

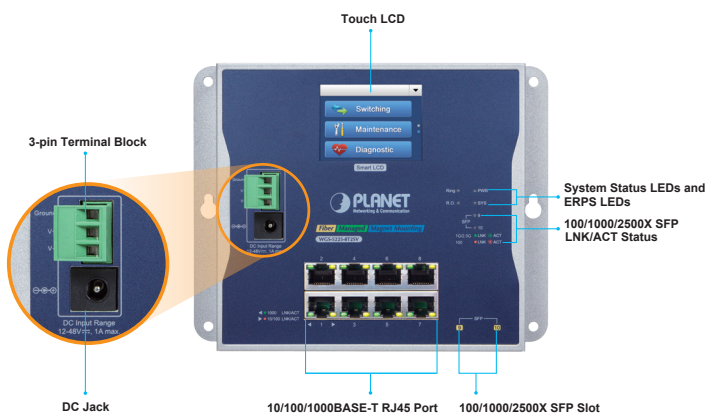
Industrial L2+ 8-port 10/100/1000T + 2-port 1G/2.5G SFP Wall-mount Managed Switch with LCD Touch Screen



Wall-mount Managed Switch with Advanced L2+/L4 Switching and Security

Designed to be installed in a wall enclosure or simply mounted on a wall in any convenient location, PLANET WGS-5225-8T2SV, an innovative **Industrial 8-port 10/100/1000T + 2-port 1G/2.5G SFP Wall-mounted Managed Switch with LCD Touch Screen**, offers IPv6/IPv4 dual stack management, intelligent **Layer 2 and Layer 4** management functions, and **user-friendly interface**. The WGS-5225-8T2SV is able to operate reliably, stably and quietly in any environment without affecting its performance. Featuring ultra networking speed and operating temperature ranging from **-20 to 70 degrees C** in a compact but rugged IP30 metal housing, the WGS-5225-8T2SV is an ideal solution to meeting the demand for the following network applications:

- Building/Home automation network
- Internet of things (IoT)
- IP surveillance
- Wireless LAN



Cybersecurity Network Solution to Minimize Security Risks

The WGS-5225-8T2SV supports SSHv2 and TLS protocols to provide strong protection against advanced threats. It includes a range of cybersecurity features such as **DHCP Snooping**, **IP Source Guard**, **dynamic ARP Inspection** Protection, **802.1x port-based** network access control, **RADIUS** and **TACACS+**

Physical Port

- **8 10/100/1000BASE-T** Gigabit Ethernet RJ45 ports
- **2 1000/2500BASE-X mini-GBIC/SFP** slots for SFP type auto detection

Industrial Case and Installation

- Compact size with fixed wall-mounted, magnetic wall-mounted or DIN-rail design
- IP30 metal case
- Supports **-20 to 70** degrees C operating temperature
- Supports ESD 6KV DC Ethernet protection
- **Dual** power input design
 - 12V~48V DC wide power input with reverse polarity protection
 - 3-pin terminal block or DC jack connector

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/Unicast
- Supports **VLAN**
 - IEEE 802.1Q tagged VLAN
 - Up to 4K VLANs groups, out of 4094 VLAN IDs
 - Provider Bridging (VLAN Q-in-Q) support (IEEE 802.1ad)
 - Private VLAN Edge (PVE)
 - Protocol-based VLAN
 - MAC-based VLAN
 - Voice VLAN
- 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)

user accounts management, **SNMPv3** authentication, and so on to complement it as an all-security solution.



Intuitive LCD Control

The WGS-5225-8T2SV comes with an intuitive touch panel on its front panel to facilitate the Ethernet management to greatly promote management efficiency in large-scale networks, such as enterprises, hotels, shopping malls, government buildings, and other public areas. It also features the following special management and status functions:

- IP address, VLAN and QoS configuration
- Port management and status, and SFP information
- Troubleshooting: cable diagnostic and remote IP ping
- Maintenance: reboot, factory default and save configuration



Redundant Ring, Fast Recovery for Critical Network Applications

The WGS-5225-8T2SV 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) into customer's network to enhance system reliability and uptime in various environments. In a certain simple ring network, the recovery time of data link can be as fast as 10ms.

