Industrial L2+ 8/16/24-Port 10/100/1000T + 4-Port 10G SFP+ Managed Ethernet Switch



Budget-friendly Industrial L2+ Switch with PoE Capability

Engineered to excel in demanding industrial settings, the **IGS-4215 series** stands out as PLANET's latest DIN-rail Layer 2+ Managed Gigabit switches, combining performance with affordability. The series, now including the **IGS-4215-8T4X**, **IGS-4215-8UP4X**, **IGS-4215-16T4X**, **IGS-4215-16P4X**, **IGS-4215-24T4X**, and **IGS-4215-24P4X**, provides robust network management with **IPv6/IPv4 dual-stack support** and an integrated L2/L4 Gigabit switching engine.

The models feature **8**, **16**, or **24 10/100/1000BASE-T ports** and 4 **10GBASE-X SFP+ fiber slots**, ensuring dependable operation across a wide temperature range of **-40** to **75°C**. In comparison, the **IGS-4215-24P4X** is a PoE+ solution, featuring **24 IEEE 802.3at PoE+ ports**, a **480-watt power budget**, and a rugged **IP30 aluminum casing**, while the **IGS-4215-8UP4X** is a robust PoE++ switch with **8 IEEE 802.3bt PoE++ ports**, a **360-watt power budget**, and support for up to **95W per port**.

Model	10/100/1000T Copper Port	100/1G/2.5G/10G SFP+ Port	PoE Standard	PoE Budget	Power Input
IGS-4215-8T4X	8	4	-	-	Dual 9~48V DC, 24V AC
IGS-4215-16T4X	16	4	-	-	
IGS-4215-24T4X	24	4	-	-	
IGS-4215-8UP4X	8	4	IEEE 802.3bt PoE++	360-watt	Dual 48~54V DC
IGS-4215-16P4X	16	4	IEEE 802.3at PoE+	360-watt	
IGS-4215-24P4X	24	4	IEEE 802.3at PoE+	480-watt	

All switches include a **USB Type-C console port** for seamless management, ensuring durability and reliability in challenging industrial environments.

Physical Port

- **8/16/24 10/100/1000BASE-T** Gigabit Ethernet RJ45 ports
- **PoE Functionality:**
  - 8 ports with IEEE 802.3bt PoE++ injector function (IGS-4215-8UP4X)
  - 16 ports with IEEE 802.3at PoE+ injector function (IGS-4215-16P4X)
  - 24 ports with IEEE 802.3at PoE+ injector function (IGS-4215-24P4X)
- **4 10GBASE-SR/LR SFP+** slots, backward compatible with **100M/1G/2.5GBASE-X SFP**
- One **USB Type C** console interface for basic management and setup

Power over Ethernet

For IGS-4215-8UP4X

- Compliance with IEEE 802.3bt Type-4 PoE++ standard and backward compatible with IEEE 802.3af/at Power over Ethernet
- Powers up to 8 ports of IEEE 802.3bt PoE++ devices
- Supports PoE power up to 95 watts for each PoE port
- Remote power feeding up to 100 meters in standard mode and 250m 40W in extended mode
- PoE budget
  - Dual power input: 360W
  - Single power input: 240W

For IGS-4215-16P4X

- Complies with IEEE 802.3at Power over Ethernet Plus/end-span PSE
- Powers up to 16 ports of IEEE 802.3at PoE+ devices
- Supports PoE power up to 36 watts for each PoE+ port
- Remote power feeding up to 100 meters in standard mode and 250m 15W in extended mode
- PoE budget
  - Dual power input: 360W
  - Single power input: 240W

For IGS-4215-24P4X

- Complies with IEEE 802.3at Power over Ethernet Plus/end-span PSE
- Powers up to 24 ports of IEEE 802.3at PoE+ devices
- Supports PoE power up to 36 watts for each PoE+ port
- Remote power feeding up to 100 meters in standard mode and 250m 15W in extended mode
- PoE budget
  - Dual power input: 480W
  - Single power input: 240W

Cybersecurity Network Solution to Minimize Security Risks

The IGS-4215 Series supports SSHv2 and TLSv1.3 protocols to provide strong protection against advanced threats. It includes a range of cybersecurity features such as **DHCP Snooping**, **IP Source Guard**, **Dynamic ARP Inspection Protection**, **RADIUS** and **TACACS+** user accounts management, **SNMPv3** authentication, and so on to complement it as an all-security solution.

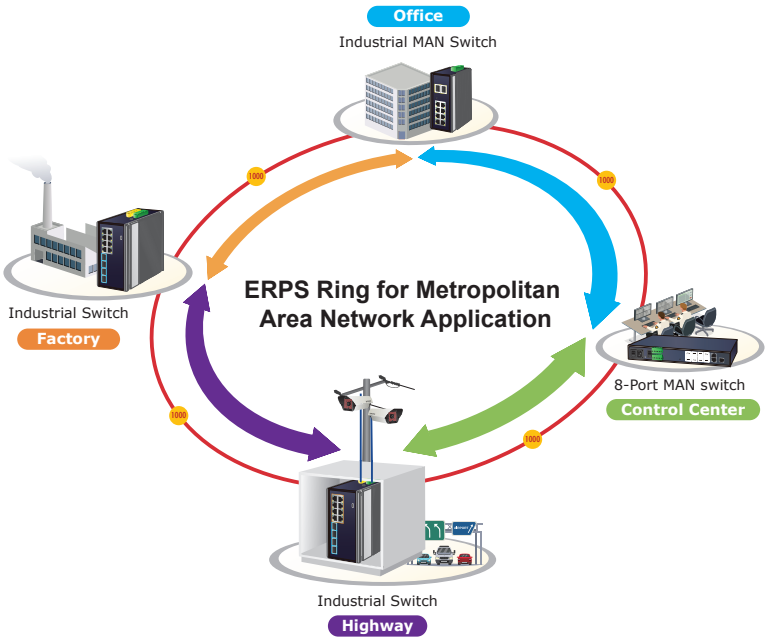


Modbus TCP Provides Flexible Network Connectivity for Factory Automation

The IGS-4215 series supports the **Modbus TCP** protocol, allowing for easy integration with **SCADA** systems, **HMI** systems, and other data acquisition systems in factory floors. This enables administrators to remotely monitor the industrial Ethernet switch's **operating information**, **port information**, communication status, and DI/DO status, thereby enhancing monitoring and maintenance of the entire factory.

Redundant Ring, Fast Recovery for Critical Network Applications

The IGS-4215 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 and Spanning Tree Protocol (802.1s MSTP) into customer's network to enhance system reliability and uptime in various environments.



- Auto detects powered devices (PDs)
- Circuit protection prevents power interference between ports
- 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 Case and Installation

- IP30 aluminum case
- DIN-rail and wall-mount designs
- **IGS-4215-8UP4X/IGS-4215-16P4X/IGS-4215-24P4X:** 48~54V DC (redundant power with reverse polarity protection)
- **IGS-4215-8T4X/IGS-4215-16T4X/IGS-4215-24T4X:** 9~48V DC (redundant power with reverse polarity protection) or 24V AC input
- Supports 6KVDC Ethernet ESD protection
- -40 to 75 °C operating temperature

Digital Input and Digital Output

- 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
- 32K MAC address table size
- 12K jumbo frame
- Automatic address learning and address aging

Layer 3 IP Routing Features

- Supports maximum 32 static routes and route summarization
- Routing interface provides per VLAN routing mode

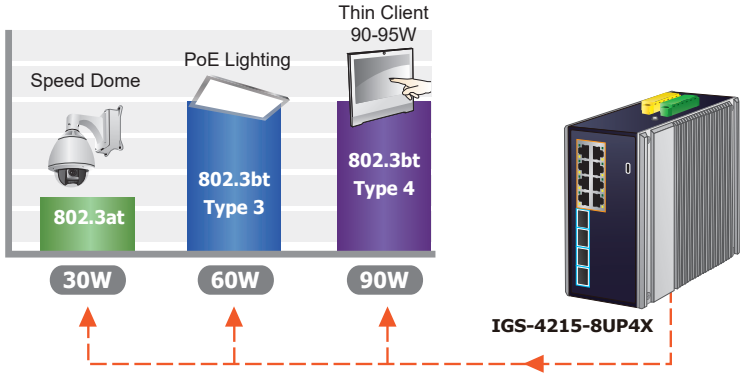
Layer 2 Features

- 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

High Power and High-speed Data Delivered over 4-pair UTP Cabling

The IGS-4215-8UP4X meets the standards of IEEE 802.bt PoE++ technology and has a total power capacity of 360 watts. This allows it to supply up to 95 watts of power to each remote PoE-compliant powered device (PD) using all four pairs of standard Cat5e/6 Ethernet cabling, ensuring high power and high-speed data transmission. Compared to the conventional 802.3at PoE+, it offers triple power capacity, making it the perfect solution for higher power consuming PDs, including:

- PoE PTZ speed dome cameras
- Network devices
- Thin clients
- AIO (all-in-one) touch PCs, point of sale (POS) and information kiosks
- Remote digital signage displays
- PoE lightings



Reliable Power and High-speed Data with IEEE 802.3at PoE+ Support

The IGS-4215-16P4X and IGS-4215-24P4X are designed to meet the needs of **small to medium-sized PoE deployments**, complying with the **IEEE 802.3at PoE+** standard. They deliver a total PoE power budget of **360W** and **480W** respectively across **16 and 24 PoE+ ports**, with each port supporting up to **36W** of power. This makes them ideal for powering a range of medium-power PoE-compliant devices (PDs) over standard Cat5e/6 Ethernet cabling.

