Layer 3 Multi-Port 10 Gigabit Managed Ethernet Switch

Perfect Managed All-port 10Gbps Switch with L3/L2 Switching and Security

PLANET XGS-6320 series is a **fully-managed all-port 10Gbps Ethernet switch** designed for the demand of high-bandwidth required network equipment, such as Wi-Fi 6/6E wireless AP, NAS, workstation and those with 10Gbps fiber or copper interfaces. It features **multiple 10GBASE-T copper** ports and 1**0GBASE-X SFP+ fiber** ports are flexibly designed to extend the connection distance.

Models	10GBASE-X SFP+ Port	10GBASE-T RJ45 Port	Power Input - AC	Power Input -DC
XGS-6320-8X8TR	8	8	100-240V AC	36-60V DC
XGS-6320-12X4TR	12	4		

With such a favorable data link capability, hardware-based Layer 3 routing performance, Layer 2 and Layer 4 switching engine and user-friendly yet advanced IPv6/IPv4 management interfaces, it helps to accelerate the deployment of the next-generation high-bandwidth required network for Metro, smart cites and enterprises.

Mega 160 Gbps Gigabit Solution for Uplink & Long-reach Networking

SSHv2 TLSv1.2 | SNMPv3 | Cyber Security | G.8032 ERPS Ring | NMS Supported

PLANET CloudViewer Supported

12 x 10 Gbps SFP+ **4 x 10 Gbps Copper**

8 x 1G/2.5G/10GBASE-X SFP+ Slots

RJ45 Type Console

8 x 100/1G/2.5G/5G/10GBASE-T RJ45 Port
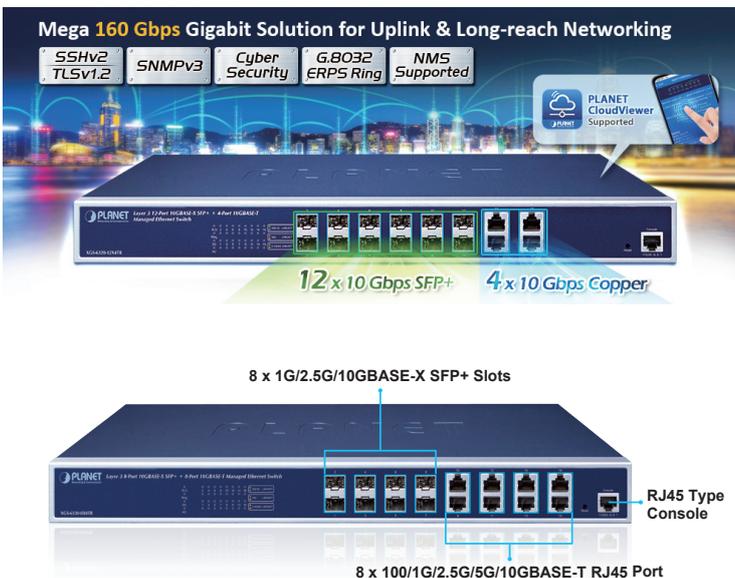
Physical Port

- **XGS-6320-8X8TR**
  - **Eight 10GBASE-X SFP+** ports, backward compatible with 1000BASE-X and 2500BASE-X SFP transceivers
  - **Eight 10GBASE-T RJ45** ports, backward compatible with 100/1G/2.5G/5GBASE-T auto-negotiation
- **XGS-6320-12X4TR**
  - **Twelve 10GBASE-X SFP+** ports, backward compatible with 1000BASE-X and 2500BASE-X SFP transceivers
  - **Four 10GBASE-T RJ45** ports, backward compatible with 100/1G/2.5G/5GBASE-T auto-negotiation
- RJ45 type RS232 console interface for switch basic management

Redundant Power System

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

Layer 3 IP Routing Features

- IPv4 dynamic routing protocol supports RIPv2 and OSPFv2 and IPv6 OSPFv3
- IPv6 dynamic routing protocol supports OSPFv3
- IPv4/IPv6 hardware static routing
- Routing interface provides per VLAN routing mode

Layer2 Features

- Storm Control support
  - Broadcast/Multicast/Unknown unicast
- Supports **VLAN**
  - 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
  - GVRP (GARP VLAN Registration Protocol)
- 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

12 x 1G/2.5G/10GBASE-X SFP+ Slots

RJ45 Type Console

4 x 100/1G/2.5G/5G/10GBASE-T RJ45 Port
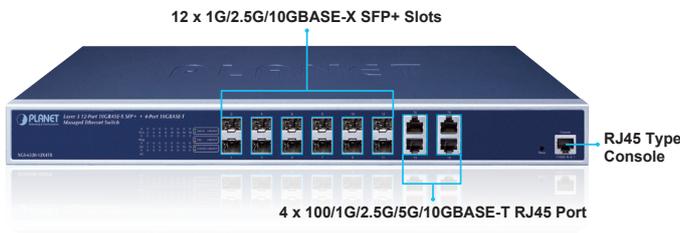
10GBASE-T and 10GBASE-X SFP Dual Media Interfaces for Diversified Bandwidth Applications

PLANET XGS-6320 series has the capability to reach a high speed of 10Gbps over copper or fiber-optic cabling which helps to accelerate the performance of large data transmission. The built-in 10GBASE-T copper interfaces support 5-speed (10G/5G/2.5G/1G/100) auto-negotiation, and 10Gbps data transmission with the existing Cat6A/Cat7 UTP cabling, meaning the speed can be increased without costs. It can definitely give you the speed you demand and its Plug and Play makes installation easy.

