

Industrial IEEE 802.3at Gigabit High Power over Ethernet Splitter

IPOE-162S



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Presentation Outline

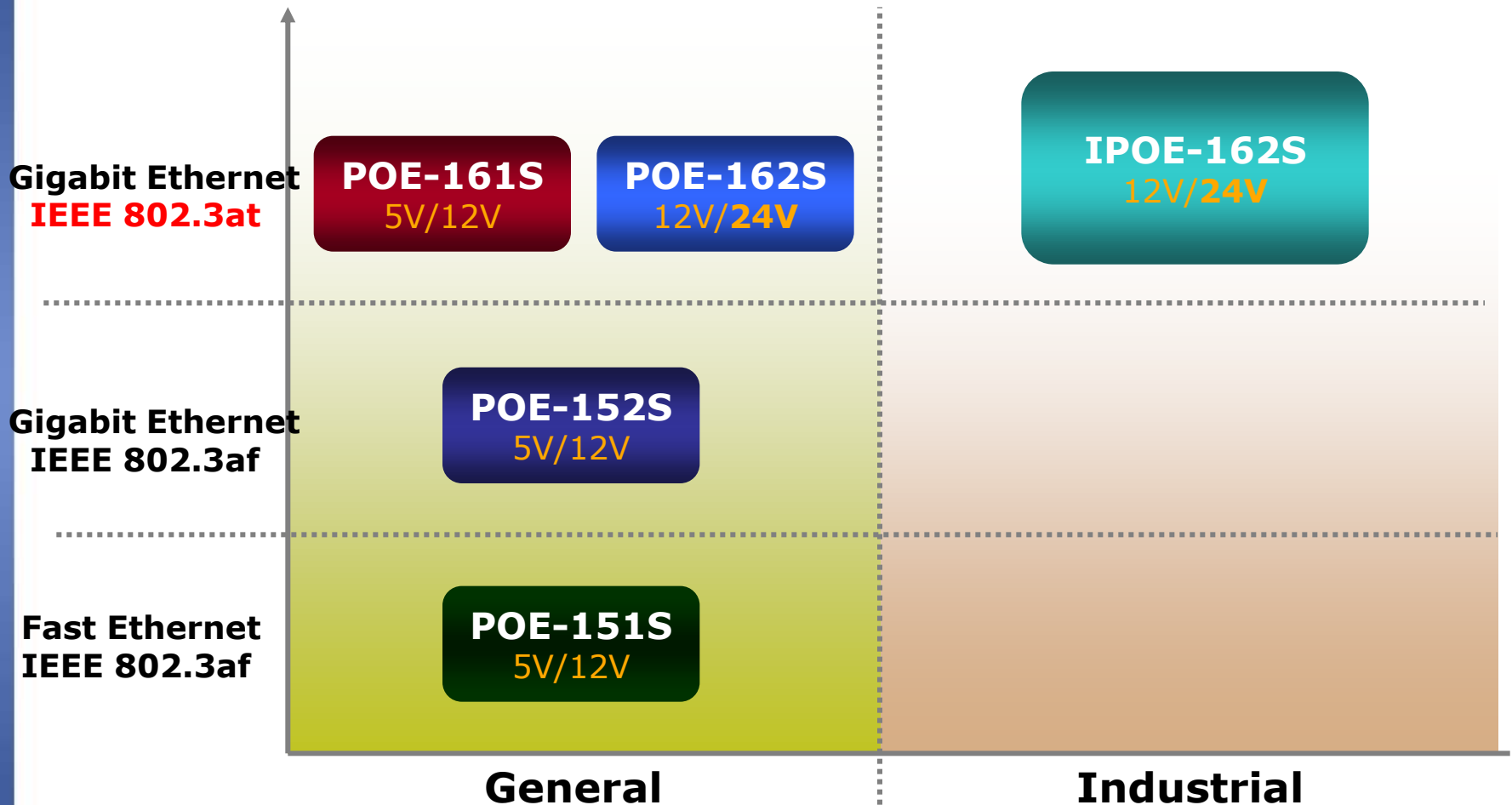
- ◆ **Product Overview**
- ◆ **Product Benefits**
- ◆ **Product Features**
- ◆ **Application**
- ◆ **Comparison**

IPOE-162S



Product Overview

◆ The PLANET PoE Splitter Family



PLANET PoE Splitter Comparison Table

Model	IPOE-162S	POE-162S	POE-161S	POE-152S	POE-151S
RJ-45 Data Input	1				
RJ-45 Data Output	1				
No. of Non-PoE device can be powered	2 or more (Vary on PD Power Requirement)	1			
Data Rate	10/100/1000Mbps				10/100Mbps
PoE Standard	IEEE 802.3af PoE IEEE 802.3at PoE			IEEE 802.3af PoE	
PoE Budget	25 Watts			15.4 Watts	
PoE Output	DIP: 12V / 24V		DIP: 5V / 12V		
Temperature	-40 to 75 °C	0 to 50 °C			

Product Overview

◆ What is PoE (Power over Ethernet) ?

- ✓ **It is based on two core networking technologies:**
 - **IEEE 802.3 / IEEE 802.3u / IEEE 802.3ab standard**
 - **IEEE 802.3at Power over Ethernet standard**
- ✓ This technology based on the global standard IEEE 802.3af and IEEE 802.3at PoE is a technology for wired Ethernet, the most widely installed local area network technology adopted today.
- ✓ PoE allows the electrical power necessary for the operation of each end-device to be carried by data cables rather than by separate power cords.
- ✓ New network applications, such as IP Cameras, VoIP Phones, and Wireless Networking, can help enterprises improve productivity.
- ✓ It minimizes wires that must be used to install the network for offering lower cost, and less power failures.