Compared to the PoE++ model IGS-4215-8UP4X, which supports higher-power devices, the IGS-4215-16P4X and IGS-4215-24P4X are better suited for multi-device deployments with moderate power requirements. It's an excellent choice for:

- PoE IP cameras
- Wireless access points (APs)
- IP phones and VoIP systems
- Digital signage displays
- Industrial IoT devices

  – 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 8 ports per trunk group
- Supports 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
  – IEEE 802.1p CoS
  – TOS/DSCP/IP precedence of IPv4/IPv6 packets
- Strict priority and Weighted Round Robin (WRR) CoS policies

Multicast

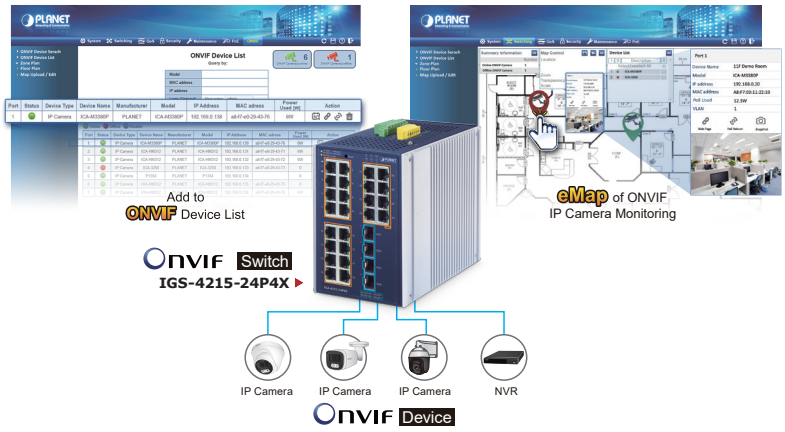
- Supports IPv4 IGMP snooping v2, v3
- Supports IPv6 MLD snooping v1, v2
- IGMP querier mode support
- IGMP snooping port filtering
- MLD snooping port filtering

Security

- Storm Control support
  – Broadcast / Multicast / Unknown Unicast
- 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
- 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

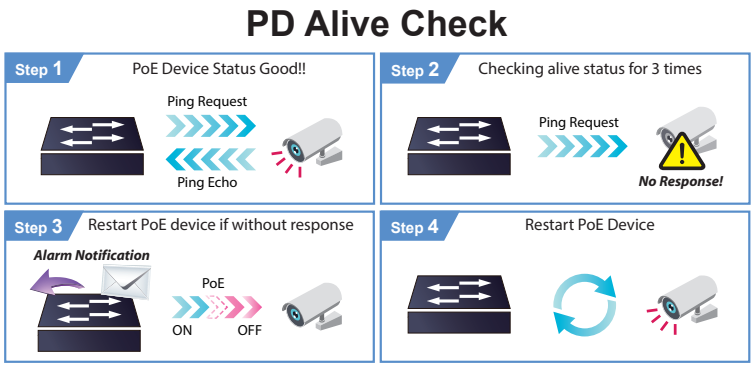
ONVIF Support Allows Effective and Centralized Control Over IP-based Security Products

The IGS-4215 series switch offers ONVIF support as part of its versatile feature set for seamless integration with IP surveillance cameras. Through the switch's web GUI, users can easily search for and display all ONVIF-compliant devices on their LAN. Users can also upload floor plans to the switch and place IP surveillance cameras on the plan for more intuitive planning and faster inspection in the future. Additionally, the web GUI provides real-time surveillance information, online/offline status, and the ability to remotely reboot cameras.



Intelligent Powered Device Alive Check

The IGS-4215-8UP4X/IGS-4215-16P4X and IGS-4215-24P4X 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-4215-8UP4X/IGS-4215-16P4X and IGS-4215-24P4X 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.

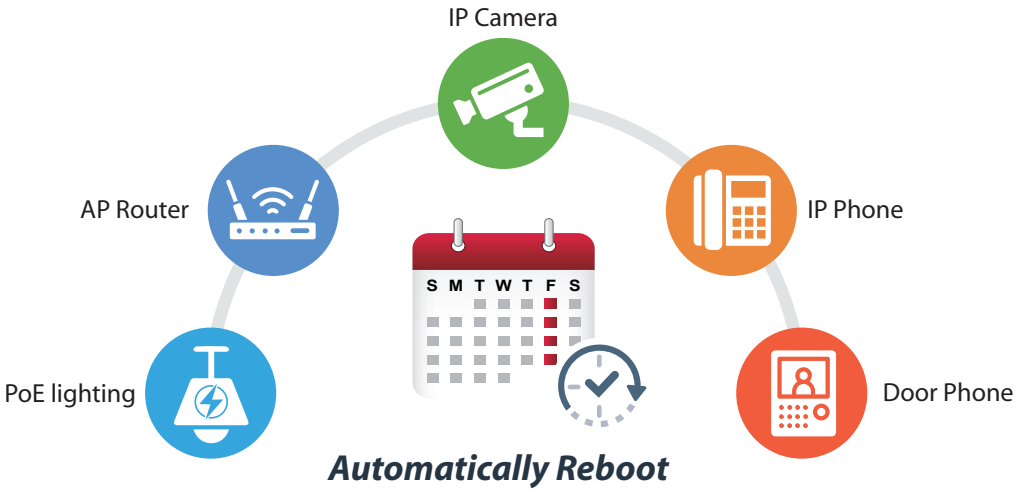


Management

- IPv4 and IPv6 dual stack management
- Switch Management Interface
  - Web switch management
  - Console/Telnet Command Line Interface
  - SNMP v1 and v2c switch management
  - SSHv2, TLSv1.3 and SNMP v3 secure access
  - TLS Post-Quantum Cryptography (PQC) support
- SNMP Management
  - 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, NMSViewerPro and, CloudNMS for deployment management

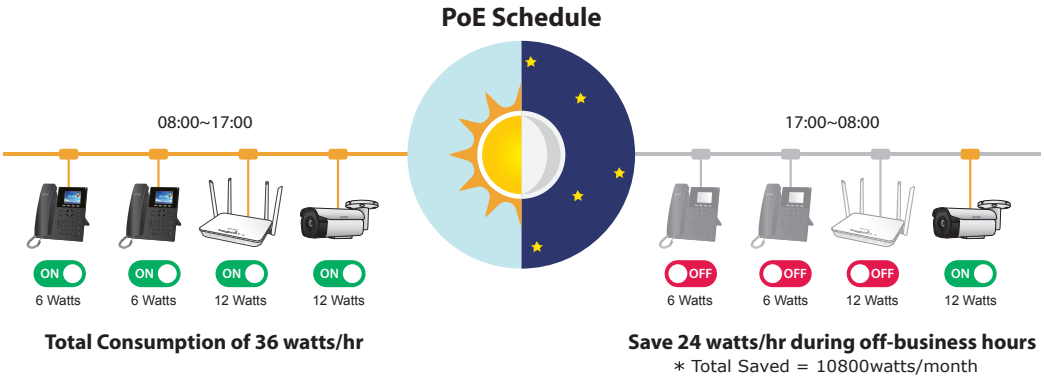
Scheduled Power Recycling

The IGS-4215-8UP4X and IGS-4215-16P4X and IGS-4215-24P4X allow 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.



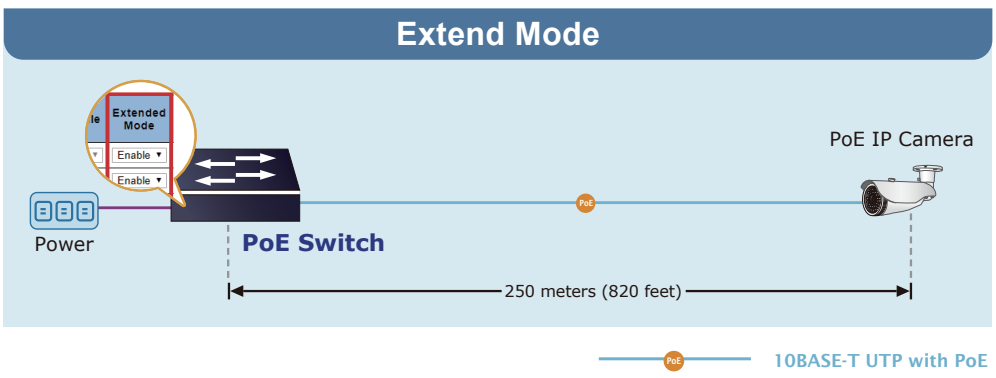
PoE Schedule for Energy Savings

Under the global trend of energy savings and contributing to environmental protection, the IGS-4215-8UP4X and IGS-4215-16P4X and IGS-4215-24P4X can effectively control the power supply besides its capability of giving high watts power. The “PoE schedule” function helps you 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.



802.3bt PoE++ Power and Ethernet Data Transmission Distance Extension

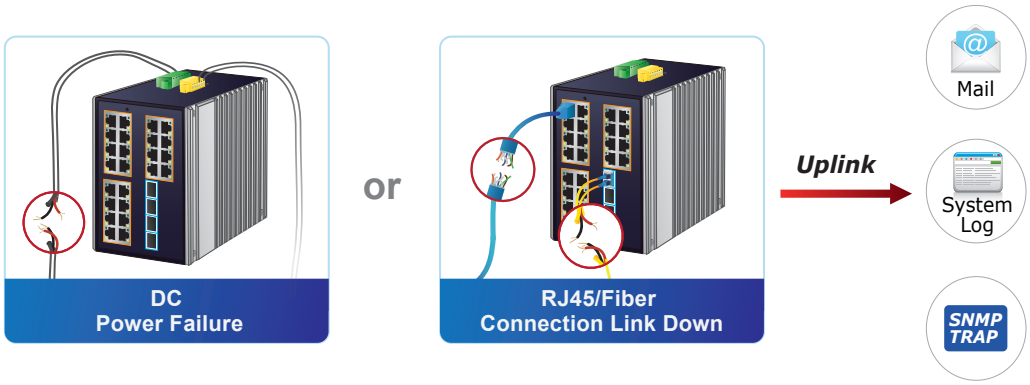
In the "Extend" operation mode, the IGS-4215-8UP4X functions on a per-port basis with a 10Mbps duplex operation. Remarkably, it can deliver a 40-watt PoE power output over a distance of up to 250 meters, surpassing the standard 100m limit on Ethernet UTP cables. Thus, PoE power can be supplied over a long distance without the need of additional Ethernet cabling and electrical outlets, resulting in cost savings.