The fiber-optic 10GBASE-X SFP+ interfaces support 4 speeds, 10GBASE-SR/LR, 2500BASE-X, 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.

Redundant Ring, Fast Recovery for Critical Network Applications

The XGS-6320 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 (802.1w RSTP) 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

XGS-6320-12X4TR

Headquarters

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

Core Chassis Switch

XGS-6320-8X8TR

Enterprise Branch

XGS-6320-8X8TR

Enterprise Branch

10GBASE-SR/LR Fiber Optic
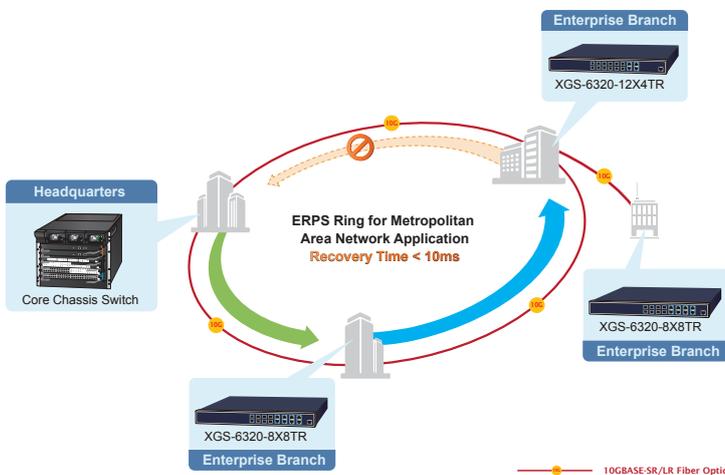
– BPDU Guard

- Supports **Link Aggregation**
  - 802.3ad Link Aggregation Control Protocol(LACP)
  - Cisco ether-channel (static trunk)
  - Maximum 8 trunk groups, up to 16 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
- Link Layer Discovery Protocol (LLDP)
- 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
- Supports G.8032 ERPS (Ethernet Ring Protection Switching)

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

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

Security

- Authentication
  - IEEE 802.1x Port-based/MAC-based network access authentication
  - Built-in RADIUS client to co-operate with the RADIUS servers

Cybersecurity Network Solution to Minimize Security Risks

The cybersecurity feature included to protect the switch management in a mission-critical network virtually needs no effort and cost to install. Both SSHv2 and TLSv1.2 protocols are utilized to provide strong protection against advanced threats. The network administrator can now construct highly-secure corporate networks with considerably less time and effort than before.


AC and DC Redundant Power to Ensure Continuous Operation

The XGS-6320 series is equipped with one 100~240V AC power supply unit and one additional 36-60V DC power supply unit for redundant power supply. A redundant power system is also provided to enhance the reliability with either AC or DC power supply unit. The redundant power system is specifically designed to handle the demands of high-tech facilities requiring the highest power integrity.

36-60V DC Power Input

Grounding

100-240V AC Power Input

Solution for IPv6 Networking

With the support for IPv6/IPv4 protocol, and easy and user-friendly management interfaces, the XGS-6320 series is the best choice for IP surveillance, VoIP and wireless service providers to connect with the IPv6 network. It also helps SMBs to step in the IPv6 era with the lowest investment and without having to replace the network facilities even though ISPs establish the IPv6 edge network.
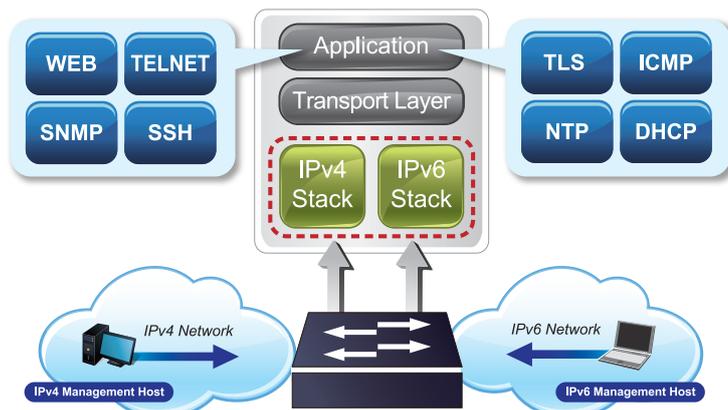
- – TACACS+ login users access authentication
- – RADIUS/TACACS+ users access authentication
- – Guest VLAN assigns clients to a restricted VLAN with limited services
- Access Control List
  - – IP-based Access Control List (ACL)
  - – MAC-based Access Control List
- Source MAC/IP address binding
- **DHCP 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
- IP address access management to prevent unauthorized intruder

