Industrial 4-Port 10/100/1000BASE-T 802.3at PoE+ Gigabit Ethernet Switch

A Perfect Full PoE+ Power Solution Ideal for Hardened Environment

With Plug and Play design, PLANET IGS-504HPT/IGS-614HPT Industrial-grade, DIN-rail type Unmanaged Gigabit Ethernet PoE+ Switch, featuring **four IEEE 802.3at PoE+ 10/100/1000BASE-T ports**, and **one extra 10/100/1000BASE-T** RJ45 copper port and one **100/1000BASE-X fiber** optic interface for uplink connection, allows to automatically detect and configure internal and external peripherals.

The IGS-504HPT/IGS-614HPT supports **12~54V DC** power input for power redundancy and operational flexibility. It comes with a total power budget of up to **120 watts** for different kinds of PoE applications and operating temperature ranging from **-40 to 75 degrees C** in a rugged IP40 metal housing.

Model	PoE Standard	PoE Budget	LAN Port Speed	SFP Slot Speed
IGS-504HPT	IEEE 802.3af/at	120 watts	10/100/1000Mbps	-
IGS-614HPT	IEEE 802.3af/at	120 watts	10/100/1000Mbps	100/1000BASE-X

Interface

- 5 10/100/1000BASE-T Gigabit Ethernet RJ45 copper ports
- One SFP slot, supporting 1000BASE-X and 100BASE-FX transceiver in dual modes (IGS-614HPT only)

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 ports of IEEE 802.3af/at devices powered
- Up to 120-watt PoE budget
- Supports PoE power up to 36 watts for each PoE port
- Each port supports 54V DC power to PoE powered device
- Auto detects powered device (PD)
- Circuit protection prevents power interference between ports
- Remote power feeding up to 100m

Layer 2 Switching

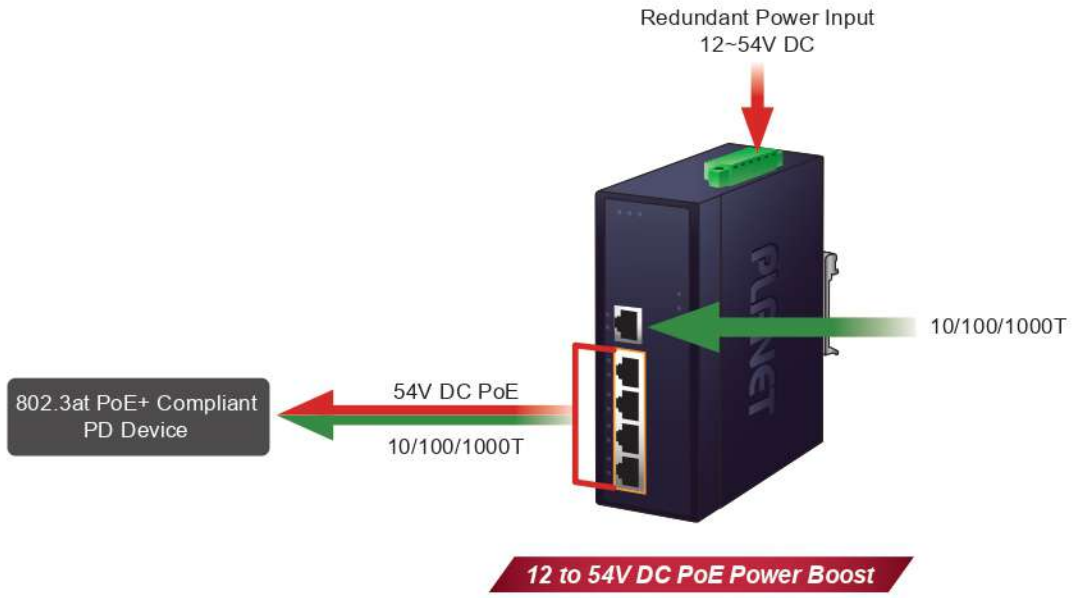
- Features Store-and-Forward mode with wire-speed filtering and forwarding rates
- IEEE 802.3x flow control for full duplex operation and back pressure for half duplex operation
- 2K MAC address table size
- 9K jumbo frame
- IEEE 802.1Q VLAN transparency
- Automatic address learning and address aging
- Supports CSMA/CD protocol

