![PLANET Networking & Communication]

Industrial 8-Port 10/100/1000T + 4-Port 10G SFP+ Ethernet Switch

Reliable Industrial Ethernet Networks with 10G Fiber and Plug and Play Configuration

Featuring Plug and Play and 10G SFP+ uplink ports, PLANET IGS-1000 Series Industrial-grade, DIN-rail type Unmanaged Gigabit Ethernet Switch is perfect for heavy industrial environments. It features **8 10/100/1000BASE-T** ports and four auto-detected **1G/2.5G/10GBASE-X** SFP+ fiber optic uplink ports that provide long-distance, high-speed and stable data transmission for the IoT and AIoT next-generation networks.

The IGS-1000 Series is designed with redundant power system and is able to operate reliably, stably and quietly in any hardened environment without affecting its performance and operating temperature ranging from **-40 to 75 degrees C** in a rugged IP30 metal housing. Though it includes robust features designed for industrial Ethernet networks, its Plug and Play makes configuration easy.

10Gbps Fiber Ports and Multiple Dual Speed Ports Deliver High-speed Networking

Featuring a **10Gbps uplink**, the IGS-1000 Series is suitable for connecting to an industrial backbone or high-capacity servers. Operating flawlessly across an extensive temperature range, it guarantees a non-blocking switch fabric, delivering astonishing wire-speed throughput of up to **96Gbps**. The 10G fiber port serves as a backbone for high-bandwidth applications, such as video streaming, cloud

Interface
- 8 10/100/1000BASE-T RJ45 copper ports
- 4 10GBASE-X SFP+ slots, compatible with 1000BASE-X and 2500BASE-X SFP

Power over Ethernet (For IGS-1000-8UP4X)
- Complies with IEEE 802.3bt PoE++ type 4 PSE
- Backward compatible with IEEE 802.3at PoE+
- Up to 8 ports of IEEE 802.3at/bt devices powered
- Up to 360-watt PoE budget
- Supports PoE power up to 95 watts for each PoE port
- Each port supports 48~54V DC power to PoE powered device
- Auto detects powered device (PD)
- Auto detects IEEE 802.3bt equipment and protects devices from being damaged by incorrect installation
- Circuit protection prevents power interference between ports
- Remote power feeding up to 100m

Industrial Hardened Design
- IP30 aluminum case
- DIN-rail and wall-mount designs
- Fault alarm for power input failure
- Supports 6KV DC Ethernet ESD protection
- -40 to 75 degrees C operating temperature
- 9~48V DC redundant power with reverse polarity protection (For IGS-1000-8T4X)
- 48~54V DC redundant power with reverse polarity protection (For IGS-1000-8UP4X)

Layer 2 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
- 16K MAC address table size
- 12K jumbo frame
- IEEE 802.1Q VLAN transparency
- Automatic address learning and address aging
- Supports CSMA/CD protocol

computing, and virtualization, ensuring seamless and swift data transmission. This transformative capability simplifies the process of industrial LAN upgrades, efficiently catering to escalating bandwidth requirements.

10G Fiber-optic Linking Capability Enables Extension of Network Deployment

The SFP+ slot of the IGS-1000 Series is compatible with 10GBASE-SR or 10GBASE-LR (Small Form Factor Pluggable) fiber-optic transceivers. The fiber optic uplink capability guarantees the throughput to all nodes hooked into the network and the 10 Gigabit Ethernet distance can be extended from 300 meters (multi-mode fiber cable) to 2/10/20/40/60/70/80 kilometers (single-mode fiber cable). It is ideal for applications within the data centers and distributions

Optic Mode	Connector Type	Distance
Multi-mode	Duplex LC	300m
Single mode	Duplex LC	2/10/20/40/60/80km
Single mode WDM	Simplex LC	10/20/40/60/70km

802.3bt PoE++ 90~95-watt Power over 4-pair UTP Solution (For IGS-1000-8UP4X)

As the IGS-1000-8UP4X adopts the **IEEE 802.3bt PoE++** standard and UPoE technology, it is capable to source up to 95 watts of power by using all the four pairs of standard Cat5e/6 Ethernet cabling to deliver power and full-speed data to each remote PoE compliant powered device (PD). It possesses triple amount of power capability more than the conventional 802.3at PoE+ and is an ideal solution to satisfy the growing demand for higher power consuming network PDs, such as:

