

Industrial 1-Port Coax/UTP Long Reach PoE + 4-Port 10/100TX PoE Extender

LRP-104CET



Outlines

- ◆ Introduction
- ◆ Product Positioning
- ◆ Product Overview
- ◆ Product Benefits
- ◆ Product Features
- ◆ Applications
- ◆ Appendix



LRP-104CET

Introduction



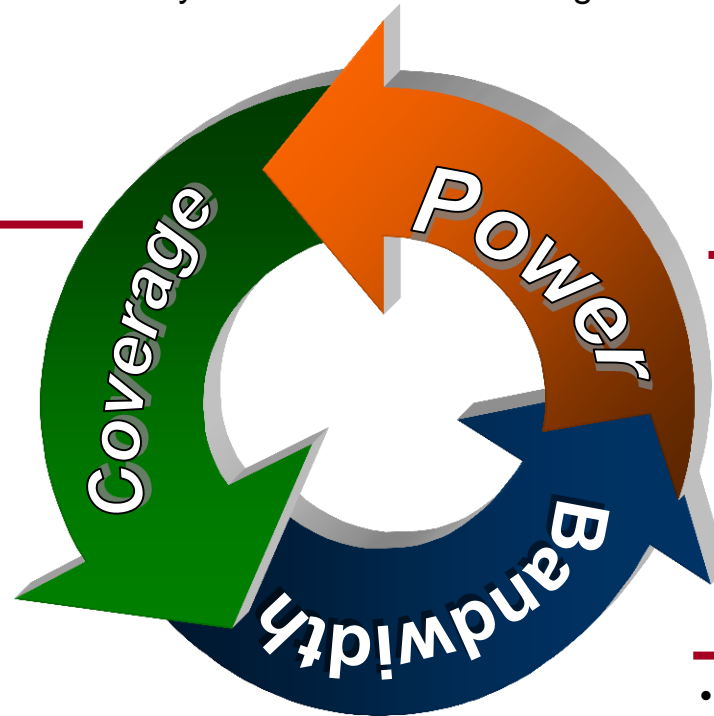
Long Reach PoE Solution

◆ What is Long Reach Power over Ethernet (Long Reach PoE)?

- ✓ Long Reach Power over Ethernet (Long Reach PoE) technology enables the deployment of IP networking at a distance beyond the 100-meter (328-feet) limit, traditionally designed for Ethernet networks, meaning an IP infrastructure can be built in remote areas at any distance without having to worry about power source and re-cabling.

Issue of Distance

- Need more than **100m**



Issue of Power Source

- Highway
- Tunnel
- Street

Issue of Bandwidth

- High Resolution
- High Quality
- More than one camera

Long Reach PoE Solution

- ◆ **Extend IP Ethernet transmission and inject power over an existing **coaxial** cable or **long UTP** cable for distance up to **1000m (3280ft)** into PoE IP camera, PoE wireless AP and any 802.3af/at complied powered device (PD).**



Product Positioning

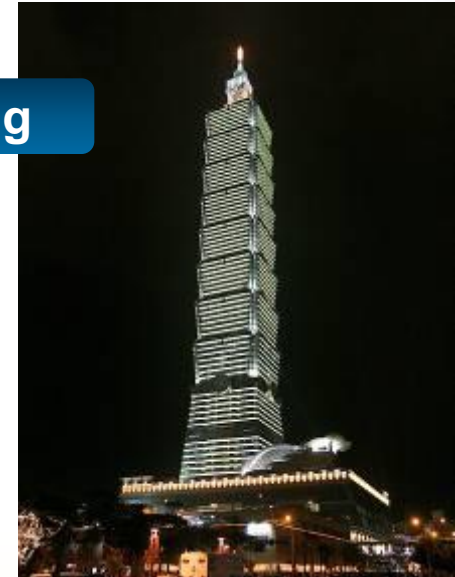


Application Overview

Factory



Building



Transportation



Long Reach PoE Solution

Long Reach Ethernet over UTP

-  Planning
-  Developing
-  New Phase-in
-  Available



LRP-101UH
1-Port LRP over UTP Injector



LRP-101UE
1-Port LRP over UTP to 1-Port 10/100TX PoE Extender



LRP-1622CS
16-Port Coax + 2-Port Gigabit RJ45 + 2-Port 100/1000X SFP Managed Switch



LRP-104CET
1-Port LRP over Coax/UTP to 4-Port 10/100TX PoE Extender



LRP-822CS
8-Port Coax + 2-Port Gigabit RJ45 + 2-Port 100/1000X SFP Managed Switch



IVC-2004PT
1-Port Coax/RJ11 to 4-Port 10/100TX PoE Extender



LRP-422CST
4-Port Coax + 2-Port Gigabit RJ45 + 2-Port 100/1000X SFP Managed Switch



LRP-101CE
1-Port LRP over Coax to 1-Port 10/100TX PoE Extender







LRP-101CH
1-Port LRP over Coax Injector

Long Reach Ethernet over Coaxial

LRP Injectors/Switches

Extenders

Comparison of LRP Extenders

Model	 LRP-104CET	 IVC-2004PT	 LRP-101CE	 LRP-101UE
Connector	1 BNC female/RJ45	1 BNC female/RJ11	1 BNC female	1 RJ45
LRP Input	Yes	No	Yes	Yes
PoE Output Ports	4	4	1	1
Data Transmission	10/100BASE-TX	10/100BASE-TX	10/100BASE-TX	10/100BASE-TX
Operating Temperature	-20~70 degrees C	-40~75 degrees C	-20~70 degrees C	-20~70 degrees C
PoE Standard	802.3at PoE+	802.3af PoE	802.3at PoE+	802.3at PoE+
DIP Switch	Yes	Yes	No	No
Power Requirement	44~56V DC through BNC/RJ45 External 24~48V DC	External 12~48V DC	44~56 V DC through BNC	44~56V DC through RJ45

Product Overview



Overview

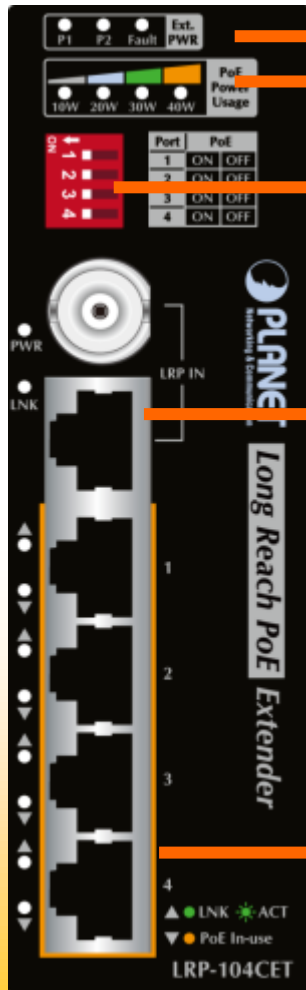
Perfect Solution for Extending and Expanding LRP Applications



The Right Choice That Does Not Limit Distance!