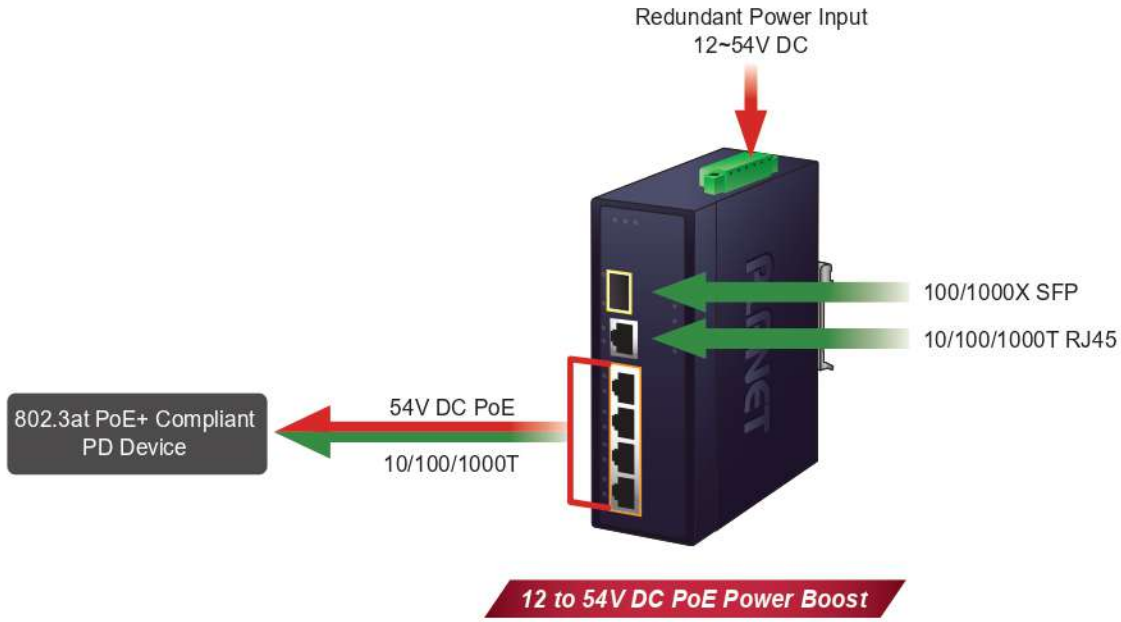
Industrial Case and Installation

- IP40 metal case
- DIN-rail, wall-mount or side wall-mount design
- 12~54V DC redundant power with reverse polarity protection
- Fault alarm for power input failed
- Supports 6KV DC Ethernet ESD protection
- -40 to 75 degrees C operating temperature
- 4 real-time PoE power usage indicators

Convenient and Reliable Power System

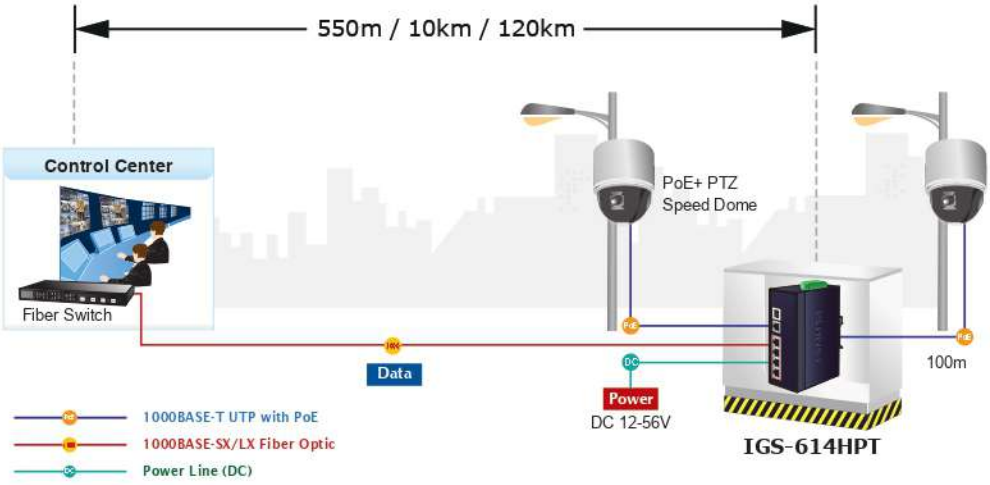
To facilitate the 802.3at PoE+ usage with commonly used 12~54V DC power input for transportation and industrial-level applications, the IGS-504HPT/IGS-614HPT adopts **12~54V DC to 54V power boost technology** to solve power source issue but does not require special power supplies. The IGS-504HPT/IGS-614HPT provides an integrated power solution with a wide range of voltages (12~54V DC) for worldwide operability. It also provides dual-redundant, reversible polarity 12~54V DC power supply inputs for high availability applications.





