

# 4-Port 10/100Mbps with PoE + 1-Port 100FX Industrial Ethernet Switch with Wide Temperature Range



PLANET ISW-514PT PoE Industrial Ethernet Switch series is designed to transmit power and data over single Ethernet cable to remote PoE capable devices and operates reliably in heavy industrial demanding environments. The ISW-514PT series provides four 10/100Mbps copper ports supporting IEEE 802.3af Power over Ethernet injector and one 100Base-FX fiber optic interface delivered in an IP30 rugged strong case. Supporting up to 15.4-watt power per port for any remote IEEE 802.3af powered device (PD) such as PoE IP cameras and PoE wireless LAN access point, the ISW-514PT series is an ideal solution to deploying surveillance system and wireless service in climatically demanding wide temperature range (-40 to 75 degrees C) environments. The 100Base-FX fiber optic uplink port provides long distance, high speed and stable data transmission to remote core network.

## IEEE 802.3af Power over Ethernet PSE Industrial Switch

PoE feature is more often supported in the industrial Ethernet devices for efficient operation in harsh environments. The ISW-514PT series in-line power follows standard IEEE 802.3af and allows to supply power to 4 PoE compliant devices at the distance up to 100 meters through the 4-pair Cat 5 / 5e UTP wire. With Data and Power over Ethernet from one unit, the ISW-514PT series can reduce cables deployment and eliminates the need for dedicated electrical outlets on the wall, ceiling or any unreachable place. A wire that carries both data and power results in lowering the installation costs, simplifying the installation effort and eliminating the need for electricians or extension cords. Furthermore, there is only 24V DC input in some industrial environments. The ISW-514PT series supports 24V DC or 48V DC dual voltages input and is able to provide more wide-ranging industrial IEEE 802.3af PoE applications.

## Physical Port

### ISW-514PT :

- 4-port 10/100Base-TX RJ-45 with IEEE 802.3af PoE injector
- 1-port 100Base-FX multi-mode SC interface - 2km

### ISW-514PT15 :

- 4-port 10/100Base-TX RJ-45 with IEEE 802.3af PoE injector
- 1-port 100Base-FX single mode SC interface - 15km

### ISW-514PTF :

- 4-port 10/100Base-TX RJ-45 with IEEE 802.3af PoE injector
- 1-port 100Base-FX SFP interface

## IEEE 802.3af PoE

- Complies with IEEE 802.3af Power over Ethernet End-Span PSE
- Up to 4 IEEE 802.3af devices powered
- Supports PoE Power up to 15.4 watts for each PoE port
- Auto detects powered device (PD)
- Circuit protection prevents power interference between ports
- Remote power feeding up to 100m

## Layer 2 Features

- Supports auto-negotiation and 10/100Mbps half / full duplex and auto MDI/MDI-X
- High performance Store and Forward architecture, runt / CRC filtering eliminates erroneous packets to optimize the network bandwidth
- Prevents packet loss with back pressure (half-duplex) and IEEE 802.3x pause frame flow control (full-duplex)
- Automatic address learning and address aging

## Industrial Case / Installation

- IP30 aluminum metal case protection
- DIN rail and wall mount design
- 24 or 48V DC, redundant power with polarity reverse protect function
- Supports EFT 6000V DC protection for power line
- Supports Ethernet ESD 6000V DC protection
- -40 to 75 degrees C operating temperature

### Fiber Optic Link Capability for Flexible Distance Extension

The ISW-514PT series is equipped with one 100Base-FX port that provides more flexibility for Transportation, Manufacturing, Security and Surveillance on distance extension without any limitation. The ISW-514PT series offers high performance switch architecture as shown below:

**ISW-514PT:** comes with 4 10/100Mbps UTP ports and 1 100FX (SC interface within 2km)

**ISW-514PT15:** comes with 4 10/100Mbps UTP ports and 1 100FX (SC interface within 15km)

**ISW-514PTF:** comes with 4 10/100Mbps UTP ports and 1 100FX (LC interface within optional of Single / Multi-Mode SFP module)

Fiber optic uplink capability makes the ISW-514PT series a suitable model for long distance network deployment. Users can choose the suitable model for network deployment if required

### Wide-Temperature Makes Installation Suitable for Harsh Environments

The ISW-514PT series provides a high level of immunity against electromagnetic interference and heavy electrical surges which are usually found on plant floors or in curbside traffic control cabinets. Being able to operate under wide temperature range from -40 to 75 degrees C, the ISW-514PT series can be placed in almost any difficult environment. It also offers dual-redundant, reversible polarity 24V DC or 48V DC power inputs for high availability applications requiring dual backup power inputs.