Effective Alarm Alert for Better Protection

The IGS-4215 Series incorporates a Fault Alarm feature that promptly notifies users of any issues with the switches. This valuable feature eliminates the need for users to spend time locating the problem, resulting in significant time and human resource savings.

Fault Alarm Feature



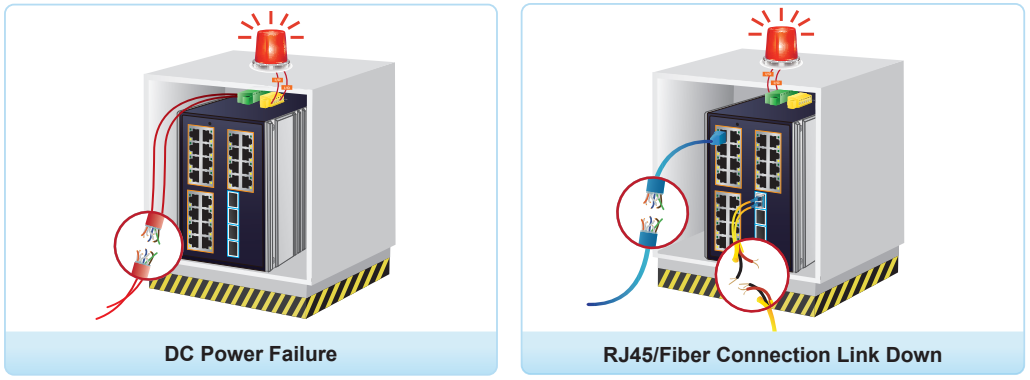
Digital Input and Digital Output for External Alarm

The IGS-4215 Series supports Digital Input and Digital Output through a terminal block located on its upper 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 Series port shows “link down”, “link up” or “power failure”.

Digital Input



Digital Output



Environmentally Hardened Design

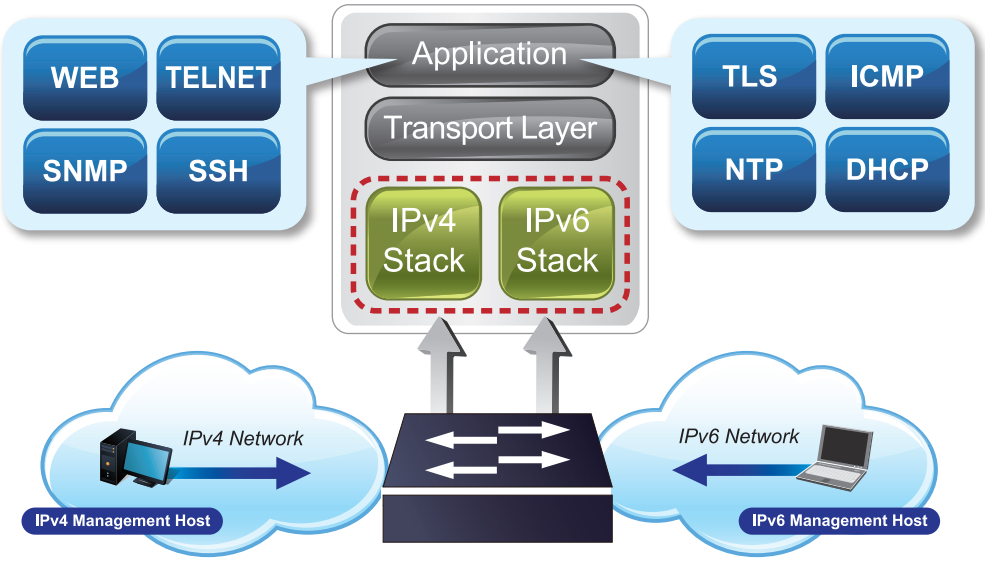
With the IP30 aluminum industrial case, the IGS-4215 Series provides a high level of immunity against electromagnetic interference and heavy electrical surges which are usually found on plant floors or in curb-side traffic control cabinets without air conditioner. Being able to operate under the temperature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

Robust Protection

The IGS-4215 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.

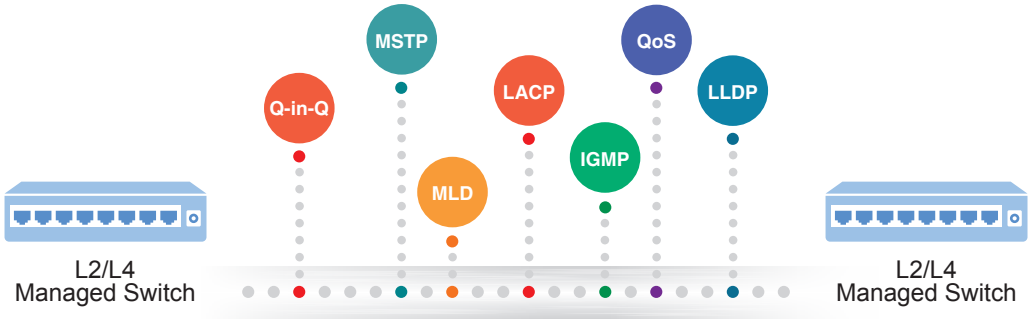
Layer 3 IPv4 and IPv6 VLAN Routing for Secure and Flexible Management

The IGS-4215 Series delivers high-performance transmission and advanced Layer 2 and Layer 4 functionalities, along with Layer 3 IPv4 and IPv6 static routing. This capability enables efficient routing between different VLANs and IP addresses, offering a secure, flexible, and straightforward networking solution for diverse applications.



Robust Layer 2 Features

The IGS-4215 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**. With dynamic port link aggregation, the switch enables the creation of a high-speed trunk. For instance, it can combine four 10G ports, creating a resilient 40Gbps connection with fail-over support. Additionally, the inclusion of **Link Layer Discovery Protocol (LLDP)** enhances Layer 2 functionality by providing essential information about neighboring devices within the local broadcast domain.



Efficient Traffic Control

The IGS-4215 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.

Enhancing Network Security

PLANET IGS-4215 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. 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.

Ensuring Network Integrity

The IGS-4215 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. Its accuracy, consistency, and reliability of data can be transmitted across a network. Moreover, it ensures that information remains unaltered during transmission and that the network itself is secure from unauthorized access or attacks.

User-friendly and Secure Management

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

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

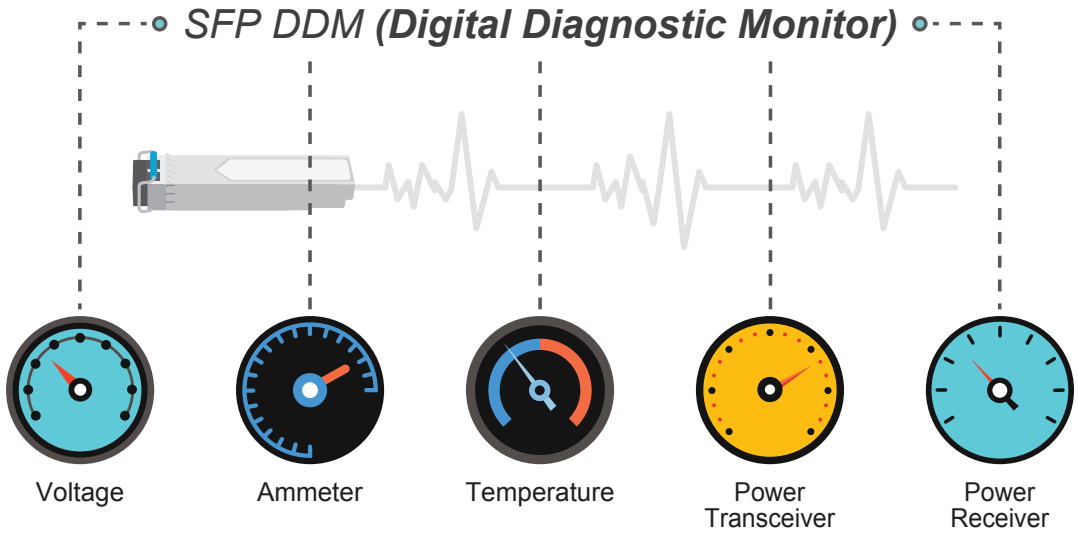
Moreover, the IGS-4215 Series offers secure remote management by supporting **SSHv2**, **TLSv1.3** and **SNMPv3** connections which encrypt the packet content at each session.

Flexible Long-distance Extension Solution

The emergence of 10G Ethernet marks a significant advancement in Ethernet technology. The IGS-4215 Series is a powerful networking device that offers **four 10G SFP+ slots** capable of supporting three different speeds. These slots can operate at **10GBASE-SR/LR or 100M/1G/2.5GBASE-SX/LX backwards**, providing administrators with flexibility in choosing the most suitable SFP/SFP+ transceiver based on the required transmission distance and speed. With ample bandwidth and robust processing capacity, the IGS-4215 Series provides an efficient solution for administrators seeking to enhance their network infrastructure.

Intelligent SFP Diagnosis Mechanism

The IGS-4215 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.