Product Overview – POE-162S

◆ Outlook of IPOE-162S

✓ 1 LED for PoE Indicator

- 48 to 56V DC In-line power output

✓ PoE In

- 1 TP port 10/100/1000Mbps (Data + PoE In)

✓ Data Out

- 1 TP port 10/100/1000Mbps (Data In/Out)

✓ Power Output

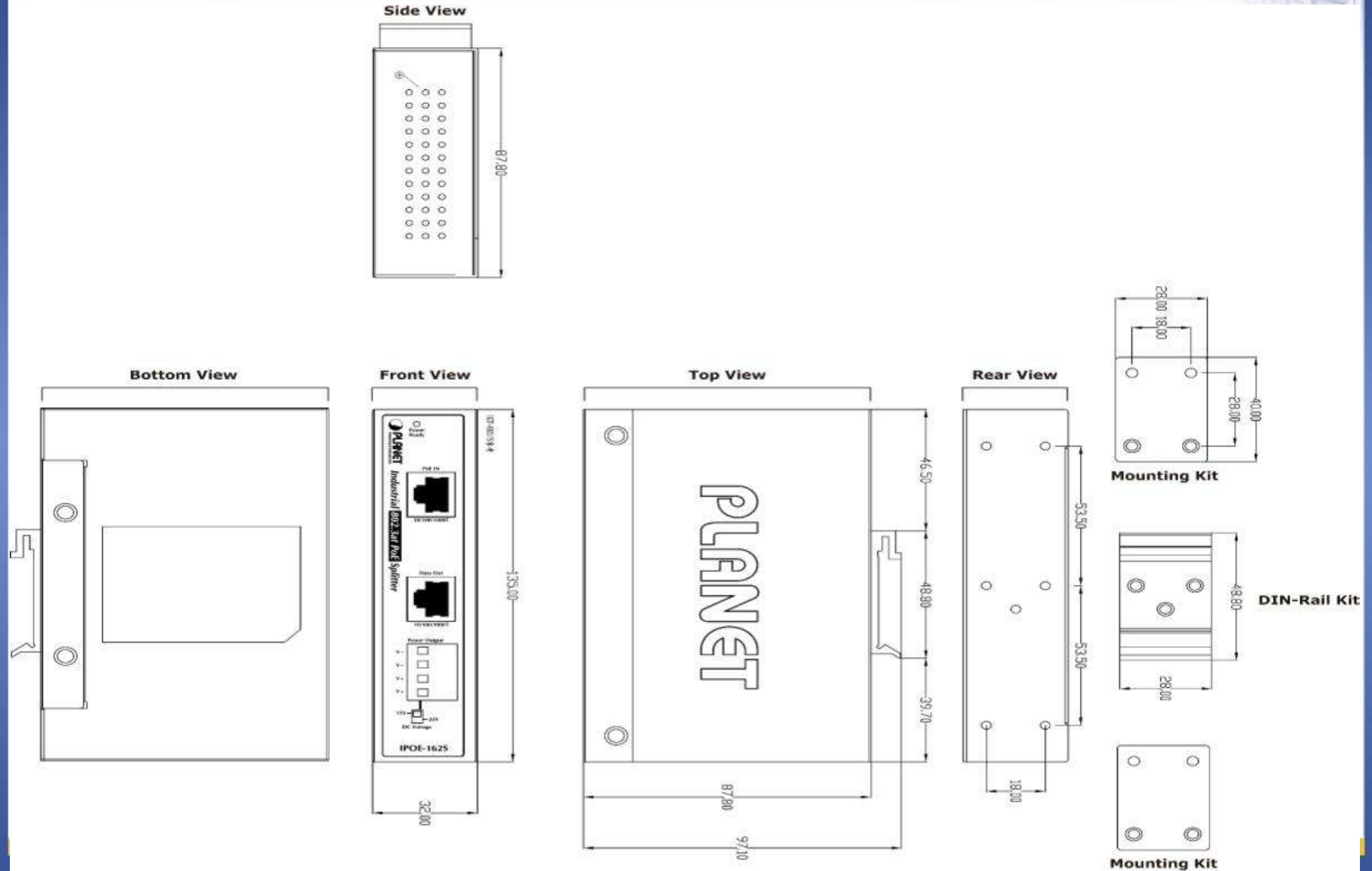
- 1 4-Pin Terminal Block for 2 sets of DC Power Output

