Industrial L2/L4 Multi-port 802.3at PoE + 2-Port 100/1000X SFP Managed Ethernet Switch Series



Architecture-optimized Full PoE+ Power Solution Ideal for Hardened Environment

Designed to be installed in heavy industrial demanding environments, PLANET's newly-launched IGS-4215 PoE series, an Industrial-grade, DIN-rail type L2/L4 Managed Gigabit PoE+ Switch, features **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 **4** or **8** or **16 10/100/1000BASE-T** ports featuring **36-watt 802.3at PoE+**, **2 or 4 additional Gigabit copper ports** and another **2 extra 100/1000BASE-X SFP fiber slots** for data and video uplink. The IGS-4215 PoE series 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 **320 watts** for different kinds of PoE applications and operating temperature ranging from **-40** to **75 degrees C** in a rugged IP30 metal housing.

Models / Item	IGS-4215-4P4T	IGS-4215-4P4T2S	IGS-4215-8P2T2S	IGS-4215-16P2T2S
10/100/1000BASE-T Copper	8	8	10	18
100/1000BASE-X SFP	-	2	2	2
PoE Standard	IEEE 802.3at PoE+			
PoE Ports	4	4	8	16
PoE Budget	144 watts	144 watts	240 watts	320 watts
Power Input	48~54V DC x 2			

Cybersecurity Network Solution to Minimize Security Risks

The IGS-4215 PoE series comes with enhanced cybersecurity to fend off cyberthreats and cyberattacks. It supports SSHv2 and TLSv1.2 protocols to provide strong protection against advanced threats. Served as a key point to transmit data over a long-distance fiber optic cable to customer's critical equipment in a business network, the cybersecurity feature of the IGS-4215 PoE series protects the switch management and enhances the security of the mission-critical network without any extra deployment cost and effort.

Physical Port

- **4/8/16 10/100/1000BASE-T** Gigabit Ethernet RJ45 ports with **IEEE 802.3at/af PoE+** Injector function
- **4/2 10/100/1000BASE-T** Gigabit Ethernet RJ45 ports
- **Two 100/1000BASE-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, end-span PSE
- Backward compatible with IEEE 802.3af Power over Ethernet
- Up to 4/8/16 ports of IEEE 802.3af/802.3at devices powered
- 144-/240-/320-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 in standard mode and 250m in extend mode
- 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
- Intelligent PoE features
  - Temperature threshold control
  - PoE extension
  - PD alive check
  - PoE schedule

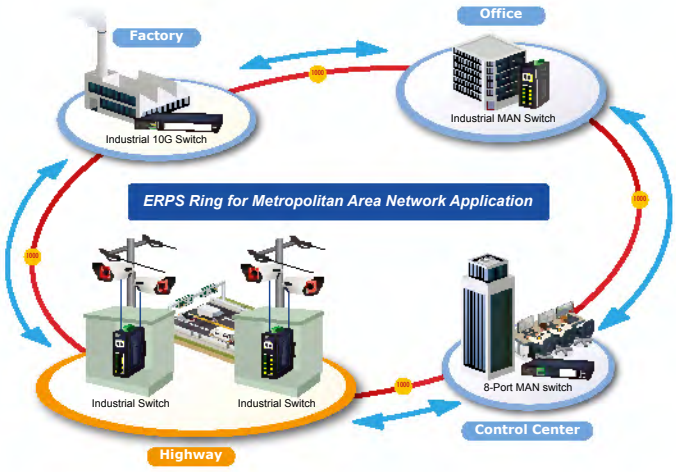
Industrial Hardened Design

- 48~54V DC, redundant power with reverse polarity protection
- DIN-rail and wall-mount designs
- IP30 aluminum case
- Supports 6KV DC Ethernet ESD protection
- -40 to 75 degrees C operating temperature



Redundant Ring, Fast Recovery for Critical Network Applications

The IGS-4215 PoE series 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) into customer's network to enhance system reliability and uptime in various environments.



Built-in Unique PoE Functions for Powered Devices Management

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

- PD alive check
- Scheduled power recycling
- PoE schedule
- PoE usage monitoring
- PoE extension

Intelligent Powered Device Alive Check

The IGS-4215 PoE series 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 PoE series 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.

Digital Input and Digital Output (IGS-4215-16P2T2S only)

- 2 digital input (DI)
- 2 digital output (DO)
- Integrate sensors into auto alarm system
- Transfer alarm to IP network via SNMP trap

Switching

- Hardware-based 10/100Mbps (half/full duplex), 1000Mbps (full duplex), auto-negotiation and auto MDI/MDI-X
- IEEE 802.3x flow control for full duplex operation and back pressure for half duplex operation
- 8K MAC address table size
- 10K jumbo frame
- Automatic address learning and address aging

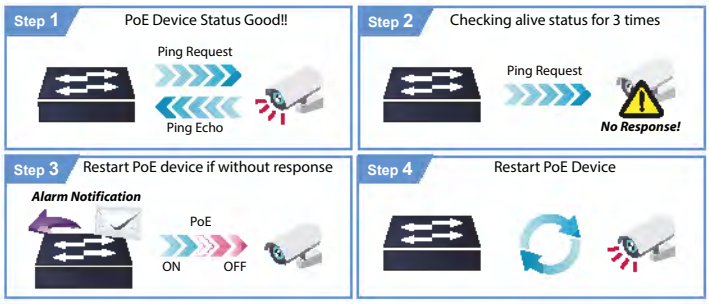
Layer 2 Features

- 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**
  - 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
  - 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 6 trunk groups, up to 8 ports per trunk group
- Provides port mirror (many-to-1)
- 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
- Traffic classification

PD Alive Check



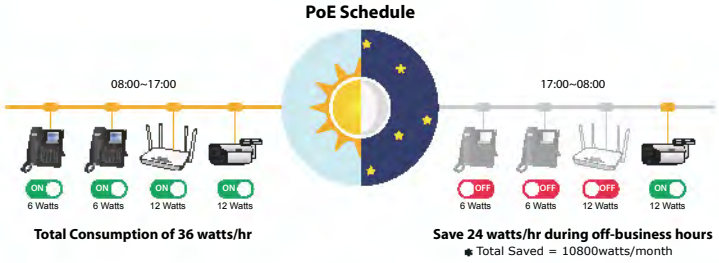
Scheduled Power Recycling

The IGS-4215 PoE series 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.



PoE Schedule for Energy Savings

Under the global trend of energy saving and contributing to environmental protection, the IGS-4215 PoE series 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.



802.3at PoE+ Power and Ethernet Data Transmission Distance Extension

In the "Extend" operation mode, the IGS-4215 PoE series operates on a per-port basis at 10Mbps duplex operation but can support 20-watt PoE power output over a distance of up to 250 meters overcoming the 100m limit on Ethernet UTP cable. With this brand-new feature, the IGS-4215 PoE series provides an additional solution for 802.3at/af PoE distance extension, thus saving the cost of Ethernet cable installation.

