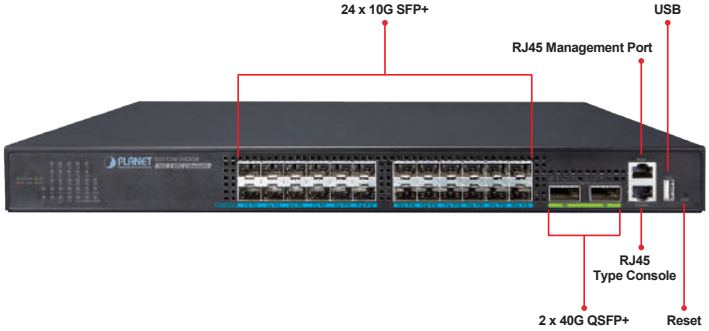
Layer 2+ 24-Port 10G SFP+ + 2-Port 40G QSFP+ Stackable Managed Switch

Powerfully-combined 40Gbps Solution for High-capacity Networks

PLANET XGS-5240-24X2QR is a high performance Layer 2+ Stackable Managed Switch that meets the next generation Metro, Data Center, Campus and Enterprise network requirements. It supports **IPv4/IPv6 Layer 3 static routing** capability and abundant L2/L4 switching engine, and provides high-density **24 10G SFP+** and **2 40G QSFP+** fiber interfaces delivered in a 1U rugged case. Up to 4 switches with a total of 96 10G SFP+ slots can be stacked up, making the management of a high-capacity network and all-purpose applications easier and more flexible.

Totaling 640Gbps Switching Capacity

The XGS-5240-24X2QR provides twenty-four 10Gbps SFP+ and two 40Gbps QSFP+ fiber interfaces. Each of the SFP+ slots supports **Dual Speed**, 1**0GBASE-SR/LR** or **1000BASE-SX/LX** and each of the QSFP+ slots supports native **40GBASE-SR/LR** and **four 10GBASE-SR/LR** Ethernet modes.



Physical Port

- **24 10GBASE-SR/LR SFP+ ports**, compatible with 1000BASE-SX/LX/BX SFP
- 2 QSFP+ slots with each supporting native 40G and four 10 Gigabit Ethernet modes.
- 1 10/100/1000BASE-T RJ45 in-band management port
- 1 USB2.0 interface for configuration and firmware storage
- RJ45 console interface for switch basic management and setup

Stacking Features

- Hardware Stacking
  - Virtualized multiple XGS-5240-24X2QR switches into one logical device
  - Connects with stack member via assigned 10G SFP+ interfaces or 40G QSFP+ interfaces
  - Single IP address stack management, supporting up to 4 switches stacked together
  - Stacking architecture supports redundancy Ring mode
- IP Stacking
  - Connects with stack member via both SFP+ and QSFP+ interfaces
  - Single IP address management, supporting up to 24 units stacked together

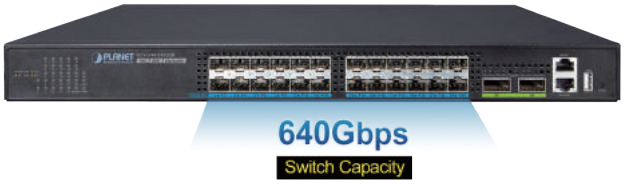
IP Routing Features

- IP routing protocol supports
- Routing interface provides per VLAN routing mode
- Supports route redistribution

Layer 2 Features

- Prevents packet loss flow control
  - IEEE 802.3x pause frame flow control in full-duplex mode
  - Back-pressure flow control in half-duplex mode
- High performance Store-and-Forward architecture, broadcast storm control and port loopback detection
- 32K MAC address table, automatic source address learning and aging
- Supports VLAN
  - IEEE 802.1Q tag-based VLAN
  - GVRP for dynamic VLAN management

The administrator can flexibly choose the suitable transceivers according to the transmission distance or the transmission speed required extending the **1G/10G/40G** networks efficiently. Besides, with **640Gbps** switching capacity, the XGS-5240-24X2QR can handle extremely large amounts of data in a secure topology linking to backbone or high capacity servers where audio, video streaming and multicast applications are utilized.

