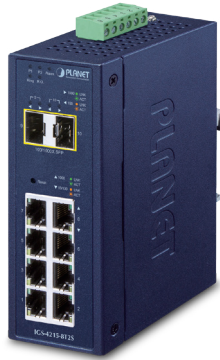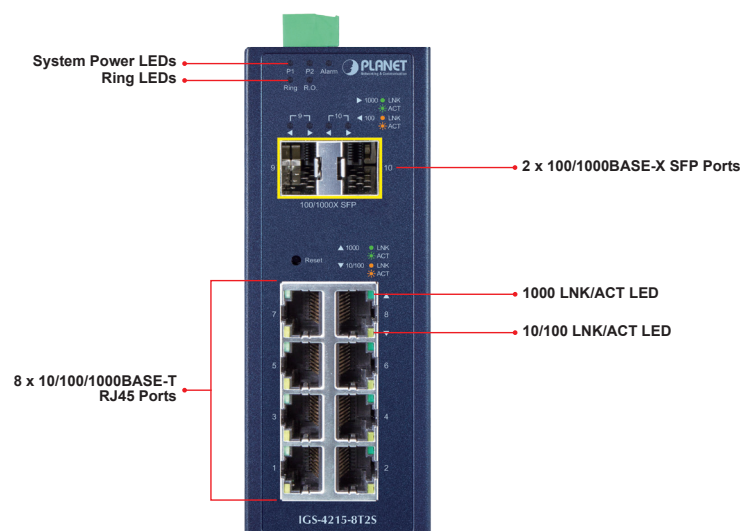# Industrial L2/L4 8-Port 10/100/1000T + 2-Port 100/1000X SFP Managed Switch

Robustly Designed for Critical Business Applications

Designed to be installed in heavy industrial demanding environments, the IGS-4215-8T2S is the new member of PLANET Industrial-grade, DIN-rail type **L2/L4 Managed Gigabit Switch** family to improve the availability of critical business applications. It provides IPv6/IPv4 dual stack management and built-in L2/L4 Gigabit switching engine along with **8 10/100/1000BASE-T ports**, and **2 extra 100/1000BASE-X SFP fiber ports** for data and video uplink. The IGS-4215-8T2S is able to operate reliably, stably and quietly in any hardened environment without affecting its performance. It comes with operating temperature ranging from -40 to 75 degrees C in a rugged IP30 metal housing.

Physical Port

- 8-port 10/100/1000BASE-T RJ45 with auto MDI/MDI-X function
- 2-port 100/1000BASE-X SFP transceiver type auto detection

Industrial Case and Installation

- Dual power input, redundant power with reverse polarity protection
  - DC 9 to 48V input or AC 24V input
  - Active-active redundant power failure protection
  - Backup of catastrophic power failure on one supply
  - Fault tolerance and resilience
- IP30 metal case
- DIN-rail and wall-mount designs
- Supports ESD 6KV DC Ethernet protection
- Supports -40 to 75 degrees C operating temperature
- Free fall, shock-proof and vibration-proof for industries

Switching

- Features Store-and-Forward mode with wire-speed filtering and forwarding rates
- IEEE 802.3x flow control for full duplex operation and back pressure for half duplex operation
- 8K MAC address table size
- 9K jumbo frame
- Automatic address learning and address aging
- Supports CSMA/CD protocol

Layer 2 Features

- Supports **VLAN**
  - IEEE 802.1Q tagged VLAN
  - Up to 256 VLAN groups, out of 4096 VLAN IDs
  - Provider bridging (VLAN Q-in-Q, IEEE 802.1ad) support
  - Private VLAN (Protected port)
  - 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)

System Power LEDs
Ring LEDs

2 x 100/1000BASE-X SFP Ports

1000 LNK/ACT LED

10/100 LNK/ACT LED

8 x 10/100/1000BASE-T RJ45 Ports

Environmentally Hardened Design

With the IP30 industrial case, the IGS-4215-8T2S 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 -40 to 75 degrees C, the IGS-4215-8T2S can be placed in almost any difficult environment.

Robust Protection

The IGS-4215-8T2S provides contact discharge of ±6KV DC and air discharge of ±8KV DC for Ethernet ESD protection. It also supports ±4KV surge immunity to improve product stability and protects users' networks from devastating ESD attacks, making sure the flow of operation does not fluctuate.

Redundant Ring, Fast Recovery for Surveillance System

The IGS-4215-8T2S 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 certain simple Ring network, the recovery time of data link can be as fast as 10ms.

ERPS Ring for Metropolitan Area Network Application
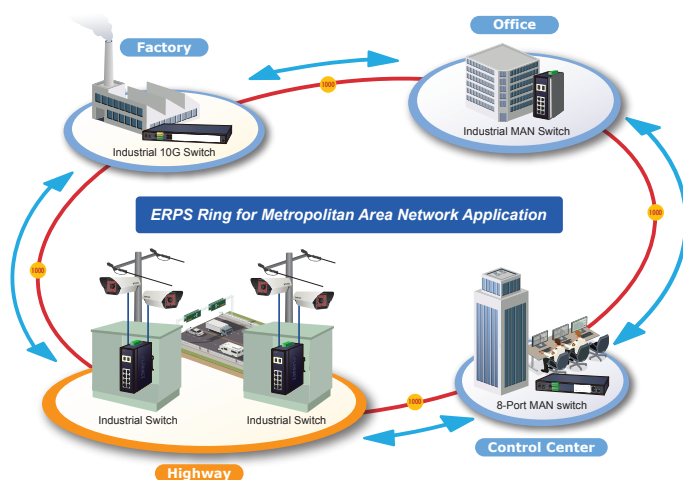
Robust Layer 2 Features

