

Industrial 5-Port Fast Ethernet Switch with 4-Port 802.3at PoE+



A Perfect Full PoE+ Power Solution Ideal for Hardened Environment

With Plug and Play design, PLANET ISW-504PT/ISW-514PTF Industrial-grade, DIN-rail type Unmanaged Fast Ethernet PoE+ Switch, featuring **four IEEE 802.3at PoE+ 10/100BASE-TX** ports and **1 additional 10/100BASE-TX or 100BASE-FX fiber optic interface** for uplink connection, allows to automatically detect and configure internal and external peripherals.

The ISW-504PT/ISW-514PTF is designed with **redundant power** system and is able to operate reliably, stably and quietly in any hardened environment without affecting its performance. It comes with a total power budget of up to **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
ISW-504PT	IEEE 802.3af/at	120 watts	10/100Mbps	-
ISW-514PTF	IEEE 802.3af/at	120 watts	10/100Mbps	100BASE-FX



Physical Port

- **4** 10/100BASE-TX Fast Ethernet **IEEE 802.3at PoE+** RJ45 copper ports (Ports 1 to 4)
- **1** 10/100BASE-TX Fast Ethernet non-PoE RJ45 copper port (ISW-504PT)
- **1** 100BASE-FX SFP interface (ISW-514PTF)

Power over Ethernet

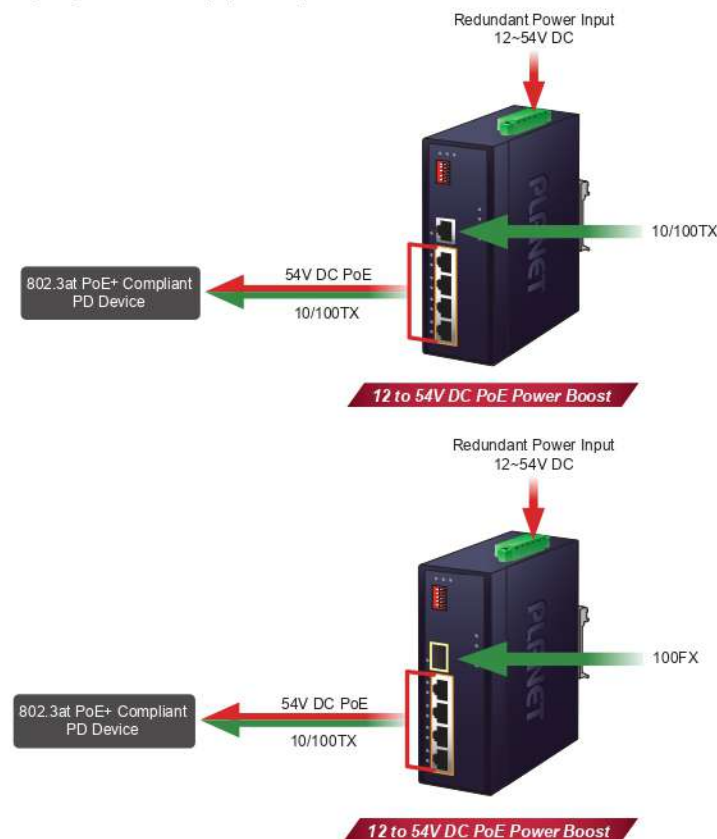
- Complies with IEEE 802.3at Power over Ethernet Plus, end-span PSE
- Backward compatible with IEEE 802.3af Power over Ethernet
- Up to 4 ports of IEEE 802.3af/at devices powered
- Up to 120-watt PoE budget
- Supports PoE power up to 36 watts for each PoE port
- Each port supports 54V DC power to PoE powered device
- Auto detects powered device (PD)
- Circuit protection prevents power interference between ports
- Remote power feeding up to 100m in standard mode with 250m in extend mode

Switching

- Hardware-based 10/100Mbps (half/full duplex), auto-negotiation and auto MDI/MDI-X
- 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
- 1K MAC address table size
- IEEE 802.1Q VLAN transparency
- Hardware DIP switch for Standard, VLAN and Extend mode selection; the Extend mode features 25-watt PoE transmission distance of 250m at speed of 10Mbps (Only for Ports 1 to 4)
- Automatic address learning and address aging