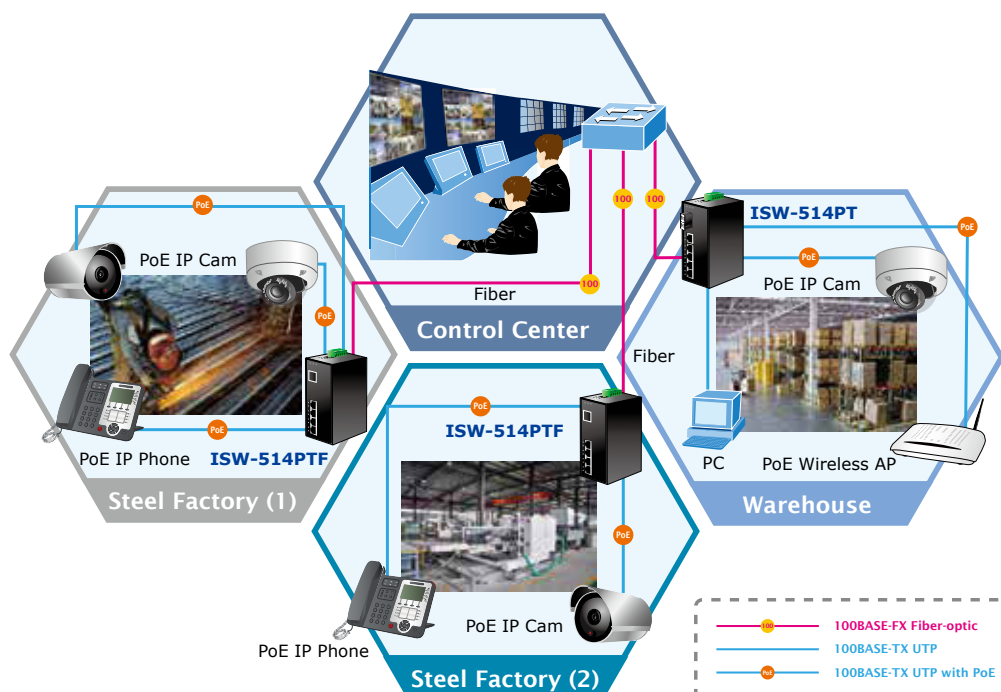
### Robust Switch performance

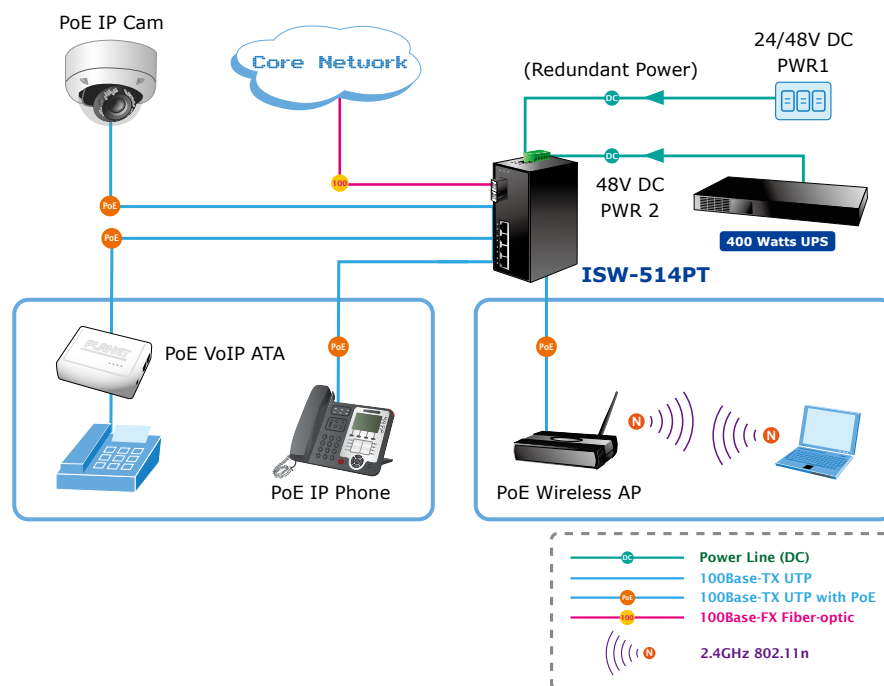
The ISW-514PT series provides non-blocking switch fabric wire-speed throughput as high as 1Gbps and the 2K MAC Address table. It also performs wire-speed packets transfer without risk of packet loss and the Flow Control function is default enabled to provide fast and reliable data transfer. All of the RJ-45 copper interfaces support 10/100Mbps auto-negotiation for optimal speed detection through RJ-45 Category 3, 4, 5, 5e or 6 cable. The standard auto-MDI/MDI-X support can detect the type of connection to any Ethernet device without requiring special straight-through or crossover cables.

## Applications

### Industrial Area Department / Workgroup PoE Switch

Providing up to 4 PoE, in-line power interface, the ISW-514PT / ISW-514PT15 / ISW-514PTF can easily build a power centrally-controlled IP phone system, IP camera system, or wireless AP group for industrial network. For instance, 4 cameras or wireless access points can be easily installed around the corner in the industrial environment for surveillance demands or for a wireless roaming network. Without the power-socket limitation, the ISW-514PT series makes the installation of IP cameras or WLAN AP easier and more efficient.