■ PoE PTZ speed dome cameras

■ Thin clients

■ AIO (all-in-one) touch PCs, point of sale (POS) and information kiosks

■ Remote digital signage displays

■ PoE lightings
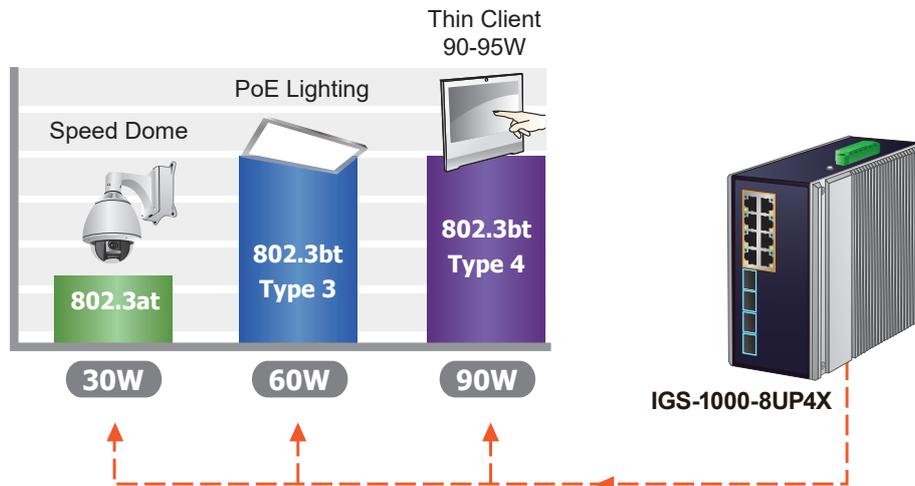
Intelligent LED Indicator for Real-time PoE Usage (For IGS-1000-8UP4X)

The IGS-1000-8UP4X helps users to monitor the current status of PoE power usage easily and efficiently via its advanced LED indicator. On the front panel of the Industrial Gigabit PoE++ Switch, there are four different power usage LED indicators indicating 90W, 180W, 270W, and 360W.

PoE Power Usage Display

Dual Power Input for High Availability Network System

The IGS-1000 Series features a strong dual power input system with 9~48V DC (IGS-1000-8UP4X only supports 48~54V DC) to enhance system reliability and uptime. In the example below, when power supply 1 fails to work, the hardware failover function will be activated automatically to keep powering the IGS-1000 Series via power supply 2 alternatively without any loss of operation.

Non-stop Ethernet Service
Dual Power Input with Auto Failover
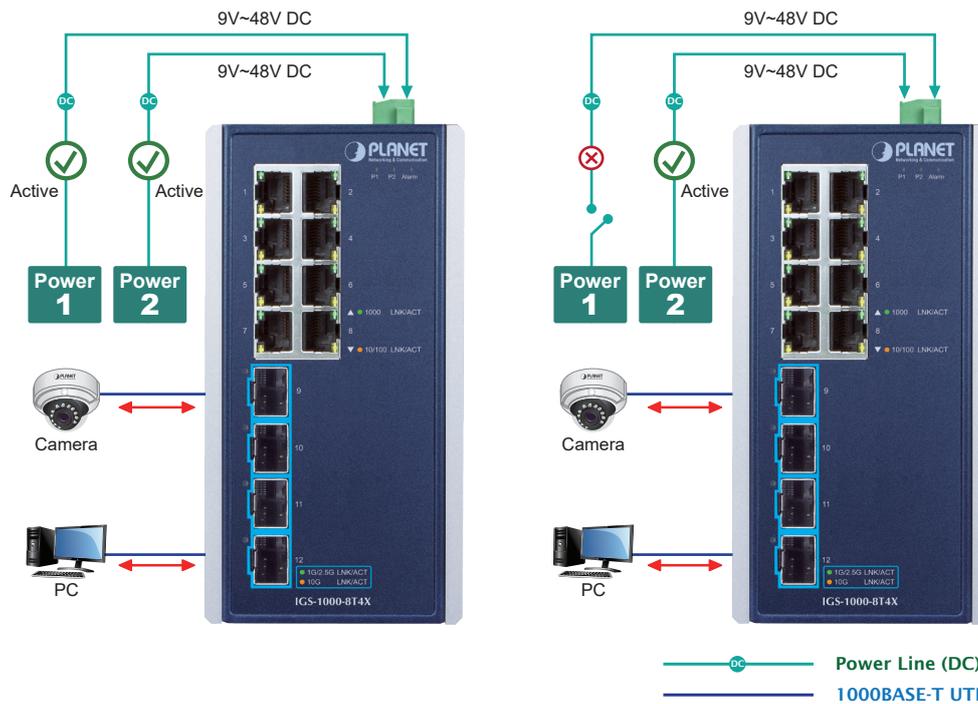
Environmentally Hardened Design