Industrial 1-Port Coax/UTP Long Reach PoE + 4-Port 10/100TX PoE Extender **LRP-104CET**

Front View



1



External Power Input LED

- 24~48V DC, redundant power with polarity reverse protect function

2



PoE Power Usage LED

3



1 PoE Output DIP Switch

- Four DIP switches to control PoE output on or off with Port-1 to Port-4

4



Long Reach PoE Interface

- One **BNC Female** Long Reach PoE over Coaxial PD
- One **RJ45 Connector** Long Reach PoE over UTP PD

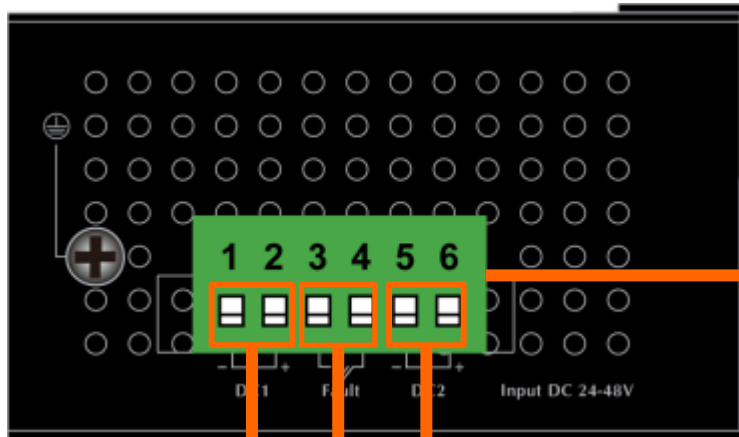
5



Copper Interface

- Four 10/100BASE-TX ports with 802.3at/af PoE injector function

Top View



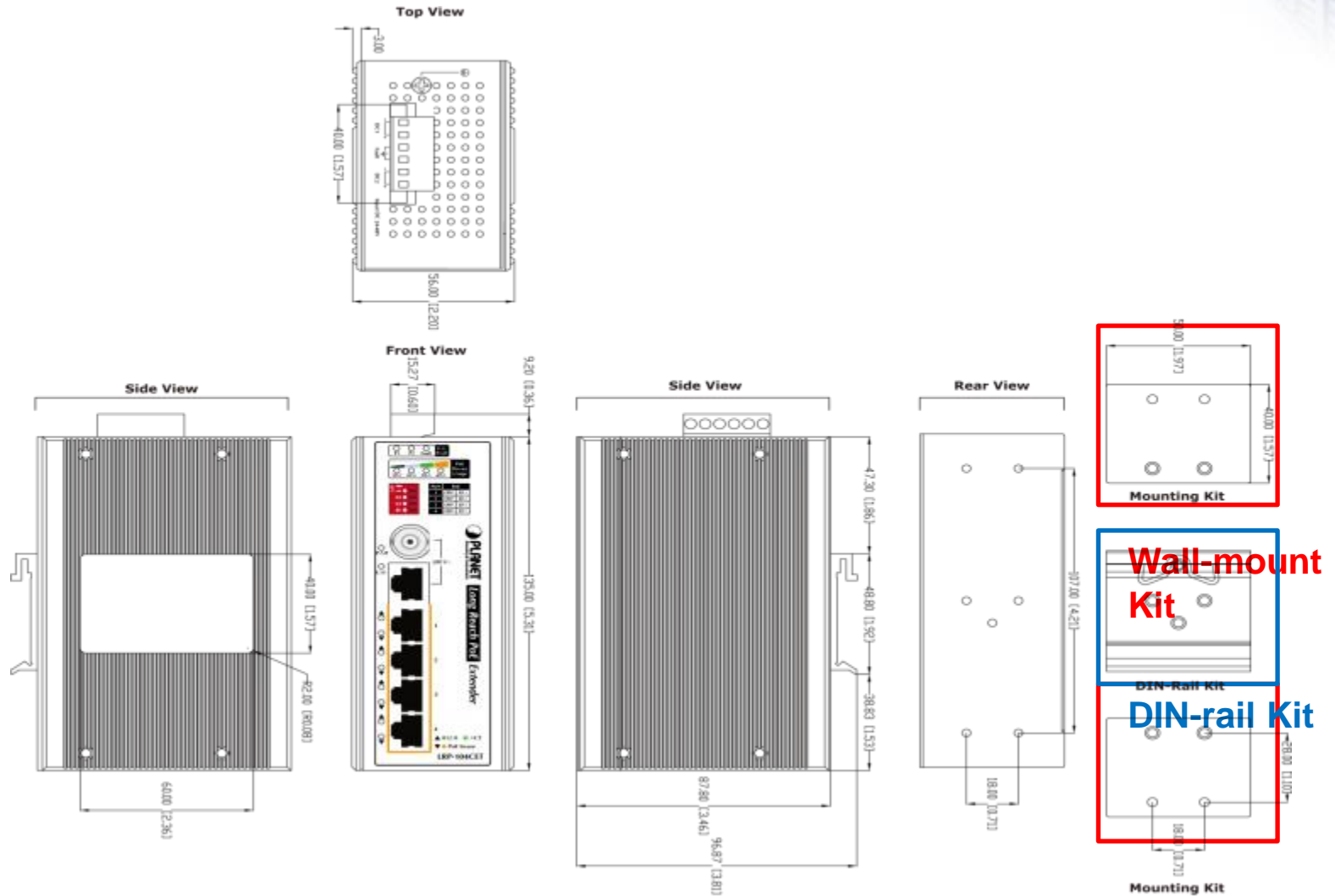
A 6-pin Removable Terminal Block/
Redundant 24~48V DC, Power Input

1 24~48V DC, Power 2 Input Pin

2 Fault Alarm Pin

3 24~48V DC, Power 1 Input Pin

Product Overview



Dimensions (unit = mm)

Product Benefits

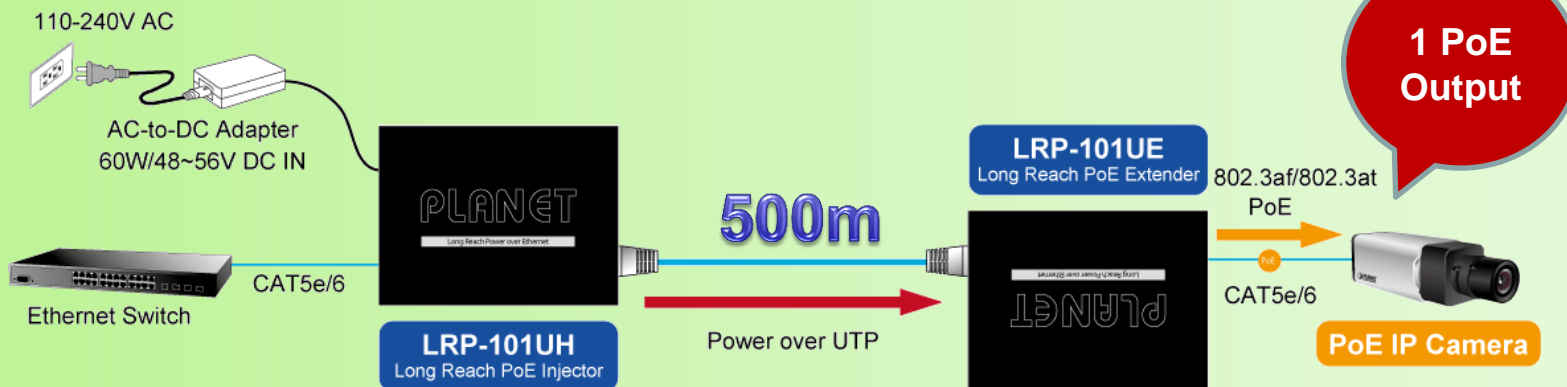


Layout of LRP Point-to-point Solutions

◆ Long Reach PoE over *Coaxial* PtP Solution



◆ Long Reach PoE over *UTP* PtP Solution



Product Benefits

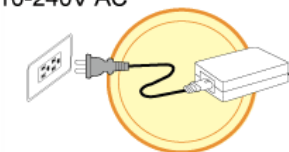
◆ Why do you need LRP-104CET?

