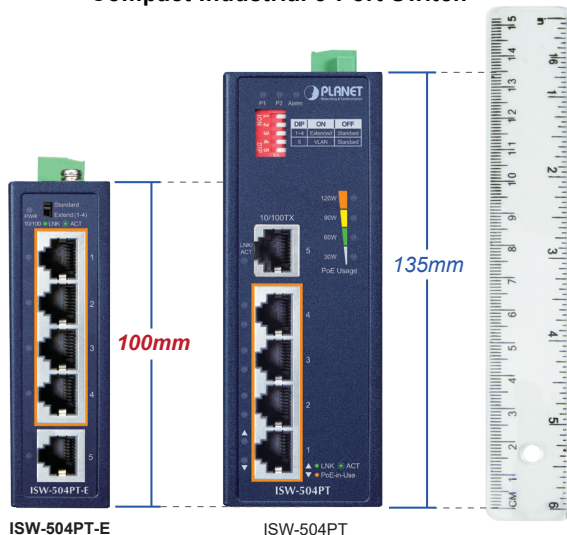# Compact Industrial 4-Port 10/100TX 802.3at PoE + 1-Port 10/100TX Ethernet Switch

Compact Size for More Practicability and Convenience

PLANET **ISW-504PT-E Compact Industrial 4-Port 10/100TX 802.3at PoE + 1 Port 10/100TX Ethernet Switch**, suitable for industrial use, features 5 100Mbps auto-negotiation ports, **IP40**-rated rugged yet compact case and a wide-ranging redundant power system (**48~55V DC**). The ISW-504PT-E is able to operate in any harsh environment with operating temperature ranging from **-40 to 75 degrees C**.

Compact Industrial 5-Port Switch

ISW-504PT-E   ISW-504PT

100mm

135mm

As the trend for an IIoT (Industrial Internet of Things) infrastructure continues to grow, the ISW-504PT-E is designed to simplify industrial network deployment with its Plug and Play feature. Beyond offering stable and reliable fast data, it also aligns with the AIoT (Artificial Intelligence of Things) vision by enabling seamless integration of intelligent systems. This allows the collection and analysis of valuable data, empowering real-time decision-making and enhancing operational efficiency across various industrial applications.

Physical Port

• 5-port 10/100BASE-TX RJ45 with auto-MDI/MDI-X function

Power Over Ethernet

• 4 IEEE 802.3af/at compliant PoE+ ports (Port 1–4), delivering up to 30 watts per port

• 120-watt total PoE power budget

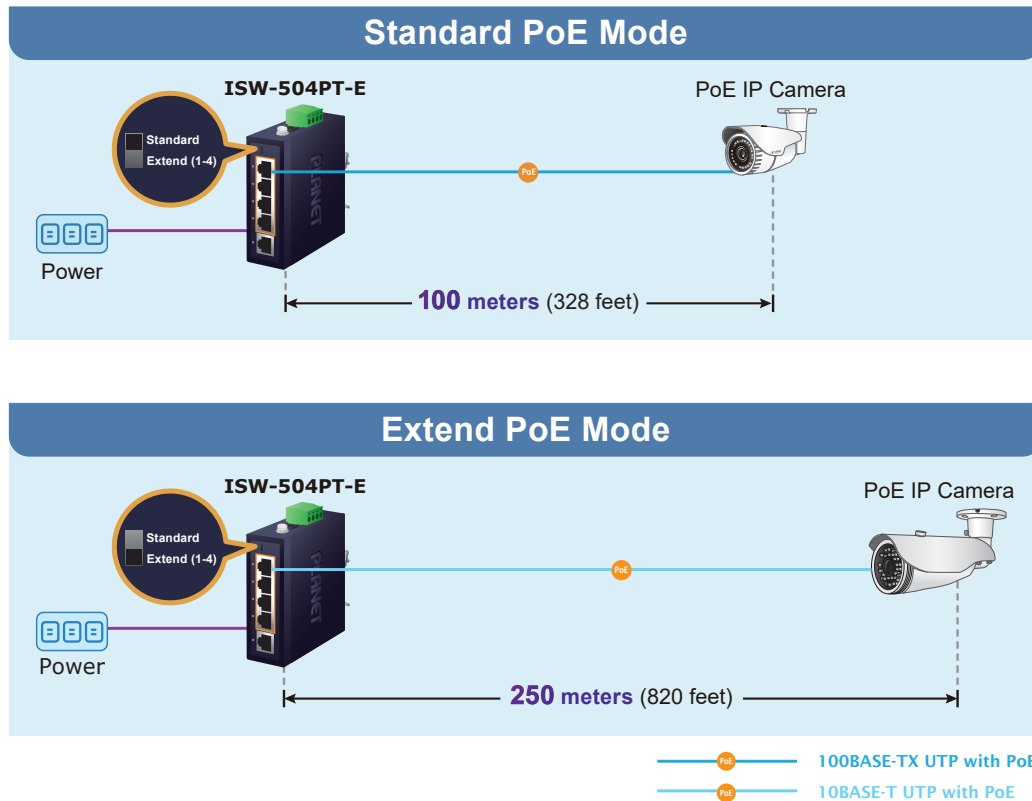• Supports PoE auto detection and power priority mechanism

