# L3 8-Port 10/100/1000T 802.3at PoE + 4-Port 10G SFP+ Stackable Managed Switch

NMS is integrated to Improve Layer 3 10Gbps Network Switch Management Efficiency

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-6310-8P4X** features a **fanless design**, 8 10/100/1000BASE-T RJ45 **802.3at PoE+** ports with PoE budget up to 120 watts and 4 1G/10GBASE-X SFP+ ports with 128Gbps switch fabric delivered in a 1U rugged case. **PLANET UNI-NMS Solution** is also integrated to make network management easier and more efficient.

4 x 1/10G SFP+ Slots

RJ45 Type Console   8 x Gigabit 802.3at PoE+ Ports
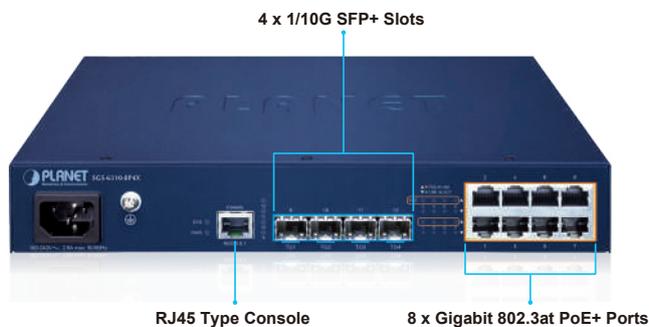
Fanless Design

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.

Physical Ports

- 8 × 10/100/1000BASE-T Gigabit RJ45 ports with IEEE 802.3at PoE+
- 4 × 10GBASE-SR/LR SFP+ slots, backward compatible with 1000BASE-SX/LX/BX SFP modules
- RJ45 to DB9 console interface for management

Silent Fanless Design and Heat Dissipation

- Completely fanless for silent operation, perfect for offices, healthcare facilities, and meeting rooms
- Advanced heat dissipation for stable performance under continuous operation

Compact 12-inch Form Factor for Flexible Deployment

- Fits in tight spaces ideal for retail stores, hotels, branch offices, and IoT deployments
- Rack-mount, desktop, or wall-mount option for easy installation anywhere
- Enterprise-level networking without requiring a dedicated server room

Intelligent PoE+ for Cost-effective Powering

- 8 PoE+ ports delivering up to 120W, ideal for Wi-Fi 6 APs, IP cameras, VoIP phones, and IoT devices
- Smart PoE scheduling for reducing power consumption and optimizing energy efficiency
- 6KV surge protection for reliable operation in harsh environments
- Advanced PoE control for enabling/disabling port functions, priority management, and power scheduling

Enterprise-grade Reliability for 24/7 Operation

- VRRP for redundant routing for seamless failover
- ERPS (Ethernet Ring Protection Switching) for rapid failover recovery in under 10ms
- ISSU (In-Service Software Upgrade) for updating firmware without interrupting network traffic

IP Routing and Multicast Support

- IPv4/IPv6 dual-stack routing with static routing, RIPv1/v2, RIPng and OSPFv2/v3
- VLAN-based routing for segmenting networks for optimized performance
- IGMP v1/v2/v3 snooping, fast leave, MVR and IGMP filtering for efficient multicast traffic management
- MLD v1/v2 snooping and optimized IPv6 multicast support

PLANET UNC-NMS Solution enables administrators to centrally manage a network of up to **102,400 nodes** from a central office, thereby greatly improving network and power management efficiency. With its user authentication management, combined with the **UNI-NMS**, the security of data transmission in modern factory automation systems is enhanced.

High Performance 10Gbps Ethernet Capacity

The four SFP+ ports built in the SGS-6310 series boasts a high-performance switch architecture that is capable of providing non-blocking switch fabric and wire-speed throughput as high as up to 80Gbps, which greatly simplifies the tasks of upgrading the LAN for catering to increasing bandwidth demands. 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.

UNI-NMS Remote Management Solution

The SGS-6310-8P4X supports PLANET's Universal Network Management System (UNI-NMS) helping IT staff by remotely managing all network devices and monitoring PDs' operational statuses. Thus, they're designed for both the enterprises and industries where deployments of PDs can be as remote as possible, without having to go to the actual location once a bug or faulty condition is found. With the UNI-NMS, all kinds of businesses can now be speedily and efficiently managed from one platform.

Powerful NMSViewerPro Solution that Meets Evolving Network Management Challenges

The SGS-6310-8P4X Managed Ethernet Switch, known for such features as QoS, Link aggregation, PoE, VLANs, IGMP, and so on, provides an eye-catching feature called NMS developed by PLANET to easily and remotely manage and monitor network devices in the local environment from mobile app. This feature not only improves operational convenience, but also ensures users have real-time control over their network infrastructure. It provides users with an unparalleled experience.

