#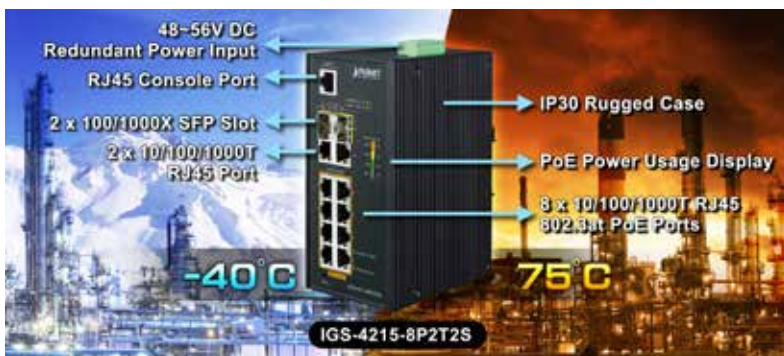 Industrial 8-Port 10/100/1000T 802.3at PoE + 2-Port 10/100/1000T + 2-Port 100/1000X SFP Managed Switch (-40~75 degrees C)

Physical Port

- Eight 10/100/1000BASE-T Gigabit Ethernet RJ45 ports with IEEE 802.3at/af PoE+ Injector (Port-1 to Port-8)
- Two 10/100/1000BASE-T Gigabit Ethernet RJ45 ports (Port-9 and Port-10)
- Two 100/1000BASE-X mini-GBIC/SFP slots for SFP type auto detection (Port-11 and Port-12)
- One RJ45 console interface for basic management and setup

Power over Ethernet

- Complies with IEEE 802.3at Power over Ethernet Plus, end-span PSE
- Backward compatible with IEEE 802.3af Power over Ethernet
- Up to 8 ports of IEEE 802.3af/802.3at devices powered
- 240-watt PoE budget
- 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 100 meters
- PoE management
  - Total PoE power budget control
  - Per port PoE function enable/disable
  - PoE port power feeding priority
  - Per PoE port power limitation
  - PD classification detection
  - PD alive-check
  - PoE schedule

Cost-effective Full PoE+ Power Solution Ideal for Hardened Environment

Designed to be installed in heavy industrial demanding environments, the IGS-4215-8P2T2S is the new member of PLANET Industrial-grade, DIN-rail type L2/L4 Managed Gigabit PoE+ Switch family featuring PLANET intelligent PoE functions 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 featuring 30-watt 802.3at PoE+, 2 additional Gigabit copper ports and another 2 extra 100/1000BASE-X SFP fiber slots for data and video uplink. The IGS-4215-8P2T2S is able to operate reliably, stably and quietly in any hardened environment without affecting its performance. It comes with a total power budget of up to 240 watts for different kinds of PoE applications and operating temperature ranging from -40 to 75 degrees C in a rugged IP30 metal housing.

Industrial Case and Installation

- IP30 aluminum case
- DIN rail and wall-mount design
- 48~56V DC, redundant power with polarity reverse protect function
- Supports 6000V DC Ethernet ESD protection
- -40 to 75 degrees C operating temperature

Switching

- Hardware-based 10/100Mbps (half/full duplex), 1000Mbps (full duplex), auto-negotiation and auto MDI/MDI-X
- 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
- 10K jumbo frame

Built-in Unique PoE Functions for Powered Devices Management

As the industrial managed PoE switch for surveillance, wireless and VoIP networks, the IGS-4215-8P2T2S features the following special PoE management functions:

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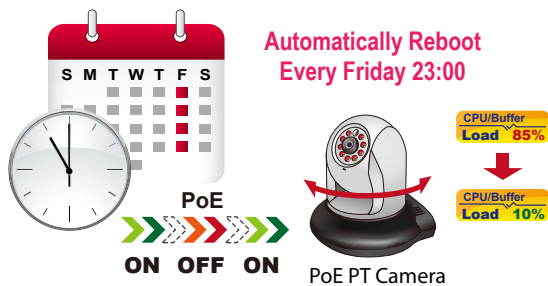- PoE Schedule
- PoE Usage Monitoring