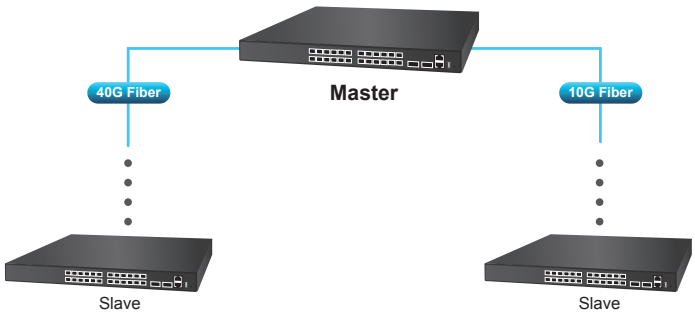


Centralized IP Stacking Management

Positioned as the distribution or aggregation layer switch for large networks, the XGS-5240-24X2QR supports IP stacking function that helps network managers to easily configure up to 24 switches in the same series via one single IP address instead of connecting and setting each unit one by one. The IP stacking technology groups the XGS-5240-24X2QR switches together to enable centralized management through a single unit, regardless of physical location or switch type, as long as they are connected to the same local network.

IP Stacking

Up to 24 units with XGS-5240 Series

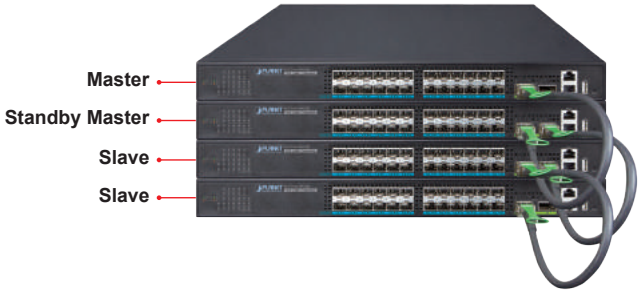


High Reliability Hardware Stacking

Using two user specified QSFP+ ports or SFP+ ports to connect up to **4** switches in the same series and build a virtually logical facility, the XGS-5240-24X2QR gives the enterprises, service providers and telecoms flexible control over port density, uplinks and switch stack performance. The stack redundancy of the XGS-5240-24X2QR 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 4 units with XGS-5240 Series



- Up to 256 VLANs groups, out of 4041 VLAN IDs
- Provider Bridging (VLAN Q-in-Q, IEEE 802.1ad) supported
- Private VLAN Edge (PVE) supported
- GVRP protocol for Management VLAN
- Protocol-based VLAN
- MAC-based VLAN
- IP subnet VLAN

• Supports Link Aggregation
- Maximum 12 trunk groups, up to 8 ports per trunk group
- IEEE 802.3ad LACP (Link Aggregation Control Protocol)
- Cisco ether-channel (static trunk)

• 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)
- Supports BPDU and root guard

• Port mirroring to monitor the incoming or outgoing traffic on a particular port (many to many)
• Provides port mirror (many-to-1)

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 and v2 snooping
• Querier mode support
• Supports Multicast VLAN Register (MVR)

Security

• 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
• TACACS+ login users access authentication

AC and DC Redundant Power to Ensure Continuous Operation

The XGS-5240-24X2QR is equipped with one **100~240V AC** power supply unit and one additional **36-72V 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.

IPv4 and IPv6 VLAN Routing for Secure and Flexible Management

To help customer stay on top of business, the XGS-5240-24X2QR not only offers ultra-high transmission performance, but also IPv4/IPv6 VLAN routing feature which allows to cross over different VLAN groups and IP addresses for the purpose of having a highly-secure, flexible management.

Robust Layer 2 Features

The XGS-5240-24X2QR can be programmed for basic switch management functions such as dynamic port aggregation, Multiple Spanning Tree Protocol (MSTP), L2/L4 QoS bandwidth control, IPv4 IGMP snooping and IPv6 MLD snooping. It also supports 802.1Q tagged VLAN, Q-in-Q, voice VLAN and GVRP Protocol. By supporting port aggregation, the XGS-5240-24X2QR allows the operation of a high-speed trunk combined with multiple ports.

Efficient and Secure Management

For efficient management, the XGS-5240-24X2QR is equipped with **console**, **Web** and **SNMP** management interfaces. With its built-in Web-based management interface, the XGS-5240-24X2QR offers an easy-to-use, platform-independent management and configuration facility. For reducing product learning time, the XGS-5240-24X2QR offers Cisco-like command via Telnet or console port so that users do not need to learn new command.