- IEEE 802.1p CoS
- 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

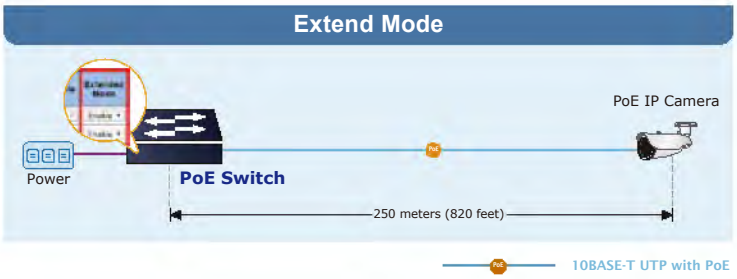
- Supports IPv4 IGMP snooping v2, v3
- Supports IPv6 MLD snooping v1, v2
- IGMP querier mode support
- IGMP snooping port filtering
- MLD snooping port filtering

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 Relay and DHCP Option 82
  - RADIUS/TACACS+ users access authentication
- Access Control List
  - IPv4/IPv6 IP-based ACL
  - 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
- DoS attack prevention

Management

- IPv4 and IPv6 dual stack management
- Switch Management Interface
  - Web switch management
  - Console/Telnet Command Line Interface
  - SNMP v1 and v2c switch management
  - SSHv2, TLSv1.2 and SNMP v3 secure access
- SNMP Management



Intelligent LED Indicators for Real-time PoE Usage Monitoring

Via the power usage chart in the web management interface, the IGS-4215 PoE series **(IGS-4215-4P4T, IGS-4215-4P4T2S, and IGS-4215-8P2T2S only**) 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 PoE series 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 PoE series has four amber LEDs indicating four different PoE power usages.



- SNMP trap for interface Link Up and Link Down notification
- Four RMON groups (history, statistics, alarms and events)
- 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
- Network Diagnostic
  - Cable diagnostics
  - ICMPv6/ICMPv4 Remote Ping
  - SFP-DDM (Digital Diagnostic Monitor)
- Link Layer Discovery Protocol (LLDP) Protocol and LLDP-MED
- Event message logging to remote syslog server
- PLANET Smart Discovery Utility for deployment management
- PLANET NMS system and CloudViewer/CloudViewerPro for deployment management

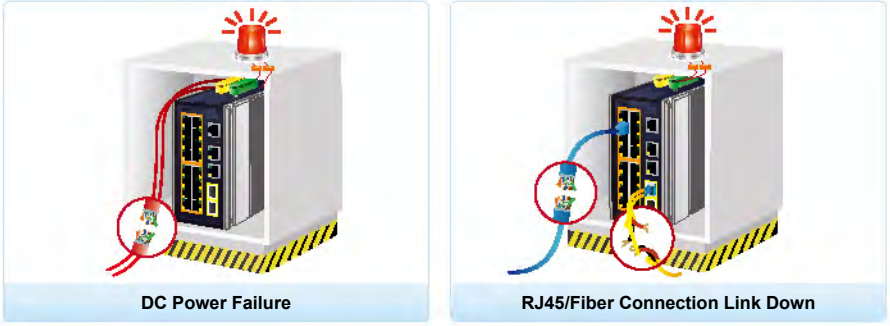
Digital Input and Digital Output for External Alarm

The IGS-4215 PoE series **(IGS-4215-16P2T2S only)** supports Digital Input and Digital Output on its front panel. This external alarm enables users to use Digital Input to detect and log external device status (such as door intrusion detector), and send event alarm to the administrators. The Digital Output could be used to alarm the administrators if the IGS-4215 PoE series port shows link down, link up or power failure.

Digital Input



Digital Output



Environmentally Hardened Design

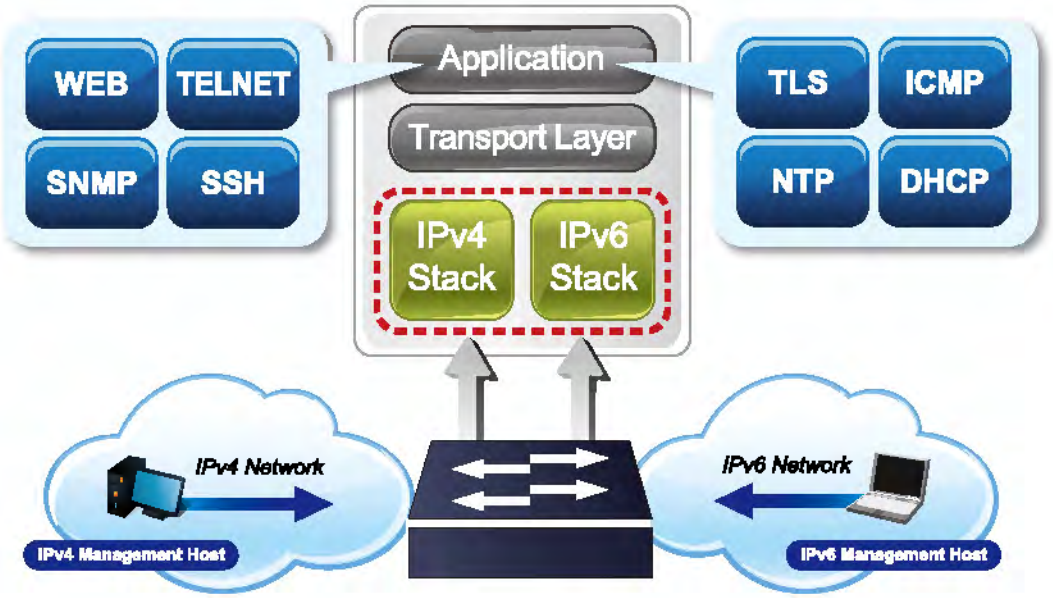
With the IP30 aluminum industrial case, the IGS-4215 PoE series provides a high level of immunity against electromagnetic interference and heavy electrical surges which are usually found on plant floors or in curb-side traffic control cabinets without air conditioner. Being able to operate under the temperature range from -40 to 75 degrees C, the IGS-4215 PoE series can be placed in almost any difficult environment.

Robust Protection

The IGS-4215 PoE series 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.

