Industrial Single-Port Multi-Gigabit 802.3bt PoE++ Injector

Advanced Industrial Multi-Gigabit and 802.3bt PoE++ Network Solution

PLANET IPOE-171-60W and IPOE-171-95W are **Single-Port Industrial 802.3bt Power over Ethernet Injectors** with a maximum of up to **60 watts and 95 watts** of power output over Ethernet cables, respectively. They are equipped with two **100M/1G/2.5G/5GBASE-T** RJ45 copper ports that can handle extremely large amounts of data transmission.

They are designed specifically to meet the demand for growing higher power required network equipment such as:

- ■ Lighting
- ■ All-in-one touch PC
- ■ Remote digital signage display
- ■ Other network devices that need higher power to work normally

Interface

- 2 Multi-Gigabit RJ45 interfaces
  - – 1-port **Data + Power output**
  - – 1-port **Data input**
- IPOE-171-60W is equipped with 1 terminal block for master and slave power input. (Power Range: 48 ~ 54V DC redundant power)
- IPOE-171-95W is equipped with 1 terminal block for master and slave power input. (Power Range: 12 ~ 54V DC redundant power)
- 1 PoE mode (standard/legacy and force) DIP switch

Power over Ethernet

- Complies with IEEE 802.3at/bt PoE end-span/mid-span PSE
- IPOE-171-60W supports PoE power up to 60 watts for PoE port
- IPOE-171-95W supports PoE power up to 95 watts for PoE port
- Auto-detection of PoE IEEE 802.3at/bt equipment and devices from being damaged by incorrect installation
- Monitors the status of the total PoE usage in real time
- Remote power feeding up to 100m

Hardware

- IP30 slim type metal case
- LED indicators for Power LED, PoE-in-Use LED and PoE Usage LED
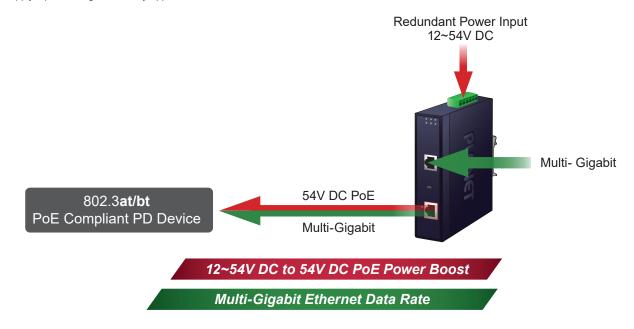
Industrial Case and Installation

- Solid wall mount or DIN-rail mount installation
- Supports 6KV DC Ethernet ESD protection
- -40 to 75 degrees C operating temperature

The IPOE-171-60W delivers the Ethernet digital data with DC power over the twisted-pair cables as a 60-watt Power over Ethernet Injector while the IPOE-171-95W delivers the Ethernet digital data with 54V DC power over the twisted-pair cables as a 95-watt Power over Ethernet Injector. PLANET IPOE-173S **802.3bt PoE++ splitter** connected the injector splits the digital data and the power into three optional outputs (12V/24/54V DC) with distance up to 100 meters.
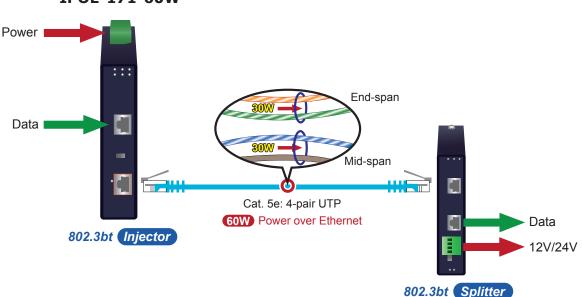
Convenient and Reliable Power System