The XGS-5240-24X2QR supports standard Simple Network Management Protocol (SNMP) and can be managed via any standard-based management software. Moreover, the XGS-5240-24X2QR offers secure remote management by supporting **SNMPv3**, **SSH** and **SSL** connection which encrypts the packet content at each session.

Enhanced Security

The XGS-5240-24X2QR 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,

- IP-based Access Control List (ACL)
- MAC-based Access Control List
- Supports DHCP snooping
- Supports ARP inspection
- IP Source Guard prevents IP spoofing attacks
- Dynamic ARP Inspection discards ARP packets with invalid MAC address to IP address binding

Management

- Management IP for IPv4 and IPv6
- Switch Management Interface
  - Console/Telnet Command Line Interface
  - Web switch management
  - SNMP v1, v2c, and v3 switch management
  - SSH/SSL secure access
- BOOTP and DHCP for IP address assignment
- 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 DDM
- OAM EFM; OAM CFM
- Four RMON groups 1, 2, 3, 9 (history, statistics, alarms and events)
- Supports sFlow
- Supports ULDP
- Supports ULPP (Uplink Protection Protocol)
- Supports ULSM (Uplink State Monitor Protocol)
- Supports LLDP/LLDP MED
- Supports DHCP Option82
- IPv4/IPv6 DHCP Client,
- IPv4/IPv6 DHCP Relay
- IPv4/IPv6 DHCP Snooping
- IPv4/IPv6 DHCP Server
- Supports ping, trace route function for IPv4 and IPv6

Redundant Power System

- Redundant 100~240V AC/36-72V DC dual power
- Active-active redundant power failure protection
- Backup of catastrophic power failure on one supply
- Fault tolerance and resilience

TCP/ UDP ports or defined typical network application. Their protection mechanism also comprises **802.1x Port-based** and **MAC-based** customer and device authentication. As to **private VLAN** function, communications between edge ports can be protected to ensure customer privacy. The XGS-5240-24X2QR also provides functions of **DHCP snooping**, **Option 82** and **ARP guard**, and **Anti-ARP scanning** so as to prevent IP from attacking and discarding ARP packets with invalid MAC address. The network administrators can now construct a highly-secure corporate network with considerably less time and effort than before.

