located at the electronic room.

APPLICATIONS

Carrier Class backbone Switch for the Campus and Community

For small area network communication such as in campus and community, the PLANET SGSW-24040 series Managed Stackable switches enable an affordable and scalable network deployment. Multiple SGSW-24040 series switches may be connected together to constitute a chain or ring stack topology using the 5Gbps stacking ports as interconnect links. Up to 16 units, 384 high-density Gigabit Ethernet ports can be managed by a stacking group with a single IP address. Furthermore, up to 64 mini-GBIC/SFP ports are available for remote uplink connectivity in a stacking group and provide the uplink to the edge network through Gigabit Ethernet LX/SX SFP modules. The SGSW-24040 series stackable switching system gives you the flexibility to expand small area network when needed.
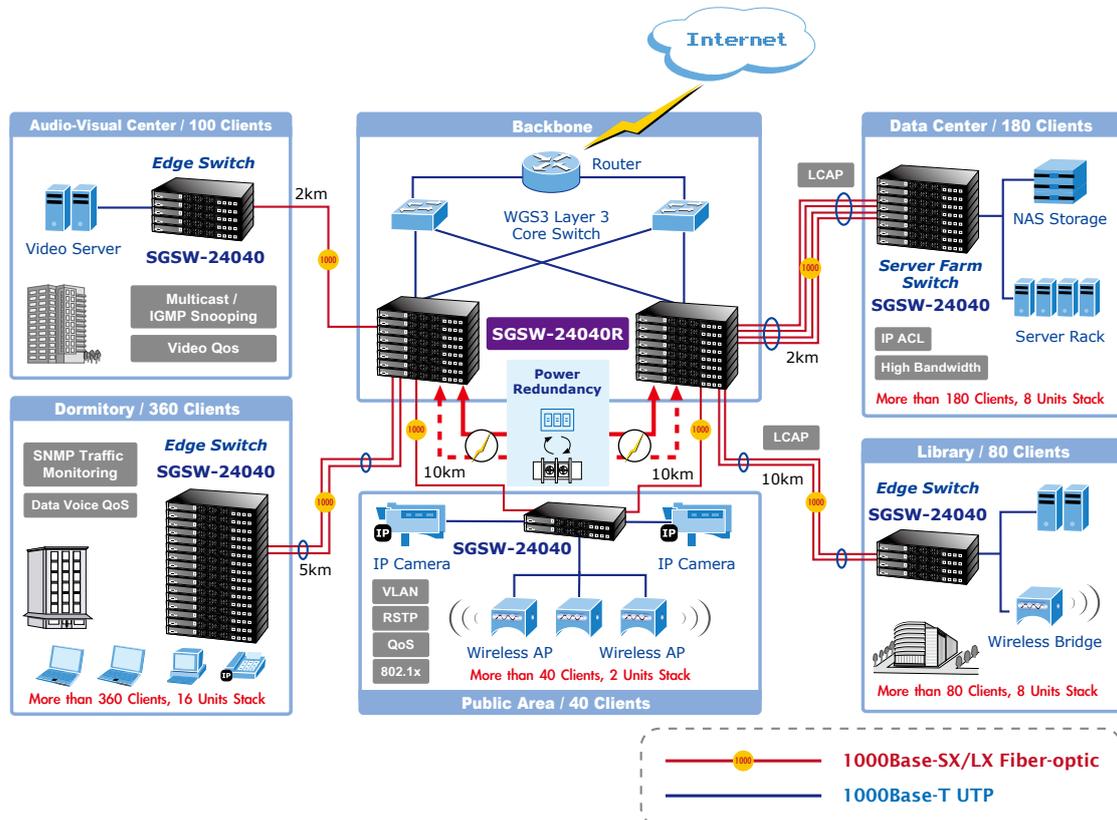
High Performance, High-Density, High Reliable Enterprise Backbone and Server Farm Switch

Gigabit Ethernet supported equipment had become the fundamental unit of Enterprises and Network servers. The SGSW-24040 series stackable Gigabit switch can easily provide the cost-effective, high-density and high-bandwidth required from now on. Dedicated stacking features built into SGSW-24040 series switch makes all devices in the stack operate together as a one much larger switch providing multiple high performance Gigabit Ethernet network for backbone of enterprise or Telecoms. The SGSW-24040 series switch 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-24040R the non-Stop network service ability. Besides the AC power input, the DC power supply can be chosen as -48V DC power input source or redundant power for SGSW-24040R. The SGSW-24040R can take electrical power either from the AC outlet, the DC outlet or both for redundant.