Innovative Wall-mount Installation

The WGS-5225-8T2SV is specially designed to be installed in a narrow environment, such as wall enclosure or electric weak box. The compact, flat and wall-mounted design fits easily in any space-limited location. It adopts the user-friendly **"Front Access"** design, making the installing, cable wiring, LED monitoring

- Provides port mirror (1-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)
- Layer 3 IP Routing Features
- Supports maximum 32 static routes and route summarization

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
 - IP TOS/DSCP/IP precedence
 - 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 IGMP snooping v1, v2 and v3
- Supports MLD snooping v1 and v2
- Querier mode support
- IGMP snooping port filtering
- MLD snooping port filtering
- MVR (Multicast VLAN Registration)

Security

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

and maintenance of the WGS-5225-8T2SV placed in an enclosure very convenient for technicians. The WGS-5225-8T2SV can be installed by **fixed wall mounting**, **magnetic wall mounting** or **DIN rail**, thereby making its usability more flexible.



All-New Industrial Flat-type Ethernet

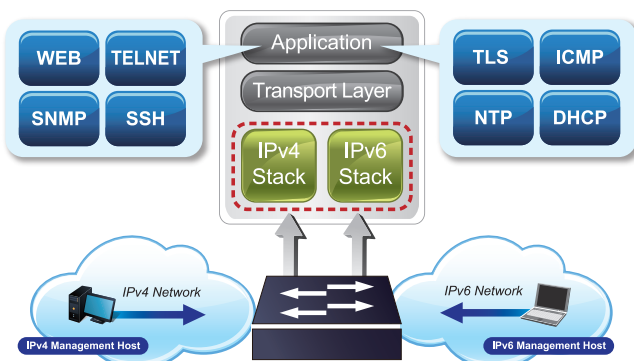
Environmentally Hardened Design

With IP30, flat but rugged metal housing protection, the WGS-5225-8T2SV provides a high level of immunity against electromagnetic interference and heavy electrical surges which are usually found on plant floors or in curb-side traffic control cabinets without air conditioner. Being able to operate under the temperature range from -20 to 70 degrees C, the WGS-5225-8T2SV can be placed in almost any difficult environment.



IPv6/IPv4 Dual Stack Management

Supporting both IPv6 and IPv4 protocols, the WGS-5225-8T2SV helps the SMBs to step in the IPv6 era with the lowest investment as its network facilities need not be replaced or overhauled if the IPv6 FTTx edge network is set up.



- IP address access management to prevent unauthorized intruder

Management

- Switch Management Interfaces
 - Telnet Command Line Interface
 - Web switch management
 - SNMP v1 and v2c switch management
 - SSHv2, TLSv1.2 and SNMP v3 secure access
 - 2.4-inch color LCD touch screen
- Four RMON groups (history, statistics, alarms, and events)
- IPv6 IP address/NTP/DNS management
- Built-in Trivial File Transfer Protocol (TFTP) client
- BOOTP and DHCP for IP address assignment
- Firmware upload/download via HTTP/TFTP
- DHCP Relay and DHCP Option 82
- User Privilege levels control
- Network Time Protocol (NTP)
- Link Layer Discovery Protocol (LLDP)
- SFP-DDM (Digital Diagnostic Monitor)
- Cable diagnostic technology provides the mechanism to detect and report potential cabling issues
- Reset button for system reboot or reset to factory default
- PLANET Smart Discovery Utility for deployment management
- PLANET NMS system and CloudViewer for deployment management

SMTP/SNMP Trap Event Alert

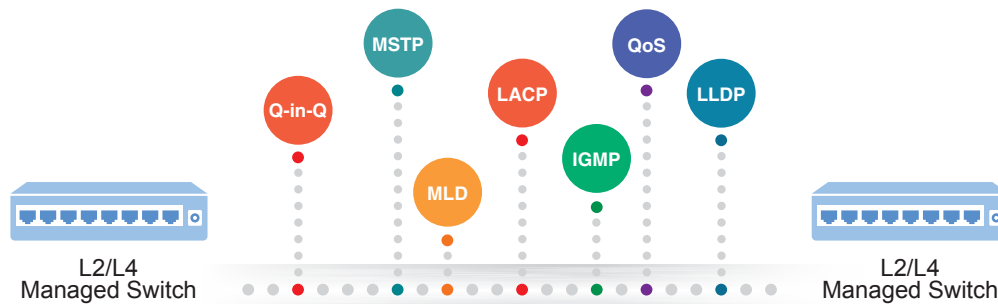
The WGS-5225-8T2SV provides event alert function to help to diagnose the abnormal device owing to whether or not there is a break of the network connection, or the rebooting response.