With the IP30 metal industrial case, the IGS-1000 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 conditioning. It features a ventilated construction in which a cooling fan is not necessary, thereby making its operation noiseless. Being able to operate under the temperature range from **-40 to 75 degrees C**, the IGS-1000 Series can be placed in almost any difficult environment.
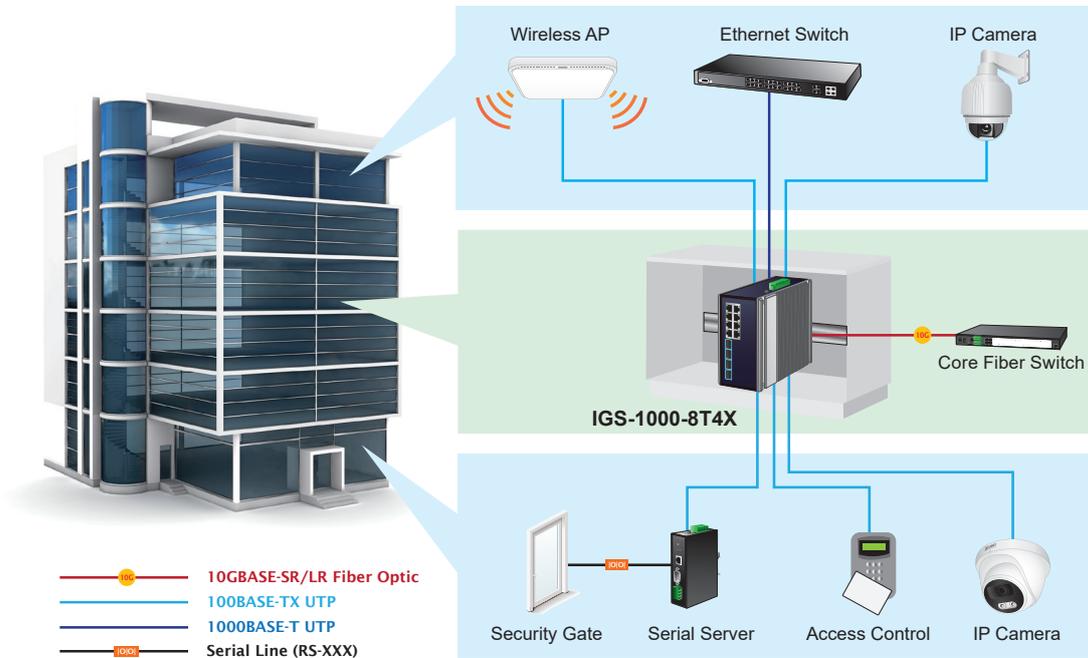
Robust Protection