PLANET CloudNMS – Cloud-Based Universal Network Management

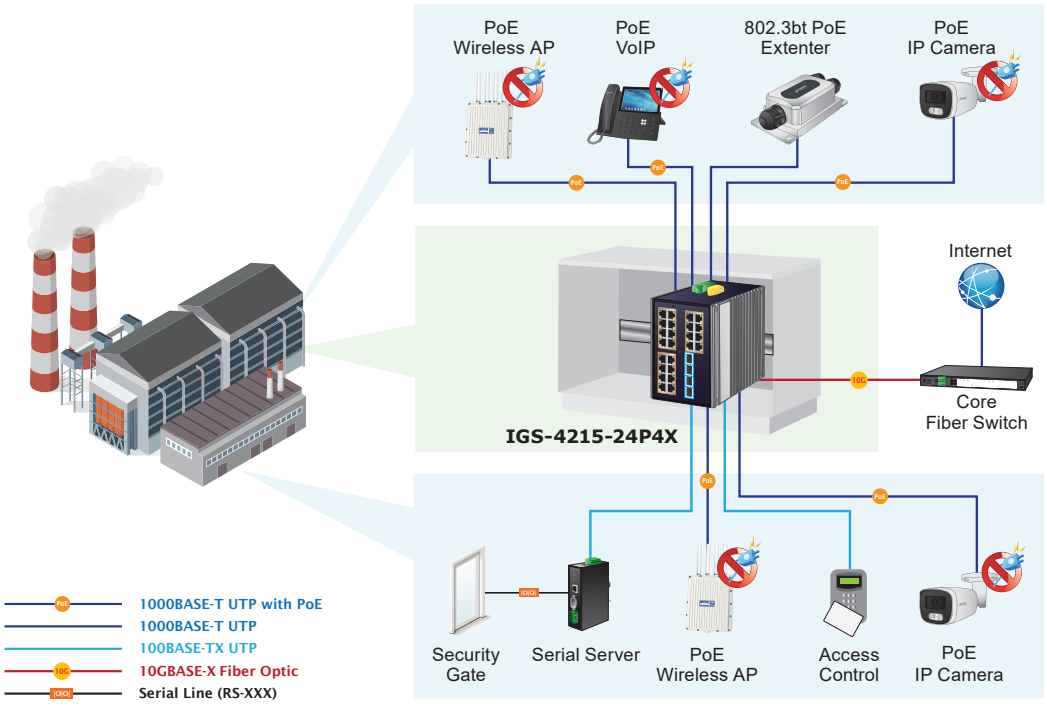
PLANET's **CloudNMS** platform and mobile app empower IT staff to remotely manage all network devices and Powered Devices (PDs) in real time. Designed for enterprises and industries, CloudNMS minimizes the need for on-site troubleshooting by providing centralized monitoring, fault detection, and instant alerts. The IGS-4215 Series also supports **CloudNMS**, enabling businesses to manage diverse network deployments more **efficiently**, **securely**, **and intelligently**—all from a single cloud-based platform.



Applications

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

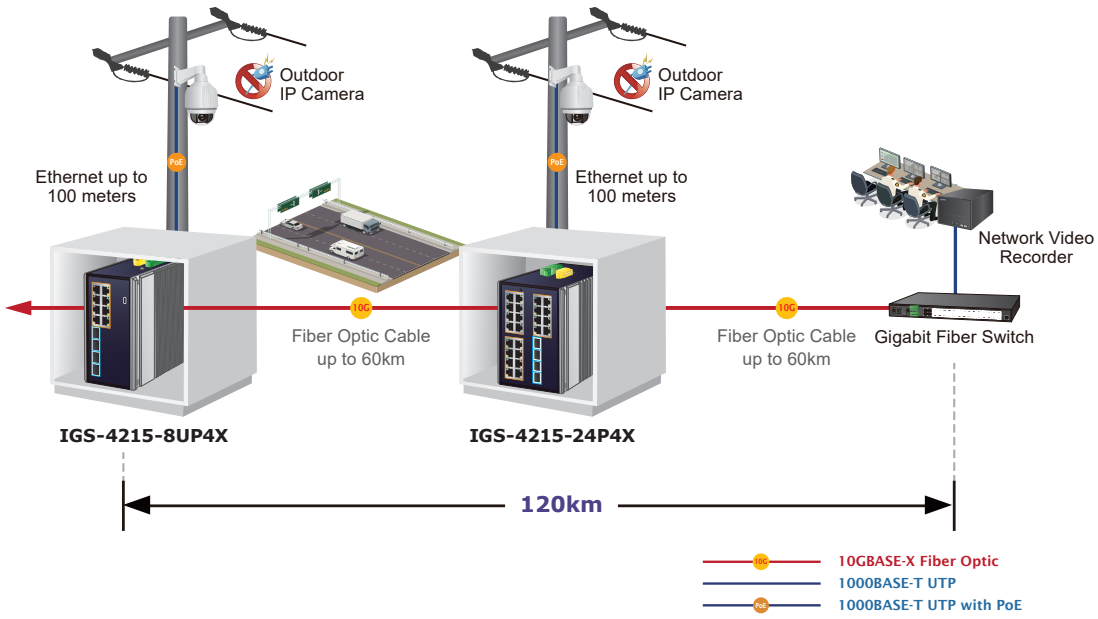
Suitable for buildings where security is strictly to be enforced, the IGS-4215-8UP4X, with eight 802.3bt PoE++, in-line power interfaces, can easily build a power centrally controlled for an IP phone system, IP surveillance system, and wireless AP group in the harsh Industrial environment. For instance, 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-4215-8UP4X 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-4215-8UP4X provides 8 10/100/1000BASE-T 802.3bt PoE++ ports which can offer sufficient PoE power to 8 PoE IP cameras at the same time. In addition, with the four 10GBASE-X SFP interfaces, the IGS-4215-8UP4X 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-4215-8UP4X facilitates the recorded video files from the 8 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-4215-8UP4X undoubtedly brings an ideal secure surveillance system at a lower total cost.

Extending Ethernet Distance



Specifications

Product	IGS-4215-8T4X	IGS-4215-16T4X	IGS-4215-24T4X
Hardware Specifications			
Copper Ports	8 10/100/1000BASE-T RJ45 auto-MDI/MDI-X ports (Ports 1 to 8)	16 10/100/1000BASE-T RJ45 auto-MDI/MDI-X ports (Ports 1 to 16)	24 10/100/1000BASE-T RJ45 auto-MDI/MDI-X (Ports 1 to 24)
SFP+ Ports	4 10GBASE-SR/LR SFP+ interfaces (Port XG1 to Port XG4)		
	Backward compatible with 1G/2.5GBASE-SX/LX/BX SFP transceivers		
Console	1 x USB Type C to RS232 serial port (115200,8, N, 1)		
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		
	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		
Digital input (DI)	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.		
Digital output (DO)	2 digital output (DO):		
	Open collector to 24V DC, 100mA max.		
Power Requirements	9~48V DC, 2A (max.) or 24V AC, 0.8A (max.)	9~48V DC, 2.5A (max.) or 24V AC, 2A (max.)	9~48V DC, 3A (max.) or 24V AC, 2A (max.)
Power Consumption/ Dissipation	DC (system on)	DC (system on)	DC (system on)
	Max. 5.57 watts / 19BTU	Max. 6.24 watts / 21.3BTU	Max. 7.2 watts / 24.55BTU
	DC (Full loading)	DC (Full loading)	DC (Full loading)
	Max. 11.6 watts / 39.6BTU	Max. 15.66 watts / 53.4BTU	Max. 20.25 watts / 69.09BTU
	AC (system on)	AC (system on)	AC (system on)
	Max. 4.7 watts / 16.04BTU	Max. 6 watts / 20.5BTU	Max. 6.4 watts / 21.84BTU
	AC (Full loading)	AC (Full loading)	AC (Full loading)
	Max. 10.6 watts / 36.2BTU	Max. 15 watts / 51.2BTU	Max. 18 watts / 61.42BTU

Dimensions (W x D x H)	76 x 135 x 152 mm		86 x 135 x 152 mm		96 x 135 x 152 mm	
Weight	1232g		1403g		1853g	
Enclosure	IP30 aluminum case					
Installation	DIN-rail kit and wall-mount ear					
ESD Protection	Contact Discharge 6KV DC					
	Air Discharge 8KV DC					
LED	System:		System:		System:	
	Power 1 (Green)		Power 1 (Green)		Power 1 (Green)	
	Power 2 (Green)		Power 2 (Green)		Power 2 (Green)	
	Alarm (Red)		Alarm (Red)		Alarm (Red)	
	Ring (Green)		Ring (Green)		Ring (Green)	
	R.O.(Green)		R.O.(Green)		R.O.(Green)	
	I/O (Red)		I/O (Red)		I/O (Red)	
	Per 10/100/1000T RJ45		Per 10/100/1000T RJ45		Per 10/100/1000T RJ45	
	Up	1000 LNK/ACT (**Green**)	Up	1000 LNK/ACT (**Green**)	Up	1000 LNK/ACT (**Green**)
	Down	10/100 LNK/ACT (**Amber**)	Down	10/100 LNK/ACT (**Amber**)	Down	10/100 LNK/ACT (**Amber**)
	Per 10G SFP Interface:		Per 10G SFP Interface:		Per 10G SFP Interface:	
	1G/2.5G LNK/ACT (Green)		1G/2.5G LNK/ACT (Green)		1G/2.5G LNK/ACT (Green)	
	100/10G LNK/ACT (**Amber**)		100/10G LNK/ACT (**Amber**)		100/10G LNK/ACT (**Amber**)	
Switching Specification						
Switch Architecture	Store-and-Forward					
Switch Fabric	96Gbps/non-blocking		112Gbps/non-blocking		128Gbps/non-blocking	
Switch Throughput@64 bytes	71.43Mpps @64 bytes		83.3Mpps @64 bytes		95.23Mpps @64 bytes	
MAC Address Table	32K entries					
Shared Data Buffer	12Mbits					
Flow Control	IEEE 802.3x pause frame for full duplex					
	Back pressure for half duplex					
Jumbo Frame	12 Kbytes					
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					