Layer 3 IPv4 and IPv6 Software VLAN Routing for Secure and Flexible Management

To help customers stay on top of their businesses, the WGS-5225-8T2SV not only provides ultra high transmission performance and excellent Layer 2 technologies, but also IPv4/IPv6 software VLAN routing feature which allows to cross over different VLANs and different IP addresses for the purpose of having a highly-secure, flexible management and simpler networking application.

Robust Layer 2 Features

The WGS-5225-8T2SV can be programmed for advanced switch management functions such as dynamic port link aggregation, 802.1Q VLAN, **Q-in-Q VLAN**, **Multiple Spanning Tree Protocol (MSTP)**, Loop and **BPDU Guard**, **IGMP Snooping**, and **MLD Snooping**. Via the link aggregation, the WGS-5225-8T2SV allows the operation of a high-speed trunk to combine with multiple ports such as a 16Gbps fat pipe, and supports fail-over as well. Also, the **Link Layer Discovery Protocol (LLDP)** is the Layer 2 protocol included to help discover basic information about neighboring devices on the local broadcast domain.



Efficient Traffic Control

The WGS-5225-8T2SV is loaded with robust QoS features and powerful traffic management to enhance services to business-class data, voice, and video solutions. The functionality includes broadcast/multicast/unicast **storm control**, per port **bandwidth control**, 802.1p/CoS/IP DSCP QoS priority and remarking. It guarantees the best performance in VoIP and video stream transmission, and empowers the enterprises to take full advantage of the limited network resources.

Powerful Security

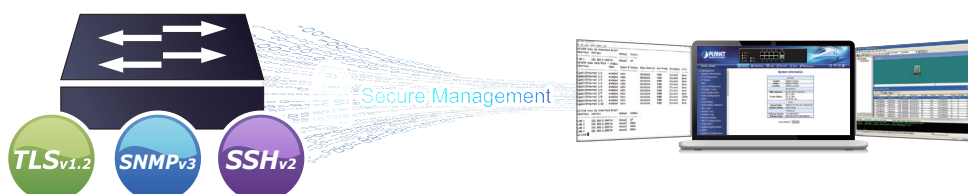
PLANET WGS-5225-8T2SV offers comprehensive **IPv4/IPv6** Layer 2 to Layer 4 **Access Control List (ACL)** for enforcing security to the edge. It can be used to restrict network access by denying packets based on source and destination IP address, TCP/UDP ports or defined typical network applications. Its protection mechanism also comprises **802.1X port-based** user and device authentication, which can be deployed with RADIUS to ensure the port level security and block illegal users. With the **protected port** function, communication between edge ports can be prevented to guarantee user privacy. Furthermore, **Port security** function allows to limit the number of network devices on a given port. The network administrators can now construct highly-secure corporate networks with considerably less time and effort than before.

Friendly and Secure Management

For efficient management, the WGS-5225-8T2SV is equipped with Command line, Web and SNMP management interfaces.

- With the built-in **Web-based** management interface, the WGS-5225-8T2SV offers an easy-to-use, platform-independent management and configuration facility.
- For **text-based** management, it can be accessed via Telnet.
- By supporting the standard SNMP protocol, the switch can be managed via any SNMP-based management software.

Moreover, the WGS-5225-8T2SV offers secure remote management by supporting **SSHv2**, **TLSv1.2** and **SNMP v3** connections which encrypt the packet content at each session.



