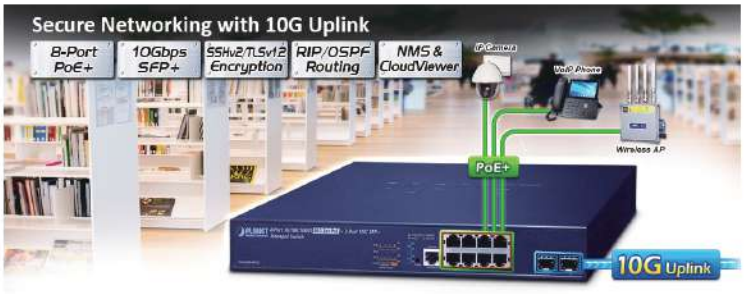
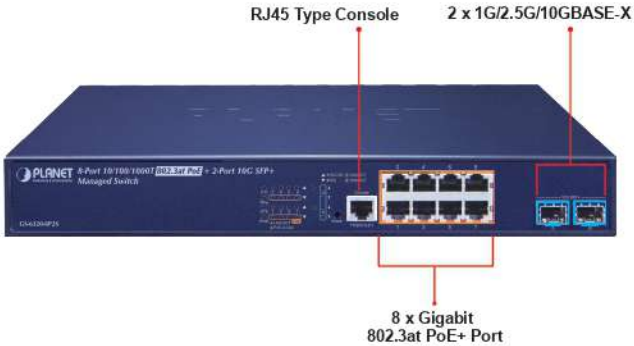
L3 8-Port 10/100/1000T 802.3at PoE + 2-Port 10G SFP+ Managed Switch

Perfect Managed PoE+ Switch with L3/L2 Switching and Security

PLANET GS-6320-8P2X Layer 3 Managed Gigabit Switch supports both **IPv4 and IPv6 protocols and Layer 3 OSPFv2 dynamic routing and static routing**, and provides **8 10/100/1000BASE-T** ports featuring **802.3at PoE+** and **2 extra 1/2.5/10 Gigabit BASE-X SFP+ fiber slots**. Each of the eight Gigabit ports provides 36 watts of power, with a total power budget of up to **120 watts** for the different types of PoE applications being employed. It provides a quick, safe and cost-effective Power over Ethernet network solution to IP security surveillance for small businesses and enterprises.





Redundant Ring, Fast Recovery for Critical Network Applications

The GS-6320-8P2X 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.

Physical Port

- **8-port 10/100/1000BASE-T** with 36W PoE injector function
- **2-port 1G/2.5G/10G BASE-X** SFP+
- RS232 RJ45 console interface for switch basic management and setup

Power over Ethernet

- Up to 8 ports of IEEE 802.3af/802.3at devices powered
- Supports PoE power up to 36 watts for each PoE port
- Auto detects powered device (PD)
- Circuit protection prevents power interference between ports
- Remote power feeding up to 100 meters
- PoE Management
  - PoE admin-mode control
  - PoE usage threshold
  - Temperature threshold
  - PoE Port Status monitoring
  - PD classification detection
  - Per port PoE function enable/disable
  - Per PoE port power limit
  - PoE Port Power feeding priority
  - 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

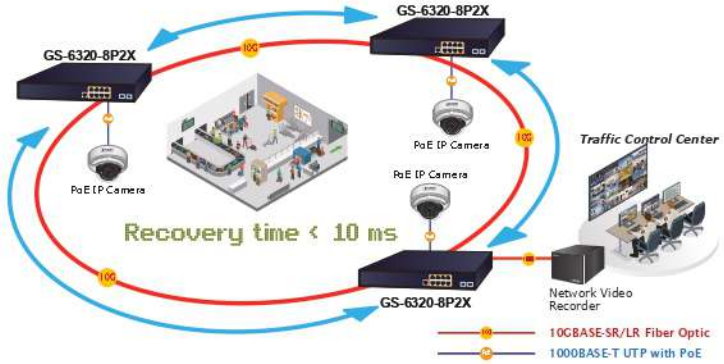
Layer 3 IP Routing Features

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

Layer 2 Features

- 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

ERPS Ring for Video Transmission Redundancy



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.

Flexible and Extendable 10Gb Ethernet Solution

10G Ethernet is a big leap in the evolution of Ethernet. Each of the 10G SFP+ slots in the GS-6320-8P2X supports **triple speed and 10GBASE-SR/LR or 2500BASE-X and 1000BASE-SX/LX**. With its 2-port,10G Ethernet link capability, 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. The GS-6320-8P2X provides broad bandwidth and powerful processing capacity.