Layer 3 Functions		
IP Interfaces	Max. 64 VLAN interfaces	
Routing Table	Max. 32 routing entries	
Routing Protocols	IPv4/IPv6 hardware static routing	
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	Built-in RADIUS client to co-operate with RADIUS server	
	RADIUS/TACACS+ user access authentication	
MAC Security	IP-MAC port binding	
	MAC filtering	
	Static MAC address, max. 256 static MAC entries	max. 512 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	USB to RS232 Console	
	Web browser	
	Telnet	
	SNMP v1, v2c	
Secure Management Interfaces	SSHv2	
	TLSv1.3	
	SNMP v3	
	TLS Post-Quantum Cryptography (PQC)	
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, NMSViewerPro and CloudNMS	
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	
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 802.3ae 10Gb/s Ethernet	
	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	

Standards Compliance	IEEE 802.1s Multiple Spanning Tree Protocol
	IEEE 802.1p Class of Service
	IEEE 802.1Q VLAN Tagging
	IEEE 802.1ab LLDP
	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-T G.8032 ERPS Ring
Environment	
Operating Temperature	-40 ~ 75 degrees C
Storage Temperature	-40 ~ 85 degrees C
Humidity	5 ~ 95% (non-condensing)

Product	IGS-4215-8UP4X	IGS-4215-16P4X	IGS-4215-24P4X
Hardware Specifications			
Copper Ports	8 10/100/1000BASE-T RJ45 auto-MDI/MDI-X ports (Ports 1 to 8)	16 10/100/1000BASE-T RJ45 auto-MDI/MDI-X ports (Ports 1 to 16)	24 10/100/1000BASE-T RJ45 auto-MDI/MDI-X ports (Ports 1 to 24)
PoE Injector Port	8 ports with 802.3bt PoE++ injector function (Ports 1 to 8)	16 ports with 802.3at PoE+ injector function (Ports 1 to 16)	24 ports with 802.3at PoE+ injector function (Ports 1 to 24)
SFP+ Ports	4 10GBASE-SR/LR SFP+ interfaces (Port XG1 to Port XG4)		
	Backward compatible with 1G/2.5GBASE-SX/LX/BX SFP transceivers		
Console	1 x USB Type C to RS232 serial port (115200,8, N, 1)		
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		
	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		
Digital input (DI)	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.		
Digital output (DO)	2 digital output (DO):		
	Open collector to 24V DC, 100mA max.		
Power Requirements	48~54V DC, 8A (max.)	48~54V DC, 9A (max.)	48~54V DC, 12A (max.)
Power Consumption/ Dissipation	DC (system on)	DC (system on)	DC (system on)
	Max. 10.2 watts / 34.8BTU	Max. 9.1 watts / 31.06BTU	Max. 8.5 watts / 28.9BTU
	DC (Full loading)	DC (Full loading)	DC (Full loading)
	Max. 398.6 watts/1,360.1BTU	Max. 402 watts/1,372.1BTU	Max. 544 watts/1,855BTU
Dimensions (W x D x H)	76 x 135 x 152 mm	86 x 135 x 152 mm	96 x 135 x 152 mm
Weight	1,403g	1,754g	1,840g
Enclosure	IP30 aluminum case		
Installation	DIN-rail kit and wall-mount ear		
ESD Protection	Contact Discharge 6KV DC		
	Air Discharge 8KV DC		

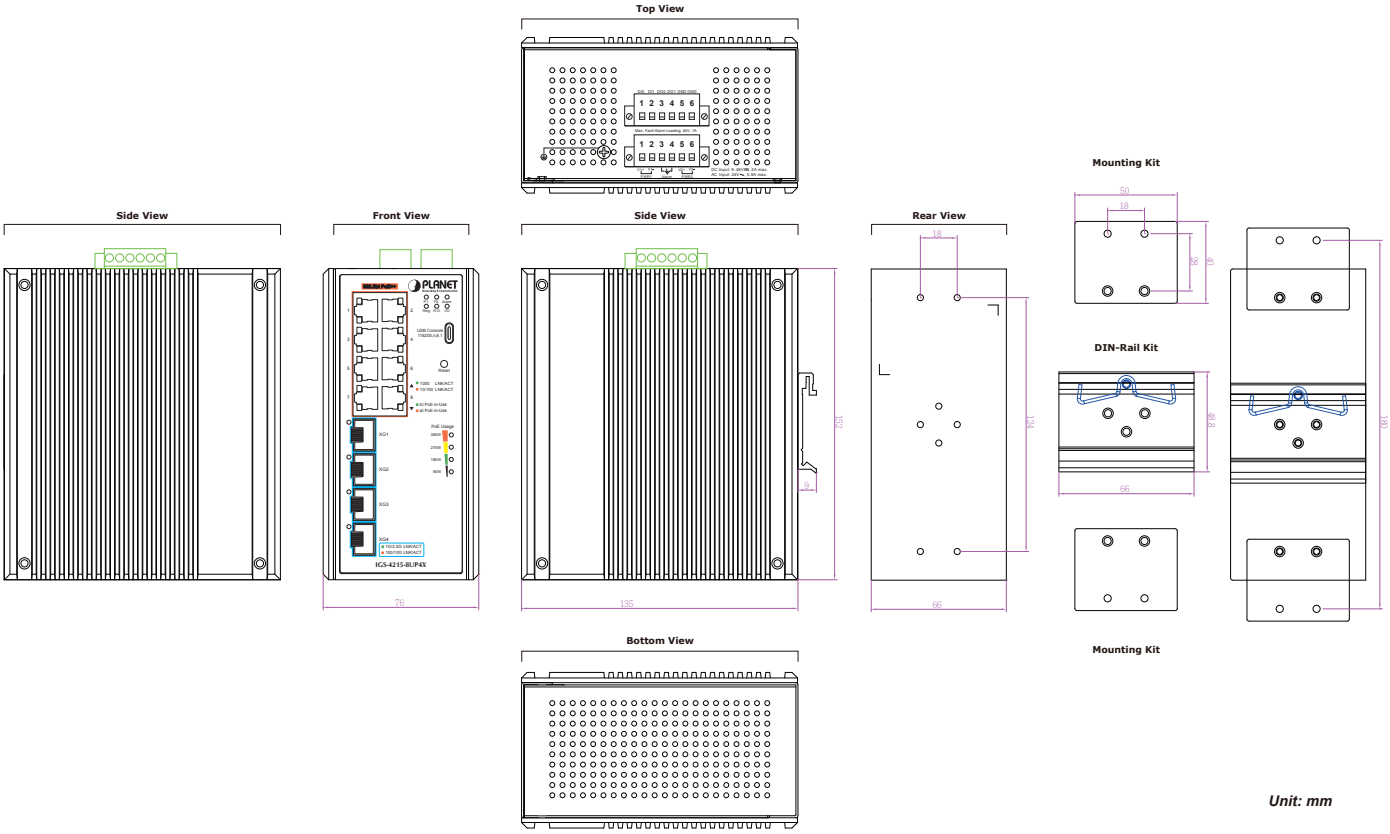
LED	System:		System:	System:
	Power 1 (Green)		Power 1 (Green)	Power 1 (Green)
	Power 2 (Green)		Power 2 (Green)	Power 2 (Green)
	Alarm (Red)		Alarm (Red)	Alarm (Red)
	Ring (Green)		Ring (Green)	Ring (Green)
	R.O.(Green)		R.O.(Green)	R.O.(Green)
	I/O (Red)		I/O (Red)	I/O (Red)
	Per 10/100/1000T RJ45		Per 10/100/1000T RJ45	Per 10/100/1000T RJ45
	Up	1000 LNK/ACT (Green)	1000 LNK/ACT (Green)	1000 LNK/ACT (Green)
		10/100 LNK/ACT (Amber)	10/100 LNK/ACT (Amber)	10/100 LNK/ACT (Amber)
	Down	802.3bt (Green)	PoE-in-Use (Amber)	PoE-in-Use (Amber)
		802.3at (Amber)		
	Per 10G SFP Interface:		Per 10G SFP Interface:	Per 10G SFP Interface:
	1G/2.5G LNK/ACT (Green)		1G/2.5G LNK/ACT (Green)	1G/2.5G LNK/ACT (Green)
	100/10G LNK/ACT (Amber)		100/10G LNK/ACT (Amber)	100/10G LNK/ACT (Amber)
	PoE Usage: 90/180/270/360W (Amber)		-	-
Switching Specification				
Switch Architecture	Store-and-Forward			
Switch Fabric	96Gbps/non-blocking		112Gbps/non-blocking	128Gbps/non-blocking
Switch Throughput@64 bytes	71.43Mpps @64 bytes		83.3Mpps @64 bytes	95.23Mpps @64 bytes
MAC Address Table	32K entries			
Shared Data Buffer	12Mbits			
Flow Control	IEEE 802.3x pause frame for full duplex			
	Back pressure for half duplex			
Jumbo Frame	12 Kbytes			
Power over Ethernet				
PoE Standard	IEEE 802.3bt PoE++ Type-4		IEEE 802.3at Power over Ethernet Plus/PSE	IEEE 802.3at Power over Ethernet Plus/PSE
PoE Power Supply Type	End-span		End-span	End-span
	Mid-span		-	-
	BT		-	-
Power Pin Assignment	802.3bt/UPoE: 1/2(-), 3/6(+), 4/5(+), 7/8(-)		-	-
	802.3at PoE: End-span: 1/2(-), 3/6(+)		802.3at PoE: End-span: 1/2(+), 3/6(-)	802.3at PoE: End-span: 1/2(+), 3/6(-)
	802.3at PoE: Mid-span: 4/5(+), 7/8(-)		-	-
PoE Power Output	Per port 48V ~ 54VDC		IEEE 802.3af Standard	IEEE 802.3af Standard
	802.3bt Type-4 mode: maximum 95 watts		Per port 48V~51V DC, max. 15.4 watts	Per port 48V~51V DC, max. 15.4 watts
	802.3bt Type-3 mode: maximum 60 watts		IEEE 802.3at Standard	IEEE 802.3at Standard
	End-span mode: maximum 36 watts		Per port 51V~54V DC, max. 36 watts	Per port 51V~54V DC, max. 36 watts
	Mid-span mode: maximum 36 watts		-	-
	Force mode: maximum 95 watts		-	-
PoE Power Budget	Single power input: 240W maximum (depending on power input)			Single power input: 240W maximum (depending on power input)
	Dual power input: 360W maximum (depending on power input)			Dual power input: **480 W** maximum **@ 60 degree C** (depending on power input) Dual power input: **360 W** maximum **@ 75 degree C** (depending on power input)
	* Dual power input must be the same as DC voltage, like dual 54V.			
Max. Number of 90W 802.3bt Type 4 PDs	4		-	-
Max. Number of 60W 802.3bt Type 3 PDs	6		-	-
Max. Number of 30W 802.3at Type 2 PDs	8		12	16