Intelligent Powered Device Alive-Check

The IGS-4215-8P2T2S can be configured to monitor connected PD (powered device) status in real time via ping action. Once the PD stops working and responding, the IGS-4215-8P2T2S will resume the PoE port power and bring the PD back to work. It will greatly enhance the network reliability through the PoE port resetting the PD's power source and reducing the administrator's management burden.
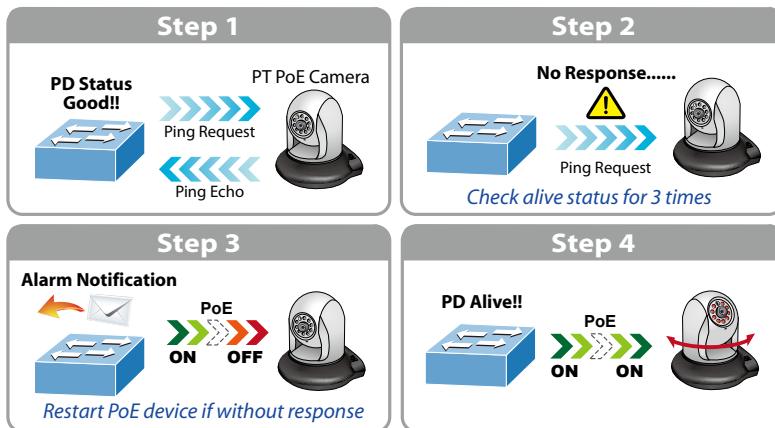
Scheduled Power Recycling

The IGS-4215-8P2T2S 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 Saving

Under the global trend of energy saving and contributing to environmental protection, the IGS-4215-8P2T2S can effectively control the power supply besides its capability of giving high watts power. The "PoE schedule" function helps you to enable or disable PoE power feeding for each PoE port during specified time intervals, which is a powerful function to help SMBs or enterprises save power and budget. It also increases security by powering off PDs that should not be in use during non-business hours.

- Automatic address learning and address aging
- Supports CSMA/CD protocol

Layer 2 Features

- Supports VLAN
  - IEEE 802.1Q tagged VLAN
  - Provider bridging (VLAN Q-in-Q, IEEE 802.1ad) support
  - Protocol VLAN
  - Voice VLAN
  - Private VLAN (Protected port)
  - Management VLAN
  - GVRP
- Supports Spanning Tree Protocol
  - STP (Spanning Tree Protocol)
  - RSTP (Rapid Spanning Tree Protocol)
  - MSTP (Multiple Spanning Tree Protocol)
  - STP BPDU Guard, BPDU Filtering and BPDU Forwarding
- Supports Link Aggregation
  - IEEE 802.3ad Link Aggregation Control Protocol (LACP)
  - Cisco ether-channel (static trunk)
  - Maximum 8 trunk groups, up to 4 ports per trunk group
- Provides port mirror (many-to-1)
- Loop protection to avoid broadcast loops
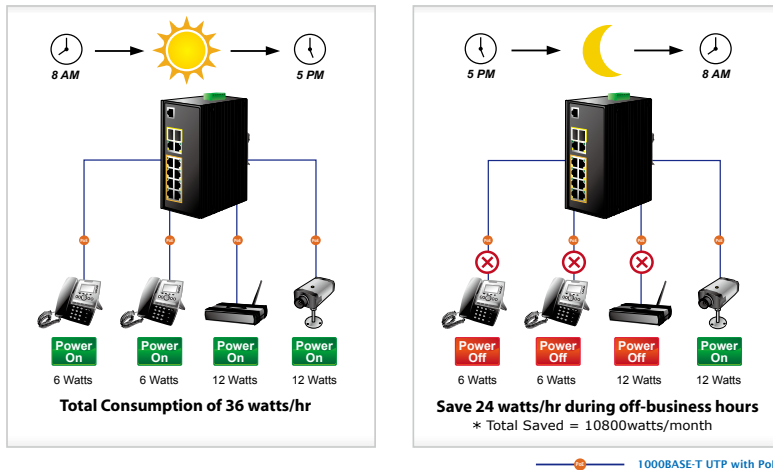
Quality of Service

- Ingress/Egress Rate Limit per port bandwidth control
- Traffic classification
  - IEEE 802.1p CoS
  - TOS/DSCP/IP precedence of IPv4/IPv6 packets
- Strict priority and Weighted Round Robin (WRR) CoS policies

Multicast

- Supports IPv4 IGMP snooping v2, v3
- Supports IPv6 MLD snooping v1, v2
- IGMP querier mode support
- IGMP snooping port filtering
- MLD snooping port filtering

Security

- Storm Control support
  - Broadcast/ unknown multicast/unknown unicast
- Authentication
  - IEEE 802.1X port-based network access authentication
  - Built-in RADIUS client to cooperate with the RADIUS servers
  - DHCP Option 82
  - RADIUS/TACACS+ authentication
- Access Control List
  - IPv4/IPv6 IP-based ACL
  - IPv4/IPv6 IP-based ACE
  - MAC-based ACL
  - MAC-based ACE

6 Watts 6 Watts 12 Watts 12 Watts

Total Consumption of 36 watts/hr

6 Watts 6 Watts 12 Watts 12 Watts

Save 24 watts/hr during off-business hours
∗ Total Saved = 10800watts/month

1000BASE-T UTP with PoE

Intelligent LED Indicator for Real-time PoE Usage Monitoring

Via the power usage chart in the web management interface, the IGS-4215-8P2T2S 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. Moreover, the IGS-4215-8P2T2S helps users to monitor the current status of PoE power usage easily and efficiently via its advanced LED indication. Called "PoE Power Usage", the front panel of the IGS-4215-8P2T2S has four orange LEDs indicating four different PoE power usages, namely 60W, 120W, 180W and 240W.

