Industrial L2/L4 16-Port 10/100/1000T + 2-Port 100/1000X SFP Managed Switch
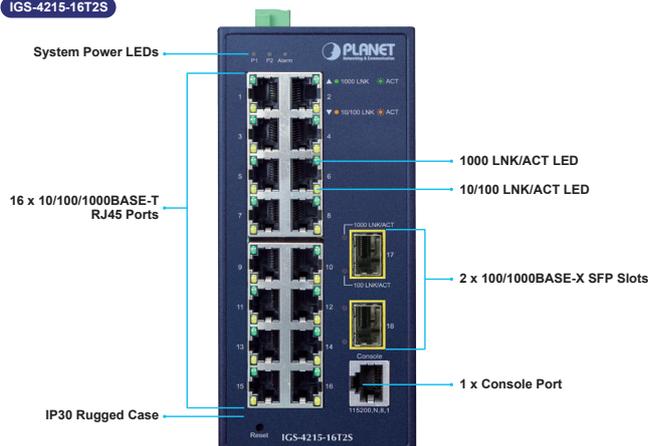
Cost-effective Full Solution Ideal for Hardened Environment

Designed to be installed in heavy industrial demanding environments, the IGS-4215-16T2S / IGS-4215-16T2S-U is the new member of PLANET Industrial-grade, DIN-rail type **L2/L4 Managed Gigabit Switch** family to improve the availability of critical business applications. It provides IPv6/IPv4 dual stack management and built-in L2/L4 Gigabit switching engine along with **16 10/100/1000BASE-T** ports, and **2 extra 100/1000BASE-X SFP fiber slots** for long-distance data and video uplink. The IGS-4215-16T2S / IGS-4215-16T2S-U is able to operate reliably, stably and quietly in any hardened environment without affecting its performance. It comes with operating temperature ranging from -40 to 75 degrees C in a rugged **IP30** metal housing.

Securely Protect Your Industrial Network from Cyberattacks!

IP Source Guard
IGMP Snooping
IPv6/IPv4 ACL
MSTP
RADIUS/TACACS
Cyber Security

IGS-4215-16T2S

System Power LEDs
16 x 10/100/1000BASE-T RJ45 Ports
IP30 Rugged Case

1000 LNK/ACT LED
10/100 LNK/ACT LED
2 x 100/1000BASE-X SFP Slots
1 x Console Port

Physical Port

- 16-port 10/100/1000BASE-T RJ45 with auto MDI/MDI-X function
- 2 SFP interfaces, supporting 100/1000BASE-X SFP transceiver type auto detection
- 1-port RJ45 console for basic management and setup (IGS-4215-16T2S only)
- 1-port USB console for basic management and setup (IGS-4215-16T2S-U only)
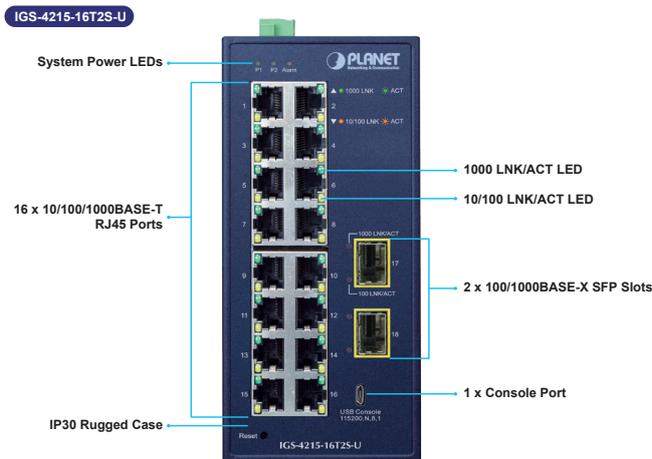
Industrial Case and Installation

- Dual power input, redundant power with reverse polarity protection
  - DC 12 to 48V input or AC 24V input (IGS-4215-16T2S only)
  - DC 9 to 48V input or AC 24V input (IGS-4215-16T2S-U only)
  - Active-active redundant power failure protection
  - Backup of catastrophic power failure on one supply
  - Fault tolerance and resilience
- IP30 metal case
- DIN-rail and wall-mount designs
- Supports ESD 6KV DC Ethernet protection
- Supports -40 to 75 degrees C operating temperature
- Free fall, shock-proof and vibration-proof for industries
- Fanless design

Switching

- Features Store-and-Forward mode with wire-speed filtering and forwarding rates
- IEEE 802.3x flow control for full duplex operation and back pressure for half duplex operation
- 8K MAC address table size
- 10K jumbo frame
- Automatic address learning and address aging
- Supports CSMA/CD protocol

Layer 2 Features

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

IGS-4215-16T2S-U

System Power LEDs

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

IP30 Rugged Case

IGS-4215-16T2S-U

1000 LNK/ACT LED

10/100 LNK/ACT LED

2 x 100/1000BASE-X SFP Slots

1 x Console Port

Environmentally Hardened Design

With the IP30 industrial case, the IGS-4215-16T2S / IGS-4215-16T2S-U 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-4215-16T2S / IGS-4215-16T2S-U can be placed in almost any difficult environment.

Strengthen Reliability in Transportation Infrastructure

The IGS-4215-16T2S / IGS-4215-16T2S-U is compliant with the **EN 50121-4** standard for railway signaling and telecommunications applications, and comes with dual 12~48VDC (IGS-4215-16T2S) and 9~48VDC (IGS-4215-16T2S-U) wide range input.

