L3 48-Port 10/100/1000T 802.3bt PoE + 4-Port 10G SFP+ Managed Switch with dual modular power supply slots

Powerful 802.3bt PoE++ Managed Switch with Extremely Large Power Capability

PLANET GS-6322-48UP4X Fully-managed **802.3bt PoE++** Switch with **dual modular power supply slots** expandability promotes power management efficiency and flexibility in large-scale networks, such as enterprises, hotels, shopping malls, government buildings, and other public areas. It supports rich PoE operation modes including **48 95-watt 802.3bt type-4 PoE++ ports**, mode and 4-pair **force mode** to solve the incompatibility of non-standard 4-pair PoE PDs in the field. With a total power budget of up to **3200 watts** for different kinds of heavy PoE applications, the GS-6322-48UP4X provides a quick, safe and cost-effective 802.3bt PoE network solution for small businesses and enterprises.

Extractive Power Supply Design to Increase Flexibility

The GS-6322-48UP4X is designed with two extractive power module slots to support Redundant Power Supply (**RPS**) mode or Extended Power Supply (**EPS**) mode via software setting to handle the demands of power redundancy or additional power for PoE++ ports as needed.

- **RPS (1+1)** mode: Where critical services are supported by PoE application, the secondary PSU is needed to provide backup power in the event of a power outage. When two PSUs are installed, the power budget is the same as that of one PSU.
- **EPS (2+0)** mode: Where more PoE budget is required to support complete application, the secondary PSU can provide additional PoE power. The two PSUs combined are able to provide a maximum of total PoE power.

The GS-6322-48UP4X can work with three optional 920W/1200W/2000W AC power supplies. Users can flexibly use single or dual power supply according to their application. Its flexible redundant and extended power system is specifically designed for high-tech facilities requiring the highest power integrity.

PSU Operation mode	Redundant Power Supply mode	Extended Power System mode
Power Redundancy	■	--
PoE budget with 1 2000W PSU	1600W	1600W
PoE budget with 2 2000W PSUs	1600W	3200W

Physical Port

- **48 10/100/1000BASE-T** Gigabit RJ45 copper ports with 48-port **IEEE 802.3bt PoE++** injector function
- **4 10GBASE-SR/LR SFP+ slots**, compatible with 1000BASE-SX/LX/BX SFP and 2.5G SFP transceiver
- **USB Type C** console interface for switch basic management and setup

802.3bt Power over Ethernet

- Complies with IEEE 802.3bt Power over Ethernet Plus Plus
- Backward compatible with IEEE 802.3at Power over Ethernet Plus
- Up to 48 ports of IEEE 802.3af/IEEE 802.3at/IEEE 802.3bt PoE devices powered
- 48 PoE ports with built-in 802.3bt PoE++ 95W injector function
- Auto detects powered device (PD)
- Circuit protection prevents power interference between ports
- Remote power feeding up to 100 meters
- PoE management features
  - Total PoE power budget control
  - Per port PoE function enable/disable
  - PoE admin-mode control
  - PoE port power feeding priority
  - Per PoE port power limit
  - PD classification detection
  - PoE extend mode control to support power feeding up to 200 meters
- Intelligent PoE features
  - Temperature threshold control
  - PoE usage threshold control
  - PD alive check
  - PoE schedule

Layer 3 Features

- IP dynamic routing protocol supports RIPv2, OSPFv2 and OSPFv3
- IPv4/IPv6 hardware static routing
- Routing interface provides per VLAN routing mode
- IP interfaces (Max. 128 VLAN interfaces)
- Routing table (Max. 128 routing entries)

Layer 2 Features

- Prevents packet loss with back pressure (half-duplex) and IEEE 802.3x pause frame flow control (full-duplex)

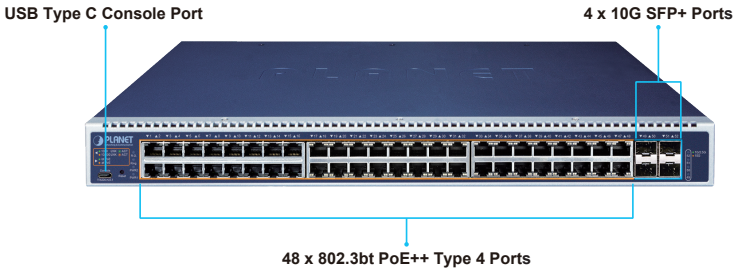
90~95-watt 802.3bt PoE++ and Advanced PoE Power Output Mode Management

As the GS-6322-48UP4X adopts the IEEE 802.bt PoE++ standard, it is capable to source up to **95 watts** of power by using all the four pairs of standard Cat5e/6 Ethernet cabling to deliver power and full-speed data to each remote PoE compliant powered device (PD). To meet the demand of various powered devices consuming stable PoE power, the GS-6322-48UP4X PoE++ Switch provides five different PoE power output modes for selection.