The IGS-1000 Series provides contact discharge of ±6KV DC and air discharge of ±8KV DC for Ethernet ESD protection. It also supports ±6KV surge immunity to improve product stability and protects users' networks from devastating ESD attacks, making sure the flow of operation does not fluctuate.
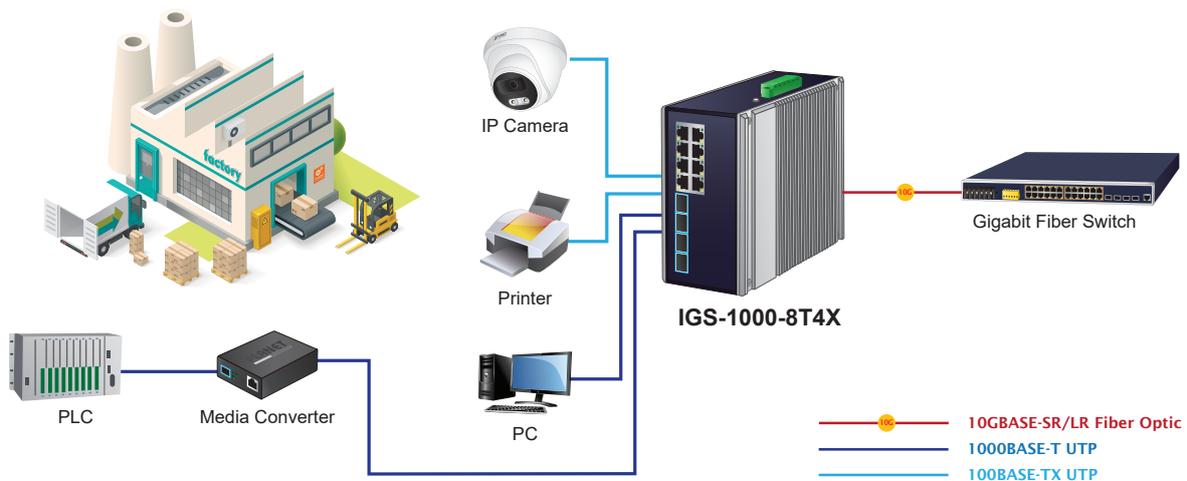
Applications

Industrial-grade Switch for Building Automation and Security

The IGS-1000 Series IP30-rated metal case is particularly designed for heavy industries, such as factories, harbors, warehouses, and more. Suitable for buildings where security is strictly enforced, the IGS-1000 Series, with **8 1000BASE-T** ports and **4 10GBASE-X SFP+** fiber optic uplink interfaces, can easily