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Product Specifications

Industrial IP67 1-Port 60W 802.3bt PoE++ Injector

IPOE-175

Version 1.0

Change History:

Revision	Date	Author	Change List
Version 1.0	2020/05/13	Angeline	Initial release

Author	Angeline Huang	Editor:	
Reviewed by:	Kent Kang	Approved by:	Kent Kang

1. PRODUCT DESCRIPTION

Ideal for Powered Devices that Consume High Power

Planet IPOE-175 Industrial **IP67-rated** Single-port **802.3bt PoE ++** Injector provides a maximum of up to **60 watts** for PoE output port, transmitting both the Gigabit Ethernet data and 802.3bt PoE power over the UTP cable. It is specifically designed for such powered devices (PDs) as PTZ network cameras, PTZ speed dome cameras, multi-channel (11a/b/g/n) wireless LAN access points and other network devices that need a higher power to work stably.

Weather-proof RJ45 Ethernet Connector and Shielded Plug

The IPOE-175 is ideal for installing an extended range of outdoor PoE devices such as outdoor PoE wireless access points, outdoor PoE IP cameras, outdoor PoE IP intercoms and many more. The IPOE-175 is equipped with 3 waterproof cable glands for direct-attach applications. Assembled with waterproof cable gland, it can make the general RJ45 connector weather-proof and provides tight and strong connection. Moreover, it comes with the industrial protection rating of IP67 capable of withstanding humidity, dirt, dust, shock, vibrations, heat and cold.

Environmentally-hardened Design

With industrial-level IP67-rated aluminum case, the IPOE-175 provides a high level of immunity against electromagnetic interference, and is able to protect itself from dust and water ingress and to operate under the temperature range from -40 to 75 degrees C. All these features ensure the highest level of reliability for mission-critical applications in any difficult environment.

Convenient and Reliable Power System

To facilitate the 802.3bt PoE+++ usage with commonly used **24~56V DC** power input for transportation and industrial-level applications, the IPOE-175 adopts 24~56V DC to 55V **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.

Robust Protections

The IPOE-175 provides ±8KV DC for Ethernet ESD protection and ±6KV surge immunity to improve product stability and protects users' networks, making sure the flow of operation does not fluctuate.

Making Network Easier and More Reliable

The IPOE-175 can deliver 60-watt 55V DC power over Cat.5/5e/6 Ethernet cables which allow data and power to transmit simultaneously through the cable between the Injector (IPOE-175) and PoE PD or PoE++ Splitter (IPOE-173S). The maximum distance between the Injector and Splitter is 100 meters. As the IPOE-175 is also backward compatible with IEEE 802.3bt PoE++ PD or PoE Splitter, the system administrator only has to use one single RJ45 Ethernet cable to carry both power and data to another device. It would make the network deployment easier and more reliable.

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2. PRODUCT FEATURES

- ➤ **Physical Port**
  - ■ **Two 10/100/1000BASE-T** Gigabit RJ45 ports
    - − 1-port Data + Power output
    - − 1-port Data input
  - ■ **One 2-pin terminal block** for power input. (Power Range: 24 ~ 56V DC)

- ➤ **Power over Ethernet**
  - ■ 1-port data + power output
    - − Complies with IEEE 802.3bt Power over Ethernet plus plus PSE
    - − Compatible with IEEE 802.3bt PoE++ and IEEE 802.3at PoE+ powered devices
    - − Provides DC 55V power over RJ45 Ethernet cable to device with Ethernet port
    - − Supports total PoE budget up to 60 watts for PoE output port
    - − Auto detects powered device (PD)
    - − Remote power feeding up to 100m

- ➤ **Industrial Case and Installation**
  - ■ IP67-rated aluminum case
  - ■ LED indicators for power LED and PoE-in-use
  - ■ Wall-mount design
  - ■ Supports 6KV DC Ethernet ESD protection
  - ■ -40 to 75 degrees C operating temperature
  - ■ Plug and Play installation

