Product Specifications

L3 24-Port 10/100/1000-T 802.3bt PoE + 2-Port 10GBASE-T + 2-Port 10G SFP+ Managed Switch with Dual Modular Power Supply Slots

GS-6322-24P4X

Version V1.0

Change History:

Revision:	Date:	Author:	Change List
Version 1.0	2020/8/15	Ricebean Lin	Initial Release

Author:	Ricebean Lin	Editor:	Mark Kao
Reviewed By:		Approved By:	Kent

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1. PRODUCT DESCRIPTION

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

PLANET GS-6322-24P4X Fully-managed **802.3bt PoE++** Switch with **dual modular power supply slots** features network expandability and promotes power management efficiency. With a total power budget of up to **2,280 watts** for different kinds of heavy PoE applications, the GS-6322-24P4X provides a powerful, safe and reliable 802.3bt PoE network solution for small businesses and enterprises.

Extractive Power Supply Design to Increase Flexibility

The GS-6322-24P4X 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.

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- **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-6322-24P4X can work with three optional 920W/1200W/2000W AC power supplies. Users can flexibly use one 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.

For example

| PSU Operation mode	Redundant Power Supply mode	Extended Power System mode
Power Redundancy	■	--
PoE budget with 1 1200W PSU	1000W	1000W
PoE budget with 2 1200W PSUs	1000W	2200W

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

As the GS-6322-24P4X adopts the IEEE 802.bt PoE++ standard and PoH technology, 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-6322-24P4X PoE++ Switch provides five different PoE power output modes for selection.

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

10GBASE-T and 10GBASE-X SFP Dual Media Interfaces

The GS-6322-24P4X features built-in hardware-based L2 and L3 switching engine along with **24 10/100/1000BASE-T ports**, **2 10GBASE-T RJ45 ports** and **2** additional **10GBASE-X SFP+ ports**. With two built-in **10GBASE-T copper** interfaces with **5-speed (10G/5G/2.5G/1G/100)** auto-negotiation, the GS-6322-24P4X provides 10Gbps data transmission with the existing Cat6A/Cat7 UTP cabling, meaning the speed can be increased without costs. The additional **two 10GBASE-X SFP+** interfaces with 3 **speeds (10G/2.5G/1G)** are provided for a long-distance transmission of up to 120km.

24 x 802.3bt PoE++ Type 4 Port   2 x 10GBASE-T Port

RJ45 Type Console Port

2 x 10G SFP+ Port
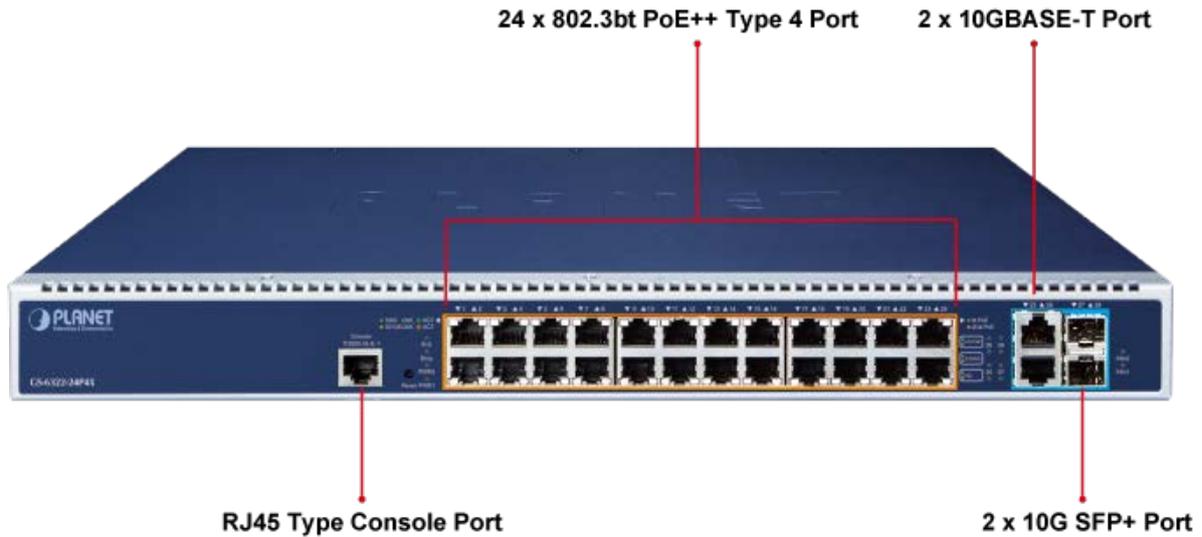
Layer 3 Routing Support

The GS-6322-24P4X 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.

Redundant Ring, Fast Recovery for Critical Network Applications

The GS-6322-24P4X 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, 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.