To facilitate the 802.3bt PoE++ usage with commonly used 12~54V DC power input for transportation and industrial-level applications, the IPOE-171-95W adopts 12~54V DC to 54V power boost technology to solve power source issue but does not require special power supplies. The IPOE-171-95W provides an integrated power solution with a wide range of voltages (12~54V DC) for worldwide operability. It also provides dual-redundant, reversible polarity 12~54V DC power supply inputs for high availability applications.
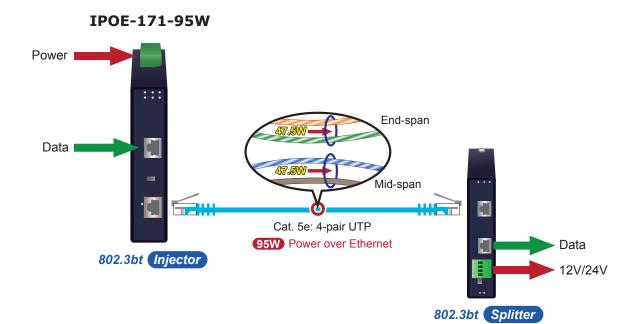

60 watts/95 watts of Power over 4-pair UTP

Instead of delivering power over 2-pair twisted UTP – be it end-span (Pins 1, 2, 3 and 6) or mid-span (Pins 4, 5, 7 and 8), the IPOE-171 series provides the capability to source up to 60 watts/95 watts of power by using all the four pairs of standard Cat. 5e/6 Ethernet cabling.

IPOE-171-95W

Power

Data

End-span

47.5W

47.5W

Mid-span

Cat. 5e: 4-pair UTP

95W Power over Ethernet

802.3bt **Injector**

Data

12V/24V

802.3bt **Splitter**

PoE Standard	IEEE 802.3af (802.3at Type 1)	IEEE 802.3at (802.3at Type 2)	IEEE 802.3bt (802.3bt Type 3)	IEEE 802.3bt (802.3bt Type 4)
Maximum Power delivered by PSE	15.4 watts	30 watts	**60 watts**	**95 watts**
Power Available at PD	12.95 watts	25.5 watts	**51 watts**	**71 watts**
Voltage Range	48V	50~57V	**52~57V**	**52~57V**
Twisted-pair Used	2-pair		**4-pair**	**4-pair**
Supported Modes	End-span or Mid-span		**End-span + Mid-span**	**End-span + Mid-span**
Supported Cabling	Cat. 3/5/5e/6/6A		**Cat. 5e/6/6A**	**Cat. 5e/6/6A**

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

The IPOE-171 series helps users to monitor the current status of power input and PoE power usage easily and efficiently via its advanced LED indication. "Power Input" allows user to know the status of power input. "PoE Power Usage" displayed on the panel of the IPOE-171 series has three LED indicators of different power usages. Via the power usage LED, the IPOE-171 series enables the administrator to monitor the status of the power usage of the connected PDs in real time.

Power Input and PoE Power Usage Display
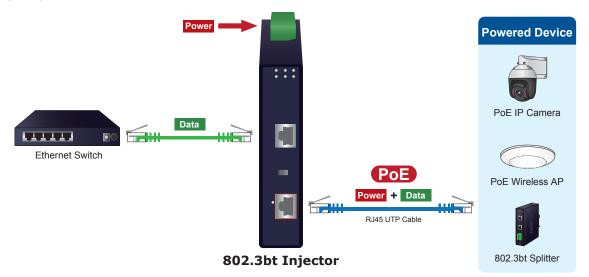
High Compatibility and Compact Size Design

It is easy to install the PoE injector by way of **Plug and Play** and comes with simple troubleshooting, making it easy for business and home users to own it. Besides, the IPOE-171 series comes in compact housing, and provides two DC redundant power inputs, two power LEDs, alarm LED and PoE-in-Use LED. Two RJ45 ports -- Ethernet port and Ethernet + DC port – are on the front panel.

Moreover, the IPOE-171 series, when switched to the Legacy mode and Force mode, provides power to those PD devices which do not fully follow the IEEE 802.3at/bt standard. It is helpful to enhance the compatibility of IPOE-171 series with other PDs.