Robust Protection

The IGS-4215-16T2S / IGS-4215-16T2S-U provides contact discharge of ±6KV DC and air discharge of ±8KV DC for Ethernet ESD protection. It also supports ±4KV surge immunity to improve product stability and protects users' networks from devastating ESD attacks, making sure the flow of operation does not fluctuate.

Redundant Ring, Fast Recovery for Critical Network Applications

The IGS-4215-16T2S / IGS-4215-16T2S-U 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. IGS-4215-16T2S-U also features watchdog self-healing.

Robust Layer 2 Features

The IGS-4215-16T2S / IGS-4215-16T2S-U 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-4215-16T2S / IGS-4215-16T2S-U 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.

- – Voice 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
  - – BPDU Guard
- Supports **Link Aggregation**
  - – IEEE 802.3ad Link Aggregation Control Protocol (LACP)
  - – Cisco ether-channel (static trunk)
  - – Up to 8 trunk groups
  - – Up to 8 ports per trunk group with 16Gbps bandwidth
- Provides port mirror (many-to-1)
- IPv6 MAC/VLAN/Multicast Address Table
- Loop protection to avoid broadcast loops
- Supports ERPS (Ethernet Ring Protection Switching)

Quality of Service

- Ingress/Egress Rate Limit per port bandwidth control
- Support 8 priority queues on all switch ports
- Traffic classification
  - – IEEE 802.1p CoS
  - – IP TOS/DSCP/IP precedence of IPv4/IPv6 packets
  - – IP TCP/UDP port number
  - – Typical network application
- DSCP remarking

Multicast

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

Security

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

L2/L4
Managed Switch

L2/L4
Managed Switch
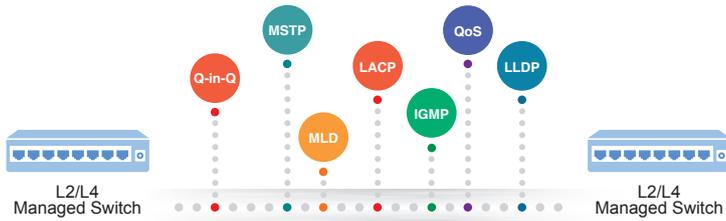
IPv6/IPv4 Dual Stack Management

Supporting both IPv6 and IPv4 protocols, the IGS-4215-16T2S / IGS-4215-16T2S-U 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.
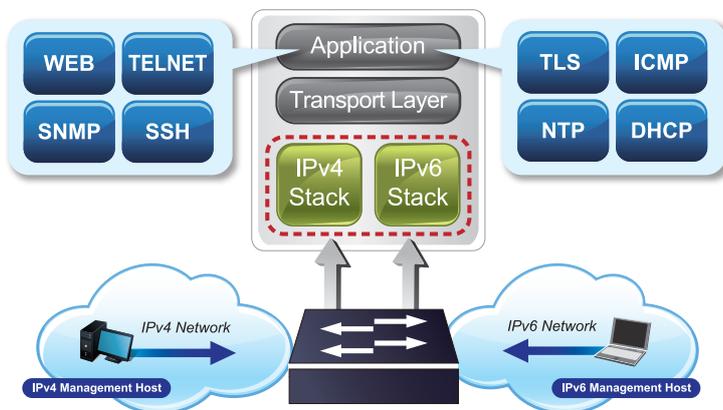
Efficient Traffic Control

The IGS-4215-16T2S / IGS-4215-16T2S-U 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

The IGS-4215-16T2S / IGS-4215-16T2S-U comes with enhanced cybersecurity to fend off cyberthreats and cyberattacks. It supports **SSHv2**, **TLSv1.2** and **SNMPv3** protocols to provide strong protection against advanced threats. Served as a key point to transmit data, the cybersecurity feature of the IGS-4215-16T2S / IGS-4215-16T2S-U protects the switch management and enhances the security of the mission-critical network without any extra deployment cost and effort.

Powerful Security

PLANET IGS-4215-16T2S / IGS-4215-16T2S-U 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

- – MAC filtering
- • Port security for source MAC address entries filtering
- • DHCP snooping to filter distrusted DHCP messages
- • Dynamic ARP inspection discards ARP packets with invalid MAC address to IP address binding
- • IP source guard prevents IP spoofing attacks
- • IP address access management to prevent unauthorized intruder

Management

- • IPv4 and IPv6 dual stack management
- • Switch Management Interface
  - – IPv4/IPv6 Web switch management
  - – Console and telnet Command Line Interface
  - – SNMP v1 and v2c switch management
  - – SSHv2, TLSv1.2 and SNMP v3 secure access
- • IPv6 IP address/NTP/DNS management
- • Built-in Trivial File Transfer Protocol (TFTP) client
- • Static and DHCP for IP address assignment
- • System Maintenance
  - – Firmware upload/download via HTTP/TFTP
  - – Hardware reset button for system reboot or reset to factory default
  - – Dual images
- • User Privilege levels control
- • Network Time Protocol (NTP)
- • Link Layer Discovery Protocol (LLDP) and LLDP-MED
- • Syslog remote alarm
- • SNMP Management
  - – SNMP trap for interface link up and link down notification
  - – Four RMON groups (history, statistics, alarms and events)
- • PLANET Smart Discovery Utility for deployment management
- • PLANET NMS system and CloudViewer for deployment management
- • Network diagnostic
  - – SFP-DDM (Digital Diagnostic Monitor)
  - – Cable diagnostic technology provides the mechanism to detect and report potential cabling issues
  - – ICMPv6 / ICMPv4 remote ping
  - – Live remote checking is designed to make sure the devices are still connected

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-4215-16T2S / IGS-4215-16T2S-U 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.