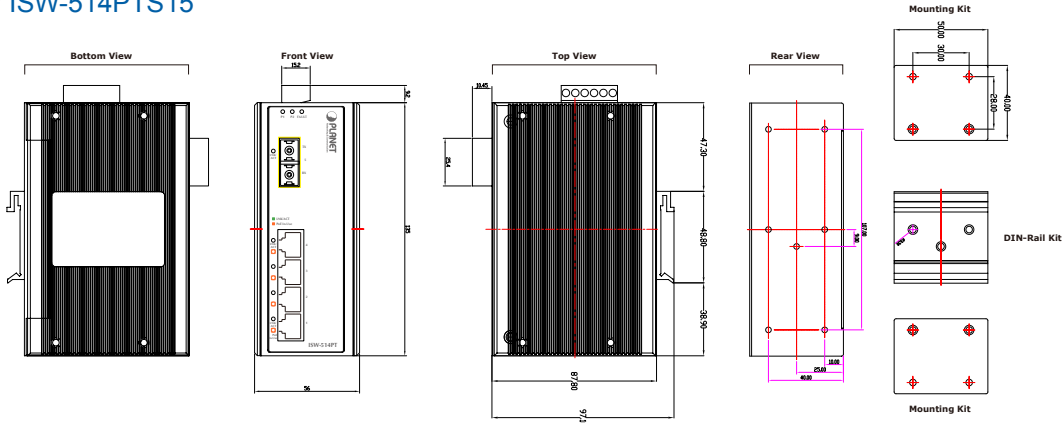
## Specifications

ISW-514PT / ISW-514PT15 / ISW-514PTF	
<b>Hardware Specifications</b>	
10/100Base-TX Ports	4
100Base-FX Port	1
Fiber Port Type	ISW-514PT: Multi-Mode ISW-514PT15: Single Mode ISW-514PTF: Vary on SFP
Connector Type	ISW-514PT: SC ISW-514PT15: SC ISW-514PTF: LC
Maximum Distance	ISW-514PT: 2km ISW-514PT15: 15km ISW-514PTF: Vary on SFP
Optical Frequency	ISW-514PT: 1300nm ISW-514PT15: 1310nm ISW-514PTF: Vary on SFP
Launch Power (dBm)	ISW-514PT: Max.: -14 Min.: -20 ISW-514PT15: Max.: 0 Min.: -20 ISW-514PTF: Vary on SFP
Receive Sensitivity (dBm)	ISW-514PT: -32 ISW-514PT15: -32 ISW-514PTF: Vary on SFP
IEEE 802.3af PoE ports	4
Dimensions (D x W x H)	135 x 87.8 x 56 mm
Weight	842g
Power LED	Power1, Power2 and Fault Port 1~4: PoE In-Use, LNK/ACT Port 5: LNK/ACT
Power Requirements	24 or 48 VDC, redundant power with polarity reverse protection function
Installation	DIN rail kit and wall mount ear
Alarm	Provides one relay output for power failure Alarm relay current carry ability: 1A @ DC 24V