Simply plug in the Ethernet cables and DC power wire, and the IPOE-171 series is ready to provide high-speed network communication and the 802.3bt PoE injector functions simultaneously with no need of software configuration.
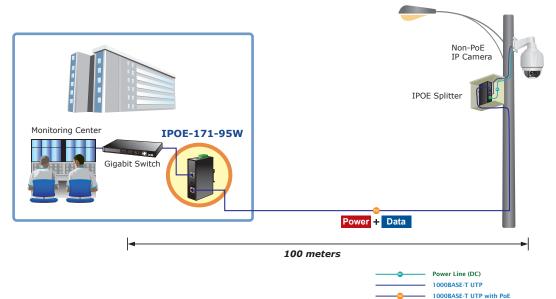
Quick and Easy Cabling Installation for PoE Network Deployment

Backward compatible with both 802.3at PoE standards, the IPOE-171 series allows users to flexibly deploy standard and high powered devices to transfer data and power simultaneously through one Ethernet cable for up to 100 meters. The IPOE-171 series frees the security IP camera and wireless AP deployment from restrictions of power outlet locations and the additional AC wiring. It thus reduces cables and eliminates the need for electrical outlets on the wall, ceiling or any unreachable place, and most of all, it reduces installation time.

802.3bt Injector

Stable Operating Performance under Difficult Environments

Today, the PoE demand expands from commercial applications to many critical networks in the harsh environment. The IPOE-171 series will be one of the ideal solutions that provide 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-171 series can operate 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-171 series is also equipped with a compact IP30 standard metal case that allows either DIN-rail or wall mounting for efficient use of cabinet space.
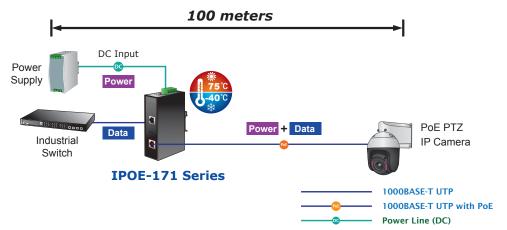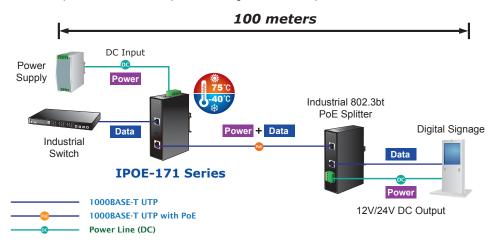
Applications

Installation of 802.3bt PoE Injector

Due to the backward capability of IEEE 802.3at PoE standard, the IPOE-171 series can directly connect with any IEEE 802.3at end-nodes, such as PTZ (pan, tilt & zoom) speed dome IP cameras, color touch-screen Voice over IP (VoIP) telephones, and multi-channel wireless LAN access points.
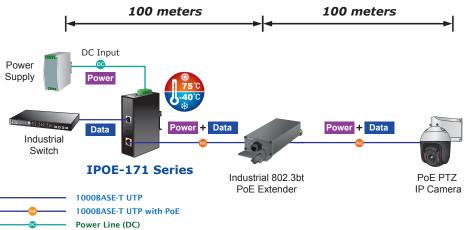

Installation of 802.3bt PoE Injector and Splitter

For a place which is hard to find the power inlet, the IPOE-171 series and IPOE-173S operate as a pair to provide the easiest way to power your Ethernet devices which need high power input, such as PTZ network cameras, PTZ speed dome cameras, color touch-screen Voice over IP (VoIP) telephones, and multi-channel wireless LAN access points installed on the top of the building or used in enterprise office or home.

Extended Installation of IEEE 802.3bt Injector and PoE Network

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-171 series and PLANET PoE Extender, IPOE-E302, 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-171 series. The IPOE-171 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.