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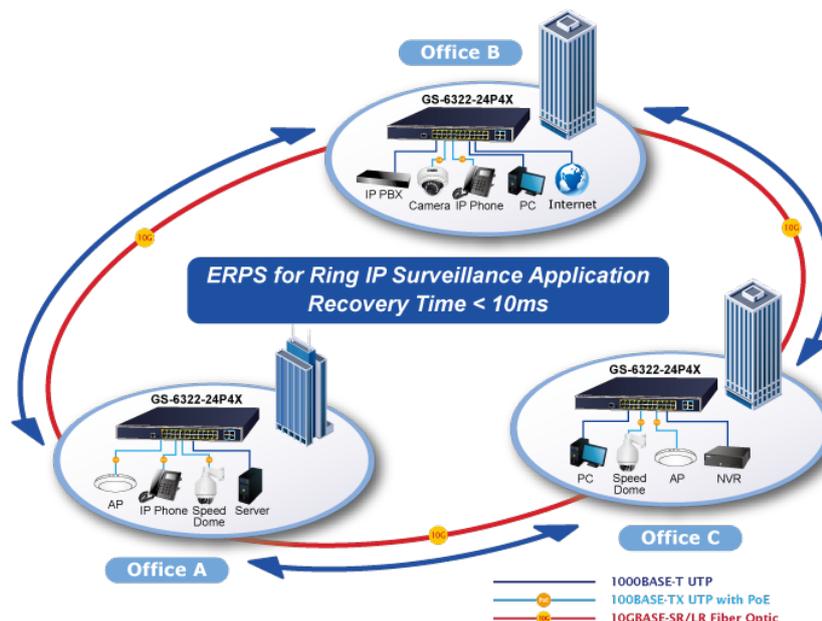
Convenient and Smart ONVIF Devices with Detection Feature

The GS-6322-24P4X 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's information and online/offline status, and also allows PoE reboot control from GUI.
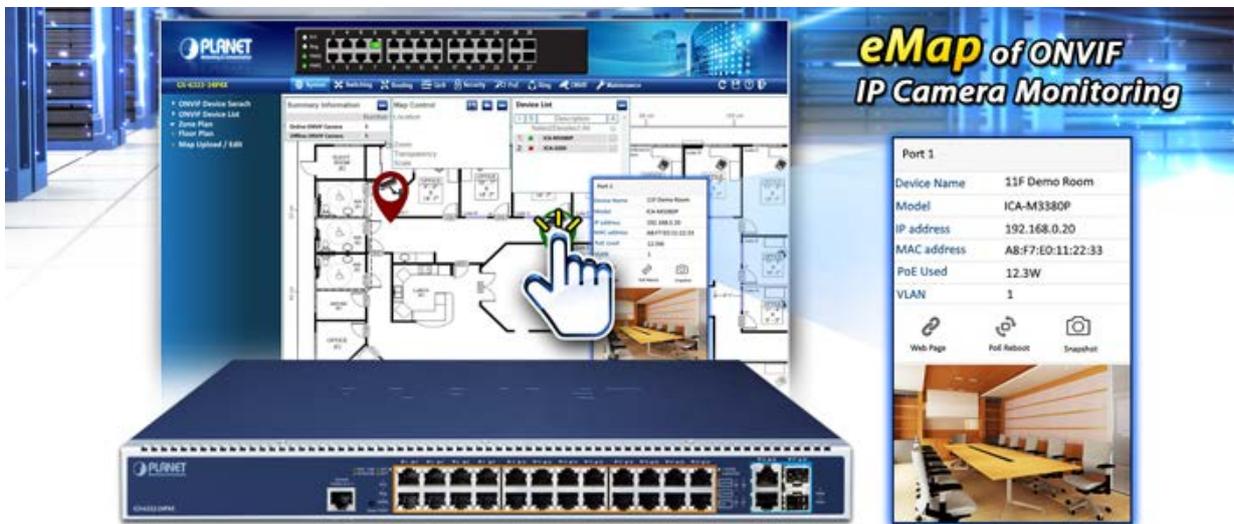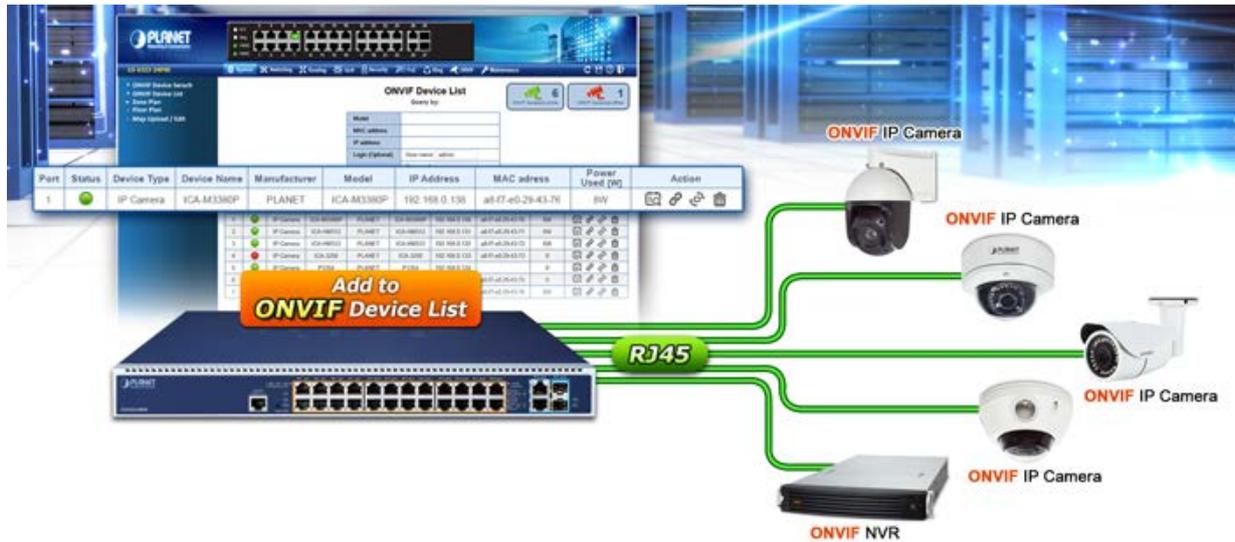
Built-in Unique PoE Functions for Powered Devices Management