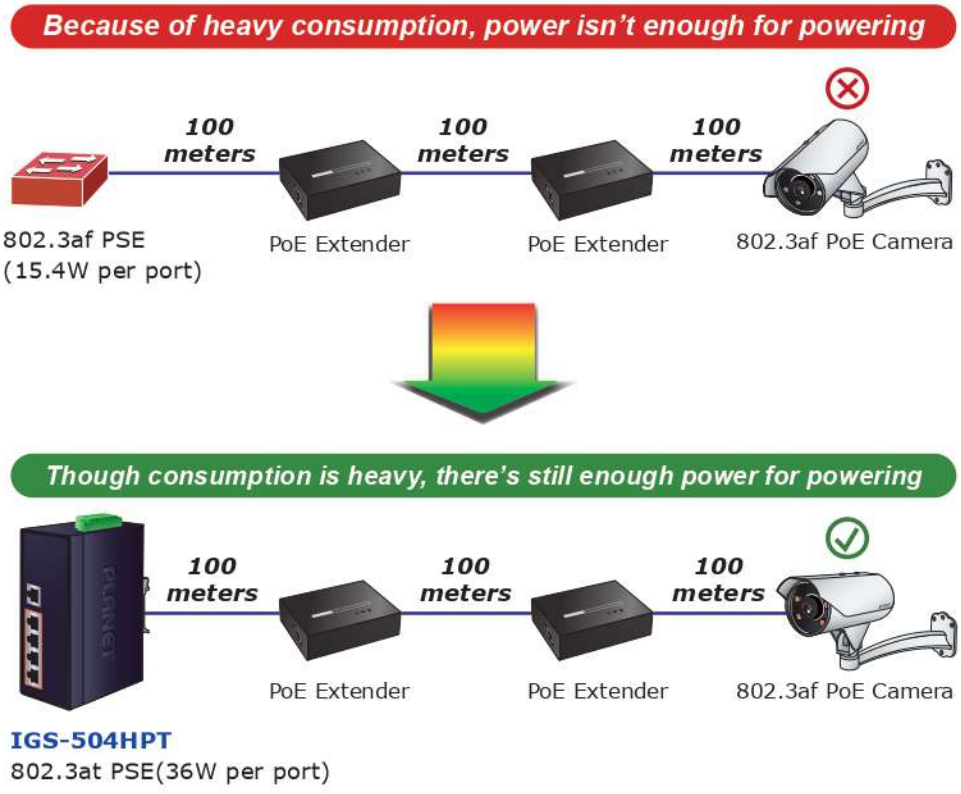
Fiber Optic Link Capability for Flexible Distance Extension (IGS-614HPT Only)

The additional mini-GBIC slot built in the IGS-614HPT supports SFP auto-detection and dual speed as it features **100BASE-FX** and **1000BASE-SX/LX SFP** (Small Form-factor Pluggable) fiber-optic modules, meaning the administrator now can flexibly choose the suitable SFP transceiver according to the transmission distance or the transmission speed required to extend the network efficiently. 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 to uplink to backbone switch and monitoring center in long distance.



Plug and Play High Power Sourcing Solution

Complying with the **IEEE 802.3at Power over Ethernet Plus** technology, the IGS-504HPT/IGS-614HPT provides up to **36 watts** of PoE output power to allow users to flexibly deploy standard and high powered devices simultaneously with no need of software configuration. Furthermore, the IGS-504HPT/IGS-614HPT can extend much longer distance by using PLANET PoE Extender for powering up the PoE PD devices which can be installed over more than 100 meters away. By daisy-chaining multiple PoE extenders, it offers the great flexibility of doubling, tripling or quadrupling the distance of PoE network.



