Industrial 5-Port 10/100TX Ethernet Switch with 4-Port 802.3at PoE+

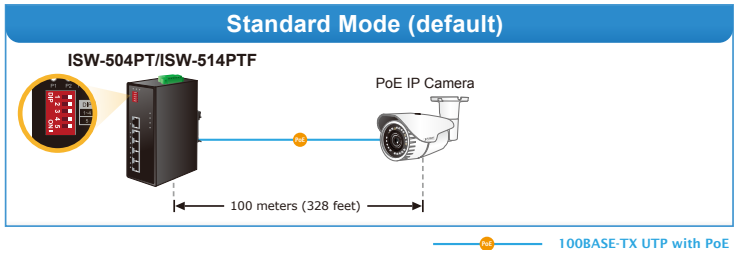
Cost-effective Full PoE+ Power Solution Ideal for Hardened Environment

Featuring Plug and Play designed to be installed in heavy industrial demanding environments, the ISW-504PT is a PLANET Industrial-grade, DIN-rail type Unmanaged Fast Ethernet PoE+ Switch with **4 10/100BASE-TX PoE+** ports, and **1 additional Fast Ethernet interface** for video uplink.

The ISW-504PT 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.

Extension of Ethernet Data Transmission Distance

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



Data Sheet

Interface

- 4 10/100BASE-TX Fast Ethernet **IEEE 802.3at PoE+** RJ45 copper ports (Port-1 to Port-4)
- 1 10/100BASE-TX Fast Ethernet non-PoE RJ45 copper port
- One terminal block for master and slave power input (Power Range: 12 ~ 48V DC redundant power)
- 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 Port-1 to Port-4)

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

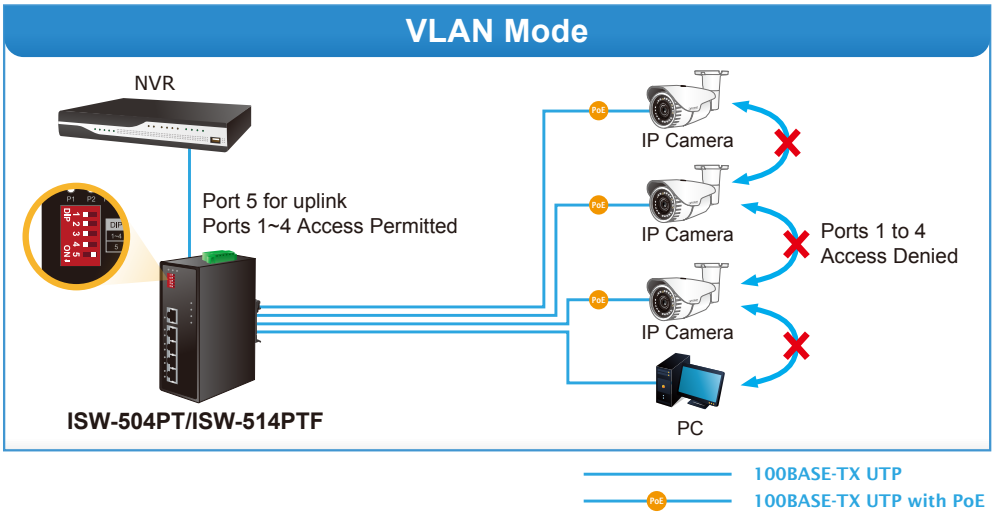
Switching

- 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
- 1536 Bytes jumbo frame
- IEEE 802.1Q VLAN transparency
- Automatic address learning and address aging
- Supports CSMA/CD protocol