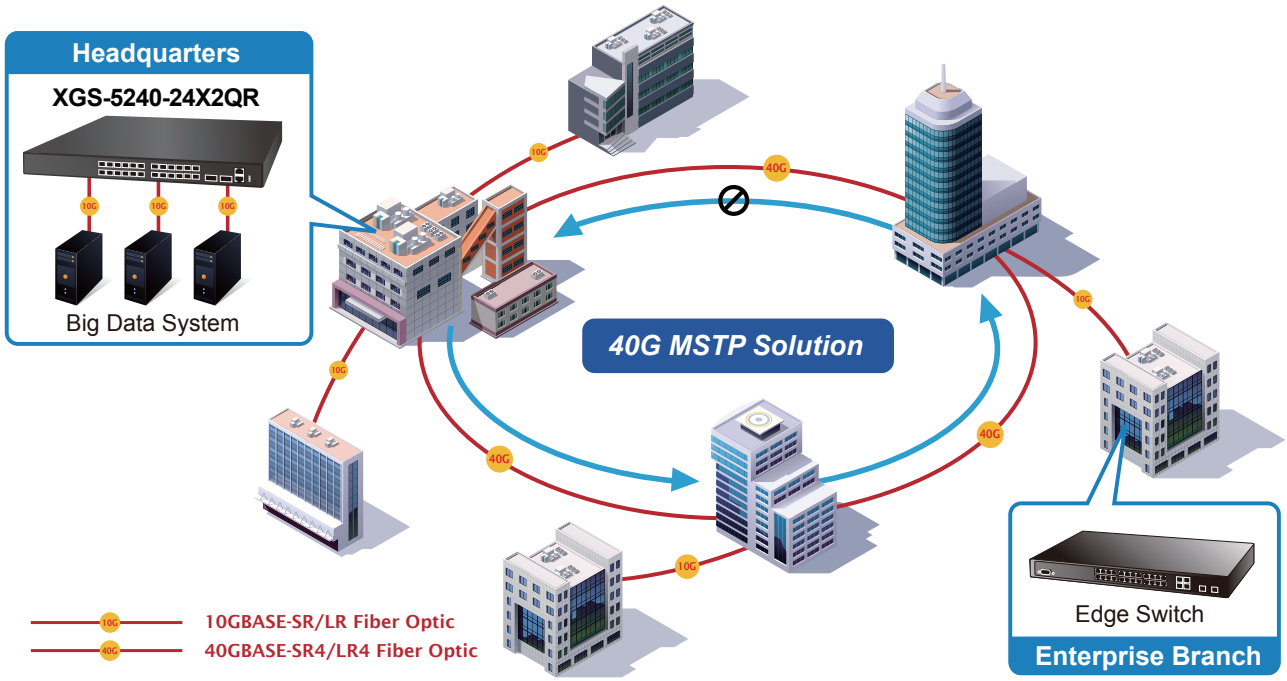
Intelligent SFP Diagnosis Mechanism

The XGS-5240-24X2QR supports SFP-DDM (**Digital Diagnostic Monitor**) function that greatly helps network administrator to easily monitor real-time parameters of the SFP+, such as optical output power, optical input power, temperature, laser bias current, and transceiver supply voltage.

Applications

High Availability Mesh Networking Solution for Big Data System

By means of improving the technology of optical fiber Ethernet with highly-flexible, highly-extendable and easy-to-install features, the XGS-5240-24X2QR offers up to **640Gbps** data exchange speed via optical fiber interface and the transmission distance can be extended to 120km (single-mode fiber). The XGS-5240-24X2QR features strong rapid self-recovery capability to prevent interruptions and external intrusions. It incorporates **Multiple Spanning Tree Protocol (802.1s MSTP)** into customer's automation network to enhance system reliability and uptime. The XGS-5240-24X2QR is the ideal solution for data centers, service providers and telecoms to build redundant connection and establish high bandwidth for **Big Data** server farm.



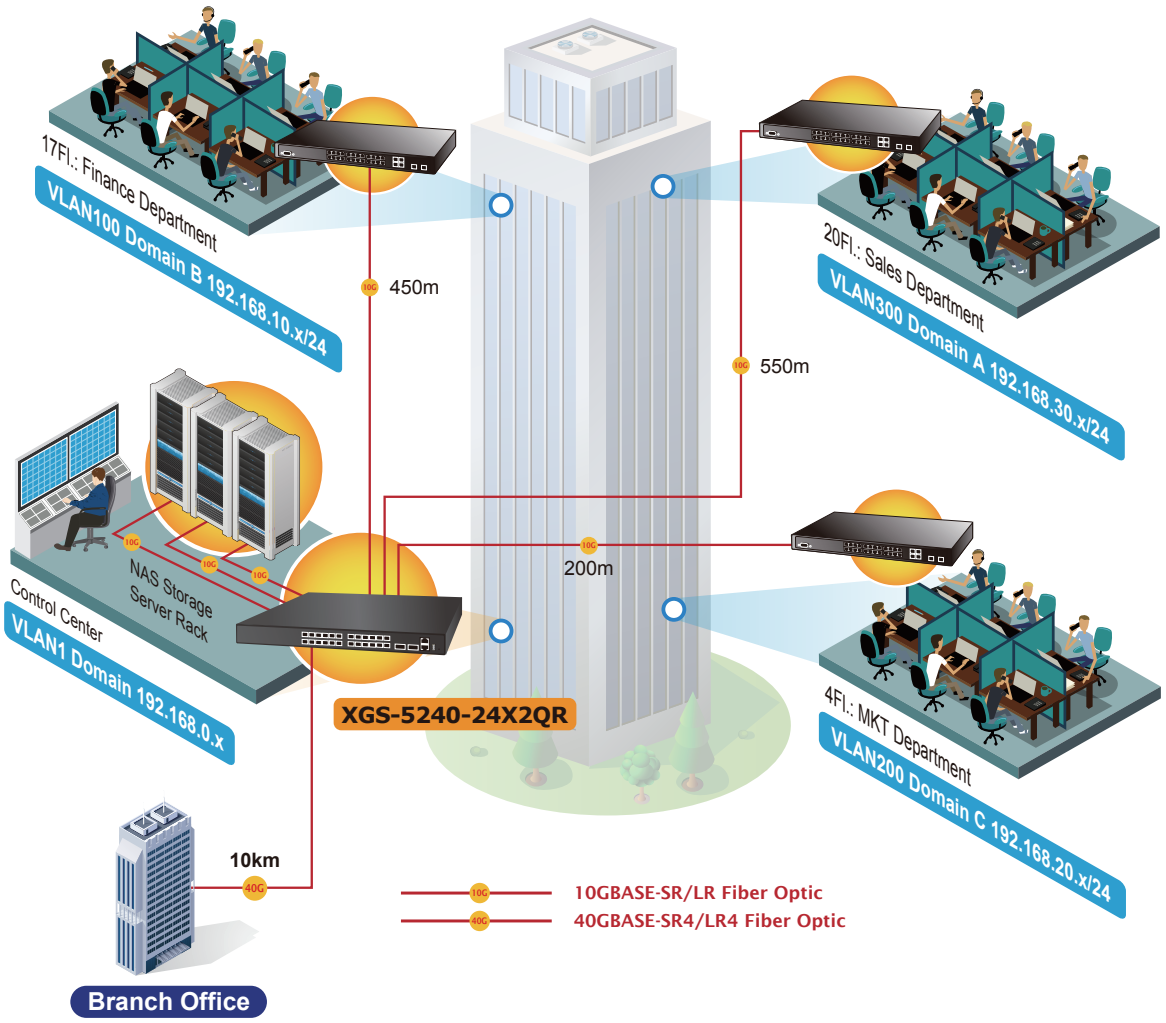
Triple Play Service of Backbone Network Solution