Being the managed PoE switch for surveillance, wireless and VoIP networks, the GS-6322-24P4X features the following special PoE management functions:

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

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Intelligent Powered Device Alive Check

The GS-6322-24P4X can be configured to monitor connected PD (powered device) status in real time via ping action. Once the PD stops working and responding, the GS-6322-24P4X 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 administrator management burden.
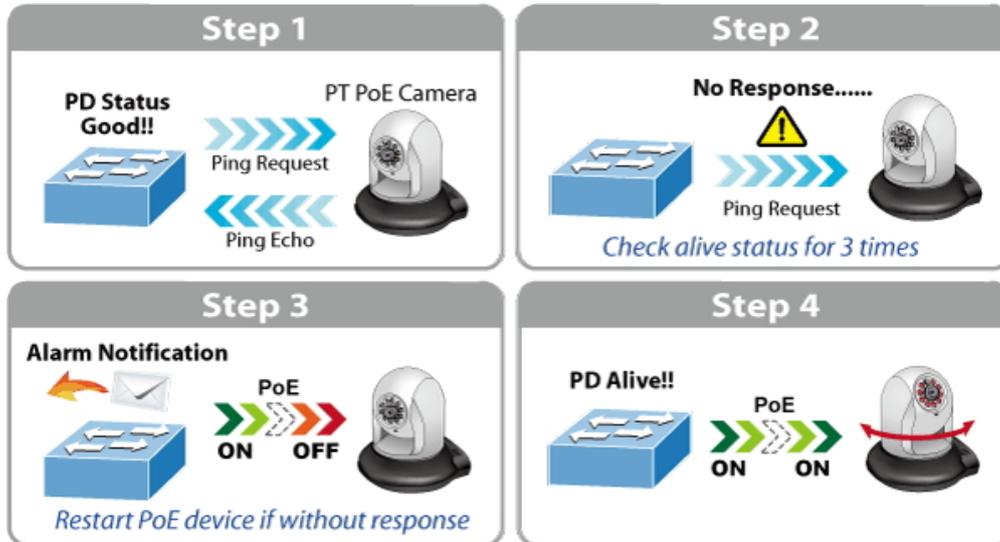
Scheduled Power Recycling

The GS-6322-24P4X 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.
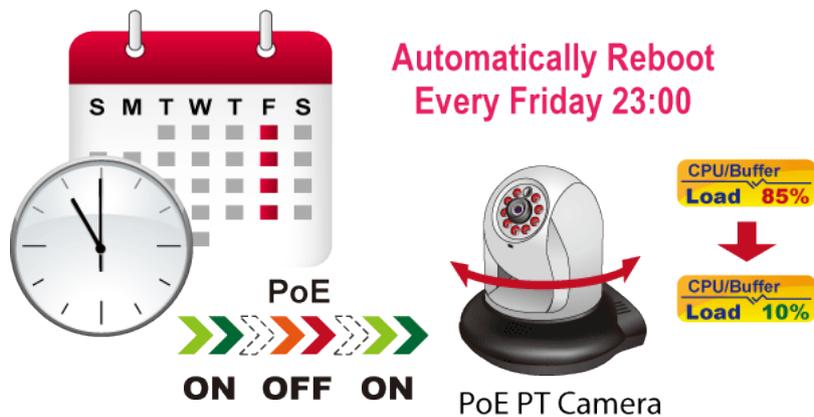
PoE Schedule for Energy Savings

Under the trend of energy savings worldwide and contributing to environmental protection, the GS-6322-24P4X 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.