- **95W UPOE**
- **90W 802.3bt PoE++**
- **60W Force**
- **36W End-span PoE**
- **36W Mid-span PoE**

10GBASE-X SFP Dual Media Interfaces

The GS-6322-48UP4X features a built-in hardware-based L2 and L3 switching engine along with **48 10/100/1000BASE-T ports** and **4** additional **10GBASE-X** SFP+ ports. The four 10GBASE-X SFP+ interfaces with 3 speeds (10G/2.5G/1G) are provided for long-distance transmission of up to 120km.



Layer 3 Routing Support

The GS-6322-48UP4X enables the administrator to conveniently boost network efficiency by configuring Layer 3 IPv4/IPv6 VLAN static routing manually, and the IPv4 **OSPFv2** (Open Shortest Path First) settings automatically. 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.

- High performance of Store-and-Forward architecture 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
  - Out of 4096 VLAN IDs
  - 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 (STP)
  - IEEE 802.1w Rapid Spanning Tree Protocol (RSTP)
  - IEEE 802.1s Multiple Spanning Tree Protocol (MSTP), Spanning Tree by VLAN
  - BPDU Guard
- Supports Link Aggregation
  - 802.3ad Link Aggregation Control Protocol (LACP)
  - Cisco ether-channel (static trunk)
  - Maximum 4 trunk groups with 4 ports for each trunk group
  - Up to 80Gbps bandwidth (full duplex mode)
- 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
- Supports ERPS (Ethernet Ring Protection Switching)
- 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
- Link Layer Discovery Protocol (LLDP)

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

Redundant Ring, Fast Recovery for Critical Network Applications

The GS-6322-48UP4X supports redundant ring technology and features a strong, rapid self-recovery capability to prevent interruptions and external intrusions. It incorporates advanced **ITU-T G.8032 ERPS (Ethernet Ring Protection Switching)** technology, Spanning Tree Protocol (802.1s MSTP), and **redundant power** input system into customer's industrial automation network to enhance system reliability and uptime in harsh factory environments. In a certain simple Ring network, the recovery time of data link can be as fast as 10ms.

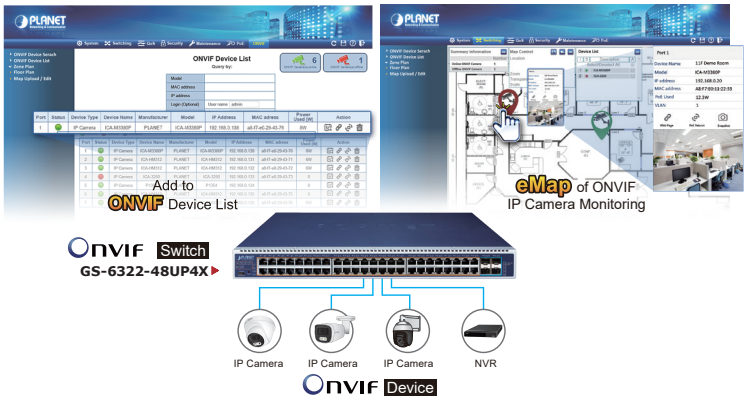
Convenient and Smart ONVIF Devices with Detection Feature

The GS-6322-48UP4X supports an awesome feature -- **ONVIF** Support -- which is specifically designed for co-operating with Video IP Surveillances. From its GUI, clients just need one click to search and show all of the ONVIF devices via network application. In addition, clients can upload floor images to a switch, and it allows you to deploy any surveillance devices for easier inspection and planning. Moreover, clients can get real-time surveillance information and online/offline status, and also allows PoE reboot control from GUI.

Built-in Unique PoE Functions for Powered Devices Management

Being the managed PoE switch for surveillance, wireless and VoIP networks, the GS-6322-48UP4X features the following special PoE management functions:

- PD alive check
- Scheduled power recycling
- PoE schedule
- PoE usage monitoring