Point to Multi Point

IP Surveillance

Cost Effectiveness

110-240V AC



AC-to-DC Adapter
60W/48~56V DC IN



Cat5e/6



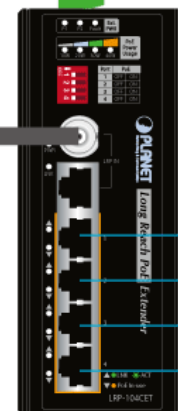
LRP-101CH
Long Reach PoE Injector

1km

Power over Coaxial

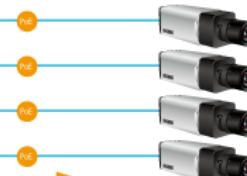
LRP Power
through BNC
with DC 56V

LRP-104CET
Long Reach PoE Extender



4 PoE
Output

802.3af/802.3at PoE



PoE IP Camera

PoE Power Budget
60 watts~120 watts (max.)

Product Benefits

◆ As required by customers

**Long Reach PoE for
Multi Powered Device
Solution**

1 LRP In to 4 PoE Out

Powerful PoE Output

**Per Port output up to
30W and 120W PoE
budget (local power)**

**Two Types Of Power
Input**

**Remote LRP power and
local power**

Easy Installation &

PoE DIP Switch Design

Configure-free

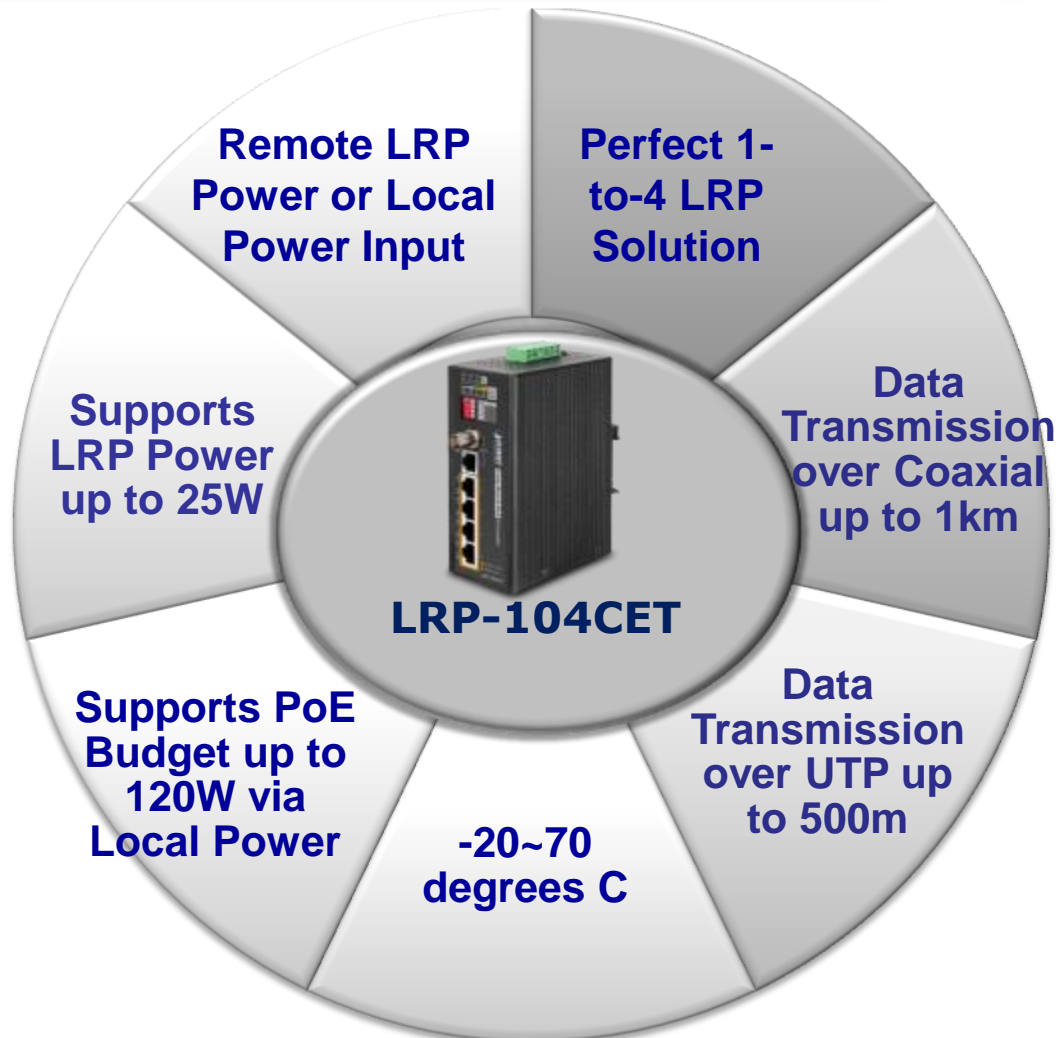


LRP-104CET

Product Features



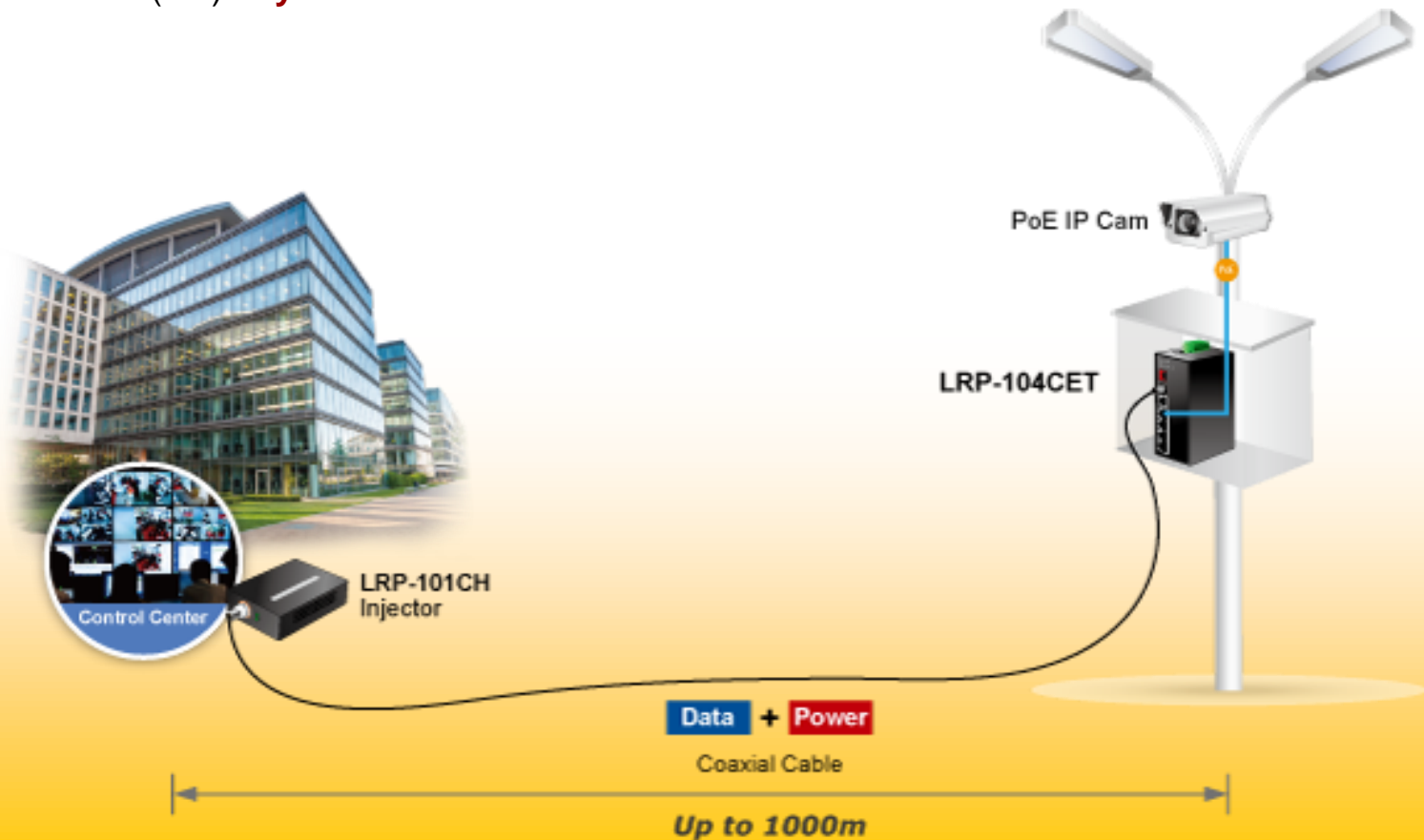
Key Features



Long Reach Power over Ethernet

◆ IP Ethernet and Power over Long Distance

- ✓ PLANET Long Reach PoE solution is designed to **extend IP Ethernet transmission** and **inject power simultaneously** into a remote 802.3af/at PoE compliant powered device (PD) **beyond the 100 meters** distance limit of Ethernet.



Local Power Supported

◆ Optional External DC Power Input

- ✓ PoE power budget up to 120W
- ✓ Per port output up to 30W
- ✓ Dual 24~48V DC