✓ Power Voltage Switch

- 1 DIP switch for 12V/24V DC voltage output option

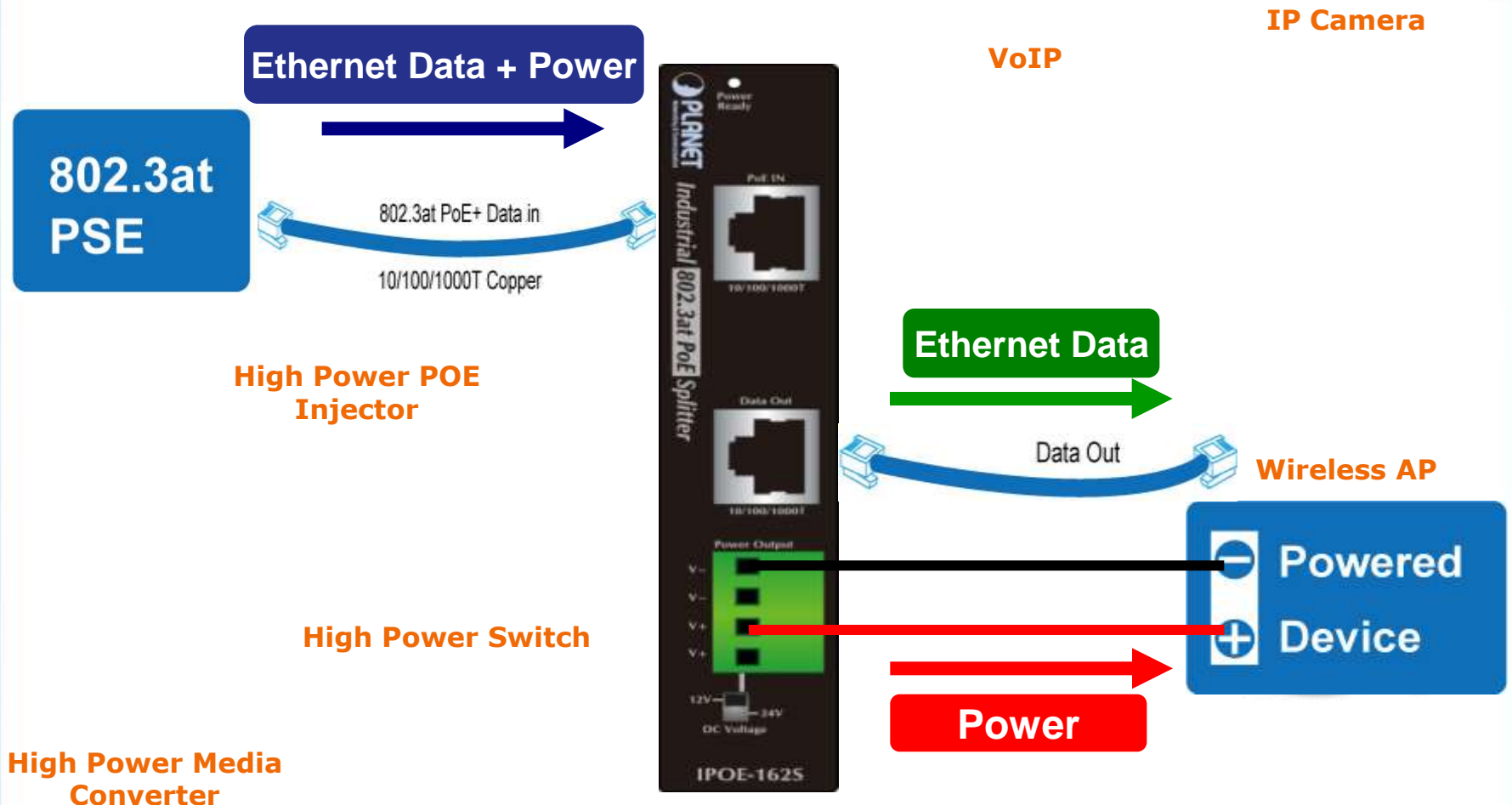


Product Overview – Three View Drawing



Product Overview

◆ How does IPOE-162S PoE Splitter work ?



Product Benefits

- ◆ **Industrial Gigabit High Power over Ethernet PD Solution**
 - ✓ **Auto-detect of PoE IEEE 802.3at standard** equipment, protect devices from being damaged by incorrect installation
 - ✓ **12V, 2A/ 24V, 1A output voltage options** to fit various devices
 - ✓ Compatible with **IEEE 802.3af** PoE injector equipment.

- ◆ **Implements with Existing Cat 5/5e/6 Copper Wires**

- ◆ **Lead Power over Ethernet Device into High Power over Ethernet Generation**

- ◆ **Easy Installation**
 - ✓ Without software configure
 - ✓ Plug and Play

Product Features

◆ Hardware

- ✓ **Passive** 10/100/1000Mbps on Ethernet port
- ✓ **IEEE 802.3at** Power over Ethernet **standard**
- ✓ Splits the **56V DC** power over RJ-45 Ethernet cable into DC **12V/24V** output
- ✓ LED indicators **DC 48 to 56V in-line** power input indication
- ✓ Distance up to **100 meters**
- ✓ **IP30 Metal Case / Wall mountable / 12V & 24V DC** DIP switch
- ✓ Works with EIA568, category 5/5e/6, 2/4-pair cables for 10Base-T, 100Base-TX and 1000Base-T