QoS
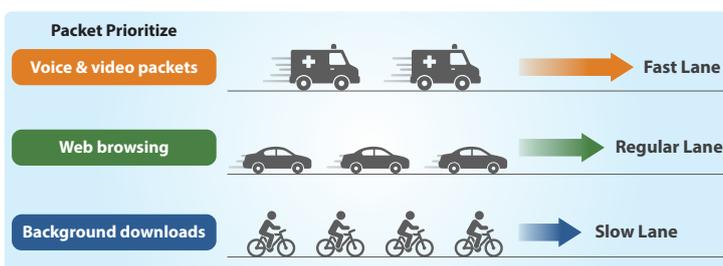
The intuitive interface of the local NMSViewerPro allows administrators to easily perform a variety of tasks, including monitoring traffic, setting configuration, troubleshooting, and more. At the same time, PLANET UNI-NMS application provides real-time alerts and notifications, allowing administrators to respond to any emergency situations anytime, anywhere to ensure the stable operation of the network.

NMSViewerPro meets users' requirements for managing a network more flexibly and efficiently. It helps users to know what the current statuses of the nodes are and to effectively manage the situations.

Optimized Layer 2 and VLAN Management
- 4K VLANs, Q-in-Q, selective Q-in-Q, GVRP, Private VLAN and Voice VLAN
- Link Aggregation (LACP, static routing) with 64 groups, up to 8 ports per group
- STP, RSTP, MSTP, BPDU guard, root guard, and loop protection
- LLDP and Cisco UDLD compatibility for enhanced device discovery and link integrity

Quality of Service for Traffic Optimization
- 8 priority queues per port with SP, WRR and hybrid scheduling
- Traffic classification based on 802.1p, DSCP, CoS, and VLAN priority
- Advanced traffic shaping, WRED, and flow monitoring for superior network efficiency

Comprehensive Security and Access Control
- IEEE 802.1X authentication (port/MAC-based) and RADIUS/TACACS+
- L2/L3/L4 ACL filtering for advanced security enforcement
- DHCP Snooping, IP Source Guard, and Dynamic ARP Inspection to prevent unauthorized access
- DDoS protection against TCP SYN Flood, UDP Flood, and broadcast storms

Advanced Management and Monitoring
- CLI (Console/Telnet), Web GUI, SNMP v1/v2/v3 and RMON for flexible management
- Secure remote access with SSH, HTTPS, TLS, and SNMPv3 encryption
- sFlow traffic monitoring for real-time network insights
- PLANET Smart Discovery Utility for deployment management
- PLANET NMS for deployment management
- PLANET NMSViewerPro for deployment management

PLANET NMS and NMSViewerPro app, which with PLANET's free cloud service, allows users to quickly and easily detect, configure, deploy and manage devices remotely. You can just scan the NMS agent's (NMS-500/NMS-1000V) QR code using the mobile application to easily monitor and control the remote network devices via the private cloud.

Centralized Hardware Stacking Management

Two of the 10G SFP+ ports can be configured to connect several SGS-6310-8P4X for building a virtually logical facility. The stackable SGS-6310-8P4X , suitable for enterprises, service providers and telecoms, provides high port density, large uplink bandwidth and high switch stack performance, thus giving great flexibility for different application requirements. The SGS-6310-8P4X 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, which greatly simplifies the tasks of upgrading the LAN for catering to increasing bandwidth demands.

Hardware Stacking
Up to **8** units of SGS-6310-8P4X
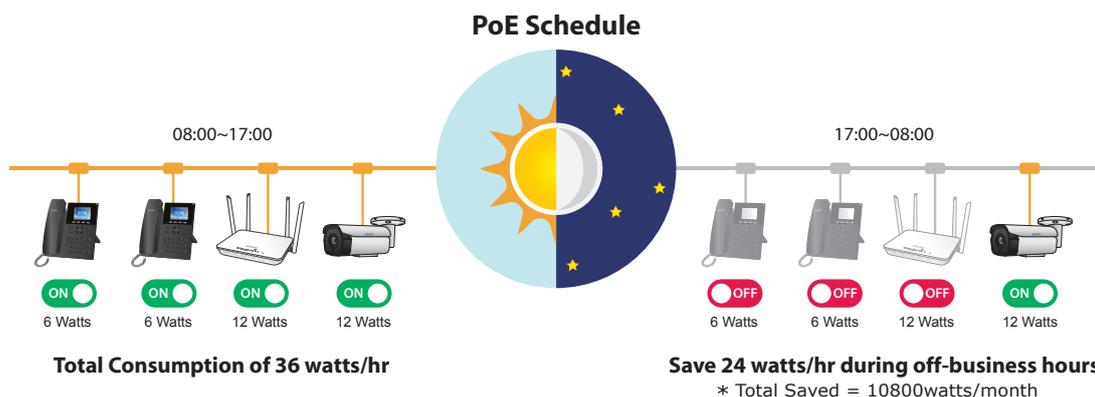

Master

Standby Master

Slave

Slave
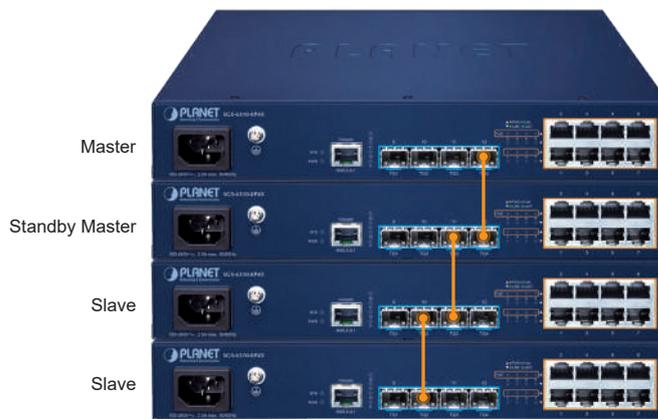
Centralized Power Management for Gigabit Ethernet PoE Networking