Environmentally Hardened Design

With the **IP40** metal industrial case, the IGS-504HPT/IGS-614HPT 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-504HPT/IGS-614HPT can be placed in almost any difficult environment.

Robust Protection

The IGS-504HPT/IGS-614HPT 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.

Intelligent LED Indicator for Real-time PoE Usage

The IGS-504HPT/IGS-614HPT helps users to monitor current status of PoE power usage easily and efficiently by its advanced LED indication. Called "PoE Power Usage", the front panel of the Industrial Gigabit PoE+ Switch has four orange LEDs indicating **30W**, **60W**, **90W** and **120W** of PoE power usage.

PoE Power Usage Display

Flexible and Easy Installation with Limited Space

The compact sized IGS-504HPT/IGS-614HPT is specially designed to be installed in a narrow environment, such as wall enclosure. It can be installed by fixed wall mounting or DIN rail, thereby making its usability more flexible and easier in any space-limited location.

Optional installation method

DIN-rail Mounting

Wall Mounting

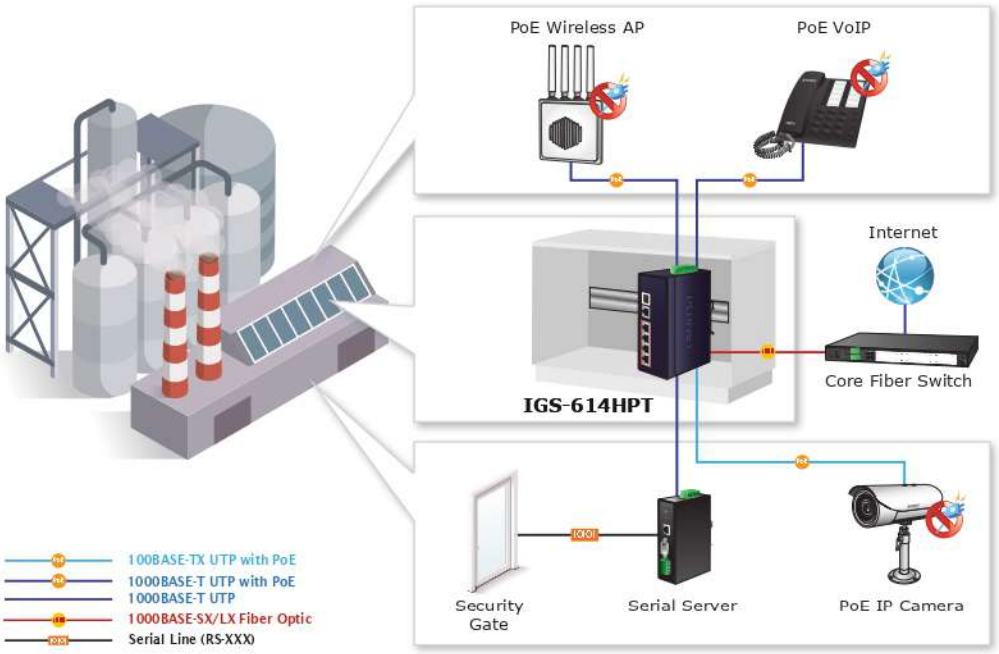
Side Wall Mounting (Space saving)

* The above pictures are for illustration only.