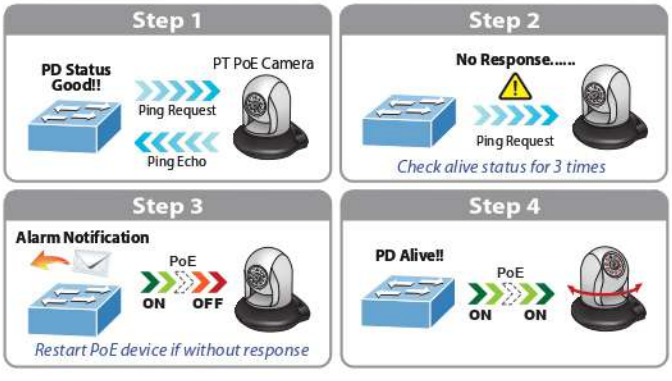
Built-in Unique PoE Functions for Surveillance Management

As a managed PoE Switch for surveillance network, the GS-6320-8P2X features the following intelligent PoE management functions:

- PD Alive Check
- Scheduled Power Recycling
- SMTP/SNMP Trap Event Alert
- PoE Schedule
- PoE Usage Monitoring
- PoE Extension

Intelligent Powered Device Alive Check

The GS-6320-8P2X can be configured to monitor a connected PD status in real time via ping action. Once the PD stops working and it is without response, the GS-6320-8P2X 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, thus reducing administrator management burden.



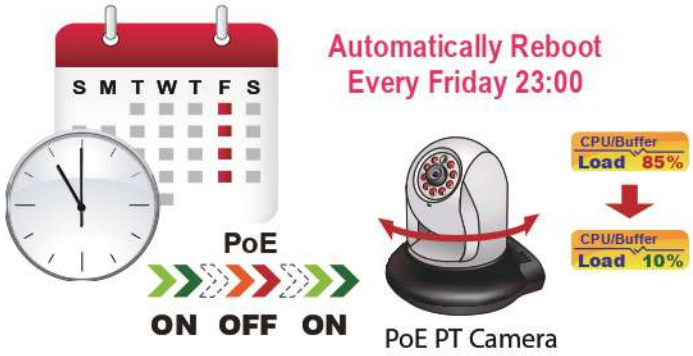
- Supports **VLAN**
  - IEEE 802.1Q tagged VLAN
  - Supports provider bridging (VLAN Q-in-Q, IEEE 802.1ad)
  - Private VLAN Edge (PVE)
  - Protocol-based VLAN
  - MAC-based VLAN
  - Voice VLAN
  - GVRP(GARP VLAN Registration Protocol)
- Supports **Spanning Tree Protocol**
  - IEEE 802.1D Spanning Tree Protocol
  - IEEE 802.1w Rapid Spanning Tree Protocol
  - IEEE 802.1s Multiple Spanning Tree Protocol, spanning tree by VLAN
  - BPDU Guard
- Supports **Link Aggregation**
  - 802.3ad Link Aggregation Control Protocol (LACP)
  - Cisco ether-channel (static trunk)
  - Maximum 5 trunk groups, up to 2 ports per trunk group
  - Up to 40Gbps 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
- 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 policies on the switch port
- DSCP remarking

Scheduled Power Recycling

The GS-6320-8P2X allows each of the connected PDs to reboot at a specified time each week. Therefore, it will reduce the chance of PD crash resulting from buffer overflow.



PoE Schedule for Energy Saving

Besides being used for IP surveillance, the GS-6320-8P2X is certainly applicable to build any PoE network including VoIP and wireless LAN. Under the trend of energy saving worldwide and contributing to the environmental protection on the Earth, the GS-6320-8P2X can effectively control the power supply besides its capability of giving high watts power. The "PoE schedule" function helps you to enable or disable PoE power feeding for each PoE port during specified time intervals and it is a powerful function to help SMBs and enterprises save energy and budget.

PoE Power and Ethernet Data Transmission Distance Extension

In the "Extend" operation mode, the GS-6320-8P2X operates on a per-port basis at 10Mbps duplex operation but can support 22-watt PoE power output over a distance of up to 200 meters overcoming the 100m limit on Ethernet UTP cable. With this brand-new feature, the GS-6320-8P2X provides an additional solution for 802.3at/af PoE distance extension, thus saving the cost of Ethernet cable installation.

