

# IEEE 802.3at Power over Gigabit Ethernet Extender

## POE-E201



## Presentation Outline

- ◆ **PoE Quick Review**
- ◆ **Product Overview**
- ◆ **Product Features**
- ◆ **Application**
- ◆ **Comparison**
- ◆ **Appendix**

**POE-E201**



## PoE Quick Review

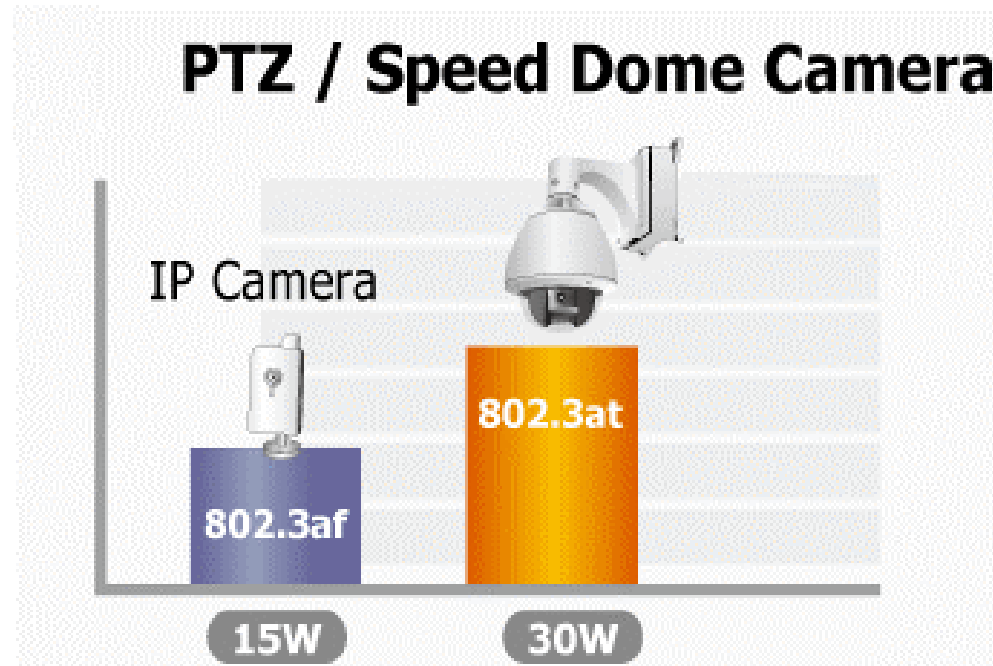
### ◆ PoE - Power over Ethernet

- PoE technology describes a system to safely transfer electrical **power**, along with **data**, to remote devices over standard **UTP** in an Ethernet network.
- It does not require modification of existing Ethernet cabling infrastructure.
- IEEE 802.3at PoE, up to **30.8Watts**
- IEEE 802.3af PoE, up to **15.4Watts**
- PoE Equipments
  - PSE** (Power Source Equipment)
  - PD** (Powered Device)

## PoE Quick Review

### ◆ What is different between IEEE 802.3af and IEEE 802.3at?

- ✓ IEEE 802.3af offers **15.4 Watts** maximum.
- ✓ **IEEE 802.3at** offers more power than IEEE 802.3af that is up to **30.8 Watts** and can drives high power consumption PoE device, such as PTZ / Speed Dome camera.