Applications

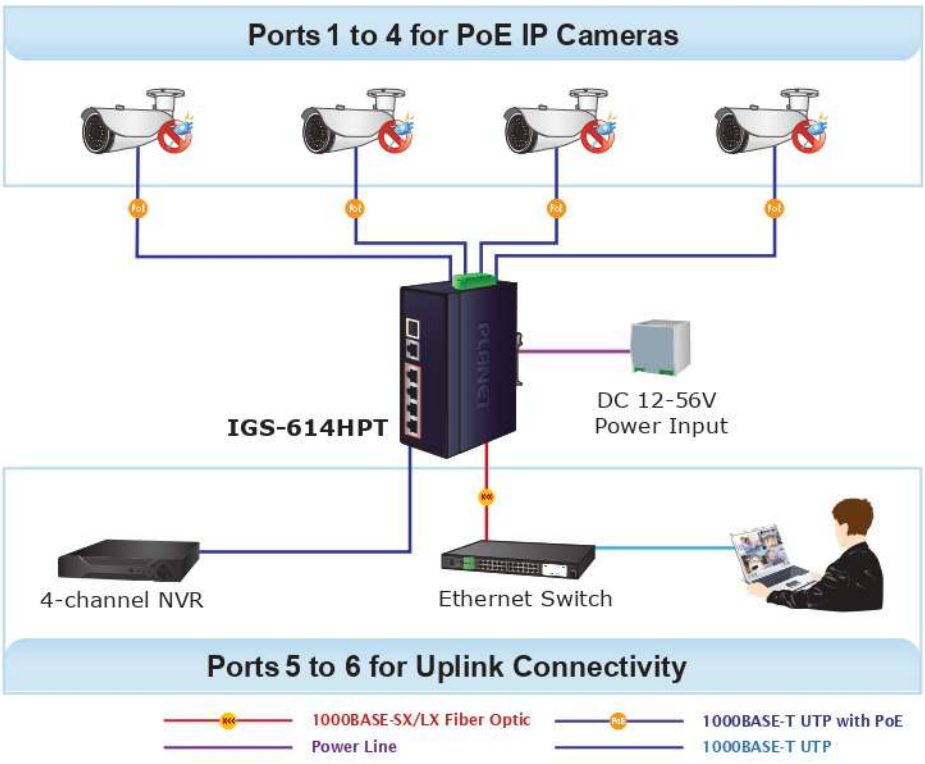
Industrial-grade PoE+ Switch for Building Automation and Security

Suitable for buildings where security is strictly enforced, the IGS-504HPT/IGS-614HPT, with four Gigabit Ethernet 802.3at PoE+, in-line power interfaces, can easily build a power that can centrally control an IP phone system, IP surveillance system, and wireless AP group in the harsh Industrial environment. For instance, 4 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-504HPT and IGS-614HPT make the installation of IP cameras or wireless APs easier and more efficient.



Perfect Integration Solution for IP PoE Camera and NVR System

The IGS-504HPT/IGS-614HPT provides four 10/100/1000BASE-T 802.3at PoE+ ports which can offer sufficient PoE power to 4 PoE IP cameras at the same time. In addition, with the 10/100/1000BASE-T or 100/1000BASE-X uplink interfaces, the IGS-504HPT/IGS-614HPT can connect to a core switch and send video streams to an NVR and monitoring center. Through the high-performance switch architecture, the IGS-504HPT/IGS-614HPT facilitates the recorded video files from the 4 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-504HPT/IGS-614HPT undoubtedly brings an ideal secure surveillance system at a lower total cost.