In telecommunications, triple play service is a marketing term for the provisioning over a single broadband connection of more bandwidth-intensive services, such as broadband Internet access, television and the latency-sensitive telephone. The XGS-5240-24X2QR provides up to **640Gbps** bandwidth to exchange data, voice and video packets via fiber patch cable. It's the suitable aggregation switch for ISPs and Telcos that builds a heavy traffic backbone network infrastructure.

Layer 3 VLAN Routing and 40G Uplink Application

With the built-in Layer 3 static routing ability, the XGS-5240-24X2QR ensures reliable routing between VLANs and network segments. The XGS-5240-24X2QR, the ideal solution for enterprises, offers greater security, control and bandwidth conservation, and high-speed uplink.

VLAN Routing + 10G/40G Uplink Applications



Specifications

Product	XGS-5240-24X2QR
Hardware Specifications	
SFP+ Slots	24 10GBASE-SR/LR SFP+ interfaces Compatible with 1000BASE-SX/LX/BX SFP transceiver
QSFP+ Slots	2 with each supporting native 40 Gigabit Ethernet and four 10GBASE-SR/LR Ethernet modes
MGMT	One 10/100/1000BASE-T RJ45 port
Console	1 RJ45-to-DB9 serial port (9600, 8, N, 1)
USB	1 USB 2.0
Switch Architecture	Store-and-forward
Switch Capacity	640Gbps/non-blocking
Switch Throughput	476Mpps
Address Table	32K MAC address table with auto learning function
Shared Data Buffer	4MB
Flow Control	Back pressure for half duplex IEEE 802.3x pause frame for full duplex
Jumbo Frame	9KB
LED Indicator	System: PWR/DC/MGMT/SYS (green) Ports: 1/10G SFP+ slot: LNK/ACT(orange/green) 40G QSFP+ slot: LNK/ACT (green)
Dimensions (W x D x H)	440 x 318 x 44.6 mm, 1U height
Weight	4.3kg
Power Consumption	75 watts/210 BTU (maximum)
Power Requirements	AC 100~240V, 50/60Hz DC 36-72V
Fan	3
Layer 3 Functions	
Routing Protocol	IPv4 Static routing IPv6 Static routing
Routing Table	64 entries
DHCP	DHCP client DHCP server, default route DHCP relay
Layer 2 Functions	
Port Configuration	Port disable/enable 1 &10Gbps full duplex mode selection Flow control disable/enable Bandwidth control on each port Port loopback detection
Port Status	Display each port's speed duplex mode, link status, flow control status and
VLAN	802.1Q tag-based VLAN, up to 4K VLAN entries 802.1ad Q-in-Q (VLAN stacking) GVRP for VLAN management Private VLAN Edge (PVE) supported Protocol-based VLAN MAC-based VLAN IP subnet VLAN
Bandwidth Control	TX/RX/both
Link Aggregation	IEEE 802.3ad LACP/static trunk Supports 12 trunk groups with 8 ports per trunk group
QoS	8 priority queues on all switch ports Supports strict priority and Weighted Round Robin (WRR) CoS policies Traffic classification: - IEEE 802.1p CoS/ToS - IPv4/IPv6 DSCP - Port-based WRR
Multicast	IPv4 IGMP v1/v2/v3 snooping IGMP Querier mode support Ipv6 MLD v1/v2 snooping MLD Querier mode support Multicast VLAN Register (MVR)