Management

- IPv4 and IPv6 dual stack management
- Switch Management Interfaces
  - – Web switch management
  - – Console and Telnet Command Line Interface
  - – SNMP v1 and v2c switch management
  - – SSHv2, TLSv1.2 and SNMPv3 secure access
- SNMP Management
  - – Four RMON groups (history, statistics, alarms and events)
  - – SNMP trap for interface Linkup and Linkdown 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 Functions:
  - – DHCP Relay
  - – DHCP Option82
  - – DHCP Server
- User Privilege levels control
- NTP (Network Time Protocol)
- Network Diagnostic
  - – ICMPv6/ICMPv4 Remote Ping
  - – Cable Diagnostic technology provides the mechanism to detect and report potential cabling issues
  - – SFP-DDM (Digital Diagnostic Monitor)
- SMTP, Syslog and SNMP trap remote alarm
- System Log

Layer 3 Routing Support

The XGS-6320 series enables the administrator to conveniently boost network efficiency by configuring Layer 3 IPv4/IPv6 VLAN static routing manually, the RIP (Routing Information Protocol) or OSPF (Open Shortest Path First) settings automatically.

- PLANET Smart Discovery Utility for deployment management
- PLANET UNI-NMS (Universal Network Management) and CloudViewer app for deployment management

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 Layer3 switches, and then uses the Shortest Path First algorithm to generate a route table based on that database.

Robust Layer2 Features

The XGS-6320 series can be programmed for advanced switch management function, such as dynamic port link aggregation, **Q-in-Q VLAN, Multiple Spanning Tree Protocol (MSTP)**, Layer2/4 QoS, bandwidth control and **IGMP/MLD snooping**. It allows the operation of a high-speed trunk combining multiple ports. Supporting 8 trunk groups, it enables a maximum of up to 16 ports per trunk and supports connection fail-over as well.
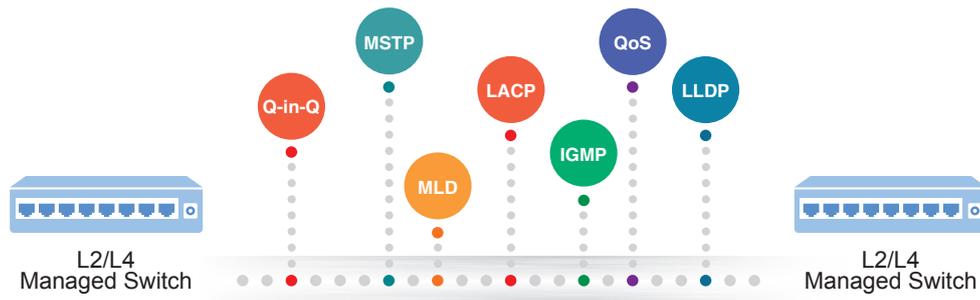
Powerful Network Security

The XGS-6320 series offers comprehensive **layer2 to layer4 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 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.

Advanced IP Network Protection

The XGS-6320 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 build highly-secure corporate networks with considerably less time and effort than before.

Efficient Management

For efficient management, the XGS-6320 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.
- For **text-based** management, it can be accessed via Telnet and the console port.
- For standard-based monitor and management software, it offers SNMPv3 connection which encrypts the packet content at each session for secure remote management.
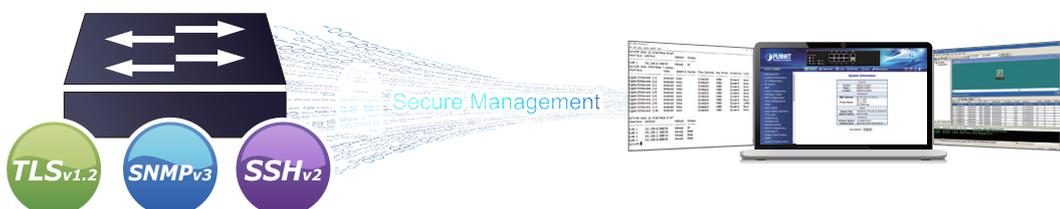
Remotely Manage Solution

PLANET's **Universal Network Management System** (UNI-NMS) and CloudViewer App support IT staff to remotely manage all network devices and monitor the PDs' operation 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 or CloudViewer App, all kinds of businesses can now be speedily and efficiently managed from one platform.