Department / Edge Security and QoS Switch

The SGSW-24040 series switch delivers high-performance and cost-effective Gigabit Ethernet network connectivity for the increasing number of IP telephones, IP Surveillances, wireless access points and other devices at the edge of the network. The SGSW-24040 improves the network efficiency and protects the network clients with the powerful features:
• Layer 2 to Layer 4 security
• QoS
• 802.1x Port-Based and MAC-Based network access authentication security
• Multicast IGMP Snooping
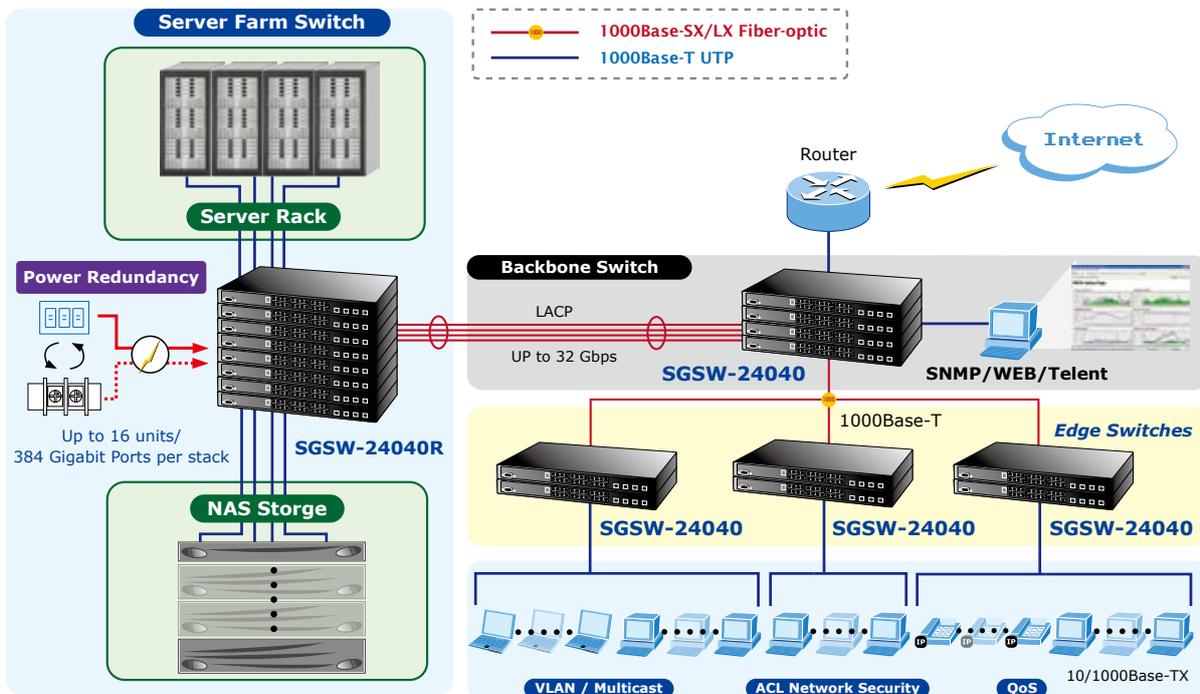
FTTX / MAN application Switch

The SGSW-24040 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. With SNMPv3 and RMON groups support, the SNMPv3 security structure in the SGSW-24040 consists of various security models, with each model having its own security levels for the ISP and Service Provider.

Data Sheet

KEY FEATURES

PHYSICAL PORT

- **24-Port 10/100/1000Base-T** Gigabit RJ-45 copper
- **4 100/1000Base-X** mini-GBIC/SFP slots, shared with Port-21 to Port-24
- **2 HDMI-like 5Gbps** 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
- 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)
- 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-24040R)

- 100~240V AC / 48V DC Dual power redundant
- Active-active redundant power failure protection
- Backup of catastrophic power failure on one supply

SPECIFICATION

Product	24-Port 10/100/1000Mbps with 4 Shared SFP Managed Stackable Switch
Model	SGSW-24040 / SGSW-24040R
Hardware Specification	
Copper Ports	24 10/ 100/1000Base-T RJ-45 Auto-MDI/MDI-X ports
SFP/mini-GBIC Slots	4 1000Base-SX/LX/BX SFP interfaces, shared with Port 21 to Port 24 Compatible with 100Base-FX SFP
Console	1 x RS-232 DB9 serial port (115200, 8, N, 1)
Switch Processing Scheme	Store-and-Forward
Switch Fabric	68Gbps / non-blocking
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
Dimension (W x D x H)	440 x 200 x 44.5 mm, 1U height
Weight	3.0 KG
Power Consumption	Max. 30 watts / 102 BTU
Power Requirement	**SGSW-24040** ▪ AC 100~240V, 50/60Hz **SGSW-24040R** ▪ 100~240V AC, 50/60Hz ▪ -48V DC @ 0.6A, Range: -30 ~ -60V
ESD Protection	6KV DC
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.

Data Sheet

VLAN	802.1Q Tagged Based VLAN Port-Based VLAN Q-in-Q Private VLAN Edge (PVE) Up to 256 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-1213 MIB-II IF-MIB 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
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 Degree C Relative Humidity: 20 ~ 95% (non-condensing)
Storage	Temperature: -40 ~ 70 Degree C Relative Humidity: 20 ~ 95% (non-condensing)

ORDERING INFORMATION

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

RELATIVE PRODUCT

SGSW-24040P	24-Port Gigabit PoE Managed Stackable Switch / 220W
SGSW-24040P4	24-Port Gigabit PoE Managed Stackable Switch / 380W
SGSW-24240HP	24-Port 10/100/1000Mbps with 4 Shared SFP 802.3at PoE Managed Stackable Switch
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

ACCESSORIES

CB-STX50	0.5 Meter 5Gbps Stacking Cable with Crossed-HDMI connector
CB-STX200	2 Meter 5Gbps Stacking Cable with Crossed-HDMI connector

AVAILABLE MODULES FOR SGSW-24040

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

C-SGSW-24040_24040R_IPv6