Access Control List	Supports Standard and Expanded ACL IP-based ACL/MAC-based ACL Time-based ACL Up to 4K entries (3K ingress; 1K egress)	
Security	Port isolation Supports IP + MAC + port binding Identification and filtering of L2/L3/L4 based ACL Defends against DOS or TCP attacks Suppression of broadcast, multicast and unknown unicast packet DHCP Snooping, DHCP Option 82 Command line authority control based on user levels	
Authentication	IEEE 802.1x port-based network access control AAA authentication: TACACS+ and IPv4/IPv6 over RADIUS	
Management Function		
System Configuration	Console, Telnet, Web browser, SNMP v1, v2c	
Secure Management Interfaces	SSH, SSL, SNMPv3	
Management	Supports both IPv4 and IPv6 Protocols Supports the user IP security inspection for IPv4/IPv6 SNMP Supports MIB and TRAP Supports IPv4/IPv6 TFTP Supports IPv4/IPv6 NTP Supports RMON 1, 2, 3, 9 groups Supports the RADIUS authentication for IPv4/IPv6 Telnet user name and password Supports IPv4/IPv6 SSH The right configuration for users to adopt RADIUS server's shell management Supports CLI, console, Telnet Supports SNMPv1, v2c and v3 Supports Security IP safety net management function: avoid unlawful landing at non-restrictive area Supports syslog server for IPv4 and IPv6 Supports TACACS+	
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 SNMPv2 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 SNMPv3 notification RFC 2574 SNMPv3 VACM RFC 2674 Bridge MIB Extensions
Standard Conformance		
Regulatory Compliance	FCC Part 15 Class A, CE	
Standards Compliance	IEEE 802.3z Gigabit 1000BASE-SX/LX IEEE 802.3ae 10Gb/s Ethernet 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 v1 RFC 2236 IGMP v2 RFC 3376 IGMP v3 RFC 2710 MLD v1 FRC 3810 MLD v2
Environment		
Operating	Temperature: 0 ~ 50 degrees C Relative Humidity: 10 ~ 85% (non-condensing)	
Storage	Temperature: -40 ~ 80 degrees C Relative Humidity: 5 ~ 95% (non-condensing)	

Ordering Information

XGS-5240-24X2QR	Layer 2+ 24-Port 10G SFP+ + 2-Port 40G QSFP+ Stackable Managed Switch

Related Products

XGS-6350-24X4C	Layer 3 24-Port 10G SFP+ + 4-Port 10G QSFP28 Managed Switch
XGS-6350-12X8TR	Layer 3 12-Port 10G SFP+ + 8-Port 10/100/1000T Managed Switch with Dual 100~240V AC Redundant Power
XGS3-42000R	4-Slot Layer 3 IPv6/IPv4 Routing Chassis Switch
SGS-6341-16S8C4XR	Layer 3 16-Port 100/1000X SFP + 8-Port Gigabit TP/SFP + 4-Port 10G SFP+ Stackable Managed Switch (100~240V AC, 36-72V DC)
XT-705A	10G/5G/2.5G/1G/100M Copper to 10GBASE-X SFP+ Media Converter
CB-DASFP-0.5M/2M	10G SFP+ Directly-attached Copper Cable (0.5/2M in length)

Available Modules for XGS-5240-24X2QR

40Gbps QSFP+ (40G Ethernet/40GBASE-SR4/LR4)

Model	DDM	Speed (Mbps)	Connector Interface	Fiber Mode	Distance	Wavelength (nm)	Operating Temp.
QSFP-40G-SR4	YES	40G	MPO/MTP	Multi Mode	100m (OM3) 150m (OM4)	850nm	0 ~ 60 degrees C
QSFP-40G-LR4	YES	40G	LC	Single Mode	10km	1310nm	0 ~ 60 degrees C
CB-DAQSFP-0.5 CB-DAQSFP-2M	-	40G	QSFP+	-	0.5m 2m	-	-40 ~ 75 degrees C
CB-QSFP4X10G-1M	-	40G to 4x10G	QSFP+ to SFP+	-	1m	-	-5 ~ 75 degrees C