Modbus TCP provides Flexible Network Connectivity for Factory Automation

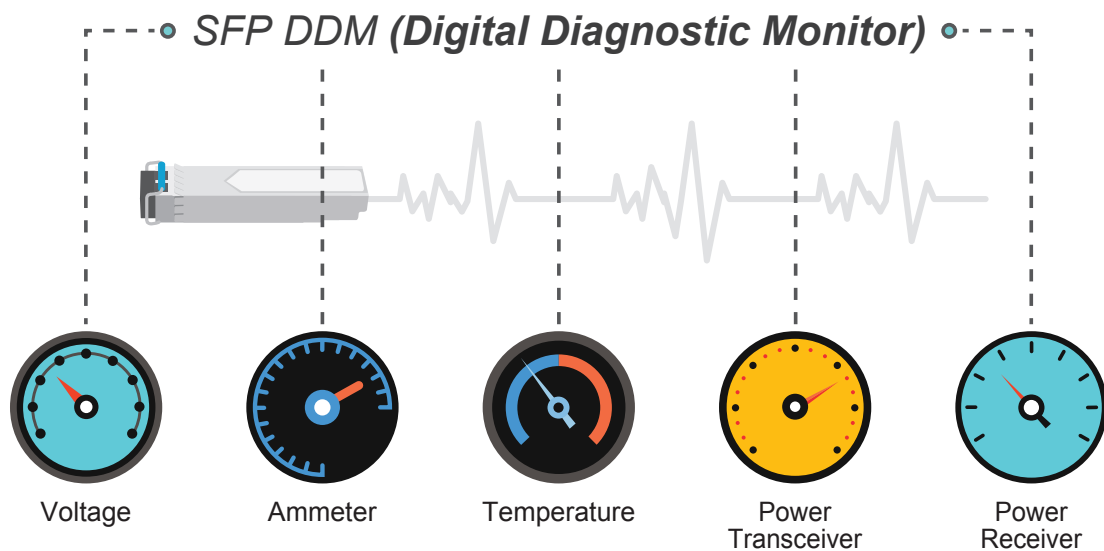
With the supported Modbus TCP/IP protocol, the WGS-5225-8T2SV can easily integrate with **SCADA** systems, **HMI** systems and other data acquisition systems in factory floors. It enables administrators to remotely monitor the industrial Ethernet switch's **operating information, port information and communication status**, thus easily achieving enhanced monitoring and maintenance of the entire factory.

Flexibility and Long-distance Extension Solution

The two mini-GBIC slots built in the WGS-5225-8T2SV support SFP auto-detection and triple speed as it features **100BASE-FX 1000BASE-SX/LX** and **2500BASE-SFP** (Small Form-factor Pluggable) fiber transceivers to uplink to backbone switch and monitoring center in long distance. The distance can be extended from 300 meters to 2 kilometers (multi-mode fiber) and to 10/20/40/60/80/120 kilometers (single-mode fiber or WDM fiber). They are well suited for applications within the enterprise data centers and distributions.

Intelligent SFP Diagnosis Mechanism

The WGS-5225-8T2SV supports **SFP-DDM (Digital Diagnostic Monitor)** function that can easily monitor real-time parameters of the SFP for the network administrator, such as optical output power, optical input power, temperature, laser bias current, and transceiver supply voltage.



1588 Time Protocol for Industrial Computing Networks

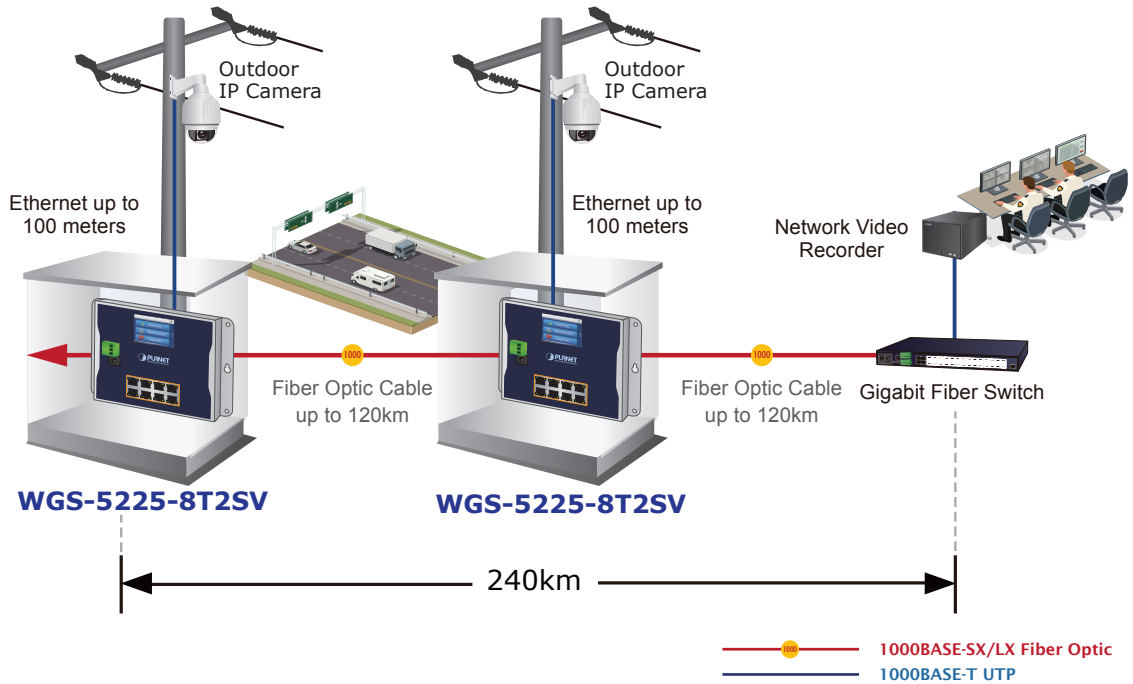
The WGS-5225-8T2SV is ideal for telecom and Carrier Ethernet applications, supporting MEF service delivery and timing over packet solutions for IEEE 1588 and synchronous Ethernet.