Product Features

◆ Hardware

✓ LRP interfaces

- 1 **BNC female**, Long Reach PoE over Coaxial PD
- 1 **RJ45 connector**, Long Reach PoE over UTP PD

✓ Copper interfaces

- 4 10/100BASE-TX RJ45 ports with **IEEE 802.3at PoE Plus PSE**

✓ DIP Switch

- 4 DIP switches to control PoE output on or off with Port-1 to Port-4

✓ **-20 to 70 degrees C** operating temperature

✓ 24~48V DC, redundant power with polarity reverse protect function

✓ DIN rail kit and wall-mount kit

✓ IP30 metal case

Product Features

◆ Long Reach Power over Ethernet

- ✓ Power and Ethernet data transmission over coaxial up to **1000m**
- ✓ Power and Ethernet data transmission over UTP up to **500m**
- ✓ Supports Long Reach PoE power up to **25 watts** (depending on LRP injector/switch and cable distance)

◆ Power over Ethernet

- ✓ Complies with IEEE 802.3at Power over Ethernet Plus/end-span PSE
- ✓ Supports PoE power budget up to 120 watts (external DC power input)
- ✓ Supports PoE power up to 30 watts for each PoE port (external DC power input)
- ✓ Automatically detects remote PD

Applications

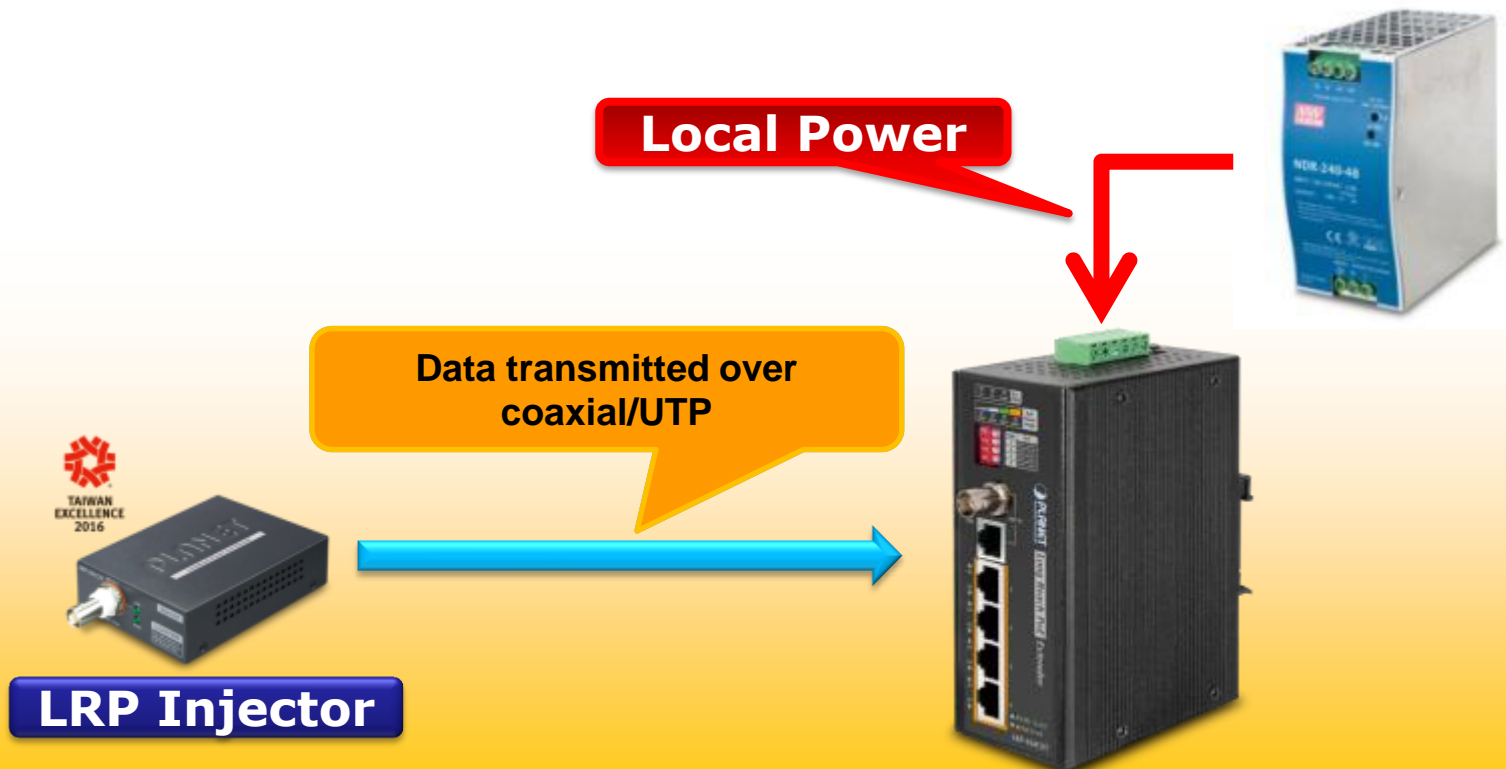


Applications

◆ One Power Sourcing for Multi Powered Devices Solution

✓ Point to Multi Points

- Type 1: **Remote LRP Power** through BNC/RJ45 with DC 56V input
- Type 2: **Local Power** with external DC input (DC 24V~48V)

