Industrial 2-port Multi-Gigabit 802.3bt PoE++ Injector Hub



Compact and Robust Industrial 802.3bt PoE++ Network Solution

PLANET IPOE-270 2-port industrial IEEE 802.3bt PoE++ injector hub series features two **10/100/1G/2.5G/5GBASE-T 90-watt 802.3bt type-4 PoE++ injector ports**. With a total PoE budget of 180 watts, it delivers 802.3bt PoE++ power over Ethernet UTP cables which allow data and power to transmit simultaneously to a remote 802.3bt/at powered device (PD).



The IPOE-270 series provides a quick, safe and cost-effective 802.3bt PoE++ network solution for small businesses and enterprises. It is designed to perfectly upgrade an existing network infrastructure to 802.3bt PoE++ network system without replacing the existing Ethernet switches and also enables centralization of the power supply. The IPOE-270 series includes two models: IPOE-270 and IPOE-270-12V.

Model	DC Redundant Power Input	PoE Standard	PoE Budget
IPOE-270	48~56V DC	IEEE 802.3bt PoE++	180 watts
IPOE-270-12V	12~56V DC		180 watts

802.3bt PoE++ Meets High Power Demands of Powered Devices

As the IPOE-270 series adopts the IEEE 802.bt PoE++ standard and PoH technology, it is capable to source up to **90 watts** of power by using all the four pairs of standard Cat5e/6 Ethernet cabling to deliver power and full-speed data to each remote PoE compliant PD. It possesses triple amount of power capability than the conventional 802.3at PoE+ and is an ideal solution to satisfy the growing demand for higher power consuming network PDs, such as:

Physical Ports

- **Two 10/100/1G/2.5G/5GBASE-T** Gigabit RJ45 interfaces
  - 2-port data + power input
- **Two 10/100/1G/2.5G/5GBASE-**T Gigabit RJ45 interfaces
  - 2-port data + power output

Power Requirements

- 1 terminal block for master and slave power input with reverse polarity protection
- Power Range: 48 ~ 56V DC redundant power (IPOE-270)
- Power Range: 12 ~ 56V DC redundant power (IPOE-270-12V)

Power over Ethernet

- 2-port data + power output
  - Complies with 802.3bt Power over Ethernet Plus Plus end-span and mid-span PSE
  - Backward compatible with IEEE 802.3at Power over Ethernet Plus end-span/mid-span PSE
  - Up to 2 IEEE 802.3at/IEEE 802.3bt PoE devices powered
  - Supports PoE output power up to 90 watts for each PoE port
  - All PoE ports support 802.3at end-span/mid-span PoE 36-watt injector function
  - Auto detects powered device (PD)
  - Circuit protection prevents power interference between ports
- Forwards both Ethernet data and PoE power to remote device over a 100-meter (328ft.) distance