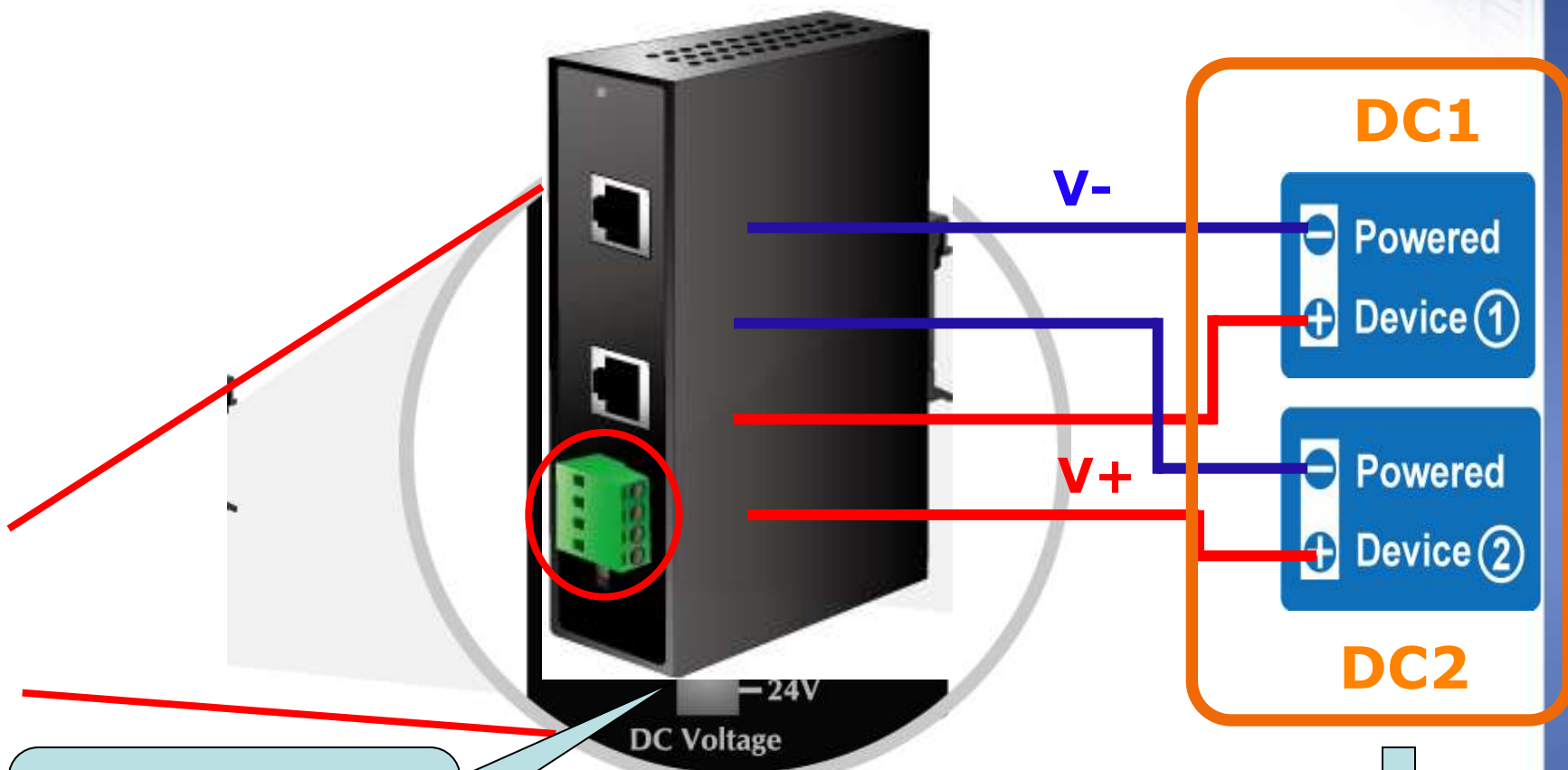
Product Features

◆ Industrial Conformance

- ✓ **DIP 12 or 24V DC Power Output**
- ✓ **-40 to 75** Degree C operation temperature
- ✓ **IP30 metal case**
- ✓ Stability testing with
 - IEC60068-2-32 (Free fall)
 - IEC60068-2-27 (Shock)
 - IEC60068-2-6 (Vibration)



