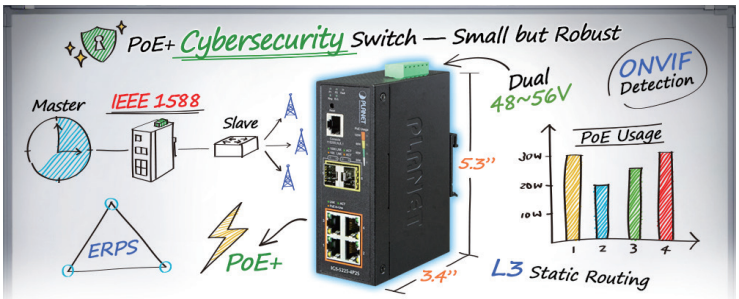
IGS-5225-4P2S

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

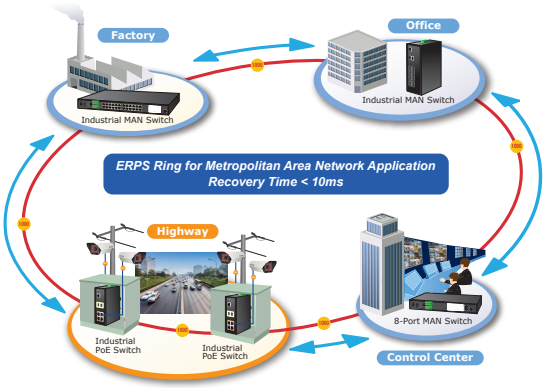
Advanced Manageable PoE Solution for Hardened Environment

PLANET IGS-5225-4P2S L2+ Industrial Managed PoE+ Switch, featuring **4 10/100/1000BASE-T 802.3at PoE+ ports** with each port powering up to 36 watts, and **2 100/1000X fiber ports** in an **IP40** rugged but compact-sized case, can be installed in any difficult environment without space limitation. It provides user-friendly yet advanced **IPv6/IPv4 management** interfaces, abundant **L2/L4 switching functions**, Layer 3 static routing capability, and advanced **ITU-G.8032 ERPS Ring** technology to improve the rapid self-recovery capability and PLANET **intelligent PoE** functions for controlling the PoE outdoor IP surveillance and wireless network applications. It is able to operate reliably, stably and quietly in the temperature range from **-40 to 75 degrees C**.



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. In a simple Ring network, the recovery time of data link can be as fast as 10ms.



Physical Port

- **4 10/100/1000BASE-T** Gigabit Ethernet RJ45 ports with **IEEE 802.3at PoE+** Injector
- **2 100/1000BASE-X mini-GBIC/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/end-span PSE
- Up to 4 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
- Intelligent PoE features
  - Temperature threshold control
  - PoE usage threshold control
  - PD alive check
  - PoE schedule

Industrial Protocol

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

Industrial Case and Installation

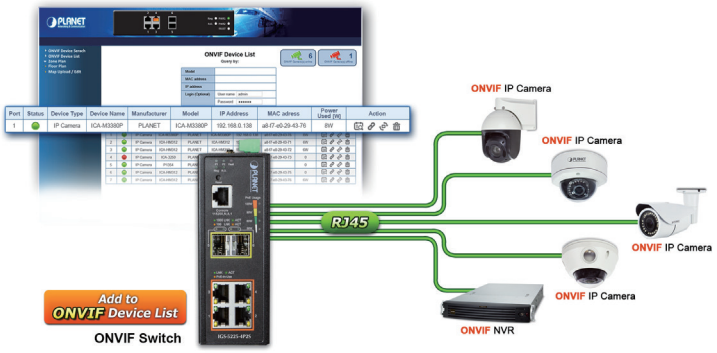
- IP40 metal case
- DIN-rail and wall-mount designs
- 48~56V DC, redundant power with polarity reverse protect function
- Supports 6000V DC Ethernet ESD protection
- -40 to 75 degrees C operating temperature

Cybersecurity Network Solution to Minimize Security Risks

The cybersecurity feature that virtually needs no effort and cost to have includes the protection of the switch management and the enhanced security of the mission-critical network. Both SSH and SSL 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.