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Robust Layer 2 Features

The GS-6322-24P4X 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-6322-24P4X can operate at high speed as it comes with multiple ports and supports fail-over as well. trunk group
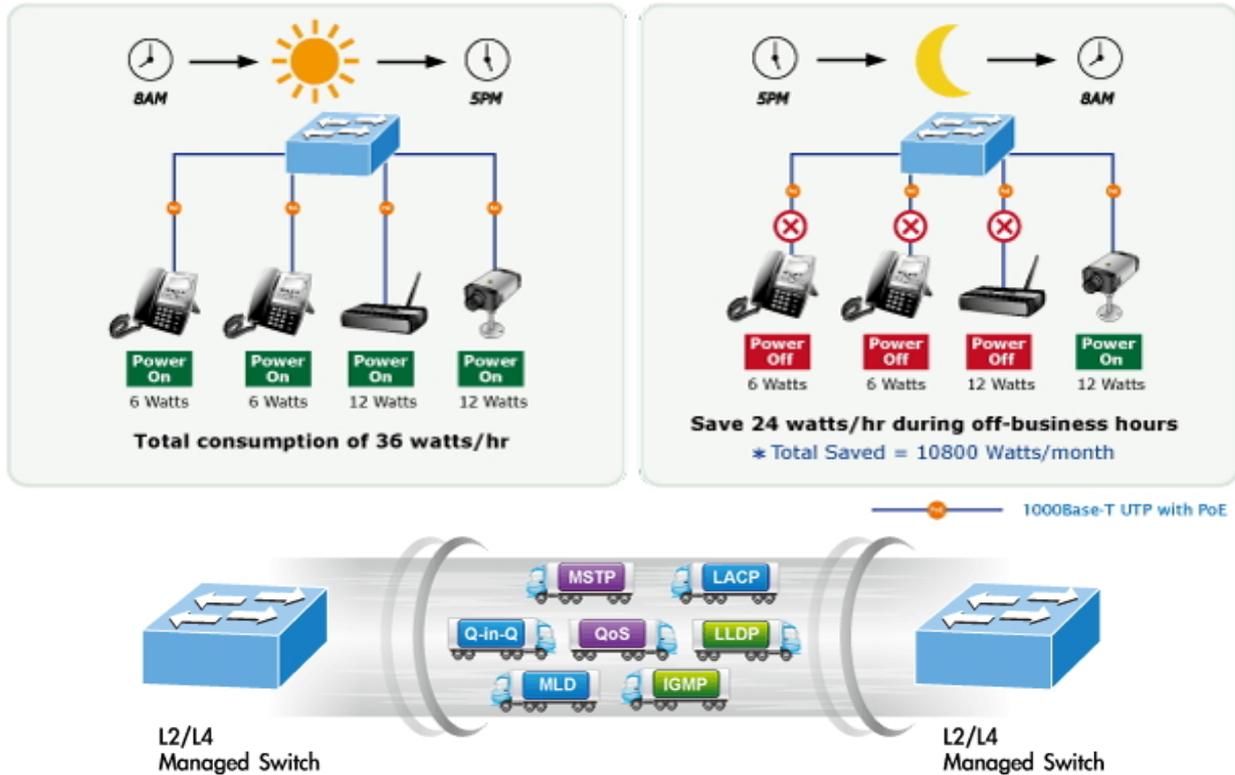
Powerful Network Security

The GS-6322-24P4X offers a comprehensive **Layer 2 to Layer 4 access control list (ACL)** for enforcing security to the edge. It can be used to restrict to 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-6322-24P4X 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 construct highly-secure corporate networks with considerably less time and effort than before.

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Efficient Management

For efficient management, the GS-6322-24P4X 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-6322-24P4X 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.

Digital Diagnostic Monitor (DDM)