# PoE Quick Review

## ◆ PoE Equipments

■ PSE – Power Source Equipment – Inject Power over Ethernet



PoE Switch



PoE Inject Hub



PoE Injector

■ PD – Powered Device – Get power over Ethernet cable



IP Camera



VoIP Phone



Wireless  
Access Point

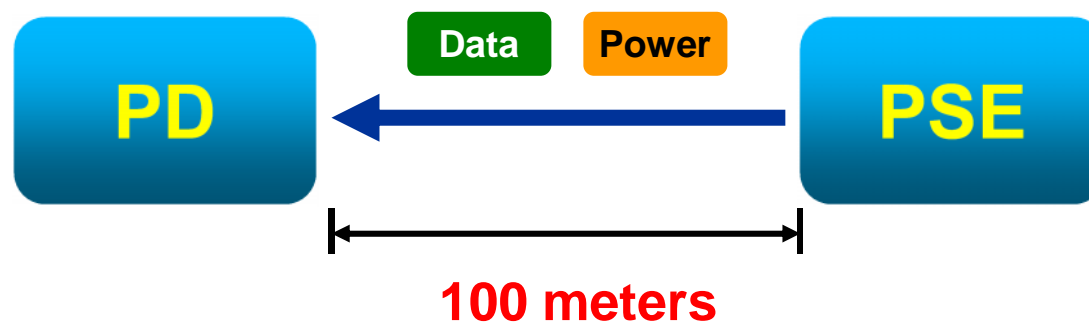


PoE Splitter

## PoE Quick Review

### ◆ The Limitation of Twisted-pair UTP cable

- **TIA/EIA 568b1**: Maximum segment length **100 meters** (328 feet).
- Apply to PoE installation:

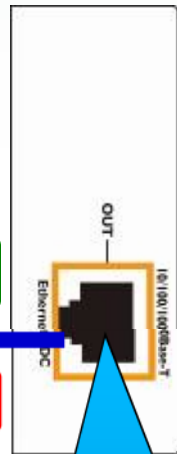


Only 100 meters cable length is not able to meet a wide range of **IP Surveillance** / **Wireless AP** deployment.

# Product Overview

## ◆ POE-E201

*Left*



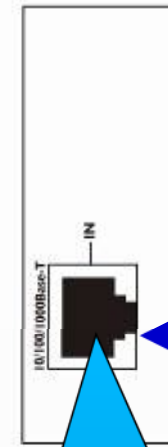
Ethernet Data

Power

*Top*



*Right*



Ethernet Data

Power

### PoE OUT Port:

- ◆ 10/100/1000Mbps
- ◆ IEEE 802.3at PoE
- ◆ "Data + DC" Out
- ◆ Auto MDI/MDI-X
- ◆ Auto-negotiation
- ◆ RJ-45 connector

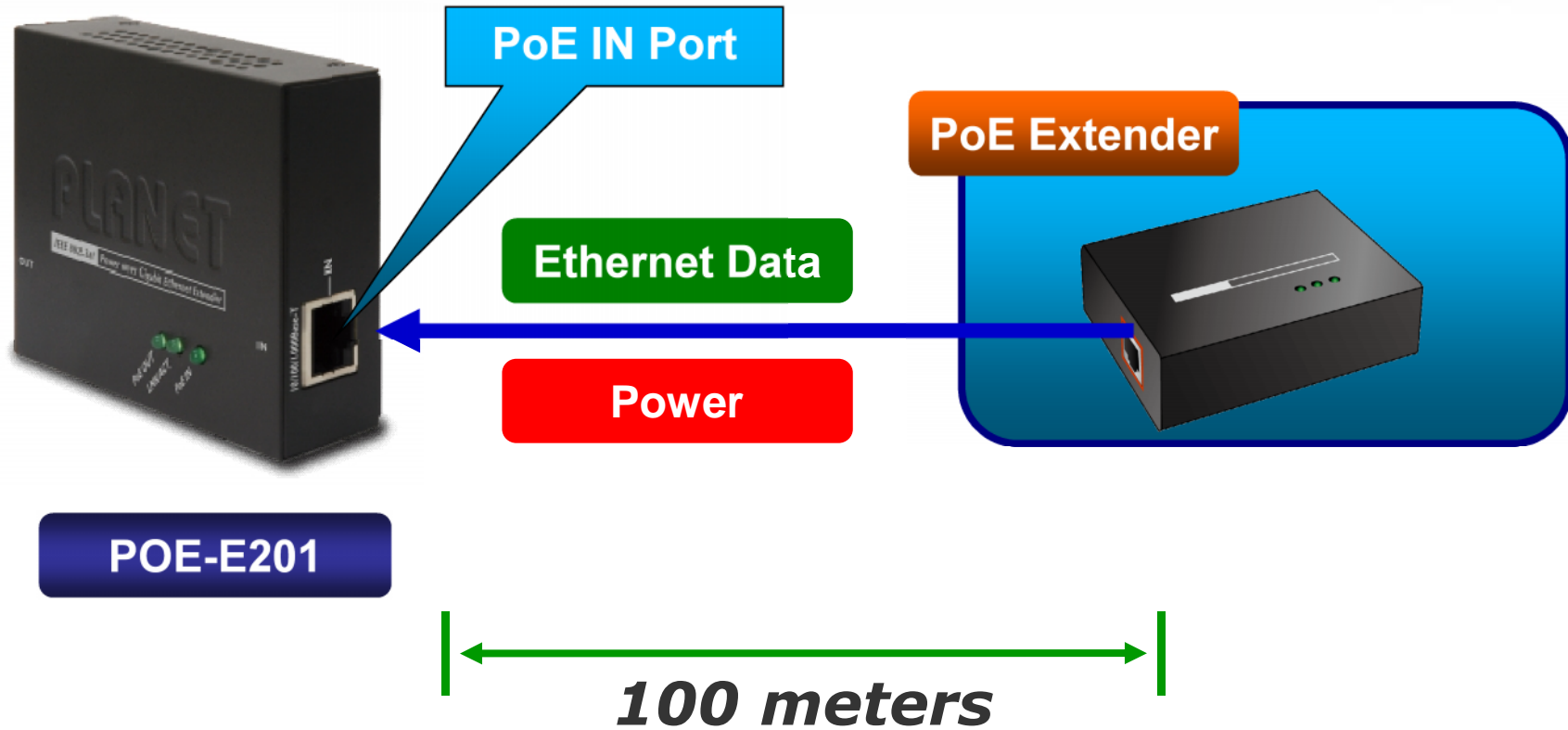
### PoE IN Port:

- ◆ 10/100/1000Mbps
- ◆ IEEE 802.3at PoE
- ◆ "Data + DC" in
- ◆ Auto MDI/MDI-X
- ◆ Auto-negotiation
- ◆ RJ-45 connector

## Product Overview

### ◆ Right Side of POE-E201

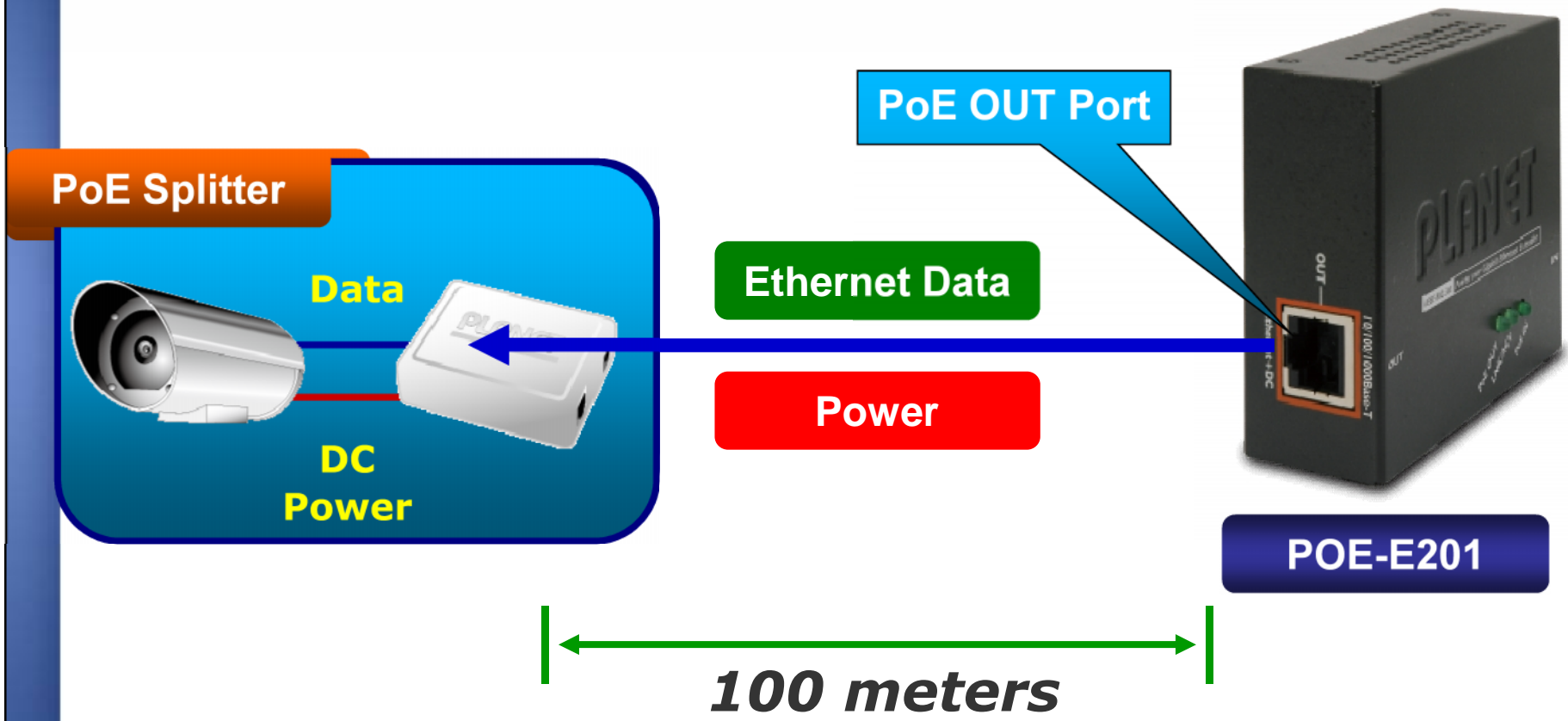
#### ■ PoE IN Port Connection:





## Product Overview

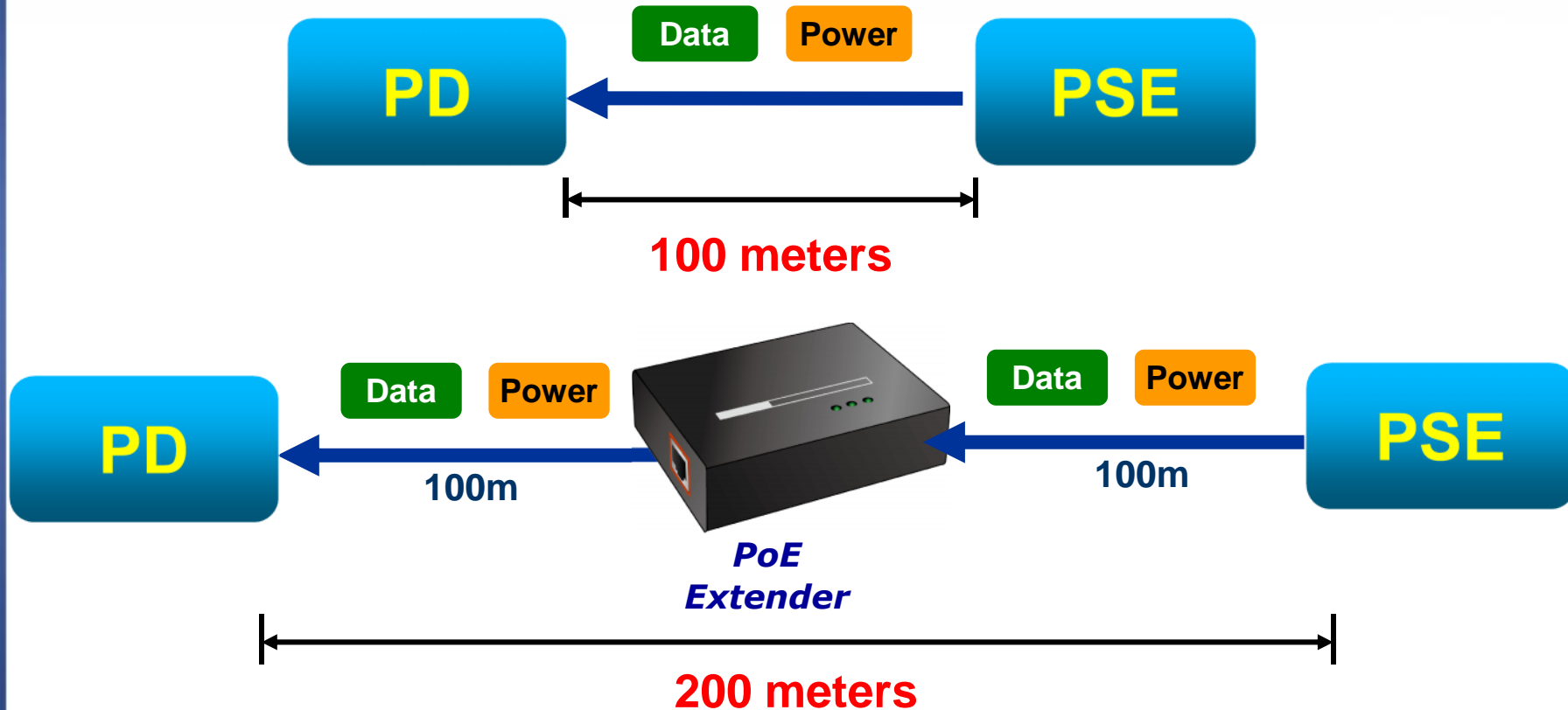
- ◆ **Left Side of POE-E201**
  - **PoE OUT** Port Connection:



## PoE Product Overview

### ◆ The PoE Extender:

- Extends both the reach of **Ethernet Data** and **IEEE 802.3at Power over Ethernet** over the standard 100 meters (328 ft.) CAT5e/6 UTP cable to **200m, 300m, 400m** and maximum **500m**.



## Product Features

### ◆ Power over Ethernet

- Complies with **IEEE 802.3af / 802.3at** Power over Ethernet
- Extends the range of PoE an **additional 100 meters** (328ft.)
- Forwards both **Ethernet data** and **PoE power** to remote devices
- Automatically detects and protects PoE equipments from being damaged by incorrect installation
- **4 units, daisy-chain** installation with **500 meters** distance support

## Product Features

### ◆ System Design

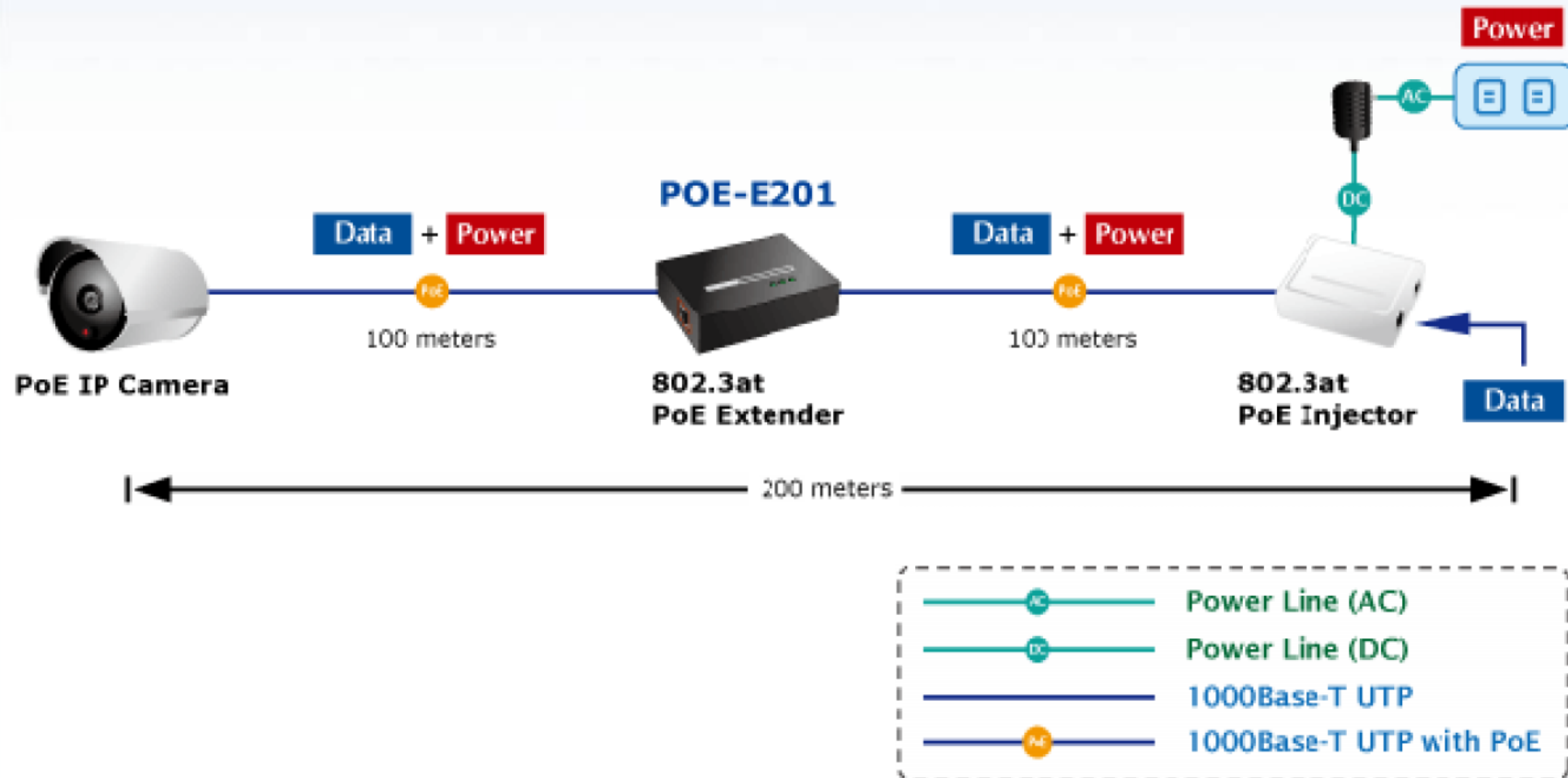
- No external power cable required for installation
- **Plug and Play** design
- Compact in size, wall-mount design, easy installation
- **-10~60 Degree C** operating temperature