NMS Controller   CloudViewer App

Intelligent SFP Diagnosis Mechanism

The XGS-6320 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
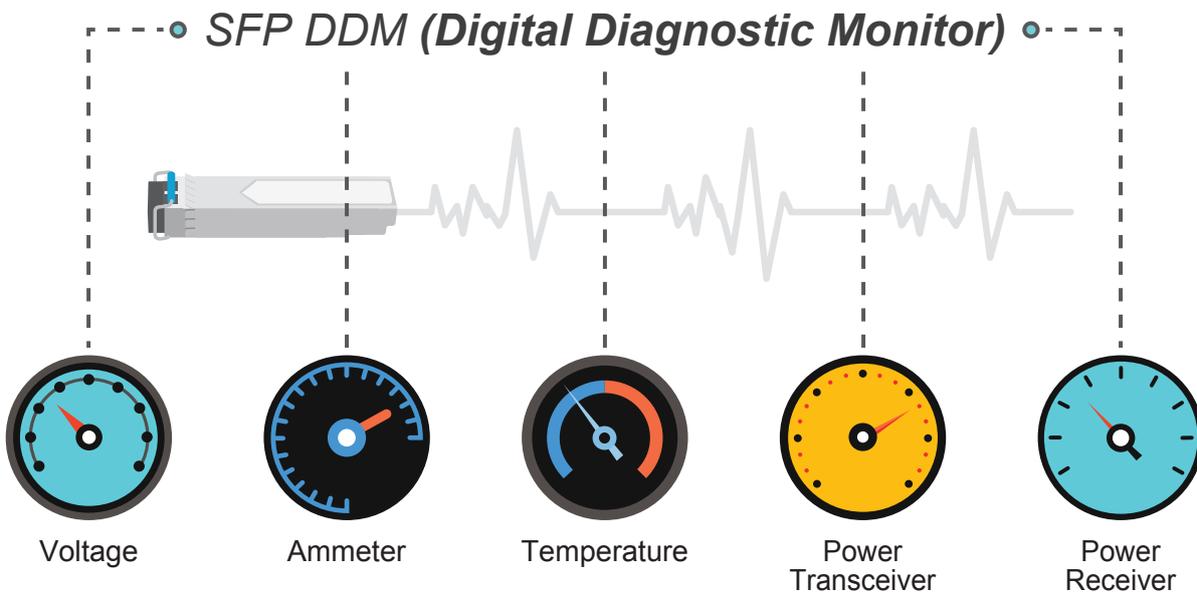
SMTP/SNMP Trap Event Alert

Though most NVR or camera management software offers SMTP email alert function, the XGS-6320 series further provides event alert function to help to diagnose the abnormal device owing to whether or not there is a break of the network connection.

Applications

High Availability Mesh Networking Solution for Big Data System

By means of improving the technology of Optical Fiber Ethernet with highly-flexible and easy-to-install features, the XGS-6320 series offers up to 320Gbps data exchange speed via 10Gbps copper and optical fiber interfaces and the transmission distance can be extended to 120km (single-mode fiber). The XGS-6320 series features strong rapid self-recovery capability to prevent interruptions and external intrusions. It incorporates G.8032 ERPS into customer's automation network to enhance system reliability and uptime. The XGS-6320 series is the ideal solution for data centers, service providers and telecoms to build redundant connection and establish high bandwidth for Big Data server farm.
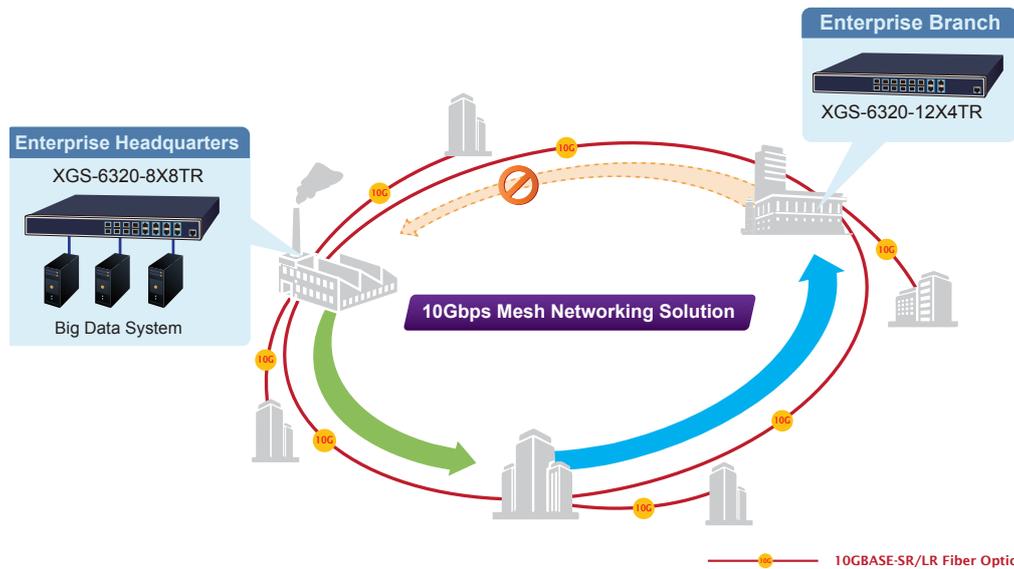
Reliable, High-performance Enterprise Backbone Switch

10 Gigabit Ethernet supported equipment has become the fundamental unit of enterprises and network servers. PLANET XGS-6320 series is the cost-effective and high-bandwidth Ethernet switch, which meets today's market requirements. It provides multiple high-performance 10-Gigabit Ethernet networks for enterprises and campuses. The redundant power inputs provide the XGS-6320 series with nonstop network serviceability. The XGS-6320 series is ideal for being a server farm switch connecting to servers and perfectly suitable for those networking environments requiring constant access to critical business applications.

Layer 3 VLAN Routing Application

With the built-in robust IPv4/IPv6 Layer 3 traffic routing protocols, the XGS-6320 series ensures reliable routing between VLANs and network segments. The routing protocols can be applied by VLAN interface with up to 3K routing entries. The XGS-6320 series is certainly a cost-effective and ideal solution for enterprises.