The IGS-4215-8T2S 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 IGS-4215-8T2S allows the operation of a high-speed trunk to combine with multiple ports such as an 8Gbps 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

- IEEE 802.1s Multiple Spanning Tree Protocol (MSTP), spanning tree by VLAN
- BPDU Guard
- Supports **Link Aggregation**
  - IEEE 802.3ad Link Aggregation Control Protocol (LACP)
  - Cisco ether-channel (static trunk)
  - Up to 5 trunk groups
  - Up to 10 ports per trunk group with 20Gbps bandwidth
- Provides port mirror (many-to-1)
- IPv6 MAC/VLAN/Multicast Address Table
- Loop protection to avoid broadcast loops
- Supports ERPS (Ethernet Ring Protection Switching)
- Link Layer Discovery Protocol (LLDP)

Quality of Service

- Ingress/Egress Rate Limit per port bandwidth control
- Supports 8 priority queues on all switch ports
- Traffic classification
  - IEEE 802.1p CoS
  - IP 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 IPv4 IGMP snooping v1, v2, v3
- Supports IPv6 MLD snooping v1, v2
- Querier mode support
- IGMP snooping port filtering
- MLD snooping port filtering

Security

- Storm Control support
  - Broadcast/Multicast/Unicast
- Authentication
  - IEEE 802.1X port-based network access authentication
  - Built-in RADIUS client to cooperate with the RADIUS servers
  - DHCP Relay and DHCP Option 82
  - RADIUS/TACACS+ users access authentication
- Access Control List
  - IPv4/IPv6 IP-based ACL

L2/L4
Managed Switch

L2/L4
Managed Switch
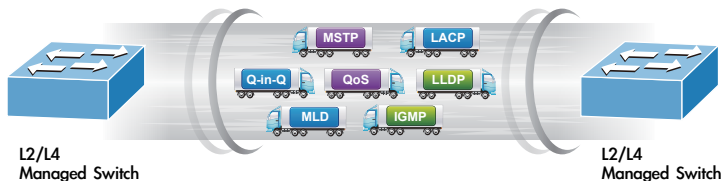
IPv6/IPv4 Dual Stack Management

Supporting both IPv6 and IPv4 protocols, the IGS-4215-8T2S 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.
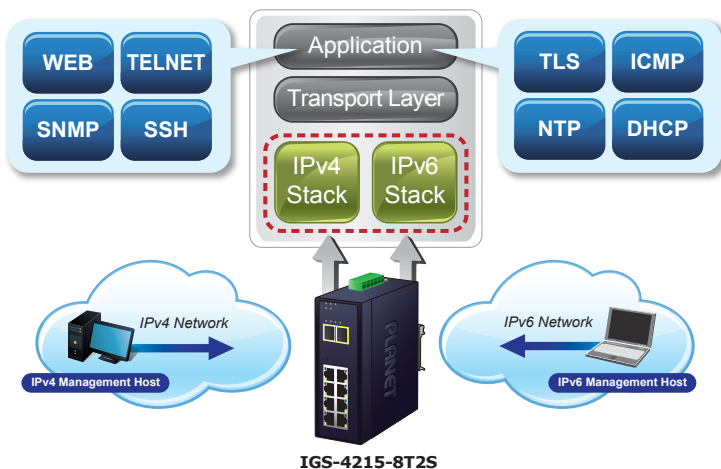
IGS-4215-8T2S

Efficient Traffic Control

The IGS-4215-8T2S 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.

User-friendly and Secure Management

For efficient management, the IGS-4215-8T2S is equipped with Command line, Web and SNMP management interfaces.

■ With the built-in **Web-based** management interface, the IGS-4215-8T2S offers an easy-to-use, platform-independent management and configuration facility.

■ For **text-based** management, it can be accessed via Telnet and SSHv2 protocol.

■ For standard-based monitor and management software, it offers SNMPv3 connection which encrypts the packet content at each session for secure remote management.

- – IPv4/IPv6 IP-based ACE
- – MAC-based ACL
- – MAC-based ACE
- MAC Security
  - – Static MAC
  - – MAC filtering
- Port security for source MAC address entries filtering
- 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 Interface
  - – IPv4/IPv6 Web switch management
  - – Console and telnet Command Line Interface
  - – SNMP v1, v2c, v3
  - – SSHv2, TLSv1.2 secure access
- IPv6 IP address/NTP/DNS management
- Built-in Trivial File Transfer Protocol (TFTP) client
- Static and DHCP for IP address assignment
- System Maintenance
  - – Firmware upload/download via HTTP/TFTP
  - – Hardware reset button for system reboot or reset to factory default
  - – Dual images
- User Privilege levels control
- Network Time Protocol (NTP)
- Link Layer Discovery Protocol (LLDP) and LLDP-MED
- Syslog remote alarm
- SNMP Management
  - – SNMP trap for interface link up and link down notification
  - – Four RMON groups (history, statistics, alarms and events)
- PLANET Smart Discovery Utility for deployment management
- PLANET UNI-NMS (Universal Network Management) and Smart Discovery Utility for deployment management
- Network diagnostic
  - – SFP-DDM (Digital Diagnostic Monitor)
  - – Cable diagnostic technology provides the mechanism to detect and report potential cabling issues
  - – ICMPv6 / ICMPv4 remote pin