Convenient and Reliable Power System

To facilitate the 802.3at PoE+ usage with the commonly-used 12~54V DC power input for transportation and industrial-level applications, the ISW-504PT/ISW-514PTF adopts **12~54V DC to 54V DC power boost technology** to solve power source issue but does not require special power supplies. Its wide-ranging voltages design is suitable for worldwide operability with high availability applications requiring dual or backup power inputs.

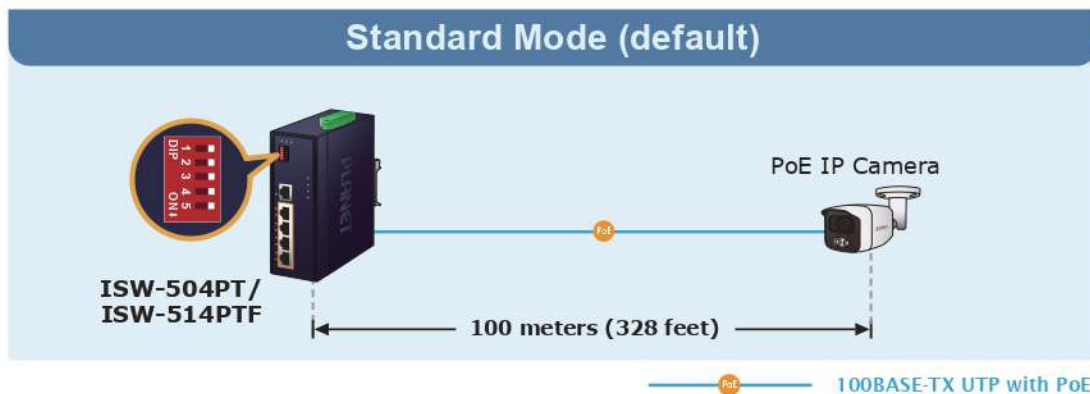


Industrial Case and Installation

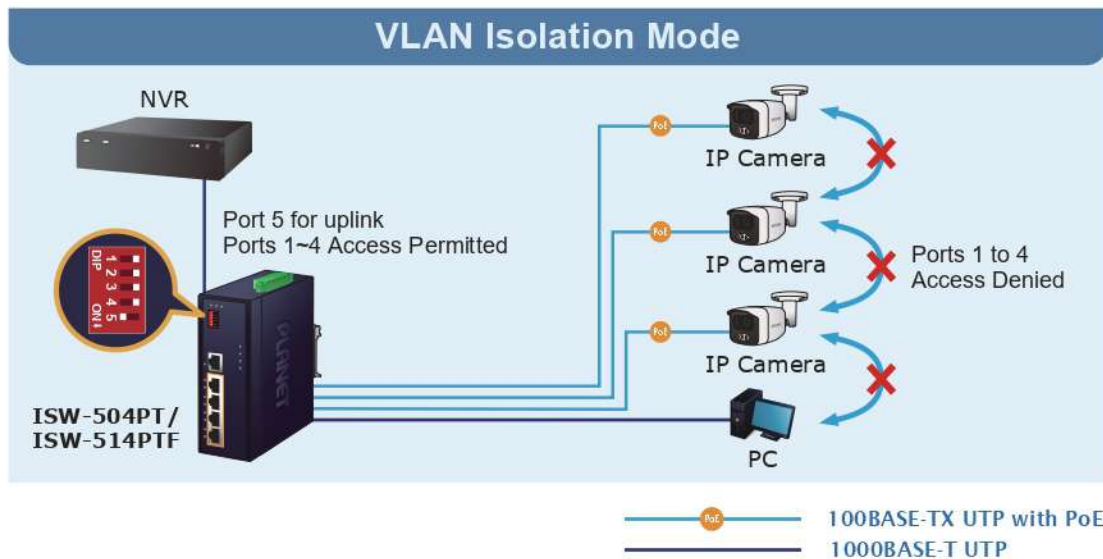
- IP40 metal case
- DIN-rail, wall-mount design or side wall-mount design
- One terminal block for master and slave power input (Power Range: 12 ~54V DC redundant power)
- 12~54V DC redundant power with polarity reverse protect function
- Fault alarm for power input failed
- 4 real-time PoE power usage indicators
- Supports 5KV DC Ethernet ESD protection
- -40 to 75 degrees C operating temperature