3. PRODUCT SPECIFICATIONS

3.1 MAIN COMPONENTS

PSE Controller:	PD69200C	x 1
PSE Chipset:	PD69208T4	x 1

3.2 FUNCTION SPECIFICATIONS

Product	IPOE-175		
Hardware Specifications			
Interface	**Input Port**	1 x 10/100/1000BASE-T "**Data**" **in** RJ45 port	
	Output Port	1 x 10/100/1000BASE-T Ethernet with IEEE 802.3bt PoE++ "**Data + DC**" **out** RJ45 port	
	Input Power Terminal Block	1 x 2-pin terminal block - Pin 1/2 for Power (Pin 1: V+ / Pin 2: V-)	
Data Rate	10/100/1000Mbps		
LED Indicator	PWR (**Green**) PoE-in-use x 1 (**Amber**)		
Input Voltage	24~56V DC		
Power Consumption	Voltage	System on	Full Load (Max.)
	DC 24V	1.2W	72W
	DC 36V	1.44W	70.56W
	DC 54V	1.71W	65.8W
	DC 56V	2.24W	62.1W
ESD Protection	Air 8KV DC Contact 6KV DC		
Surge Protection	6KV		
Enclosure	IP67-rated and IK10 aluminum metal case		
Installation	Wall-mount ear		
Dimensions (W x D x H)	150 x 43.8 x 72.94 mm 169.85 x 43.8 x 72.94 mm, with cable gland		
Weight	339g 373g (with three waterproof cable glands)		
MTBF	>100,000 hours		
Network Cable	10BASE-T: UTP category 3, 5 cable (≤100m) 100BASE-TX: UTP category 5,5e cable (≤100m) 1000BASE-T: UTP category 5e,6 cable(≤100m)		
Power over Ethernet			
PoE Standard	IEEE 802.3bt PoE++ type 3 PSE Backward compatible with IEEE 802.3at PoE+		
PoE Power Supply Type	802.3bt/PoH (Power over HDBaseT) End-span/Mid-span		

PoE Power Output	55V DC Max. 60 watts to 802.3bt PoE++ PD Max. 60 watts to PoH PD Max. 30 watts to 802.3at PoE+ PD
Power Pin Assignment	802.3bt/PoH: 1/2 (-), 3/6 (+), 4/5 (+), 7/8 (-) End-span: 1/2 (-), 3/6 (+) Mid-span: 4/5 (+), 7/8 (-)
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)
Standard Conformances	IEEE 802.3 10BASE-T Ethernet IEEE 802.3u 100BASE-TX Fast Ethernet IEEE 802.3ab 1000BASE-T Gigabit Ethernet IEEE 802.3af Power over Ethernet IEEE 802.3at Power over Ethernet Plus IEEE 802.3bt Power over Ethernet Plus Plus
Environment	
Operating Temperature	-40 ~ 75 degrees C
Storage Temperature	-40 ~ 85 degrees C
Humidity	5 ~ 95% (non-condensing)

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3.3 PHYSICAL SPECIFICATIONS:

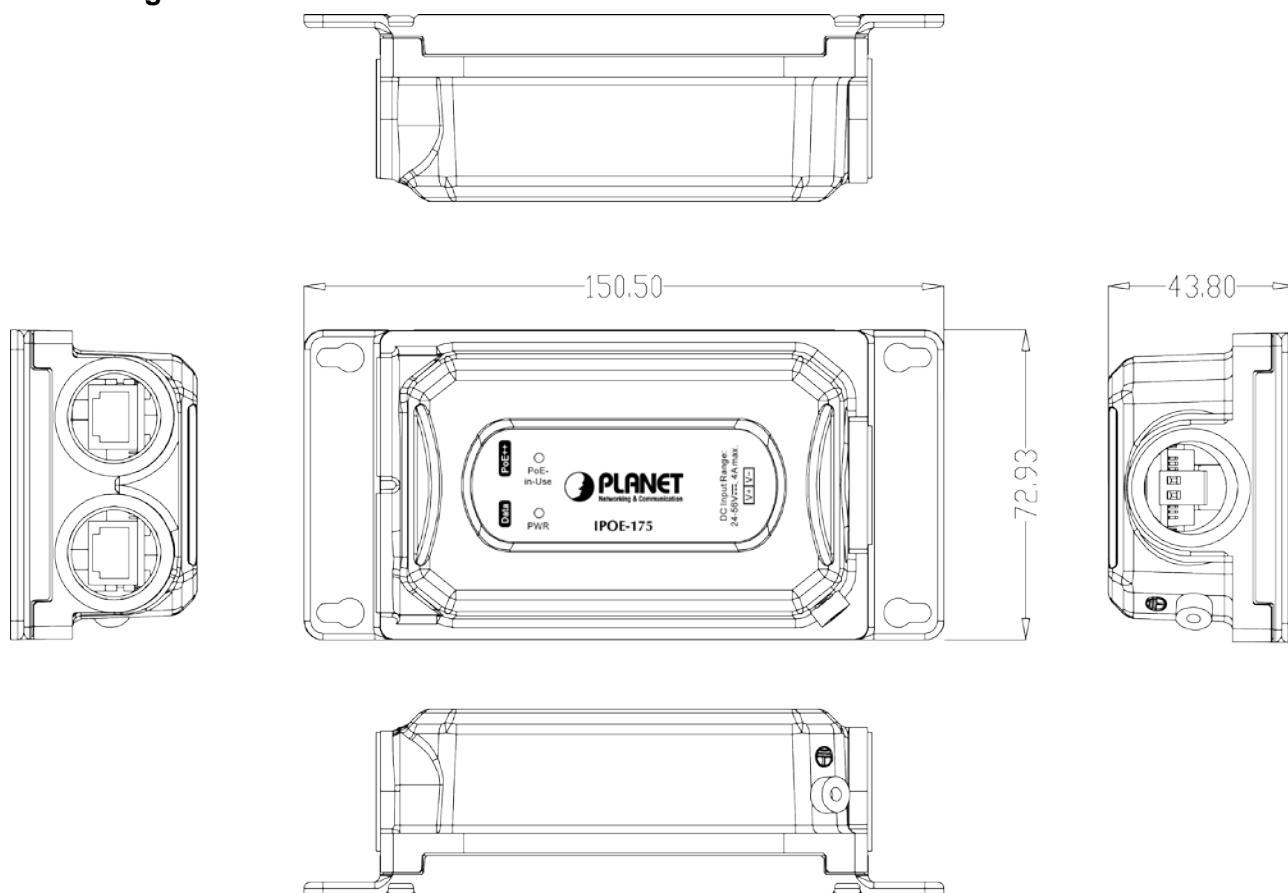### Dimensions (W x D x H):