PoE Power Usage Display

Environmentally Hardened Design

With the IP30 aluminum industrial case, the IGS-4215-8P2T2S 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-4215-8P2T2S can be placed in almost any difficult environment.

Robust Protection

The IGS-4215-8P2T2S 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.

- 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
- DoS attack prevention

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
  - SSH and SSL secure access
- User privilege levels control
- Built-in Trivial File Transfer Protocol (TFTP) client
- Static and DHCP for IP address assignment
- System Maintenance
  - Firmware upload/download via HTTP/TFTP
  - Configuration upload/download through HTTP/TFTP
  - Dual images
  - Hardware reset button for system reboot or reset to factory default
- SNTP Network Time Protocol
- Cable diagnostics
- Link Layer Discovery Protocol (LLDP) Protocol and LLDP-MED
- SNMP trap for interface Link Up and Link Down notification
- Event message logging to remote syslog server
- Four RMON groups (history, statistics, alarms and events)
- PLANET Smart Discovery Utility

IPv6/IPv4 Dual Stack Management

Supporting both IPv6 and IPv4 protocols, the IGS-4215-8P2T2S 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.

Robust Layer 2 Features

The IGS-4215-8P2T2S 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-4215-8P2T2S 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.

L2/L4 Managed Switch

L2/L4 Managed Switch
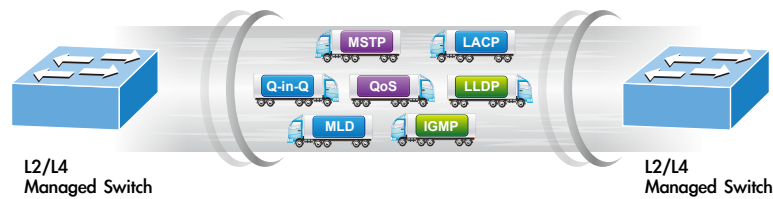
Efficient Traffic Control

The IGS-4215-8P2T2S 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-4215-8P2T2S is equipped with console, Web, Telnet and SNMP management interfaces. With the built-in Web-based management interface, the IGS-4215-8P2T2S offers an easy-to-use, platform-independent management and configuration facility. By supporting standard Simple Network Management Protocol (SNMP), the IGS-4215-8P2T2S can be managed via any standard management software. For text-based management, the IGS-4215-8P2T2S can be accessed via Telnet and the local console port. Moreover, the IGS-4215-8P2T2S offers secure remote management by supporting SSH, SSL and SNMPv3 connections which encrypt the packet content at each session.

Secure Management

Computer

SSL SNMPv3 SSH

Powerful Security

PLANET IGS-4215-8P2T2S offers comprehensive IPv4/IPv6 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 user and device authentication, which can be deployed with RADIUS to ensure the port level security and block illegal users. With the Protected Port function, communication between edge ports can be prevented to guarantee user privacy. Furthermore, Port Security function allows limiting the number of network devices on a given port.

Advanced Network Security

The IGS-4215-8P2T2S also provides DHCP Snooping, IP Source Guard and Dynamic ARP Inspection functions to prevent IP snooping from attack and discard ARP packets with invalid MAC address. The network administrators can now construct highly-secure corporate networks with considerably less time and effort than before.

Flexibility and Long-distance Extension Solution

The IGS-4215-8P2T2S provides 2 extra Gigabit TP interfaces supporting 10/100/1000BASE-T RJ45 copper to connect with surveillance network devices such as NVR, Video Streaming Server or NAS to facilitate surveillance management. Or through the two dual-speed fiber SFP slots, it can also connect with the 100BASE-FX /1000BASE-SX/LX SFP (Small Form-factor Pluggable) fiber transceiver to uplink to backbone switch and monitoring center in long distance. The distance can be extended from 550 meters to 2 kilometers (multi-mode fiber) and 10/20/30/40/50/60/70/120 kilometers (single-mode fiber or WDM fiber). They are well suited for applications within the enterprise data centers and distributions.

Intelligent SFP Diagnosis Mechanism

The IGS-4215-8P2T2S supports SFP-DDM (Digital Diagnostic Monitor) function that can easily monitor real-time parameters of the SFP for the network administrator, such as optical output power, optical input power, temperature, laser bias current, and transceiver supply voltage.