Multicast

- Supports IGMP Snooping v1, v2 and v3
- Supports MLD Snooping v1 and v2
- Querier mode support
- IPv4 IGMP Snooping port filtering
- IPv6 MLD Snooping port filtering
- Multicast VLAN Registration (MVR) support

Security

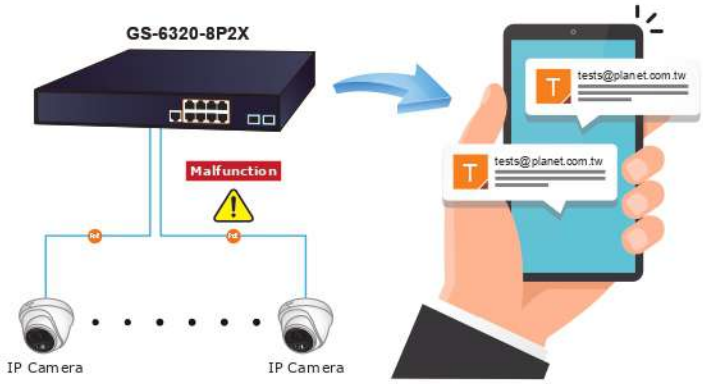
- Authentication
  - IEEE 802.1x Port-based/MAC-based network access authentication
  - Built-in RADIUS client to co-operate with the RADIUS servers
  - TACACS+ login users access authentication
  - RADIUS/TACACS+ users access authentication
  - Guest VLAN assigns clients to a restricted VLAN with limited 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
- Auto DoS rule to defend DoS attack
- 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
- 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

SMTP/SNMP Trap Event Alert

Though most NVR or camera management software offers SMTP email alert function, the GS-6320-8P2X 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, loss of PoE power or the rebooting response by the PD Alive Check process.



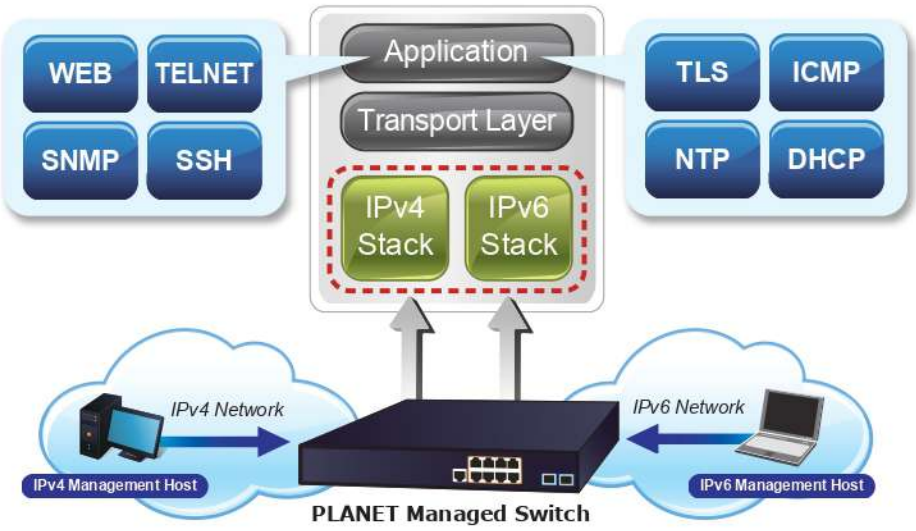
Convenient and Smart ONVIF Devices with Detection Feature

PLANET has newly developed an awesome feature -- ONVIF Support -- which is specifically designed for cooperating with video IP surveillances. From the GS-6320-8P2X GUI, you just need one click to search and show all of the ONVIF devices via network application. In addition, you can upload floor images to the switch and remotely monitor what is going on in the production line. Moreover, you can get real-time surveillance's information and online/offline status, and can have PoE reboot control from GUI.

- DHCP Option82
- User Privilege levels control
- NTP (Network Time Protocol)
- Link Layer Discovery Protocol (LLDP) and LLDP-MED
- 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 remote alarm
- Four RMON groups (history, statistics, alarms and events)
- SNMP trap for interface Linkup and Linkdown notification
- System Log
- PLANET NMS system and Smart Discovery Utility for deployment management
- Provides ONVIF for co-operating with PLANET video IP surveillances

Solution for IPv6 Networking

With the support for IPv6/IPv4 protocol, and easy and friendly management interfaces, the GS-6320-8P2X 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 FTTx edge network.



Layer 3 Routing Support

The GS-6320-8P2X 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. The RIP can employ the hop count as a routing metric and prevent routing loops by implementing a limit on the number of hops allowed in a path from the source to a destination. The OSPF is an interior dynamic routing protocol for autonomous system based on link state. The protocol creates a database for link state by exchanging link states among Layer 3 switches, and then uses the Shortest Path First algorithm to generate a route table based on that database.