150 x 43.8 x 72.94 mm

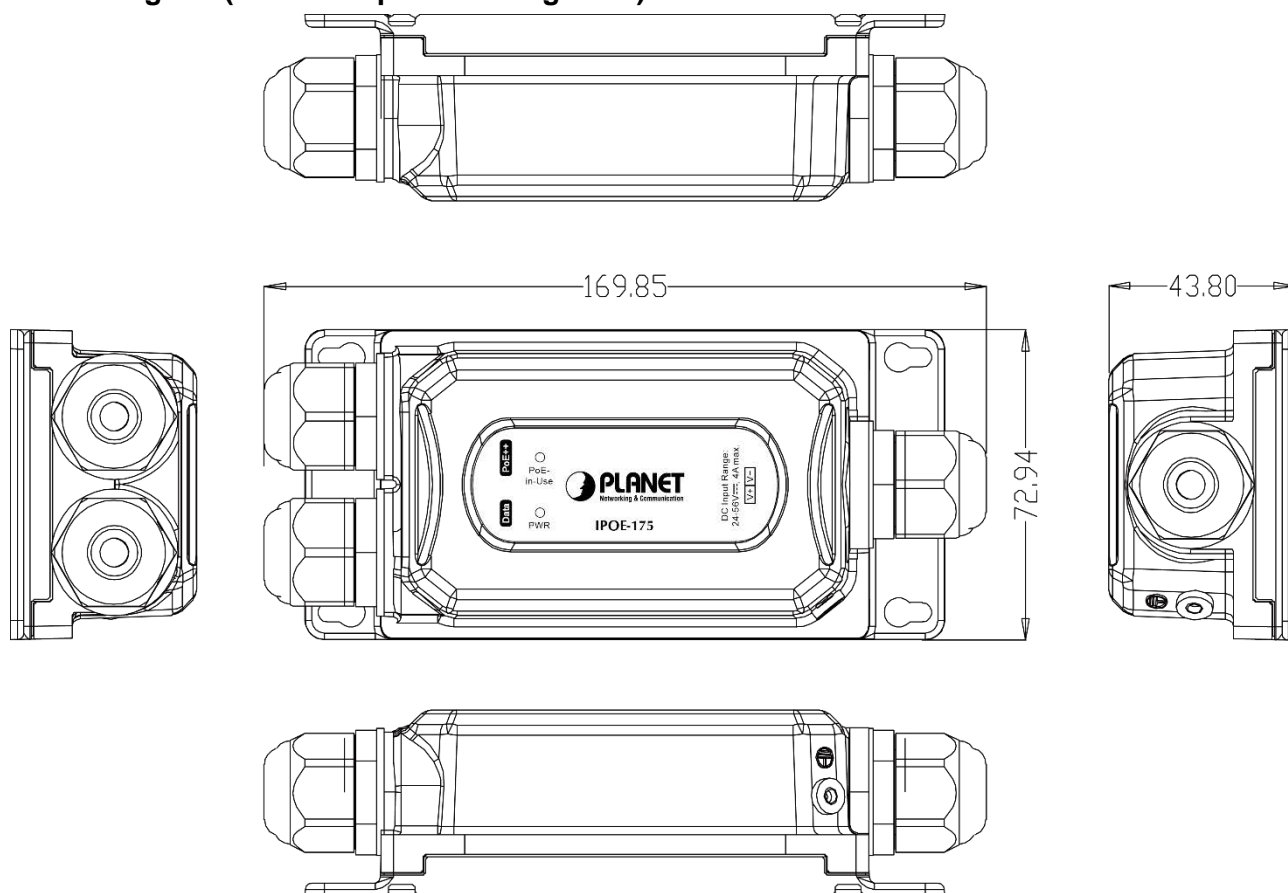169.85 x 43.8 x 72.94 mm with cable gland