802.3at PoE+ Power and Ethernet Data Transmission Extension

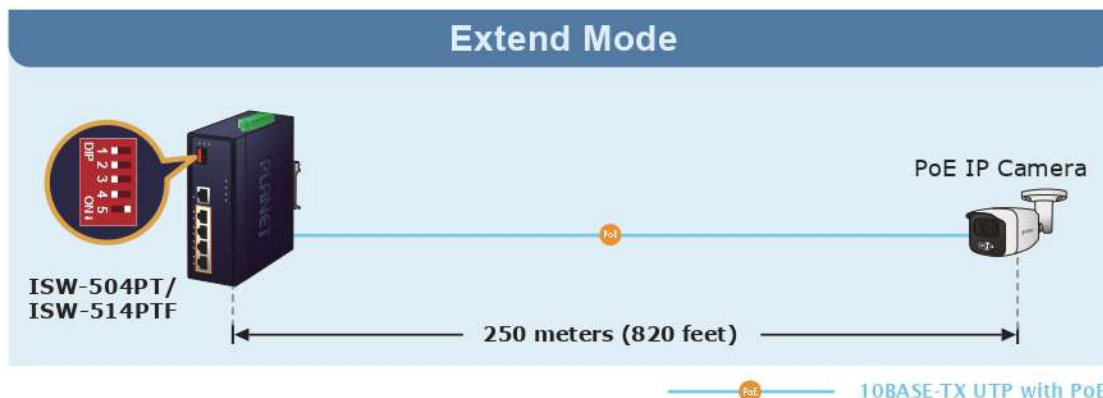
The ISW-504PT/ISW-514PTF has a built-in solid DIP switch providing “Standard”, “VLAN” and “Extend” operation modes. By default, the ISW-504PT/ISW-514PTF operates as a normal IEEE 802.3af/at PoE+ Switch in the “Standard” operation mode.



The "VLAN" operation mode features with port-based VLAN function helps to prevent the IP camera's multicast or broadcast storm from influencing each other.



In the "Extend" operation mode, the ISW-504PT/ISW-514PTF operates on a per-port basis at 10Mbps full duplex operation and can support 25-watt PoE power output over a distance of up to 250 meters, overcoming the 100-meter limit on Ethernet UTP cable.



Fiber Optic Link Capability for Flexible Distance Extension (ISW-514PTF Only)

The ISW-514PTF is equipped with one 100BASE-FX port, meaning the administrator now can flexibly choose the suitable SFP transceiver according to not only the transmission distance but also the transmission speed required. The distance can be extended from 2 kilometers (multi-mode fiber) to 20/40/60/120 kilometers (single-mode fiber or WDM fiber). They are suitable for transportation, manufacturing, security and surveillance for long-distance extension without any limitation.