Applications

Model that Withstands Harsh Operation and Extends distance

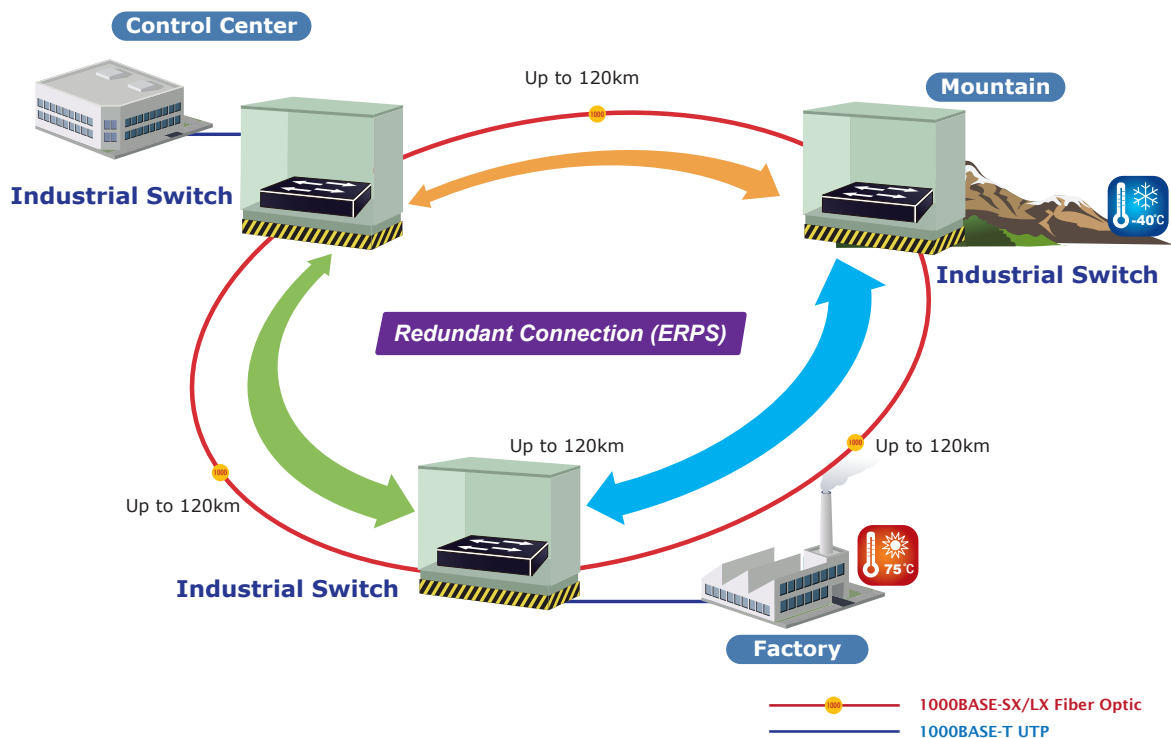
The WGS-5225-8T2SV is made to withstand any harsh operation in such environments as traffic control cabinets, factory floors, and indoor and outdoor locations where temperatures are extremely high or low. With a non-blocking design and compact size, the installation of the WGS-5225-8T2SV is easy and helpful to build a Gigabit high-bandwidth switched network quickly.