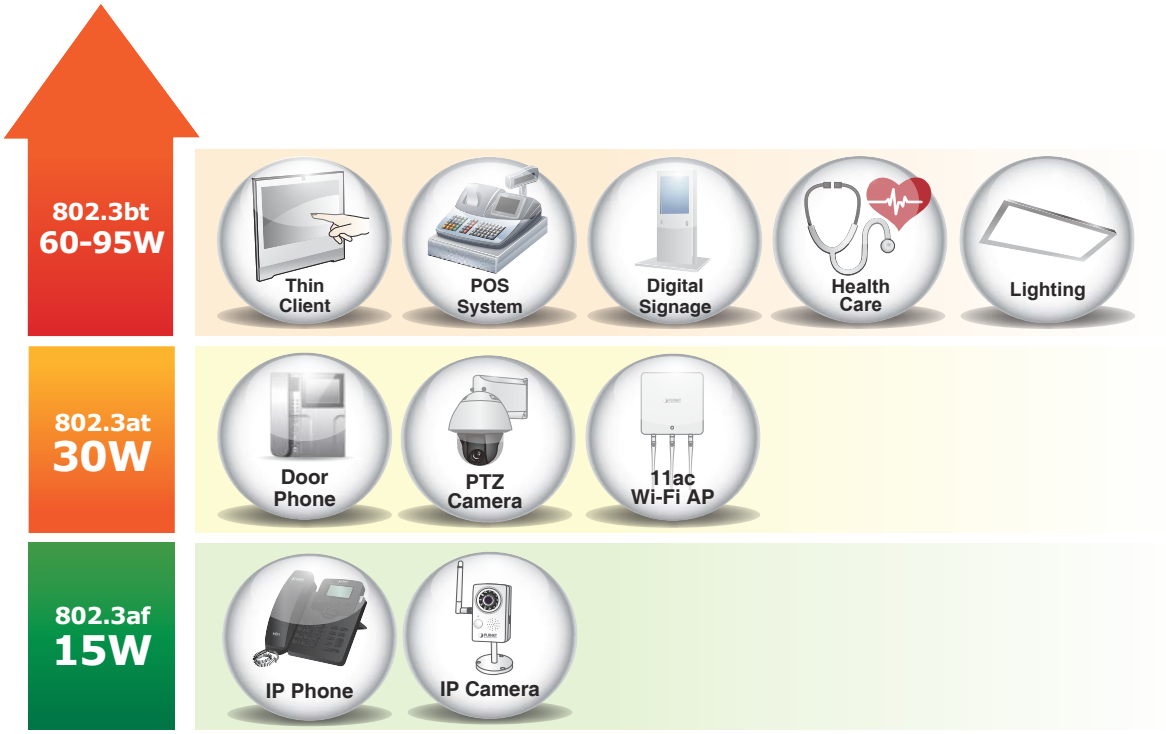
LED Indicators

- LED indicators for power LEDs (Power 1 and Power 2)
- LED indicators for PoE Usage (60W,120W and 180W)

Industrial Case and Installation

- IP30 metal case
- DIN-rail and wall-mount designs
- Supports 6KV DC Ethernet ESD protection
- -40 to 75 degrees C operating temperature
- Plug and Play installation

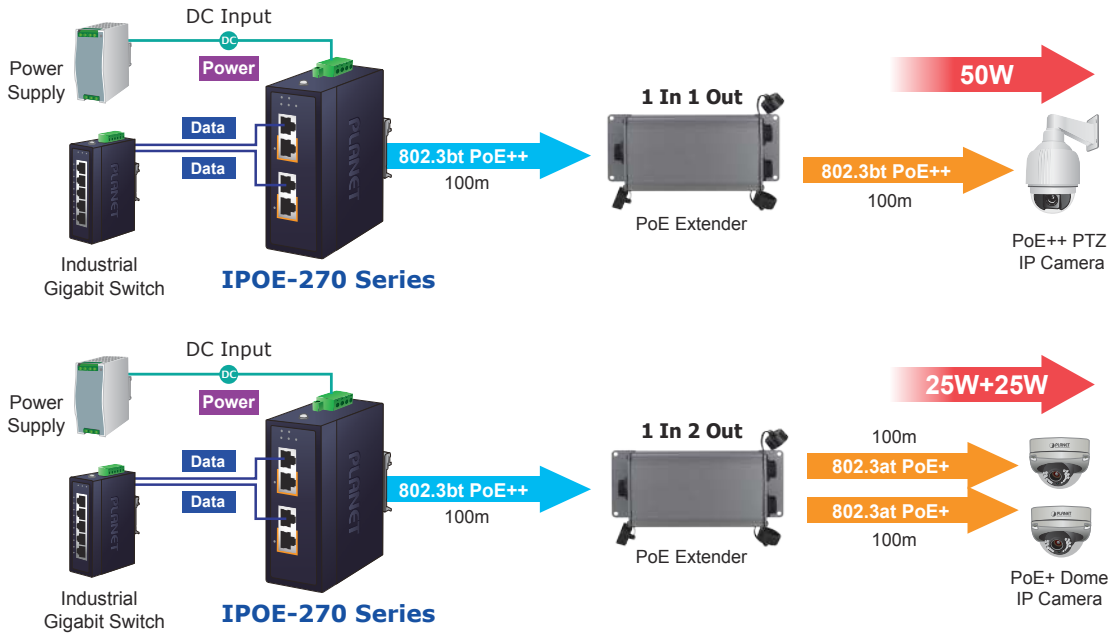
- PoE PTZ speed dome cameras
- Network devices
- Thin clients
- AIO (all-in-one) touch PCs, point of sale (POS) and information kiosks
- Remote digital signage displays
- PoE lightings



Quick and Easy 802.3bt/at PoE Network Deployment

The IPOE-270 series is installed between a regular Ethernet Switch and the PDs. Two ports are network (Ethernet) ports for data input while the other two ports are PoE++ ports for data and power output. Both power and data are transferred simultaneously over the UTP cables to various 802.3bt/at PDs without affecting the existing network performance and functions.

With data and Power over Ethernet from one unit, the IPOE-270 series can reduce power cable deployment and eliminate the need for dedicated electrical outlets on the wall, ceiling or any unreachable place.