To fulfill the needs of higher power required PoE network applications with Gigabit speed transmission, the SGS-6310-8P4X features high-performance Gigabit IEEE 802.3at PoE+ (up to 30 watts) on all ports. It perfectly meets the power requirements of PoE VoIP phone and all kinds of PoE IP cameras such as IR, PTZ, speed dome cameras or even box type IP cameras with built-in fan and heater.

The SGS-6310-8P4X's PoE capabilities also help to reduce deployment costs for network devices as a result of freeing from the restrictions of power outlet locations. Power and data switching are integrated into one unit, delivered over a single cable and managed centrally. It thus eliminates the cost for additional AC wiring and reduces installation time.
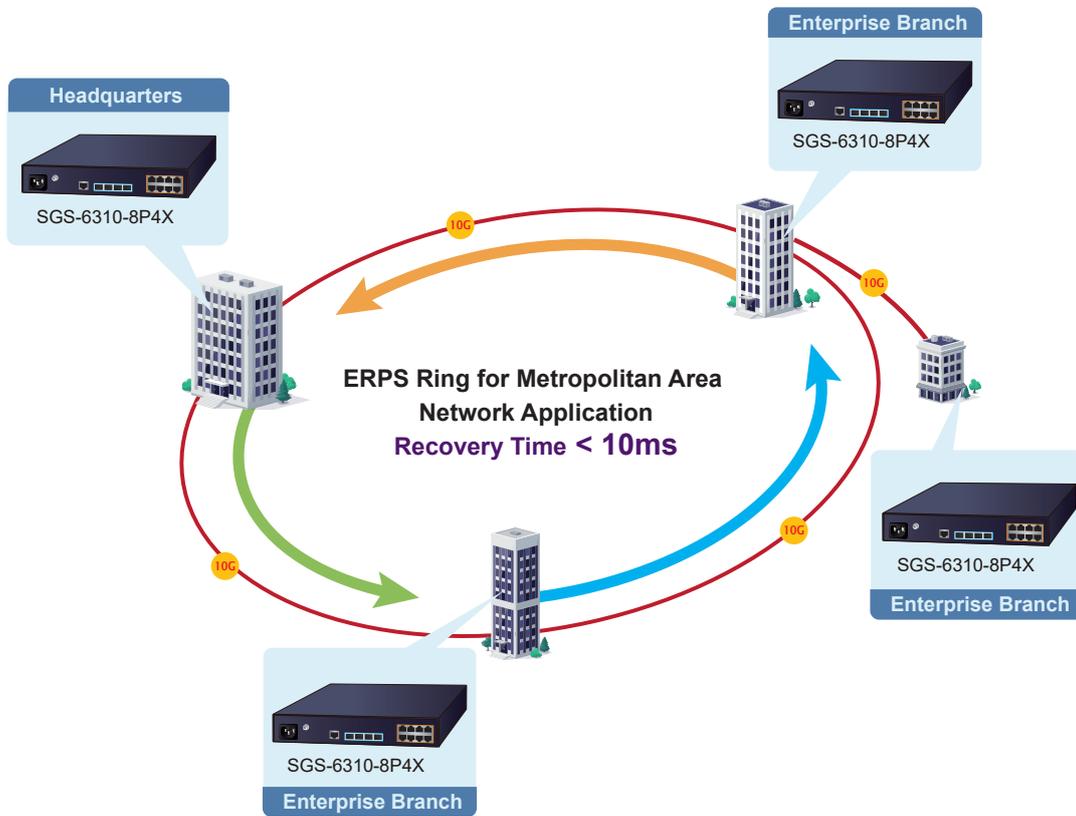
PoE Schedule for Energy Savings

Besides being used for IP surveillance, the SGS-6310-8P4X is certainly applicable to build any PoE network including VoIP and wireless LAN. Under the trend of energy savings worldwide and contributing to the environmental protection on the Earth, the SGS-6310-8P4X can effectively control the power supply besides its 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 energy and budget.

PoE Schedule

08:00~17:00

17:00~08:00

| ON | ON | ON | ON |
| 6 Watts | 6 Watts | 12 Watts | 12 Watts |

| OFF | OFF | OFF | ON |
| 6 Watts | 6 Watts | 12 Watts | 12 Watts |

Total Consumption of 36 watts/hr

Save 24 watts/hr during off-business hours
＊ Total Saved = 10800watts/month

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.

Enterprise Branch

SGS-6310-8P4X

Headquarters

SGS-6310-8P4X

ERPS Ring for Metropolitan Area Network Application
Recovery Time < 10ms

SGS-6310-8P4X

Enterprise Branch

SGS-6310-8P4X

Enterprise Branch

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.