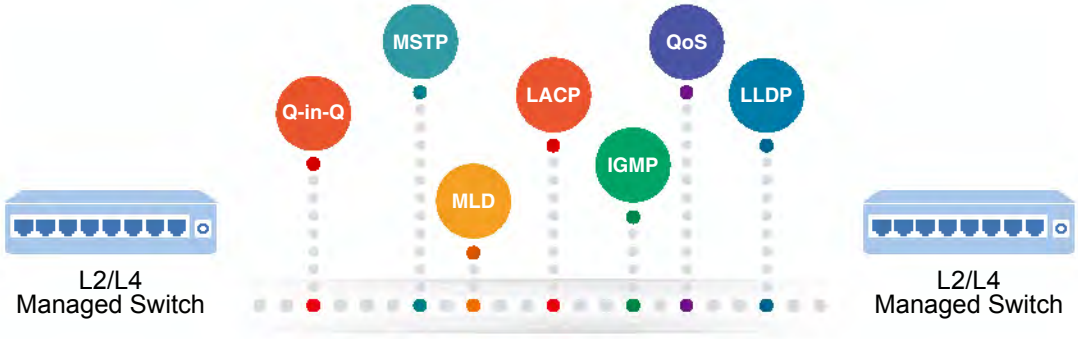
IPv6/IPv4 Dual Stack Management

Supporting both IPv6 and IPv4 protocols, the IGS-4215 PoE series 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 PoE series 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 PoE series 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.



Efficient Traffic Control

The IGS-4215 PoE series 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.

Powerful Security

PLANET IGS-4215 PoE series 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 to limit the number of network devices on a given port. The network administrators can now construct highly-secure corporate networks with considerably less time and effort than before.

Advanced Network Security

The IGS-4215 PoE series 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.

User-friendly and Secure Management

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

- With the built-in **Web-based** management interface, the IGS-4215 PoE series offers an easy-to-use, platform-independent management and configuration facility.
- For **text-based** management, it can be accessed via Telnet and the console port.
- By supporting the standard SNMP protocol, the switch can be managed via any SNMP-based management software.

Moreover, the IGS-4215 PoE series offers secure remote management by supporting **SSHv2**, **TLSv1.2** and **SNMP v3** connections which encrypt the packet content at each session.



Remote Management Solution

PLANET's **Universal Network Management System (UNI-NMS)** and CloudViewer app support IT staff by remotely managing all network devices and monitoring PDs' operational statuses. Thus, they're designed for both the enterprises and industries where deployments of PDs can be as remote as possible, without having to go to the actual location once a bug or faulty condition is found. With the UNI-NMS or CloudViewer app, all kinds of businesses can now be speedily and efficiently managed from one platform.

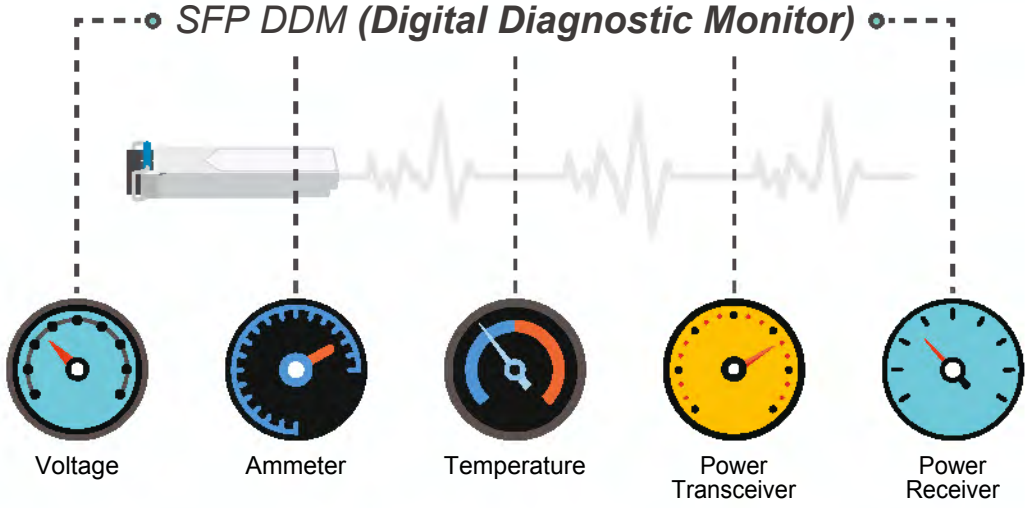


Flexible Long-distance Extension Solution

The IGS-4215 PoE series provides 2 or 4 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 to 10/20/40/60/80/120 kilometers (single-mode fiber or WDM fiber). They are well suited for applications within the enterprise data centers and distributions.

Intelligent SFP Diagnosis Mechanism

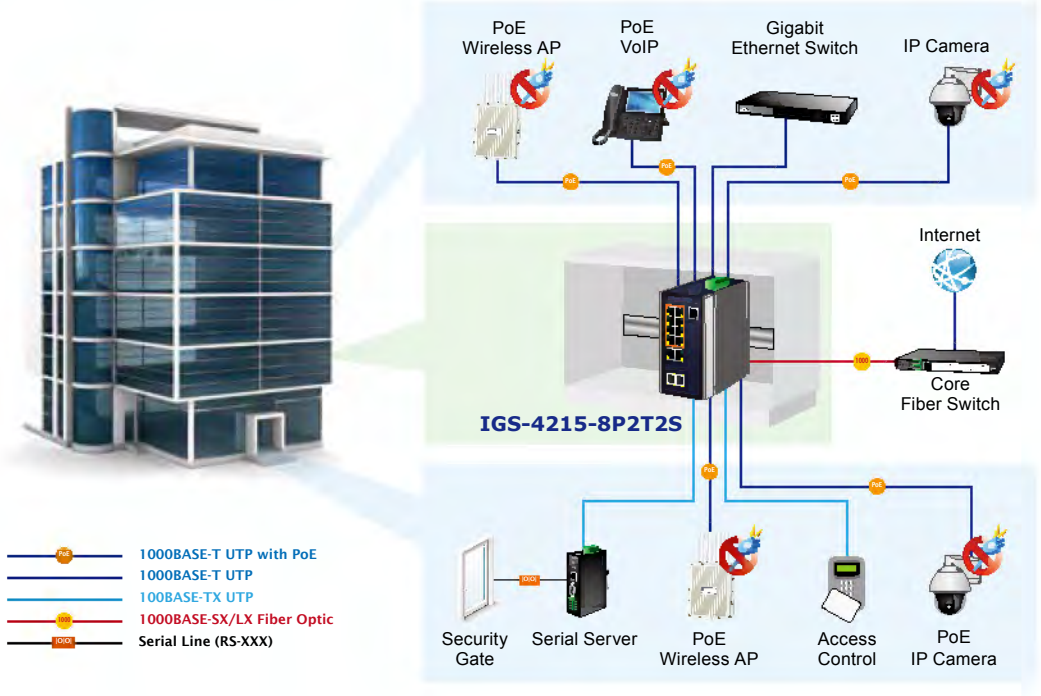
The IGS-4215 PoE series supports **SFP-DDM (Digital Diagnostic Monitor)** function that can easily monitor real-time parameters of the SFP for the network administrator, such as optical output power, optical input power, temperature, laser bias current, and transceiver supply voltage.