Robust Layer2 Features

The GS-6320-8P2X can be programmed for advanced switch management function, such as dynamic port link aggregation, **Q-in-Q VLAN**, **Multiple Spanning Tree Protocol (MSTP)**, Layer 2/4 QoS, bandwidth control and **IGMP/MLD snooping**. The GS-6320-8P2X allows the operation of a high-speed trunk combining multiple ports. Supporting 5 trunk groups, it enables a maximum of up to 2 ports per trunk and supports connection fail-over as well.

Powerful Security

The GS-6320-8P2X offers comprehensive **layer 2 to layer 4 access control list (ACL)** for enforcing security to the edge. It can be used to restrict network access by denying packets based on source and destination IP address, TCP/UDP 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.

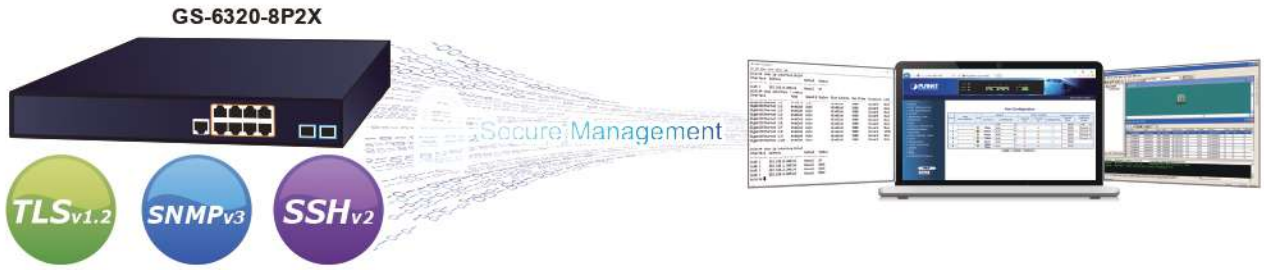
Enhanced Security and Traffic Control

The GS-6320-8P2X 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

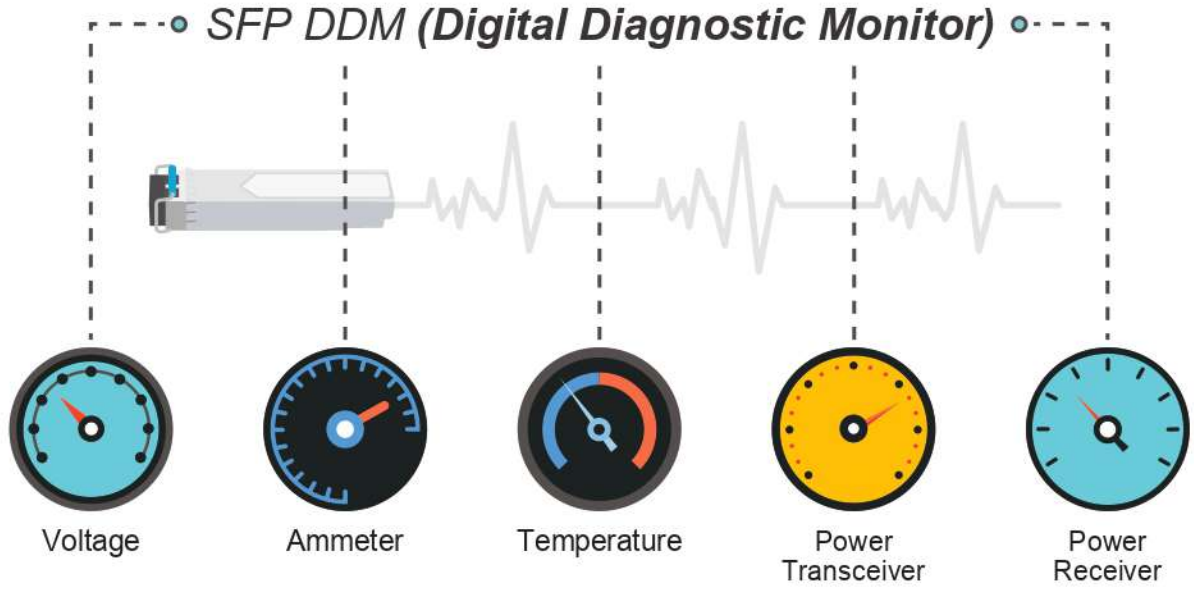
For efficient management, the GS-6320-8P2X is equipped with console, Web and SNMP management interfaces.