Convenient and Smart ONVIF Devices with Detection Feature

PLANET has newly developed an awesome feature -- ONVIF Support -- which is specifically designed for co-operating with video IP surveillances. From the IGS-5225-4P2S' 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.



Built-in Unique PoE Functions for Powered Devices Management

As it is the 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

Intelligent Alive Check for Powered Device

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.

Layer 2 Features

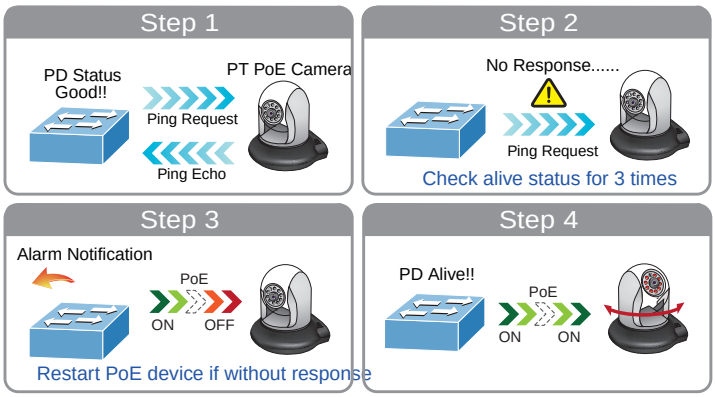
- High performance of Store-and-Forward architecture, and runt/CRC filtering eliminates erroneous packets to optimize the network bandwidth
- Storm Control support
  - Broadcast/Multicast/Unicast
- Supports **VLAN**
  - IEEE 802.1Q tagged VLAN
  - Up to 255 VLANs groups, out of 4094 VLAN IDs
  - Provider Bridging (VLAN Q-in-Q) support (IEEE 802.1ad)
  - Private VLAN Edge (PVE)
  - Protocol-based VLAN
  - MAC-based VLAN
  - Voice VLAN
  - 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 2 trunk groups with 2 ports per trunk group
  - Up to 4Gbps 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)

Layer 3 IP Routing Features

- Supports maximum 32 static routes and route summarization

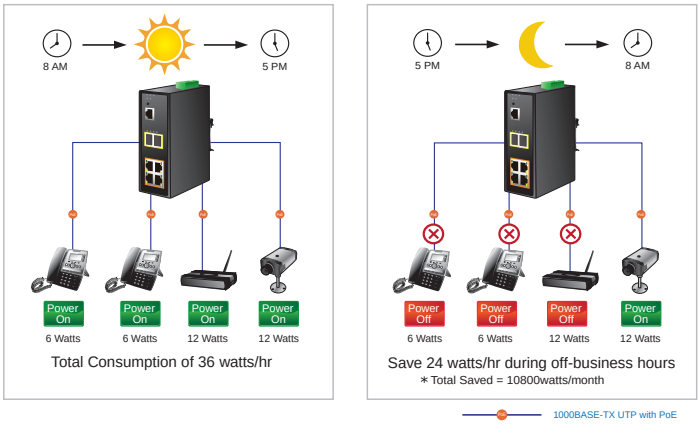
Quality of Service

- Ingress Shaper and Egress Rate Limit per port bandwidth control
- 8 priority queues on all switch ports



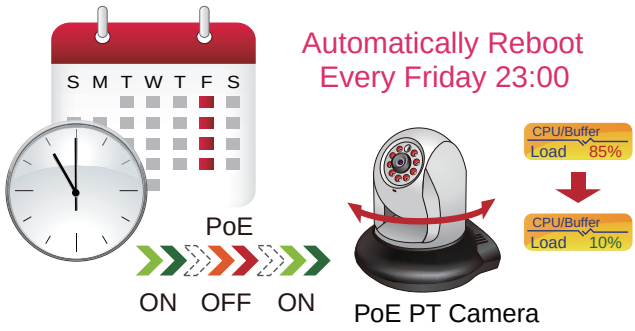
PoE Schedule for Energy Saving

Under the trend of energy saving worldwide and contributing to environmental protection on the Earth, the IGS-5225-4P2S 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.



Scheduled Power Recycling

The IGS-5225-4P2S 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.



