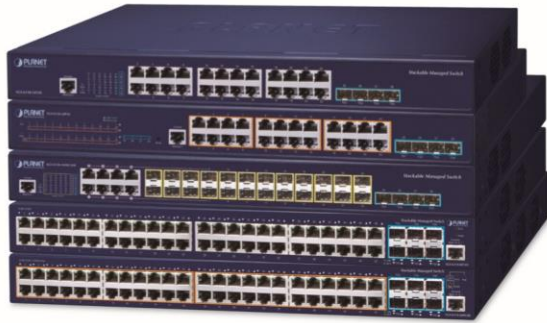


Layer 3 Multiple Gigabit with 10G SFP+ Stackable Managed Ethernet Switch



Resilient 10Gbps and Layer 3 Routing Solution for Enterprise Networking

PLANET SGS-6310 series is a brand-new Layer 3 Stackable Managed Gigabit Switch with 10Gbps uplink capability for various kinds of network applications and flexible deployment. The **SGS-6310** series features 24 to 48 10/100/1000BASE-T RJ45 ports and 4 to 6 1G/10GBASE-X SFP+ ports with 216 Gbps switch fabric delivered in a 1U rugged case design.

The SGS-6310 series provides high-density performance, **Layer 3 IPv4/IPv6 static routing**, RIP and OSPF dynamic routing capability, **ERPS** ring, abundant **L2/L4 switching engine** and **virtual switch stacking** technology to fulfill the need of heavy transmission of all applications. It gives the enterprises, service providers and campuses flexible control over port density, uplinks and switch stack performance at an affordable price beyond value.

The hardware specifications of these models are shown below:

Models	10/100/1000T Copper	100/1000X SFP	1000/10G SFP+	PoE Ports	Power Input
SGS-6310-24T4X	24	--	4	--	AC + AC
SGS-6310-24P4X	24	--	4	24	AC
SGS-6310-16S8C4XR	8 (combo)	24	4	--	AC + AC
SGS-6310-48T6X	48	--	6	--	AC + AC
SGS-6310-48P6XR	48	--	6	48	AC + DC



Stacking Features

- Hardware Stacking
 - Virtualized multiple SGS-6310 series stacked into one logical facility
 - Connects with stack members via assigned 10G SFP+ interfaces
 - Single IP address stack management, supporting up to 8 hardware units stacked together
 - Stacking architecture supports redundant Ring mode

IP Routing Features

- IPv4 routing protocol supports **RIPv1/v2** and **OSPFv2**
- IPv6 routing protocol supports **RIPng** and **OSPFv3**
- Routing interface provides per VLAN routing mode
- **VRRPv1/v3** protocol for redundant routing deployment
- Supports route redistribution
- Supports hardware-based wire-speed VLAN routing

Multicast Routing Features

- Supports IPv4 IGMP v1/v2/v3, IGMP Snooping.
- Supports IGMP Fast Leave, MVR, IGMP filter
- Supports IPv6 MLD V1, MLD snooping

Layer 2 Features

- 16K MAC address table, automatic source address learning and aging
- Supports VLAN
 - IEEE 802.1Q tag-based VLAN
 - Provider Bridging (VLAN Q-in-Q, IEEE 802.1ad) supported
 - GVRP protocol for dynamic VLAN management
 - Private VLAN Edge (PVE) supported
 - MAC-based VLAN
 - IP subnet-based VLAN
 - Voice VLAN
- Supports Link Aggregation
 - IEEE 802.3ad LACP (Link Aggregation Control Protocol)
 - Static mode and LACP mode
 - Maximum 64 trunk groups, up to 8 ports per trunk group
- Supports Spanning Tree Protocol
 - STP, IEEE 802.1D (Classic Spanning Tree Protocol)
 - RSTP, IEEE 802.1w (Rapid Spanning Tree Protocol)
 - MSTP, IEEE 802.1s (Multiple Spanning Tree Protocol, spanning tree by VLAN)



High Performance 10Gbps Ethernet Capacity

The four to six SFP+ ports built in the SGS-6310 series boast a high-performance switch architecture that is capable of providing non-blocking switch fabric and wire-speed throughput as high as up to 120Gbps, which greatly meets high bandwidth demands in the LAN. Each of the SFP+ ports supports **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.

Centralized Hardware Stacking Management

Two of the 10G SFP+ ports can be configured to connect several SGS-6310 series for building a virtually logical facility. The stackable SGS-6310 series, suitable for the enterprises, service providers and telecoms, provides high port density, large uplink bandwidth and high stacking performance, thus giving great flexibility for different application requirements. The SGS-6310 series can connect as a ring for redundancy and ensures that data integrity is retained even if one switch in the stack fails. You can even hot-swap switches without disrupting the network operations.

Hardware Stacking

Up to 8 units with SGS-6310 Series



Redundant Ring, Fast Recovery for Critical Network Applications

The SGS-6310 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 and Spanning Tree Protocol (802.1s MSTP) into customer's network to enhance system reliability and uptime in harsh environments. In a certain simple ring network, the recovery time could be less than 10ms to quickly bring the network back to normal operation.