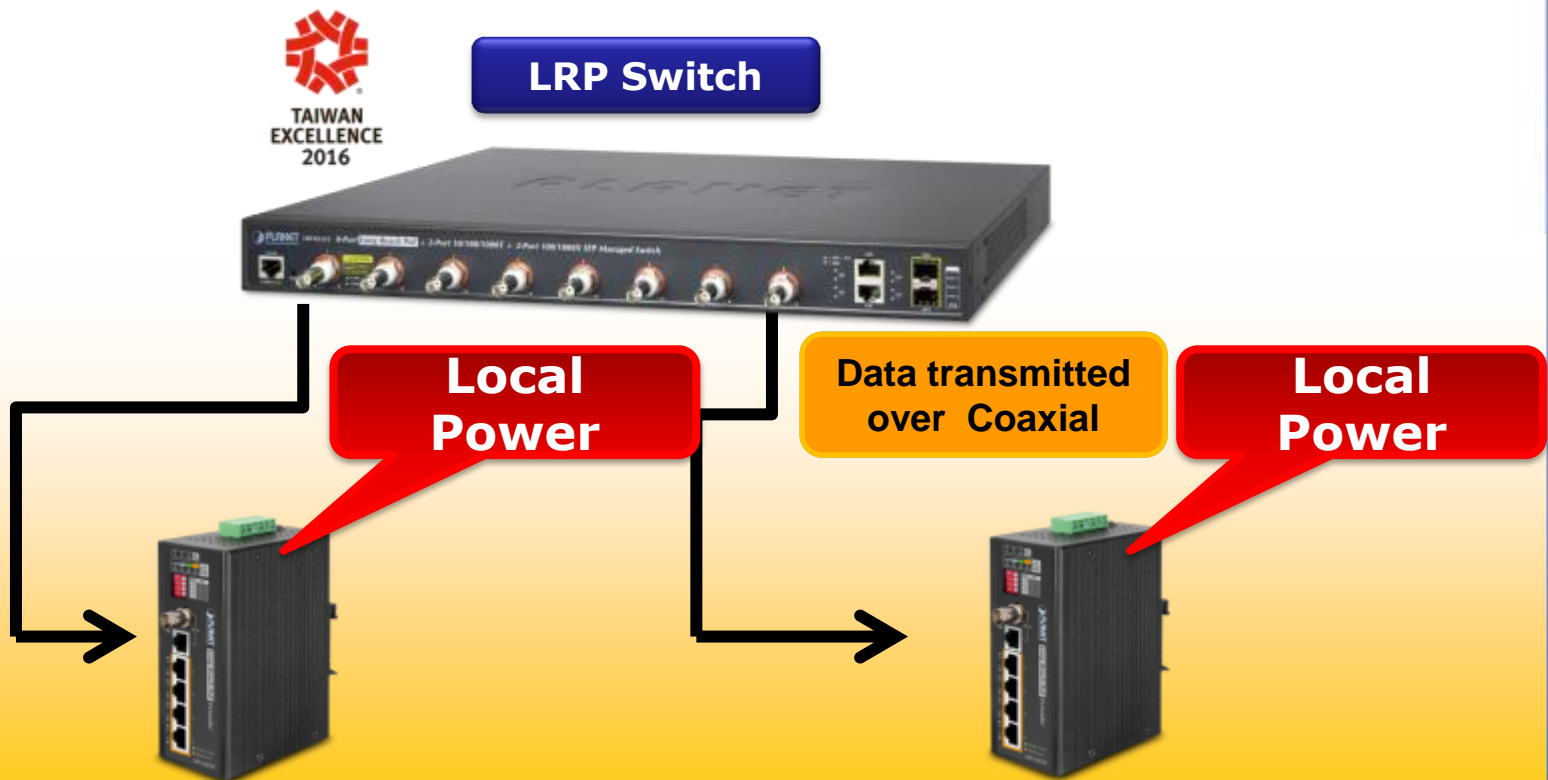


Applications

◆ One Power Sourcing for Multi Powered Devices Solution

✓ Multi Points to Multi Points

- Type 1: Remote LRP Power through BNC with DC 56V input
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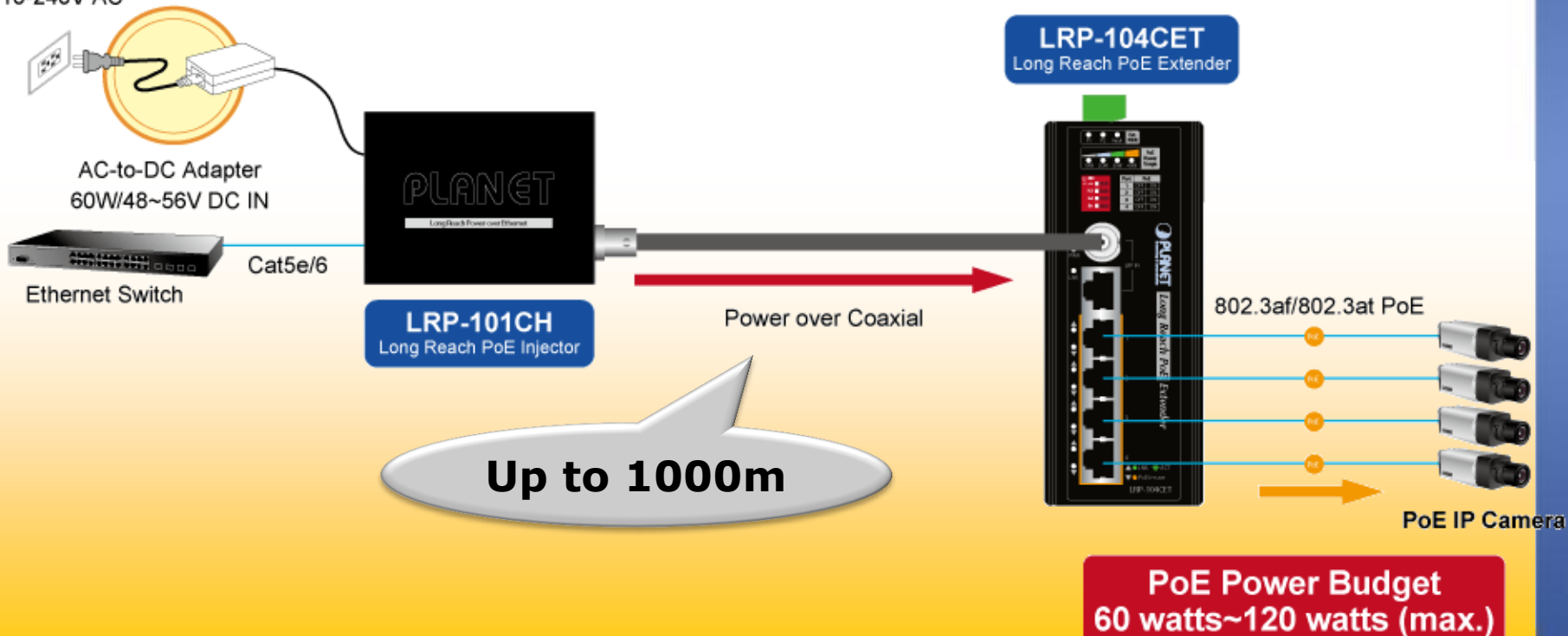
Applications – Type 1

◆ Remote LRP Power through BNC with DC 56V input

- ✓ The LRP-101 Injector, powered by **DC power adapter**, transmits data and power over coaxial cable to the LRP-104CET Extender. An IEEE 802.3at/af compliant PoE PD will then automatically be powered by the LRP-104CET via UTP cabling.