4-Pin Terminal Block & DC Voltage DIP Definition

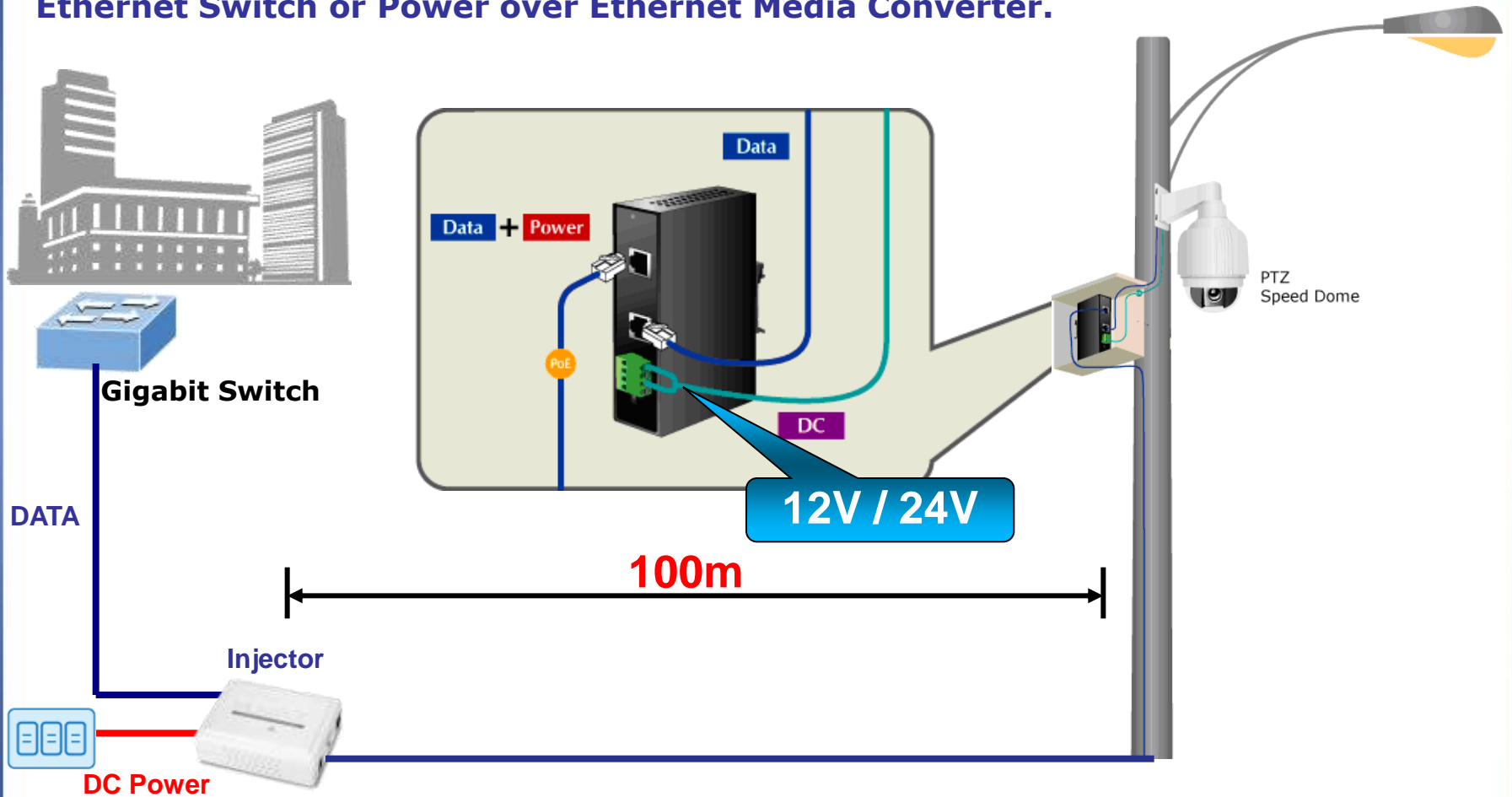


Check and Select the output voltage - > **12V** or **24V**

DC1 + DC2 is sharing Power Output 25Watts

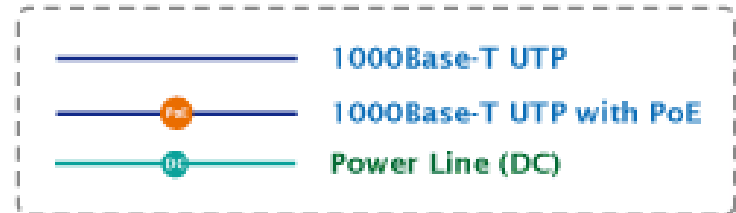
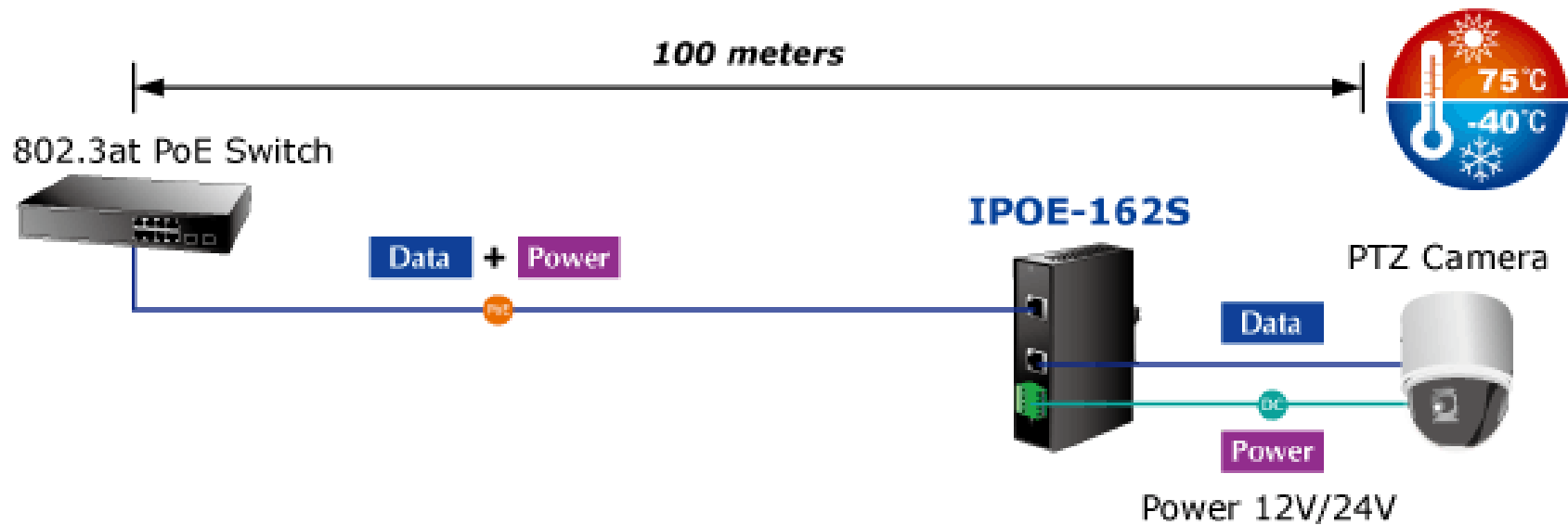
Application(1) - Injector

The **IPOE-162S** can connect with an IEEE 802.3at in-line power device like Power over Ethernet Injector, Power over Ethernet Switch or Power over Ethernet Media Converter.