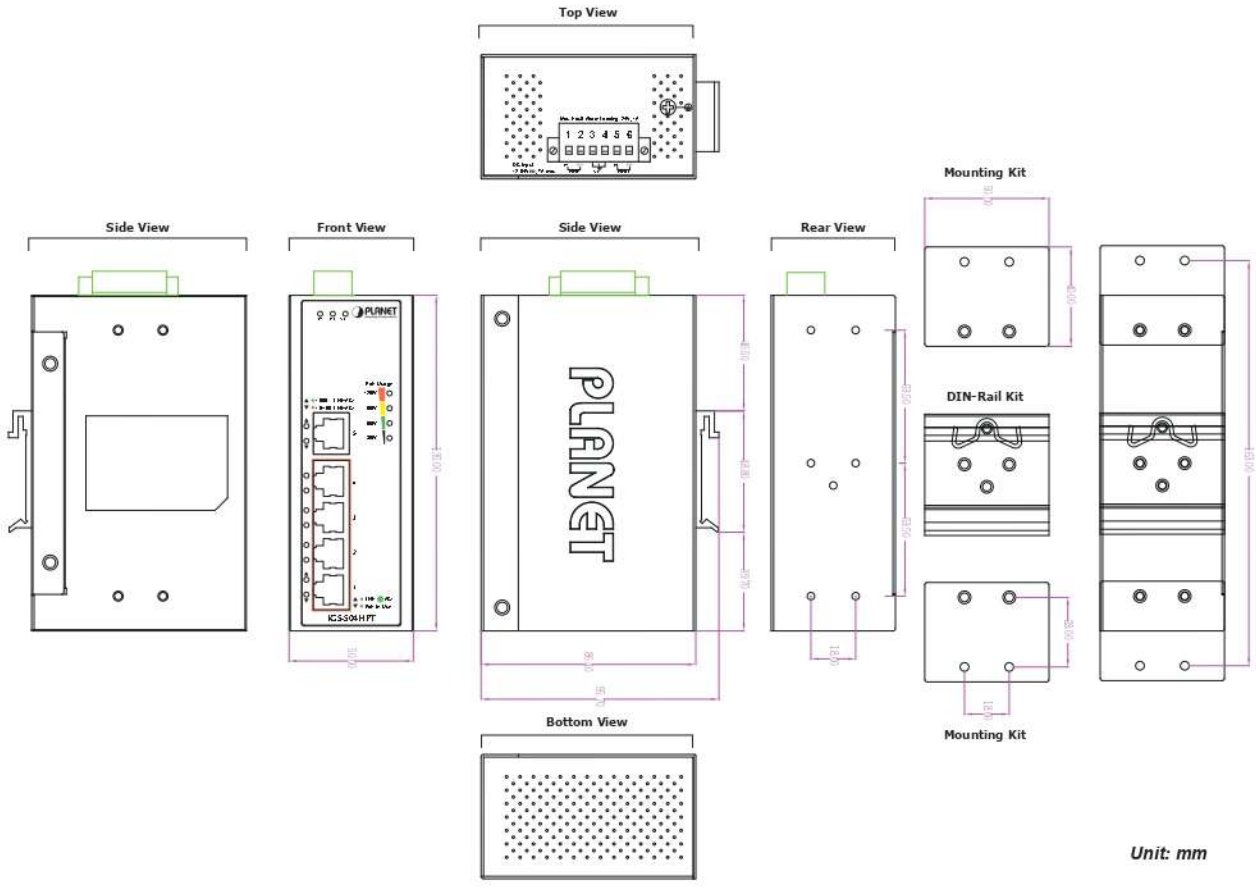
Specifications

Model	IGS-504HPT	IGS-614HPT
Hardware Specifications		
Copper Ports	5 10/100/1000BASET RJ45 auto-MDI/MDI-X ports	
PoE Injector Ports	Four ports with 802.3at PoE+ injector function (Ports 1 to 4)	
SFP Slots	NA	1 1000BASE-SX/LX/BX SFP interface Compatible with 100BASE-FX 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	12~54V DC, 7A (max.) Redundant power with reverse polarity protection	
Power Consumption	Max. 6.48 watts/22BTU@54V DC input (System) Max. Max. 137 watts/467BTU(Ethernet + PoE Full Loading)	Max. 5.94 watts/20BTU@54V DC input (System) Max. 139 watts/474BTU(Ethernet + PoE Full Loading)
Dimensions (W x D x H)	50 x 86 x 135 mm	
Weight	618g	623g
Enclosure	IP40 metal case	
Installation	DIN-rail kit and wall-mount kit	
ESD Protection	6KV	
LED	3 x LED for System and Power: ■ **Green**: DC Power 1 ■ **Green**: DC Power 2 ■ **Red**: Power Alarm 2 x LED for PoE Copper Port (Ports 1~Port 4): ■ **Green**: LNK/ACT (10/100/1000Mbps) ■ **Amber**: PoE-In-Use 2 x LED for 10/100/1000T Copper Port (Port 5): ■ **Green**: 1000 LNK/ACT ■ **Amber**: 10/100 LNK/ACT 2 x LED for 100/1000X SFP Interface (Port 6): IGS-614HPT ■ **Green**: 1000 LNK/ACT ■ **Amber**: 100 LNK/ACT 4 x LED for PoE Power Usage (W) (Low to high): ■ **Amber**: 30W, 60W, 90W and 120W	
Switch Specifications		
Switch Architecture	Store-and-Forward	
Switch Fabric	10Gbps	12Gbps
Throughput (packet per second)	7.4Mpps@64bytes	8.93Mpps@64bytes
Address Table	2K entries	
Buffer Memory	4M bits on-chip buffer memory	
Jumbo Frame	9Kbytes	
Flow Control	Back pressure for half duplex IEEE 802.3x pause frame for full duplex	
Power over Ethernet		
PoE Standard	IEEE 802.3at Power over Ethernet Plus/PSE	
PoE Power Supply Type	End-span	
Power Pin Assignment	1/2(+), 3/6(-)	
PoE Power Output	Per port 54V DC, max. 36 watts	
PoE Power Budget (max.)	60W@12V DC input 90W@24V DC input 120W@48V-54V DC input	
Max. Number of Class 2 PDs	4	
Max. Number of Class 3 PDs	4	
Max. Number of Class 4 PDs	4	
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)	