Applications

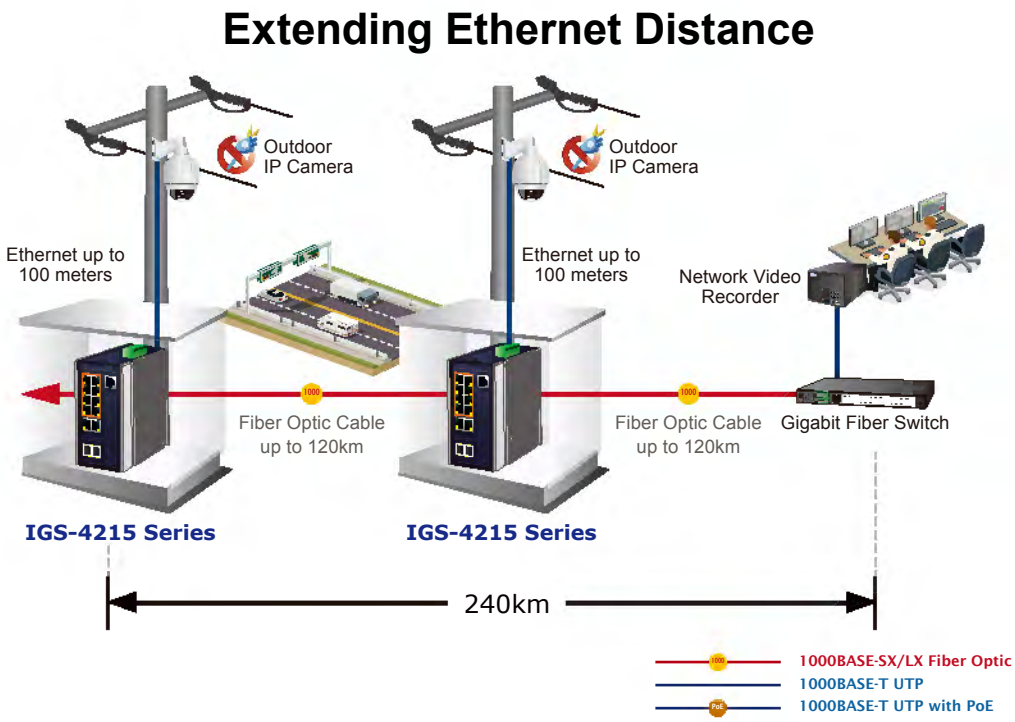
Industrial-grade PoE+ Switch for Building Automation and Security

Suitable for buildings where security is strictly to be enforced, the IGS-4215 PoE series, with up to 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 PoE series makes the installation of IP cameras or wireless APs easier and more efficient.



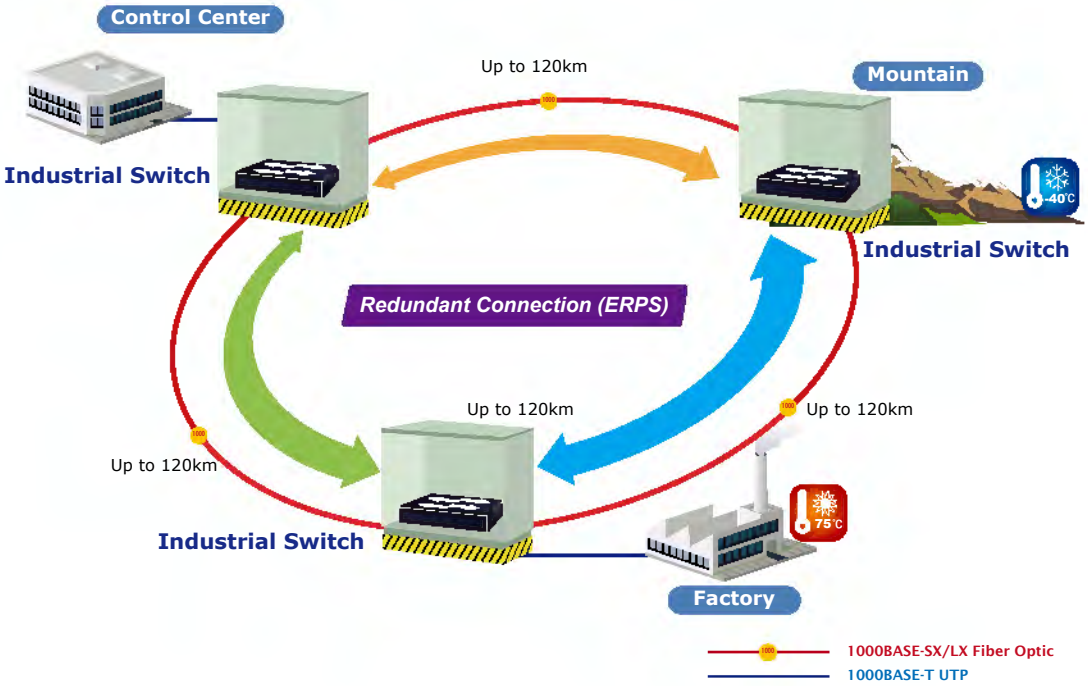
Perfect Integration Solution for IP PoE Camera and NVR System

The IGS-4215 PoE series provides 4 or 8 or 16 10/100/1000BASE-T 802.3at PoE+ ports which can offer sufficient PoE power to multile PoE IP cameras at the same time. In addition, with the two 100/1000BASE-X SFP interfaces, the IGS-4215 PoE series 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 PoE series facilitates the recorded video files from the 4 or 8 or 16 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 PoE series undoubtedly brings an ideal secure surveillance system at a lower total cost.