Weight:

339g

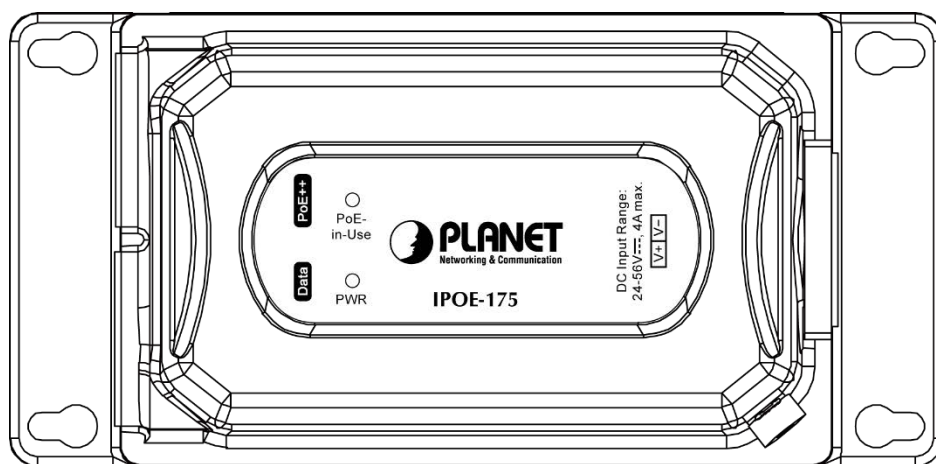373g (with three waterproof cable glands)

Block Diagram:

Unit: mm

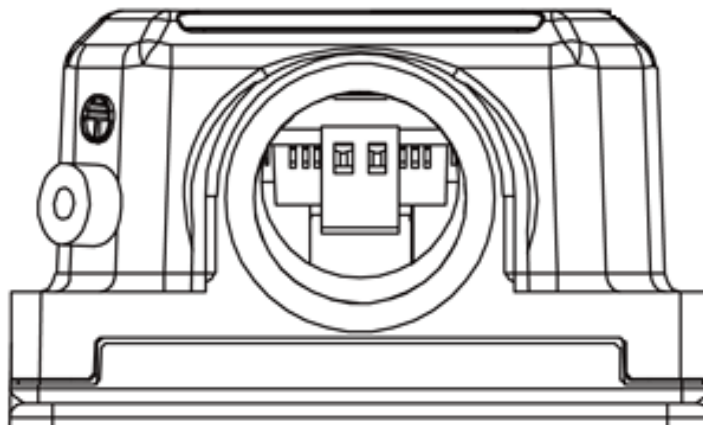**Block Diagram (with waterpfoof cable glands):**

Unit: mm

Top View:

LED Definition:

LED	Color	Function
PWR	**Green**	Indicates it has power.
PoE-in-Use	**Amber**	Indicates the port is providing 55V DC in-line power.

Power Input Port:

1 x Power Input port

Data Input Port and 802.3bt PoE++ Output Port:

1 x IEEE 802.3bt PoE++ Output port

1 x 10/100/1000BASE-T Data Input port

PoE++ Output Port   ➡   ⬅   **Data Input Port**

3.4 ENVIRONMENTAL SPECIFICATIONS

Operating:

Temperature: -40°C ~75 degrees C

Relative Humidity: 5% ~ 95% (non-condensing)

Storage:

Temperature: -40°C ~85 degrees C

Relative Humidity: 5% ~ 95% (non-condensing)

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3.5 ELECTRICAL SPECIFICATIONS

Voltage	System on (No loading)	Ethernet + Power full loading
DC 24V	1.2W	72W
DC 36V	1.44W	70.56W
DC 54V	1.71W	65.8W
DC 56V	2.24W	62.1W

3.6 REGULATORY COMPLIANCE

- FCC Part 15 Class A
- CE
- **Stability Testing:**
  - IEC60068-2-32 (Free Fall)
  - IEC60068-2-27 (Shock)
  - IEC60068-2-6 (Vibration)

3.7 RELIABILITY

MTBF > 100,000Hrs @ 25 degrees C

3.8 BASIC PACKAGING

☑ Industrial Power over Ethernet Extender   x 1

☑ User's Manual   x 1

☑ Waterproof Cable Gland   x 3

☑ Power Cable with 2-pin Terminal Block   x 1

☑ Wall-mounted Kit   x 1

☑ Ground Wire   x 1

3.9 PACKING INFORMATION

Box Dimensions (W x D x H):	240 x 186 x 84 mm
Gross Weight:	1.1 kg
Carton Dimensions (W x D x H):	450 x 264 x 390 mm
Total Weight:	11.5 kg
Quantity:	10pcs per carton