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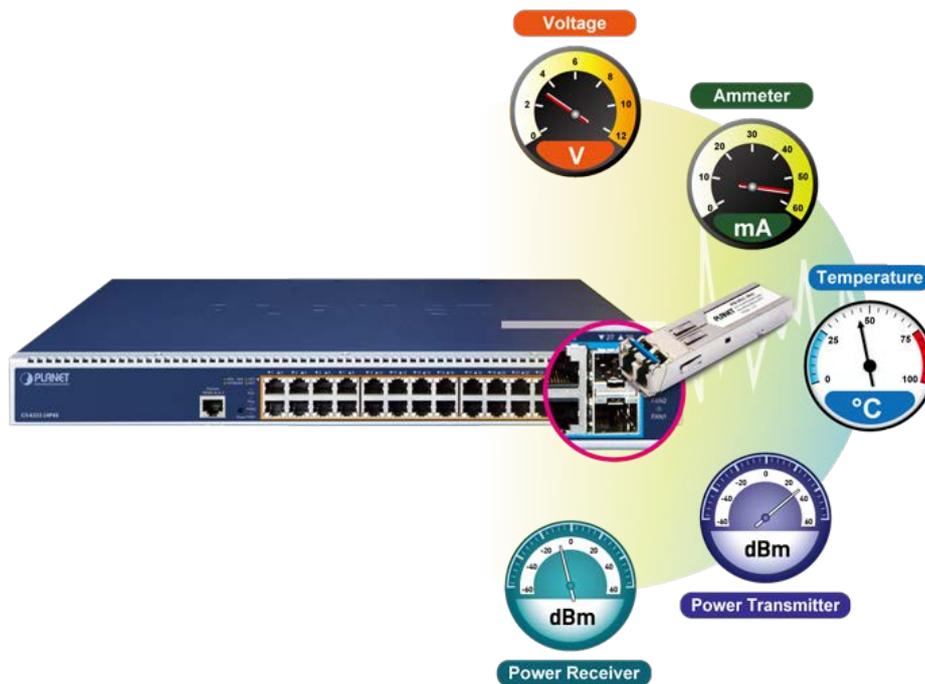
2. PRODUCT FEATURES

➤ **Physical Ports**

- 24 10/100/1000BASE-T Gigabit RJ45 copper ports with 24-port IEEE 802.3bt PoE++ injector function

- 2 10GBASE-T RJ45 interfaces with auto MDI/MDI-X function

- 2 10GBASE-SR/LR SFP+ slots, compatible with 1000BASE-SX/LX/BX SFP and 2.5G SFP transceiver

- RJ45 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 24 ports of IEEE 802.3af/IEEE 802.3at/IEEE 802.3bt PoE devices powered
- 24 PoE ports with built-in 802.3bt PoE++ Type-4 90W 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 a distance of 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 OSPFv2
- 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)
- 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 4094 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
- ◼ 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

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- - 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, SSL 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
  - 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

3. PRODUCT SPECIFICATIONS

3.1 MAIN COMPONENTS

Switch ASIC:	Microsemi VSC7448YIH-02	x 1
CPU:	MIPS 500MHz (integrated with VSC7448)	x 1
Gigabit PHY	Microsemi VSC8512	x 2
Flash Size	64M bytes NOR FLASH	x 1
DRAM Size	512 bytes	x 1
PoE Controller	PD69200R-034600-802.3bt	x 1
PSE PoE Manager	PD69208T4	x 6

3.2 FUNCTION SPECIFICATIONS

Product	GS-6322-24P4X
Hardware Specifications	
Copper Ports	24 10/100/1000BASE-T RJ45 auto-MDI/MDI-X ports
	2-port 10GBASE-T RJ45 auto negotiation (Port-25 to Port-26), supports 10G/5G/2.5G/1G/100Mbps data rate
SFP+ Slots	2 10GBASE-SR/LR SFP+ interfaces (Port-27 to Port-28) Compatible with 1000BASE-SX/LX/BX SFP and 2.5G SFP transceiver
Console	1 x RS232-to-RJ45 serial port (115200, 8, N, 1)
Reset Button	< 5 sec: System reboot > 5 sec: Factory default
Dimensions (W x D x H)	440x300x44mm, 1U height
Weight	5478g
Power Consumption	Single 2000W PSU: Max. 1761 watts/ 6009 BTU
	Dual 2000W PSUs in EPS mode: 2377 watts/ 8111 BTU
Power Requirements	Single 2000W PSU: AC 100~240V, 50/60Hz, 13A Dual 2000W PSUs: AC 100~240V, 50/60Hz, 26A
ESD Protection	6KV DC
Fan	2 smart fans

LED	System:
	    SYS (Green)
	    PWR1 (Green)
	    PWR2 (Green)
	    Ring (Green)
	    Fan1/2/3 Alert (Red)
	    PoE PWR Alert (Red)
	PoE Ethernet Interfaces (Port-1 to Port-24):
	    af/at PoE (Orange)
	    bt PoE/UPOE (Green)

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Network Cables	Ethernet Interfaces (Port-1 to Port-24): 　1000 LNK/ACT (Green), 10/100 LNK/ACT (Orange) 　1/10G SFP+ Interfaces (Port-27 to Port-28): 　1G (Green), 10G (Orange) 10G/5G/2.5G/1G/100M BASE-T: -　10G – Cat 6A/7 -　5G – Cat 6/6A/7 -　1G/2.5G – 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	128Gbps/non-blocking
Throughput	95.23Mpps@64Bytes
Address Table	16K 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-24: maximum 90 watts -　UPoE mode, Port-1 to Port-24: maximum 95 watts -　End-span mode: maximum 36 watts -　Mid-span mode: maximum 36 watts -　Force mode: maximum 60 watts
Power Pin Assignment	■　802.3bt: 1/2(-), 3/6(+), 4/5(+), 7/8(-) ■　UPoE: 1/2(-), 3/6(+), 4/5(+), 7/8(-) ■　End-span: 1/2(-), 3/6(+) ■　Mid-span: 4/5(+), 7/8(-)

