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

The PLANET **ISW-514PT PoE Industrial Ethernet Switch** 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 IP-30 rugged strong case. Supporting up to 15.4 Watts 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 deploy **surveillance system** and **wireless service** in climatically demanding wide temperature range **(-40 to 75 Degree 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 give 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 shall reduce cables deployment and eliminates the need for dedicated electrical outlets on the wall, ceiling or any unreachable place. A wire carries both data and power 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 able to provide more wide range of industrial IEEE 802.3af PoE applications.
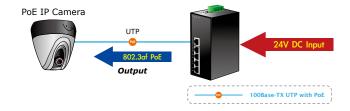
Fiber Optic Link Capability for Flexible Distance Extension

The ISW-514PT series equips 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 below:

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

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

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

Wide Temperature conquers installation in 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 curb side traffic control cabinets. Being able to operate under wide temperature range from **-40 to 75 Degree 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 or backup power inputs.

PoE IP Camera
UTP
802.3af PoE
Output
24V DC Input
100Base-TX UTP with PoE

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 or crossover cables.

KEY FEATURES

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 detect powered device (PD)
- Circuit protection prevent 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)
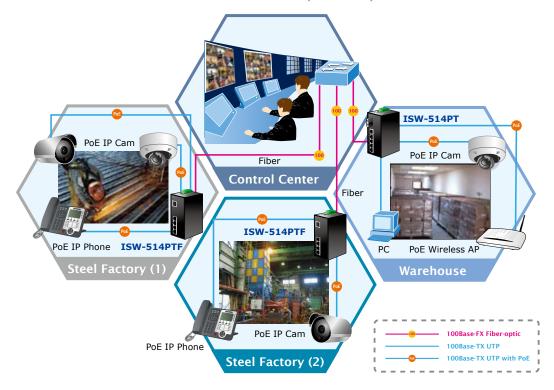- Automatic address learning and address aging

Industrial Case / Installation

- IP-30 aluminum metal case protection
- DIN Rail and Wall Mount Design
- 24V or 48V DC, redundant power with polarity reverse protect function
- Supports EFT protection 6000 VDC for power line
- Supports 6000 VDC Ethernet ESD protection
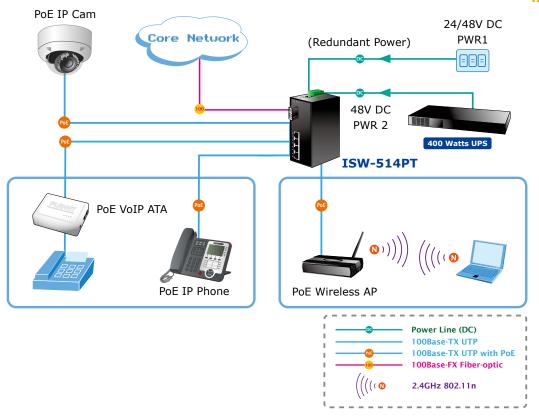- -40 to 75 Degree C operating temperature

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 central-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 more easily and efficiently.

Data Sheet

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PLANET
Networking & Communication

ISW-514PT
ISW-514PT15
ISW-514PTF

PoE IP Cam

Core Network

(Redundant Power)

24/48V DC
PWR1

48V DC
PWR 2

400 Watts UPS

ISW-514PT

PoE VoIP ATA

PoE IP Phone

PoE Wireless AP

	Power Line (DC)
	100Base-TX UTP
	100Base-TX UTP with PoE
	100Base-FX Fiber-optic
	2.4GHz 802.11n