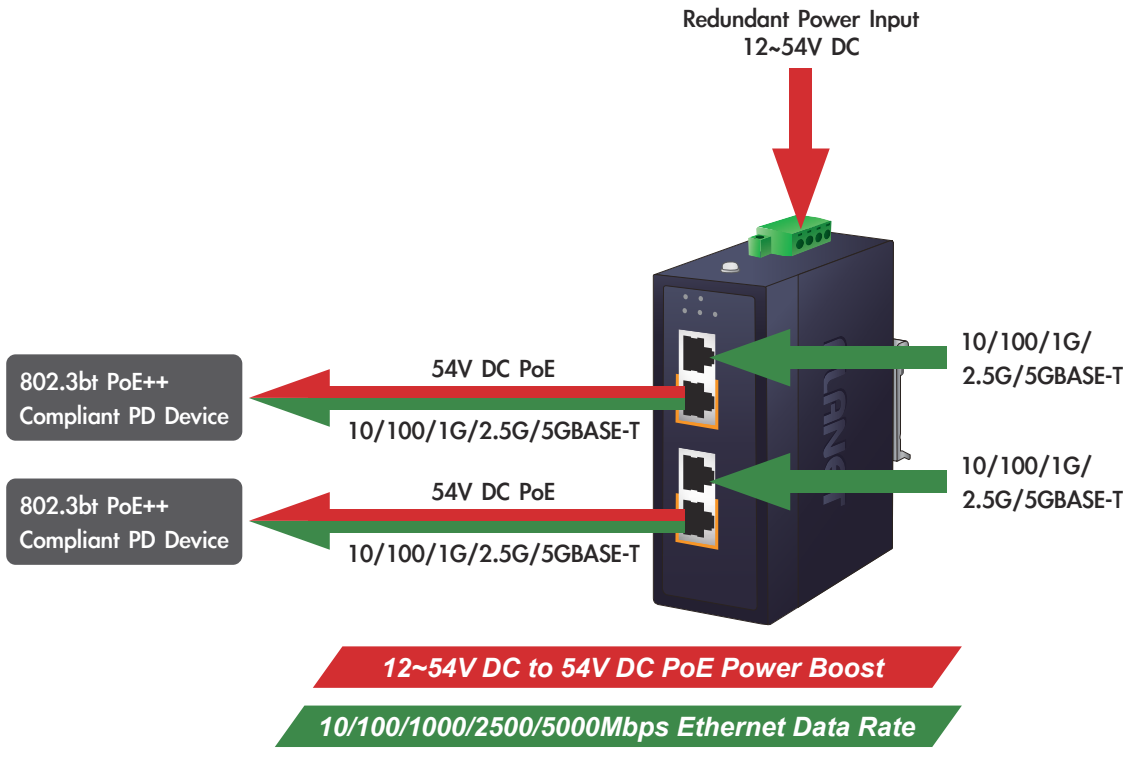
Intelligent LED Indicator for Power Input and Real-time PoE Usage

The IPOE-270 series helps users to monitor the current status of power input and PoE power usage easily and efficiently via its advanced LED indication. The **"Power Input"** allows user to know the status of dual DC power input. The **"PoE Usage"** displayed on the panel of the IPOE-270 series has three amber LED indicators of different power usages indicating **60W**, **120W** and **180W**. Via the power usage LED, the IPOE-270 series enables the administrator to monitor the status of the power usage of the connected PDs in real time.



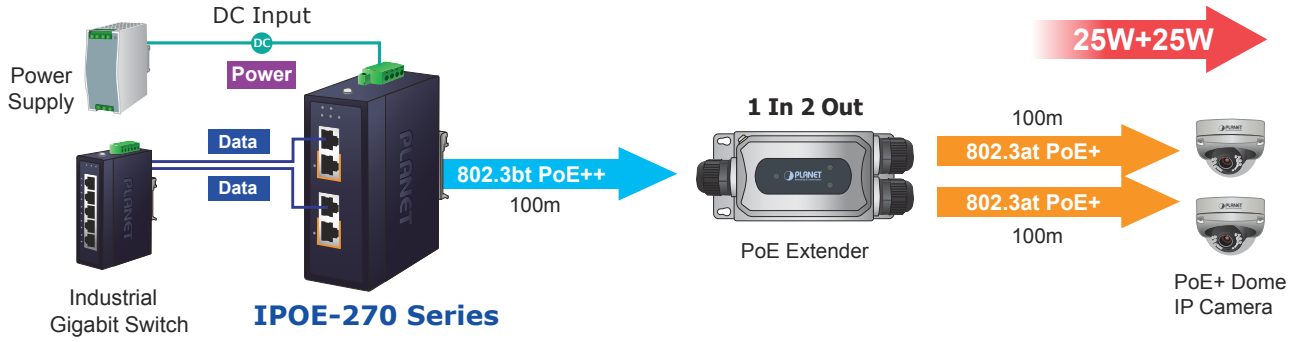
Convenient and Reliable Power System

To facilitate the 802.3bt PoE++ usage with commonly-used **12~54V DC** power input for transportation and industrial-level applications, the IPOE-270-12V adopts the 12~54V DC to 54V **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.