PoE Power Budget

Input Power: 110V

Slot2 / Slot1		-	920 Power	1200 Power	2000 Power
920	RPS (Watt)	**720**	**720**	**720**	**720**
Power	EPS (Watt)	**720**	**1640**	**1720**	**1720**

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1200	RPS (Watt)	800	720	800	800
Power	EPS (Watt)	800	1720	1800	1800
2000	RPS (Watt)	800	720	800	800
Power	EPS (Watt)	800	1720	1800	1800

Input Power: 220V

Slot1 \ Slot2		-	920 Power	1200 Power	2000 Power
920	RPS (Watt)	720	720	720	720
Power	EPS (Watt)	720	1640	1920	2280
1200	RPS (Watt)	1000	720	1000	1000
Power	EPS (Watt)	1000	1920	2200	2280
2000	RPS (Watt)	1600	720	1000	1800
Power	EPS (Watt)	1600	2280	2280	2280

PoE Management Functions

Active PoE device alive detects	Yes
PoE Power Recycle	Yes, daily or predefined schedule
PoE Schedule	4 schedule profiles
PoE Extend Mode	Yes, max. 160 to 200 meters
PoE System Management	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
PoE Port Management	Port Enable/Disable/Schedule PoE mode control - 802.3bt - UPoE - 802.3at End-span - 802.3at Mid-span Force mode Port Priority

Layer 3 Functions

IP Interfaces	Max. 128 VLAN interfaces
Routing Table	**Max.** 128 **routing entries**
Routing Protocols	IPv4 OSPFv2 IPv4 hardware static routing IPv6 hardware static routing

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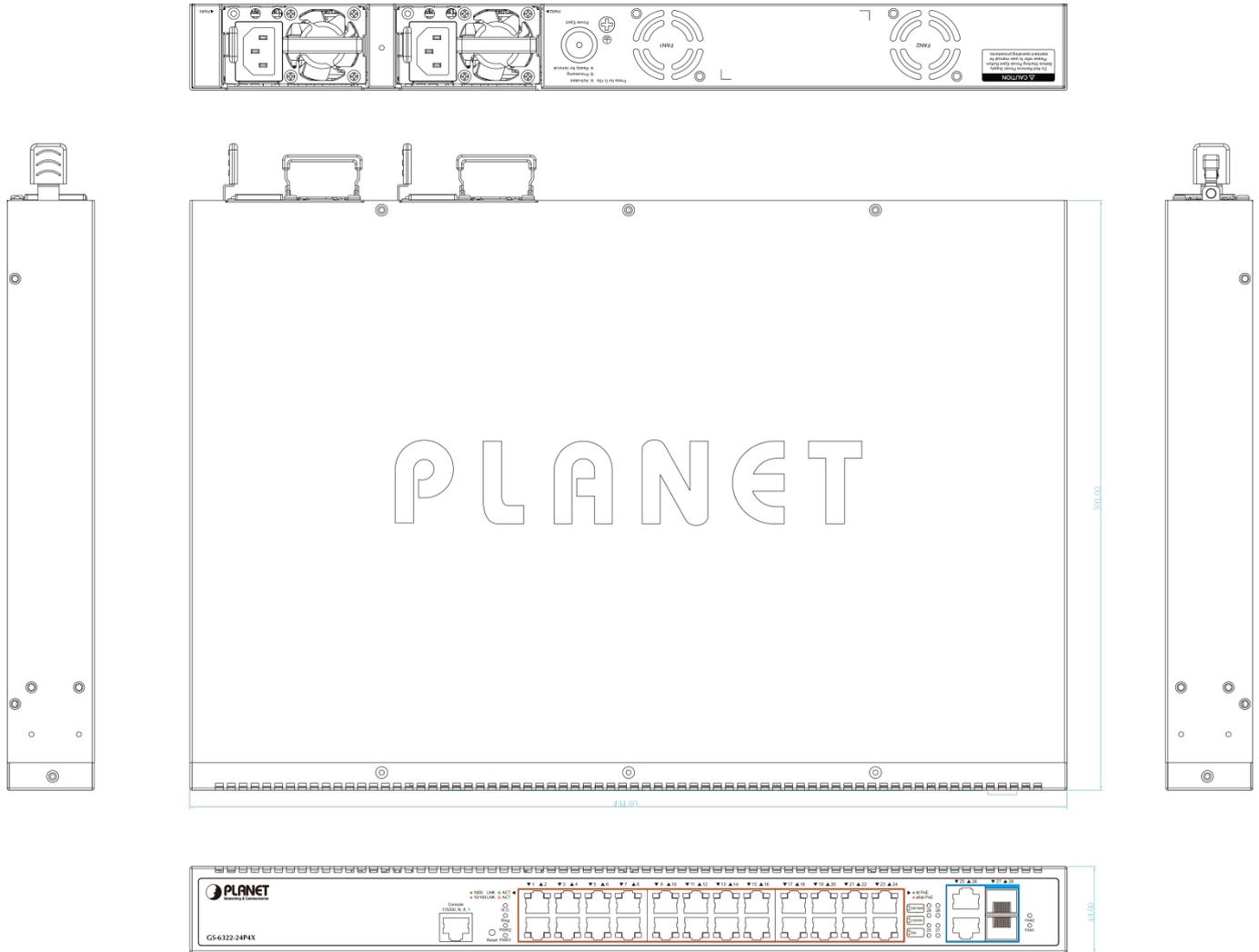| Layer 2 Management Functions	
Port Configuration	Port disable/enable Auto-negotiation 10/100/1000Mbps full and half duplex mode selection Flow control disable/enable Port link capability control
Port Status	Display each port's speed duplex mode, link status, flow control status, auto-negotiation status, 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 4095 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