SPECIFICATION

Product	5-Port 10/100Mbps with 4-Port PoE Industrial Ethernet Switch (-40~75 Degree C)		
Model	ISW-514PT	ISW-514PT15	ISW-514PTF
Hardware Specification			
10/100Base-TX Ports	4	4	4
100Base-FX Port	1	1	1
Fiber Port Type	Multi-Mode	Single Mode	Vary on SFP
Connector Type	SC	SC	LC
Maximum Distance	2km	15km	Vary on SFP
Optical Frequency	1300nm	1310nm	Vary on SFP
Launch Power (dBm)	Max.: -14 Min.: -20	Max.: 0 Min.: -20	Vary on SFP
Receive Sensitivity (dBm)	-32	-32	Vary on SFP
IEEE 802.3af PoE ports	4		
Dimension (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 Requirement	24V or 48V DC, Redundant power with polarity reverse protection function		
Installation	DIN Rail kit and Wall Mount ear		
Alarm	Provides one relay output for power fail Alarm Relay current carry ability: 1A @ DC 24V		
Power over Ethernet			
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(-)		
Switch Specification			
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@64bytes		
Network cables	10/100Base-TX: Cat. 3, 4, 5, 5e and 6 UTP cable (100meters max.) EIA/TIA-568 100-ohm STP (100meters, max.)		
Standards Conformance			
Standards Compliance	IEEE 802.3 Ethernet IEEE 802.3u Fast Ethernet IEEE 802.3x Full-Duplex 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)		
Environment			
Temperature	Operating: -40~75 Degree C Storage: -40~85 Degree C		
Humidity	Operating: 5~90%, Storage: 5~90% (Non-condensing)		

ORDERING INFORMATION

AVAILABLE SFP MODULE FOR ISW-514PTF

MFB-TFX	SFP-Port 100Base-FX Transceiver (1310nm) -2km (-40~75 Degree C)
MFB-TF20	SFP-Port 100Base-FX Transceiver (1310nm) - 20km (-40~75 Degree C)

RELATED PRODUCTS

ISW-504PT	5-Port 10/100Mbps with 4-Port PoE Industrial Ethernet Switch (-40~75 Degree C)
ISW-504PS	5-Port 10/100Mbps with 4-PoE Industrial Web Smart Switch (-10~60 Degree C)
ISW-514PS	4-Port 10/100Mbps with PoE +1-Port 100FX(MM, SC) Industrial Web Smart Switch - 2km (-10~60 Degree C)
ISW-514PS15	4-Port 10/100Mbps with PoE +1-Port 100FX(SM, SC) Industrial Web Smart Switch - 15km (-10~60 Degree C)
ISW-514PSF	4-Port 10/100Mbps with PoE +1-Port 100FX(SFP) Industrial Web Smart Switch (-10~60 Degree C)

RELATIVE PoE PRODUCTS

POE-151S-5V	IEEE 802.3af Power over Ethernet Splitter with 5V DC output
POE-151S-12V	IEEE 802.3af Power over Ethernet Splitter with 12V DC output
POE-E101	IEEE 802.3af Power over Ethernet Extender
ICA-H312	H.264 25-meter IR Internet Camera
ICA-H610	H.264 Indoor CCD Internet Camera
ICA-HM100	Wired H.264 Mega-Pixel IP Camera
ICA-HM120	H.264 Mega-Pixel Box IP Camera
ICA-HM125	2 Mega-Pixel H.264 Box IP Camera
ICA-HM126	H.264 Full HD Box IP Camera
ICA-HM131	H.264 Full-HD Fixed Dome IP Camera
ICA-HM135	H.264 Mega-Pixel 20M IR Vandal Proof Dome IP Camera
ICA-HM240	H.264 Mega-Pixel Vandal Proof Pan/Tilt IP Camera
IVS-110	1-Channel Internet Video Server
WNAP-1120PE	802.11n Wireless Access Point with PoE
WNAP-3000PE	802.11n Enterprise PoE Access Point
WNAP-4033PE	54Mbps Wireless PoE Access Point
VIP-254PT	SIP PoE IP Phone
VIP-255PT	Multi-Language PoE IP Phone
VIP-360PT	Enterprise PoE IP Phone
VIP-560PT	Professional PoE IP Phone
VIP-560PE	Professional Enterprise PoE IP Phone with Expansion Function
VIP-156PE	802.3af PoE SIP Analog Telephone Adapter

C-ISW-514PT / ISW-514PT15 / ISW-514PTF