Power over Ethernet	
PoE Management	PD Alive Check
	Scheduled Power Recycling
	PoE Schedule
	PoE Usage Monitoring
	PoE Extension
Enhanced PoE Mode	Standard/Legacy/Force
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
Layer 3 Functions	
IP Interfaces	Max. 64 VLAN interfaces
Routing Table	Max. 32 routing entries
Routing Protocols	IPv4/IPv6 hardware static routing
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	Built-in RADIUS client to co-operate with RADIUS server
	RADIUS/TACACS+ user access authentication
MAC Security	IP-MAC port binding
	MAC filtering
	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	USB to RS232 Console
	Web browser
	Telnet
	SNMP v1, v2c
Secure Management Interfaces	SSHv2
	TLSv1.3
	SNMP v3
	TLS Post-Quantum Cryptography (PQC)
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, NMSViewerPro and CloudNMS
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, 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 802.3ae 10Gb/s Ethernet
	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 802.1ab LLDP
	IEEE 802.3af Power over Ethernet
	IEEE 802.3at Power over Ethernet Plus
	IEEE 802.3bt Power over Ethernet Plus 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-T G.8032 ERPS Ring
Environment	
Operating Temperature	-40 ~ 75 degrees C
Storage Temperature	-40 ~ 85 degrees C
Humidity	5 ~ 95% (non-condensing)