<b>Power over Ethernet</b>	
PoE Standard	IEEE 802.3af Power over Ethernet / PSE
PoE Power Supply Type	End-Span
PoE Power Output	Per Port 48V DC, 350mA . max. 15.4 watts
Power Pin Assignment	1/2(+), 3/6(-)
<b>Switch Specifications</b>	
Switch Processing Scheme	Store-and-Forward

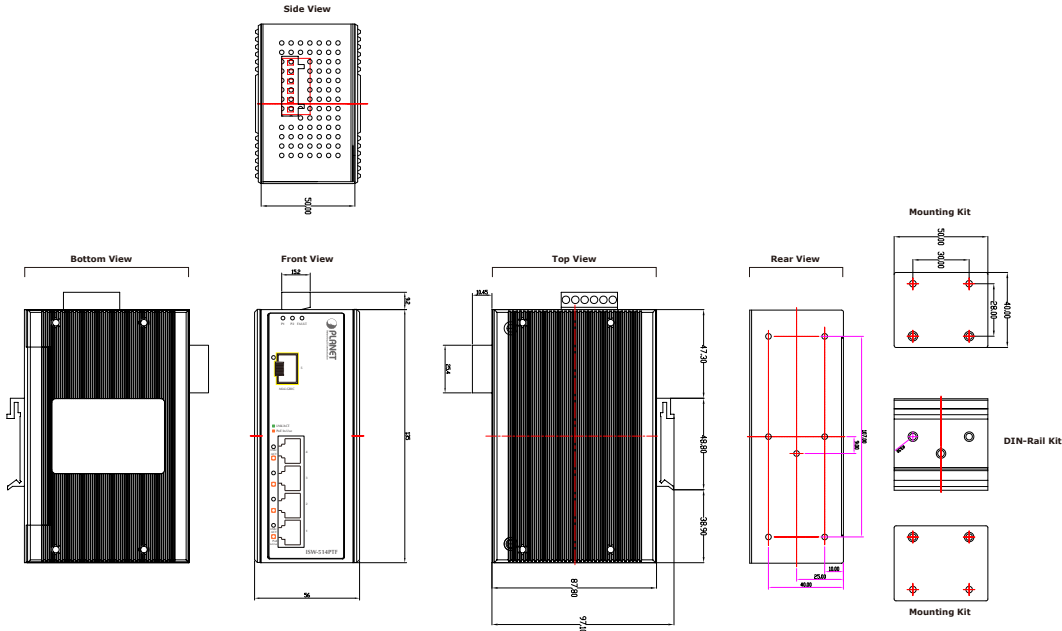
Address Table	2K entries
Flow Control	Back pressure for half duplex IEEE 802.3x pause frame for full duplex
Switch Fabric	1Gbps
Throughput (packet per second)	0.74Mpps
Network cables	10/100Base-TX: Cat. 3, 4, 5, 5e and 6 UTP cable (100meters max.) EIA/TIA-568 100-ohm STP (100meters, max.)
<b>Standards Conformance</b>	
Standards Compliance	IEEE 802.3 Ethernet IEEE 802.3u Fast Ethernet IEEE 802.3x Flow Control IEEE 802.3af Power over Ethernet
Regulation Compliance	FCC Part 15 Class A, CE
Stability Testing	IEC60068-2-32 (Free Fall) IEC60068-2-27 (Shock) IEC60068-2-6 (Vibration)
<b>Environment</b>	
Temperature	Operating: -40~75 degrees C Storage: -40~85 degrees C
Humidity	Operating: 5~90% Storage: 5~90% (non-condensing)