build an IP phone system, IP surveillance system, security control system and wireless AP group in the harsh Industrial environment.

Wireless AP   Ethernet Switch   IP Camera

IGS-1000-8T4X

Core Fiber Switch

10GBASE-SR/LR Fiber Optic
100BASE-TX UTP
1000BASE-T UTP
Serial Line (RS-XXX)

Security Gate   Serial Server   Access Control   IP Camera

Designed for Heavy Industries

The IGS-1000 Series IP30-rated metal case is particularly designed for heavy industries, such as factories, harbors, warehouses, and more. When installed at these establishments, it can enhance the work performance of these establishments by speedily transferring incoming and outgoing data.
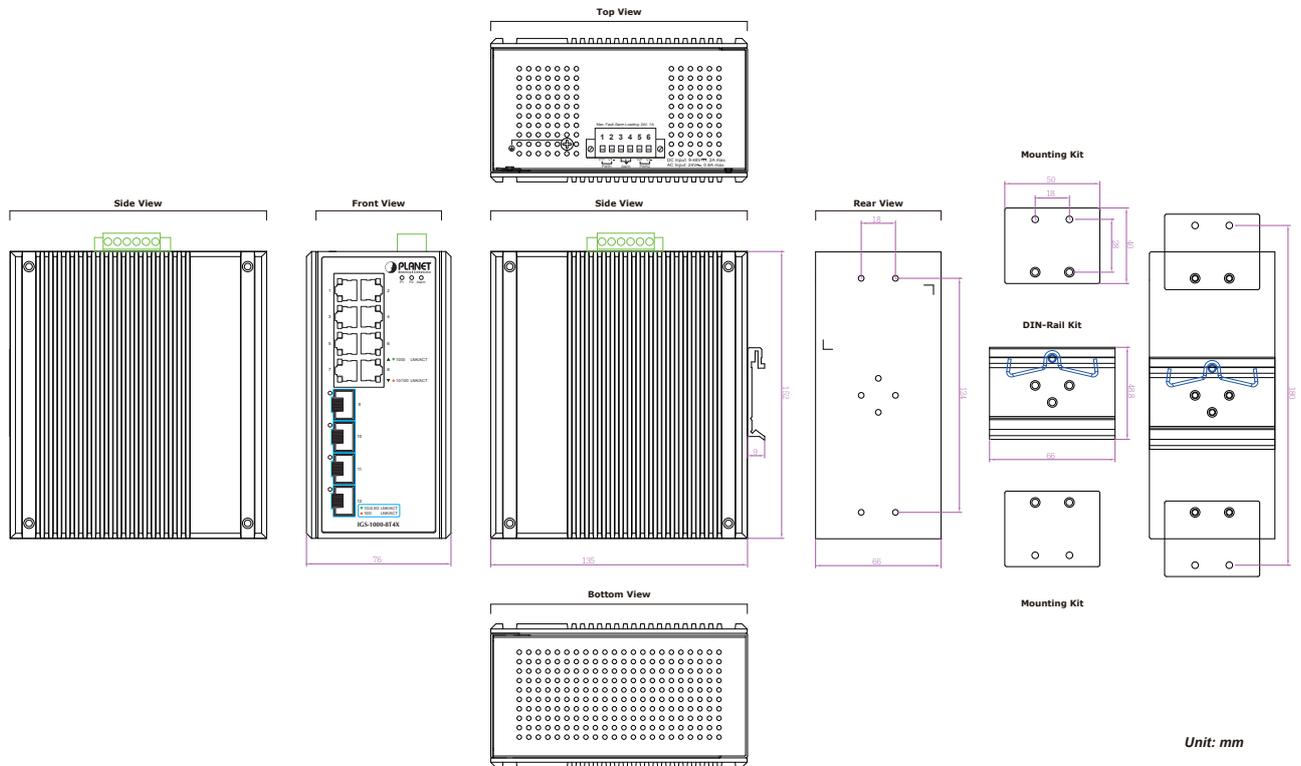
IP Camera