Digital Diagnostic Monitor (DDM)
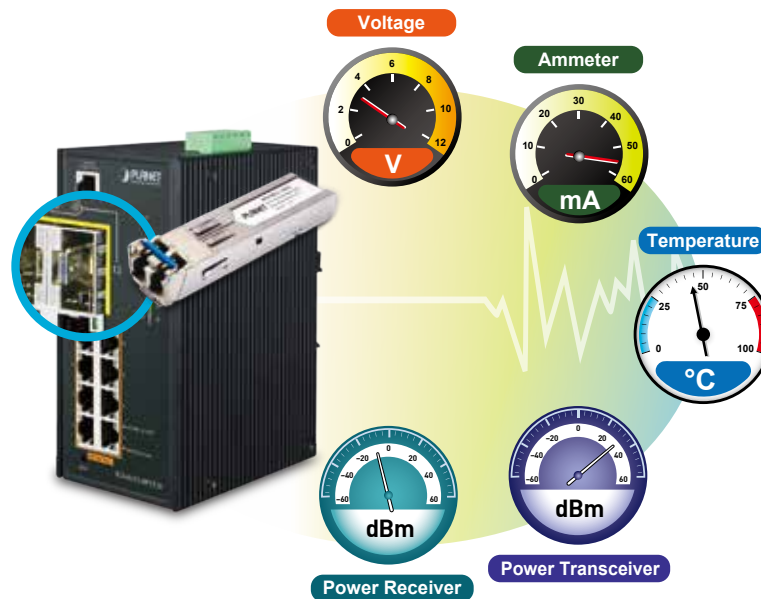
Applications

## *Industrial-grade PoE+ Switch for Building Automation and Security*

Suitable for buildings where security is strictly to be enforced, the IGS-4215-8P2T2S, with eight 802.3at PoE+, in-line power interfaces, can easily build a power centrally controlled for an IP phone system, IP surveillance system, and wireless AP group in the harsh Industrial environment. For instance, 8 PoE IP cameras or PoE wireless APs can be easily installed for surveillance demands or a wireless roaming environment in the industrial area can be built. Without the power-socket limitation, the IGS-4215-8P2T2S makes the installation of IP cameras or wireless APs easier and more efficient.
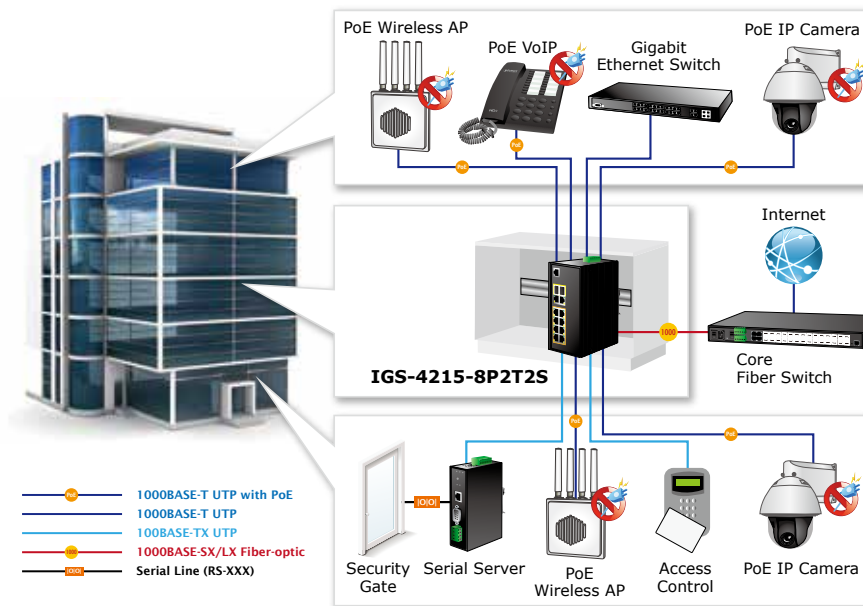
Perfect Integration Solution for IP PoE Camera and NVR System

The IGS-4215-8P2T2S provides eight 10/100/1000BASE-T 802.3at PoE+ ports which can offer sufficient PoE power to 8 PoE IP cameras at the same time. In addition, with the two 100/1000BASE-X SFP interfaces, the IGS-4215-8P2T2S can connect to a core fiber switch and send video streams to an NVR and monitoring center. Through the high-performance switch architecture, the IGS-4215-8P2T2S facilitates the recorded video files from the 8 PoE+ IP cameras to be saved in the NVR systems. Furthermore, the NVR systems can be controlled and monitored in both the local LAN and the remote site via Internet. The IGS-4215-8P2T2S undoubtedly brings an ideal secure surveillance system at a lower total cost.

