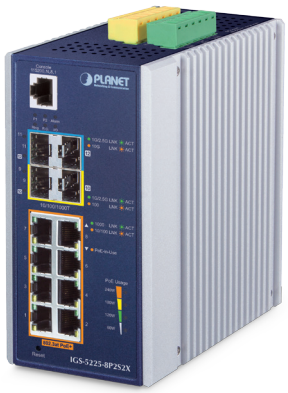
Industrial L3 8-Port 10/100/1000T 802.3at PoE + 2-Port 1G/2.5G SFP + 2-Port 10G SFP+ Managed Ethernet Switch Switch

TAIWAN EXCELLENCE 2017



Layer 3 Capability and 10G Uplinks

PLANET IGS-5225-8P2S2X is the **smallest 10G uplink Layer 3 managed PoE switch** preferably designed for industrial networks. Based on its **10Gbps** big pipe connectivity to core networks, the IGS-5225-8P2S2X, equipped with 8 Gigabit ports featuring **36-watt 802.3at PoE+** and **two 10Gbps SFP+** uplink slots, meets the demands of high power consumption and high bandwidth for 11ac Gigabit Wi-Fi APs and other PoE applications like those requiring heavy traffic loading.

With a rugged IP30 metal case and wide temperature range from -40 to 75 degrees C, the IGS-5225-8P2S2X is able to stably operate in heavy Industrial demanding environments. Thus, the IGS-5225-8P2S2X provides a high level of immunity against electromagnetic interference and heavy electrical surges which are usually found on plant floors or in curbside traffic control cabinets. The IGS-5225-8P2S2X also allows either DIN-rail or wall mounting for efficient use of cabinet space.

Redundant Ring, Fast Recovery for Critical Network Applications

The IGS-5225-8P2S2X 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 ring network, the recovery time of data link can be as fast as 10ms.

Physical Port

- **8 10/100/1000BASE-T** Gigabit Ethernet RJ45 ports with IEEE 802.3at PoE+ Injector function
- **2 100/1000/2500BASE-X mini-GBIC/SFP** slots for SFP type auto detection
- **2 10GBASE-SR/LR SFP+ slots**, backward compatible with 1000BASE-SX/LX/BX and 2500BASE-X SFP
- One RJ45 console interface for basic management and setup

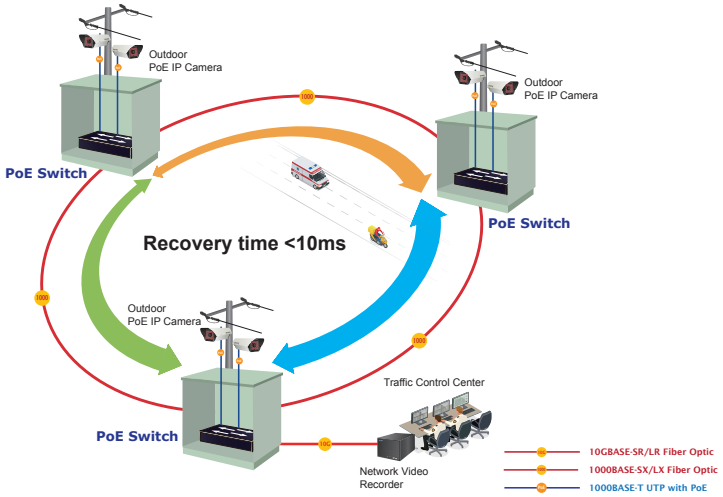
Power over Ethernet

- Complies with IEEE 802.3at Power over Ethernet Plus/end-span PSE
- Up to 8 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 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
  - PoE extend mode supports power feeding at a distance of up to 200 meters
- Intelligent PoE features
  - Temperature threshold control
  - PoE usage threshold control
  - PD alive check
  - PoE schedule

Industrial Protocol

- Modbus TCP for real-time monitoring in the SCADA system
- IEEE 1588v2 PTP (Precision Time Protocol) tramsparent clock mode
- Industrial Case and Installation
- IP30 aluminum case
- DIN-rail and wall-mount designs
- 48~54V DC, redundant power with reverse polarity protection
- Supports 6000V DC Ethernet ESD protection
- -40 to 75 degrees C operating temperature

ERPS Ring for Video Transmission Redundancy

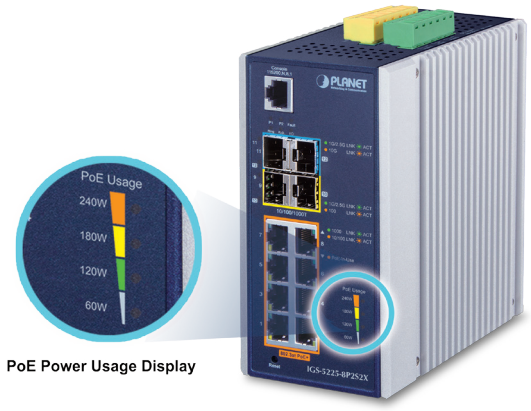


Flexible and Extendable 10Gb Ethernet Solution

10G Ethernet is a big leap in the evolution of Ethernet. Each of the 10G SFP+ slots in the IGS-5225-8P2S2X supports **triple speed** and **10GBASE-SR/LR**, **2500BASE-X or 1000BASE-SX/LX**, providing broad bandwidth and powerful processing capacity. 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.