High Power Budget for PoE Extension

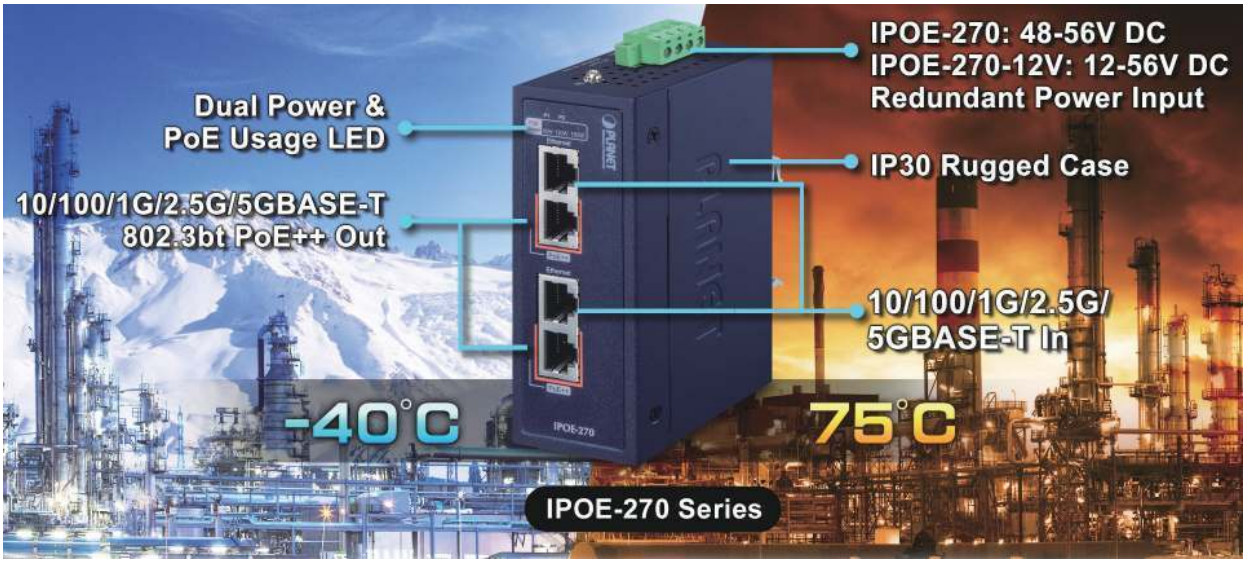
With up to 90-watt PoE output capability, the IPOE-270 series can extend much longer distance by using PLANET PoE Extender for powering up the PoE PD which can be installed over more than 100 meters away.



Stable Operating Performance under Difficult Environments

Today, the PoE demand expands from commercial applications to many critical networks in the harsh environment. The IPOE-270 series provides a high level of immunity against electromagnetic interference and heavy electrical surges typical of environments found on plant floors or in curb-side traffic control cabinets.

The IPOE-270 series can be easily installed by way of Plug and Play and operates stably under temperature range from **-40 to 75 degrees C** which enables the users to conveniently apply the device in almost any location of the network.



The IPOE-270 series is also equipped with a compact IP30 standard metal case that allows either DIN-rail or wall mounting for space-limited environment.



DIN-rail Mounting



Wall Mounting

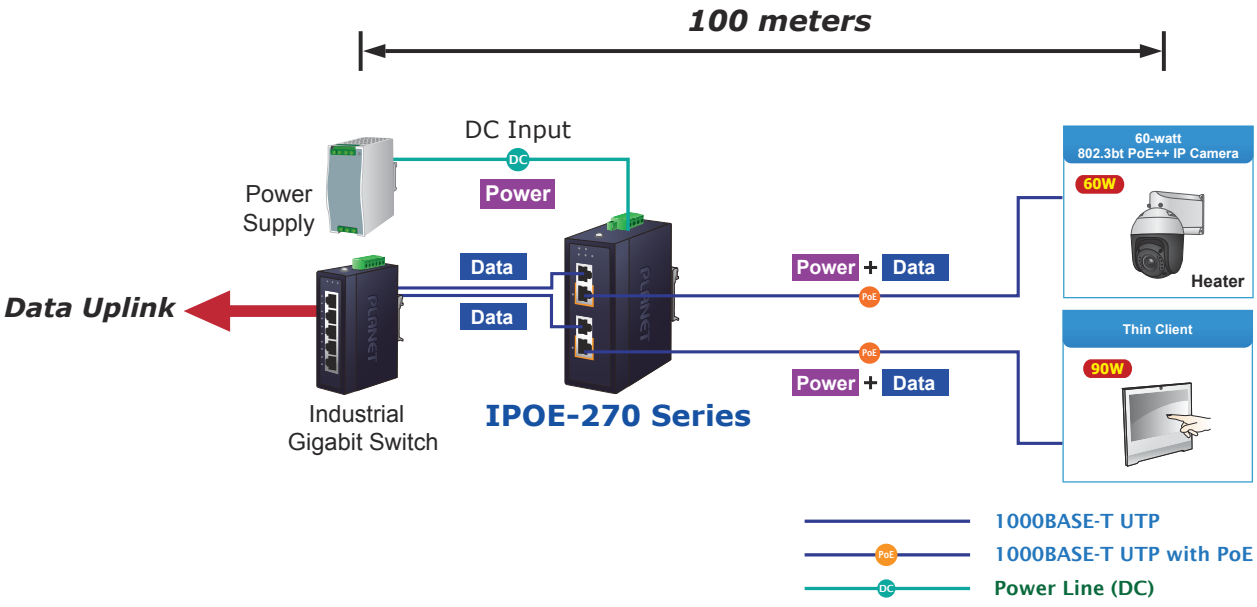


Side Wall Mounting
(Space saving)