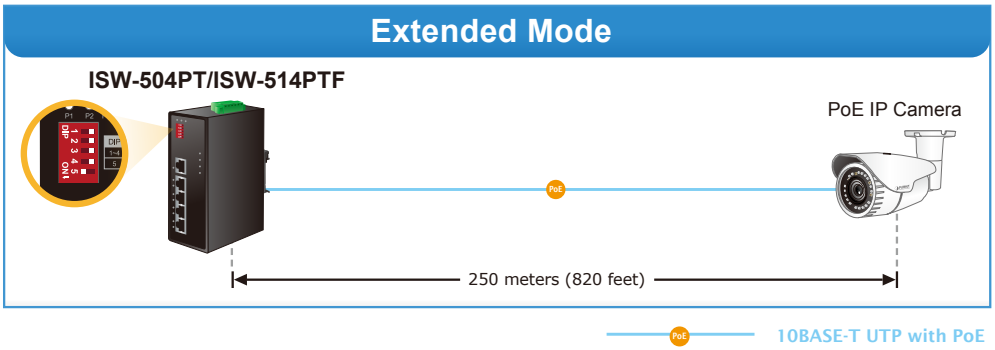
Industrial Case and Installation

- IP40 metal case
- DIN-rail, wall-mount design or side wall-mount design
- 12~48V DC redundant power with polarity reverse protect function
- Fault alarm for power input failed
- Supports 5KV DC Ethernet ESD protection
- -40 to 75 degrees C operating temperature
- 4 real-time PoE power usage indicators

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.

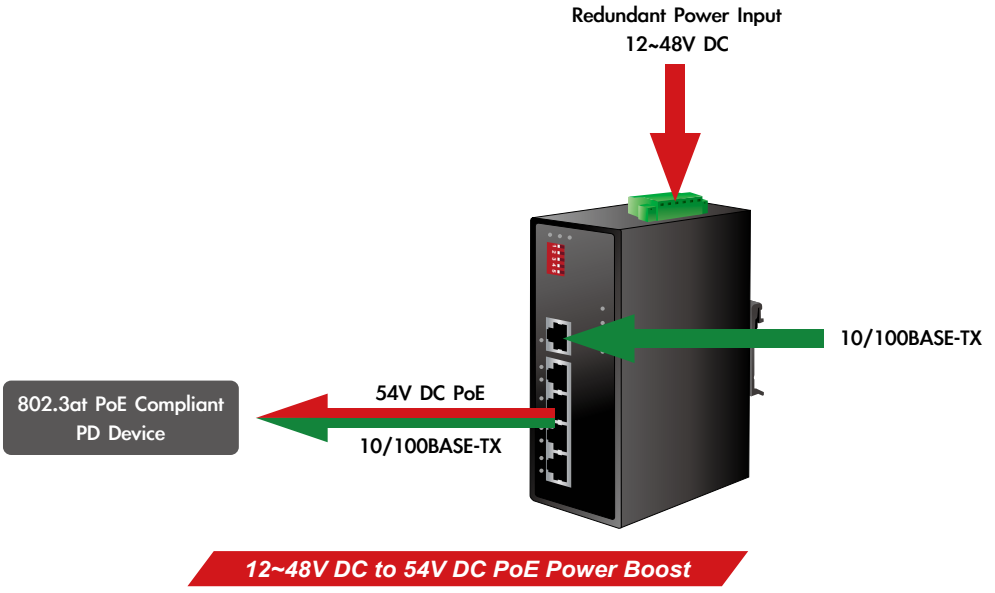


In the **"Extend"** operation mode, the ISW-504PT operates on a per-port basis at 10Mbps full duplex operation and can support 25-watt PoE power output over a distance of up to **250 meters**, overcoming the 100-meter limit on Ethernet UTP cable.



Convenient and Reliable Power System

To facilitate the 802.3at PoE+ usage with commonly used 12~48V DC power input for transportation and industrial-level applications, the ISW-504PT adopts 12~48V DC to 54V power boost technology to solve power source issue but does not require special power supplies. The ISW-504PT provides an integrated power solution with a wide range of voltages (12~48V DC) for worldwide operability. It also provides dual-redundant, reversible polarity 12~48V DC power supply inputs for high availability applications.