- 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

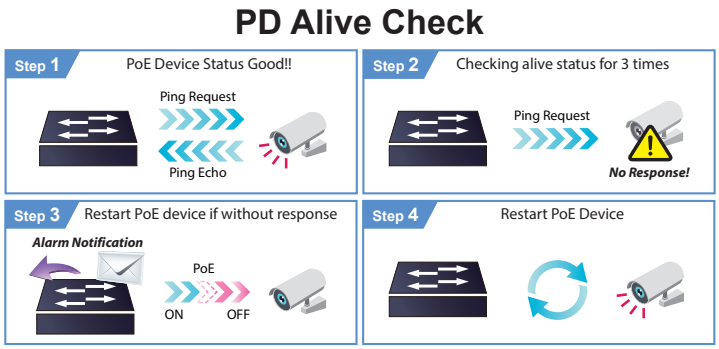
- Authentication
  - IEEE 802.1x port-based/MAC-based network access authentication
  - Built-in RADIUS client to cooperate with the RADIUS servers
  - TACACS+ login users access authentication
  - RADIUS/TACACS+ users access authentication
  - Guest VLAN assigns clients to a restricted VLAN with limited services.
- Access Control List
  - IP-based Access Control List (ACL)
  - MAC-based Access Control List
- Source MAC/IP address binding
- DHCP Snooping to filter untrusted 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
  - Console/Telnet Command Line Interface
  - Web switch management
  - SNMP v1, v2c, and v3 switch management
  - SSHv2, TLSv1.2 and SNMP v3 secure access
- SNMP Management
  - Four RMON groups (history, statistics, alarms and events)
  - SNMP trap for interface Link Up and Link Down 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

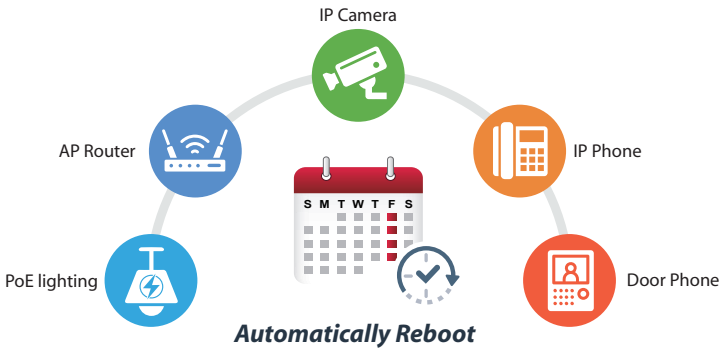
Intelligent Powered Device Alive Check

The GS-6322-48UP4X can be configured to monitor connected PD (powered device) status in real time via ping action. Once the PD stops working and responds, the GS-6322-48UP4X will resume the PoE port power and bring the PD back to work. It will greatly enhance the network reliability through the PoE port resetting the PD's power source and reducing the burden of administrator management.



Scheduled Power Recycling

The GS-6322-48UP4X allows each of the connected PoE IP cameras or PoE wireless access points to reboot at a specified time each week. Therefore, they will reduce the chance of IP camera or AP crash resulting from buffer overflow.



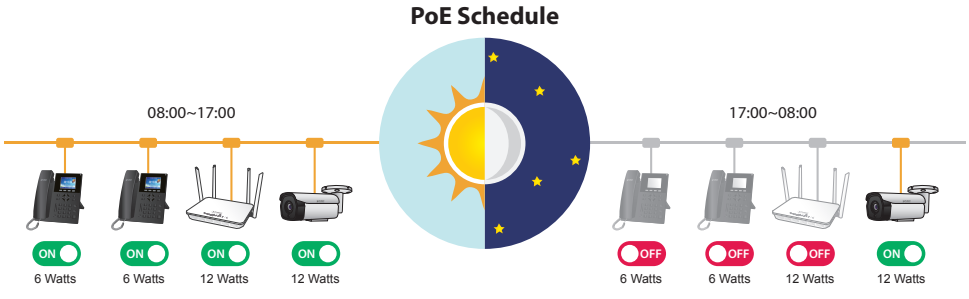
- Dual images
- DHCP Relay and DHCP Option 82
- DHCP Server
- User Privilege levels control
- NTP (Network Time Protocol)
- Network Diagnostic
  - SFP-DDM (Digital Diagnostic Monitor)
  - ICMPv6/ICMPv4 remote ping
  - Cable diagnostic technology provides the mechanism to detect and report potential cabling issues
- SMTP/Syslog remote alarm
- System Log
- PLANET Smart Discovery Utility for deployment management
- Smart fan with speed control

Power Management

- Dual redundant modular power supply slots
- Supports configurable power operation modes
  - Redundant Power Supply (RPS, 1+1): Provides 1+1 power redundancy when two PSUs are installed.
  - Extended Power Supply (EPS, 2+0): Provides more power budget by combining two PSUs to share the maximum power budget
- Active-active redundant power failure protection
- Backup of catastrophic power failure on one supply
- Fault tolerance and resilience

PoE Schedule for Energy Savings

Under the trend of energy savings worldwide and contributing to environmental protection, the GS-6322-48UP4X can effectively control the power supply besides their 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 power and money. It also increases security by powering off PDs that should not be in use during non-business hours.