- Supports BPDU & root guard
- Port mirroring to monitor the incoming or outgoing traffic on a particular port (one-to-one and many-to-one)
- Provides port mirror (many-to-1)
- Supports G.8032 ERPS (Ethernet Ring Protection Switching)
- Loop protection to avoid broadcast loops
- Link Layer Discovery Protocol (LLDP)
- Compatible with Cisco UDLD (uni-directional link detection) 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

Quality of Service

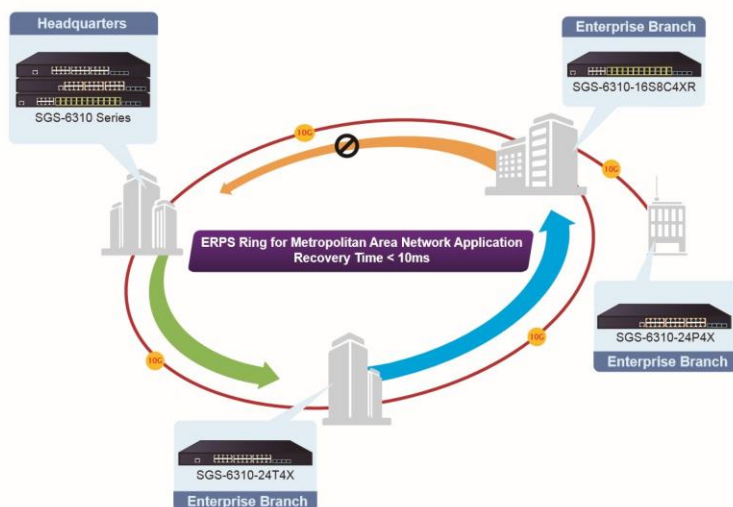
- 8 priority queues on all switch ports
- Support for strict priority and WRR (Weighted Round Robin) CoS policies
- Traffic classification
 - IEEE 802.1p CoS/ToS
 - IPv4/IPv6 DSCP
 - Port-based WRR
- Strict priority and WRR CoS policies

Multicast

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

Security

- Authentication
 - IEEE 802.1x port-based network access authentication
 - MAC-based network access authentication
 - Built-in RADIUS client to cooperate with the RADIUS servers for IPv4 and IPv6
 - RADIUS/TACACS+ login users access authentication
- Access Control List
 - IP-based Access Control List (ACL)
 - MAC-based Access Control List
 - Time-based ACL
- DHCP snooping to filter distrusted DHCP messages
- IP Source Guard prevents IP spoofing attacks
- Dynamic ARP Inspection discards ARP packets with invalid MAC address to IP address binding



Layer 3 Routing Support

The SGS-6310 series enables the administrator to conveniently boost network efficiency by configuring Layer 3 static routing manually, the RIP (Routing Information Protocol) or OSPF (Open Shortest Path First) settings automatically.

- The RIP can employ the hop count as a routing metric and prevent routing loops by implementing a limit on the number of hops allowed in a path from the source to a destination.
- 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.

Strong Multicast

The SGS-6310 series supports abundant multicast features. In Layer 2, it features IPv4 IGMPv1/v2/v3 snooping and IPv6 MLD v1 snooping. With Multicast VLAN Register (MVR), multicast receiver/sender control and illegal multicast source detect functions which make the SGS-6310 series great for any robust networking.

Full IPv6 Support

The SGS-6310-Series supports IPv4-to-IPv6 technologies including **IPv4 manual/automatic tunnel**, **IPv6-to-IPv4 tunnel**, and Intra-Site Automatic Tunnel Addressing Protocol (**ISATAP**) tunnel. It comprehensively supports IPv6 Neighbor Discovery, DHCPv6, Path MTU Discovery, IPv6-based Telnet, SSH and ACL, meeting the need of IPv6 network device management and service control.

Robust Layer 2 Features

The SGS-6310 series can be programmed for basic switch management functions such as port speed configuration, port aggregation, VLAN, Multiple Spanning Tree Protocol, bandwidth control and IGMP snooping. This switch provides 802.1Q tagged VLAN, Q-in-Q, voice VLAN and GVRP Protocol functions. By supporting port link aggregation, the SGS-6310 series allows the operation of a high-speed trunk combined with multiple ports. It enables up to 64 groups for trunking with a maximum of 8 ports for each group.

Management

- IPv4 and IPv6 dual stack management
- Switch Management Interface
 - Console/Telnet Command Line Interface
 - HTTP Web switch management
 - SNMP v1 and v2c switch management
 - SSHv1/v2, TLSv1.2 and SNMPv3 secure access
- SNMP Management
 - Four RMON groups 1, 2, 3, 9 (history, statistics, alarms and events)
 - SNMP trap for interface Link Up and Link Down notification
- BOOTP and DHCP for IP address assignment
- System Maintenance
 - Firmware upload/download via TFTP or HTTP Protocol for IPv4 and IPv6
- SNTP (Simple Network Time Protocol) for IPv4 and IPv6
- User privilege levels control
- Syslog server for IPv4 and IPv6
- Supports sFlow
- DHCP Functions
 - DHCP Option82
 - DHCP server/relay/client
- Network Diagnostic
 - Supports ping, traceroute function for IPv4 and IPv6
 - Supports DDM (Digital Diagnostic Monitor)
- Supports ISSU (In-service Software Upgrade) to guaranteeing non-stop user data transmission when the system is upgraded.
- PLANET Smart Discovery Utility for deployment management

Power over Ethernet (SGS-6310-24P4X / SGS-6310-48P6XR)

- Complies with IEEE 802.3af/at Power over Ethernet Plus, end-span PSE
- Up to **24** ports of IEEE 802.3af/at devices powered (**SGS-6310-24P4X**)
- Up to **48** ports of IEEE 802.3af/at devices powered (**SGS-6310-48P6XR**)
- Support up to 6KV thunder-proof of the PoE port and power supply
- Supports PoE power up to 30 watts for each PoE port
- Auto detects powered device (PD)
- Circuit protection prevents power interference between ports