## Application

### ◆ Long Distance PoE IP Surveillance

- To apply the benefits of **IP Surveillance** and also to achieve **long-distance IP Camera distribution**, the PoE extender- POE-E201 is a quick and cost-effective option besides by adopting a PoE Injector or PoE Ethernet Switch equipped with fiber optical interface.
- In the simplest application, a POE-E201 enables a PoE IP camera to be installed up to 200 meters away from a PoE Injector.
- The PoE Injector delivers PoE power over the first 100 meters to the POE-E201 over UTP cable, and then the POE-E201 forwards the Ethernet data and remaining POE power to the PoE IP camera.
- The POE-E201 **does not require an external power** supply and can be installed easily by just **plug and play**; that means the operator does not need to configure the POE-E201.

## Application – One Unit Installation

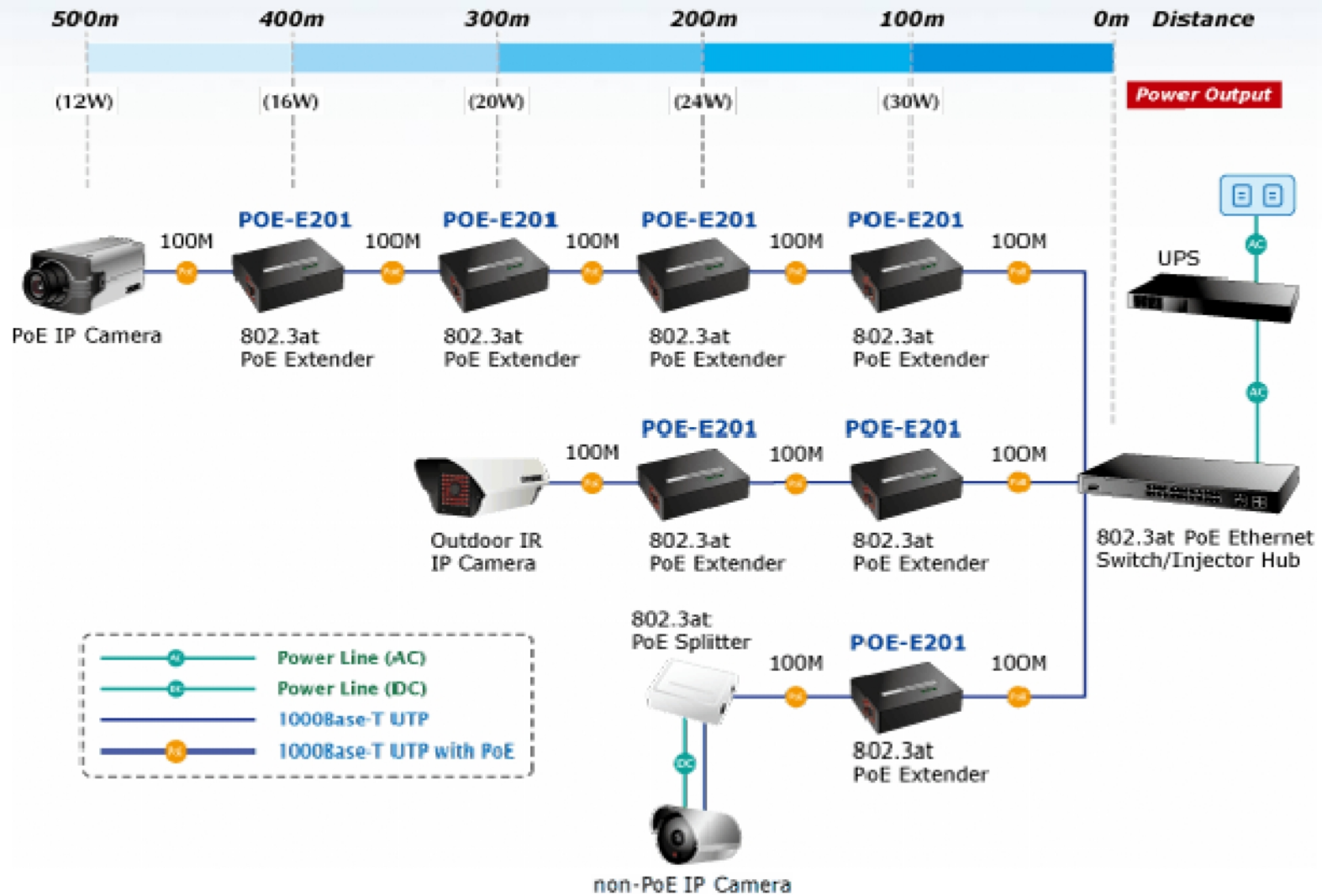


## Application

### ◆ Long Distance PoE Wireless Access Point

- When being used in Wireless LAN implementations, the POE-E201 enables Wireless Access Points to be connected using standard Cat5e/6 cable **over 100 meters** from the Power Source Equipment (PSE), such as PoE Switch, PoE Injector Hub and single port PoE injector.
- The POE-E201 is also powered by the incoming PoE on the Ethernet cable and does **not require an external power** feed.
- The POE-E201 shall reduce the usage of cables and eliminate the need of dedicated electrical outlets on the wall, ceiling or any unreachable place. It frees the wireless APs deployment from restrictions of power outlet locations.