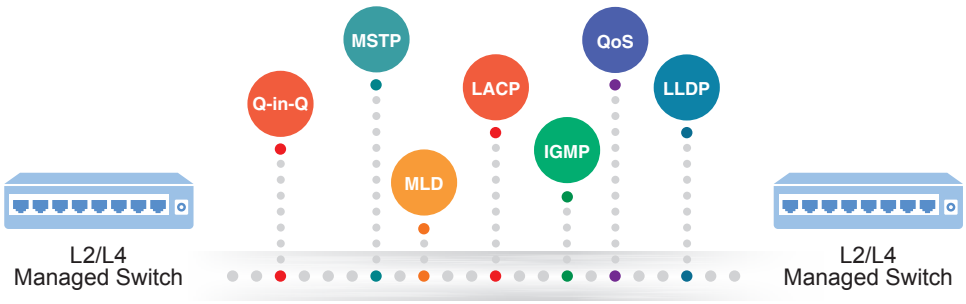


Total Consumption of 36 watts/hr

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

Robust Layer 2 Features

The GS-6322-48UP4X can be programmed for advanced Layer 2 switch management functions such as dynamic port link aggregation, 802.1Q tagged VLAN, **Q-in-Q VLAN**, private VLAN, Multiple Spanning Tree Protocol (**MSTP**), Layer 2 to Layer 4 QoS, bandwidth control, **IGMP snooping** and **MLD snooping**. Via the aggregation of supporting ports, the GS-6322-48UP4X can operate at high speed as it comes with multiple ports and supports fail-over as well.



Powerful Network Security

The GS-6322-48UP4X offers a 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 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 GS-6322-48UP4X also provides **DHCP Snooping**, **IP Source Guard** and **Dynamic ARP Inspection** functions to prevent IP snooping from attacking and discard ARP packets with invalid MAC addresses. The network administrator can now construct highly secure corporate networks with considerably less time and effort than before.

Efficient Management

For efficient management, the GS-6322-48UP4X 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.

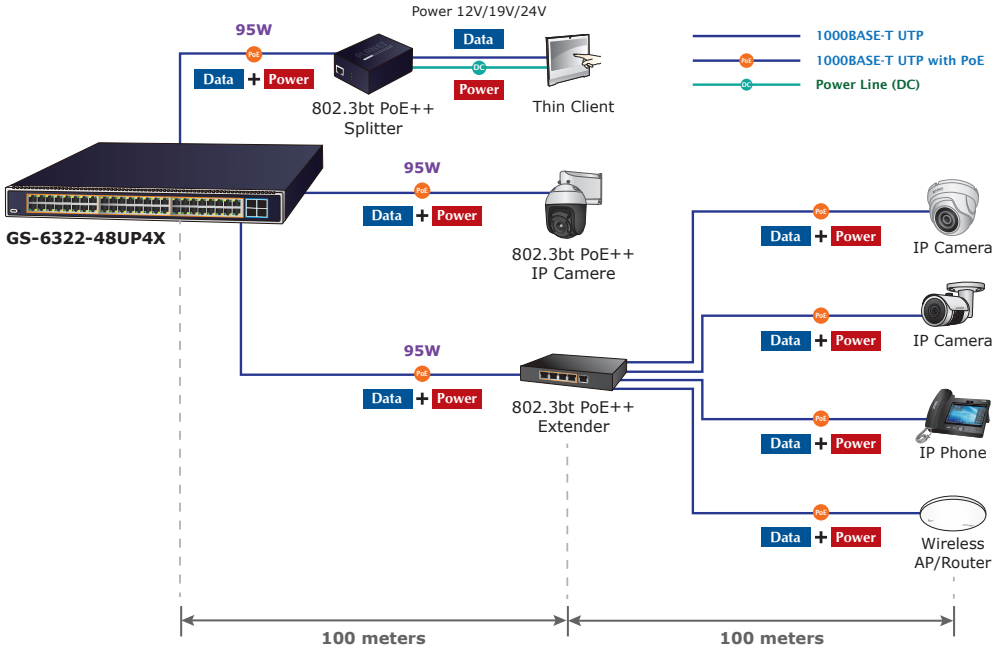
Intelligent SFP/SFP+ Diagnosis Mechanism

The GS-6322-48UP4X 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.