Layer 2 Features

• Complies with IEEE 802.3 10BASE-T, IEEE 802.3u 100BASE-TX Ethernet standard

• Supports auto-negotiation and 10/100Mbps half/full duplex mode

• Prevents packet loss with back pressure (half-duplex) and IEEE 802.3x pause frame flow control (full-duplex)

• Complies with IEEE 802.3az Energy Efficient Ethernet (EEE)

• Supports 1K MAC address table

Industrial Case and Installation

• IP40 metal case

• DIN-rail and wall-mount designs

• 48 to 55V DC, redundant power with reverse polarity protection

• Supports 6000 VDC Ethernet ESD protection

• -40 to 75 degrees C operating temperature

• Operate reliably at an altitude of 3,000 meters

• Free fall, shock-proof and vibration-proof for industries

Distance Extended for Transmission of Power and Data

The built-in solid DIP switch provides "Standard" and "Extend" operation modes. The ISW-504PT-E operates as a normal IEEE 802.3at/af PoE Switch in the "Standard" operation mode. In the "Extend" operation mode, the ISW-504PT-E operates on a per-port basis in 10Mbps duplex mode but can support 30-watt PoE power output over a distance of up to 250 meters overcoming the 100m limit on Ethernet UTP cable. With this brand-new feature, the ISW-504PT-E provides an additional solution for 802.3at/af PoE distance extension, thus saving the cost of Ethernet cable installation.

Standard PoE Mode

ISW-504PT-E

Standard
Extend (1-4)

Power

PoE IP Camera

100 meters (328 feet)

Extend PoE Mode

ISW-504PT-E

Standard
Extend (1-4)

Power

PoE IP Camera

250 meters (820 feet)