# Application – Multi-Unit Installation









# Product Comparison – POE-E201

Brand	PLANET	PLANET
Model	<b>POE-E201</b>	<b>POE-E101</b>
Product Image		
Interfaces		
LAN IN	1 x 10/100/1000Base-T RJ-45 connector	1 x 10/100Base-TX RJ-45 connector
	Auto MDI/MDI-X, Auto-negotiation	Auto MDI/MDI-X, Auto-negotiation
LAN OUT	1 x 10/100/1000Base-T RJ-45 connector	1 x 10/100Base-TX RJ-45 connector
	Auto MDI/MDI-X, Auto-negotiation	Auto MDI/MDI-X, Auto-negotiation
Power over Ethernet		
PoE Standard	IEEE 802.3af / 802.3at Power over Ethernet	IEEE 802.3af Power over Ethernet
PoE Power Supply Type	Mid-Span / Type B	Mid-Span / Type B
PoE Power Output	52V DC, 510mA, Max. 26 Watts	48V DC, 270mA, Max. 13 Watts
Power Pin Assignment	4/5(+), 7/8(-)	4/5(+), 7/8(-)

# Product Comparison – POE-E201

Brand	PLANET	PLANET
Model	POE-E201	POE-E101
Product Image		
Hardware Specification		
Data Rate	10/100/1000Mbps	10/100Mbps
LED Indicators	• 1x PoE IN (Green)	• 1x PoE IN (Green)
	• 1 x LAN Data (Green)	• 1 x LAN Data (Green)
	• 1 x PoE OUT (Green)	• 1 x PoE OUT (Green)
Protection	ESD(Ethernet): 2KV (TBD)	ESD(Ethernet): 6KV(TBD)
	Surge (EFT for power) : 2KV (TBD)	Surge (EFT for power) : 6KV(TBD)
Dimension (W x D x H)	94 x 70 x 26 mm	94 x 70 x 26 mm
Weight	197g	215g
Power Requirement	IEEE 802.3at compliant with voltage within 52V-56V DC	IEEE 802.3af compliant with voltage within 44V-56V DC
Power Consumption	3.2Watts (maximum)	1.9Watts (maximum)
Mechanical	Metal / Wall Mountable / Optional DIN-Rail Kit	Metal / Wall Mountable / Optional DIN-Rail Kit