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 256 entries

Bandwidth Control	Per port bandwidth control
	  Ingress: 100Kbps~1000Mbps
	  Egress: 100Kbps~1000Mbps

Management	

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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

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 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 IEEE 802.3af Power over Ethernet IEEE 802.3at Power over Ethernet Plus IEEE 802.3bt PoE++ Power over Ethernet Plus Plus IEEE 802.3ah OAM IEEE 802.1ag Connectivity Fault Management (CFM) 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 RFC 2328 OSPF 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)

3.3 PHYSICAL SPECIFICATIONS:

Dimensions:

440 x 300 x 44mm (W x D x H), 1U height

Weight: 5.5 kg

Unit : *mm*

■ **Front Panel:**

■ **Rear Panel:**

■ **LED Definition**

LED	Color	Function
PWR 1	**Green**	**Lights** to indicate that the Switch has power from PWR 1
PWR 2	**Green**	**Lights** to indicate that the Switch has power from PWR 2
Ring	**Green**	**Lights** to indicate that the ERPS Ring has been created successfully.
R.O	**Green**	**Lights** to indicate that Switch has enabled Ring Owner.
FAN 1	**Red**	**Lights** to indicate that FAN1 is down.
FAN 2	**Red**	**Lights** to indicate that FAN2 is down.

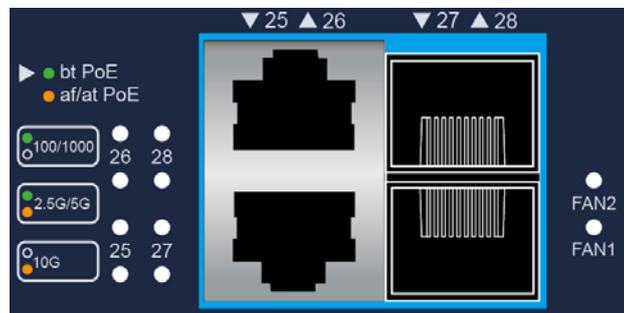■ **10/100/1000BASE-T Interfaces (Port-1 to Port-24)**
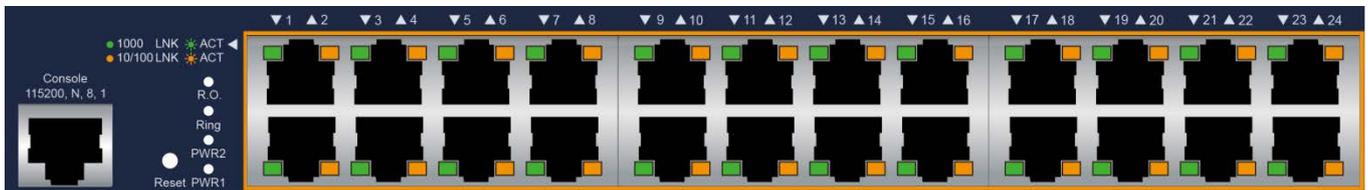
LED	Color	Function	
Ethernet	**Green**	**Lights**:	To indicate that the port is operating at 1000Mbps.
		Blinks:	To indicate that the switch is actively sending or receiving data over that port.
	Orange	**Lights**:	To indicate that the port is operating at 10/100Mbps.
		Blinks:	To indicate that the switch is actively sending or receiving data over that port.
PoE	**Green**	**Lights**:	To indicate the port is providing DC in-line power with Ultra PoE mode.
		Off:	To indicate the connected device is not a PoE powered device (PD)
	Orange	**Lights**:	To indicate the port is providing DC in-line power in end-span/mid-span mode..
		Off:	To indicate the connected device is not a PoE powered device (PD)