Environmentally-hardened Design

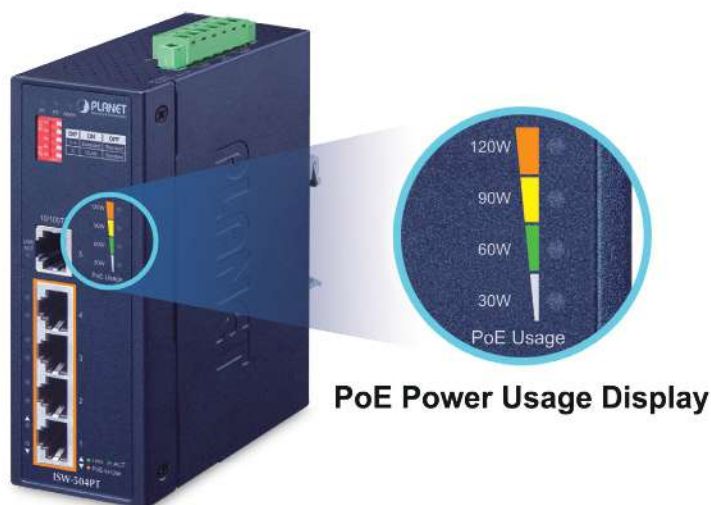
With the IP40 metal industrial case, the ISW-504PT/ISW-514PTF provides a high level of immunity against electromagnetic interference and heavy electrical surges which are usually found on plant floors or in curb-side traffic control cabinets without air conditioning. It features a ventilated construction 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 ISW-504PT/ISW-514PTF can be placed in almost any difficult environment.

Robust Protection

The ISW-504PT/ISW-514PTF provides contact discharge of $\pm 5\text{KV}$ DC and air discharge of $\pm 5\text{KV}$ DC for Ethernet ESD protection. It also supports $\pm 5\text{KV}$ 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 ISW-504PT/ISW-514PTF helps users to monitor the current status of PoE power usage easily and efficiently by its advanced LED indication. Called "PoE Power Usage", the front panel of the Industrial FastEthernet PoE+ Switch has four orange LEDs indicating 30W, 60W, 90W and 120W of PoE power usage.



Flexible and Easy Installation with Limited Space

The ISW-504PT/ISW-514PTF is designed to be installed in different environments, such as wall enclosure. It can be installed by fixed wall mounting or DIN rail mounting, thereby making its usability more flexible and easier in any space-limited location.

Optional installation method

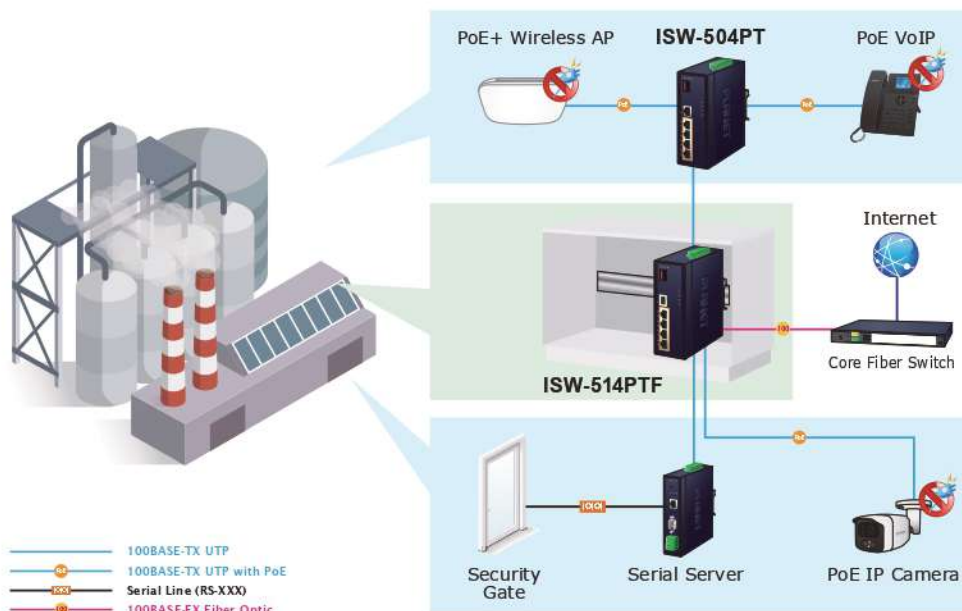


* The above pictures are for illustration only.