Specifications

Product	IPOE-171-60W	IPOE-171-95W
Hardware Specifications		
Interface — Input Port	1 x RJ45 STP Data In	
Interface — Output Port	1 x RJ45 STP PoE (Data + Power) Out	
Interface — Input power terminal block	1	
Data Rate	10M/100M/1G/2.5G/5Gbps	
DIP Switch	Standard (802.3bt PoE++ mode)/Legacy Mode	
Alarm	Provides one relay output for power failure Alarm Relay current carry ability: 1A @ DC 24V	
Enclosure	IP30 slim type metal case	
Dimensions (W x D x H)	135 x 87.8 x 32 mm	
Weight	406g	443g
Power Requirements	DC 48~54V, 2A max.	DC 12~54V, 6A max.
Unit Output Voltage	DC 45~53V	DC 54V
Power Consumption	75 watts max.	120 watts max.
No. of devices that can be powered	1	
ESD Protection	6KV DC	
Installation	DIN-rail kit or wall-mount ear	
LED Indicators	System: Power 1 (Green), Power 2 (Green), Alarm (Red) PoE Port: PoE-in-Use x 1 (Amber) PoE Usage: PoE Usage x 3 (Amber)	
Network Cable	Twisted-pair cable up to 100 meters (328ft) 10BASE-T: 4-pair UTP Cat. 3, 4, 5, 5e, 6, 6A 100BASE-TX: 4-pair UTP Cat. 5, 5e, 6, 6A 1G/2.5G: 4-pair UTP Cat. 5e, 6, 6A 5G: 4-pair UTP Cat. 6, 6A	
Power over Ethernet		
PoE Standard	IEEE 802.3at/bt PSE	IEEE 802.3at/bt PSE
PoE Power Output Budget	DC 50~53V / 60-watt PoE via 4-pair DC 45~53V / 30-watt PoE via 2-pair	DC 54V / 95-watt PoE via 4-pair DC 54V / 36-watt PoE via 2-pair

PoE Power Output	Max. 60W@1 m cable
	Max. 51W@100m cable
		DC 24V~54V input:
		  Max. 89.5W@1m cable
		  Max. 75W@100m cable
		DC 12V input:
		  Max. 60W@1m cable
		  Max. 52W@100m cable

PoE Power Supply Type	End-span + Mid-span	End-span + Mid-span
Power Pin Assignment	Pair 1 End-span: 1/2 (-), 3/6 (+) Pair 2 Mid-span: 4/5 (+), 7/8 (-)	Pair 1 End-span: 1/2 (-), 3/6 (+) Pair 2 Mid-span: 4/5 (+), 7/8 (-)
PoE Mode	Standard mode Legacy and Force mode	Standard mode Legacy and Force mode
Standards Conformance		
Standards Compliance	IEEE 802.3 10BASE-T Ethernet IEEE 802.3u 100BASE-TX Fast Ethernet IEEE 802.3ab 1000BASE-T Gigabit Ethernet IEEE 802.3bz 2.5G/5GBASE-T IEEE 802.3bt 4-pair Power over Ethernet Plus Plus IEEE 802.3at Power over Ethernet Plus	
Regulatory Compliance	FCC Part 15 Class A, CE	
Environment		
Operating Temperature	-40 ~ 75 degrees C	
Storage Temperature	-40 ~ 85 degrees C	
Operating Humidity	5 ~ 90%, relative humidity, non-condensing	
Storage Humidity	5 ~ 90%, relative humidity, non-condensing	
Standard Accessories		
Package Contents	● IPOE-171-60W or IPOE-171-95W ● User's manual ● Wall-mount kit Dust cap	

Ordering Information

IPOE-171-60W	Industrial Single-Port Multi-Gigabit 802.3bt PoE++ Injector (60 Watts, -40~75 degrees C, 48~54VDC)
IPOE-171-95W	Industrial Single-Port Multi-Gigabit 802.3bt PoE++ Injector (95 watts, -40~75 degrees C, 12~54V DC)

Related Products

IPOE-270	Industrial 2-port Multi-Gigabit 802.3bt PoE++ Injector Hub
IPOE-270-12V	Industrial 2-port Multi-Gigabit 802.3bt PoE++ Injector Hub (12~54V DC)
IPOE-175	Industrial IP67 1-Port 60W 802.3bt PoE++ Injector (-40~75 degrees C)
POE-171A-60	Single-Port Multi-Gigabit 802.3bt PoE++ Injector (60 Watts)
POE-171A-95	Single-Port Multi-Gigabit 802.3bt PoE++ Injector (95 Watts)
IPOE-E174	1-Port Ultra PoE to 4-Port 802.3af/at Gigabit PoE Extender
IPOE-173S	Industrial Single-Port 10/100/1000Mbps 802.3bt PoE++ Splitter
IPOE-E302	Industrial IP67 1-Port 802.3bt PoE++ to 2-Port 802.3at/bt PoE++ Extender
ICA-E6265	2 Mega-pixel IR PoE Plus Speed Dome IP Camera with Extended Support

**IPOE-171-60W
IPOE-171-95W**

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