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■ **10GBASE-T RJ45 (Port-25 to Port-26)**
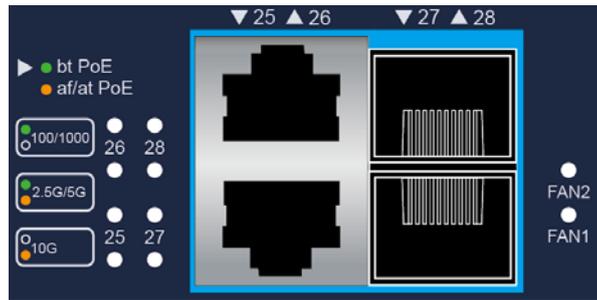
LED	Color	Function
10G	**Up: none** **Down: Orange**	**Lights**: To indicate that the port is operating at 10Gbps. **Blinks**: To indicate that the switch is actively sending or receiving data over that port.
2.5G/5G	**UP: Green** **Down: Orange**	**Lights**: To indicate that the port is operating at 2.5G/10Gbps. **Blinks**: To indicate that the switch is actively sending or receiving data over that port.
1000	**Up: Green** **Down: none**	**Lights**: To indicate that the port is operating at 1000Mbps. **Blinks**: To indicate that the switch is actively sending or receiving data over that port.

■ **1/2.5G/10GBASE-SR/LR SFP+ Interfaces (Port-27 to Port-28)**

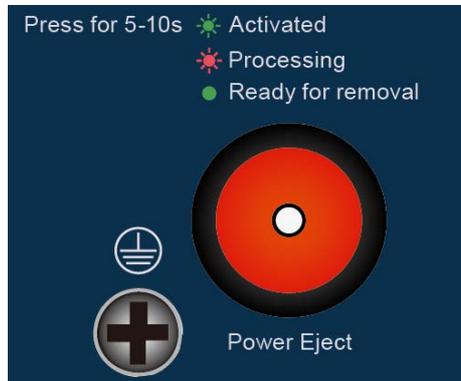| LED	Color	Function
10G	**Up: none** **Down: Orange**	**Lights**: To indicate that the port is operating at 10Gbps. **Blinks**: To indicate that the switch is actively sending or receiving data over that port.
2.5G	**UP: Green** **Down: Orange**	**Lights**:. To indicate that the port is operating at 2.5Gbps **Blinks**: To indicate that the switch is actively sending or receiving data over that port.
1000	**Up: Green** **Down: none**	**Lights**: To indicate that the port is operating at 1000Mbps. **Blinks**: To indicate that the switch is actively sending or receiving data over that port.

■ **Power Eject Button**: This button only works in the **EPS mode** for removing power supply.

LED	Color	Function
Eject	**Red**	**Blinks:** To indicate that the switch is processing PoE budget and PoE ports.
	Green	**Lights:** To indicate that it's safe to remove power supply. **Blinks:** To indicate that the switch is working in the safe mode for removing power supply.

3.4 ENVIRONMENTAL SPECIFICATIONS

Operating:

    Temperature: 0°C ~ 50 degrees C

    Relative Humidity: 5% ~ 90% (non-condensing)

Storage:

    Temperature: -10°C ~ 70 degrees C

    Relative Humidity: 5% ~ 95% (non-condensing)

3.5 ELECTRICAL SPECIFICATION

Sing 2000W PSU

AC Power Input Voltage Range:		220V
Power	System on	41 watts / 140 BTU
Consumption	Full Loading	1761 watts / 6009 BTU

Dual 2000W PSU (EPS mode)

AC Power Input Voltage Range:		220V
Power	System on	41 watts / 140 BTU
Consumption	Full Loading	2377 watts / 8111 BTU

3.6 REGULATORY COMPLIANCE

FCC Class A, CE.

3.7 RELIABILITY

MTBF > 50,000 hrs @ 25 degrees C

3.8 BASIC PACKAGING

- ■ GS-6322-24P4X   x 1
- ■ Quick Start Guide   x 1
- ■ Power Cord   x 1
- ■ RS232 to RJ-45 Cable   x 1
- ■ SFP Dust Caps   x 2
- ■ Rubber Feet   x 4
- ■ Two Rack-mounting Brackets with   x 1

    Attachment Screws

3.9 PACKING INFORMATION

Box Dimensions: 440 (W) x 300 (D) x 43 (H) mm

Box Weight (gross weight)**:**   5.5 kg

Carton Dimensions: 585 (W) x 206 (D) x 412 (H) mm

Carton Weight (total):   11.6 kg

Quantity: 2 pcs in one carton