Applications

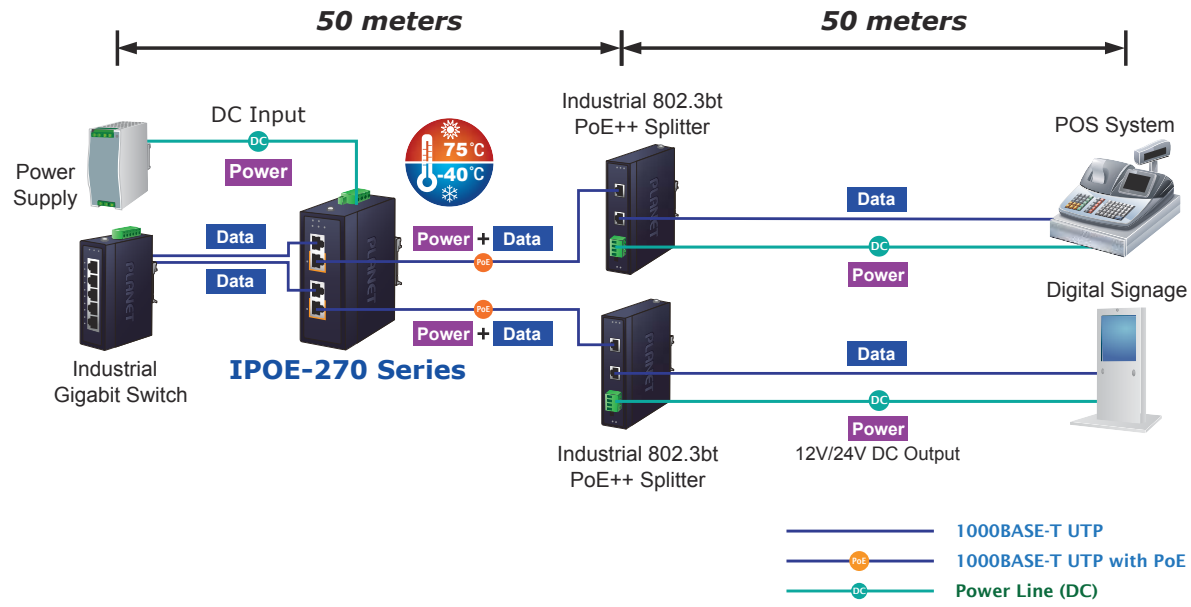
IEEE 802.3bt PoE++ Injector and 802.3bt PoE++ Compliant Devices Installation

Having the capability of IEEE 802.3bt Power over Ethernet standard, the IPOE-270 series can directly connect and inject power via RJ45 Ethernet cable to any IEEE 802.3bt end-nodes like PoE PTZ speed dome cameras, thin clients, all-in-one touch PCs, point of sale (POS), information kiosks, remote digital signage displays and PoE lightings.



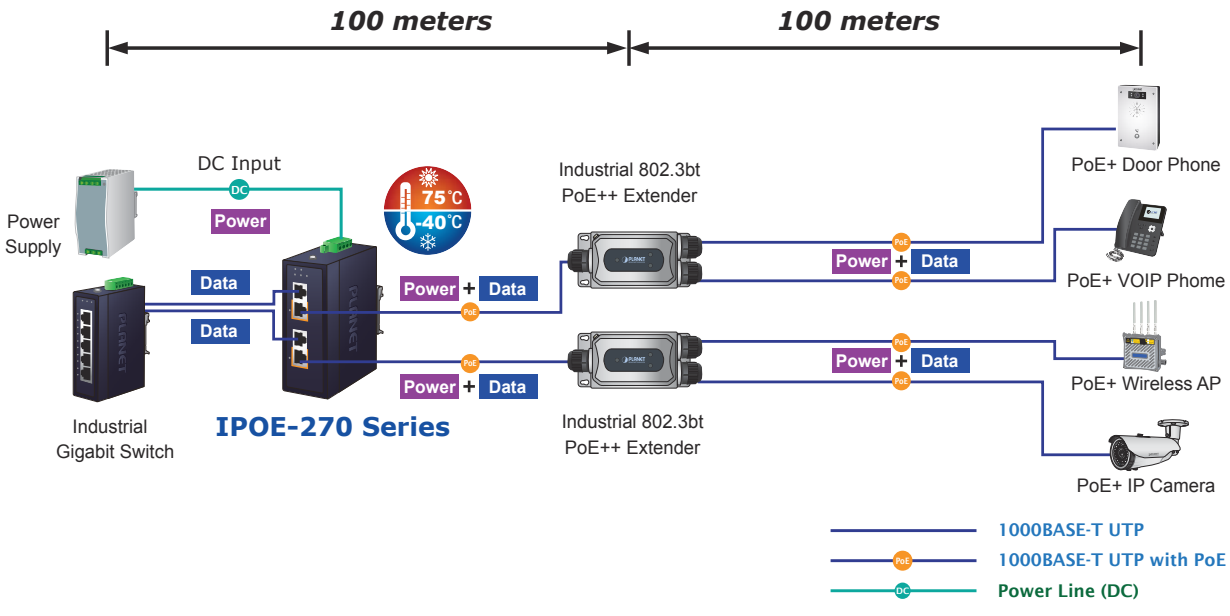
IEEE 802.3bt PoE++ Injector and 802.3bt PoE++ Splitter Installation