100BASE-TX UTP with PoE
10BASE-T UTP with PoE

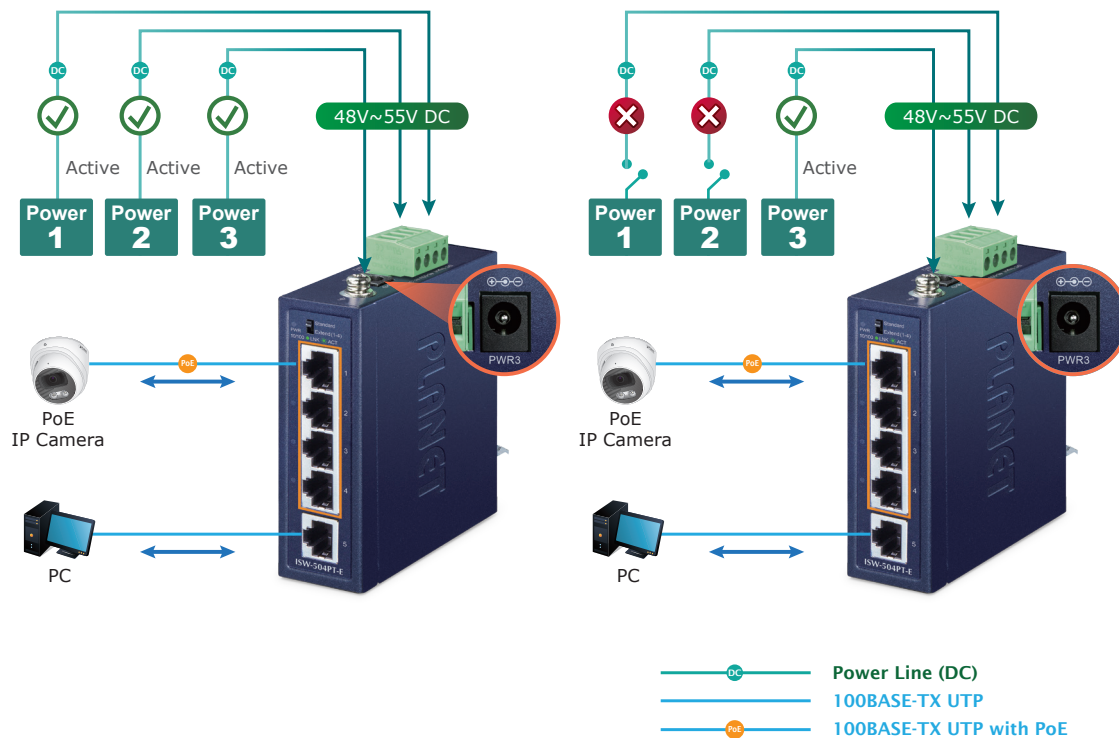## Low Power Consumption for ESG Principles

The ISW-504PT-E adopts advanced green networking technology that aligns with **Environmental, Social, and Governance (ESG)** principles, offering link-on cable length power-saving and link-down power-saving features. These capabilities enable the ISW-504PT-E to maintain exceptionally low power consumption even under full-load operation, effectively conserving energy while delivering outstanding performance. Compared to the ISW-504PT, the ISW-504PT-E can reduce energy consumption by over 50%.

With **Auto Power Savings** and the **IEEE 802.3az Energy-Efficient Ethernet (EEE)** protocol, the ISW-504PT-E can automatically detect cable link status and network traffic, adjusting its power consumption accordingly. When device activity is lower, the switch consumes less power, achieving greater energy efficiency.

Triple Power Input for High Availability Network System

The ISW-504PT-E features a robust triple power input system with wide-ranging voltages (48V~55V DC) incorporated into the customer's automation network to enhance system reliability and uptime. In the example below, if one power supply fails, the hardware failover function will be activated automatically to keep powering the ISW-504PT-E via the remaining power supplies alternatively, ensuring continuous operation without any interruptions.

Non-stop Ethernet Server
Triple Power Input with Auto Failover

Power Line (DC)	
100BASE-TX UTP	
100BASE-TX UTP with PoE	

High Switch Performance

The ISW-504PT-E offers high-performance switch architecture. With the 5 10/100Mbps Ethernet ports providing non-blocking switch fabric and wire-speed throughput as high as 1Gbps and the 1K MAC address table, the ISW-504PT-E can perform wire-speed packet transfer without the risk of packet loss. The flow control function enables the ISW-504PT-E to provide fast and reliable data transfer.

Plug and Play

All of the RJ45 copper interfaces in the ISW-504PT-E support 10/100Mbps auto negotiation for optimal speed detection through RJ45 Category 6, 5 or 5e cables. 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.