Diagram:

ISW-514PT / ISW-514PTS15



ISW-514PT / ISW-514PTS15



Dimensions ( unit = mm )

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## Ordering Information

ISW-514PT		4-Port 10/100Mbps with PoE +1-Port 100FX(MM, SC) Industrial Ethernet Switch - 2km (-40~75 degrees C)
ISW-514PT15		4-Port 10/100Mbps with PoE +1-Port 100FX(SM, SC) Industrial Ethernet Switch - 15km (-40~75 degrees C)
ISW-514PTF	Art. N° 158678	4-Port 10/100Mbps with PoE +1-Port 100FX(SFP) Industrial Ethernet Switch - (-40~75 degrees C)
ISW-504PT	Art. N° 156159	5-Port 10/100Mbps with 4-Port PoE Industrial Ethernet Switch (-40~75 degrees C)
ISW-504PS	Art. N° 156160	5-Port 10/100Mbps with 4-PoE Industrial Web Smart Switch (-10~60 degrees C)
ISW-514PS	Art. N° 158648	4-Port 10/100Mbps with PoE +1-Port 100FX(MM, SC) Industrial Web Smart Switch - 2km (-10~60 degrees C)
ISW-514PS15		4-Port 10/100Mbps with PoE +1-Port 100FX(SM, SC) Industrial Web Smart Switch - 15km (-10~60 degrees C)
ISW-514PSF	Art. N° 158649	4-Port 10/100Mbps with PoE +1-Port 100FX(SFP) Industrial Web Smart Switch (-10~60 degrees C)

## Accessories

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)

## Related Products

POE-152S	IEEE 802.3af Power over Ethernet Splitter
POE-E101	IEEE 802.3af Power over Ethernet Extender
WNAP-C3220	802.11n Wireless Ceiling Mount PoE Access Point
WNAP-W2200	802.11n 300Mbps In-Wall Access Point w/ USB Charger (EU Type)
ICF-1700	Touch Screen Internet Multimedia Phone
VIP-256PT	802.3af PoE SIP IP Phone
VIP-2020PT	Enterprise HD PoE IP Phone (2-Line)
VIP-5060PT	Professional HD PoE IP Phone (6-Line)
ICA-1200	Full HD PoE Cube IP Camera
ICA-2200	Full HD PoE Box IP Camera
ICA-2250VT	Industrial PoE Plus Outdoor IR IP Camera
ICA-2500	5 Mega-pixel PoE Box IP Camera
ICA-3250V	Full HD Outdoor IR PoE IP Camera
ICA-3350V	3 Mega-pixel Vari-focal Bullet IR IP Camera
ICA-4200V	Full HD 20M IR Vari-focal Dome IP Camera
ICA-4500V	5 Mega-pixel 20M IR Vari-focal Dome IP Camera
ICA-5250	Full HD Ultra-mini Vandal Dome
ICA-5350V	3 Mega-pixel Vandalproof IR IP Camera
ICA-HM101	2 Mega-pixel PoE Cube IP Camera
ICA-HM127	3 Mega-pixel H.264 Box IP Camera
ICA-HM131	H.264 Full-HD Fixed Dome IP Camera
ICA-HM132	H.264 2 Mega-pixel 20M IR Vari-focal Dome IP Camera
ICA-HM136	H.264 2 Mega-pixel 20M IR Vandalproof Dome IP Camera
ICA-HM312	2 Mega-pixel 25M IR Outdoor Bullet PoE IP Camera
ICA-HM316	2 Mega-pixel Outdoor IR PoE IP Camera
ICA-HM351	2 Mega-pixel 35M IR Outdoor Box PoE IP Camera