Extending Ethernet Distance
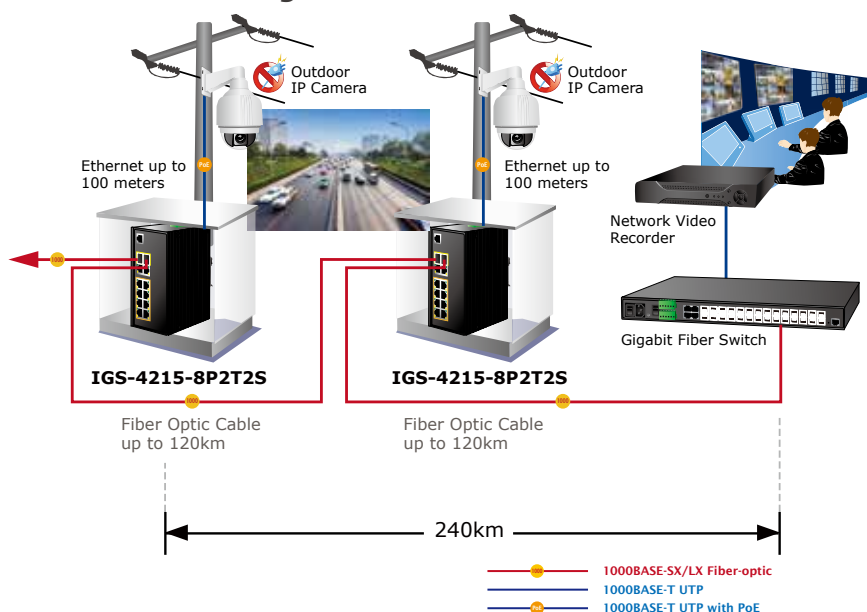
Multiple Spanning Tree Protocol with PoE Manageable Making Data Transmit Uninterrupted

The IGS-4215-8P2T2S features strong, rapid self-recovery capability to prevent interruptions and external intrusions. It incorporates Multiple Spanning Tree Protocol (802.1s MSTP) into customer's automation network to enhance system reliability and uptime. Applying the IEEE 802.3at Power over Ethernet Plus standard, the IGS-4215-8P2T2S can directly connect with any IEEE 802.3at end-nodes like PTZ (Pan, Tilt & Zoom) network cameras and speed dome cameras. The IGS-4215-8P2T2S can easily help system integrators with the available network infrastructure to build wireless AP, IP camera and VoIP systems where power can be centrally-controlled.
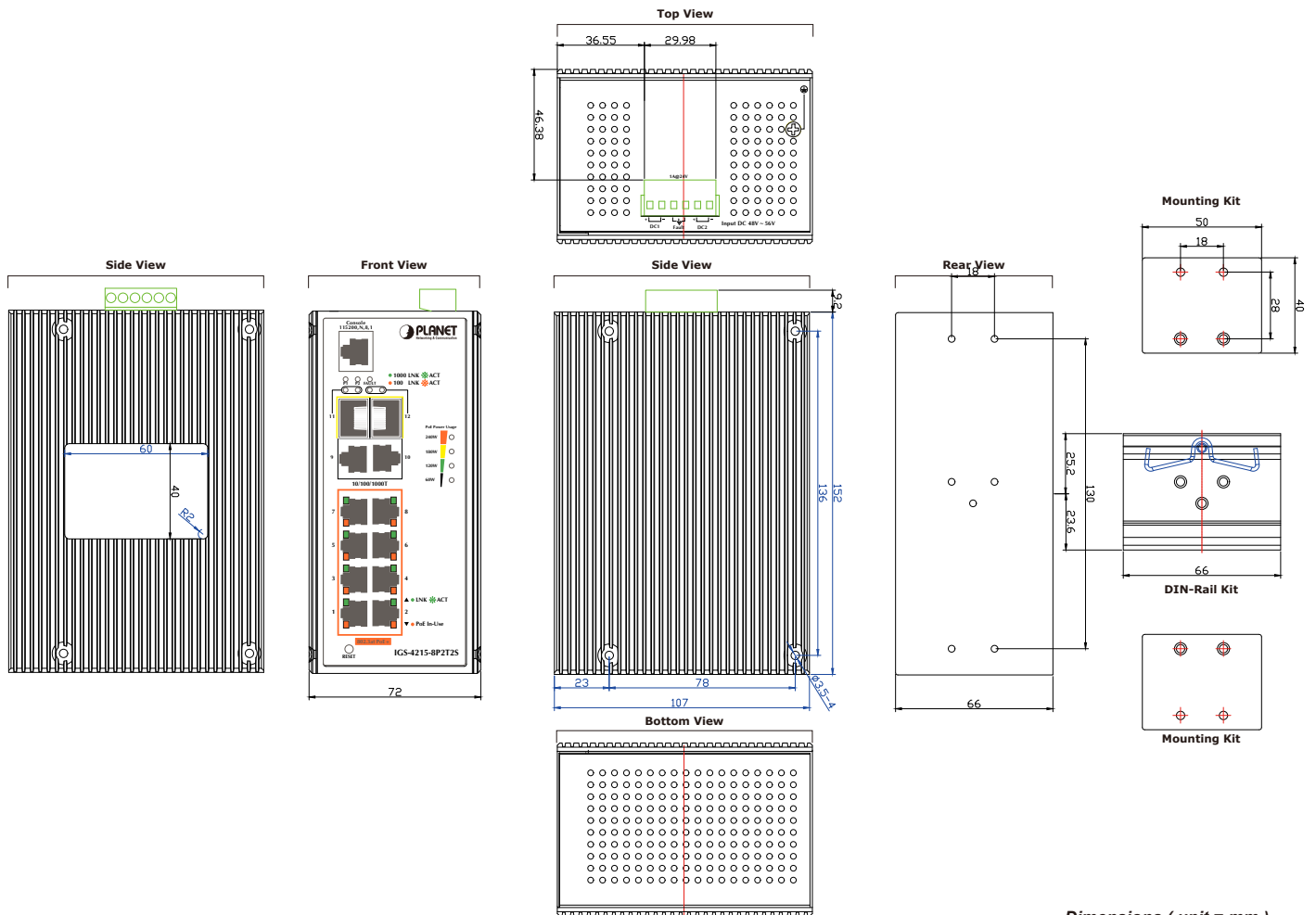
Specifications