Printer

IGS-1000-8T4X

Gigabit Fiber Switch

PLC   Media Converter

PC

10GBASE-SR/LR Fiber Optic
1000BASE-T UTP
100BASE-TX UTP

Specifications

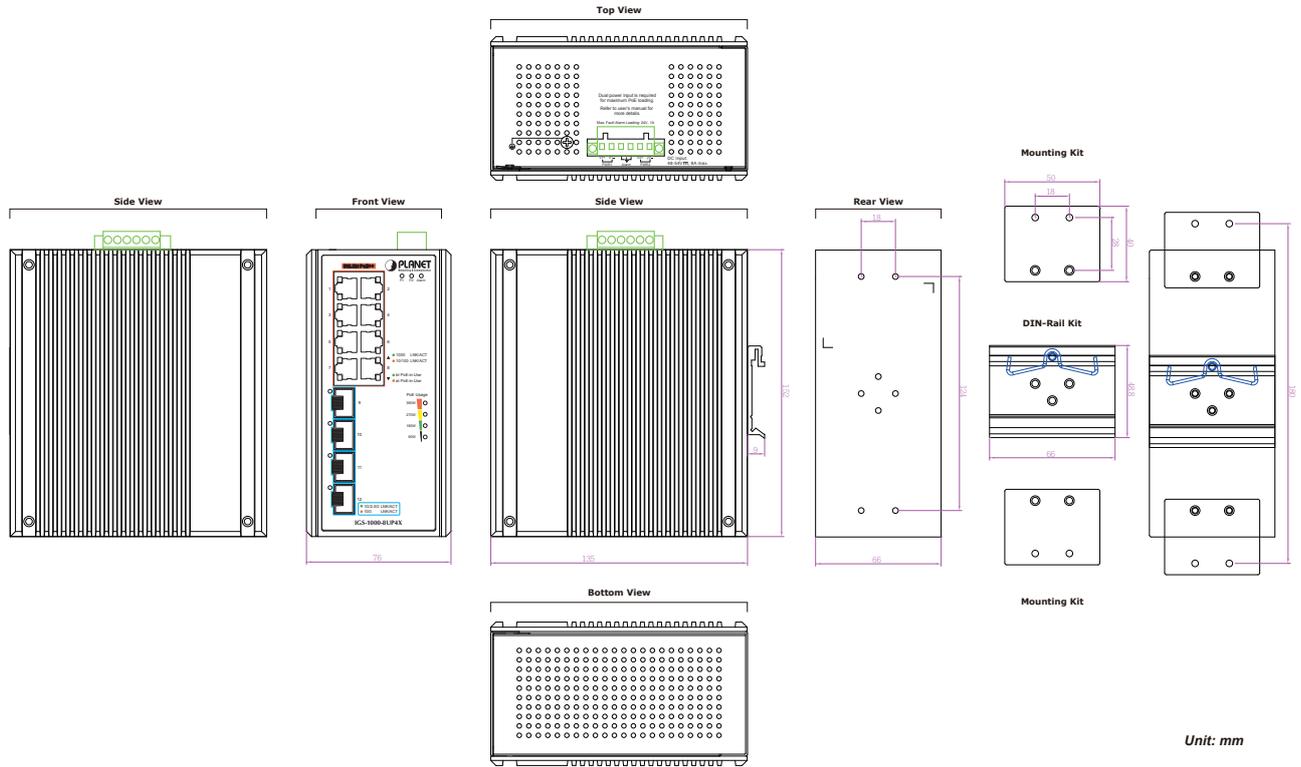| Model	IGS-1000-8T4X	IGS-1000-8UP4X
Hardware Specifications		
Copper Ports	8 10/100/1000BASET RJ45 auto-MDI/MDI-X ports	
SFP Ports	4 10GBASE-X SFP+ interfaces(Ports 9 to 12) Backward compatible with 1000BASE-X SFP and 2500BASE-X SFP	
Connector	Removable 6-pin terminal block Pin 1/2 for Power 1 Pin 3/4 for fault alarm Pin 5/6 for Power 2	
Power Requirements	9~48V DC, 4A max. / 24V AC Redundant power with reverse polarity protection	48~54V DC, 8A max. Redundant power with reverse polarity protection
Power Consumption	Max. 5 watts/17BTU (System on) Max. 14.73 watts/50.2BTU (Ethernet Full Loading)	Max. 8.69 watts/29.63BTU (System on) Max. 387.2 watts/1320BTU (Ethernet + PoE Full Loading)
Dimensions (W x D x H)	76 x 135 x 152 mm	
Weight	1211g	1352g
Enclosure	IP30 aluminum case	
Installation	DIN-rail kit and wall-mount kit	
ESD Protection	6KV	

LED Indicators	**System:**
	  P1, P2 (Green), Alarm (Red)
	10/100/1000BASE-T RJ45 Interfaces (Port 1 to Port 8):
	  1000Mbps LNK/ACT (Green)
	  10/100Mbps LNK/ACT (Amber)
	1G/2.5G/10Gbps SFP+ Interfaces (Port 9 to Port 12):
	  1G/2.5G LNK/ACT (Green)
	  10G LNK/ACT (Amber)
		System:
		  P1, P2 (Green), Alarm (Red)
		10/100/1000BASE-T RJ45 Ports (Ports 1 to 8):
		  1000Mbps LNK/ACT (Green)
		  10/100Mbps LNK/ACT (Amber)
		  802.3bt PoE-in-Use (Green)
		  802.3at PoE-in-Use (Amber)
		1G/2.5G/10Gbps SFP+ Ports (Ports 9 to 12):
		  1G/2.5G LNK/ACT (Green)
		  10G LNK/ACT (Amber)
		PoE Usage:
		  90W, 180W, 270W, 360W (Amber)