SMTP/SNMP Trap Event Alert

The IGS-5225-4P2S 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.

- 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
- IGMP snooping port filtering
- MLD snooping port filtering
- MVR (Multicast VLAN Registration)

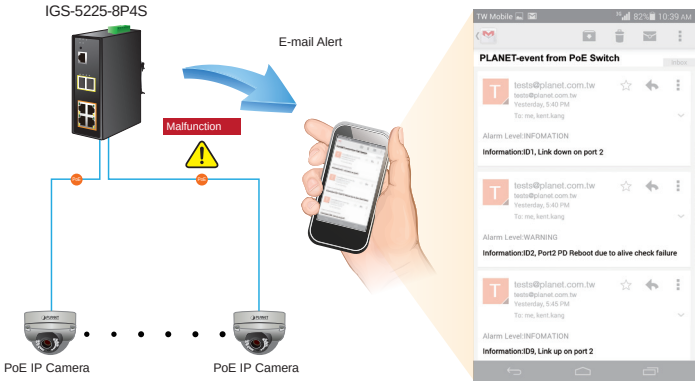
Security

- 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
- Access Control List
  - 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
- IP address access management to prevent unauthorized intruder

Management

- IPv4 and IPv6 dual stack management
- Switch Management Interfaces
  - Console/Telnet Command Line Interface
  - Web switch management
  - SNMP v1 and v2c switch management
  - SSH/SSL and SNMP v3 secure access

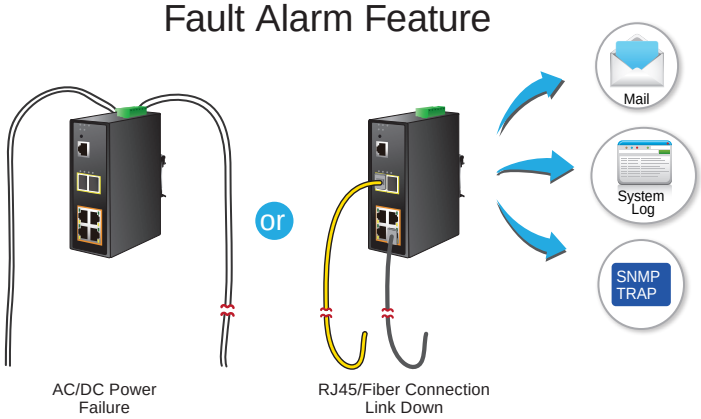
SMTP/SNMP Trap Event Alert



Effective Alarm Alert for Better Protection

The IGS-5225-4P2S supports a Fault Alarm feature which can alert the users when there is something wrong with the switches. With this ideal feature, the users would not have to waste time finding where the problem is. It will help to save time and human resource.

Fault Alarm Feature



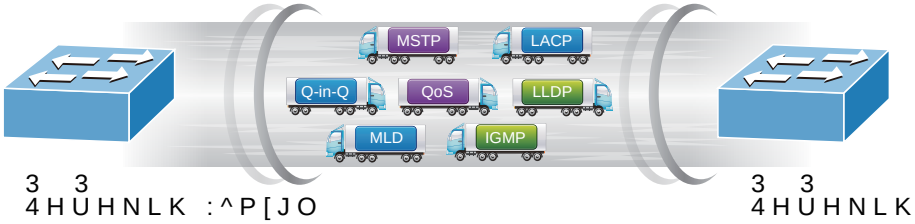
- SNMP Management
  - Four RMON groups (history, statistics, alarms, and events)
  - SNMP trap for interface Link Up and Link Down notification
- **IPv6** IP address/NTP/DNS management
- Built-in Trivial File Transfer Protocol (TFTP) client
- BOOTP and DHCP for IP address assignment
- System Maintenance
  - Firmware upload/download via HTTP/TFTP
  - Reset button for system reboot or reset to factory default
  - Dual Images
- DHCP Relay and DHCP Option 82
- DHCP Server
- User Privilege levels control
- Network Time Protocol (NTP)
- SFP-**DDM** (Digital Diagnostic Monitor)
- Network Diagnositc
  - ICMPv6/ICMPv4 Remote Ping
  - Cable diagnostic technology provides the mechanism to detect and report potential cabling issues
- PLANET Smart Discovery Utility for deployment management