Applications

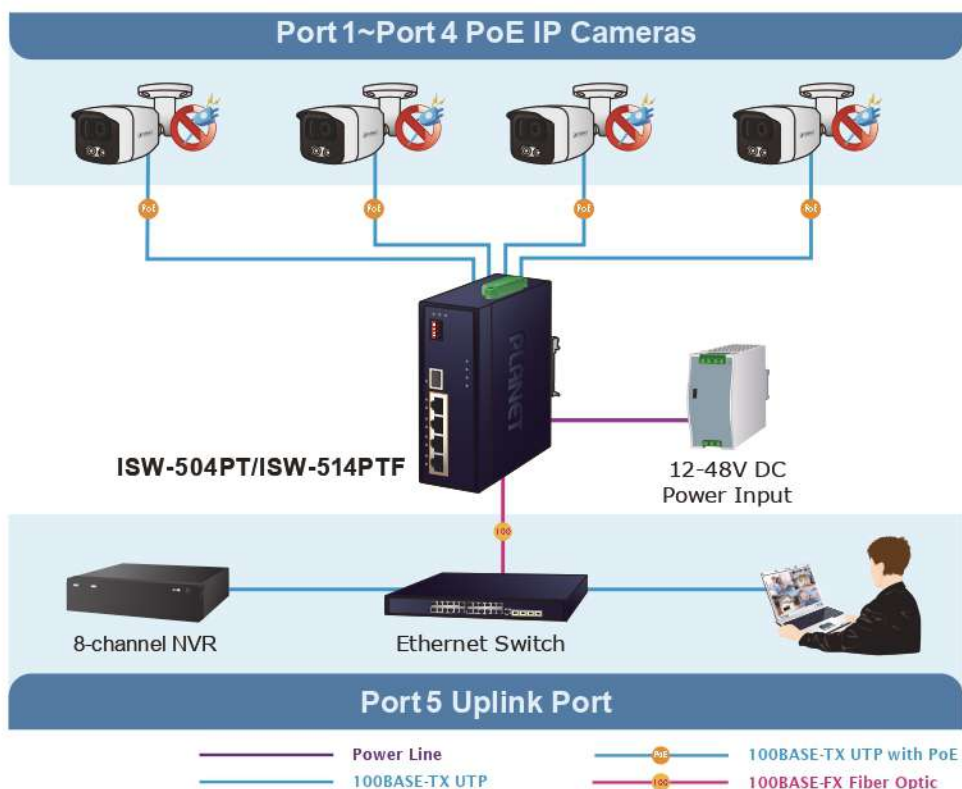
Industrial-grade PoE+ Switch for Building Automation and Security

Suitable for buildings where security is strictly enforced, the ISW-504PT/ISW-514PTF, with four Fast Ethernet 802.3at PoE+ in-line power interfaces, can easily build a power centrally controlled for an IP phone system, IP surveillance system, and wireless AP group in the harsh Industrial environment. For instance, 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 ISW-504PT/ISW-514PTF makes the installation of IP cameras or wireless APs easier and more efficient.



Perfect Integration Solution for IP PoE Camera and NVR System

The ISW-504PT/ISW-514PTF provides four 10/100BASE-TX 802.3at PoE+ ports which can offer sufficient PoE power to 4 PoE IP cameras at the same time. In addition, with the 10/100BASE-TX or 100BASE-FX interfaces, the ISW-504PT/ISW-514PTF can connect to a core fiber switch and send video streams to an NVR and monitoring center. Through the high-performance switch architecture, the ISW-504PT/ISW-514PTF 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 ISW-504PT/ISW-514PTF undoubtedly brings an ideal secure surveillance system at a lower total cost.