Extending Ethernet Distance



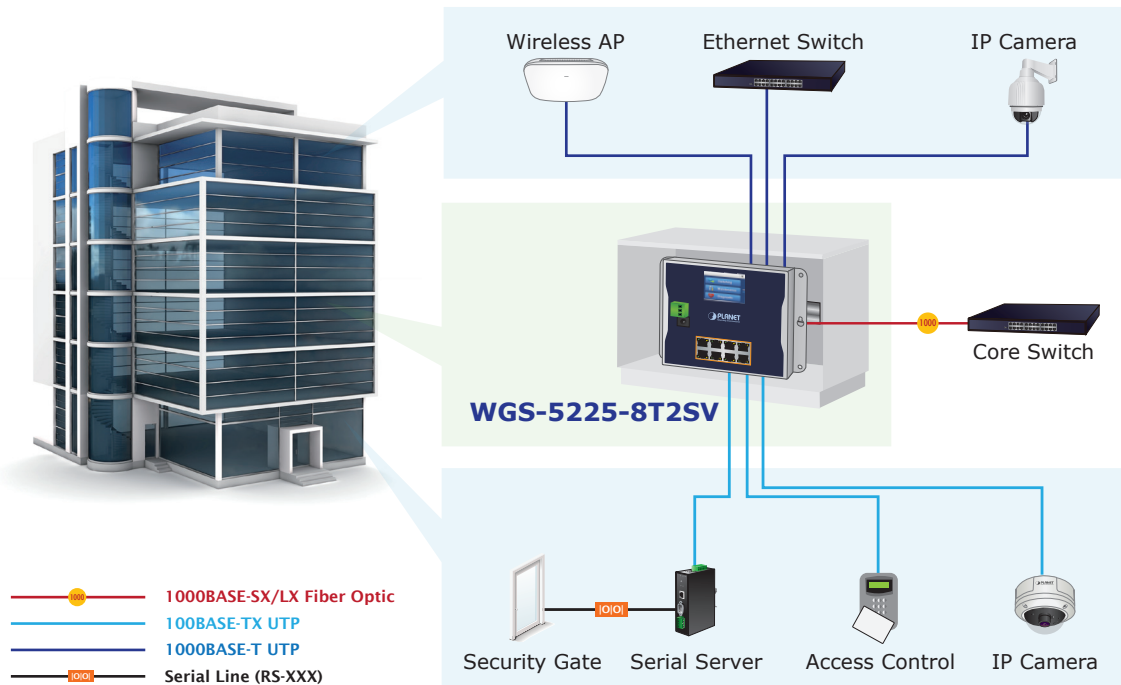
ITU-T G.8032 ERPS Makes Data Transmission Uninterrupted

The WGS-5225-8T2SV features strong rapid self-recovery capability to prevent interruptions and external intrusions. It incorporates **ITU-T G.8032 ERPS (Ethernet Ring Protection Switching)** technology into customer's automation network to enhance system reliability and uptime. Applying the IEEE 802.3at Power over Ethernet standard, the WGS-5225-8T2SV can directly connect with any IEEE 802.3at end-nodes like PTZ (Pan, Tilt & Zoom) network cameras and speed dome cameras. The WGS-5225-8T2SV can easily help system integrators with the available network infrastructure to build wireless AP, IP camera and VoIP systems where power can be centrally-controlled.



Security Building Automation Switch

Suitable for buildings where security is strictly to be enforced, the WGS-5225-8T2SV Industrial Wall-mount Managed Switch offers a comprehensive Layer 2 to Layer 4 Access Control List (ACL). The switch can restrict network access by denying packets based on source and destination IP address, TCP/UDP ports or defined typical network applications. With the WGS-5225-8T2SV, a tightly-controlled network can be easily had in no time.