VLAN Routing + 10G Uplink Applications
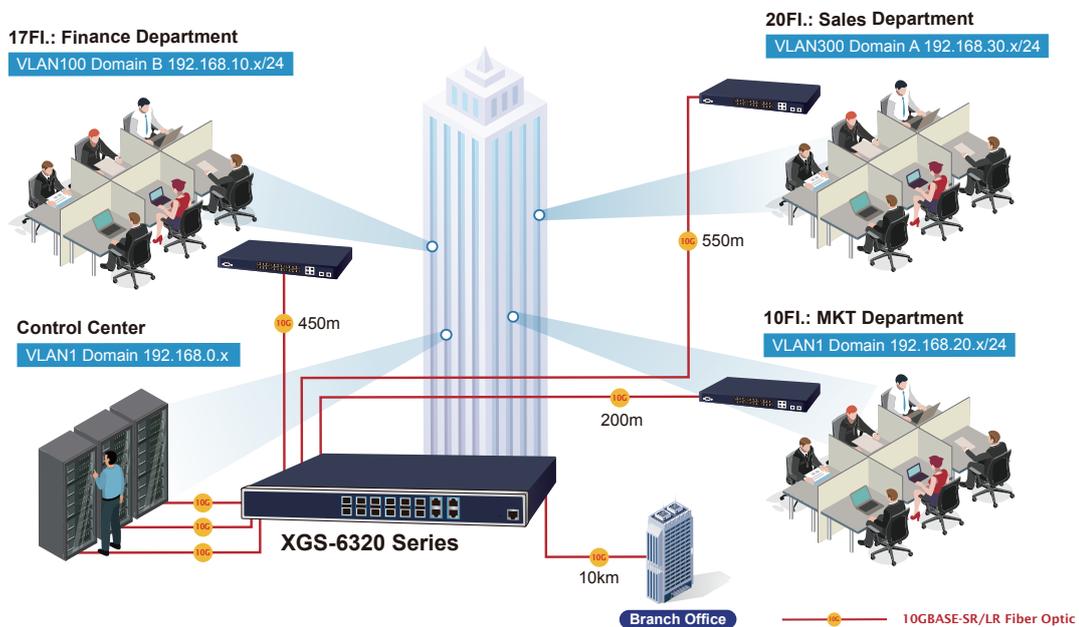
Specifications

Product	XGS-6320-8T8XR	XGS-6320-12X4TR
Hardware Specifications		
Copper Ports	8 10GBASE-T RJ45 auto negotiation ports (Ports 9 to 16) Supports 10G/5G/2.5G/1G/100Mbps data rate	4 10GBASE-T RJ45 auto negotiation ports (Ports 13 to 16) Supports 10G/5G/2.5G/1G/100Mbps data rate
SFP+ Slots	8 10GBASE-SR/LR SFP+ ports (Ports1 to 8) Backward compatible with 1000BASE-SX/LX/BX and 2500BASE-X SFP transceivers	12 10GBASE-SR/LR SFP+ ports (Ports1 to 12) Backward compatible with 1000BASE-SX/LX/BX and 2500BASE-X SFP transceivers
Console	1 x RJ45-to-DB9, RS232 serial port (115200, 8, N, 1)	
Reset Button	< 5 sec: System reboot > 5 sec: Factory default	
RAM	2048Mbytes	
Flash Memory	64Mbytes	
Dimensions (W x D x H)	440 x 200 x 44.5mm, 1U height	
Weight	2,870g	2,832g
Power Requirements - AC	100~240V AC, 50/60Hz, 2.1A max.	
Power Requirement - DC	DC 36-60V, 2A	

Power Consumption	AC Input:
	  System On: 22W
	  Full loading: 44W
	DC Input:
	  System on: 25W
	  Full loading: 45W
		AC Input:
		  System On: 22W
		  Full loading: 40W
		DC Input:
		  System on: 25W
		  Full loading: 40W

ESD Protection	6KV DC	
Surge Protection	4KV DC	
Fan	2 smart fans	

LED	**System:**
	  AC(Green), DC (Green), Ring (Green), Ring Owner (Green)
	Per 10GBASE-T RJ45 ports:
	  100/1G/ LNK/ACT (Green)
	  10G LNK/ACT (Amber)
	  2.5G/5G LNK/ACT (Green and amber)
	Per 10GBASE-X SFP+ ports:
	  100/1G/ LNK/ACT (Green)
	  10G LNK/ACT (Amber)
	  2.5G LNK/ACT (Green and amber)	

Switching Specifications		
Switch Architecture	Store-and-Forward	
Switch Fabric	320Gbps/non-blocking	
Throughput	238.1Mpps@ 64Bytes packet	
Address Table	32K entries, automatic source address learning and aging	
Shared Data Buffer	32Mbits	
Flow Control	IEEE 802.3x pause frame for full duplex Back pressure for half duplex	
Jumbo Frame	10240bytes	
Layer 3 Functions		
IP Interfaces	Max. 128 VLAN interfaces	
Routing Table	Max. 512 static route entries Max. 3072 routing table entries	
Routing Protocols	IPv4 RIPv2 IPv4 OSPFv2 IPv6 OSPFv3 IPv4 hardware static routing IPv6 hardware static routing	
Layer 2 Functions		
Port Configuration	Port disable/enable Flow Control disable/enable Port link capability control	
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 Supports up to 5 sessions	