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.

NMS Controller

CloudViewer App

### Flexibility and Long-distance Extension Solution

The two additional SFP slots built in the IGS-4215-16T2S / IGS-4215-16T2S-U support 100BASE-FX /1000BASE-SX/LX SFP (Small Form-factor Pluggable) fiber transceivers to uplink to backbone switch in long distance. The distance can be extended from 550 meters to 2 kilometers (multi-mode fiber) and up to 120 kilometers (single-mode fiber or WDM fiber). They are well suited for applications within the enterprise data centers and distributions.

Fiber Optic Cable up to 120km

IGS-4215-16T2S

IGS-4215-16T2S

1000BASE-SX/LX Fiber Optic
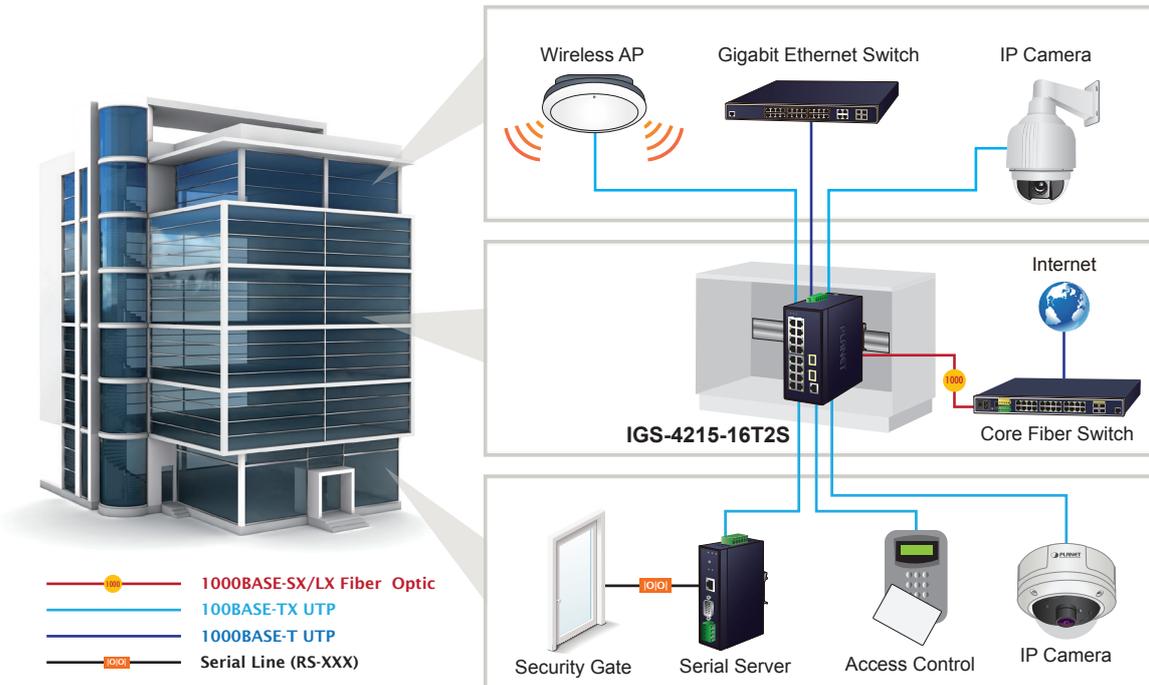
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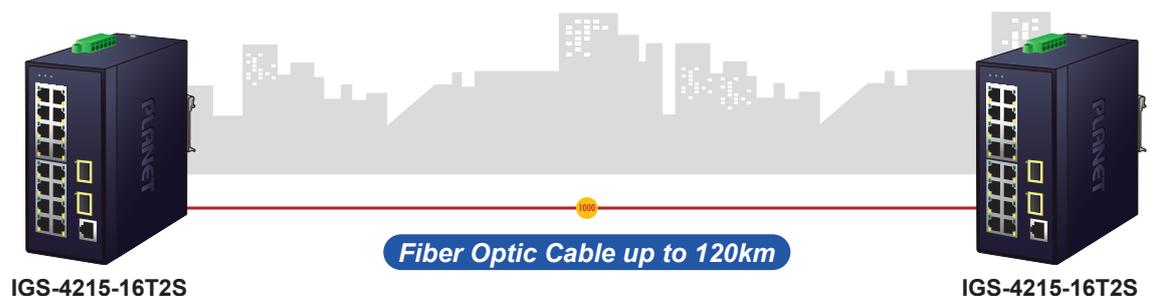
Intelligent SFP Diagnosis Mechanism

The IGS-4215-16T2S / IGS-4215-16T2S-U 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.