Switch Specifications		
Switch Architecture	Store-and-Forward	
Switch Fabric	96Gbps	
Throughput (packet per second)	71.43Mpps@64bytes	
Address Table	16K entries	
Buffer Memory	12M bits on-chip buffer memory	
Jumbo Frame	12Kbytes	
Flow Control	Back pressure for half duplex IEEE 802.3x pause frame for full duplex	
Power over Ethernet		
PoE Standard	--	IEEE 802.3bt PoE++ PSE IEEE 802.3at PoE+ PSE
PoE Power Supply Type	--	802.3bt, End-span + Mid-span
PoE Power Output	--	Ports 1 to 8: 95 watts max.
Power Pin Assignment	--	Pair 1 End-span: 1/2(-), 3/6(+) Pair 2 Mid-span: 4/5(+), 7/8(-) 802.3bt: 1/2(-), 3/6(+), 4/5(+), 7/8(-)
PoE Power Budget (max.)	--	**Single** power input: **240W** maximum **Dual** power input: **360W** maximum
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 Ethernet
	IEEE 802.3u Fast Ethernet
	IEEE 802.3ab Gigabit Ethernet
	IEEE 802.3z Gigabit SX/LX
	IEEE 802.3ae 10 Gigabit Ethernet
	IEEE 802.3x Full-Duplex Flow Control
	IEEE 802.3bt Power over Ethernet Plus Plus PSE
	IEEE 802.3at Power over Ethernet Plus PSE
	IEEE 802.3af Power over Ethernet Plus
	IEEE 802.3az Energy Efficient Ethernet
	IEEE 802.1p Class of Service
Environment	
Temperature	Operating: -40~75 degrees C
	Storage: -40~75 degrees C
Humidity	Operating: 5~90% (non-condensing)
	Storage: 5~90% (non-condensing)

Dimensions

■ IGS-1000-8T4X

Unit: mm

■ IGS-1000-8UP4X

Top View

Side View

Front View

Side View

Rear View

Mounting Kit

DIN-Rail Kit

Mounting Kit

Bottom View

Unit: mm

Ordering Information

IGS-1000-8T4X	Industrial 8-Port 10/100/1000T + 4-Port 10G SFP+ Ethernet Switch (-40~75 degrees C)
IGS-1000-8UP4X	Industrial 8-Port 10/100/1000T 802.3bt PoE + 4-Port 10G SFP+ Ethernet Switch (-40~75 degrees C)

Related Product

IXT-900-2X1T	Industrial 2-Port 10GBASE-X SFP+ + 1-Port 10GBASE-T Managed Media Converter
IXT-900-1X1T	Industrial 1-Port 10GBASE-X SFP+ + 1-Port 10GBASE-T Managed Media Converter
IXT-900-2X1PD	Industrial 2-Port 10GBASE-X SFP+ + 1-Port 10GBASE-T PoE PD Managed Media Converter
IXT-900-2X	Industrial 2-Port 10GBASE-X SFP+ Managed Media Converter
IGUP-1205AT	Industrial 2-Port 100/1000X SFP to 1-Port 10/100/1000T 802.3bt PoE++ Media Converter
IGUP-2205AT	Industrial 2-Port 100/1000X SFP to 2-Port 10/100/1000T 802.3bt PoE++ Media Converter
IPOE-E302	Industrial 1-Port 802.3bt PoE++ to 2-Port 802.3at Gigabit PoE Extender
IPOE-E174	Industrial 1-Port Ultra PoE to 4-Port 802.3at PoE+ Extender
IPOE-175	Industrial 60W 802.3bt PoE++ Injector
IPOE-171-60W IPOE-171-95W	Industrial Single-Port 802.3bt PoE++ Injector
IPOE-173S	Industrial Single-Port 10/100/1000Mbps 802.3bt PoE++ Splitter

Available Modules for IGS-1000 series

10Gigabit Ethernet Transceiver

MTB-TSR	1-Port 10GBASE-SR SFP+ Fiber Optic Module - 300m (-40~85 degrees C)
MTB-TLR	1-Port 10GBASE-LR SFP+ Fiber Optic Module - 10km (-40~85 degrees C)
MTB-TLR40	1-Port 10GBASE-LR SFP+ Fiber Optic Module - 40km (-40~85 degrees C)
MTB-TSR2	1-Port 10GBASE-LR SFP+ Fiber Optic Module – 2km (-40~85 degrees C)
MTB-TLR20	1-Port 10GBASE-LR SFP+ Fiber Optic Module - 20km (-40~85 degrees C)
MTB-TLR60	1-Port 10GBASE-LR SFP+ Fiber Optic Module - 60km (-40~85 degrees C)
MTB-TLA20	1-Port 10GBASE-BX SFP+ Fiber Optic Module - 20km (TX:1270nm RX:1330nm) (-40~85 degrees C)
MTB-TLB20	1-Port 10GBASE-BX SFP+ Fiber Optic Module - 20km (TX:1330nm RX:1270nm) (-40~85 degrees C)
MTB-TLA40	1-Port 10GBASE-BX SFP+ Fiber Optic Module - 40km (TX:1270nm RX:1330nm) (-40~85 degrees C)
MTB-TLB40	1-Port 10GBASE-BX SFP+ Fiber Optic Module - 40km (TX:1330nm RX:1270nm) (-40~85 degrees C)
MTB-TLA60	1-Port 10GBASE-BX SFP+ Fiber Optic Module - 60km (TX:1270nm RX:1330nm) (-40~85 degrees C)
MTB-TLB60	1-Port 10GBASE-BX SFP+ Fiber Optic Module - 60km (TX:1330nm RX:1270nm) (-40~85 degrees C)