- 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 Diagnosis Mechanism

The GS-6320-8P2X supports **SFP-DDM (Digital Diagnostic Monitor)** function that greatly helps network administrator to easily monitor real-time parameters of the SFP transceivers, such as optical output power, optical input power, temperature, laser bias current, and transceiver supply voltage.

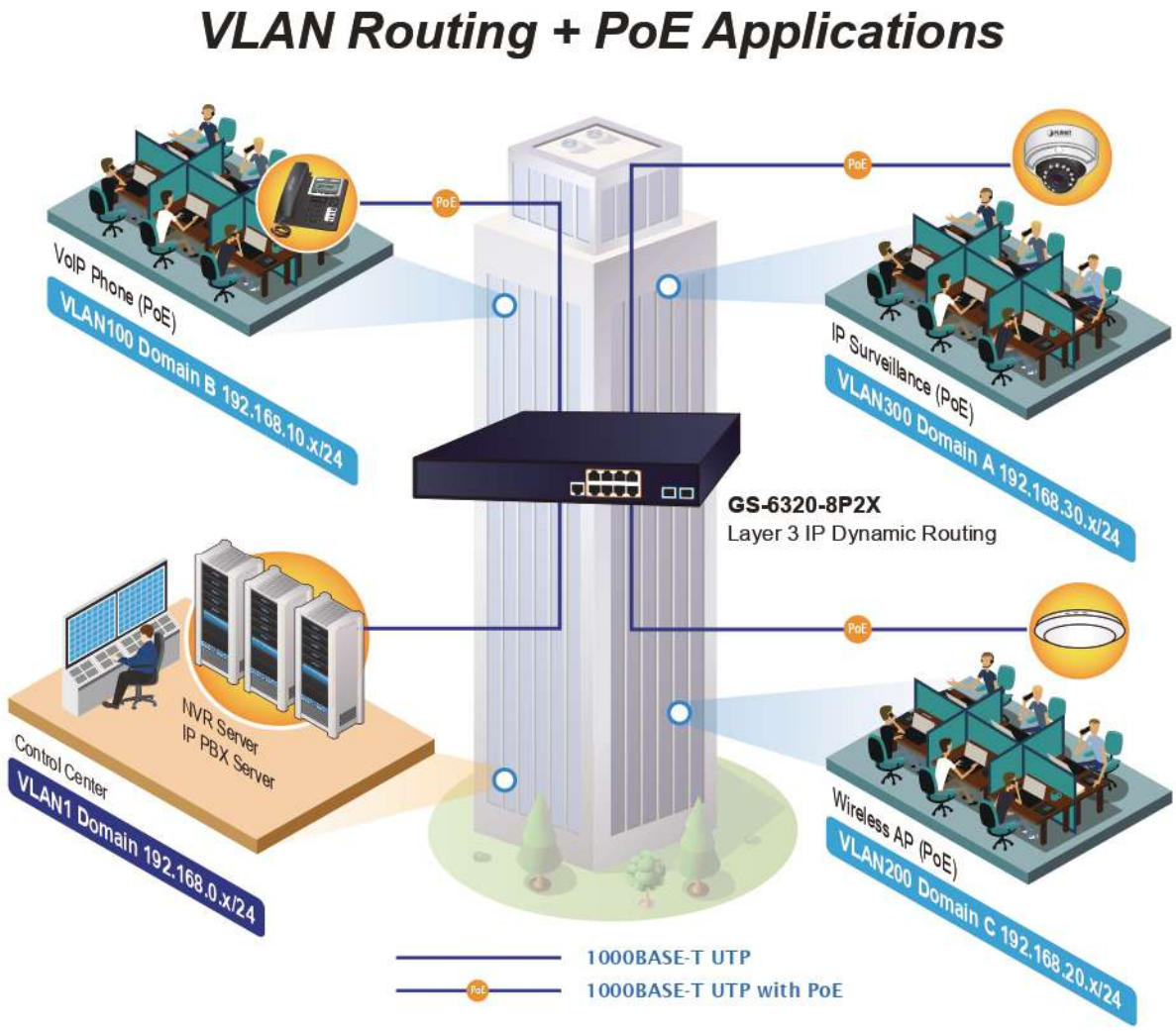


Applications

Layer 3 VLAN Static Routing and PoE Application

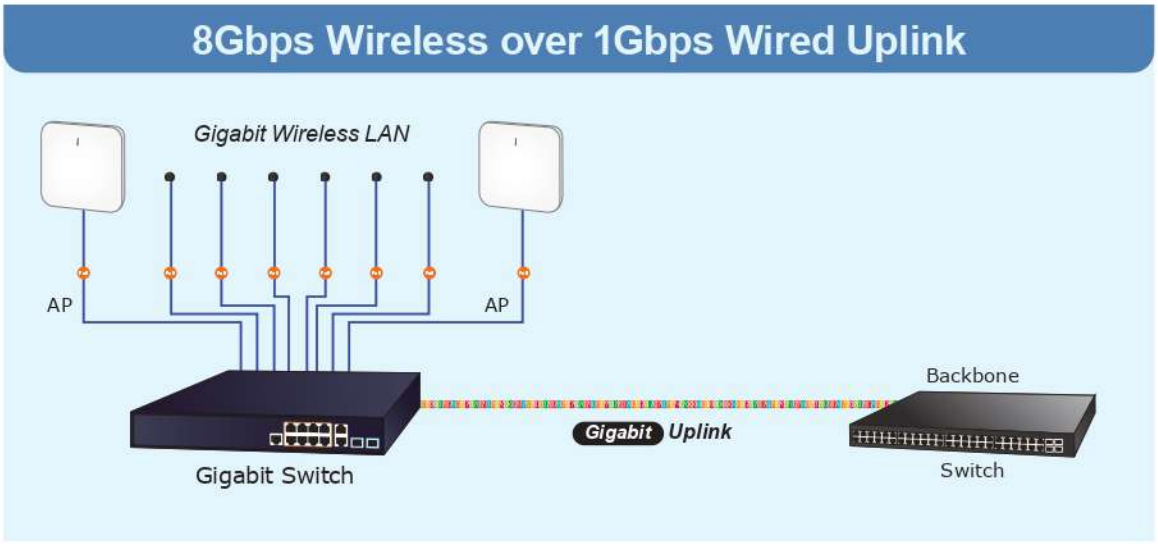