ITU-T G.8032 ERPS Makes Data Transmission Uninterrupted

The IGS-4215 PoE series features strong rapid self-recovery capability to prevent interruptions and external intrusions. It incorporates **ITU-T G.8032 ERPS (Ethernet Ring Protection Switching)** technology into customer's automation network to enhance system reliability and uptime. Applying the IEEE 802.3at Power over Ethernet standard, the IGS-4215 PoE series can directly connect with any IEEE 802.3at end-nodes like PTZ (Pan, Tilt & Zoom) network cameras and speed dome cameras. The IGS-4215 PoE series 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

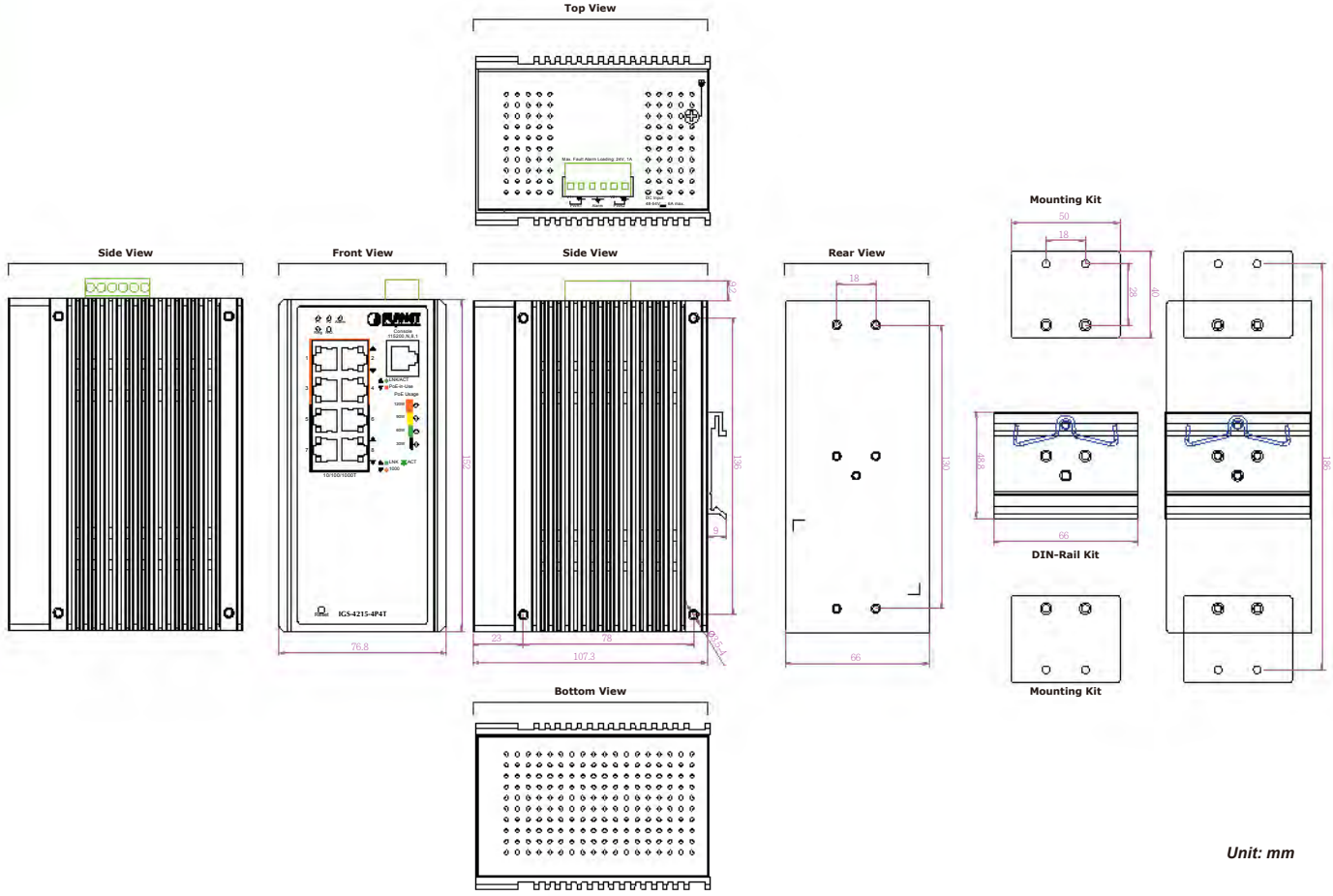
Product		IGS-4215-4P4T	IGS-4215-4P4T2S	IGS-4215-8P2T2S	IGS-4215-16P2T2S
Hardware Specifications					
Copper Ports		8	8	10	18
		10/100/1000BASE-T RJ45 auto-MDI/MDI-X port			
SFP Ports		-	2	2	2
		-	1000BASE-SX/LX/BX SFP interfaces Compatible with 100BASE-FX SFP		
PoE Injector Port		4	4	8	16
		802.3at PoE+			
Console		1 x RS232-to-RJ45 serial port (115200,8, N, 1)			
RAM		128Mbytes			
Flash Memory		16Mbytes			
Reset Button		< 5 sec: System reboot > 5 sec: Factory default			
Connector		Removable 6-pin terminal block : Pin 1/2 for Power 1 ; Pin 3/4 for fault alarm ; Pin 5/6 for Power 2 Removable 6-pin terminal block for DI/DO interface (IGS-4215-16P2T2S only) : Pin 1/2 for DI 1 & 2, Pin 3/4 for DO 1 & 2, Pin 5/6 for GND			
Alarm		One relay output for power failure. Alarm relay current carry ability: 1A @ 24V AC			
DI, DO (IGS-4215-16P2T2S only)		2 digital input (DI)		Level 0: -24V~2.1V (±0.1V) Level 1: 2.1V~24V (±0.1V) Input load to 24V DC, 10mA max.	
		2 digital output (DO)		Open collector to 24V DC, 100mA max.	
Power Requirements		48~54V DC, 6A (max.)	48~54V DC, 6A (max.)	48~54V DC, 6A (max.)	48~54V DC, 7.5A (max.)
		(>52V DC for PoE+ output recommended)			
Power Consumption/ Dissipation	System On	Max.4.32 watts/ 14.73BTU	Max. 6.72 watts/ 22.91BTU	Max. 6.72 watts/ 22.91BTU	Max. 7.8 watts/ 26.61BTU
	PoE Full Loading	Max. 151 watts/ 514.91BTU	Max. 156 watts/ 531.96BTU	Max. 252 watts/ 859.32BTU	Max. 351 watts/ 1197.66BTU
Dimensions (W x D x H)		76.8 x 107.3 x 152 mm			76 x 135 x 152 mm
Weight		1,000g	1,043g	1,084g	1,404g
Enclosure		IP30 aluminum case			
Installation		DIN-rail kit and wall-mount ear			
ESD Protection		Contact Discharge 6KV DC Air Discharge 8KV DC			
Surge Protection		4KV DC			
Switching Specifications					
Switch Architecture		Store-and-Forward			
Switch Fabric		16Gbps/nonblocking	20Gbps/non-blocking	24Gbps/non-blocking	40Gbps/non-blocking
Switch Throughput@64 bytes		11.9Mpps	14.8Mpps	17.85Mpps	29.7Mpps
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			
Power over Ethernet					
PoE Standard		IEEE 802.3at PoE+ PSE			
PoE Power Supply Type		End-span			
Power Pin Assignment		1/2(+), 3/6(-)			
PoE Power Output	IEEE 802.3af	Per port 48V~51V DC, max. 15.4 watts			
	IEEE 802.3at	Per port 51V~54V DC, max. 36 watts			
PoE Power Budget		144 watts maximum	144 watts maximum	240 watts maximum	320 watts maximum
Max. Number of Class 4 PDs		4	4	8	10
PoE Management Functions					
Enhanced PoE Mode		Standard/Legacy/Force			
PoE Management		PD Alive Check Scheduled Power Recycling PoE Schedule PoE Usage Monitoring PoE Extension			
Active PoE Device Live Detection		Yes			