Remote LRP Power

110-240V AC

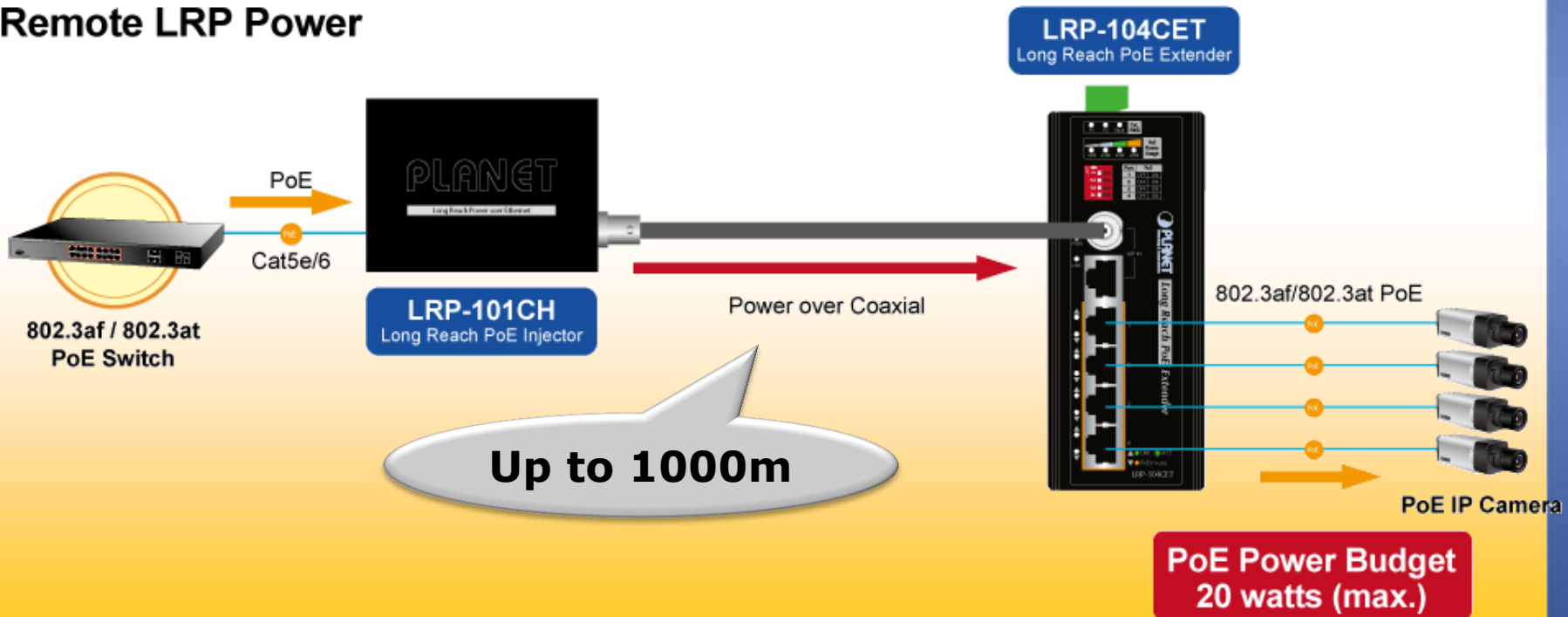


Applications – Type 1

◆ Remote LRP Power through BNC with DC 56V input

- ✓ The LRP-101 Injector, powered by **IEEE 802.3at/af PoE**, transmits data and power over coaxial cable to the LRP-104CET extender. An IEEE 802.3at/af compliant PoE PD will then automatically be powered by the LRP-104CET via UTP cabling.

Remote LRP Power

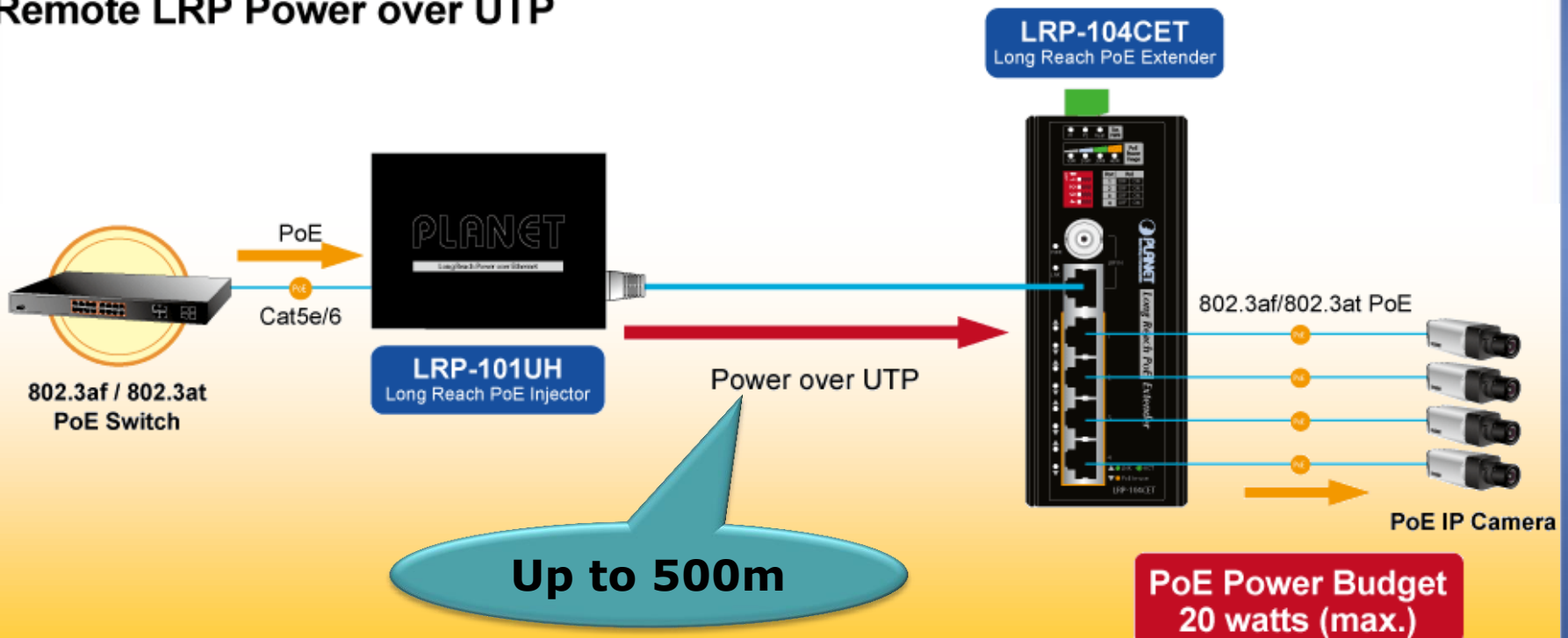


Applications – Type 1

◆ Remote LRP Power through RJ45 with DC 56V input

- ✓ The LRP-101 Injector, powered by IEEE 802.3at/af PoE or DC power adapter, transmits data and power over UTP cable to the LRP-104CET extender. An IEEE 802.3at/af compliant PoE PD will then automatically be powered by the LRP-104CET via UTP cabling.