Intelligent LED Indicator for Real-time PoE Usage

The IGS-5225-8P2S2X helps users to monitor current status of PoE power usage easily and efficiently by its advanced LED indication. The front panel of the Industrial Gigabit PoE+ Switch has four orange LEDs indicating 60W, 120W, 180W and 240W of PoE power usage.



PoE Power Usage Display

Intelligent Alive Check for Powered Device

The IGS-5225-8P2S2X PoE Switch can be configured to monitor connected PD's status in real time via ping action. Once the PD stops working and responding, the IGS-5225-8P2S2X will recycle the PoE port power and bring the PD back to work. It also greatly enhances the reliability in that the PoE port will reset the PD power, thus reducing administrator's management burden.

Digital Input and Digital Output

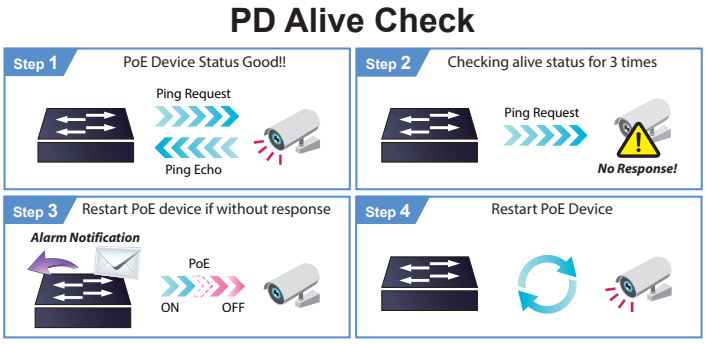
- 2 Digital Input (DI)
- 2 Digital Output (DO)
- Integrate sensors into auto alarm system
- Transfer alarm to IP network via email and SNMP trap

Layer 3 IP Routing Features

- IP dynamic routing protocol supports RIP, OSPFv2 and OSPFv3
- Supports maximum 128 static routes and route summarization
- IPv4 dynamic routing protocol supports OSPFv2
- IPv4/IPv6 hardware static routing
- Routing interface provides per VLAN routing mode

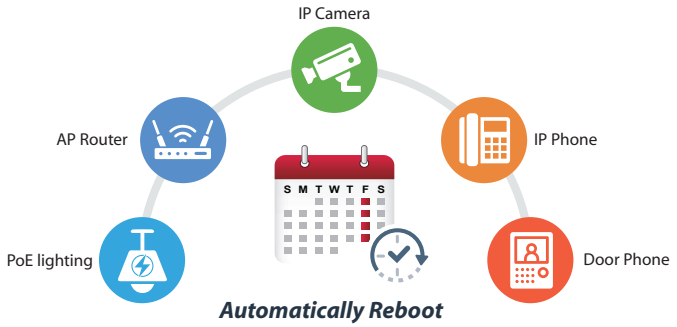
Layer 2 Features

- 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 that 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 4095 VLAN IDs
  - 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
- Supports **Link Aggregation**
  - 802.3ad Link Aggregation Control Protocol (LACP)
  - Cisco ether-channel (static trunk)
  - Maximum 6 trunk groups with 4 ports per trunk group
  - Up to 16Gbps 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



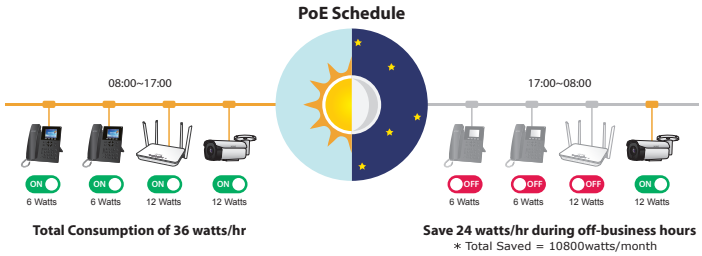
Scheduled Power Recycling

The IGS-5225-8P2S2X allows each of the connected PoE IP cameras or PoE wireless access points to reboot at a specific time each week. Therefore, it 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 on the Earth, the IGS-5225-8P2S2X can effectively control the power supply besides its capability of giving high watts power. The built-in **"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.



PoE Usage Monitoring

Via the power usage chart in the web management interface, the IGS-5225-8P2S2X enables the administrator to monitor the status of the power usage of the connected PDs in real time. Thus, it greatly enhances the management efficiency of the facilities.

- Supports G.8032 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 IGMP snooping v1, v2 and v3
- Supports MLD snooping v1 and v2
- Querier mode support
- IGMP snooping port filtering
- 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
- 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
- IP address access management to prevent unauthorized intruder