VLAN	IEEE 802.1Q tag-based VLAN,
	IEEE 802.1ad Q-in-Q tunneling
	Private VLAN Edge (PVE)
	MAC-based VLAN
	Protocol-based VLAN
	Voice VLAN
	MVR (Multicast VLAN Registration)
	GVRP
	Up to 4K VLAN groups, out of 4094 VLAN IDs
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)
	Supports 7 MSTP instances
	BPDU Guard, BPDU filtering and BPDU transparent
	Root Guard
Link Aggregation	IEEE 802.3ad LACP (static trunk)
	Supports 8 trunk groups with 16 ports per trunk
IGMP Snooping	IPv4 IGMP (v1/v2/v3) snooping
	IPv4 IGMP querier mode support
	Supports 255 IGMP groups
MLD Snooping	IPv6 MLD (v1/v2) snooping,
	IPv6 MLD querier mode support
	Supports 255 MLD groups
Bandwidth Control	Per port bandwidth control
	Ingress: 10Kbps~13128Mbps
	Egress: 10Kbps~13128Mbps
Ring	Supports ERPS, and complies with ITU-T G.8032
	Recovery time < 10ms @ 3 nodes
	Recovery time <50ms @ 16 nodes
	Supports Major ring and sub-ring
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
	ACL based on:
	- MAC Address
	- IP Address
	- Ethertype
	- Protocol Type
	- VLAN ID
	- DSCP
	- 802.1p Priority
	Up to 512 entries
Security	Port security
	IP source guard, up to 512 entries
	Dynamic ARP inspection, up to 1K entries
	Command line authority control based on user level
	Static MAC address, up to 64 entries
AAA	RADIUS client
	TACACS+ client
Network Access Control	IEEE 802.1x port-based network access control
	MAC-based authentication
	Local/RADIUS authentication

Management Functions

Basic Management Interfaces	Console;Telnet; Web browser; SNMP v1, v2c
Secure Management Interfaces	SSHv2, TLSv1.2, SNMPv3

| 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 PLANET CloudViewer app	
Event Management	Remote Syslog System log SMTP	
SNMP MIBs	RFC1213 MIB-II RFC 2863 IF-MIB RFC1643 Ethernet MIB RFC2863 Interface MIB RFC2665 Ether-Like MIB RFC2737 Entity MIB RFC2819 RMON MIB (Groups 1, 2, 3 and 9) RFC2618 RADIUS Client MIB RFC3411SNMP-Frameworks-MIB IEEE802.1X PAE LLDP MAU-MIB Power over Ethernet MIB	
Standards Conformance		
Regulatory Compliance	FCC Part 15 Class A, CE	
Standards Compliance	IEEE802.3 10BASE-T IEEE802.3u 100BASE-TX IEEE802.3z 1000BASE-SX/LX IEEE 802.3ab 1000BASE-T IEEE 802.3bz 2.5GBASE-X IEEE 802.3ae 10Gb/s Ethernet IEEE802.3x flow control and back pressure IEEE802.3ad port trunk with LACP IEEE802.1D Spanning Tree Protocol IEEE802.1w Rapid Spanning Tree Protocol IEEE 802.1s Multiple Spanning Tree Protocol IEEE802.1p Class of Service IEEE802.1Q VLAN tagging 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 783 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 RFC 2328 OSPF v2 RFC 5340 OSPF v3 RFC 2453 RIP v2
Environments		
Operating	Temperature: 0 ~ 50 degrees C Relative Humidity: 5 ~ 95% (non-condensing)	
Storage	Temperature: -10 ~ 70degrees C Relative Humidity:5 ~ 95% (non-condensing)	