Applications

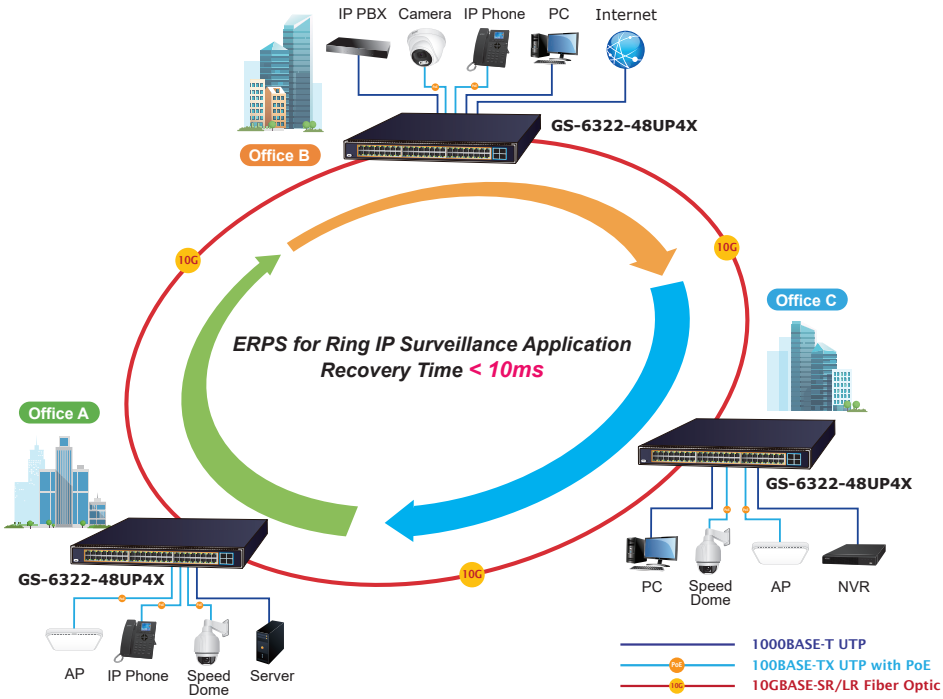
IEEE 802.3bt/ Ultra PoE Networking Solution

PLANET GS-6322-48UP4X can easily build an ultra PoE networking solution on the cyber security system for the enterprises. For instance, it can work with the POS system and thin clients to perform comprehensive security protection for today's businesses. The GS-6322-48UP4X and POE-173S/IPOE-173S 802.3bt PoE++ Splitter operates as a pair to provide the easiest way to power your Ethernet devices which need high power input. Receiving data and power from the GS-6322-48UP4X, the POE-173S/IPOE-173S separates digital data and power into several optional outputs (12V, 19V or 24V DC) to non-PoE devices such as laptops, thin client, POS system, PTZ (pan, tilt & zoom) network cameras, PTZ speed dome cameras, color touch-screen IP phones, multi-channel wireless LAN access points and other network devices at distance up to 100 meters.



Optimal Redundant Ring for Faster Recovery of Managed Network

The GS-6322-48UP4X supports redundant ring technology and features a 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, thus enabling the management network to keep on operating.



Specifications

Product	GS-6322-48UP4X
Hardware Specifications	
Copper Ports	48 10/100/1000BASE-T RJ45 auto-MDI/MDI-X ports
SFP+ Slots	4 10GBASE-SR/LR SFP+ interfaces (Port-49 to Port-52) Compatible with 1000BASE-SX/LX/BX SFP and 2.5G SFP transceiver
Console	1 x USB Type C port (115200, 8, N, 1)
Reset Button	< 5 sec: System reboot > 5 sec: Factory default
Dimensions (W x D x H)	444x331x44mm, 1U height
Weight	5478g
Power Consumption	Max. 49.8 watts/ 170.03BTU(Power on without any connection) Max. 3361 watts/ 11458.26 BTU(Full loading)
Power Requirements	Single 2000W PSU: AC 100~240V, 50/60Hz, 10.5A Dual 2000W PSUs: AC 100~240V, 50/60Hz, 21A
ESD Protection	6KV DC
Fan	3 smart fans
LED	System: R.O. (Green) Ring (Green) PWR1 (Green) PWR2 (Green) PoE Ethernet Interfaces (Port-1 to Port-48): af/at PoE (Amber) bt PoE/UPOE (Green) Ethernet Interfaces (Port-1 to Port-48): 1000 LNK/ACT (Green), 10/100 LNK/ACT (Amber) 1000/2500/10G SFP+ Interfaces (Port-49 to Port-52): 1G/2.5G (Green), 10G (Amber)
Network Cables	1G/100M BASE-T: - 1G – Cat 5e/6/6A/7 - 100M – Cat 5/5e/6/6A/7 - Cat 5/5e/6/6A/7 UTP cable (maximum 100 meters) 10GBASE-LR/SR/BX: - 50/125μm or 62.5/125μm multi-mode fiber optic cable, up to 300m - 9/125μm single-mode fiber optic cable, up to 60km
Switching	
Switch Architecture	Store-and-Forward
Switch Fabric	176Gbps/non-blocking
Throughput	130Mpps@64Bytes
Address Table	32K entries, automatic source address learning and aging
Shared Data Buffer	32M bits
Flow Control	IEEE 802.3x pause frame for full duplex Back pressure for half duplex
RING	Support ERPS, complies with ITU-T G.8032 Recovery time < 10ms with 3 units Recovery time < 50ms with 16 units
Jumbo Frame	10K bytes
Power over Ethernet	
PoE Standard	802.3bt PoE++ PSE Backward compatible with IEEE 802.3af/802.3at PoE PSE
PoE Power Supply Type	■ 802.3bt ■ UPoE ■ End-span ■ Mid-span ■ Force
PoE Power Output	Per port 54V DC - 802.3bt Type-4 mode, Port-1 to Port-48: maximum 90 watts - UPoE mode, Port-1 to Port-48: maximum 95 watts - End-span mode: maximum 36 watts - Mid-span mode: maximum 36 watts - Force mode: maximum 60 watts