With the built-in robust IPv4/IPv6 Layer 3 traffic routing protocols, the GS-6320-8P2X ensures reliable routing between VLANs and network segments. The routing protocols can be applied by VLAN interface with up to 128 routing entries. The GS-6320-8P2X is certainly a cost-effective and ideal solution for enterprises.

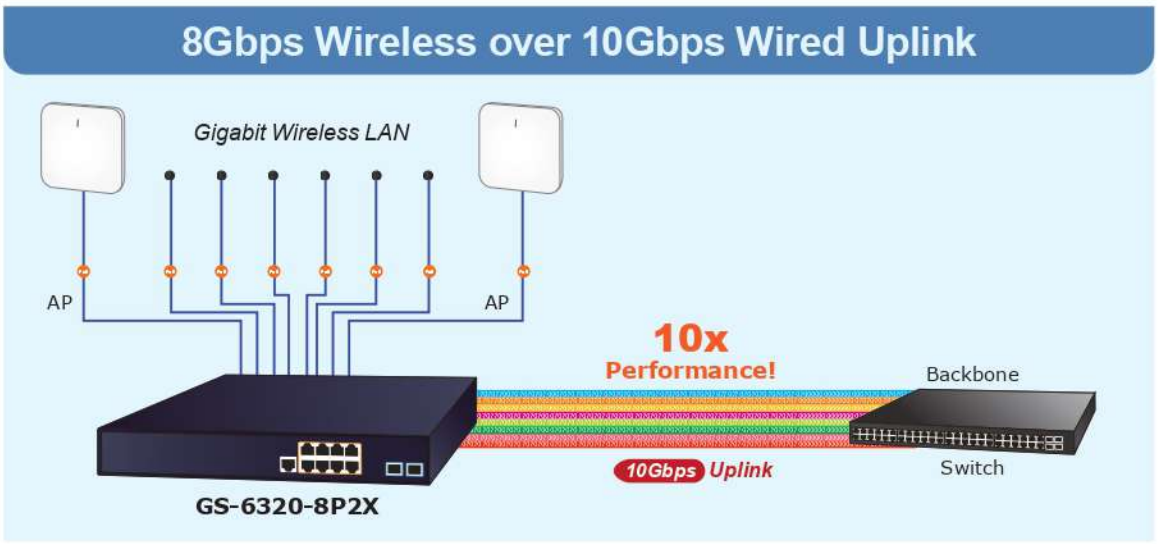
Providing up to 8 Gigabit PoE+ ports and in-line power interface, the GS-6320-8P2X PoE+ Managed Switch can easily build a centrally-controlled power network shared by wireless Gigabit AP, IP phone system, or mega-pixel IP camera system group for the enterprises.