Remote LRP Power over UTP

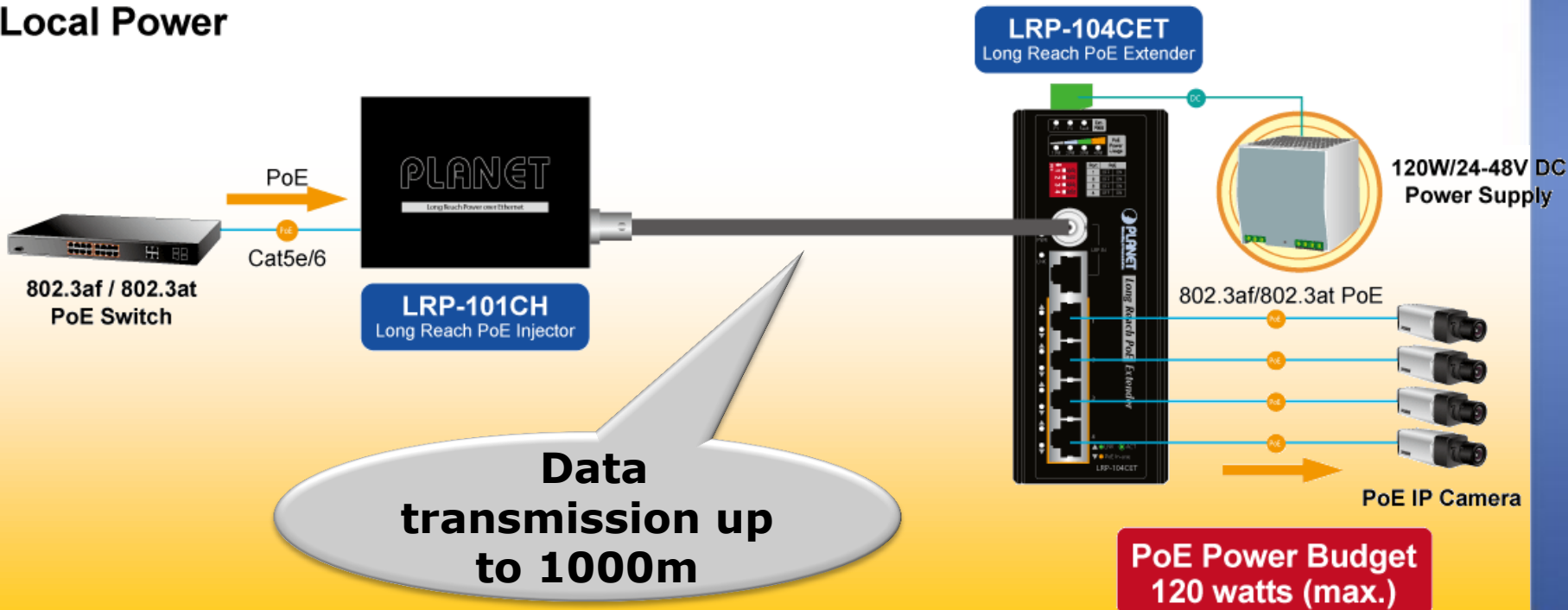


Applications – Type 2

◆ Local Power with External DC Input (DC 24V~48V)

- ✓ The LRP-101 Injector, powered by IEEE 802.3at/af PoE or DC power adapter, transmits data through coaxial cable to the LRP-104CET extender powered by external DC power. An IEEE 802.3at/af compliant PoE PD will then automatically be powered by the LRP-104CET via UTP cabling.

Local Power

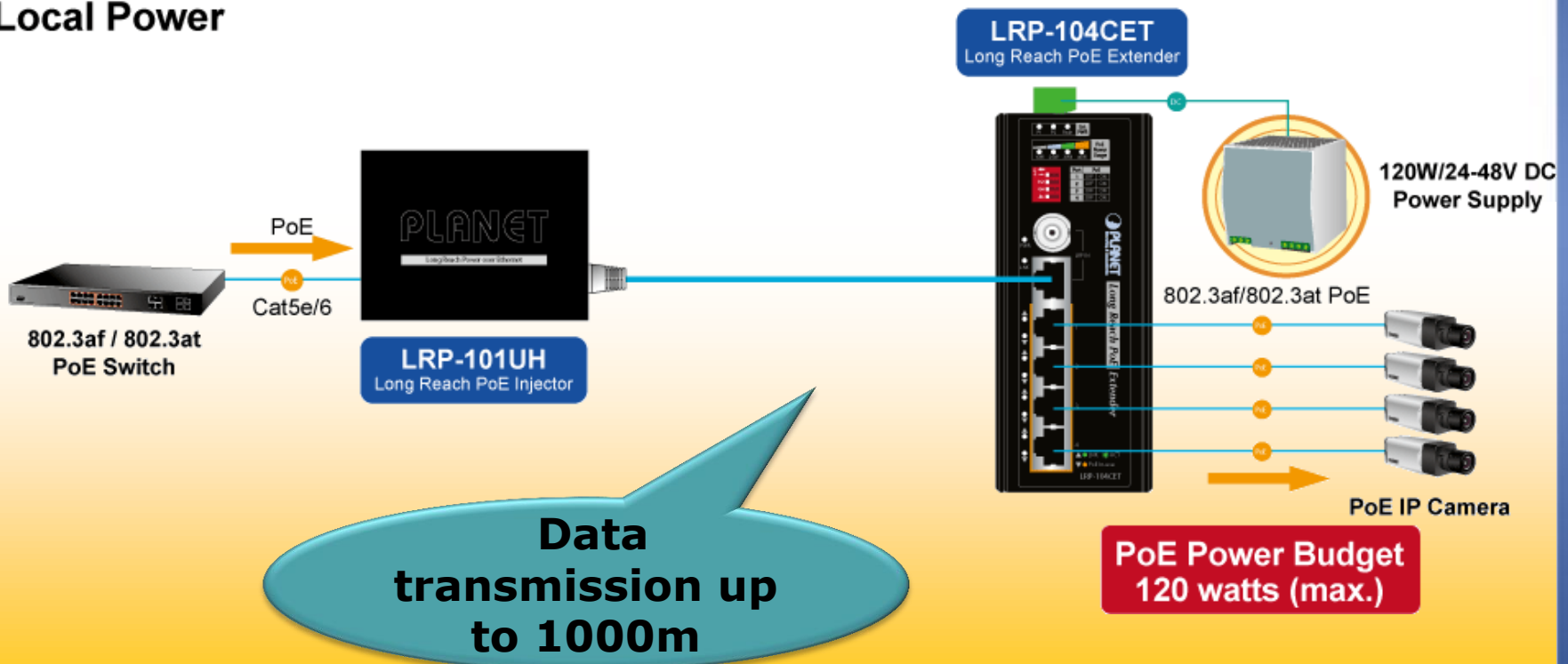


Applications – Type 2

◆ Local Power with External DC Input (DC 24V~48V)

- ✓ The LRP-101 Injector, powered by IEEE 802.3at/af PoE or DC power adapter, transmits data and power over UTP cable to the LRP-104CET extender. An IEEE 802.3at/af compliant PoE PD will then automatically be powered by the LRP-104CET via UTP cabling.