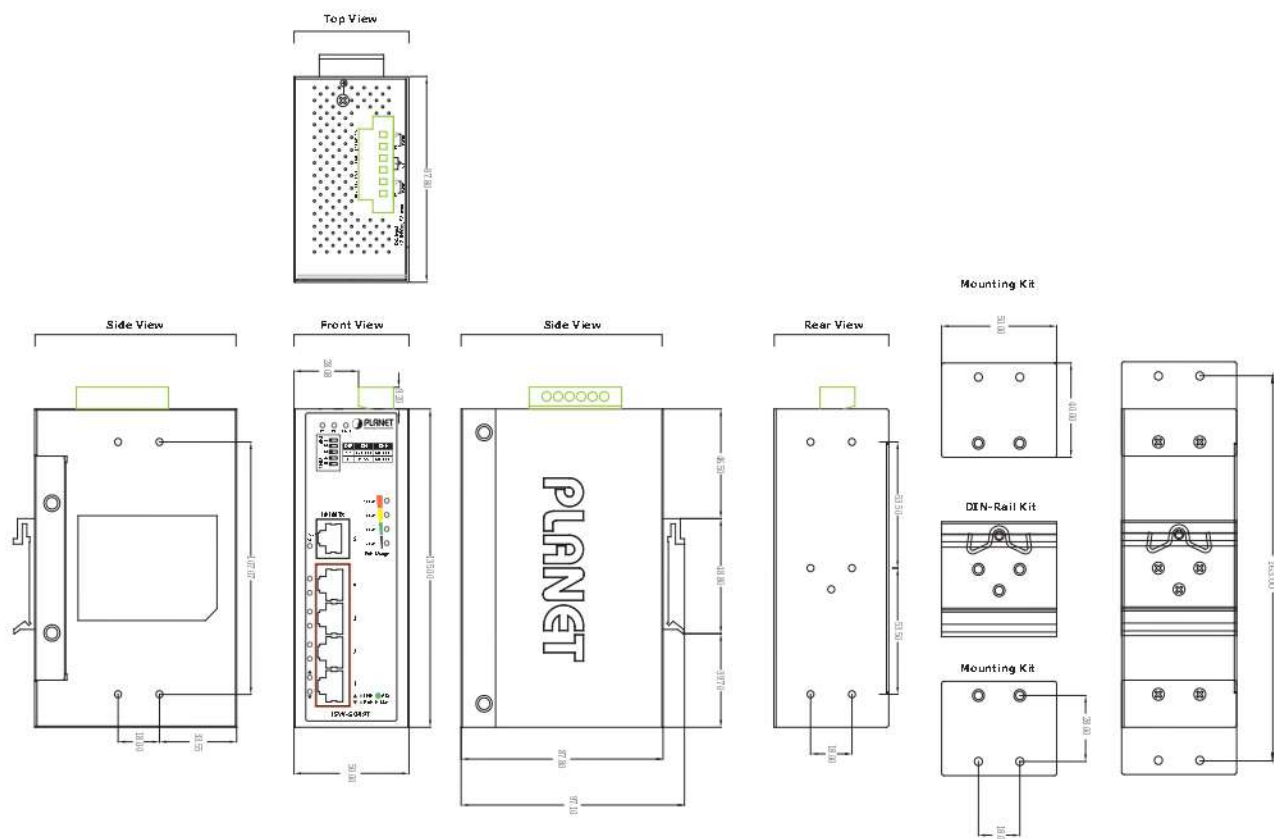
Specifications

Model		ISW-504PT	ISW-514PTF
Hardware Specifications			
Copper Ports	Five 10/100BASE-TX RJ45 auto-MDI/MDI-X ports (Ports 1 to 5)		Four 10/100BASE-TX RJ45 auto-MDI/MDI-X ports (Ports 1 to 4)
PoE Injector Ports	Four ports with 802.3af/at PoE+ injector function (Ports 1 to 4)		
SFP Port	NA		One port 100BASE-FX SFP port (Port 5)
Connector	Removable 6-pin terminal block <ul style="list-style-type: none">■ Pin 1/2 for Power 1■ Pin 3/4 for power fault alarm■ Pin 5/6 for Power 2		
DIP Switch (Ports 1 to 4)	Standard mode: 30-watt PoE transmission distance of 100m at speed of 10/100Mbps VLAN mode: "Port-based VLAN Protection" where ports can be isolated from each other via one DIP switch. Only Port-5 can visit other ports. Extend mode: 25-watt PoE transmission distance of 250m at speed of 10Mbps		
Power Requirements	12~54V DC, 7A (max.)		
Power Consumption	Max. 6.48 watts/22BTU@54V DC input (System) Max. 133 watts/453BTU@54V DC input (Ethernet + PoE Full Loading)		Max. 7 watts/23.8BTU@54V DC input (System) Max. 133 watts/453BTU@54V DC input (Ethernet + PoE Full Loading)
Alarm	One relay output for power failure. Alarm relay current carry ability: 1A @ 24V AC		
Dimensions (W x D x H)	50 x 87 x 135 mm		
Weight	613g		
Enclosure	IP40 metal case		