Product	IGS-4215-8P2T2S
Hardware Specifications	
Copper Ports	Ten 10/100/1000BASE-T RJ45 auto-MDI/MDI-X ports (Port-1 to Port-10)
SFP/mini-GBIC Slots	Two 1000BASE-SX/LX/BX SFP interfaces (Port-11 and Port-12) Compatible with 100BASE-FX SFP
PoE Injector Port	Eight ports with 802.3af/802.3at PoE+ injector function (Port-1 to Port-8)
Console	1 x RS232-to-RJ45 serial port (115200,8, N, 1)
Switch Architecture	Store-and-Forward
Switch Fabric	24Gbps/non-blocking
Switch Throughput@64 bytes	17.85Mpps @64 bytes
MAC Address Table	8K entries
Shared Data Buffer	4.1 megabits
Flow Control	IEEE 802.3x pause frame for full-duplex Back pressure for half-duplex
Jumbo Frame	10 Kbytes
Reset Button	< 5 sec: System reboot > 5 sec: Factory default
LED	3 x LED for System and Power: • Green: DC Power 1 • Green: DC Power 2 • Red: Power Fault 2 x LED for PoE Copper Port (Port-1~Port-8): • Green: LNK/ACT (10/100/1000Mbps) • Orange: PoE-In-Use 2 x LED for 10/100/1000T Copper Port (Port-9~Port-10): • Green: 1000 LNK/ACT • Orange: 10/100 LNK/ACT 2 x LED for per mini-GBIC interface (Port-11 and Port-12) • Green: 1000 LNK/ACT • Orange: 100 LNK/ACT 4 x LED for PoE Power Usage (W) (Low to high) • Orange: 60W, 120W, 180W and 240W
Connector	Removable 6-pin terminal block Pin 1/2 for Power 1; Pin 3/4 for fault alarm; Pin 5/6 for Power 2
Alarm	One relay output for power failure. Alarm relay current carry ability: 1A @ 24V AC
Power Requirements	48~56V DC, 6A (max.) (>51V DC for PoE+ output recommended)
Power Consumption/ Dissipation	7.8 watts, 26BTU (Standby without PoE function) at DC 56V power input 14 watts, 47BTU (Full loading without PoE function) at DC 56V power input 242 watts, 825BTU (Full loading with PoE function) at DC 56V power input
Dimensions (W x D x H)	161 x 107 x 72 mm
Weight	1040g
ESD Protection	6KV DC
Enclosure	IP30 aluminum case
Installation	DIN-rail kit and wall-mount ear
Power over Ethernet	
PoE Standard	IEEE 802.3at Power over Ethernet Plus/PSE
PoE Power Supply Type	End-span
Power Pin Assignment	1/2(+), 3/6(-)
PoE Power Output	IEEE 802.3af Standard - Per port 48V~51V DC (depending on the power supply), max. 15.4 watts IEEE 802.3at Standard - Per port 51V~56V DC (depending on the power supply), max. 36 watts
PoE Power Budget	Dual power input: maximum 240W (depending on power input)
Max. Number of Class 2 PDs	8
Max. Number of Class 3 PDs	8
Max. Number of Class 4 PDs	8
Layer 2 Functions	
Port Mirroring	TX/RX/Both Many-to-1 monitor
VLAN	802.1Q tagged-based VLAN Up to 256 VLAN groups, out of 4094 VLAN IDs 802.1ad Q-in-Q tunneling (VLAN stacking) Voice VLAN Protocol VLAN Private VLAN (Protected port) GVRP Management VLAN
Link Aggregation	IEEE 802.3ad LACP and static trunk Supports 8 groups with 4 ports per trunk