<table>
<tr><td>Power Pin Assignment</td><td colspan="6">■ 802.3bt: 1/2(-), 3/6(+), 4/5(+), 7/8(-)
■ UPoE: 1/2(-), 3/6(+), 4/5(+), 7/8(-)
■ nd-span: 1/2(-), 3/6(+)
■ Mid-span: 4/5(+), 7/8(-)</td></tr>
<tr><td rowspan="14">PoE Power Budget</td><td colspan="6">Input Power: 110V</td></tr>
<tr><td colspan="2">Slot1 \ Slot2</td><td>-</td><td>920 Power</td><td>1200 Power</td><td>2000 Power</td></tr>
<tr><td rowspan="2">920 Power</td><td>RPS (Watt)</td><td>720</td><td>720</td><td>720</td><td>720</td></tr>
<tr><td>EPS (Watt)</td><td>720</td><td>1640</td><td>1720</td><td>1200</td></tr>
<tr><td rowspan="2">1200 Power</td><td>RPS (Watt)</td><td>800</td><td>720</td><td>800</td><td>800</td></tr>
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<tr><td colspan="7">Standards Conformance</td></tr>
<tr><td>Active PoE device alive detects</td><td colspan="6">Yes</td></tr>
<tr><td>PoE Power Recycle</td><td colspan="6">Yes, daily or predefined schedule</td></tr>
<tr><td>PoE Schedule</td><td colspan="6">4 schedule profiles</td></tr>
<tr><td>PoE Extend Mode</td><td colspan="6">Yes, max. 160 to 200 meters</td></tr>
<tr><td>PoE System Management</td><td colspan="6">System PoE Admin control
Total PoE power budget control
Auto power input and PoE budget control
PoE Legacy mode
Over-temperature threshold alarm
PoE usage threshold alarm</td></tr>
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- UPoE
- 802.3at End-span
- 802.3at Mid-span
Force mode
Port Priority</td></tr>
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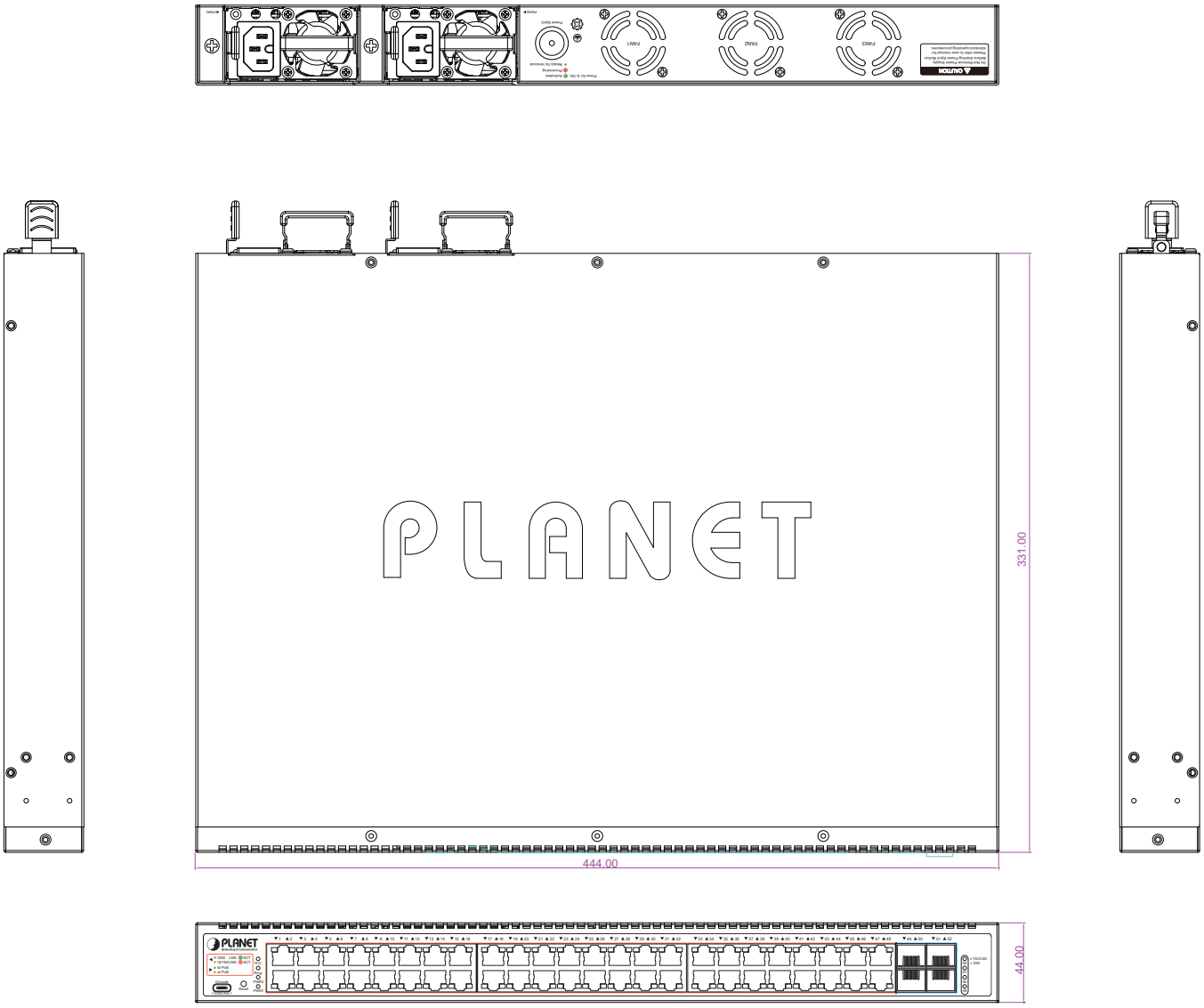
<tr><td colspan="7">Layer 3 Functions</td></tr>
<tr><td>IP Interfaces</td><td colspan="6">Max. 128 VLAN interfaces</td></tr>
<tr><td>Routing Table</td><td colspan="6">Max. 128 routing entries</td></tr>
</table>