PoE Power Recycling	Yes, daily or predefined schedule
PoE Schedule	4 schedule profiles
PoE Extend Mode	Yes, max. up to 250 meters
Layer 2 Functions	
Port Mirroring	TX/RX/Both Many-to-1 monitor Up to 4 sessions
VLAN	802.1Q tagged VLAN 802.1ad Q-in-Q tunneling (VLAN stacking) Voice VLAN Protocol VLAN Private VLAN (Protected port) GVRP Management VLAN Up to 256 VLAN groups, out of 4094 VLAN IDs
Link Aggregation	IEEE 802.3ad LACP and static trunk Supports 8 groups with 8 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
Ring	Supports ERPS, and complies with ITU-T G.8032 Recovery time < 450ms
Security Functions	
Access Control List	IPv4/IPv6 IP-based ACL/MAC-based ACL IPv4/IPv6 IP-based ACE/MAC-based ACE Max. 256 ACL entries
Port Security	IEEE 802.1X – Port-based authentication Built-in RADIUS client to co-operate with RADIUS server RADIUS/TACACS+ user access authentication
MAC Security	IP-MAC port binding MAC filter Static MAC address, max. 256 static MAC entries
Enhanced Security	DHCP Snooping and DHCP Option82 STP BPDU guard, BPDU filtering and BPDU forwarding DoS attack prevention ARP inspection IP source guard
Management Functions	
Basic Management Interfaces	RS232 to RJ45 Console Web browser Telnet SNMP v1, v2c
Secure Management Interfaces	SSHv2, TLS v1.2, SNMP v3
System Management	Firmware upgrade by HTTP/TFTP protocol through Ethernet network Configuration upload/download through HTTP/TFTP LLDP protocol SNTP PLANET Smart Discovery Utility PLANET NMS System/CloudViewer

Event Management	Remote/Local Syslog System log
SNMP MIBs	RFC 1213 MIB-II RFC 1215 Generic Traps RFC 1493 Bridge MIB RFC 2674 Bridge MIB Extensions RFC 2737 Entity MIB (Version 2) RFC 2819 RMON (1, 2, 3, 9) RFC 2863 Interface Group MIB RFC 3635 Ethernet-like MIB RFC 3621 Power Ethernet MIB
Standards Conformance	
Regulatory Compliance	FCC Part 15 Class A EN 55032 EN 55035 ICES-003 issue 7
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 IEEE 802.3az for Energy-Efficient Ethernet RFC 768 UDP RFC 783 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 ITU G.8032 ERPS Ring
Environment	
Operating Temperature	-40 ~ 75 degrees C
Storage Temperature	-40 ~ 85 degrees C
Humidity	5 ~ 95% (non-condensing)

