Industrial L2+ 8-Port 10/100/1000T 802.3bt PoE + 2-Port 1G/2.5G SFP Wall-mount Managed Switch with LCD Touch Screen

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

PLANET WGS-5225-8UP2SV is an Industrial Wall-mount PoE++ Managed Switch with **LCD Touch Screen** featuring PLANET **intelligent PoE** functions to improve the availability of industrial applications. It provides IPv6/IPv4 dual stack management and built-in L2+/L4 Gigabit switching engine along with **eight 10/100/1000BASE-T** ports featuring **95-watt PoE and two additional 100/1000/2500BASE-X SFP ports**. With a total power budget of up to **720** watts for different kinds of PoE applications, and featuring networking speed and operating temperature ranging from **-20** to **70 degrees C** in a compact but rugged IP30 metal housing, the **WGS-5225-8UP2SV** is an ideal solution to meet the demand for the following network applications:

802.3bt PoE++	**Flat Design**	**Dual Power Input**
Fiber Connection	**Touch LCD**	**Front Access**

* The above pictures are for illustration only.

802.3bt PoE++ – 90~95-watt Power over 4-pair UTP Solution

As the WGS-5225-8UP2SV 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). It possesses triple amount of power capability than the conventional 802.3at PoE+ and is an ideal solution to satisfy the growing demand for higher power consuming network PDs, such as:

Physical Port

- **8 10/100/1000BASE-T** Gigabit Ethernet RJ45 ports with **IEEE 802.3bt PoE++** Injector function
- **2 100/1000/2500BASE-X SFP** slots for SFP type auto detection

Industrial Case and Installation

- IP30 aluminum case
- Supports -20 to 70 degrees C operating temperature
- Supports ESD 6KV DC Ethernet protection
- Dual power input design
  - 48V~54V DC wide power input with reverse polarity protection
- Compact size with fixed wall-mounted design

Power over Ethernet

- Complies with IEEE 802.3bt Power over Ethernet Plus Plus PSE
- Backward compatible with 802.3at PoE+ end-span or mid-span PSE
- Up to 8 IEEE 802.3af/802.3at/802.3bt devices powered
- Supports PoE power up to 95 watts for each PoE port
- Auto detects powered device (PD)
- Circuit protection prevents power interference between ports
- Remote power feeding up to 100m
- 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
  - Sequence port PoE
  - PoE extend mode control to support power feeding up to a distance of up to 160 meters
  - Auto maximum PoE budget control by power input detection
- Intelligent PoE features
  - PoE usage threshold control
  - PD alive check
  - PoE schedule

- PoE PTZ speed dome cameras
- Network devices
- Thin clients
- AIO (all-in-one) touch PCs, point of sale (POS) and information kiosks
- Remote digital signage displays
- PoE lightings
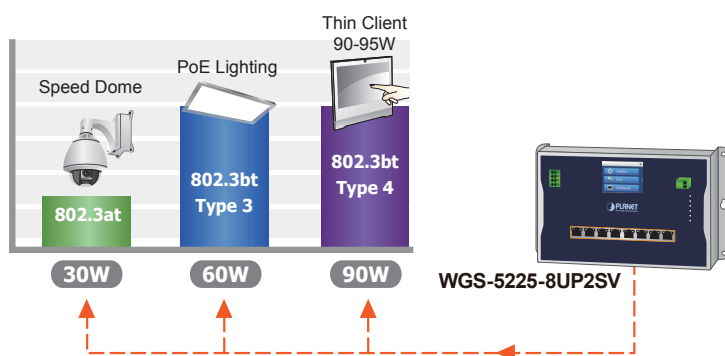
802.3bt PoE++ and Advanced PoE Power Output Mode Management

To meet the demand of various powered devices consuming stable PoE power, the WGS-5225-8UP2SV provides five different PoE power output modes for selection.