Installation	DIN-rail/ wall-mount		
ESD Protection	5KV		
LED Indicators	3 x LED for System and Power: <ul style="list-style-type: none">■ Green: DC Power 1■ Green: DC Power 2■ Red: Power Fault Alarm 2 x LED for PoE +Copper Port (Ports 1 to 4): <ul style="list-style-type: none">■ Green: LNK/ACT (10/100Mbps)■ Amber: PoE-in-Use 1 x LED for Copper Port (Port-5): ISW-504PT <ul style="list-style-type: none">■ Green: LNK/ACT (10/100Mbps) 1 x LED for 100BASE-FX Port (Port 5): ISW-514PTF <ul style="list-style-type: none">■ Green: LNK/ACT (100Mbps) 4 x LED for PoE Usage(W) (Low to high): <ul style="list-style-type: none">■ Amber: 30W, 60W, 90W and 120W		
Switch Specifications			
Switch Architecture	Store-and-Forward		
Switch Fabric	1Gbps/non-blocking		
Throughput (packet per second)	0.74Mpps @64 bytes		
Address Table	1K entries		
Jumbo Frame	1536 bytes		
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.)	120W maximum @54V DC 90W maximum@24V DC 60W maximum@12V DC		
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 802.3x Flow Control and Back Pressure IEEE 802.3af Power over Ethernet IEEE 802.3at Power over Ethernet Plus
Environment	
Temperature	Operating: -40~75 degrees C Storage: -40~85 degrees C
Humidity	Operating: 5~95% (non-condensing) Storage: 5~95% (non-condensing)