SFP DDM (Digital Diagnostic Monitor)

| Voltage | Ammeter | Temperature | Power Transceiver | Power Receiver |
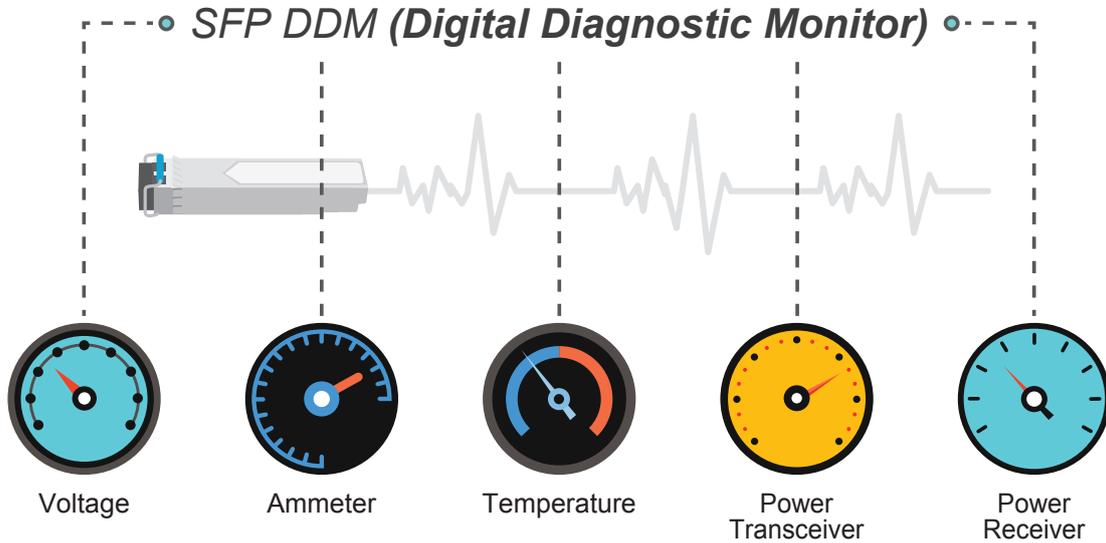
Applications

*Industrial-grade Switch for Building Automation and Security*

Suitable for buildings where security is strictly to be enforced, the IGS-4215-16T2S / IGS-4215-16T2S-U, with sixteen high-speed Gigabit Ethernet 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.

Wireless AP   Gigabit Ethernet Switch   IP Camera

Internet

IGS-4215-16T2S   Core Fiber Switch

Security Gate   Serial Server   Access Control   IP Camera

— **1000BASE-SX/LX Fiber Optic**
— **100BASE-TX UTP**
— **1000BASE-T UTP**
— **Serial Line (RS-XXX)**

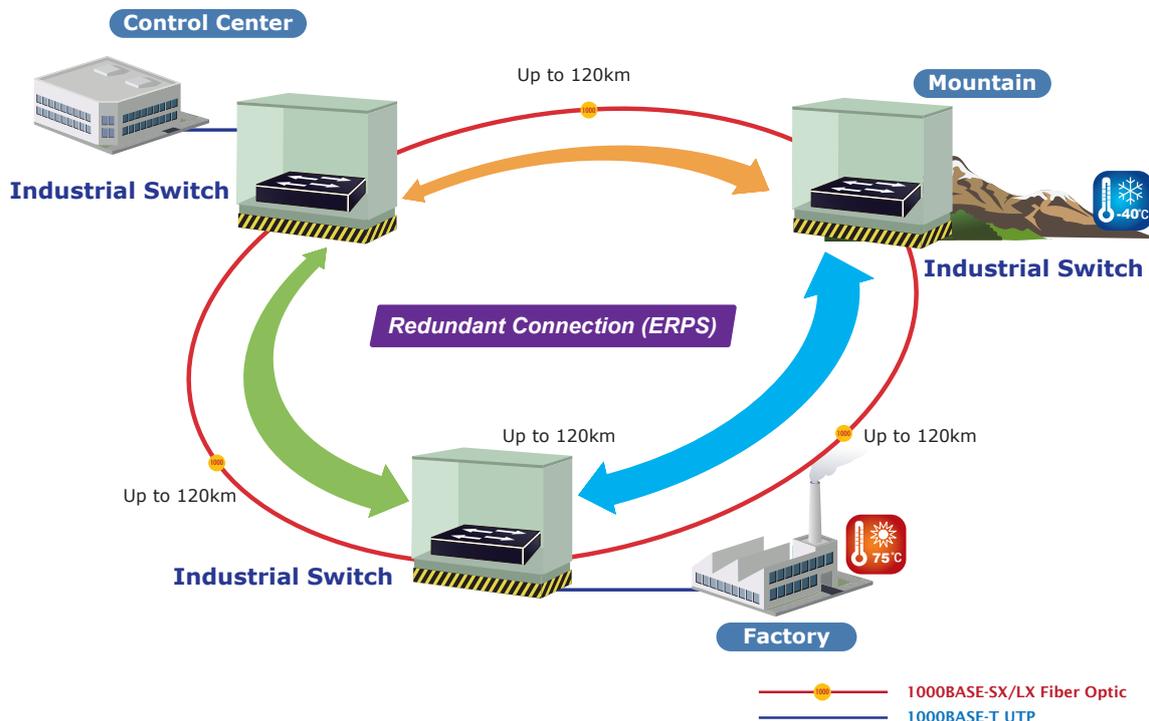*Model that Withstands Harsh Operation and Extends Distance*

The IGS-4215-16T2S / IGS-4215-16T2S-U is made to withstand any harsh operation in such environments as traffic control cabinets, factory floors, and indoor and outdoor locations where temperatures are extremely high or low. With a non-blocking design and compact size, the installation of the IGS-4215-16T2S / IGS-4215-16T2S-U is easy and helpful to build a Gigabit high-bandwidth switched network quickly.