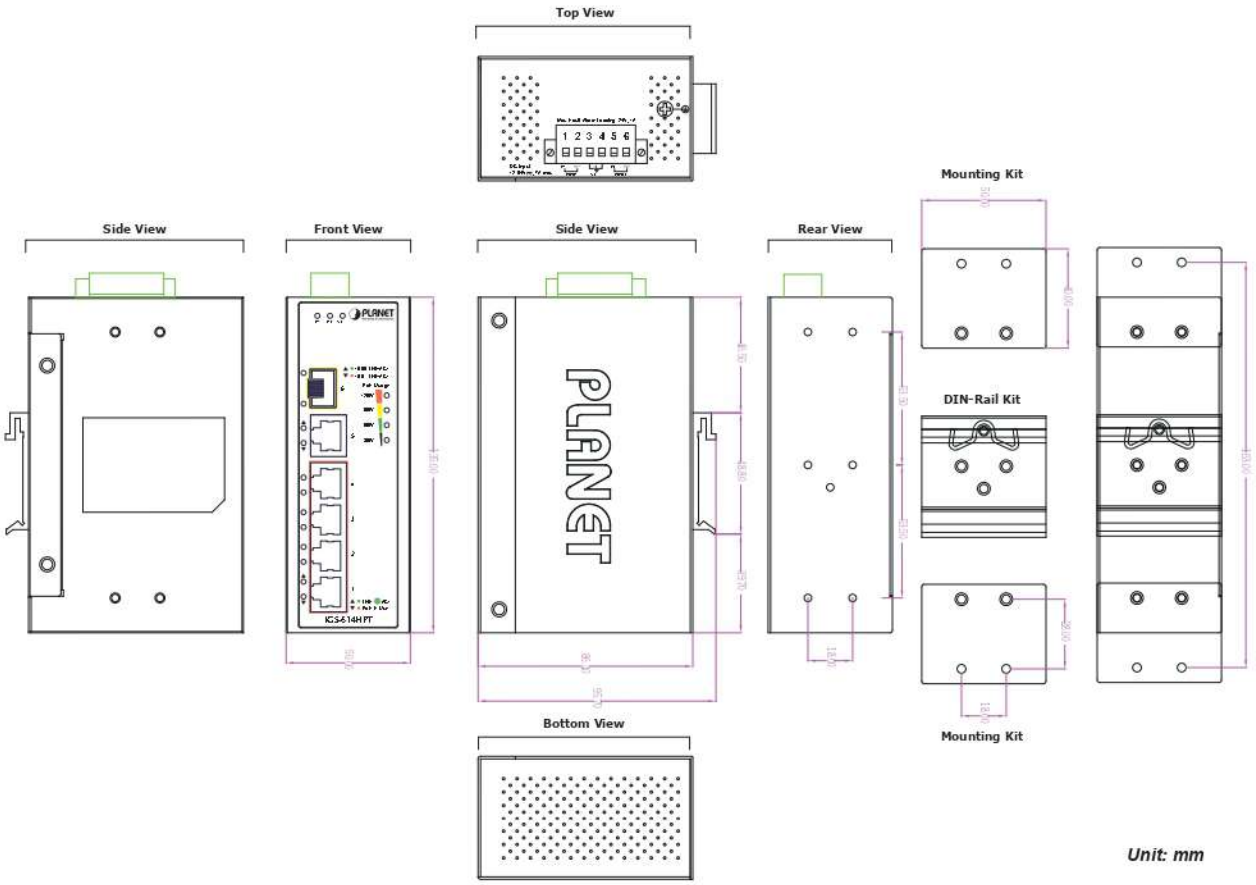
Standards Compliance	IEEE 802.3 Ethernet IEEE 802.3u Fast Ethernet IEEE 802.3ab Gigabit Ethernet IEEE 802.3z Gigabit SX/LX (IGS-614HPT) IEEE 802.3x Full-Duplex Flow Control IEEE 802.3az Energy Efficient Ethernet (EEE) IEEE 802.3at Power over Ethernet Plus PSE IEEE 802.3af Power over Ethernet Plus IEEE 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-504HPT