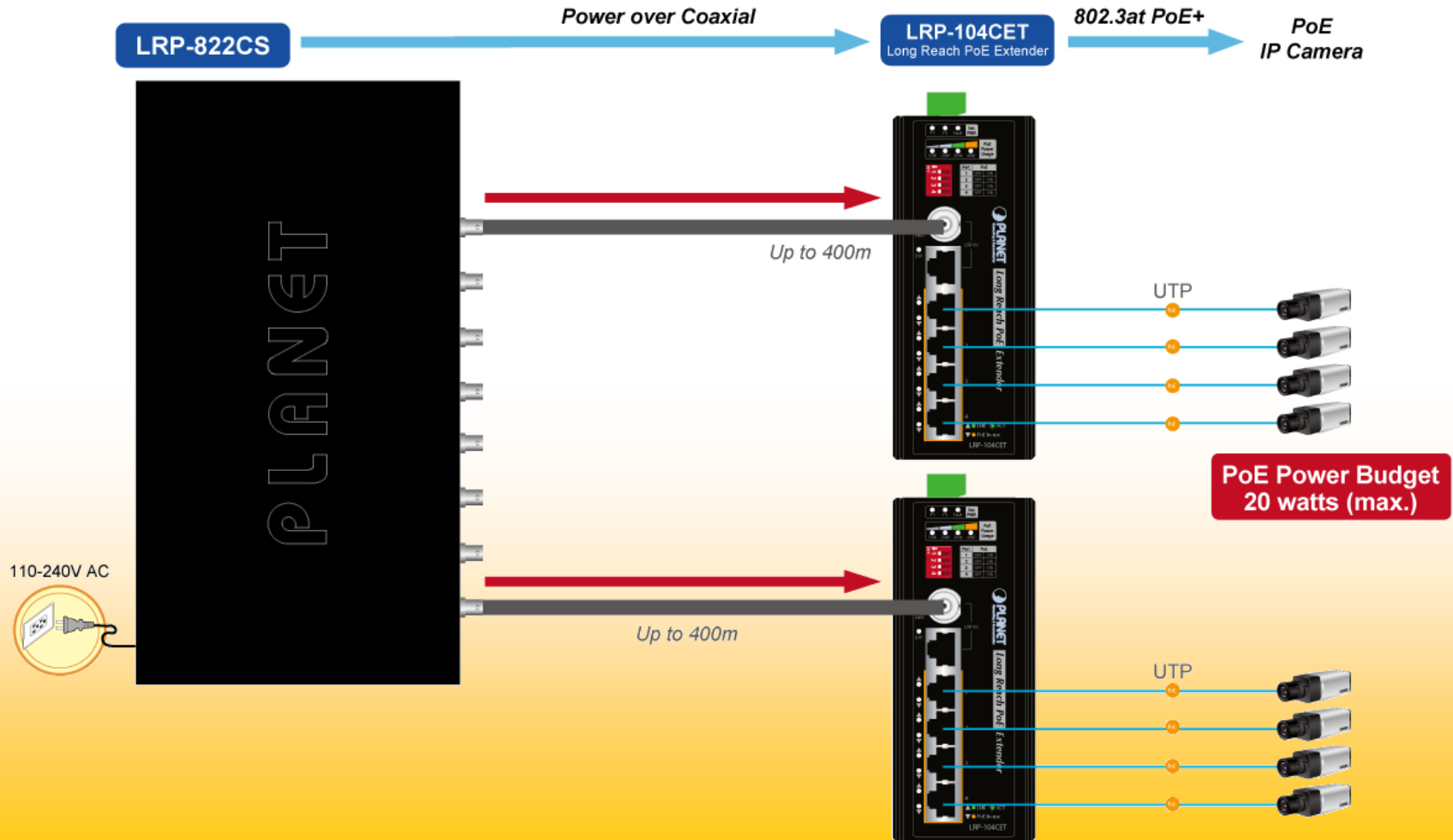
Local Power



Applications

◆ Multi Points to Multi Points with **Remote LRP Power**

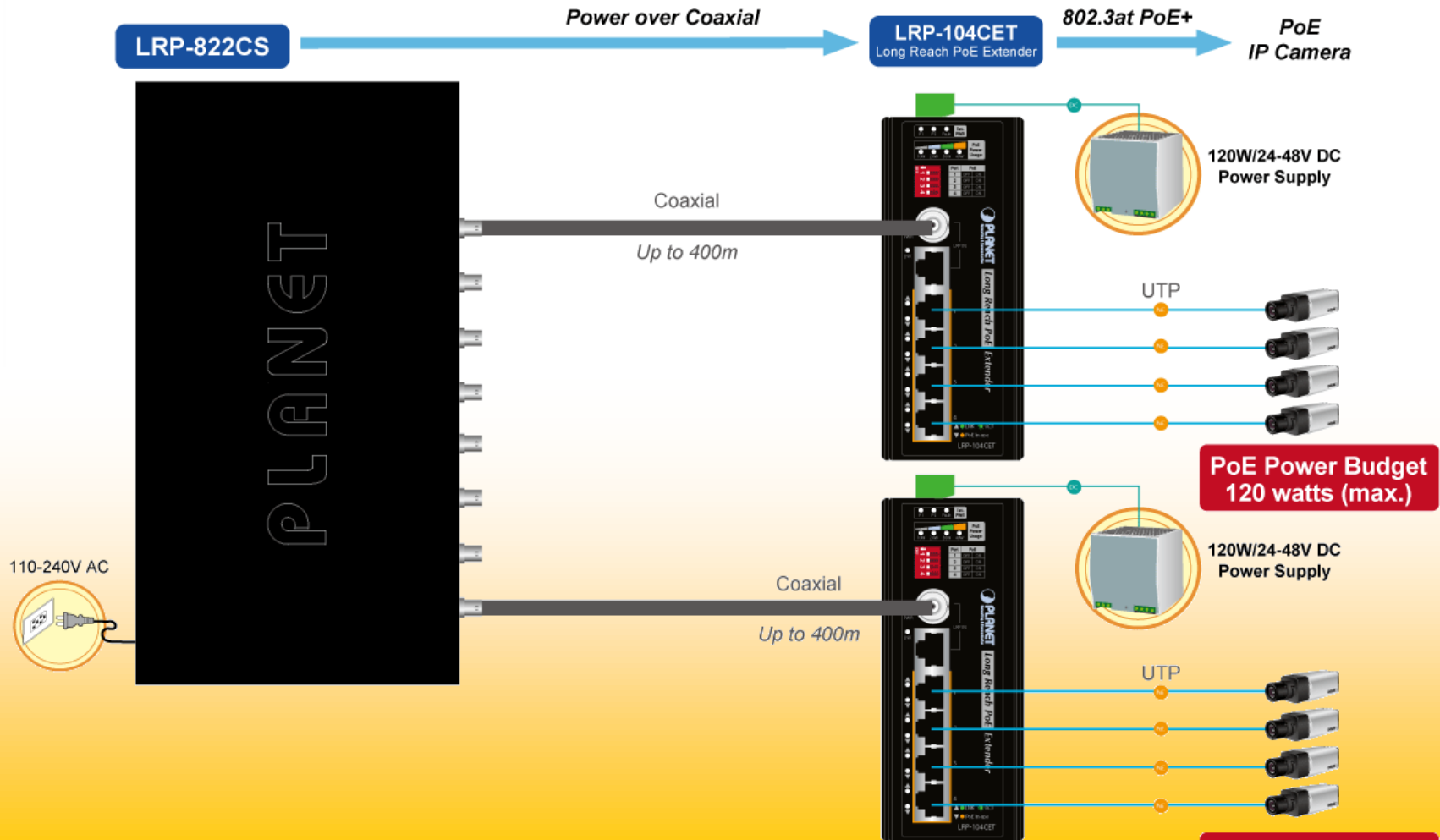
Remote LRP Power



Applications

◆ Multi Points to Multi Points with **Local Power**

Local Power



Appendix



Sales Targets

◆ Target Markets

- ✓ IE Distributor
- ✓ Factory
- ✓ System Integrator
- ✓ Tender Market (Public Construction)
- ✓ Transportation, Hospital, Bank, etc.

◆ Recommended Solutions

- LRP injectors (LRP-101C-KIT, LRP-101U-KIT)
- LRP switches (LRP-822CS, LRP-1622CS)

Appendix


◆ Related Long Reach PoE Injectors and Switches:

Model Name		Description
LRP-101C-KIT		1-Port Long Reach PoE over coax Extender Kit (LRP-101CH + LRP-101CE)
LRP-101U-KIT		1-Port Long Reach PoE over UTP Extender Kit (LRP-101UH + LRP-101UE)
LRP-101CE		1-Port Long Reach PoE over Coaxial Extender
LRP-822CS LRP-1622CS		8-/16-Port Long Reach PoE + 2-Port 10/100/1000T + 2-Port 100/1000X SFP Managed Switch

Appendix



◆ **Related H.265 Surveillance Products:**

Model Name		Description
ICA-M3380P		H.265 3 Mega-pixel Bullet IR IP Camera with Remote Focus and Zoom
ICA-M4320P		H.265 3 Mega-pixel IR IP Camera with Remote Focus and Zoom
ICA-M5380P		H.265 3 Mega-pixel Vandalproof IR IP Camera with Remote Focus and Zoom



ACTIVATING IP POWER