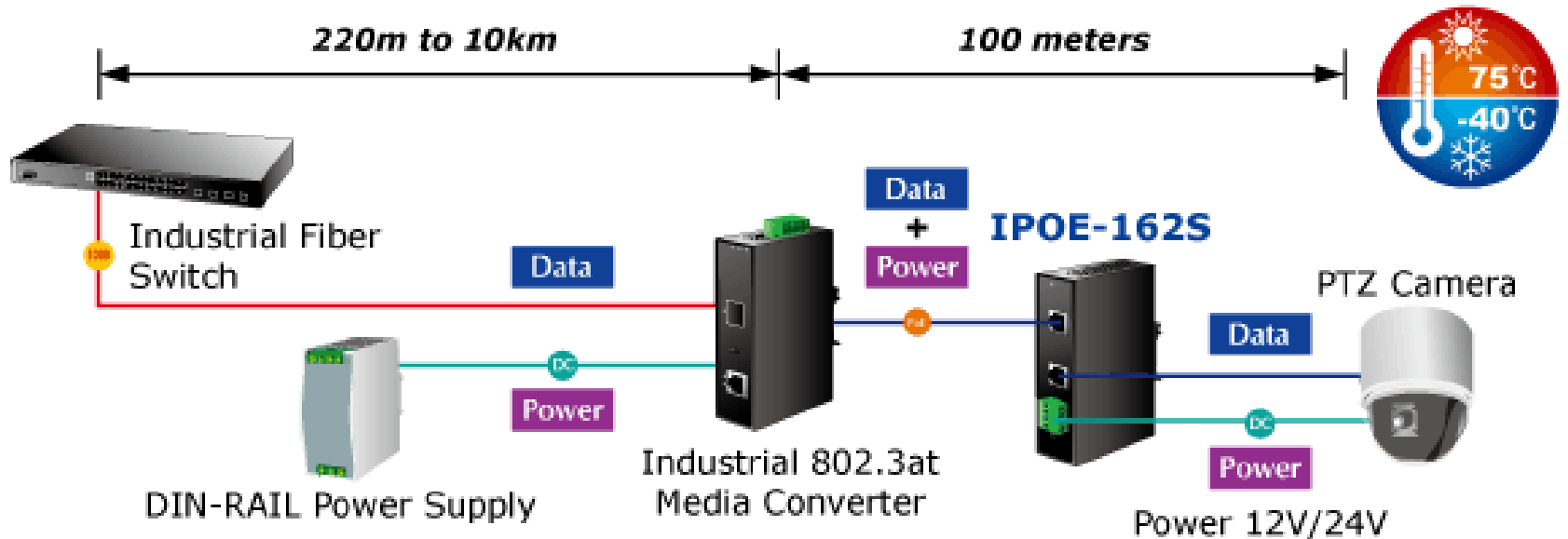
Application(2) - Switch




802.3at PoE Switch + IPOE-162S



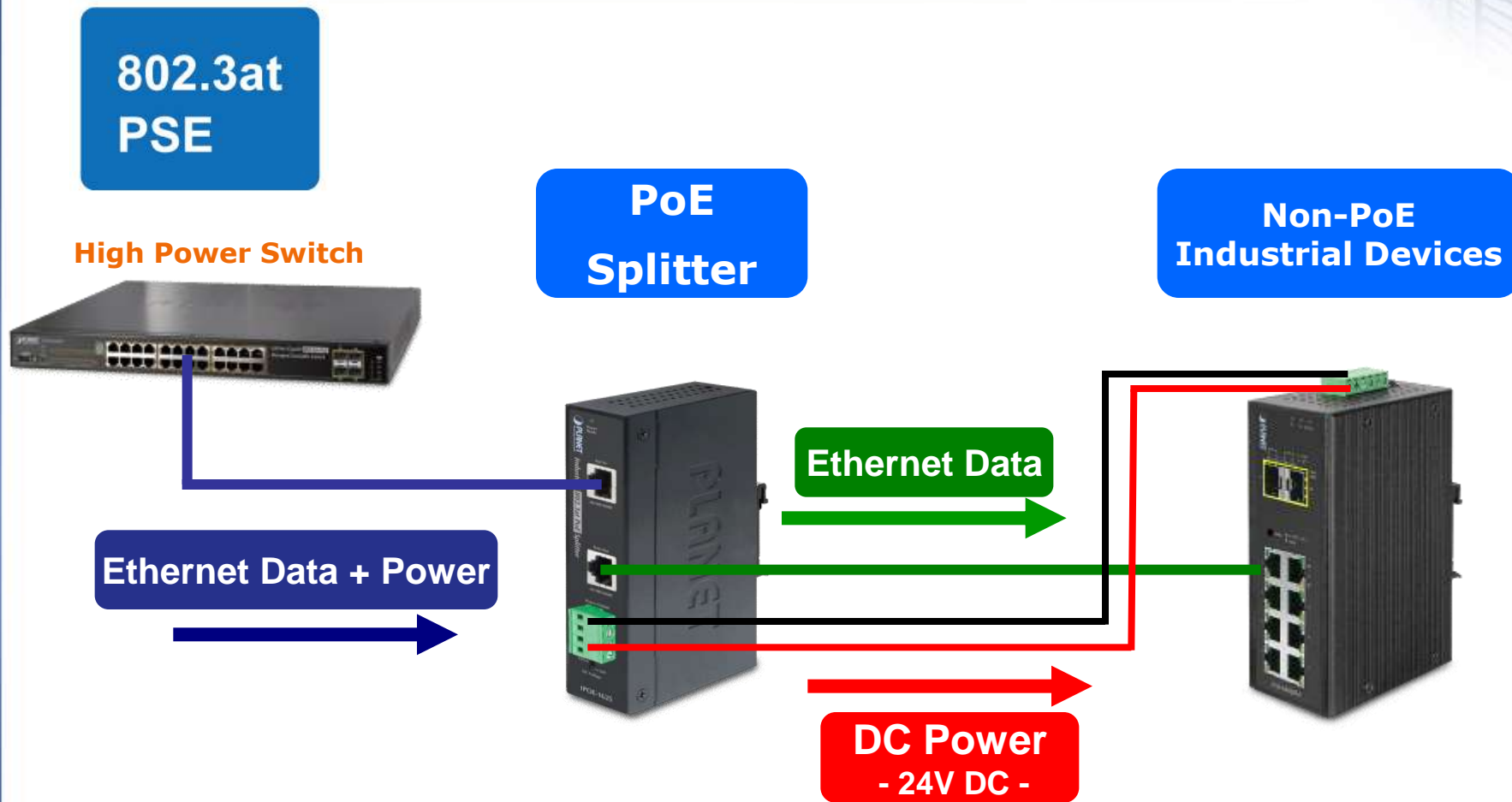
Application(3) – Media Converter

802.3at PoE Media Converter + IPOE-162S





-  1000Base-SX/LX Fiber-optic
-  1000Base-T UTP
-  1000Base-T UTP with PoE
-  Power Line (DC)

Application(4) – IPOE-162 to Industrial Device



Product Comparison

Brand	PLANET	N-Tron	MOXA	Advantech	Sixnet
Model Name	IPOE-162S	100-POE-SPL-12 100-POE-SPL-24	SPL-24	EKI-2701PSI	EB-PD-UPS-1
Product outlook					
Hardware Specification					
Enclosure	IP30 Metal Case	Metal Case	IP30 Metal Case	IP30 Metal Case	IP30 Metal Case
Mounting	DIN Rail Wall mounting	DIN Rail	DIN Rail	DIN Rail Wall mounting	DIN Rail Wall mounting
Dimension (W x D x H)	135 x 87.8 x 32 mm	97 x 97 x 25 mm	100 x 86.2 x 24.9 mm	140 x 95 x 37 mm	100 x 83 x 25 mm
Ethernet connector	2 x RJ-45 (1 for Data + DC in, 1 for Data out)	2 x RJ-45 (1 for Data + DC in, 1 for Data out)	2 x RJ-45 (1 for Data + DC in, 1 for Data out)	2 x RJ-45 (1 for Data + DC in, 1 for Data out)	2 x RJ-45 (1 for Data + DC in, 1 for Data out)
DC Plug connector	2	1	1	1	1
LED	System: PoE In x 1	System Power x 1	System Power x 1	System Power x 1	System Power x 1
Ethernet Data Rate	10/100/1000Mbps	10/100Mbps	10/100Mbps	10/100/1000Mbps	10/100/1000Mbps
PoE Standard	IEEE 802.3af / 802.3at	IEEE 802.3af	IEEE 802.3af	IEEE 802.3af	IEEE 802.3af
PoE Power Input	48 to 56V DC 25 Watts	46 to 54V DC 15.4Watts	44 to 75V DC 12.95Watts	44 to 57V DC 12.95 Watts	48V DC 15.4 Watts
Output Voltage/Current	12V DC / 2A max 24V DC / 1A max	12/24V (Depend on Models)	24V DC	24V DC	12V DC / 0.93A max 24V DC / 0.54A max (Depend on Models)

Product Comparison

Brand	PLANET	N-Tron	MOXA	Advantech	Sixnet
Model Name	IPOE-162S	100-POE-SPL-12 100-POE-SPL-24	SPL-24	EKI-2701PSI	EB-PD-UPS-1
Product outlook					
Standard					
Ethernet Standard	IEEE 802.3 10Base-T Ethernet IEEE 802.3u 100Base-TX Fast Ethernet IEEE 802.3ab 1000Base-T Gigabit Ethernet IEEE 802.3at Power over Ethernet	IEEE 802.3 10Base-T Ethernet IEEE 802.3u 100Base-TX Fast Ethernet IEEE 802.3af Power over Ethernet	IEEE 802.3 10Base-T Ethernet IEEE 802.3u 100Base-TX Fast Ethernet IEEE 802.3af Power over Ethernet	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 802.3 10Base-T Ethernet IEEE 802.3u 100Base-TX Fast Ethernet IEEE 802.3af Power over Ethernet
Operating Temp.	-40 to 75 Degree C	-40 to 85 Degree C	-40 to 75 Degree C	-40 to 75 Degree C	-40 to 75 Degree C
Storage Temp.	-40 to 85 Degree C	-40 to 85 Degree C	-40 to 85 Degree C	-40 to 85 Degree C	-40 to 85 Degree C
Shock	IEC60068-2-27	NA	IEC60068-2-27	IEC60068-2-27	IEC60068-2-27
Freefall	IEC60068-2-32	NA	IEC60068-2-32	IEC60068-2-32	IEC60068-2-32
Vibration	IEC60068-2-6	NA	IEC60068-2-6	IEC60068-2-6	IEC60068-2-6
Protection	ESD: 6KV EFT: 6KV	NA	NA	ESD: 4KV EFT: 3KV	NA