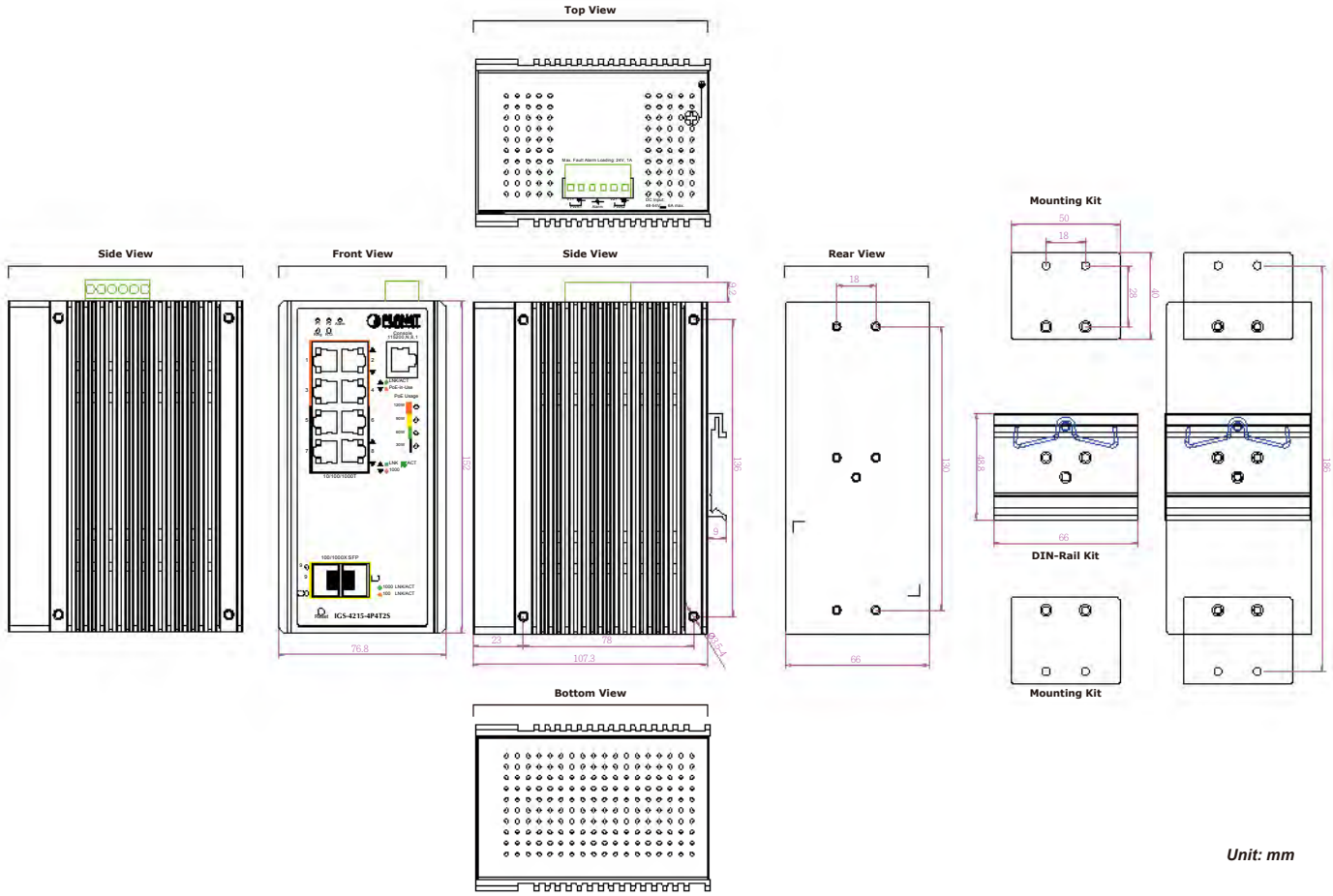
Dimensions

■ IGS-4215-4P4T



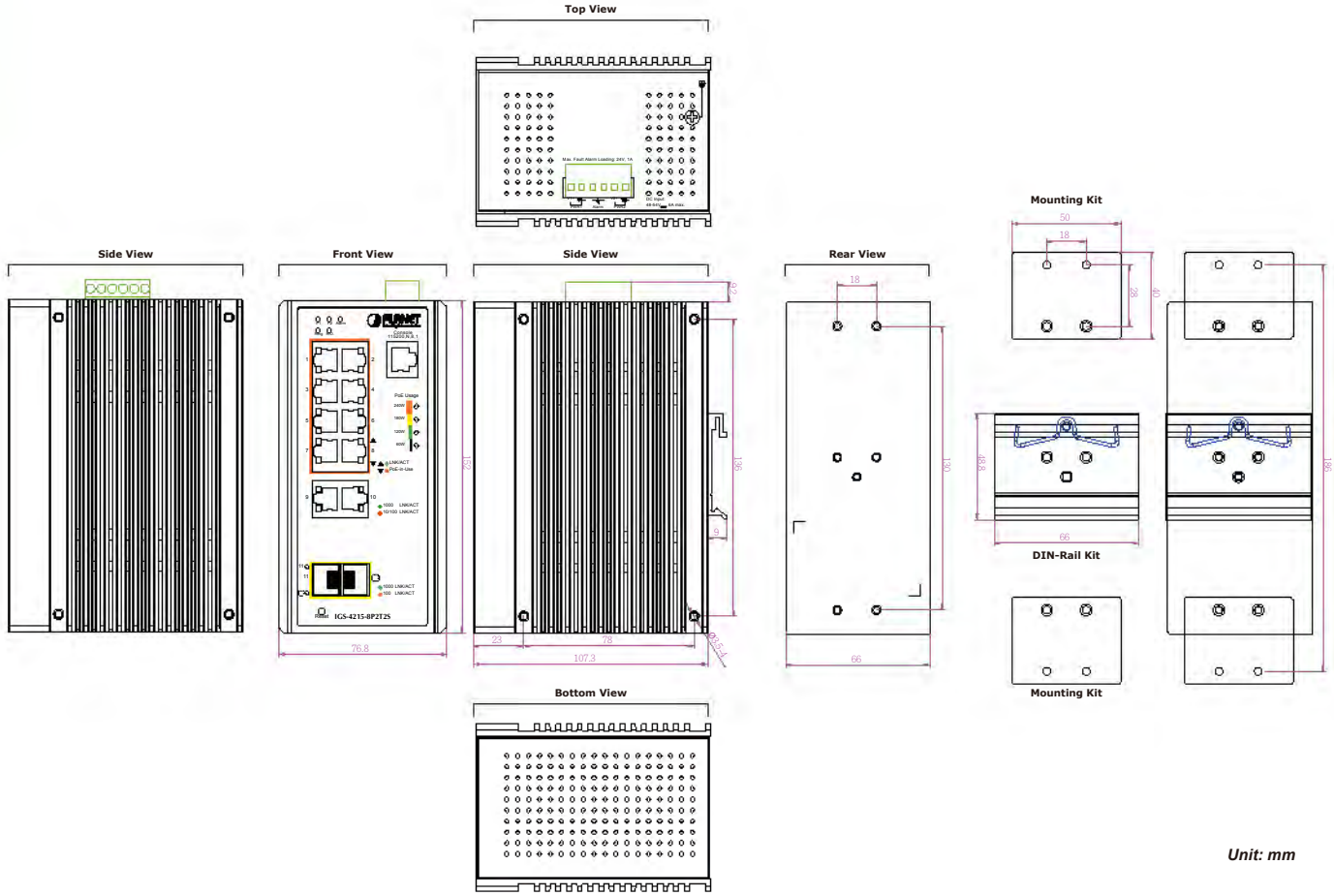
Unit: mm

■ IGS-4215-4P4T2S



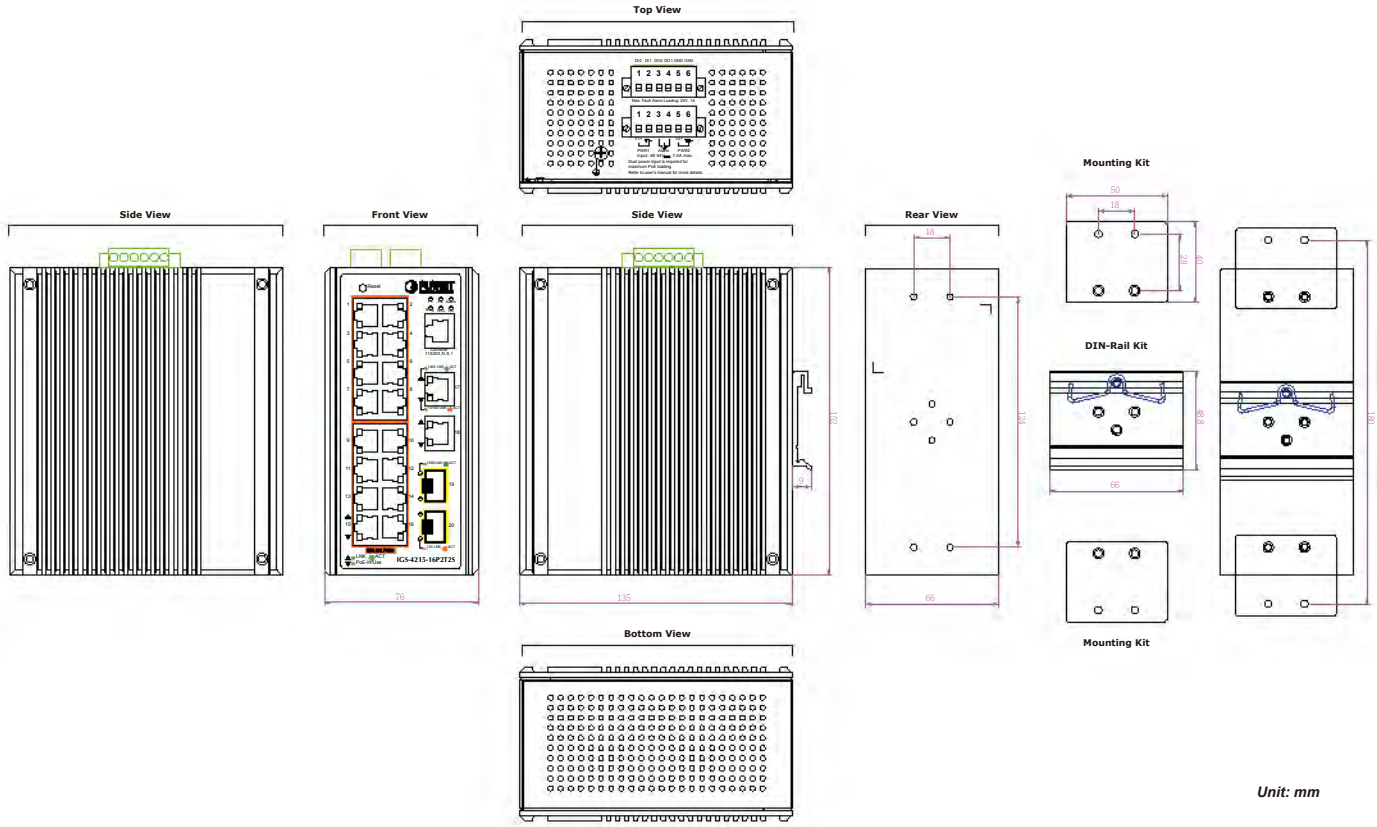
Unit: mm

■ IGS-4215-8P2T2S



Unit: mm

■ IGS-4215-16P2T2S



Unit: mm

Ordering Information

IGS-4215-4P4T	Industrial 4-Port 10/100/1000T 802.3at PoE + 4-Port 10/100/1000T Managed Switch (-40~75 degrees C)
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-4215-8P2T2S	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)
IGS-4215-16P2T2S	Industrial 16-Port 10/100/1000T 802.3at PoE + 2-Port 10/100/1000T + 2-Port 100/1000X SFP Managed Ethernet Switch (-40~75 degrees C)

Related Products

IGS-4215-4T2S	Industrial L2/L4 4-Port 10/100/1000T + 2-Port 100/1000X SFP Managed Switch (-40~75 degrees C)
IGS-4215-8T2S	Industrial L2/L4 8-Port 10/100/1000T + 2-Port 100/1000X SFP Managed Switch(-40~75 degrees C)
IGS-4215-16T2S	Industrial L2/L4 16-Port 10/100/1000T + 2-Port 100/1000X SFP Managed Switch (-40~75 degrees C)
WGS-804HP	8-Port 10/100/1000T Wall Mounted Gigabit Ethernet Switch with 4-Port PoE+(-40~75 degrees C)
WGS-4215-8P2S	Industrial 8-Port 10/100/1000T 802.3at PoE + 2-Port 100/1000X SFP Wall-mounted Managed Switch (-40~75 degrees C)
WGS-4215-8HP2S	Industrial 4-Port 10/100/1000T 802.3bt PoE + 4-Port 10/100/1000T 802.3at PoE + 2-Port 100/1000X SFP Wall-mount Managed Switch (-40~75 degrees C)
WGS-4215-16P2S	Industrial 16-Port 10/100/1000T 802.3at PoE + 2-Port 100/1000X SFP Wall-mounted Managed Switch (-10~60 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)

Available Gigabit SFP Modules

Gigabit Ethernet Transceiver (1000BASE-X SFP)

Model	Speed (Mbps)	Connector Interface	Fiber Mode	Distance	Wavelength (nm)	Operating Temp.	Operating Temp.
MGB-GT	1000	Copper	--	100m	--	0 ~ 60 degrees C	0 ~ 60 degrees C
MGB-TSX	1000	LC	Multi Mode	550m	850nm	-40 ~ 85 degrees C	0 ~ 60 degrees C
MGB-TLX	1000	LC	Single Mode	10km	1310nm	-40 ~ 85 degrees C	0 ~ 60 degrees C