PoE Wi-Fi Hotspot Solution with Extended Network Infrastructure for Public Spaces

The GS-6320-8P2X comes with non-blocking design, desktop size and SFP fiber-optic modules, bringing network infrastructure higher flexibility but lower in cost. Providing eight 10/100/1000BASE-T PoE+ ports, in-line power interfaces and two 10 Gigabit SFP interfaces, the GS-6320-8P2X can easily build a Networking Authentication on Wireless LAN Controllers system for the enterprises. For instance, it can work with the Wireless Controller and RADIUS Server to perform comprehensive security for wireless user authentication with powered APs.





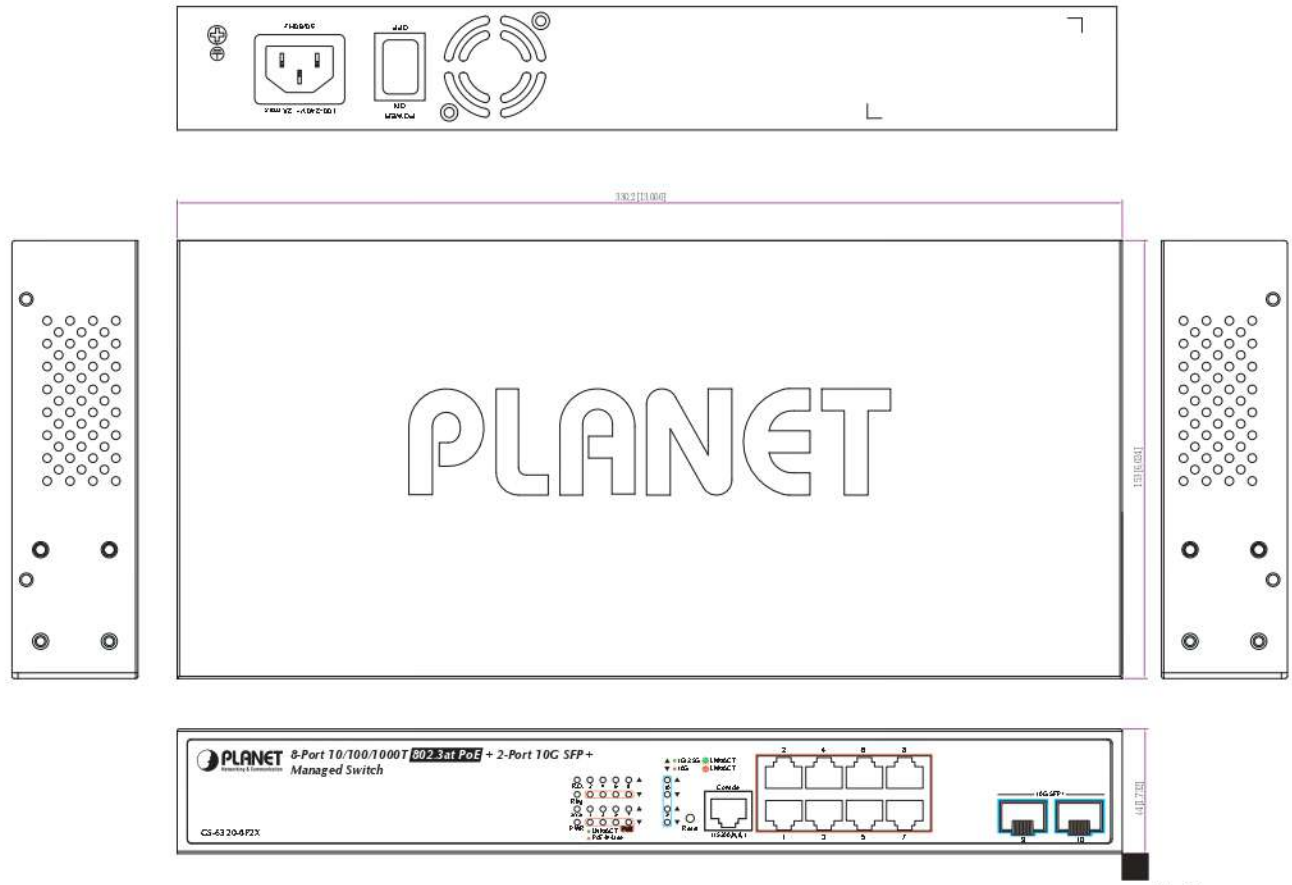
Specifications

Product		GS-6320-8P2X
Hardware Specifications		
Copper Ports		8 x 10/100/1000BASE-T RJ45 auto-MDI/MDI-X interface with Port-1 to Port-8
SFP/mini-GBIC Slots		2 x 1G/2.5G/10G BASE-X SFP interfaces with Port-9 to Port-10
PoE Injector Port		8 ports with 802.3at/af PoE injector function with Port-1 to Port-8
Console		1 x RJ45 serial port (115200 , 8, N, 1)
Reset Button		< 5 sec: System reboot > 5 sec: Factory default
Dimensions (W x D x H)		330 x 150 x 44.5 mm, 1U height
Weight		1.6 KG
Power Requirements		100~240V AC, 50/60Hz
Power Consumption		Max. 14.8 watts/50.47BTU (Power on without any connection) Max. 162watts/552.42BTU (Full loading with PoE+ function)
ESD Protection		6KV DC
LED		**System:** R.O (Green), Ring (Green), SYS (Green), PWR (Green) **10/100/1000BASE-T RJ45 Interfaces (Port 1 to Port 8):** 10/100/1000Mbps LNK/ACT (Green) PoE-in-Use (Amber) (Port 1 to Port 8) **1G/2.5G/10G Mbps SFP Interfaces (Port 9 to Port 10):** 1G/2.5G LNK/ACT (Green) 10G LNK/ACT (Amber)
Switching Specifications		
Switch Architecture		Store-and-Forward
Switch Fabric		56Gbps/non-blocking
Throughput		41.67Mpps@ 64Bytes packet
Address Table		8K entries, automatic source address learning and aging
Shared Data Buffer		4.1Mbits
Flow Control		IEEE 802.3x pause frame for full-duplex Back pressure for half-duplex
Jumbo Frame		9KB
Power over Ethernet		
PoE Standard		IEEE 802.3at PoE Plus, PSE Backward compatible with IEEE 802.3af PoE PSE
PoE Power Supply Type		End-span
PoE Power Output		Per port 52V DC, max. 36 watts
Power Pin Assignment		1/2(+), 3/6(-)
PoE Power Budget		120 watts (max.) @ 25 degrees C 100 watts (max.) @ 50 degrees C