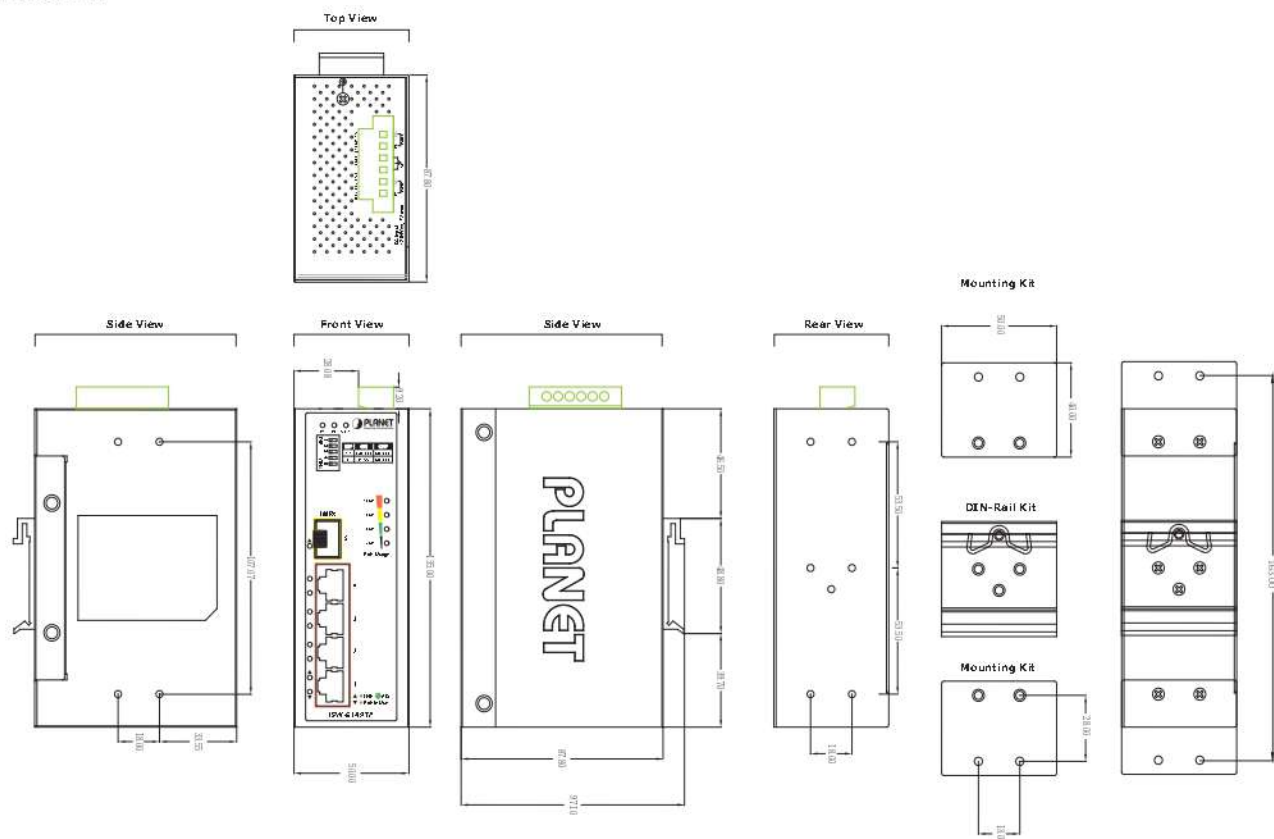
Dimensions

■ ISW-504PT



Unit: mm

■ ISW-514PTF



Unit: mm

Ordering Information

ISW-504PT	Industrial 5-Port 10/100TX Ethernet Switch with 4-Port 802.3at PoE+ (-40~75 degrees C)
ISW-514PTF	Industrial 4-Port 10/100TX 802.3at PoE+ plus 1-Port 100FX Ethernet Switch (-40~75 degrees C)

Available 100Mbps Modules (ISW-514PTF 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

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)

Related Industrial Unmanaged PoE+ Switch Products

IFGS-1022HPT	Industrial 8-Port 10/100TX 802.3at PoE + 2-Port Gigabit TP/ SFP Combo Ethernet Switch
ISW-808PT-M12	Industrial IP67 8-Port 10/100TX M12 802.3at PoE+ Switch
ISW-808PT-M12A	Industrial 8-Port 10/100TX M12 802.3at PoE+ Switch
IGS-504PT	Compact Industrial 4-Port 10/100/1000T 802.3at PoE + 1-Port 10/100/1000T Ethernet Switch
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 100/1000X SFP Gigabit Ethernet Switch
IGS-624HPT	Industrial 4-Port 10/100/1000T 802.3at PoE + 2-Port 100/1000X SFP 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
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

Related Outdoor Access Point/Bridge Products

WDAP-850AC	Dual Band 802.11ac 1200Mbps Wave 2 Outdoor Wireless AP
WDAP-1800AX	Dual Band 802.11ax 1800Mbps Outdoor Wireless AP
WBS-900AC-KIT	5GHz 802.11ac 900Mbps TDMA Outdoor Long Range Wireless CPE Kit
WBS-512AC	5GHz 802.11ac 900Mbps Outdoor Wireless CPE

Related IP Surveillance PoE Products

ICA-3280	H.265 1080p Smart IR Bullet IP Camera
ICA-4280	H.265 1080p Smart IR Dome IP Camera
ICA-3480F	H.265+ 4MP Full Color Bullet IP Camera
ICA-4480F	H.265+ 4MP Full Color Dome IP Camera
ICA-M3580P	H.265 5 Mega-pixel Smart IR Bullet IP Camera with Remote Focus and Zoom
ICA-M4580P	H.265 5 Mega-pixel Smart IR Dome IP Camera with Remote Focus and Zoom
ICA-HM620	2 Mega-pixel PoE Plus Speed Dome Internet Camera
ICA-E6260	2 Mega-pixel PoE Plus Speed Dome IP Camera with Extended Support