2.5Gigabit Ethernet Transceiver

MGB-2GTSR	2.5G SFP Transceiver (Multi-mode, 850nm, DDM, -40~85 degrees C) - 300m
MGB-2GTLA20	2.5G SFP Transceiver (Single mode WDM, TX:1310nm RX:1550nm, DDM, -40~85 degrees C) - 20km
MGB-2GTLB20	2.5G SFP Transceiver (Single mode WDM, TX:1550nm RX:1310nm, DDM, -40~85 degrees C) - 20km
MGB-2GTLR20	2.5G SFP Transceiver (Single mode, 1310nm, DDM, -40~85 degrees C) - 20km
MGB-2GTLR2	2.5G SFP Transceiver (Single mode, 1310nm, DDM, -40~85 degrees C) - 2km

Gigabit Ethernet Transceiver (1000BASE-X SFP)

MGB-TSX	SFP-Port 1000BASE-SX mini-GBIC module - 550m (-40~85 degrees C)
MGB-TSX2	SFP-Port 1000BASE-SX mini-GBIC module – 2km (-40~85 degrees C)
MGB-TLX	SFP-Port 1000BASE-LX mini-GBIC module - 20km (-40~85 degrees C)
MGB-TL40	SFP-Port 1000BASE-LX mini-GBIC module - 40km (-40~85 degrees C)
MGB-TL80	SFP-Port 1000BASE-LX mini-GBIC module - 80km (-40~85 degrees C)
MGB-TLA10	SFP-Port 1000BASE-BX (WDM, TX:1310nm) mini-GBIC module - 10km (-40~85 degrees C)
MGB-TLB10	SFP-Port 1000BASE-BX (WDM, TX:1550nm) mini-GBIC module - 10km (-40~85 degrees C)
MGB-TLA20	SFP-Port 1000BASE-BX (WDM, TX:1310nm) mini-GBIC module - 20km (-40~85 degrees C)
MGB-TLB20	SFP-Port 1000BASE-BX (WDM, TX:1550nm) mini-GBIC module - 20km (-40~85 degrees C)
MGB-TLA40	SFP-Port 1000BASE-BX (WDM, TX:1310nm) mini-GBIC module - 40km (-40~85 degrees C)
MGB-TLB40	SFP-Port 1000BASE-BX (WDM, TX:1550nm) mini-GBIC module - 40km (-40~85 degrees C)
MGB-TLA80	SFP-Port 1000BASE-BX (WDM, TX:1490nm) mini-GBIC module - 80km (-40~85 degrees C)
MGB-TLB80	SFP-Port 1000BASE-BX (WDM, TX:1550nm) mini-GBIC module - 80km (-40~85 degrees C)
MGB-TSA	SFP-Port 1000BASE-BX (WDM, TX:1310nm) mini-GBIC module - 2km (-40~85 degrees C)
MGB-TSB	SFP-Port 1000BASE-BX (WDM, TX:1550nm) mini-GBIC module - 2km (-40~85 degrees C)
MGB-TGT	SFP-Port 1000BASE-T Module – 100m (-40~85 degrees C)
MGB-TLA120	SFP-Port 1000BASE-BX (WDM, TX:1490nm) mini-GBIC module - 120km (-40~85 degrees C)
MGB-TLB120	SFP-Port 1000BASE-BX (WDM, TX:1550nm) mini-GBIC module - 120km (-40~85 degrees C)

FC CE

IGS-1000-8T4X/IGS-1000-8UP4X