For a place which is hard to find the power inlet, the IPOE-270 series and IPOE-173S can operate as a pair to provide the easiest way to power your Ethernet devices which need high power input, such as PTZ (pan, tilt & zoom) IP cameras, color touch-screen voice over IP (VoIP) telephones, and multi-channel wireless LAN access points installed on the top of the building or in enterprise office or home, as well as thin clients, all-in-one touch PCs, point of sale (POS), information kiosks and remote digital signage displays.



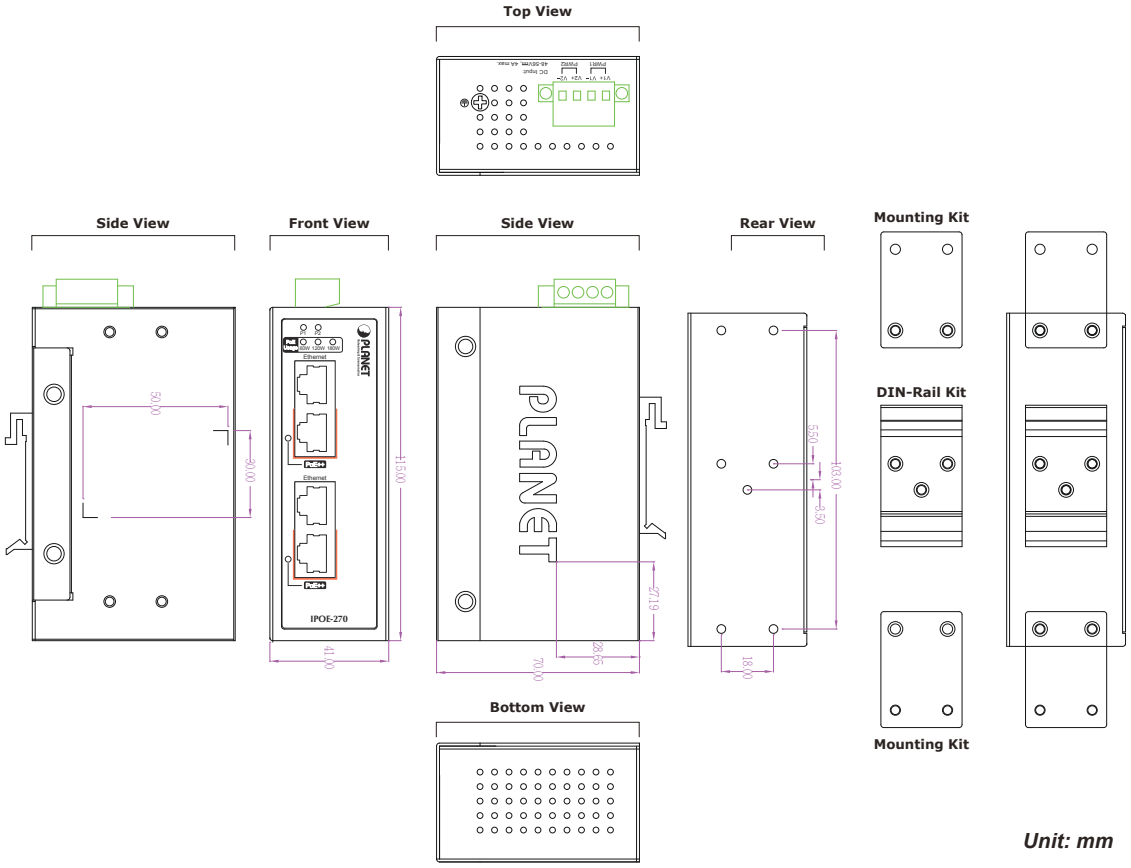
IEEE 802.3bt PoE++ Injector and 802.3at PoE+ Network Extension Installation

Is 100-meter cable long enough for a wide range of IP surveillance deployments? The answer is certainly not. To achieve the benefits of IP surveillance and also the long-distance IP camera distribution, the IPOE-270 series and PLANET IPOE-E302 PoE Extender can be a quick and cost-effective option. In the simplest application, the PoE Extender enables a PoE IP camera to be installed up to 200 meters away from the IPOE-270 series. The IPOE-270 series delivers PoE power over the first 100 meters to the PoE Extender over UTP cables, and then the PoE Extender forwards the Ethernet data and remaining PoE power to the remote PoE IP cameras.