Environmentally Hardened Design

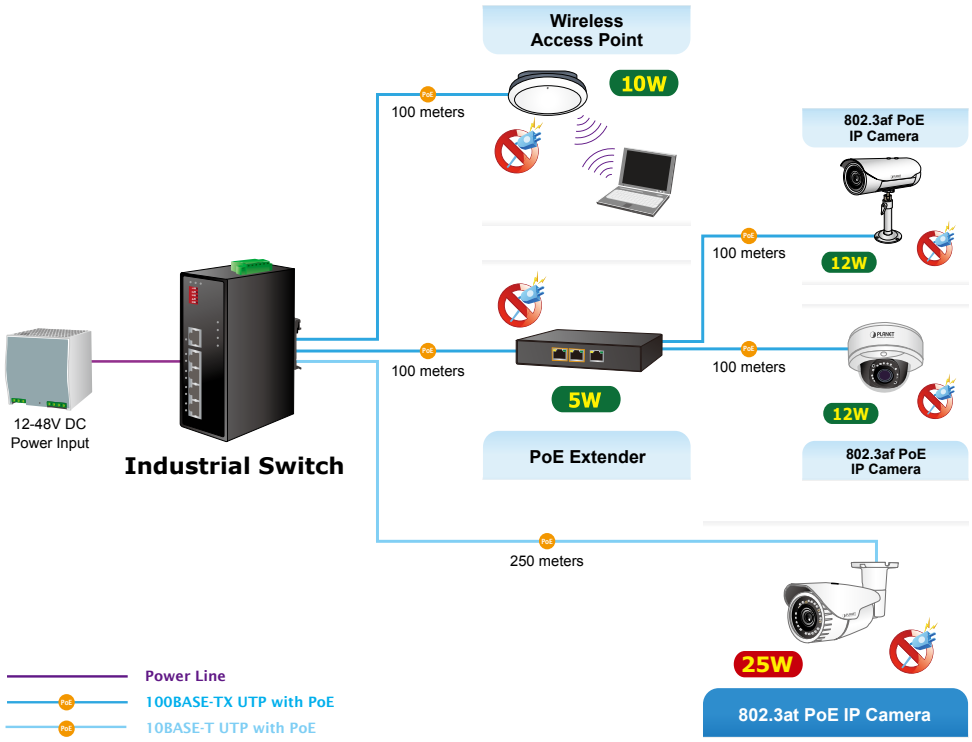
With the IP40 metal industrial case, the ISW-504PT provides a high level of immunity against electromagnetic interference and heavy electrical surges which are usually found on plant floors or in curb-side traffic control cabinets without air conditioning. It features a ventilated construction in which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

Robust Protection

The ISW-504PT provides contact discharge of ±5KV DC and air discharge of ±5KV DC for Ethernet ESD protection. It also supports ±5KV surge immunity to improve product stability and protects users' networks from devastating ESD attacks, making sure the flow of operation does not fluctuate.