■ IGS-614HPT



Ordering Information

IGS-504HPT	Industrial 4-Port 10/100/1000T 802.3at PoE + 1-Port 10/100/1000T Gigabit Ethernet Switch
IGS-614HPT	Industrial 4-Port 10/100/1000T 802.3at PoE + 1-Port 10/100/1000T + 1-Port 100/1000XSFP Gigabit Ethernet Switch

Related Products

IGS-504PT	Compact Industrial 4-Port 10/100/1000T 802.3at PoE + 1-Port 10/100/1000T Ethernet Switch
IGS-1020PTF	Industrial 8-Port 10/100/1000T 802.3at PoE + 2-Port 100/1000X SFP Ethernet Switch
IGS-1020PTF-12V	Industrial 8-Port 10/100/1000T 802.3at PoE + 2-Port 100/1000X SFP Ethernet Switch w/ 12V Booster
IGS-504HPT	Industrial 4-Port 10/100/1000T 802.3at PoE + 1-Port 10/100/1000T Gigabit Ethernet Switch
IGS-624HPT	Industrial 4-Port 10/100/1000T 802.3at PoE + 2-Port 100/1000X SFP Ethernet Switch
IGS-824UPT	Industrial 4-Port 10/100/1000T 802.3bt PoE + 2-Port 10/100/1000T + 2-Port 100/1000X SFP Gigabit Ethernet Switch
WGS-804HP	8-Port 10/100/1000T Wall Mounted Gigabit Ethernet Switch with 4-Port PoE+
WGS-814HP	Industrial 8-Port 10/100/1000T Wall-mounted Gigabit Switch with 4-port PoE+
WGS-818HP	Industrial 8-Port 10/100/1000T Wall-mounted Gigabit PoE+ Switch

Accessories

PWR-240-48	48V, 240W DIN-rail Power Supply (NDR-480-48, adjustable 48-56V DC Output)
PWR-480-48	48V, 480W DIN-rail Power Supply (NDR-480-48, adjustable 48-56V DC Output)

Available 100Mbps Modules (IGS-614HPT only)

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	1310nm	-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-TSA	100	WDM(LC)	Multi-Mode	2km	1310nm	1550nm	-40 ~ 85 degrees C
MFB-TSB	100	WDM(LC)	Multi-Mode	2km	1550nm	1310nm	-40 ~ 85 degrees C
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

Available 1000Mbps Modules (IGS-614HPT only)

Gigabit Ethernet Transceiver (1000BASE-X SFP)

Model	DDM	Speed (Mbps)	Connector Interface	Fiber Mode	Distance	Wavelength (nm)	Operating Temp.
MGB-TGT	--	1000	Copper	--	100m	--	-40 ~ 85 degrees C
MGB-TSX	YES	1000	LC	Multi-mode	550m	850nm	-40 ~ 85 degrees C
MGB-TSX2	YES	1000	LC	Multi-mode	2km	1310nm	-40 ~ 85 degrees C
MGB-TLX	YES	1000	LC	Single Mode	20km	1310nm	-40 ~ 85 degrees C
MGB-TL40	YES	1000	LC	Single Mode	40km	1310nm	-40 ~ 85 degrees C
MGB-TL80	YES	1000	LC	Single Mode	80km	1550nm	-40 ~ 85 degrees C

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

Model	DDM	Speed (Mbps)	Connector Interface	Fiber Mode	Distance	Wavelength (TX)	Wavelength (RX)	Operating Temp.
MGB-TSA	YES	1000	WDM(LC)	Multi-mode	2km	1310nm	1550nm	-40 ~ 85 degrees C
MGB-TSB		1000	WDM(LC)	Multi-mode	2km	1550nm	1310nm	-40 ~ 85 degrees C
MGB-TLA10 MGB-TLB10	YES	1000	WDM(LC)	Single Mode	10km	1310nm	1550nm	-40 ~ 85 degrees C

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