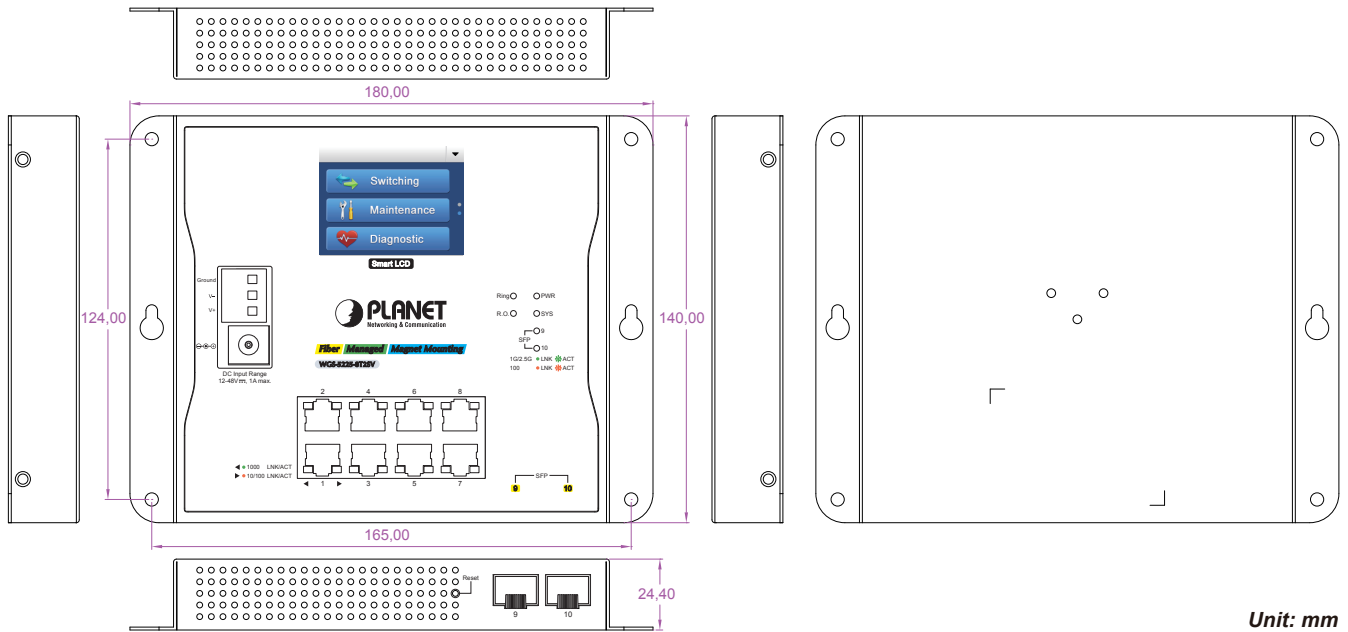
Specifications

Product	WGS-5225-8T2SV
Hardware Specifications	
Copper Ports	8 10/100/1000BASE-T RJ45 auto-MDI/MDI-X ports
SFP/mini-GBIC Slots	2 1000/2500BASE-SX/LX/BX SFP interfaces (Port-9 to Port-10) Compatible with 100BASE-FX SFP
SDRAM	128Mbytes
Flash Memory	64Mbytes
Reset Button	< 5 sec: System reboot > 5 sec: Factory default
ESD Protection	6KV DC
Enclosure	IP30 metal case
Installation	DIN rail kit and wall-mount
Connector	Removable 3-pin terminal block for power input - Pin 1/2 for Power (Pin 1: V+ / Pin 2: V-) - Pin 3 for earth ground DC power jack with 2.0mm central pole
Dimensions (W x D x H)	180 x 24.4 x 140 mm
Weight	686g
Power Requirements	Dual 12~48V DC
Power Consumption	Max. 4.5 watts/15.4BTU (Power on without any connection) Max. 8.5 watts/29.1BTU (Full loading with Ethernet)
LED Indicator	System: PWR(Green) SYS(Green) Ring (Green) Ring Owner (Green) Per 10/100/1000T RJ45 Ports: 10/100 LNK/ACT (Orange) 1000 LNK/ACT (Green) Per SFP Interface: 100 LNK/ACT (Orange) 1G/2.5G LNK/ACT (Green)

Switching Specifications	
Switch Architecture	Store-and-Forward
Switch Fabric	26Gbps/non-blocking
Throughput	19.34Mpps@ 64 bytes packet
Address Table	8K entries, automatic source address learning and aging
Shared Data Buffer	4M bits
Flow Control	IEEE 802.3x pause frame for full-duplex Back pressure for half-duplex
Jumbo Frame	9K bytes
Layer 2 Management Functions	
Port Configuration	Port disable/enable Auto-negotiation 10/100/1000Mbps full and half duplex mode selection Flow control disable/enable Power saving mode 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 1 to 1 monitor
VLAN	802.1Q tag-based VLAN, up to 4K VLAN groups Q-in-Q tunneling Private VLAN Edge MAC-based VLAN Protocol-based VLAN Voice VLAN MVR (Multicast VLAN Registration) Up to 4K VLAN groups, out of 4094 VLAN IDs
Link Aggregation	IEEE 802.3ad LACP/static trunk
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	IGMP (v1/v2/v3) snooping IGMP querier mode support Up to 255 multicast groups
MLD Snooping	MLD (v1/v2) snooping MLD querier mode support Up to 255 multicast groups
Bandwidth Control	Per port bandwidth control Ingress: 500Kb~1000Mbps Egress: 500Kb~1000Mbps
Ring	Supports ERPS, and complies with ITU-T G.8032 Supports Major ring and sub-ring Recovery time < 10ms @ 3 units Recovery time < 50ms @ 16 units
Synchronization	IEEE 1588v2 PTP(Precision Time Protocol) - Peer-to-peer transparent clock - End-to-end transparent clock
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	IPv4/IPv6 IP-based ACL/MAC-based ACL IPv4/IPv6 IP-based ACE/MAC-based ACE Up to 256 entries
Port Security	IEEE 802.1X – Port-based authentication Built-in RADIUS client to co-operate with RADIUS server RADIUS/TACACS+ user access authentication
MAC Security	IP-MAC port binding MAC filter Static MAC address