Static Routing, RIP and OSPF

Router

Router

Shortest Path Routing
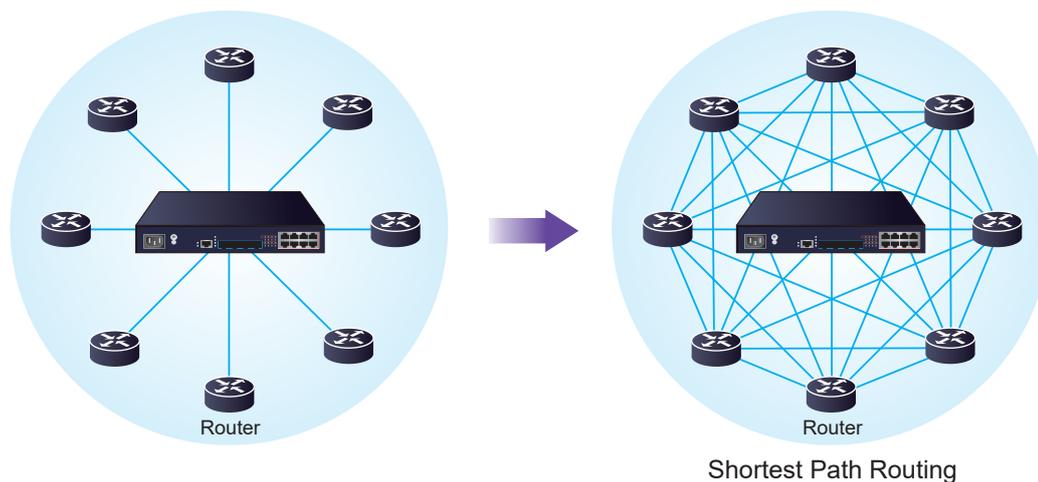
Strong Multicast

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 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.
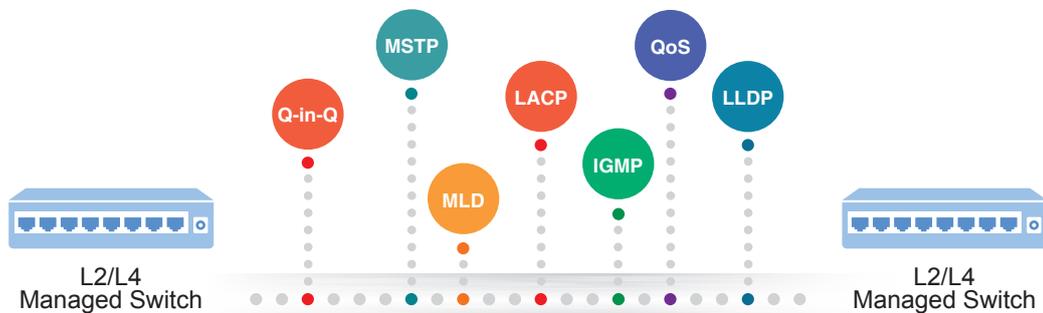
Excellent Layer 2 to Layer 4 Traffic Control

The SGS-6310 series is loaded with powerful traffic management and WRR features to enhance services offered by telecoms. The WRR functionalities include wire-speed Layer 4 traffic classifiers and bandwidth limitation which are particularly useful for multi-tenant unit, multi-business unit, Telco, or network service applications. It also empowers the enterprises to take full advantage of the limited network resources and guarantees the best in VoIP and video conferencing transmission.

Powerful Network Security

The SGS-6310 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 **802.1x Port-based** and **MAC-based** user and device authentications, which can be deployed with RADIUS, to ensure the port level security and block illegal users.

Advanced IP Network Protection

The SGS-6310 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 administrators can now construct highly-secure corporate networks with considerably less time and effort than before.

Efficient and Secure Management

For efficient management, the SGS-6310 series is equipped with console, Web and SNMP management interfaces.
- With the built-in Web-based management interface, the SGS-6310 series offers an easy-to-use, platform-independent management and configuration facility.
- For text-based management, it can be accessed via Telnet and the console port. For reducing product learning time, the SGS-6310 series offers Cisco-like command and customer doesn't need to learn new command from these switches
- 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 SGS-6310 series offers secure remote management by supporting SSHv1/v2 and SSLv3 connection which encrypts the packet content at each session.

Smart Network Security & Easy Management

SGS-6310-8P4X

Intelligent SFP Diagnosis Mechanism

The SGS-6310 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.

SFP DDM (Digital Diagnostic Monitor)

