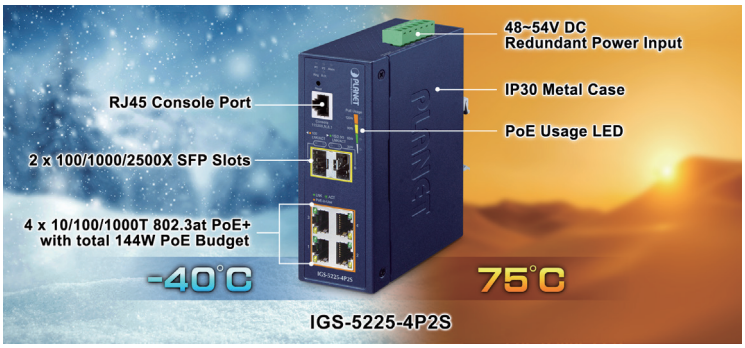
Industrial L2+ 4-Port 10/100/1000T 802.3at PoE + 2-Port 1G/2.5G SFP Managed Ethernet Switch

Advanced Manageable PoE+ Solution for Hardened Environment

Complying with the IEEE 802.3at Power over Ethernet Plus technology, PLANET's improved IGS-5225-4P2S L2+ Industrial Managed PoE+ Switch features four 10/100/1000BASE-T 802.3at PoE+ ports with each port powering up to 36 watts, and **two 100/1000/2500BASE-X SFP interfaces** in a rugged IP40 metal case for stable operation in heavy industrial environments. It supports rich PoE operation modes including 36-watt 802.3at type-2 PoE+ ports, 36-watt legacy mode and force mode to solve the incompatibility of non-standard 4-pair PoE PDs in the field.

With a total power budget of up to **144 watts** for different kinds of PoE applications, the IGS-5225-4P2S provides a quick, safe and cost-effective 802.3at PoE+ network solution for small businesses and enterprises.

Being able to operate under wide temperature range from -40 to 75 degrees C, the IGS-5225-4P2S can be placed in almost any difficult environment. The IGS-5225-4P2S also allows either DIN-rail or wall mounting for efficient use of cabinet space.



Cybersecurity Network Solution to Minimize Security Risks

The cybersecurity features that virtually need no effort and cost to have include the protection of the switch management and the enhanced security of the mission-critical network. 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.

Physical Port

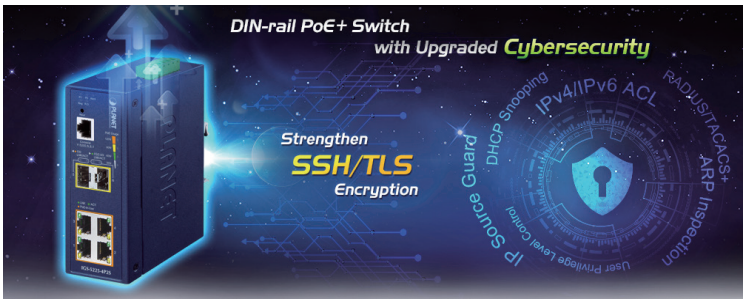
- **4 10/100/1000BASE-T** Gigabit Ethernet RJ45 ports with **802.3at PoE+** injector function
- **2 100/1000/2500BASE-X SFP** slots for SFP type auto detection
- One RJ45 console interface for basic management and setup

Power over Ethernet

- Complies with IEEE 802.3at Power over Ethernet Plus Type-2 PSE
- Backward compatible with IEEE 802.3af PD device
- Up to 4 ports of IEEE 802.3af/IEEE 802.3at PoE+ devices powered
- Supports PoE power up to 36 watts for each PoE port
- Total of 144-watt PoE budget
- Auto detects powered device (PD)
- Circuit protection prevents power interference between ports
- Remote power feeding up to 100m in standard mode and 250m in extend mode
- PoE management features
  - PoE admin-mode control
  - PoE management mode selection
  - Per port PoE function enable/disable
  - PoE port power feeding priority
  - Per PoE port power limit
  - PoE Port Status monitoring
  - PD classification detection
  - Sequence port PoE
- Intelligent PoE features
  - PoE Legacy/Force mode enable/disable
  - Temperature threshold control
  - PoE usage threshold control
  - PoE schedule
  - PD alive check
  - LLDP PoE Neighbors

Industrial Protocol

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

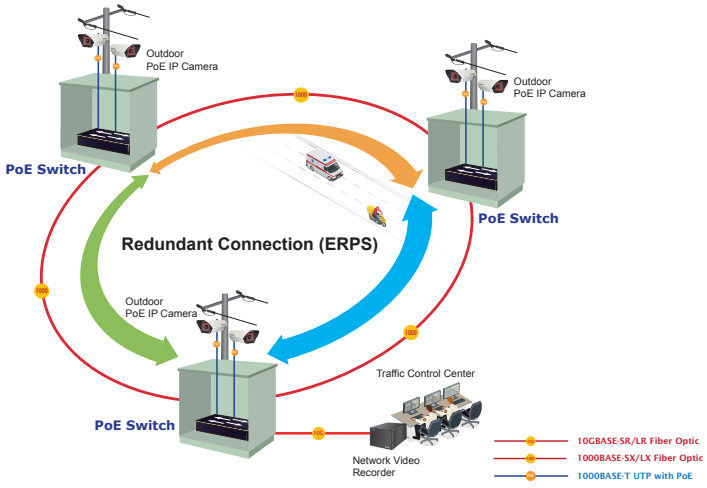


Redundant Ring, Fast Recovery for Critical Network Applications

The IGS-5225-4P2S 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.