Dimensions

■ XGS-6320-8X8TR
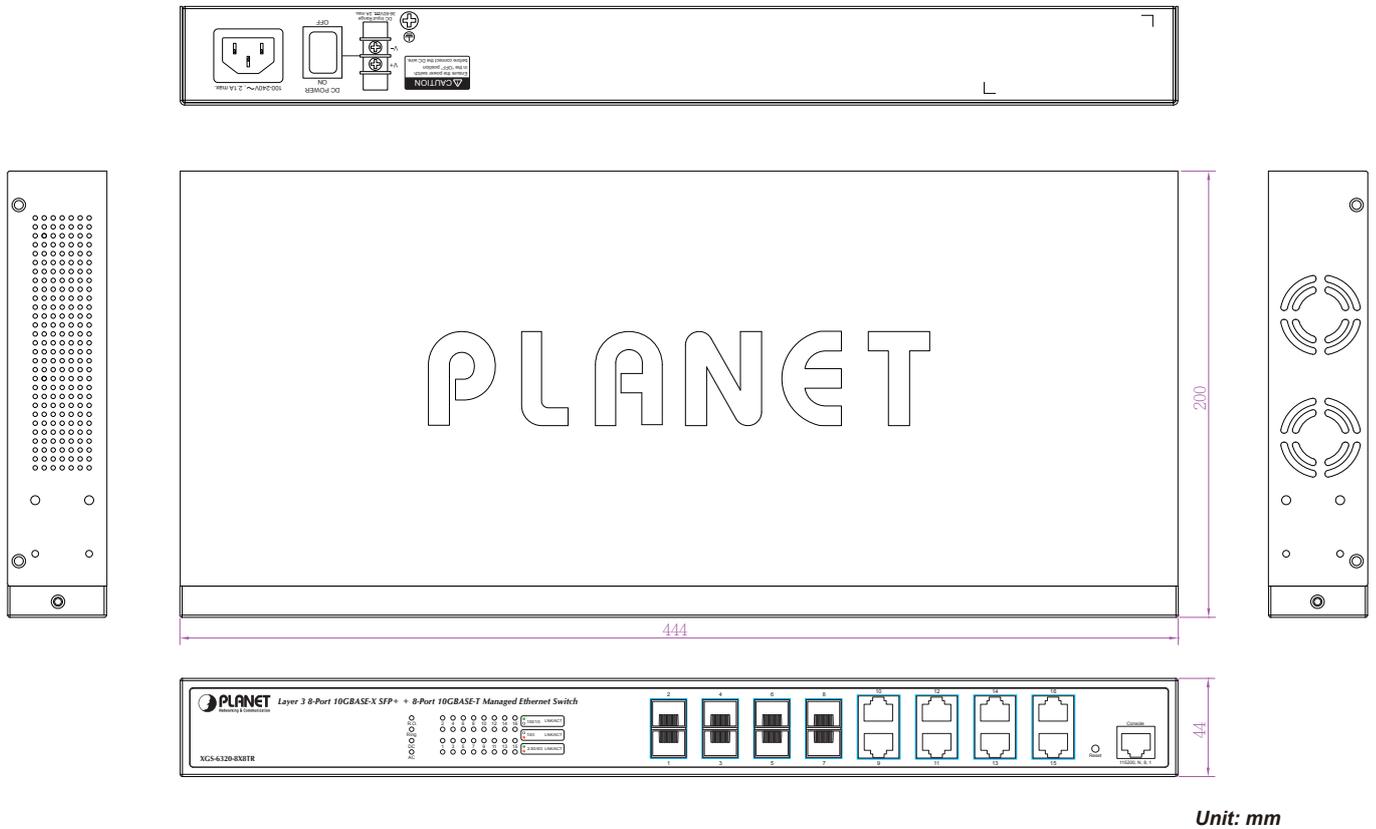
Unit: mm

■ XGS-6320-12X4TR
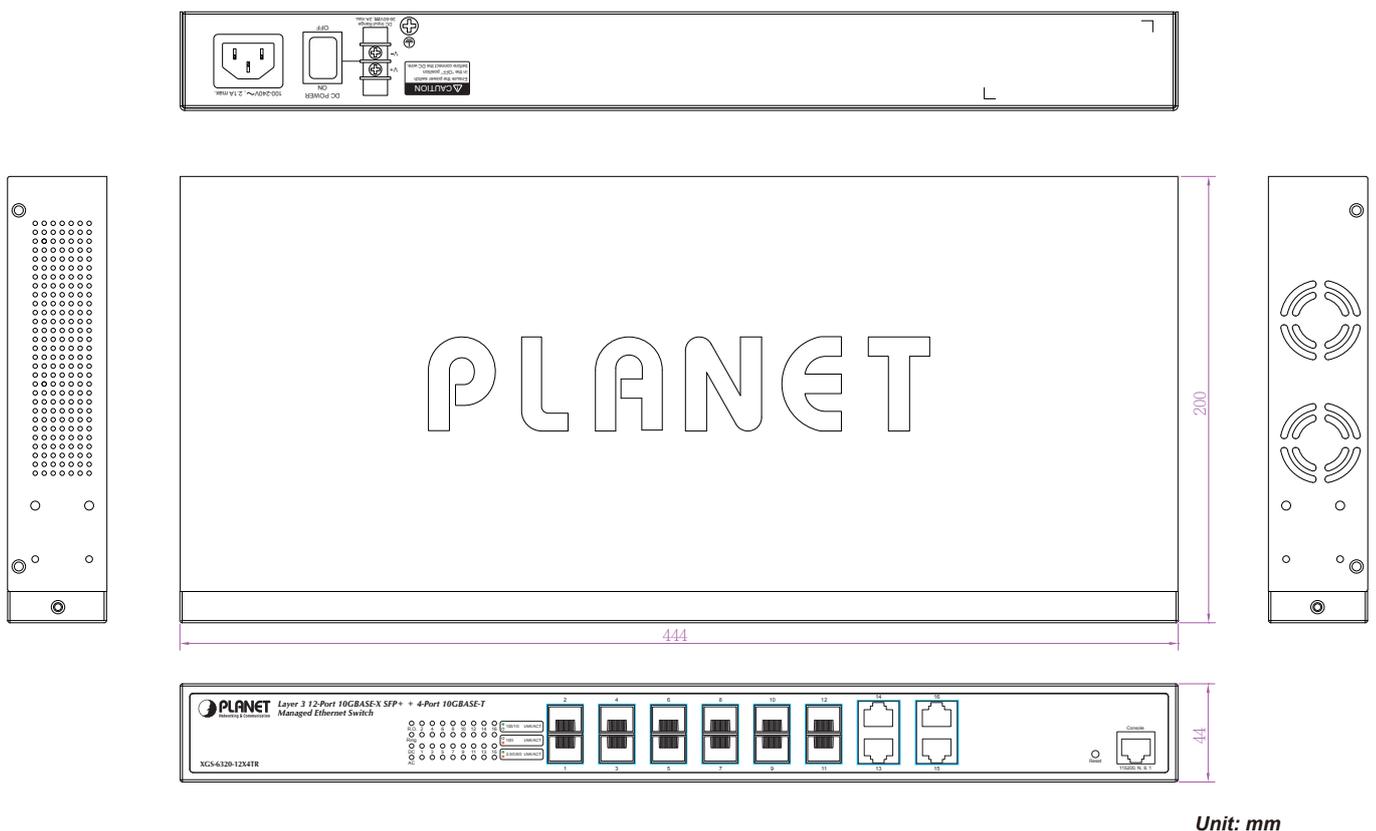
Unit: mm

Ordering Information

XGS-6320-8X8TR	Layer 3 8-Port 10GBASE-X SFP+ + 8-Port 10GBASE-T Managed Ethernet Switch with 48V DC Redundant Power
XGS-6320-12X4TR	Layer 3 12-Port 10GBASE-X SFP+ + 4-Port 10GBASE-T Managed Ethernet Switch with 48V DC Redundant Power

Available 10Gbps Modules

MTB-LB40	1-Port 10GBASE-BX SFP+ Fiber Optic Module - 40km (TX:1330nm RX:1270nm)
MTB-LA40	1-Port 10GBASE-BX SFP+ Fiber Optic Module - 40km (TX:1270nm RX:1330nm)
MTB-LB20	1-Port 10GBASE-BX SFP+ Fiber Optic Module - 20km (TX:1330nm RX:1270nm)
MTB-LA20	1-Port 10GBASE-BX SFP+ Fiber Optic Module - 20km (TX:1270nm RX:1330nm)
MTB-SR	1-Port 10GBASE-SR SFP+ Fiber Optic Module - 300m
MTB-LR	1-Port 10GBASE-LR SFP+ Fiber Optic Module - 10km
MTB-LA60	1-Port 10GBASE-BX SFP+ Fiber Optic Module - 60km (TX:1270nm RX:1330nm)
MTB-LB60	1-Port 10GBASE-BX SFP+ Fiber Optic Module - 60km (TX:1330nm RX:1270nm)
MTB-RJ	1-Port 10GBASE-T SFP+ Copper Fiber Optic Module - 30m
MTB-LR40	1-Port 10GBASE-LR SFP+ Fiber Optic Module - 40km
MTB-SR2	1-Port 10GBASE-SR SFP+ Fiber Optic Module – 2km
MTB-LR20	1-Port 10GBASE-LR SFP+ Fiber Optic Module - 20km
MTB-LR60	1-Port 10GBASE-LR SFP+ Fiber Optic Module - 60km
MTB-LR80	1-Port 10GBASE-LR SFP+ Fiber Optic Module - 80km