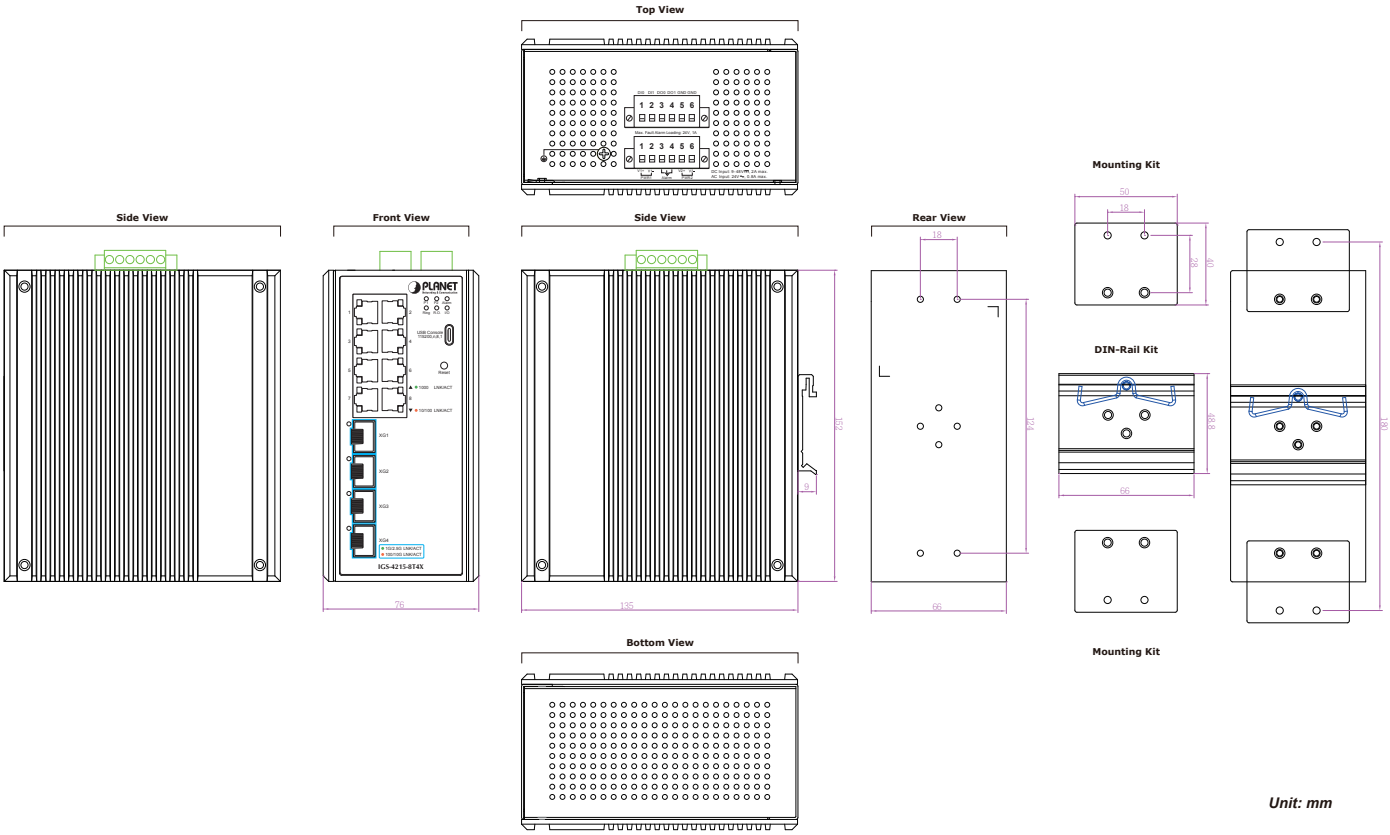
Dimensions

■ IGS-4215-8UP4X



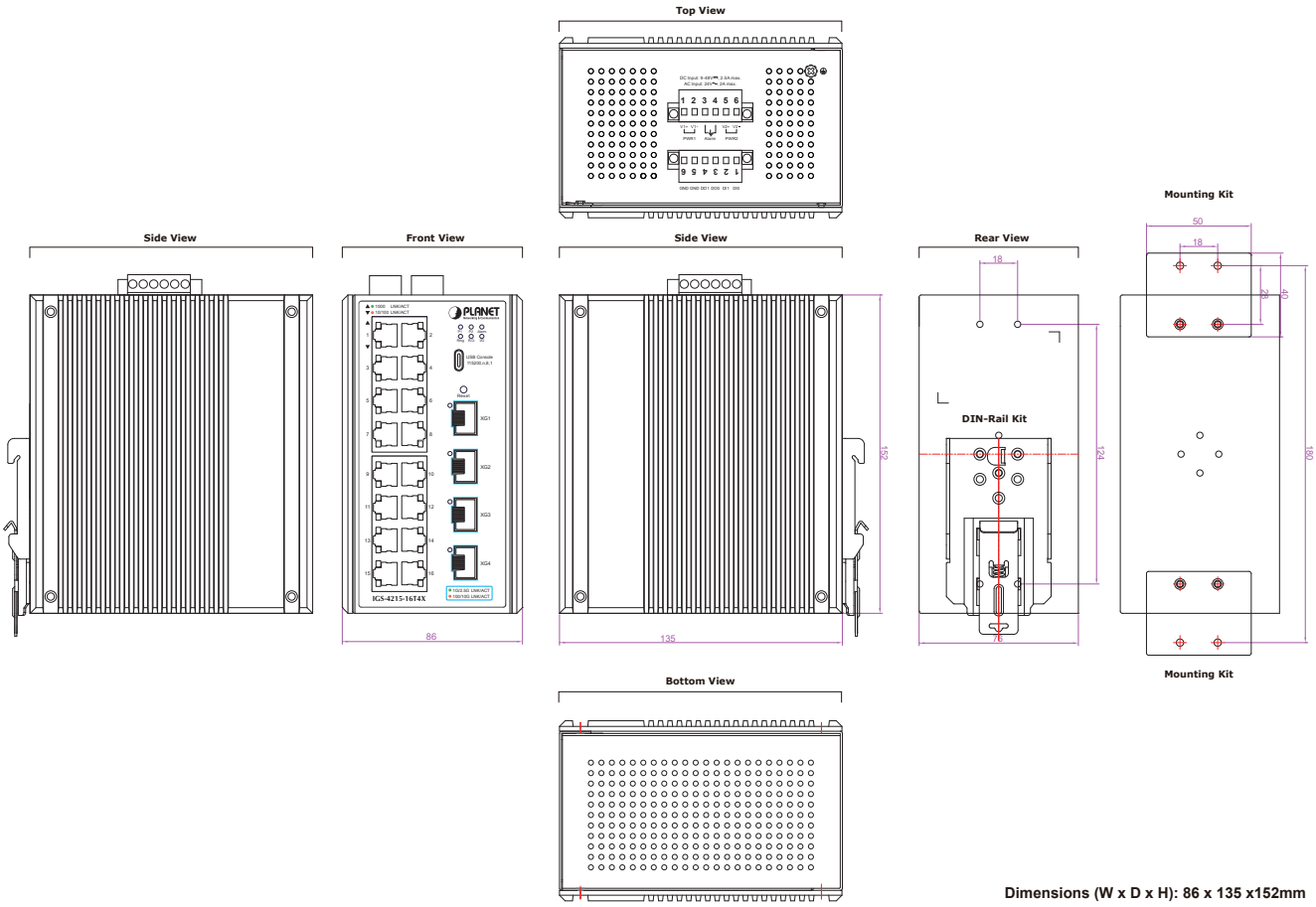
Unit: mm

■ IGS-4215-8T4X



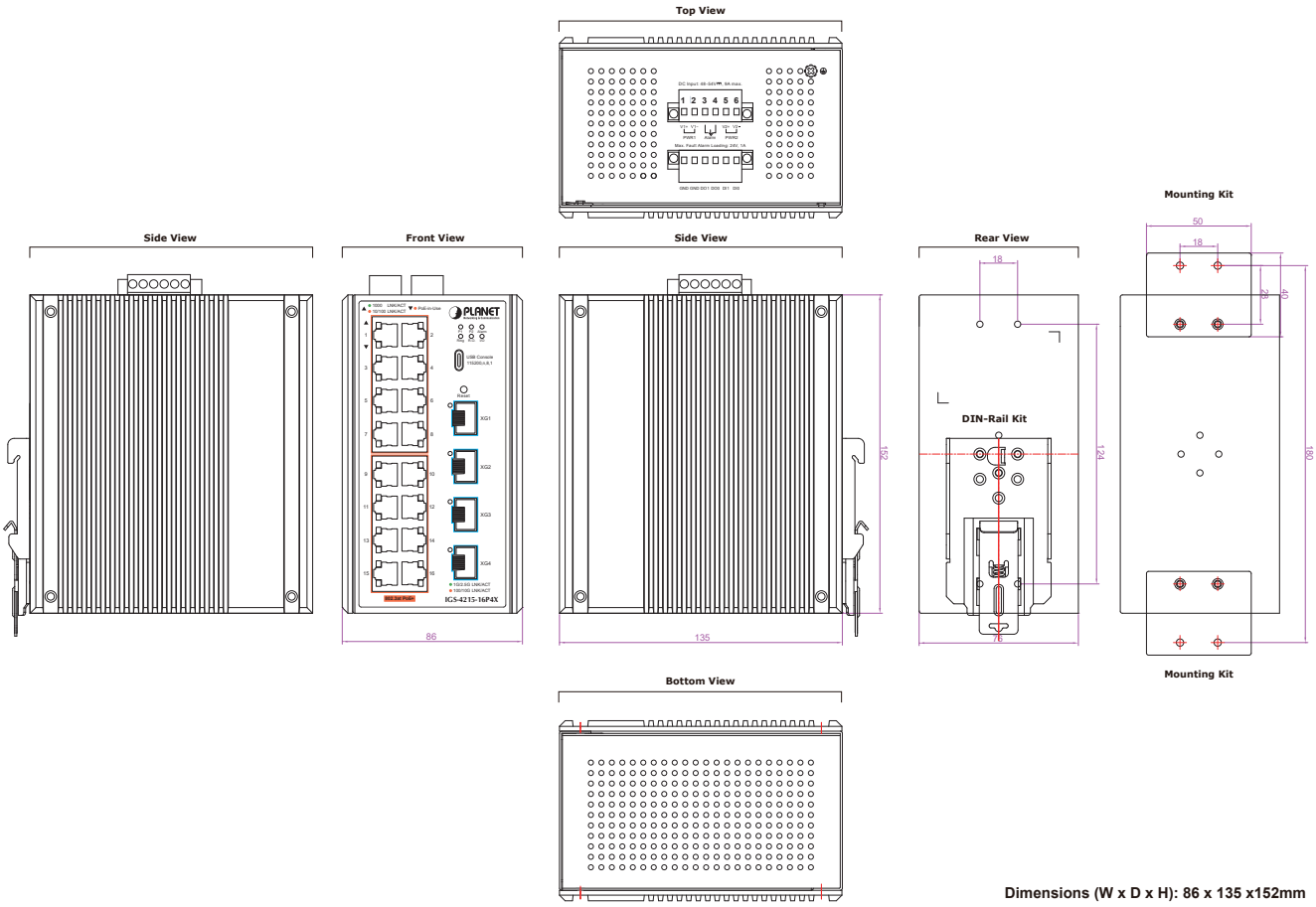
Unit: mm

■ IGS-4215-16T4X



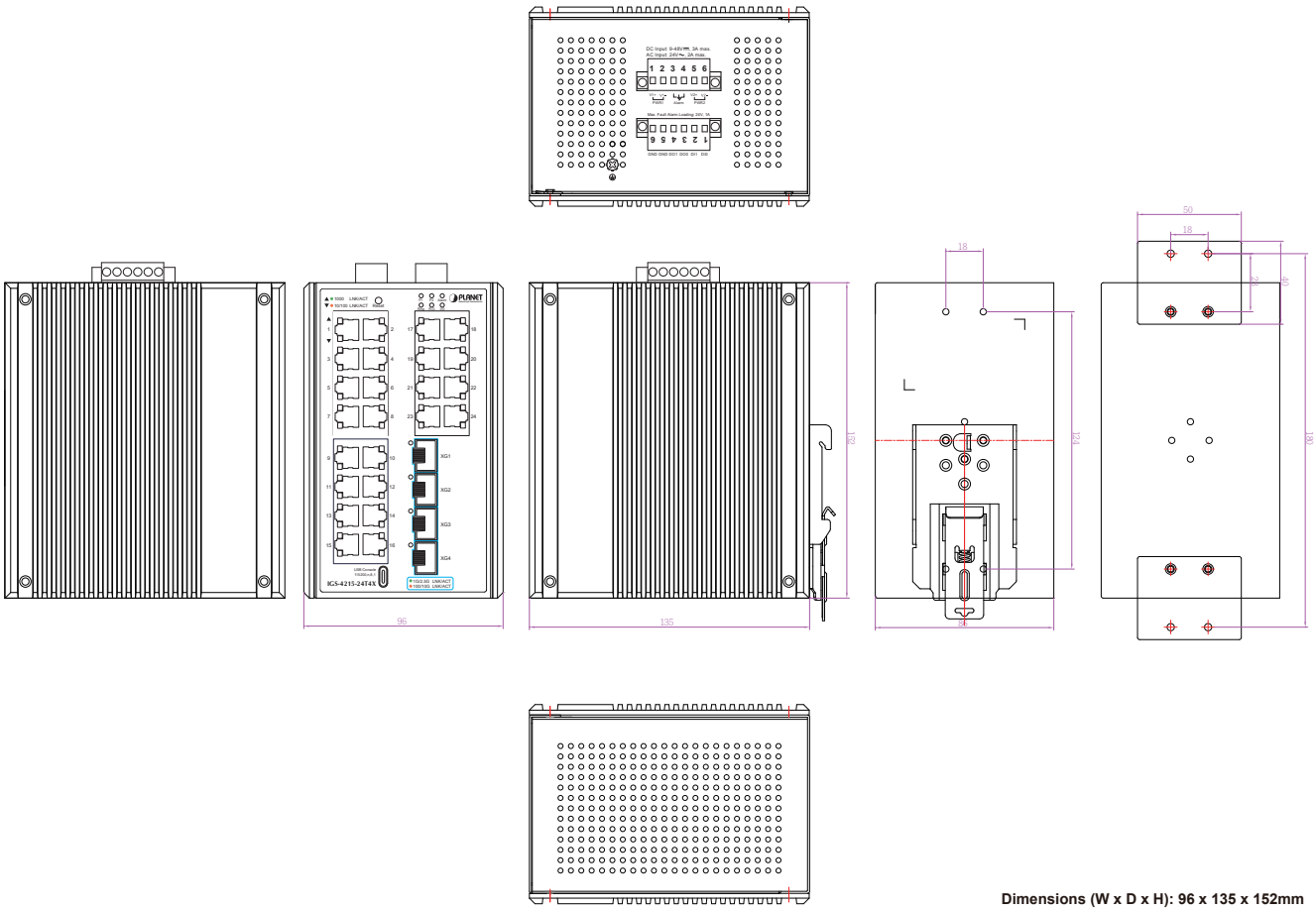
Dimensions (W x D x H): 86 x 135 x152mm

■ IGS-4215-16P4X



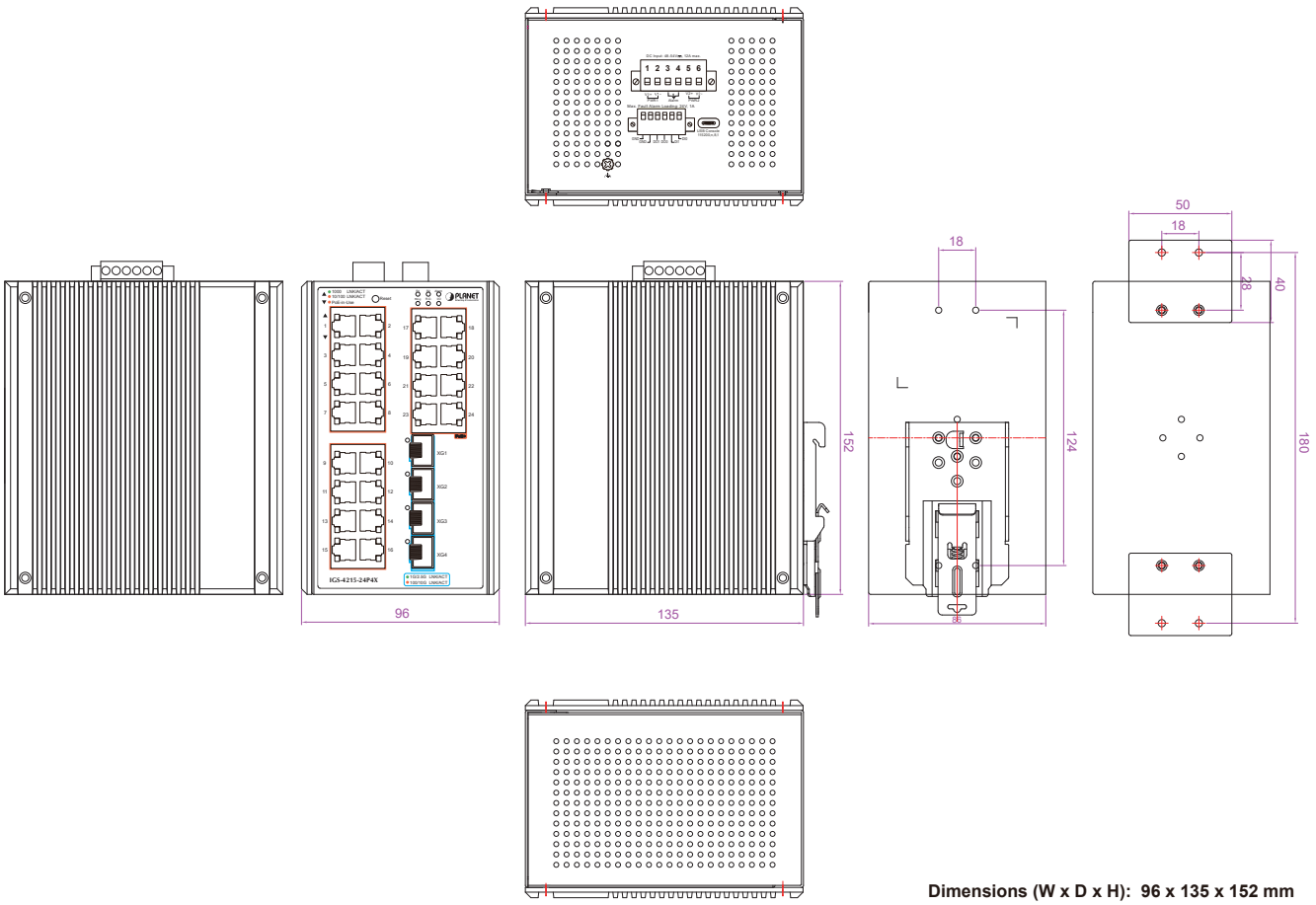
Dimensions (W x D x H): 86 x 135 x152mm

■ IGS-4215-24T4X



Dimensions (W x D x H): 96 x 135 x 152mm

■ IGS-4215-24P4X



Dimensions (W x D x H): 96 x 135 x 152 mm

Ordering Information

IGS-4215-8UP4X	Industrial L2+ 8-Port 10/100/1000T 802.3bt PoE + 4-Port 10G SFP+ Managed Ethernet Switch (-40~75 °C)
IGS-4215-8T4X	Industrial L2+ 8-Port 10/100/1000T + 4-Port 10G SFP+ Managed Ethernet Switch (-40~75 °C)
IGS-4215-16T4X	Industrial L2+ 16-Port 10/100/1000T + 4-Port 10G SFP+ Managed Ethernet Switch (-40~75 °C)
IGS-4215-16P4X	Industrial L2/L4 16-Port 10/100/1000T 802.3at PoE + 4-Port 10G SFP+ Managed Ethernet Switch (-40~75 degrees C)
IGS-4215-24T4X	Industrial L2+ 24-Port 10/100/1000T + 4-Port 10G SFP+ Managed Ethernet Switch (-40~75 degrees C)
IGS-4215-24P4X	Industrial L2+ 24-Port 10/100/1000T 802.3at PoE + 4-Port 10G SFP+ Managed Ethernet Switch (-40~75 degrees C)

Related Products

IGS-R4215-24T4X	Industrial L2+ 24-Port 10/100/1000T + 4-Port 10G SFP+ Managed Ethernet Switch
IGS-R4215-24P4X	Industrial L2+ 24-Port 10/100/1000T 802.3at PoE + 4-Port 10G SFP+ Managed Ethernet Switch
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
IGS-4215-16T2S	Industrial 16-Port 10/100/1000T + 2-Port 100/1000X SFP Managed Ethernet Switch
IGS-4215-8UP2T2S	Industrial 8-Port 10/100/1000T 802.3bt PoE + 2-Port 10/100/1000T + 2-Port 100/1000X SFP Managed Ethernet Switch
IGS-4215-8P2T2S	Industrial 8-Port 10/100/1000T 802.3at PoE + 2-Port 10/100/1000T + 2-Port 100/1000X SFP Managed Ethernet Switch
IGS-4215-8T2S	Industrial 8-Port 10/100/1000T + 2-Port 100/1000X SFP Managed Ethernet Switch
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 °C)
IGS-4215-4P4T	Industrial 4-Port 10/100/1000T 802.3at PoE + 4-Port 10/100/1000T Managed Switch (-40~75 °C)
IGS-4215-4T2S	Industrial 4-Port 10/100/1000T + 2-Port 100/1000X SFP Managed Ethernet Switch

Accessories

PWR-240-48	240W 48V DC Single Output Industrial DIN-rail Power Supply (-20 ~ 70 °C)
PWR-480-48	480W 48V DC Single Output Industrial DIN-rail Power Supply (-20 ~ 70 °C)
PWR-960-48	960W 48V DC Single Output Industrial DIN-rail Power Supply (-40 ~ 70 degrees C)

Available SFP Modules

10 Gigabit Ethernet Transceiver (10GBASE-X SFP+)

Model	Speed (Mbps)	Connector Interface	Fiber Mode	Distance	Wavelength (TX)	Wavelength (RX)	Operating Temp.