Flexible and Easy Installation with Limited Space

The compact sized ISW-504PT-E 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.
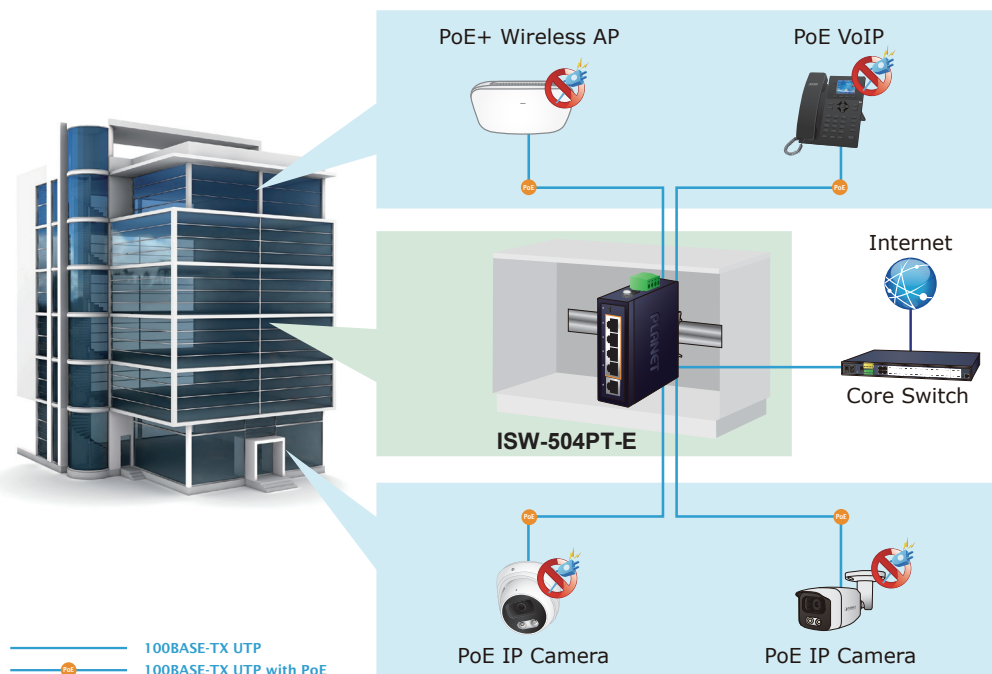
Optional installation method

DIN-rail Mounting

Wall Mounting

* The above pictures are for illustration only.

Applications

Designed for Heavy Industries

The ISW-504PT-E's IP40-rated metal case is particularly designed for heavy industries, such as factories, harbors, warehouses, and more. When installed at these establishments, it can enhance the work performance of these establishments by speedily transferring incoming and outgoing data.
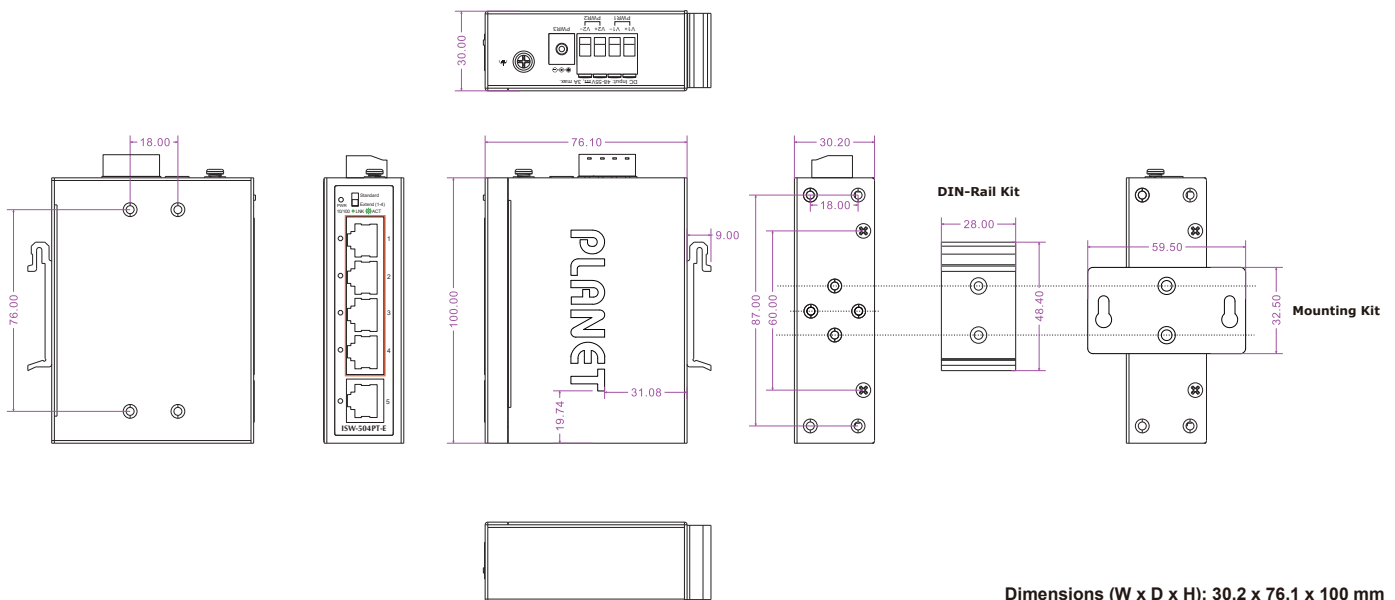