Extending Ethernet Distance
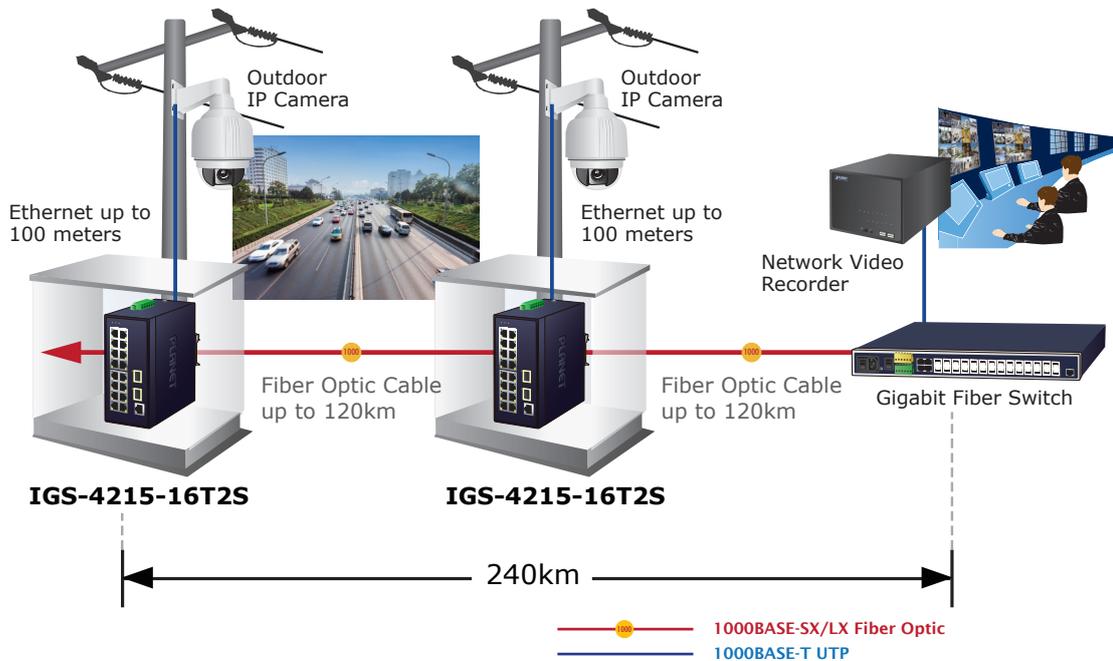
ITU-T G.8032 ERPS Makes Data Transmission Uninterrupted

The IGS-4215-16T2S / IGS-4215-16T2S-U 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-4215-16T2S / IGS-4215-16T2S-U can directly connect with any IEEE 802.3at end-nodes like PTZ (Pan, Tilt & Zoom) network cameras and speed dome cameras. The IGS-4215-16T2S / IGS-4215-16T2S-U 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.
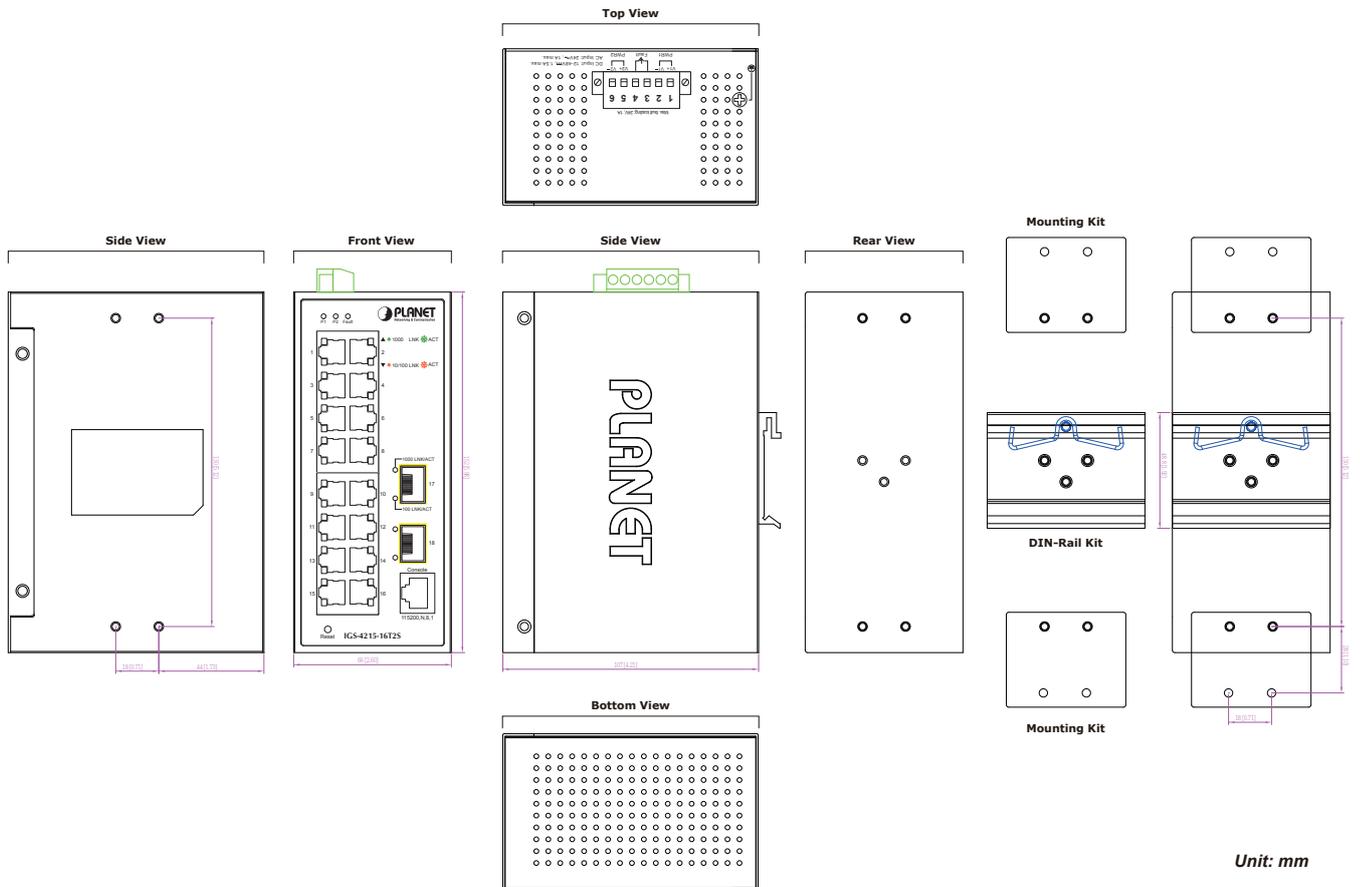
Specifications