Appendix - Sales Target

◆ Target Markets

- ✓ Tender Market (Public construction)
- ✓ System Integrator
- ✓ IE Distributor
- ✓ Manufactory
- ✓ Transportation

◆ Target Customers

- ✓ **Who needs High Power Gigabit PoE solution?**

- ✓ **Who buys PLANET Industrial produce**

- ISW-5x4PT series / ISW-1022MPT / IVC-2004PT / ISW-5x4PS series

- Who buys PLANET 802.3af / 802.3at PoE Switch / injector Hub / injector**

- GSD-802PS / SGSW-24040HP / SGSW-24040P4 / HPOE-1200G / HPOE-2400G / POE-152 / POE-161

- ✓ **Who buys PLANET PoE Splitter**

- POE-151S, POE-152S, POE-162S

Appendix

◆ Related Products:

✓ PLANET IEEE 802.3at Power over Ethernet Adapter

- **POE-161** IEEE 802.3at Power over Ethernet Injector (10/100/1000Mbps)
- **POE-162S** IEEE 802.3at Power over Ethernet Splitter- 12V / 24V

✓ PLANET IEEE 802.3at Power over Ethernet Inject Hub

- **HPOE-460** 4-Port Gigabit 802.3at PoE Injector Hub
- **HPOE-1200G** 12-Port Gigabit 802.3at PoE Injector Hub
- **HPOE-2400G** 24-Port Gigabit 802.3at PoE Injector Hub

✓ PLANET IEEE 802.3at Power over Ethernet Media Converter

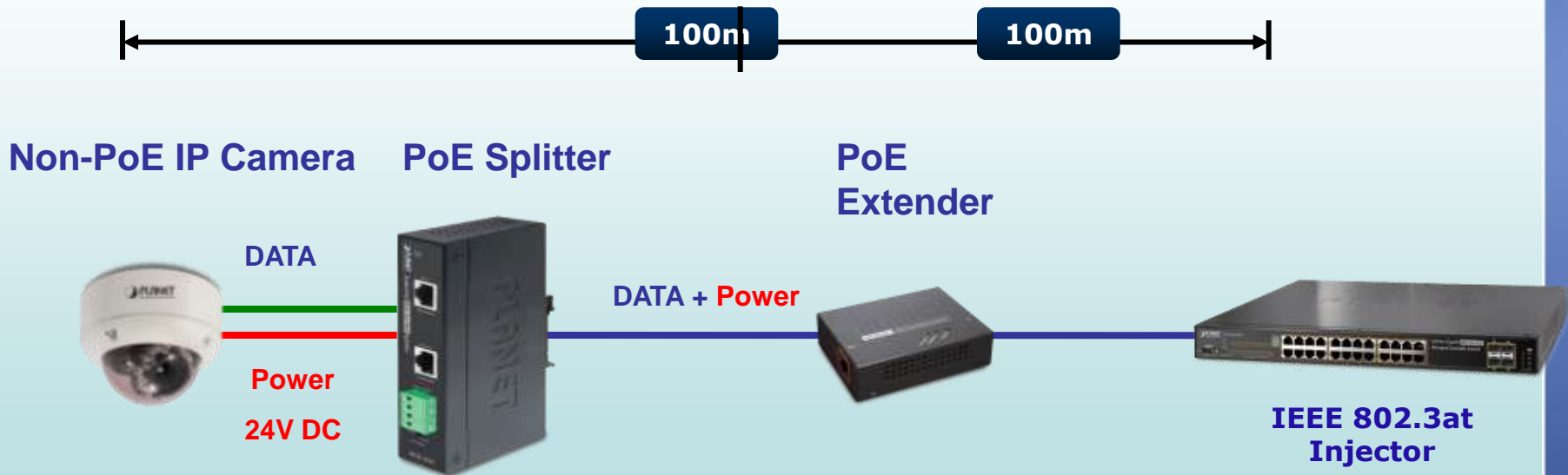
- **GTP-80x series** 1000Base-X to 10/100/1000Base-T 802.3at PoE Media Converter
- **IGTP-80xT series** 1000Base-X to 10/100/1000Base-T 802.3at Industrial Media Converter

Appendix

◆ Relative PoE Product:

✓ POE Extender

✓ POE-E201 IEEE 802.3at Power over Ethernet Extender



Appendix

◆ Connector of ICA-HM351

DI / DO, RS-485

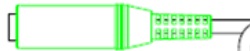
Video Output (BNC)



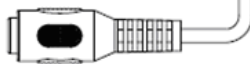
Microphone Input



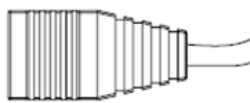
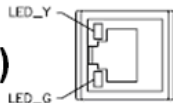
Audio Output



DC Power
(IR and IP Camera)