| Voltage | Ammeter | Temperature | Power Transceiver | Power Receiver |
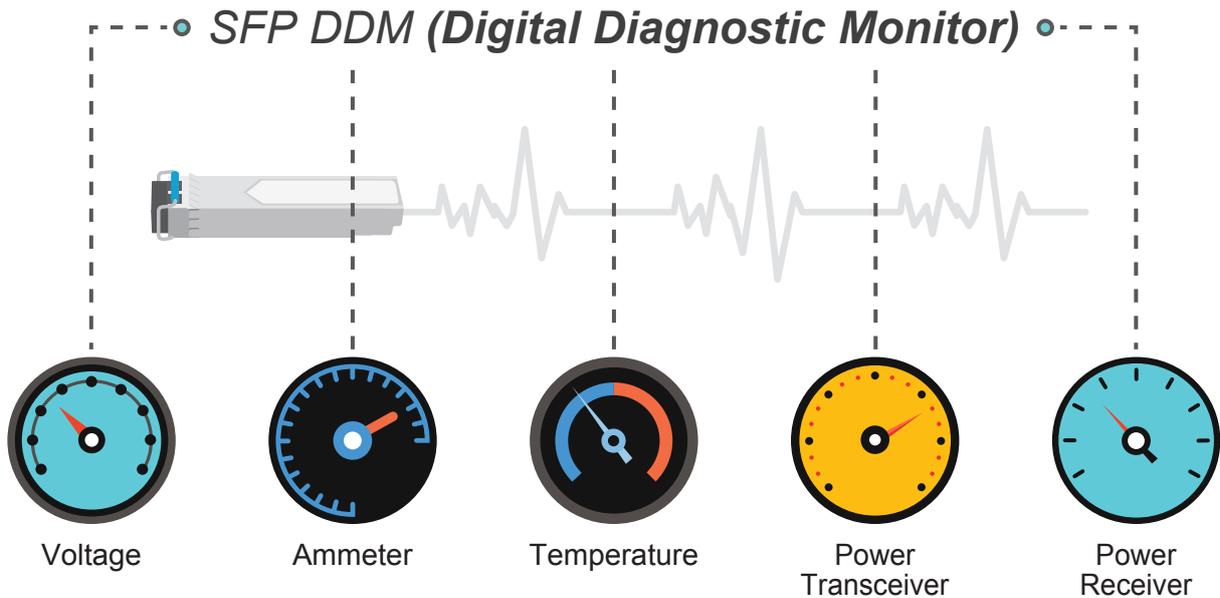
Applications

The SGS-6310-8P4X offers advanced Layer 3 routing, 10G uplinks, and intelligent PoE to ensure seamless connectivity and reliability. Ideal for enterprise headquarters and branches, it supports fast data exchange and redundancy. In smart campuses, it optimizes IPTV and e-learning, while providing secure segmentation. Its fanless design is perfect for healthcare environments, ensuring silent operation. For government and public infrastructure, it ensures high-performance routing and security, while in IoT and smart buildings, it powers devices and ensures continuous operation with minimal downtime.
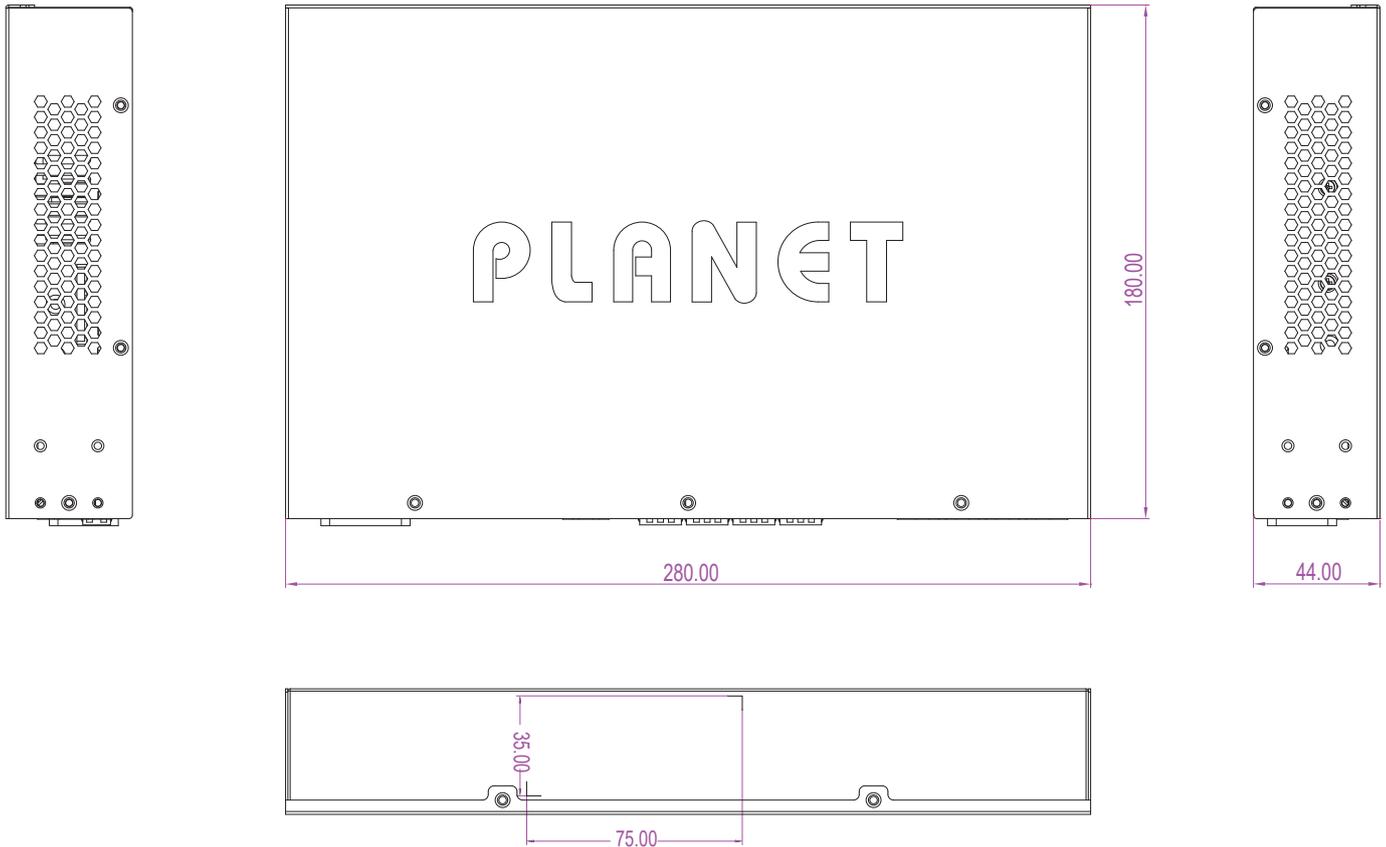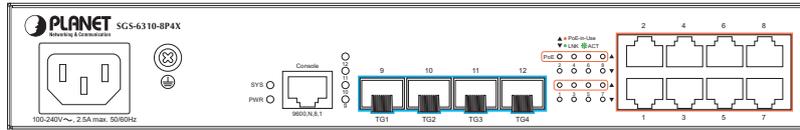
Specifications