Routing Protocols	IPv4 RIPv1/v2 dynamic routing IPv4 OSPFv2 dynamic routing IPv6 OSPFv3 dynamic routing IPv4 hardware static routing IPv6 hardware static routing
Layer 2 Management Functions	
Port Configuration	Port disable/enable Auto-negotiation 10/100/1000Mbps full and half duplex mode selection 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
VLAN	802.1Q tagged VLAN Q-in-Q tunneling Private VLAN Edge (PVE) MAC-based VLAN Protocol-based VLAN Voice VLAN MVR (Multicast VLAN registration) Out of 4096 VLAN IDs
Link Aggregation	IEEE 802.3ad LACP/static trunk Supports 3 trunk groups with 4 ports per trunk group
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)
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
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
Bandwidth Control	Per port bandwidth control Ingress: 100Kbps~1000Mbps Egress: 100Kbps~1000Mbps
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		
Basic Management Interfaces	Console; Telnet; Web browser; SNMP v1, v2c	
Secure Management Interfaces	SSHv2, TLSv1.2, SSL, SNMP v3	
SNMP MIBs	RFC 1213 MIB-II RFC 1493 Bridge MIB RFC 1643 Ethernet MIB RFC 2863 Interface MIB RFC 2665 Ether-Like MIB RFC 2819 RMON MIB (Groups 1, 2, 3 and 9) RFC 2737 Entity MIB RFC 2618 RADIUS Client MIB RFC 2863 IF-MIB RFC 2933 IGMP-STD-MIB RFC 3411 SNMP-Frameworks-MIB RFC 4292 IP Forward MIB RFC 4293 IP MIB RFC 4836 MAU-MIB IEEE 802.1X PAE LLDP MAU-MIB PowerEthernet MIB	
Standards Conformance		
Regulatory 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 802.3ae 10Gigabit 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 802.1ad Q-in-Q VLAN stacking IEEE 802.1X Port Authentication Network Control IEEE 802.1ab LLDP IEEE 802.3ah OAM IEEE 802.3af Power over Ethernet	IEEE 802.3at Power over Ethernet Plus IEEE 802.3bt Power over Ethernet Plus 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 version 3 RFC 2710 MLD version 1 RFC 3810 MLD version 2 RFC 2328 OSPF v2 RFC 5340 OSPF v3 RFC 2453 RIP v2 ITU-T G.8032 ERPS Ring ITU-T Y.1731 Performance Monitoring
Environment		
Operating	Temperature: 0 ~ 50 degrees C Relative Humidity: 5 ~ 95% (non-condensing)	
Storage	Temperature: -10 ~ 70 degrees C Relative Humidity: 5 ~ 95% (non-condensing)	