Product Specifications

Model	ISW-504PT-E
Hardware Specifications	
Copper Ports	5 x 10/100BASE-TX RJ45 TP auto-MDI/MDI-X, auto negotiation
Connector	One removable 4-pin terminal block Pin 1/2 for Power 1; Pin 3/4 for Power 2 One DC Jack Connector
DIP Switch	**Standard Mode:** Normal mode, all interfaces can communicate with each other, transmission distance is within 100 meters, and transmission rate is 10/100Mbps adaptive. **Extend Mode:** Link extension mode, 1-4 port data transmission distance can be extended to 250 meters, transmission speed is 10Mbps.
Power Requirements	48~55V DC redundant power with reverse polarity protection
Power Consumption / Dissipation	Max. 0.55 watts/1.88 BTU (Power on without any connection) Max. 128 watts/436.8 BTU (Ethernet full loading)
Dimensions (W x D x H)	30.2 x 76.1 x 100 mm
Weight	266g
Enclosure	IP40 metal case
Installation	DIN-rail kit and wall-mount ear (Side wall mount is an optional accessory)
LED	1 x LED for system and power: ■ Green: DC Power 1 x LED for each copper port: ■ Green: 10/100Mbps LNK/ACT
ESD Protection	6KV
EFT Protection	6KV
Network Cables	10/100BASE-TX Cat. 3, 4, 5, 5e, 6 UTP cable (max. 100 meters) EIA/TIA-568 100-ohm STP (max. 100 meters)
Switch Specifications	
Switch Processing Scheme	Store-and-Forward
Switch Fabric	1Gbps

Throughput (packet per second)	0.744Mpps@64bytes
MAC Address Table	1K entries
Shared Data Buffer	448K bits
Flow Control	Back pressure for half duplex IEEE 802.3x pause frame for full duplex
Power over Ethernet Specifications	
PoE Standard	IEEE 802.3af/at PoE+ PSE
PoE Power Supply Type	End-span
PoE Power Output	30W (max.)
Power Pin Assignment	1/2(+), 3/6(-)
PoE Power Budget	120 watts (max.)
Standards Conformance	
Standards Compliance	IEEE 802.3 Ethernet IEEE 802.3u Fast Ethernet IEEE 802.3x Full-Duplex Flow Control IEEE 802.3az Energy Efficient Ethernet IEEE 802.3af Power over Ethernet IEEE 802.3at Power over Ethernet Plus
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 Conformance	
Temperature	Operating: -40~75 degrees C Storage: -40~85 degrees C
Humidity	Operating: 10~90%, Storage: 5~95% (non-condensing)

Dimensions

Dimensions (W x D x H): 30.2 x 76.1 x 100 mm

Ordering Information

ISW-504PT-E	Compact Industrial 4-Port 10/100TX 802.3at PoE + 1-Port 10/100TX Ethernet Switch (-40~75 degrees C)

Related Product

ISW-504PT	Industrial 5-Port 10/100TX Ethernet Switch with 4-Port 802.3at PoE+
ISW-514PTF	Industrial 4-Port 10/100TX 802.3at PoE+ plus 1-Port 100FX Ethernet Switch
IFGS-624PTF	Industrial 4-Port 10/100TX 802.3at PoE + 2-Port 1000X SFP Ring Ethernet Switch
IFGS-1022HPT	Industrial 8-Port 10/100TX 802.3at PoE + 2-Port Gigabit TP/SFP Combo Ethernet Switch

ISW-504PT-E