Product	SGS-6310-8P4X
Hardware Specifications	
Copper Ports	8 10/100/1000BASE-T RJ45 auto-MDI/MDI-X ports (ports1 to 8)
10G SFP+ Ports	4 10GBASE-SR/LR SFP+ ports (ports 9 to 12) Backward compatible with 1000BASE-SX/LX/BX SFP transceiver
Console Port	1 RJ45-to-RS232 serial port (9600, 8, N, 1)
DRAM	256Mbytes
Flash Memory	16Mbytes
Dimensions (W x D x H)	280 x 180 x 44mm
Weight	1622g
Power Consumption	System: 9.8 watts/ 33.4BTU System+PoE: 145 watts/ 494.5 BTU
Power Requirements	AC 100~240V, 50/60Hz

LED	**System:**
	   SYS, PWR (**Green**)
	 Per 10/100/1000BASE-T RJ45 Interfaces (Port 1 to Port 8):
	   10/100/1000Mbps LNK/ACT (**Green**)
	   802.3at/af PoE-in-Use (**Amber**)
	 Per 1G/10G Mbps SFP Interfaces (Port 9 to Port 12):
	   1G/10G LNK/ACT (**Green**)

Switching Specifications	
Switch Architecture	Store-and-forward
Switch Fabric	96Gbps/non-blocking
Switch Throughput	72Mpps
Backplane	128Gbps
Forwarding Rate	72 Mbps With 64 bytes
Address Table	16K MAC address table with auto learning function
ARP Table	IPv4: 2042, IPv6: 2039
Routing Table	512
VLAN Interface	64
IP Interface	63
ACL Table	IPv4 ifp: 280, IPv6: 320
Shared Data Buffer	1.5MB
Jumbo Frame	9KBytes
Flow Control	Back pressure for half duplex IEEE 802.3x pause frame for full duplex
Power over Ethernet Specifications	
PoE Standard	IEEE 802.3at PoE+ PSE Backward compatible with 802.3af PoE
PoE Power Supply Type	End-span
PoE Power Output	Per port 54V DC, 30 watts (max.)
Power Pin Assignment	1/2(+), 3/6(-)
PoE Power Budget	120 watts (max.)
IPv4 Layer 3 Functions	
IP Routing Protocol	Static route RIPv1/v2 OSPFv2 Policy-based routing (PBR) Hardware-based Layer 3 routing
Layer 3 Protocol	VRRP v1/v3 ARP ARP Proxy IGMP Proxy
IPv6 Layer 3 Functions	
IP Routing Protocol	RIPng OSPFv3 IPv6 LPM Routing IPv6 Policy-based Routing (PBR) IPv6 VRRPv3 IPv6 RA (Router Advertisement) Hardware-based Layer 3 routing

Layer 3 Protocol	Configured Tunnels
	GRE Tunnel
	ISATAP Tunnel, 6 to 4 tunnels
	Manual tunnel
Other	ICMPv6, IPv6 ND

Layer 2 Functions	
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
	Port loopback detect
Port Status	Display each port's speed duplex mode, link status, flow control status and auto negotiation status
VLAN	802.1Q tagged VLAN, up to 4K VLAN groups
	802.1ad Q-in-Q (VLAN stacking)
	GVRP for VLAN management
	Private VLAN Edge (PVE) supported
	Protocol-based VLAN
	MAC-based VLAN
	IP subnet-based VLAN
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)
	Supports BPDU and root guard
Multicast	IPv4 IGMP v1/v2/v3 snooping
	Querier mode support
	IPv6 MLD v1 snooping
	Multicast VLAN Register (MVR)
	Up to 1024 multicast groups (IPv4 + IPv6)
Link Aggregation	IEEE 802.3ad LACP/static trunk
	Supports 64 groups with 8 ports per trunk group
Bandwidth Control	TX/RX/Both
	At least 64Kbps step
QoS	8 priority queues on all switch ports
	Supports strict priority and Weighted Round Robin (WRR) CoS policies
	Traffic classification:
	- CAR, HQoS, MAC/IP/TCP/UDP
	- IEEE 802.1p CoS/ToS
	- IPv4/IPv6 DSCP
	- Port-based WRR
	- Tail-Drop, WRED, flow monitoring and traffic shaping
Ring	Supports ITU-G G.8032 ERPS
	Recovery time < 10ms @ 3units
	Recovery time < 50ms @ 16units