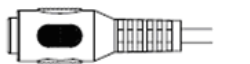
**RJ-45
(PoE, IR and IP Camera)**



Reset



**DC Power
(Fan and Heater)**



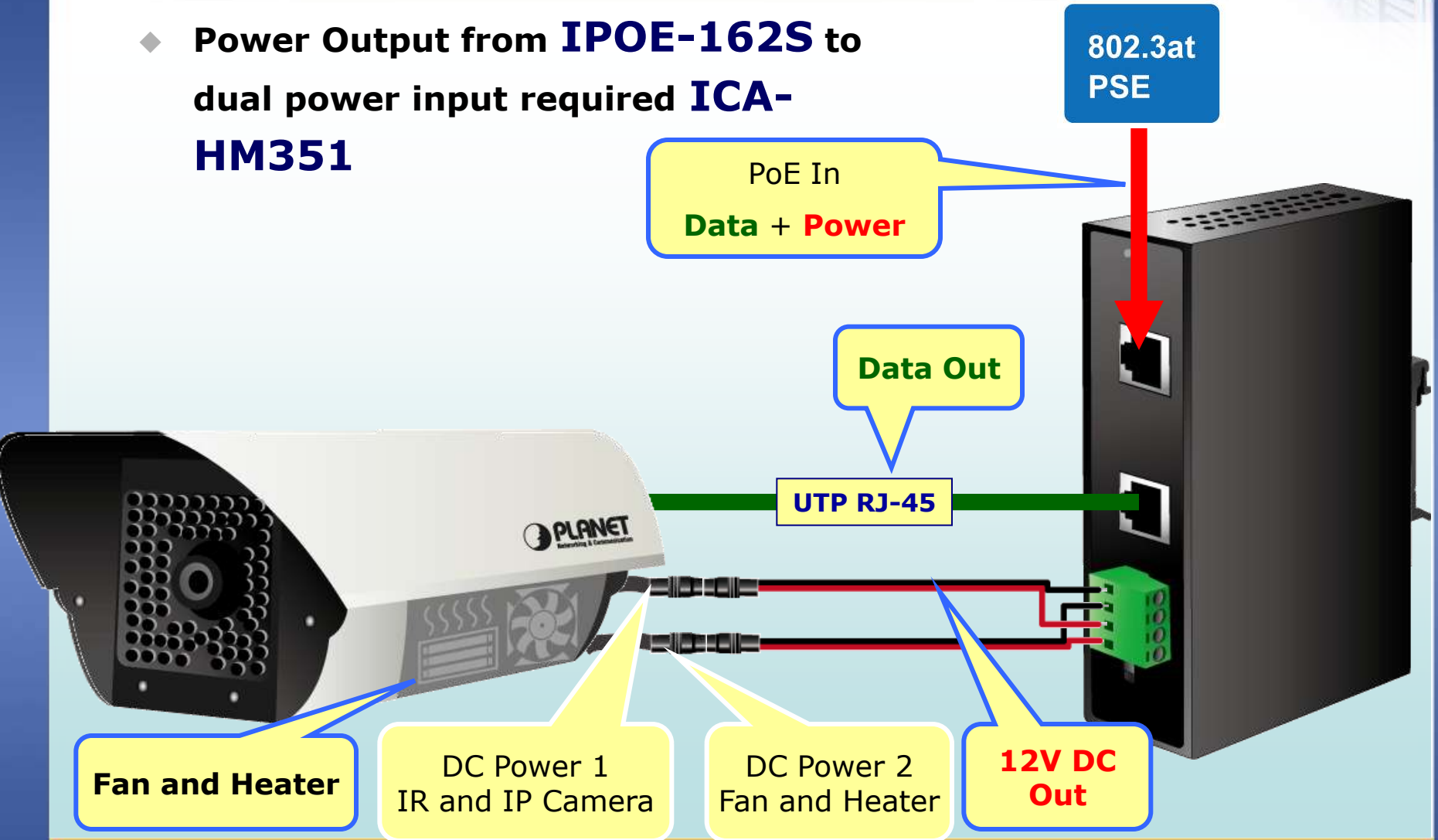
**Without
PoE PSE**

**Power Input 1
802.3af PoE**

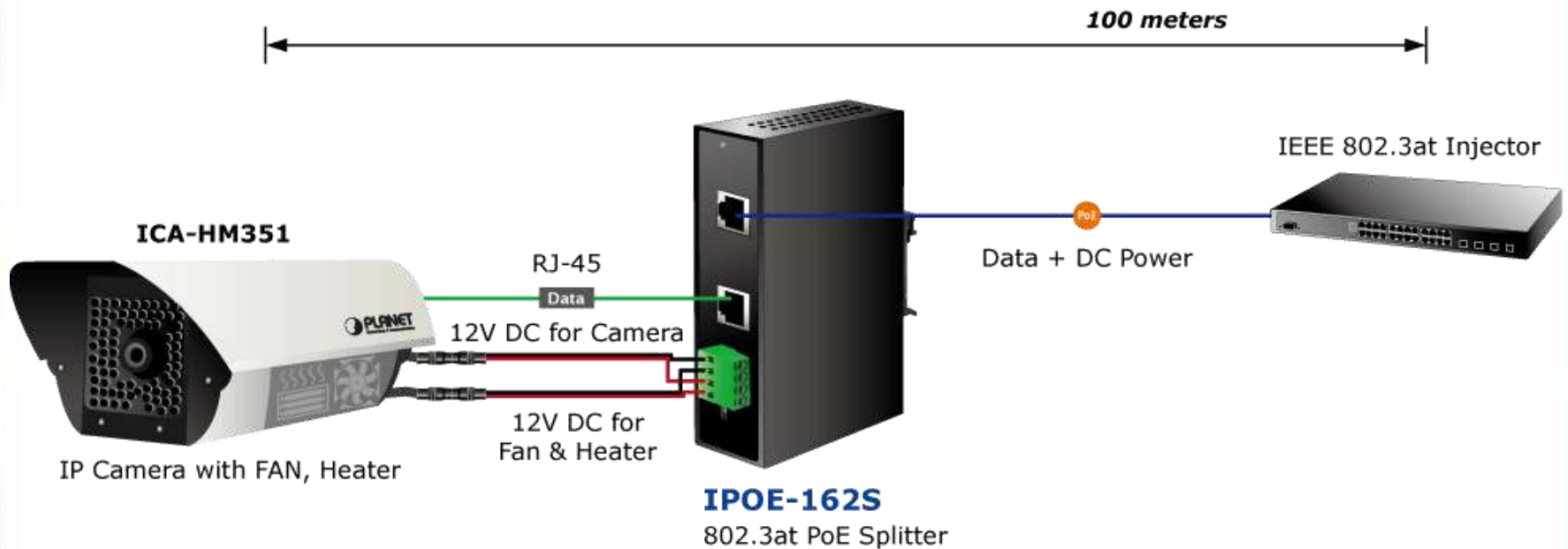
**Power Input 2
12V DC**

APPENDIX – How to Provide DC Power for ICA-HM351

- ◆ Power Output from **IPOE-162S** to dual power input required **ICA-HM351**



APPENDIX – Completed Topology





ACTIVATING IP POWER