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) STP BPDU Guard, BPDU Filtering and BPDU Forwarding
IGMP Snooping	IPv4 IGMP snooping v2, v3 IGMP querier Up to 256 multicast groups
MLD Snooping	IPv6 MLD snooping v2, v3, up to 256 multicast groups
Access Control List	IPv4/IPv6 IP-based ACL/MAC-based ACL IPv4/IPv6 IP-based ACE/MAC-based ACE
QoS	8 mapping IDs to 8 level priority queues - Port number - 802.1p priority - DSCP/IP precedence of IPv4/IPv6 packets Traffic classification based, strict priority and WRR Ingress/Egress Rate Limit per port bandwidth control
Security	IEEE 802.1X port-based authentication Built-in RADIUS client to cooperate with RADIUS server RADIUS/TACACS+ authentication IP-MAC port binding MAC filtering Static MAC address DHCP snooping and DHCP Option82 STP BPDU guard, BPDU filtering and BPDU forwarding DoS attack prevention ARP inspection IP source guard Storm control support - Broadcast/ unknown multicast/unknown unicast

Management Functions

Basic Management Interfaces	Web browser, Console,Telnet, SNMP v1, v2c, v3 Firmware upgrade by HTTP/TFTP protocol through Ethernet network Configuration upload/download through HTTP/TFTP Remote/local syslog System log LLDP protocol SNTP PLANET Smart Discovery Utility
Secure Management Interfaces	SSH, SSL, SNMP v3
SNMP MIBs	RFC 1213 MIB-II RFC 1215 Generic Traps RFC 1493 Bridge MIB RFC 2674 Bridge MIB Extensions RFC 2737 Entity MIB v2 RFC 2819 RMON (1, 2, 3, 9) RFC 2863 Interface Group MIB RFC 3635 Ethernet-like MIB

Standards Conformance

Regulatory Compliance	FCC Part 15 Class A, CE
Stability Testing	IEC 60068-2-32 (free fall) IEC 60068-2-27 (shock) IEC 60068-2-6 (vibration)
Standards Compliance	IEEE 802.3 10BASE-T IEEE 802.3u 100BASE-TX/100BASE-FX IEEE 802.3z Gigabit SX/LX IEEE 802.3ab Gigabit 1000BASE-T IEEE 802.3x Flow Control and Back Pressure IEEE 802.3ad Port Trunk with LACP IEEE 802.1D Spanning Tree Protocol IEEE 802.1w Rapid Spanning Tree Protocol IEEE 802.1s Multiple Spanning Tree Protocol IEEE 802.1p Class of Service IEEE 802.1Q VLAN Tagging IEEE 802.1x Port Authentication Network Control IEEE 802.1ab LLDP IEEE 802.3af Power over Ethernet IEEE 802.3at Power over Ethernet Plus RFC 768 UDP RFC 793 TFTP RFC 791 IP RFC 792 ICMP RFC 2068 HTTP RFC 1112 IGMP v1 RFC 2236 IGMP v2 RFC 3376 IGMP v3 RFC 2710 MLD v1 RFC 3810 MLD v2

Environment

Operating Temperature	-40 ~ 75 degrees C
Storage Temperature	-40 ~ 85 degrees C
Humidity	5 ~ 95% (non-condensing)

Drawing

Top View

Mounting Kit

Side View

Front View

Side View

Rear View

DIN-Rail Kit

Bottom View

Mounting Kit

Dimensions (unit = mm)

IGS-4215-8P2T2S	Industrial 8-Port 10/100/1000T 802.3at PoE + 2-Port 10/100/1000T + 2-Port 100/1000X SFP Managed Switch (-40~75 degrees C)

Related Products

IGS-4215-4P4T2S	Industrial 4-Port 10/100/1000T 802.3at PoE + 4-Port 10/100/1000T + 2-Port 100/1000X SFP Managed Switch (-40~75 degrees C)
IGS-4215-4P4T	Industrial 4-Port 10/100/1000T 802.3at PoE + 4-Port 10/100/1000T Managed Switch (-40~75 degrees C)

Accessories

PWR-240-48	240W 48V DC Single Output Industrial DIN-rail Power Supply (-20~70 degrees C)
PWR-480-48	480W 48V DC Single Output Industrial DIN-rail Power Supply (-20~70 degrees C)