PoE Ability	PD @ 7 watts	8 units
	PD @ 15.4 watts	7 units
	PD @ 30.8 watts	3 units
PoE Management Functions		
PoE System Management		System PoE Admin control Auto power input and PoE budget control Over-temperature threshold alarm PoE usage threshold alarm
PoE Device Live Detects		Per port remote PD IP address 4 actions - None - PD reboot - PR reboot and alarm - Alarm
PoE Power Recycle		Yes, daily or predeinded schedule
PoE Schedule		4 schedule profiles
PoE Extend Mode		Yes, max. 160 to 200 meters
Layer 3 Functions		
IP Interfaces		Max. 128 VLAN interfaces
Routing Table		Max. 128 routing 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 Auto-negotiation 10/100/1000Mbps full and half duplex mode selection Flow Control disable/enable
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
Link Aggregation	IEEE 802.3ad LACP (static trunk) Supports 5 trunk groups with 2 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
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
Bandwidth Control	Per port bandwidth control Ingress: 10Kbps~13000Mbps Egress: 10Kbps~13000Mbps
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 256 entries
Security	Port security IP source guard Dynamic ARP inspection Command line authority control based on user level
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
ONVIF	ONVIF device discovery ONVIF device monitoring Floor Map
SNMP MIBs	RFC 1213 MIB-II RFC 2863 IF-MIB RFC 1643 Ethernet MIB RFC 2863 Interface MIB RFC 2665 Ether-Like MIB RFC 2737 Entity MIB RFC 2819 RMON MIB (Groups 1, 2, 3 and 9) RFC 2618 RADIUS Client MIB RFC 3411 SNMP-Frameworks-MIB IEEE 802.1X PAE LLDP MAU-MIB Power over Ethernet MIB
Standards Conformance	
Regulatory Compliance	FCC Part 15 Class A, CE
Standards Compliance	IEEE 802.3 10BASE-T IEEE 802.3u 100BASE-TX IEEE 802.3z 1000BASE-SX/LX IEEE 802.3ab 1000BASE-T 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 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 RFC 3810 MLD v2 RFC 2328 OSPF v2 RFC 2453 RIP v2
Environments	
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



Unit: mm

Ordering Information

GS-6320-8P2X	L3 8-Port 10/100/1000T 802.3at PoE + 2-Port 10G SFP+ Managed Switch(120W)

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

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