Product	IGS-4215-16T2S	IGS-4215-16T2S-U
Hardware Specifications		
Copper Ports	16 10/100/1000BASE-T RJ45 auto-MDI/MDI-X ports	
Gigabit SFP Slots	2 100/1000BASE-SX/LX/BX SFP interfaces	
Console	1 RJ45 serial port (115200,8, N, 1)	1 Micro-USB female 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 for power input - 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 DC	
Power Requirements	Dual 12~48V DC 24V AC	Dual 9~48V DC 24V AC

Power Consumption	DC input:
	  Max. 3.4 watts/11.6BTU (System on)
	  Max. 12.5 watts/42.7BTU (Full loading)
	AC input:
	  Max. 6 watts/20.5BTU (System on)
	  Max. 15 watts/51.2BTU (Full loading)
		DC input:
		  Max. 3.31 watts/11.3BTU (System on)
		  Max.10.41 watts/35.5BTU (Full loading)
		AC input:
		  Max. 3 watts/10.2BTU (System on)
		  Max. 10 watts/34.1BTU (Full loading)

Dimensions (W x D x H)	66 x 107 x 152 mm	
Weight	813g	829g
Enclosure	IP30 metal case	
Installation	DIN-rail kit and wall-mount ear	
ESD Protection	6KV DC	

LED	System
	  ■ **Green**: Power 1
	  ■ **Green**: Power 2
	  ■ **Red**: Power Fault
	Per 10/100/1000T RJ45 Ports
	  ■ **Green**: 1000 LNK/ACT
	  ■ **Orange**: 10/100 LNK/ACT
	Per SFP Interface
	  ■ **Green**: 1000 LNK/ACT
	  ■ **Orange**: 100 LNK/ACT	

Switching Specifications		
Switch Architecture	Store-and-Forward	
Switch Fabric	36Gbps (non-blocking)	
Switch Throughput@64 bytes	26.79Mpps@ 64 bytes	
MAC Address Table	8K entries	
Shared Data Buffer	4.1Mbits	
Flow Control	IEEE 802.3x pause frame for full duplex Back pressure for half duplex	
Jumbo Frame	10 Kbytes	
Layer 2 Functions		
Port Mirroring	TX/RX/Both Many-to-1 monitor Up to 4 sessions	
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	
Link Aggregation	IEEE 802.3ad LACP and static trunk Cisco ether-channel (Static Trunk) Up to 8 trunk groups Up to 8 ports per trunk group with 16Gbps bandwidth	