Enhanced Security	DHCP Snooping and DHCP Option82 STP BPDU guard, BPDU filtering and BPDU forwarding DoS attack prevention ARP inspection IP source guard	
Layer 3 Functions		
IP Interfaces	Max. 8 VLAN interfaces	
Routing Table	Max. 32 routing entries	
Routing Protocols	IPv4 software static routing IPv6 software static routing	
Management		
Basic Management Interfaces	Telnet/Web browser/SNMP v1, v2c	
Secure Management Interfaces	SSHv2, TLS v1.2, SNMP v3	
System Management	Firmware upgrade by HTTP/TFTP protocol through Ethernet network LLDP protocol SNTP PLANET Smart Discovery Utility PLANET NMS System/CloudViewer	
Event Management	Remote/Local Syslog System log	
SNMP MIBs	RFC 1213 MIB-II IF-MIB 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 2933 IGMP-STD-MIB RFC 3411 SNMP-Frameworks-MIB IEEE 802.1X PAE LLDP MAU-MIB	
Standards Conformance		
Regulatory Compliance	FCC Part 15 Class A, CE	
Stability Testing	IEC60068-2-32 (free fall) IEC60068-2-27 (shock) IEC60068-2-6 (vibration)	
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 802.3x 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 ITU-T G.8032 Ethernet Ring Protection Switching RFC 768 UDP RFC 768 UDP RFC 783 TFTP RFC 793 TCP RFC 791 IP RFC 792 ICMP RFC 2068 HTTP RFC 1112 IGMP v1 RFC 2236 IGMP v2
Environment		
Operating Temperature	-20 ~ 70 degrees C	
Storage Temperature	-20 ~ 70 degrees C	
Humidity	5 ~ 95% (non-condensing)	

Dimensions



Ordering Information

WGS-5225-8T2SV	Industrial L2+ 8-Port 10/100/1000T + 2-port 1G/2.5G SFP Wall-mount Managed Switch with LCD Touch Screen
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Accessories

PWR-120-48	120W 48V DC Single Output Industrial DIN-rail Power Supply (-10 ~ 60 degrees C)
PWR-240-48	240W 48V DC Single Output Industrial DIN-rail Power Supply (-10 ~ 60 degrees C)
PWR-480-48	480W 48V DC Single Output Industrial DIN-rail Power Supply (-25 ~ 70 degrees C)

Related Products

WGS-5225-8UP2SV	Industrial L2+ 8-Port 10/100/1000T 802.3bt PoE + 2-Port 1G/2.5G SFP Wall-mount Managed Switch with LCD Touch Screen
WGS-5225-8P2SV	Industrial L2+ 8-Port 10/100/1000T 802.3at PoE + 2-port 1G/2.5G SFP Wall-mount Managed Switch with LCD Touch Screen
WGS-5225-8P2S	Industrial L2+ 8-Port 10/100/1000T 802.3at PoE + 2-port 1G/2.5G SFP Wall-mount Managed Switch
WGS-804HPT	Industrial 8-Port 10/100/1000T Wall-mount Managed Switch with 4-Port PoE+ (-40~75 degrees C)
WGS-4215-16P2S	Industrial 16-Port 10/100/1000T 802.3at PoE + 2-Port 100/1000X SFP Wall-mounted Managed Switch
WGS-4215-8HP2S	Industrial 4-Port 10/100/1000T 802.3bt PoE + 4-Port 10/100/1000T 802.3at PoE + 2-Port 100/1000X SFP Wall-mount Managed Switch (-40~75 degrees C)
WGS-804HP	8-Port 10/100/1000T Wall Mounted Gigabit Ethernet Switch with 4-Port PoE+
WGS-814HP	Industrial 8-Port 10/100/1000T Wall-mounted Gigabit Switch with 4-port PoE+
WGS-818HP	Industrial 8-Port 10/100/1000T Wall-mounted Gigabit PoE+ Switch

Available Modules for WGS-5225-8T2SV

MGB-2G Series Transceiver	2500BASE-SX/LX Transceiver
MGB-Series Transceiver	1000BASE-SX/LX Transceiver
MFB-Series Transceiver	100BASE-FX SFP Transceiver

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