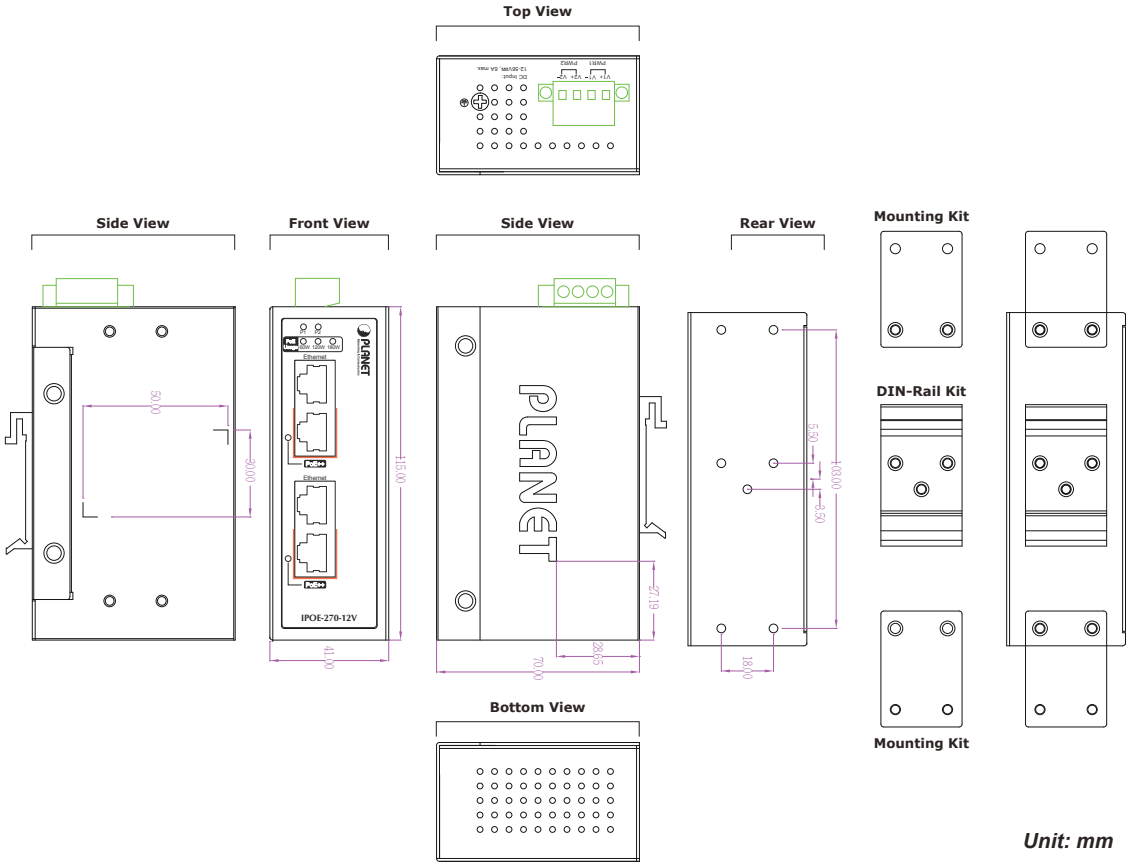
Drawing

■ IPOE-270



Unit: mm

■ IPOE-270-12V



Unit: mm

Specifications

Model	IPOE-270	IPOE-270-12V
Hardware Specifications		
Copper Ports	2-pair 10/100/1G/2.5G/5GBASE-T RJ45 : ■ Data input port 1 and PoE output port 1 ■ Data input port 2 and PoE output port 2	
Connector	Removable 4-pin terminal block Pins 1 and 2 for Power 1; Pins 3 and 4 for Power 2	
LED Indicator	System: Power 1 (**Green**) Power 2 (**Green**) PoE Usage: 60W/120W/180W (**Amber**) 802.3bt PoE++ Port: PoE-in-use x 1 (**Green**: bt, **Amber**: at)	
Network Cable	Twisted-pair cable up to 100 meters (328ft) 10BASE-T: 4-pair UTP Cat. 3, 4, 5, 5e, 6 100BASE-TX: 4-pair UTP Cat. 5, 5e, 6 1000BASE-T: 4-pair UTP Cat. 5e, 6 2.5G/5GBASE-T: 4-pair UTP Cat.6, 6A,7	
Data Rate	10/100/1000/2500/5000Mbps	
Power Requirements	**48~56V DC**, redundant power with reverse polarity protection	**12~56V DC**, redundant power with reverse polarity protection
Power Consumption (Ethernet Full Loading)	**System ON without loading** 48V DC: 1.4 watts/4.7BTU 52V DC: 1.5 watts/5.1BTU 54V DC: 1.6 watts/5.4BTU 56V DC: 1.6 watts/5.4BTU **Full loading with PoE** 48V DC (120W PoE budget): 128 watts/436BTU 52V DC (180W PoE budget): 177 watts/603BTU 54V DC (180W PoE budget): 187 watts/638BTU 56V DC (180W PoE budget): 185 watts/631BTU	**System ON without loading** 12V DC: 1.8 watts/6.1BTU 24V DC: 2.4 watts/8.1BTU 48V DC: 2.4 watts/8.1BTU 52V DC: 2.6 watts/8.8BTU 54V DC: 2.1 watts/7.1BTU 56V DC: 2.2 watts/7.5BTU **Full loading with PoE** 12V DC (60W PoE budget): 60 watts/204BTU 24V DC (120W PoE budget): 124 watts/423BTU 48V DC (120W PoE budget): 120 watts/409BTU 52V DC (180W PoE budget): 188 watts/641BTU 54V DC (180W PoE budget): 188 watts/641BTU 56V DC (180W PoE budget): 184 watts/627BTU
Dimensions	41 x 70 x 115 mm (W x D x H)	
Weight	284g	387g
Enclosure	IP30 metal case	
Installation	DIN-rail kit and wall-mount kit	
ESD Protection	6KV	
Surge Protection	6KV	
Power over Ethernet		
PoE Standard	IEEE 802.3bt PoE++, 4-pair PSE Compatible with IEEE 802.3at PoE+ PSE	
PoE Power Supply Type	End-span + Mid-span	
Power Pin Assignment	End-span: 1/2 (-), 3/6 (+); Mid-span: 4/5 (+), 7/8 (-)	
PoE Power Budget (max.)	120W@48V DC input 180W@52V/54V/56V DC input	60W@12V DC input 120W@24V/48V DC input 180W@52V/54V/56V DC input
Number of devices that can be powered	2	
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 802.3ab Gigabit Ethernet IEEE 802.3bz 2.5G/5GBASE-T IEEE 802.3at Power over Ethernet Plus IEEE 802.3bt Power over Ethernet Plus Plus
Environment	
Temperature	Operating: -40~75 degrees C Storage: -40~75 degrees C
Humidity	Operating: 5~90% (non-condensing) Storage: 5~90% (non-condensing)