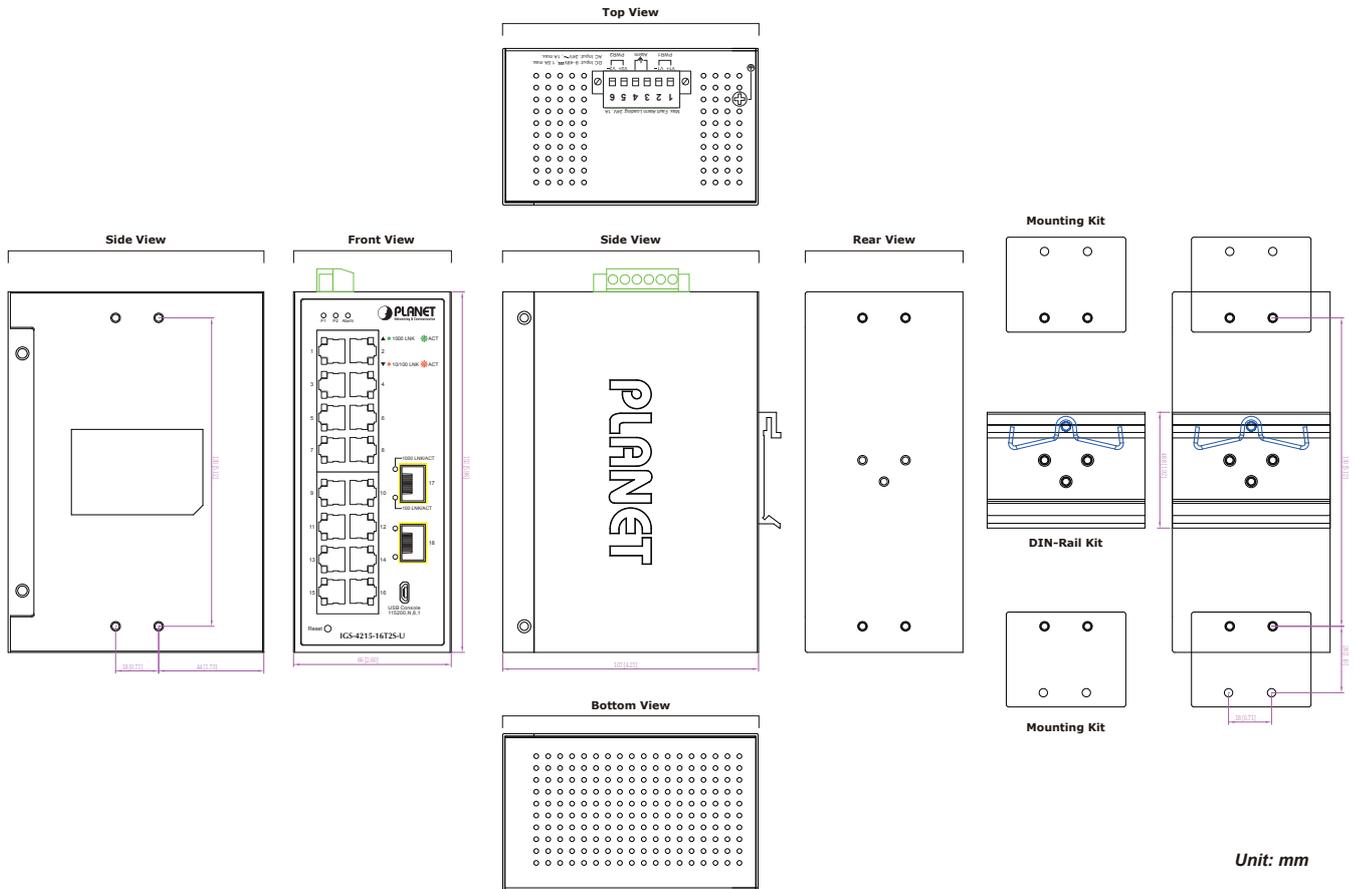|	
Spanning Tree Protocol	IEEE 802.1D Spanning Tree Protocol (STP) IEEE 802.1w Rapid Spanning Tree Protocol (RSTP) IEEE 802.1s Multiple Spanning Tree Protocol (MSTP) STP BPDU Guard, BPDU Filtering and BPDU Forwarding
IGMP Snooping	IPv4 IGMP snooping v1, v2, v3 IGMP querier Up to 256 multicast groups
MLD Snooping	IPv6 MLD snooping v1, v2, up to 256 multicast groups

QoS	Ingress/Egress Rate Limit per port bandwidth control
	8-level priority for switching
	  - Port number
	  - 802.1p priority
	  - DSCP/IP precedence of IPv4/IPv6 packets
	  - Typical network application
	DSCP remarking

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	Console; Telnet; Web browser; SNMP v1, v2c
Secure Management Interfaces	SSHv2, TLS v1.2, SNMP v3
System Management	Firmware upgrade by HTTP protocol through Ethernet network Configuration upload/download through HTTP Remote Syslog System log LLDP protocol SNTP PLANET Smart Discovery Utility PLANET NMS System/CloudViewer app
Event Management	Remote/Local Syslog System log
SNMP MIBs	RFC 1213 MIB-II RFC 1493 Bridge MIB RFC 1643 Ethernet MIB RFC 2863 Interface MIB RFC 2665 Ether-Like MIB RFC 2819 RMON MIB (Groups 1, 2, 3 and 9) RFC 2737 Entity MIB RFC 2618 RADIUS Client MIB RFC 2863 IF-MIB RFC 2933 IGMP-STD-MIB RFC 3411 SNMP-Frameworks-MIB RFC 4292 IP Forward MIB RFC 4293 IP MIB RFC 4836 MAU-MIB IEEE 802.1X PAE LLDP MAU-MIB
Standards Conformance	
Regulatory Compliance	FCC Part 15 Class A EN 55032 EN 55035 ICES-003 issue 7
Certification	EN50121-4
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 802.3az for Energy-Efficient Ethernet
	IEEE 802.3u 100BASE-TX/100BASE-FX	RFC 768 UDP
	IEEE 802.3z Gigabit SX/LX	RFC 783 TFTP
	IEEE 802.3ab Gigabit 1000T	RFC 791 IP
	IEEE 802.3x flow control and back pressure	RFC 792 ICMP
	IEEE 802.3ad port trunk with LACP	RFC 2068 HTTP
	IEEE 802.1D Spanning Tree Protocol	RFC 1112 IGMP v1
	IEEE 802.1w Rapid Spanning Tree Protocol	RFC 2236 IGMP v2
	IEEE 802.1s Multiple Spanning Tree Protocol	RFC 3376 IGMP v3
	IEEE 802.1p Class of Service	RFC 2710 MLD v1
	IEEE 802.1Q VLAN tagging	FRC 3810 MLD v2
	IEEE 802.1x Port Authentication Network Control	ITU G.8032 ERPS Ring
	IEEE 802.1ab LLDP	
Environment		
Operating Temperature	-40 ~ 75 degrees C	
Storage Temperature	-40 ~ 85 degrees C	
Humidity	5 ~ 95% (non-condensing)	