# Product Comparison – POE-E201

Brand	PLANET	PLANET
Model	POE-E201	POE-E101
Product Image		
Standards Conformance		
Regulation Compliance	FCC Part 15 Class A, CE	FCC Part 15 Class A, CE
Standard Compliance	IEEE 802.3 10Base-T Ethernet	IEEE 802.3 10Base-T Ethernet
	IEEE 802.3u 100Base-TX Fast Ethernet	IEEE 802.3u 100Base-TX Fast Ethernet
	IEEE 802.3ab 1000Base-T Gigabit Ethernet	–
	IEEE 802.3af Power over Ethernet	IEEE 802.3af Power over Ethernet
	IEEE 802.3at HighPower over Ethernet	–
IEEE 802.3x Flow Control	IEEE 802.3x Flow Control	
Environment		
Operating	Temperature: -10 ~ 60 Degree C	Temperature: -10 ~ 60 Degree C
	Relative Humidity: 5 ~ 95% (non-condensing)	Relative Humidity: 0 ~ 95% (non-condensing)
Storage	Temperature: -40 ~ 85 Degree C	Temperature: -40 ~ 85 Degree C
	Relative Humidity: 5 ~ 95% (non-condensing)	Relative Humidity: 5 ~ 95% (non-condensing)

## Appendix Sales Target

### ◆ Target Markets

- IP Surveillance service provider
- Wireless service provider
- Intelligent Building
- System Integrator

### ◆ Target Customers

- Who needs long distance video / wireless transmission
- Who buys PoE IP cameras PLANET **ICA-HM240, ICA-H312, ICA-HM135, ICA-HM131R** and etc.
- Who buys PoE Wireless Access points PLANET **WNAP-1120PE, WNAP-3000PE** and etc.

## Appendix

### ◆ Relative Products

- **GTP-802 / GTP-802S / GTP-805A**: 1000Base-X to 10/100/1000Base-T PoE+ Media Converter
- **POE-161**: IEEE 802.3at High Power PoE Injector / 25Watts
- **POE-161S**: IEEE 802.3at High Power PoE Splitter (5V / 12V)
- **POE-162S**: IEEE 802.3at High Power PoE Splitter (12V / 24V)
- **POE-151S**: IEEE 802.3af PoE Splitter (5V / 12V)
- **POE-152S**: IEEE 802.3af PoE Splitter (5V / 12V)
- **POE-1200 / POE-1200P2 / POE-1200G / HPOE-1200G**: 12-Port PoE Injector Hub
- **POE-2400 / POE-2400P4 / POE-2400G / HPOE-2400G**: 24-Port PoE Injector Hub
- **FGSD-1022P / FGSD-1022HP / SGSD-1022P**: 8-Port 10/100Mbps + 2G TP/SFP Managed PoE Switch
- **SGSW-2840P / SGSW-2840P4**: 24-Port PoE + 4G TP/SFP Managed PoE Switch
- **SGSW-24040P / SGSW-24040P4**: 24-Port Gigabit PoE Managed Stackable Switch
- **WGSW-2620HP** : 24-Port 10/100Mbps + 2G TP/SFP Managed 802.3at PoE Switch
- **FGSW-2620PVM / FGSW-2620VMP4**: 24-Port 10/100Mbps + 2G TP/SFP Managed PoE Switch
- **FGSW-2612PVM**: 24-Port 10/100Mbps with 12 Ports PoE + 2G TP/SFP Managed PoE Switch
- **FSD-804P / GSD-804P**: 8-Port Fast / Gigabit Ethernet with 4-Port PoE Switch
- **FSD-804PS** : 8-Port 10/100Mbps with 4-Port PoE Web Smart Ethernet Switch

# ACTIVATING IP POWER