MTB-TSR	10G	LC	Multi-Mode	300m	850nm	--	-40 ~ 85°C
MTB-TLR	10G	LC	Single Mode	10km	1310nm	--	-40 ~ 85°C
MTB-TLR40	10G	LC	Single Mode	40km	1310nm	--	-40 ~ 85°C
MTB-TSR2	10G	LC	Single Mode	2km	1310nm	--	-40 ~ 85°C
MTB-TLR20	10G	LC	Single Mode	20km	1310nm	--	-40 ~ 85°C
MTB-TLR60	10G	LC	Single Mode	60km	1310nm	--	-40 ~ 85°C
MTB-TLA20	10G	LC	Single Mode	20km	1270nm	1330nm	-40 ~ 85°C
MTB-TLB20	10G	LC	Single Mode	20km	1330nm	1270nm	-40~85°C
MTB-TLB40	10G	LC	Single Mode	40km	1330nm	1270nm	-40 ~ 85°C
MTB-TLA40	10G	LC	Single Mode	40km	1270nm	1330nm	-40 ~ 85°C
MTB-TLA60	10G	LC	Single Mode	60km	1270nm	1330nm	-40 ~ 85°C
MTB-TLB60	10G	LC	Single Mode	60km	1330nm	1270nm	-40 ~ 85°C

2.5 Gigabit Ethernet Transceiver (2500BASE-X SFP)

Model	Speed (Mbps)	Connector Interface	Fiber Mode	Distance	Wavelength (TX)	Wavelength (RX)	Operating Temp.
MGB-2GTSR	2500	LC	Multi-mode	300m	850nm	--	-40 ~ 85°C
MGB-2GTLR2	2500	LC	Single mode	2km	1310nm	--	-40 ~ 85°C
MGB-2GTLA20	2500	LC	Single mode	20km	1310nm	1550nm	-40 ~ 85°C
MGB-2GTLB20	2500	LC	Single mode	20km	1550nm	1310nm	-40 ~ 85°C
MGB-2GTLR20	2500	LC	Single mode	20km	1310nm	--	-40 ~ 85°C

Gigabit Ethernet Transceiver (1000BASE-X SFP)

Model	Speed (Mbps)	Connector Interface	Fiber Mode	Distance	Wavelength (nm)	Operating Temp.
MGB-TGT	1000	Copper	--	100m	--	-40 ~ 85 °C
MGB-TSX	1000	LC	Multi Mode	550m	850nm	-40 ~ 85 °C
MGB-TSX2	1000	LC	Multi Mode	2km	1310nm	-40 ~ 85 °C
MGB-TLX	1000	LC	Single Mode	10km	1310nm	-40 ~ 85 °C
MGB-TL40	1000	LC	Single Mode	40km	1310nm	-40 ~ 85 °C
MGB-TL80	1000	LC	Single Mode	80km	1550nm	-40 ~ 85 °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 °C
MGB-TLB10	1000	WDM(LC)	Single Mode	10km	1550nm	1310nm	-40 ~ 85 °C
MGB-TLA20	1000	WDM(LC)	Single Mode	20km	1310nm	1550nm	-40 ~ 85 °C
MGB-TLB20	1000	WDM(LC)	Single Mode	20km	1550nm	1310nm	-40 ~ 85 °C
MGB-TLA40	1000	WDM(LC)	Single Mode	40km	1310nm	1550nm	-40 ~ 85 °C
MGB-TLB40	1000	WDM(LC)	Single Mode	40km	1550nm	1310nm	-40 ~ 85 °C
MGB-TLA80	1000	WDM(LC)	Single Mode	80km	1310nm	1550nm	-40 ~ 85 °C
MGB-TLB80	1000	WDM(LC)	Single Mode	80km	1550nm	1310nm	-40 ~ 85 °C
MGB-TLA120	1000	WDM(LC)	Single Mode	120km	1490nm	1550nm	-40 ~ 85 °C
MGB-TLB120	1000	WDM(LC)	Single Mode	120km	1550nm	1490nm	-40 ~ 85 °C

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 °C
MFB-TF20	100	LC	Single Mode	20km	1550nm	-40 ~ 85 °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 °C
MFB-TFB20	100	WDM(LC)	Single Mode	20km	1550nm	1310nm	-40 ~ 85 °C
MFB-TFA40	100	WDM(LC)	Single Mode	40km	1310nm	1550nm	-40 ~ 85 °C
MFB-TFB40	100	WDM(LC)	Single Mode	40km	1550nm	1310nm	-40 ~ 85 °C

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