Dimensions



Dimensions (W x D x H): 444 x 331 x 44 mm

Ordering Information

GS-6322-48UP4X	L3 48-Port 10/100/1000T 802.3bt PoE + 4-Port 10G SFP+ Managed Switch with dual modular power supply slots
PWR-CRPS2000	2000W CRPS Power Supply, 100-240VAC
PWR-CRPS1200	1200W CRPS Power Supply, 100-240VAC
PWR-CRPS920	920W CRPS Power Supply, 100-240VAC

Related Product

GS-6322-24P4X	L3 24-Port 10/100/1000T 802.3bt PoE + 2-Port 10GBASE-T + 2-Port 10G SFP+ Managed Switch with Dual Modular Power Supply Slots
GS-6311-48P6X	L3 48-Port 10/100/1000T 802.3at PoE + 6-Port 10G SFP+ Managed Ethernet Switch
GS-6310-48P6XR	L3 48-Port 10/100/1000T 802.3at PoE + 6-Port 10G SFP+ Stackable Managed Switch with 55V DC Redundant Power

Available SFP/SFP+ Modules

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	300m	850nm	-40 ~ 85 degrees C
MTB-TLR	10G	LC	Single Mode	10km	1310nm	-40 ~ 85 degrees C

10Gigabit Ethernet Transceiver (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	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 ~ 85 degrees C
MGB-TSX2	YES	1000	LC	Multi Mode	2km	1310nm	-40 ~ 85 degrees C
MGB-TLX(V2)	YES	1000	LC	Single Mode	20km	1310nm	-40 ~ 85 degrees C
MGB-TL40	YES	1000	LC	Single Mode	40km	1310nm	-40 ~ 85 degrees C
MGB-TL80	YES	1000	LC	Single Mode	80km	1550nm	-40 ~ 85 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)		1000	WDM(LC)	Single Mode	10km	1550nm	1310nm	0 ~ 60 degrees C
MGB-LA20(V2)	YES	1000	WDM(LC)	Single Mode	20km	1310nm	1550nm	0 ~ 60 degrees C
MGB-LB20(V2)		1000	WDM(LC)	Single Mode	20km	1550nm	1310nm	0 ~ 60 degrees C
MGB-LA40(V2)	YES	1000	WDM(LC)	Single Mode	40km	1310nm	1550nm	0 ~ 60 degrees C
MGB-LB40(V2)		1000	WDM(LC)	Single Mode	40km	1550nm	1310nm	0 ~ 60 degrees C
MGB-LA80	YES	1000	WDM(LC)	Single Mode	80km	1490nm	1550nm	0 ~ 60 degrees C
MGB-LB80		1000	WDM(LC)	Single Mode	80km	1550nm	1490nm	0 ~ 60 degrees C
MGB-TLA10(V2)	YES	1000	WDM(LC)	Single Mode	10km	1310nm	1550nm	-40 ~ 85 degrees C
MGB-TLB10(V2)		1000	WDM(LC)	Single Mode	10km	1550nm	1310nm	-40 ~ 85 degrees C
MGB-TLA20	YES	1000	WDM(LC)	Single Mode	20km	1310nm	1550nm	-40 ~ 85 degrees C
MGB-TLB20		1000	WDM(LC)	Single Mode	20km	1550nm	1310nm	-40 ~ 85 degrees C
MGB-TLA40	YES	1000	WDM(LC)	Single Mode	40km	1310nm	1550nm	-40 ~ 85 degrees C
MGB-TLB40		1000	WDM(LC)	Single Mode	40km	1550nm	1310nm	-40 ~ 85 degrees C
MGB-TLA80	YES	1000	WDM(LC)	Single Mode	80km	1490nm	1550nm	-40 ~ 85 degrees C
MGB-TLB80		1000	WDM(LC)	Single Mode	80km	1550nm	1490nm	-40 ~ 85 degrees C

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