MTB-LA10	1-Port 10GBASE-BX SFP+ Fiber Optic Module - 10km (TX:1270nm RX:1330nm)
MTB-LB10	1-Port 10GBASE-BX SFP+ Fiber Optic Module - 10km (TX:1330nm RX:1270nm)

Available 2500Mbps Modules

MGB-2GSR	2.5G SFP Transceiver (Multi-mode, 850nm, DDM, 0~70 degrees C) - 300m
MGB-2GLA20	2.5G SFP Transceiver (Single mode WDM, TX:1310nm RX:1550nm, DDM, 0~70 degrees C) - 20km
MGB-2GLB20	2.5G SFP Transceiver (Single mode WDM, TX:1550nm RX:1310nm, DDM, 0~70 degrees C) - 20km
MGB-2GLR20	2.5G SFP Transceiver (Single mode, 1310nm, DDM) - 20km
MGB-2GLR2	2.5G SFP Transceiver (Single mode, 1310nm, DDM) - 2km

Available 1000Mbps Modules

MGB-GT	SFP-Port 1000BASE-T Module
MGB-LX	SFP-Port 1000BASE-LX mini-GBIC module - 20km
MGB-SX	SFP-Port 1000BASE-SX mini-GBIC module - 550m
MGB-SX2	SFP-Port 1000BASE-SX mini-GBIC module - 2km
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-BX (WDM, TX:1310nm) mini-GBIC module - 10km
MGB-LB10	SFP-Port 1000BASE-BX (WDM, TX:1550nm) mini-GBIC module - 10km
MGB-LA20	SFP-Port 1000BASE-BX (WDM, TX:1310nm) mini-GBIC module - 20km
MGB-LB20	SFP-Port 1000BASE-BX (WDM, TX:1550nm) mini-GBIC module - 20km
MGB-LA40	SFP-Port 1000BASE-BX (WDM, TX:1310nm) mini-GBIC module - 40km
MGB-LB40	SFP-Port 1000BASE-BX (WDM, TX:1550nm) mini-GBIC module - 40km
MGB-LA80	SFP-Port 1000BASE-BX (WDM, TX:1490nm) mini-GBIC module - 80km
MGB-LB80	SFP-Port 1000BASE-BX (WDM, TX:1550nm) mini-GBIC module - 80km

XGS-6320-8X8TR/XGS-6320-12X4TR