Safe and Easy PoE Network Deployment

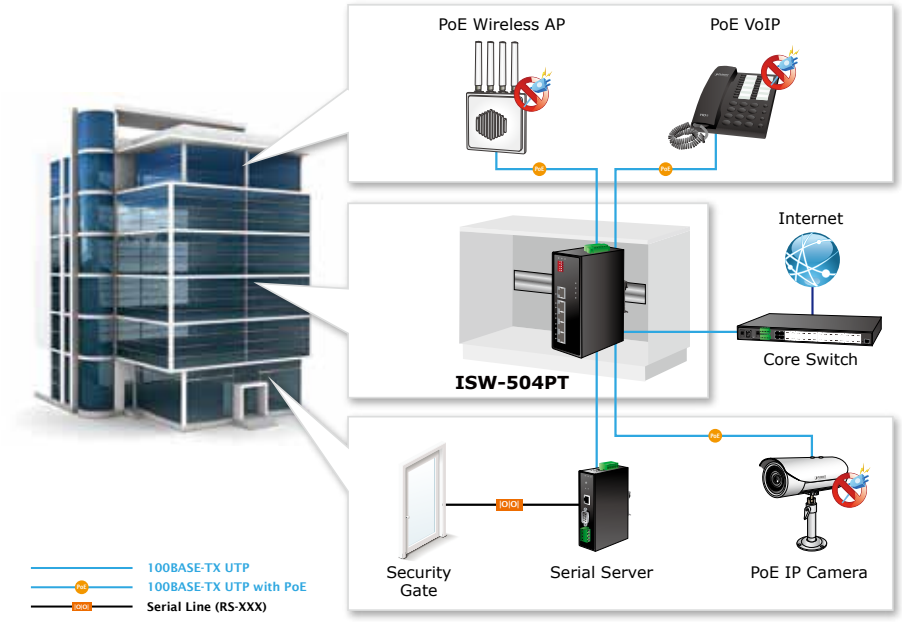
Carrying both Ethernet data and power simultaneously, the ISW-504PT reduces cabling requirements and eliminates the need for dedicated electrical outlets on the wall, ceiling or any unreachable place. It helps users to utilize just one Ethernet cable to install and deploy IP camera, wireless AP or VoIP phone more efficiently and cost-effectively.



Applications

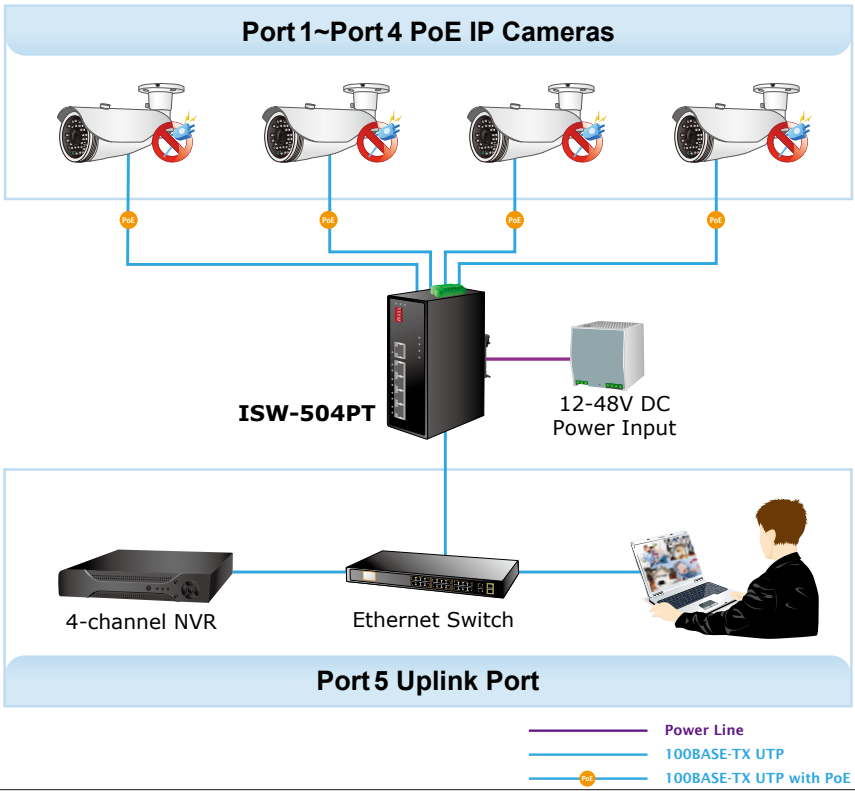
Industrial-grade PoE+ Switch for Building Automation and Security

Suitable for buildings where security is strictly enforced, the ISW-504PT, with four Fast 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 ISW-504PT 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 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 interfaces, the ISW-504PT 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 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 undoubtedly brings an ideal secure surveillance system at a lower total cost.