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

To help customers stay on top of their businesses, the IGS-5225-4P2S 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 IGS-5225-4P2S can be programmed for advanced switch management functions such as dynamic port link aggregation, Q-in-Q VLAN, private VLAN, Rapid Spanning Tree Protocol, Layer 2 to Layer 4 QoS, bandwidth control and IGMP snooping. The IGS-5225-4P2S provides 802.1Q tagged VLAN, and the VLAN groups allowed will be maximally up to 255. Via aggregation of supporting ports, the IGS-5225-4P2S allows the operation of a high-speed trunk combining multiple ports. It enables a maximum of up to 2 trunk groups with 2 ports per trunk group, and supports fail-over as well.



Efficient Management

For efficient management, the IGS-5225-4P2S is equipped with console, Web and SNMP management interfaces. With the built-in Web-based management interface, the IGS-5225-4P2S offers an easy-to-use, platform-independent management and configuration facility. For text-based management, the IGS-5225-4P2S can be accessed via Telnet and the console port. Moreover, it also offers secure remote management via any standard-based management software by supporting SNMPv3 connection which encrypts the packet content at each session.

Powerful Security

The IGS-5225-4P2S 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 ports 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. The network administrators can now construct highly-secure corporate networks with considerably less time and effort than before.

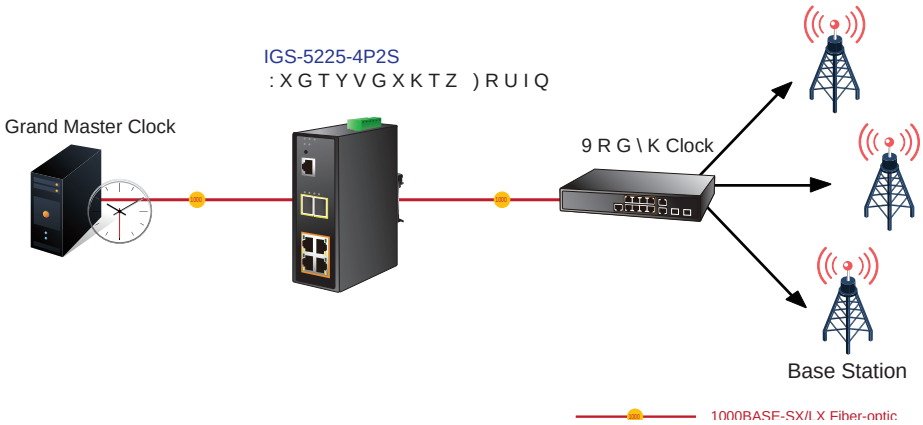
Modbus TCP Provides Flexible Network Connectivity for Factory Automation

With the supported **Modbus TCP/IP** protocol, the IGS-5225-4P2S 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.

1588 Time Protocol for Industrial Computing Networks

The IGS-5225-4P2S is ideal for telecom and Carrier Ethernet applications, supporting MEF service delivery and timing over packet solutions for IEEE 1588 and synchronous Ethernet.

Time Synchronization in Network



Flexibility and Extension Solution

The additional four mini-GBIC slots built in the IGS-5225-4P2S support dual speed, 100BASE-FX and 1000BASE-SX/LX SFP (Small Form-factor Pluggable) fiber-optic modules, meaning the administrator now can flexibly choose the suitable SFP transceiver according to not only the transmission distance but also the transmission speed required. The distance can be extended from 550 meters (multi-mode fiber) to 10/50/70/120 kilometers (single-mode fiber or WDM fiber). They are well suited for applications within the enterprise data centers and distributions.

Applications

Industrial Area Department/Workgroup PoE Switch

Providing up to 4 PoE+, in-line power interfaces, the IGS-5225-4P2S can easily build a power centrally controlled for IP phone system, IP camera system, or wireless AP group for Industrial network. For instance, 4 PoE IP cameras or wireless access points can be easily installed around the corner in the industrial environment for surveillance demands or for a wireless roaming network. Without the power-socket limitation, the IGS-5225-4P2S makes the installation of IP cameras or wireless AP easier and more efficient.