Security Functions	
Access Control List	Supports Standard and Expanded ACL
	IP-based ACL/MAC-based ACL
	Time-based ACL
	Up to 1024 entries
Security	Port isolation, Port security,
	"IP+ MAC+ port" binding
	MAC sticky DAI & IP source guard, PPPoE+
	L2/L3/L4 ACL flow identification
	Filtration Anti-attack from DDoS, TCP's SYN Flood, UDP Flood
	Broadcast / multicast / unknown unicast storm-control
	Supports MD5, SHA-256, RSA-1024, AES256
AAA Authentication	TACACS+ and IPv4/IPv6 over RADIUS
Network Access Control	IEEE 802.1x port-based network access control
	MAC-based authentication
	RADIUS/TACACS authentication

Switch Management Functions	
System Configuration	Console and Telnet
	Web browser
	SNMP v1, v2c

Secure Management Interfaces	SSHv1/v2, TLSv1.2 and SNMPv3	
System Management	Supports both IPv4 and Ipv6 addressing	
	Supports the user IP security inspection for Ipv4/Ipv6 SNMP	
	Supports MIB and TRAP	
	Supports RMON 1, 2, 3, 9 (four groups)	
	Supports IPv4/IPv6 FTP/TFTP	
	Supports IPv4/IPv6 NTP	
	Supports the RADIUS authentication for IPv4/IPv6 Telnet user name and password	
	The right configuration for users to adopt RADIUS server's shell management	
	Supports Security IP safety net management function: avoid unlawful landing at non-restrictive area	
	Supports IPv4 and IPv6 DHCP server	
	PLANET Smart Discovery Utility	
	PLANET NMS	
	PLANET NMSViewerPro	
Event Management	Supports Syslog server for IPv4 and IPv6	
Hardware Stacking	8 members max.	
	2 10G SFP+ slots are functioned as Stacking Up and Down interfaces	
SNMP MIBs	RFC 1213 MIB-II	
	RFC 1215 Internet Engineering Task Force	
	RFC 1271 RMON	
	RFC 1354 IP-Forwarding MIB	
	RFC 1493 Bridge MIB	
	RFC 1643 Ether-like MIB	
	RFC 1907 SNMP v2	
	RFC 2011 IP/ICMP MIB	
	RFC 2012 TCP MIB	
	RFC 2013 UDP MIB	
	RFC 2096 IP forward MIB	
	RFC 2233 if MIB	
	RFC 2452 TCP6 MIB	
	RFC 2454 UDP6 MIB	
	RFC 2465 IPv6 MIB	
	RFC 2466 ICMP6 MIB	
	RFC 2573 SNMP v3 notify	
	RFC 2574 SNMP v3 vacm	
	RFC 2674 Bridge MIB Extensions (IEEE 802.1Q MIB)	
	RFC 2674 Bridge MIB Extensions (IEEE 802.1P MIB)	

Standard Conformance

Regulatory Compliance	FCC Part 15 Class A, CE	
Standards Compliance	IEEE 802.3 10BASE-T	IEEE 802.1ab LLDP
	IEEE 802.3u 100BASE-TX	RFC 768 UDP
	IEEE 802.3z Gigabit 1000BASE-SX/LX	RFC 783 TFTP
	IEEE 802.3ab Gigabit 1000BASE-T	RFC 791 IP
	IEEE 802.3ae 10Gb/s Ethernet	RFC 792 ICMP
	IEEE 802.3at Power over Ethernet plus	RFC 2068 HTTP
	IEEE 802.3x flow control and back pressure	RFC 1112 IGMP v1
	IEEE 802.3ad port trunk with LACP	RFC 2236 IGMP v2
	IEEE 802.1D Spanning Tree Protocol	RFC 3376 IGMP v3
	IEEE 802.1w Rapid Spanning Tree Protocol	RFC 2710 MLD v1
	IEEE 802.1s Multiple Spanning Tree Protocol	RFC 2328 OSPF v2
	IEEE 802.1p Class of Service	RFC 1058 RIP v1
	IEEE 802.1Q VLAN tagging	RFC 2453 RIP v2
	IEEE 802.1ad Q-in-Q VLAN stacking/tunneling	ITU-T G.8032 ERPS Ring
	IEEE 802.1x port authentication network control	

Environment

Operating	Temperature: 0 ~ 50 degrees C	
	Relative Humidity: 10 ~ 90% (non-condensing)	
Storage	Temperature: -20 ~ 70 degrees C	
	Relative Humidity: 5 ~ 95% (non-condensing)	

Dimensions

Dimensions (W x D x H): 280 x 180 x 44 mm

Ordering Information

SGS-6310-8P4X	L3 8-Port 10/100/1000T 802.3at PoE + 4-Port 10G SFP+ Stackable Managed Switch