Related PoE Products

ICA-2250VT	Industrial PoE Plus Outdoor IR IP Camera
ICA-3250V	Full HD Outdoor IR PoE IP Camera
ICA-E3550V	5 Mega-pixel Bullet IR PoE IP Camera
ICA-4200V	Full HD 20M IR Vari-focal Dome IP Camera
ICA-4500V	5 Mega-pixel 20M IR Vari-focal Dome IP Camera
ICA-E5550V	5 Mega-pixel Vandalproof IR PoE IP Camera
ICA-E8550	5 Mega-pixel Outdoor IR PoE Fisheye IP Camera
ICA-HM351	2 Mega-pixel 35M IR Outdoor Box PoE IP Camera
ICA-HM620	2 Mega-pixel PoE Plus Speed Dome Internet Camera
POE-162S	IEEE 802.3at Gigabit High Power over Ethernet Splitter
POE-E201	IEEE 802.3at Power over Ethernet Extender
WDAP-1750AC	1750Mbps 802.11ac Dual Band Wall-mount Enterprise Wireless Access Point
WNAP-C3220A	802.11n Wireless Ceiling-mount PoE Access Point
WNAP-W2201A	802.11n 300Mbps In-Wall Access Point w/USB Charger (EU Type)
WDAP-C7200AC	1200Mbps 802.11ac Dual Band Ceiling-mount Wireless Access Point
WDAP-W7200AC	1200Mbps 802.11ac Dual Band Wall-mount Wireless Access Point
ICF-1800	HD Touch Screen Android Multimedia Conferencing Phone
VIP-5060PT	Professional HD PoE IP Phone (6-Line)

Available Gigabit SFP Modules for IGS-4215-8P2T2S

MGB-GT	SFP-Port 1000BASE-T Module
MGB-SX	SFP-Port 1000BASE-SX mini-GBIC module - 220/550m
MGB-SX2	SFP-Port 1000BASE-SX mini-GBIC module – 2km
MGB-LX	SFP-Port 1000BASE-LX mini-GBIC module - 10km
MGB-L30	SFP-Port 1000BASE-LX mini-GBIC module - 30km
MGB-L50	SFP-Port 1000BASE-LX mini-GBIC module - 50km
MGB-L70	SFP-Port 1000BASE-LX mini-GBIC module - 70km
MGB-L120	SFP-Port 1000BASE-LX mini-GBIC module - 120km
MGB-LA10	SFP-Port 1000BASE-LX (WDM,TX:1310nm) mini-GBIC module - 10km
MGB-LB10	SFP-Port 1000BASE-LX (WDM,TX:1550nm) mini-GBIC module - 10km
MGB-LA20	SFP-Port 1000BASE-LX (WDM,TX:1310nm) mini-GBIC module - 20km
MGB-LB20	SFP-Port 1000BASE-LX (WDM,TX:1550nm) mini-GBIC module - 20km
MGB-LA40	SFP-Port 1000BASE-LX (WDM,TX:1310nm) mini-GBIC module - 40km
MGB-LB40	SFP-Port 1000BASE-LX (WDM,TX:1550nm) mini-GBIC module - 40km
MGB-TSX	SFP-Port 1000BASE-SX mini-GBIC module - 220/550m (-40 ~ 75°C)
MGB-TLX	SFP-Port 1000BASE-LX mini-GBIC module - 10km (-40 ~ 75°C)
MGB-TL30	SFP-Port 1000BASE-LX mini-GBIC module - 30km (-40 ~ 75°C)
MGB-TL70	SFP-Port 1000BASE-LX mini-GBIC module - 70km (-40 ~ 75°C)
MGB-TLA10	SFP-Port 1000BASE-LX (WDM,TX:1310nm) mini-GBIC module - 10km (-40 ~ 75°C)
MGB-TLB10	SFP-Port 1000BASE-LX (WDM,TX:1550nm) mini-GBIC module - 10km (-40 ~ 75°C)
MGB-TLA20	SFP-Port 1000BASE-LX (WDM,TX:1310nm) mini-GBIC module - 20km (-40 ~ 75°C)
MGB-TLB20	SFP-Port 1000BASE-LX (WDM,TX:1550nm) mini-GBIC module - 20km (-40 ~ 75°C)
MGB-TLA40	SFP-Port 1000BASE-LX (WDM,TX:1310nm) mini-GBIC module - 40km (-40 ~ 75°C)
MGB-TLB40	SFP-Port 1000BASE-LX (WDM,TX:1550nm) mini-GBIC module - 40km (-40 ~ 75°C)
MGB-TLA60	SFP-Port 1000BASE-LX (WDM,TX:1310nm) mini-GBIC module - 60km (-40 ~ 75°C)
MGB-TLB60	SFP-Port 1000BASE-LX (WDM,TX:1550nm) mini-GBIC module - 60km (-40 ~ 75°C)

IGS-4215-8P2T2S