10Gigabit SFP+ (10G Ethernet/10GBASE)

Model	DDM	Speed (Mbps)	Connector Interface	Fiber Mode	Distance	Wavelength (nm)	Operating Temp.
MTB-RJ	-	10G	Copper	-	30m	-	0 ~ 70 degrees C
MTB-SR	YES	10G	LC	Multi Mode	Up to 300m	850nm	0 ~ 60 degrees C
MTB-LR	YES	10G	LC	Single Mode	10km	1310nm	0 ~ 60 degrees C
MTB-TSR	YES	10G	LC	Multi Mode	Up to 300m	850nm	-40 ~ 75 degrees C
MTB-TLR	YES	10G	LC	Single Mode	10km	1310nm	-40 ~ 75 degrees C

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

Model	DDM	Speed (Mbps)	Connector Interface	Fiber Mode	Distance	Wavelength (TX)	Wavelength (RX)	Operating Temp.
MTB-LA20	YES	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	YES	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	YES	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	DDM	Speed (Mbps)	Connector Interface	Fiber Mode	Distance	Wavelength (nm)	Operating Temp.
MGB-GT	-	1000	Copper	--	100m	--	0 ~ 60 degrees C
MGB-SX(V2)	YES	1000	LC	Multi Mode	550m	850nm	0 ~ 60 degrees C
MGB-SX2(V2)	YES	1000	LC	Multi Mode	2km	1310nm	0 ~ 60 degrees C
MGB-LX(V2)	YES	1000	LC	Single Mode	20km	1310nm	0 ~ 60 degrees C
MGB-L40	YES	1000	LC	Single Mode	40km	1310nm	0 ~ 60 degrees C
MGB-L80	YES	1000	LC	Single Mode	80km	1550nm	0 ~ 60 degrees C
MGB-L120(V2)	YES	1000	LC	Single Mode	120km	1550nm	0 ~ 60 degrees C
MGB-TSX	YES	1000	LC	Multi Mode	550m	850nm	-40 ~ 75 degrees C
MGB-TSX2	YES	1000	LC	Multi Mode	2km	1310nm	-40 ~ 75 degrees C
MGB-TLX(V2)	YES	1000	LC	Single Mode	20km	1310nm	-40~ 75 degrees C
MGB-TL40	YES	1000	LC	Single Mode	40km	1310nm	-40 ~ 75 degrees C
MGB-TL80	YES	1000	LC	Single Mode	80km	1550nm	-40 ~ 75 degrees C

Gigabit Ethernet Transceiver (1000BASE-BX, Single Fiber Bi-directional SFP)

Model	DDM	Speed (Mbps)	Connector Interface	Fiber Mode	Distance	Wavelength (TX)	Wavelength (RX)	Operating Temp.
MGB-LA10(V2)	YES	1000	WDM(LC)	Single Mode	10km	1310nm	1550nm	0 ~ 60 degrees C
MGB-LB10(V2)						1550nm	1310nm	
MGB-LA20(V2)	YES	1000	WDM(LC)	Single Mode	20km	1310nm	1550nm	0 ~ 60 degrees C
MGB-LB20(V2)						1550nm	1310nm	
MGB-LA40(V2)	YES	1000	WDM(LC)	Single Mode	40km	1310nm	1550nm	0 ~ 60 degrees C
MGB-LB40(V2)						1550nm	1310nm	
MGB-LA80	YES	1000	WDM(LC)	Single Mode	80km	1490nm	1550nm	0 ~ 60 degrees C
MGB-LB80						1550nm	1490nm	
MGB-TLA10(V2)	YES	1000	WDM(LC)	Single Mode	10km	1310nm	1550nm	-40 ~ 75 degrees C
MGB-TLB10(V2)						1550nm	1310nm	
MGB-TLA20	YES	1000	WDM(LC)	Single Mode	20km	1310nm	1550nm	-40 ~ 75 degrees C
MGB-TLB20						1550nm	1310nm	
MGB-TLA40	YES	1000	WDM(LC)	Single Mode	40km	1310nm	1550nm	-40 ~ 75 degrees C
MGB-TLB40						1550nm	1310nm	
MGB-TLA80	YES	1000	WDM(LC)	Single Mode	80km	1490nm	1550nm	-40 ~ 75 degrees C
MGB-TLB80						1550nm	1490nm	

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