Dimensions

■ IGS-4215-16T2S

Unit: mm

■ IGS-4215-16T2S-U

Top View

Side View **Front View** **Side View** **Rear View** **Mounting Kit**

IGS-4215-16T2S-U

DIN-Rail Kit

Bottom View

Mounting Kit

Unit: mm

Ordering Information

IGS-4215-16T2S	Industrial L2/L4 16-Port 10/100/1000T + 2-Port 100/1000X SFP Managed Switch (-40~75 degrees C)
IGS-4215-16T2S-U	Industrial L2/L4 16-Port 10/100/1000T + 2-Port 100/1000X SFP Managed Switch with USB Console (-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-4215-4P4T	Industrial 4-Port 10/100/1000T 802.3at PoE + 4-Port 10/100/1000T Managed 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 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
IGS-4215-4UP4T2S	Industrial 4-Port 10/100/1000T 802.3bt PoE + 4-Port 10/100/1000T + 2-Port 100/1000X SFP Managed Switch
IGS-4215-8UP2T2S	Industrial 8-Port 10/100/1000T 802.3bt PoE + 2-Port 10/100/1000T + 2-Port 100/1000X SFP Managed Switch
IGS-801M	Industrial L2/L4 8-Port 10/100/1000T Managed Switch (-40~75 degrees C)

Accessories

PWR-40-24	40W 24V DC Single Output Industrial DIN-rail Power Supply (-20 ~ 70 degrees C)
PWR-60-24	60W 24V DC Single Output Industrial DIN-rail Power Supply (-20 ~ 70 degrees C)
PWR-75-24	75W 24V DC Single Output Industrial DIN-rail Power Supply (-20 ~ 70 degrees C)

Available Gigabit SFP Modules for IGS-4215-16T2S/IGS-4215-16T2S-U

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 degrees C)
MGB-TLX	SFP-Port 1000BASE-LX mini-GBIC module - 10km (-40~75 degrees C)
MGB-TL30	SFP-Port 1000BASE-LX mini-GBIC module - 30km (-40~75 degrees C)
MGB-TL70	SFP-Port 1000BASE-LX mini-GBIC module - 70km (-40~75 degrees C)
MGB-TLA10	SFP-Port 1000BASE-LX (WDM,TX:1310nm) mini-GBIC module - 10km (-40~75 degrees C)
MGB-TLB10	SFP-Port 1000BASE-LX (WDM,TX:1550nm) mini-GBIC module - 10km (-40~75 degrees C)
MGB-TLA20	SFP-Port 1000BASE-LX (WDM,TX:1310nm) mini-GBIC module - 20km (-40~75 degrees C)
MGB-TLB20	SFP-Port 1000BASE-LX (WDM,TX:1550nm) mini-GBIC module - 20km (-40~75 degrees C)
MGB-TLA40	SFP-Port 1000BASE-LX (WDM,TX:1310nm) mini-GBIC module - 40km (-40~75 degrees C)
MGB-TLB40	SFP-Port 1000BASE-LX (WDM,TX:1550nm) mini-GBIC module - 40km (-40~75 degrees C)
MGB-TLA60	SFP-Port 1000BASE-LX (WDM,TX:1310nm) mini-GBIC module - 60km (-40~75 degrees C)
MGB-TLB60	SFP-Port 1000BASE-LX (WDM,TX:1550nm) mini-GBIC module - 60km (-40~75 degrees C)

Available Fast Ethernet SFP Modules for IGS-4215-16T2S/IGS-4215-16T2S-U

MFB-FX	SFP-Port 100BASE-FX Transceiver (1310nm) - 2km
MFB-F20	SFP-Port 100BASE-FX Transceiver (1310nm) - 20km
MFB-F40	SFP-Port 100BASE-FX Transceiver (1310nm) - 40km
MFB-F60	SFP-Port 100BASE-FX Transceiver (1310nm) - 60km
MFB-F120	SFP-Port 100BASE-FX Transceiver (1310nm) - 120km
MFB-TFX	SFP-Port 100BASE-FX Transceiver (1310nm) - 2km (-40~75 degrees C)
MFB-TF20	SFP-Port 100BASE-FX Transceiver (1310nm) - 20km (-40~75 degrees C)
MFB-FA20	SFP-Port 100BASE-BX Transceiver (WDM,TX:1310nm) - 20km
MFB-FB20	SFP-Port 100BASE-BX Transceiver (WDM,TX:1550nm) - 20km
MFB-TFA20	SFP-Port 100BASE-BX Transceiver (WDM,TX:1310nm) - 20km (-40~75 degrees C)
MFB-TFB20	SFP-Port 100BASE-BX Transceiver (WDM,TX:1550nm) - 20km (-40~75 degrees C)
MFB-TFA40	SFP-Port 100BASE-BX Transceiver (WDM,TX:1310nm) - 40km (-40~75 degrees C)
MFB-TFB40	SFP-Port 100BASE-BX Transceiver (WDM,TX:1550nm) - 40km (-40~75 degrees C)

IGS-4215-16T2S/ IGS-4215-16T2S-U