The IGS-5225-4P2S also protects customer's industrial network connectivity with switching recovery capability that is used for implementing fault tolerant ring and mesh network architectures. If the Industrial network is interrupted accidentally, the fault recovery time could be as **fast** as **10ms** to quickly bring the network back to normal operation.

ERPS Ring for Video Transmission Redundancy



Convenient and Smart ONVIF Devices with Detection Feature

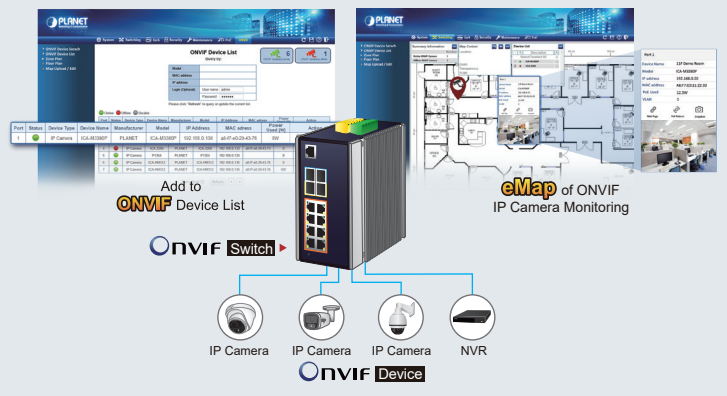
PLANET has developed an awesome feature -- ONVIF Support -- which is specifically designed for cooperating with video IP surveillances. From the IGS-5225-4P2S's GUI, you just need one click to search and show all of the ONVIF devices via network application. In addition, you can upload floor images to the switch and can remotely monitor or inspect an assembly line. Moreover, you can get real-time surveillance information and online/offline status; the PoE reboot can be controlled from the GUI.

Industrial Case and Installation

- IP40 metal case
- DIN-rail and wall-mount designs
- DC 48-54V, redundant power with reverse polarity protection
- Supports 6000V DC Ethernet ESD protection
- -40 to 75 degrees C operating temperature

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
  - Supports provider Bridging (VLAN Q-in-Q, IEEE 802.1ad)
  - Private VLAN Edge (PVE)
  - Port Isolation
  - MAC-based VLAN
  - Protocol-based VLAN
  - Voice VLAN
  - VLAN Translation
  - GVRP
- 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 3 trunk groups with 6 ports per trunk group
  - Up to 18Gbps 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



Built-in Unique PoE Functions for Powered Devices Management

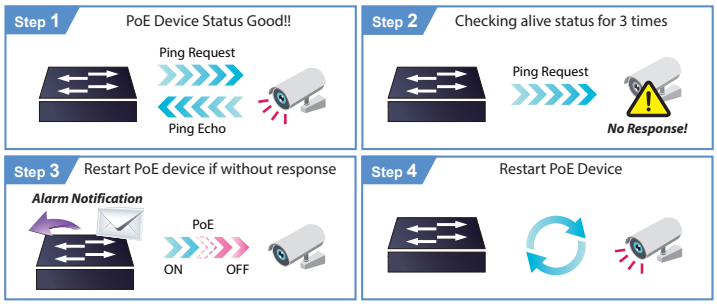
As it is the industrial managed PoE+ switch for surveillance, wireless and VoIP networks, the IGS-5225-4P2S features the following special PoE management functions:

- PD Alive Check
- Scheduled Power Recycling
- PoE Schedule
- PoE Usage Monitoring
- PoE Extension

Intelligent Powered Device Alive Check

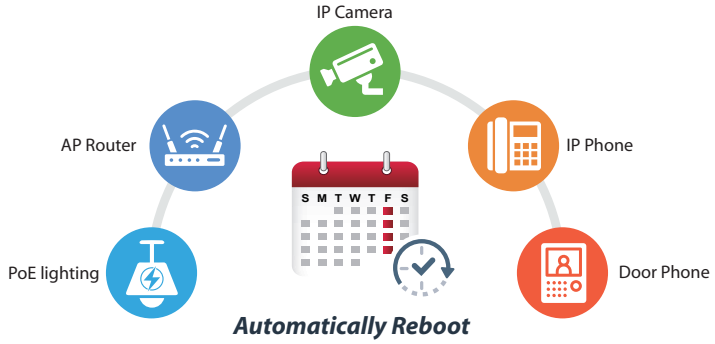
The IGS-5225-4P2S PoE+ Switch can be configured to monitor connected PD's status in real time via ping action. Once the PD stops working and responding, the IGS-5225-4P2S will recycle the PoE port power and bring the PD back to work. It also greatly enhances the reliability in that the PoE port will reset the PD power, thus reducing administrator's management burden.

PD Alive Check



Scheduled Power Recycling

The IGS-5225-4P2S allows each of the connected PoE IP cameras or PoE wireless access points to reboot at a specified time each week. Therefore, it will reduce the chance of IP camera or AP crash resulting from buffer overflow.



- Link Layer Discovery Protocol (LLDP) and LLDP-MED
- Provides ONVIF for cooperating with PLANET video IP surveillances

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 policies 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
  - 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