- **90W 802.3bt PoE++ Power Output Mode**
- **95W UPOE/PoH Power Output Mode**
- **30W End-span PoE Power Output Mode**
- **30W Mid-span PoE Power Output Mode**
- **60W Force Power Output Mode**

Innovative Wall-mount Installation

The WGS-5225-8UP2SV is specially designed to be installed in a narrow environment, such as wall enclosure or electric box. The compact, flat and wall-mounted design fits easily in any space-limited location. It adopts the user-friendly **"Front Access"** and touch color screen design, making the installing, cable wiring, LED monitoring and maintenance of the WGS-5225-8UP2SV placed in an enclosure very convenient for technicians. The WGS-5225-8UP2SV can be installed by fixed wall mounting, thereby making its usability more flexible.
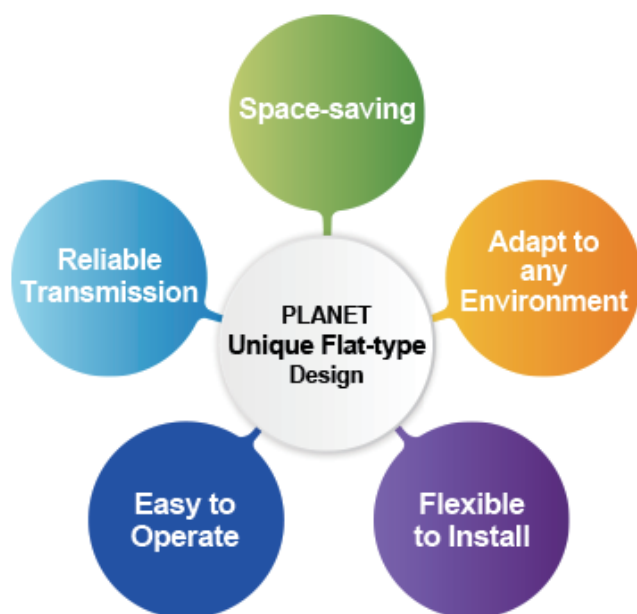
Industrial Protocol

- Modbus TCP for real-time monitoring in SCADA system
- IEEE 1588v2 PTP (Precision Time Protocol) transparent clock mode

Layer 3 IP Routing Features

- Supports maximum 32 static routes and route summarization
- Routing interface provides per VLAN routing mode

Layer 2 Features

- Storm Control support
  – Broadcast/Multicast/Unicast
- Supports **VLAN**
  – IEEE 802.1Q tagged VLAN
  – Provider Bridging (VLAN Q-in-Q) support (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/BPDU Filtering
- Supports **Link Aggregation**
  – 802.3ad Link Aggregation Control Protocol (LACP)
  – Cisco ether-channel (static trunk)
  – Maximum 2 trunk groups with 2 ports per trunk group
  – Up to 10Gbps bandwidth (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

Intuitive LCD Control

The WGS-5225-8UP2SV comes with an intuitive touch panel on its front panel that facilitates the Ethernet PoE PD management that greatly promotes 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
- PoE management and status
- Port management and status, and SFP information
- Troubleshooting: cable diagnostic and remote IP ping
- Maintenance: reboot, factory default and save configuration

WGS-5225-8UP2SV

Redundant Ring, Fast Recovery for Critical Network Applications

The WGS-5225-8UP2SV 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 **dual 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.

ERPS Ring for Metropolitan Area Network Application Recovery Time < 10ms
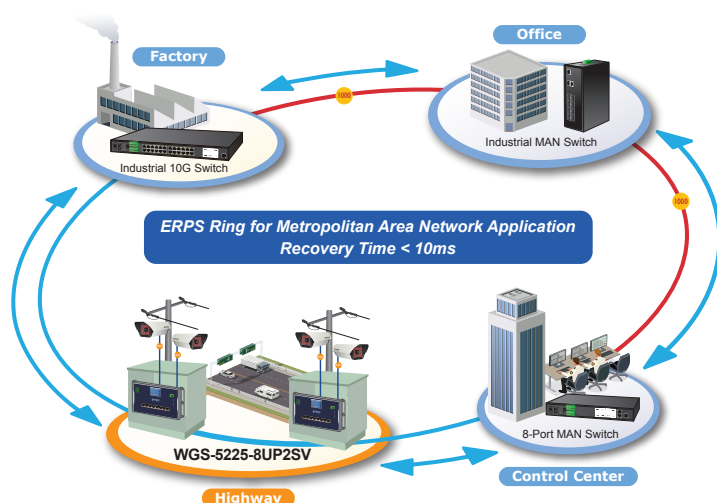
- 8 priority queues on all switch ports
- Traffic classification
  – IEEE 802.1p CoS
  – IP TOS/DSCP/IP precedence
  – IP TCP/UDP port number
  – Typical network application
- Strict priority and Weighted Round Robin (WRR) CoS policies
- Supports QoS and In/Out bandwidth control on each port
- Traffic-policing on the switch port
- DSCP remarking

Multicast

- Supports 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
- MVR (Multicast VLAN Registration)

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 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
  – Telnet Command Line Interface