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Specifications

Product	ISW-504PT
Hardware Specifications	
Fast Ethernet Copper Ports	Five 10/100BASE-TX RJ45 auto-MDI/MDI-X ports (Port-1 to Port-5)
PoE Injector Port	Four ports with 802.3af/at PoE+ injector function (Port-1 to Port-4)
Switch Architecture	Store-and-Forward
Switch Fabric	1Gbps/non-blocking
Switch Throughput@64 bytes	0.74Mpps @64 bytes
MAC Address Table	1K entries
Flow Control	IEEE 802.3x pause frame for full duplex Back pressure for half duplex
Jumbo Frame	1536 Bbytes
DIP Switch (Port-1 to Port-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
LED Indicators	3 x LED for System and Power: ■ Green: DC Power 1 ■ Green: DC Power 2 ■ Red: Power Fault Alarm 2 x LED for PoE Copper Port (Port-1~Port-4): ■ Green: LNK/ACT (10/100Mbps) ■ Orange: PoE-in-Use 1 x LED for 10/100TX Copper Port (Port-5): ■ Green: LNK/ACT 4 x LED for PoE Usage ■ Orange
Connector	Removable 6-pin terminal block ■ Pin 1/2 for Power 1 ■ Pin 3/4 for power fault alarm ■ Pin 5/6 for Power 2
Alarm	One relay output for power failure. Alarm relay current carry ability: 1A @ 24V AC
Power Requirements	12~48V DC, 7A (max.)
Power Consumption/ Dissipation	3.7 watts, 12.6 BTU (Standby without PoE function) at DC 12V power input 70 watts, 238.8 BTU (Full loading with PoE function) at DC 12V power input 4.6 watts, 15.7 BTU (Standby without PoE function) at DC 24V power input 105.1 watts, 358.6 BTU (Full loading with PoE function) at DC 24V power input 4.8 watts, 16.4 BTU (Standby without PoE function) at DC 48V power input 136.8 watts, 466.8 BTU (Full loading with PoE function) at DC 48V power input
Dimensions (W x D x H)	50 x 85.1 x 135 mm
Weight	596g
ESD Protection	5KV DC
Enclosure	IP40 metal case
Installation	DIN-rail kit and wall-mount kit
Power over Ethernet	
PoE Standard	IEEE 802.3af Power over Ethernet / PSE
PoE Power Supply Type	End-Span
PoE Power Output	Per port 54V DC, max. 36 watts
Power Pin Assignment	1/2 (+), 3/6 (-)
PoE Power Budget (max.)	60W @12V DC input 90W @24V DC input 120W @48V 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 10BASE-T IEEE 802.3u 100BASE-TX IEEE 802.3x Flow Control and Back Pressure IEEE 802.3af Power over Ethernet IEEE 802.3at Power over Ethernet Plus
Environment	
Operating Temperature	-40 ~ 75 degrees C
Storage Temperature	-40 ~ 85 degrees C
Humidity	5 ~ 95% (non-condensing)

Ordering Information

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

Related Product

ISW-514PTF	Industrial 4-Port 10/100TX 802.3at PoE+ plus 1-Port 100FX Ethernet Switch
IPOE-E202	Industrial 1-Port 802.3at PoE+ to 2-Port 802.3af PoE Extender
POE-E101	IEEE 802.3af Power over Ethernet Extender
POE-E201	IEEE 802.3at Power over Gigabit Ethernet Extender
POE-E202	Industrial 1-Port 802.3at PoE+ to 2-Port 802.3af PoE Extender
IPOE-162S	Industrial IEEE 802.3at High Power over Ethernet Splitter (12V & 24V)
POE-161S	IEEE 802.3at High Power over Ethernet Splitter
POE-162S	IEEE 802.3at High Power over Ethernet Splitter (12V & 24V)
ICA-E3550V	5 Mega-pixel Bullet IR PoE IP Camera with Extended Support
VIP-2140PT	High Definition Color PoE IP Phone with Dual Display

Accessories

PWR-240-48	240W 48V DC Single Output Industrial DIN-rail Power Supply (-20 ~ 70 degrees C)
PWR-480-48	480W 48V DC Single Output Industrial DIN-rail Power Supply (-20 ~ 70 degrees C)