Related Products

SGS-6310-24P4X	L3 24-Port 10/100/1000T 802.3at PoE + 4-Port 10G SFP+ Stackable Managed Switch
SGS-6310-24T4X	L3 24-Port 10/100/1000T + 4-Port 10G SFP+ Stackable Managed Switch
SGS-6310-16S8C4XR	L3 16-Port 100/1000X SFP + 8-Port Gigabit TP/SFP Combo + 4-Port 10G SFP+ Stackable Managed Switch
SGS-6310-48T6X	L3 48-Port 10/100/1000T + 6-Port 10G SFP+ Stackable Managed Switch

Available Modules for SGS-6310 series

10Gigabit Ethernet Transceiver (10GBASE-X SFP+)

Model	Speed (Mbps)	Connector Interface	Fiber Mode	Distance	Wavelength (nm)	Operating Temp.
MTB-RJ	10G	Copper	--	30m	--	0 ~ 70 degrees C
MTB-SR	10G	LC	Multi Mode	300m	850nm	0 ~ 60 degrees C
MTB-LR	10G	LC	Single Mode	10km	1310nm	0 ~ 60 degrees C
MTB-TSR	10G	LC	Multi Mode	Up to 300m	850nm	-45 ~ 75 degrees C
MTB-TLR	10G	LC	Single Mode	10km	1310nm	-45 ~ 75 degrees C

10Gbps SFP+ (10GBASE-BX, Single Fiber Bi-directional SFP)

Model	Speed (Mbps)	Connector Interface	Fiber Mode	Distance	Wavelength (TX)	Wavelength (RX)	Operating Temp.
MTB-LA20	10G	WDM(LC)	Single Mode	20km	1270nm	1330nm	0 ~ 60 degrees C
MTB-LB20	10G	WDM(LC)	Single Mode	20km	1330nm	1270nm	0 ~ 60 degrees C
MTB-LA40	10G	WDM(LC)	Single Mode	40km	1270nm	1330nm	0 ~ 60 degrees C
MTB-LB40	10G	WDM(LC)	Single Mode	40km	1330nm	1270nm	0 ~ 60 degrees C
MTB-LA60	10G	WDM(LC)	Single Mode	60km	1270nm	1330nm	0 ~ 60 degrees C
MTB-LB60	10G	WDM(LC)	Single Mode	60km	1330nm	1270nm	0 ~ 60 degrees C

Gigabit Ethernet Transceiver (1000BASE-X SFP)

Model	Speed (Mbps)	Connector Interface	Fiber Mode	Distance	Wavelength (nm)	Operating Temp.
MGB-GT	1000	Copper	--	100m	--	0 ~ 60 degrees C
MGB-SX	1000	LC	Multi Mode	550m	850nm	0 ~ 60 degrees C
MGB-SX2	1000	LC	Multi Mode	2km	1310nm	0 ~ 60 degrees C
MGB-LX	1000	LC	Single Mode	20km	1310nm	0 ~ 60 degrees C
MGB-L40	1000	LC	Single Mode	40km	1310nm	0 ~ 60 degrees C
MGB-L80	1000	LC	Single Mode	80km	1550nm	0 ~ 60 degrees C
MGB-L120	1000	LC	Single Mode	120km	1550nm	0 ~ 60 degrees C
MGB-TSX	1000	LC	Multi Mode	550m	850nm	-40 ~ 75 degrees C
MGB-TLX	1000	LC	Single Mode	10km	1310nm	-40 ~ 75 degrees C
MGB-TL40	1000	LC	Single Mode	40km	1310nm	-40 ~ 75 degrees C
MGB-TL80	1000	LC	Single Mode	80km	1550nm	-40 ~ 75 degrees 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	1000	WDM(LC)	Single Mode	10km	1310nm	1550nm	0 ~ 60 degrees C
MGB-LB10					1550nm	1310nm	
MGB-LA20	1000	WDM(LC)	Single Mode	20km	1310nm	1550nm	0 ~ 60 degrees C
MGB-LB20					1550nm	1310nm	
MGB-LA40	1000	WDM(LC)	Single Mode	40km	1310nm	1550nm	0 ~ 60 degrees C
MGB-LB40					1550nm	1310nm	
MGB-LA60	1000	WDM(LC)	Single Mode	60km	1310nm	1550nm	0 ~ 60 degrees C
MGB-LB60					1550nm	1310nm	
MGB-TLA10	1000	WDM(LC)	Single Mode	10km	1310nm	1550nm	-40 ~ 75 degrees C
MGB-TLB10					1550nm	1310nm	
MGB-TLA20	1000	WDM(LC)	Single Mode	20km	1310nm	1550nm	-40 ~ 75 degrees C
MGB-TLB20					1550nm	1310nm	
MGB-TLA40	1000	WDM(LC)	Single Mode	40km	1310nm	1550nm	-40 ~ 75 degrees C
MGB-TLB40					1550nm	1310nm	
MGB-TLA60	1000	WDM(LC)	Single Mode	60km	1310nm	1550nm	-40 ~ 75 degrees C
MGB-TLB60					1550nm	1310nm	

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