MGB-TL30	1000	LC	Single Mode	30km	1310nm	-40 ~ 85 degrees C	0 ~ 60 degrees C
MGB-TL70	1000	LC	Single Mode	70km	1550nm	-40 ~ 85 degrees C	0 ~ 60 degrees C

Gigabit Ethernet Transceiver (1000BASE-BX, Single Fiber Bi-directional SFP)

Model	Speed (Mbps)	Connector Interface	Fiber Mode	Distance	Wavelength (TX)	Wavelength (RX)	Operating Temp.
MGB-TLA10	1000	WDM(LC)	Single Mode	10km	1310nm	1550nm	-40 ~ 85 degrees C
MGB-TLB10	1000	WDM(LC)	Single Mode	10km	1550nm	1310nm	-40 ~ 85 degrees C
MGB-TLA20	1000	WDM(LC)	Single Mode	20km	1310nm	1550nm	-40 ~ 85 degrees C
MGB-TLB20	1000	WDM(LC)	Single Mode	20km	1550nm	1310nm	-40 ~ 85 degrees C
MGB-TLA40	1000	WDM(LC)	Single Mode	40km	1310nm	1550nm	-40 ~ 85 degrees C
MGB-TLB40	1000	WDM(LC)	Single Mode	40km	1550nm	1310nm	-40 ~ 85 degrees C
MGB-TLA60	1000	WDM(LC)	Single Mode	60km	1310nm	1550nm	-40 ~ 85 degrees C
MGB-TLB60	1000	WDM(LC)	Single Mode	60km	1550nm	1310nm	-40 ~ 85 degrees C

Available Fast Ethernet SFP Modules

Fast Ethernet Transceiver (100BASE-X SFP)

Model	Speed (Mbps)	Connector Interface	Fiber Mode	Distance	Wavelength (nm)	Operating Temp.
MFB-TFX	100	LC	Multi Mode	2km	1310nm	-40 ~ 85 degrees C
MFB-TF20	100	LC	Single Mode	20km	1550nm	-40 ~ 85 degrees C

Fast Ethernet Transceiver (100BASE-BX, Single Fiber Bi-directional SFP)

Model	Speed (Mbps)	Connector Interface	Fiber Mode	Distance	Wavelength (TX)	Wavelength (RX)	Operating Temp.
MFB-TFA20	100	WDM(LC)	Single Mode	20km	1310nm	1550nm	-40 ~ 85 degrees C
MFB-TFB20	100	WDM(LC)	Single Mode	20km	1550nm	1310nm	-40 ~ 85 degrees C
MFB-TFA40	100	WDM(LC)	Single Mode	40km	1310nm	1550nm	-40 ~ 85 degrees C
MFB-TFB40	100	WDM(LC)	Single Mode	40km	1550nm	1310nm	-40 ~ 85 degrees C

PLANET Technology Corporation

11F., No.96, Minquan Rd., Xindian Dist., New Taipei City 231, Taiwan (R.O.C.)

Tel: 886-2-2219-9518 Fax: 886-2-2219-9528

Email: sales@planet.com.tw www.planet.com.tw

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