Ordering Information

IPOE-270	Industrial 2-port Multi-Gigabit 802.3bt PoE++ Injector Hub (-40~75 degrees C)
IPOE-270-12V	Industrial 2-port Multi-Gigabit 802.3bt PoE++ Injector Hub w/12V Booster (-40~75 degrees C, 12~56VDC)

Related PoE Products

IGS-6325-8UP2S2X	Industrial L3 8-Port 10/100/1000T 802.3bt PoE + 2-Port 100/1000X SFP + 2-Port 10G SFP+ Managed Ethernet Switch
IGS-6325-8UP2S	Industrial L3 8-Port 10/100/1000T 802.3bt PoE + 2-Port 100/1000X SFP + Managed Ethernet Switch
IGS-5225-4UP1T2S	Industrial L2+ 4-Port 10/100/1000T 802.3bt PoE + 1-Port 10/100/1000T + 2-Port 100/1000X SFP Managed Switch
IPOE-171-95W	Industrial Single-Port 10/100/1000Mbps 802.3bt PoE++ Injector (95 Watts, -40~75 degrees C, 12~48V DC)
IPOE-171-60W	Industrial Single-Port 10/100/1000Mbps 802.3bt PoE++ Injector (60 Watts, -40~75 degrees C)
IGUP-1205AT	Industrial 2-Port 100/1000X SFP to 1-Port 10/100/1000T 802.3bt PoE++ Media Converter
IGUP-2205AT	Industrial 2-Port 100/1000X SFP to 2-Port 10/100/1000T 802.3bt PoE++ Media Converter
IGUP-805AT	Industrial 1-Port 100/1000X SFP to 1-Port 10/100/1000T 802.3bt PoE++ Media Converter
IGS-5225-8P2T2S	L2+ Industrial 8-Port 10/100/1000T 802.3at PoE + 2-Port 10/100/1000T+ 2-Port 100/1000X SFP Managed Ethernet Switch
IGS-4215-8P2T2S	Industrial 8-Port 10/100/1000T 802.3at PoE + 2-Port 10/100/1000T + 2-Port 100/1000X SFP Managed Switch
IPOE-260 Series	Industrial 2-port 10/100/1000T 802.3at PoE+ Injector Hub
IPOE-E172	Industrial 1-Port Ultra PoE to 2-Port 802.3bt/at Gigabit PoE Extender
IPOE-E174	Industrial 1-Port Ultra PoE to 4-Port 802.3af/at Gigabit PoE Extender
IPOE-E302	Industrial 1-Port 802.3bt PoE++ to 2-Port 802.3at Gigabit PoE Extender
IPOE-162S	Industrial IEEE 802.3at Gigabit High Power over Ethernet Splitter
IPOE-173S	Industrial Single-Port 10/100/1000Mbps 802.3bt PoE++ Splitter
UPOE-800G	8-Port Gigabit 802.3bt PoE++ Managed Injector Hub (400 watts)
UPOE-1600G	16-Port Gigabit 802.3bt PoE++ Managed Injector Hub (600 watts)
UPOE-2400G	24-Port Gigabit 802.3bt PoE++ Managed Injector Hub (800 watts)

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