

# Industrial 1-Port 10/100/1000T Ultra PoE + 1-Port Coax/UTP Long Reach PoE Extender (-20~70 degrees C)



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

### Powerful PoE over Coaxial/UTP Extender

The LRP-201ET, a PLANET Long Reach PoE solution, is an **Industrial Single-port 10/100/1000T Ultra PoE over Coaxial/UTP Extender** featuring long range data and power transmission over any existing **coaxial, UTP cable or telephone wire** for distance up to **600 meters (1,968ft.)** and converts power to **IEEE 802.3at/bt PoE** over another **100-meter** Ethernet cable connected to the remote PoE PD. The LRP-201ET provides multi applications for easy **plug-n-play** operation and deployment in climatically demanding environments with wide temperature range from **-20 to 70 degrees C**. It makes the installation of remote PoE PDs easier and more efficiently.



### IP Ethernet and Power over Long Existing Coaxial/UTP Cable

A normal UTP cable can only be extended up to 100 meters, but with the LRP-201ET, when functioning with the LRP-201HT, the distance for PoE networking can be extended up to **600 meters (1,968ft.)** over 75 ohm coaxial cable or up to **400**

### Interface

- 1-port BNC LRP input
- 1-port RJ45 LRP input
- 1-port Ethernet Data + Power output
- 1 PAIR button
- 1 Reset button

### Power over Ethernet

- Eliminates power cabling with PoE over coaxial/UTP/ telephone wire
- Power and Ethernet data transmission over coaxial up to 600m
- Power and Ethernet data transmission over UTP/telephone wire up to 400m
- Complies with IEEE 802.3at/bt Power over Ethernet PD on RJ45 port
- Supports PoE Power up to 60 watts (depending on power source and cable distance)
- Auto detects remote PD
- Plug and Play with no configuration required

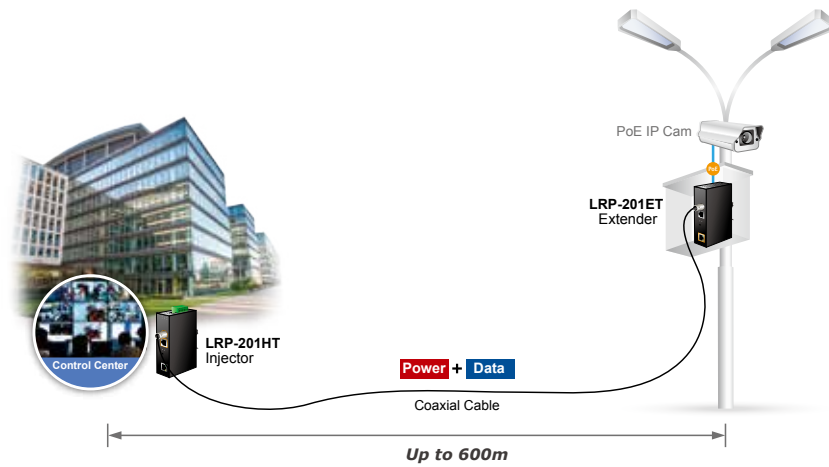
### Hardware

- LED indicators for Power LED, SYS LED, PAIR LED and PoE-in-Use LED
- IP30 slim type metal case

### Industrial Case and Installation

- Compact size; DIN-rail or wall-mount design
- Supports 6KV DC Ethernet ESD protection
- -20 to 70 degrees C operating temperature

meters (1,312ft.) over UTP/telephone wire with stable, high-quality video transmission. It eliminates the need for additional remote site power while allowing a single power source to provide power to both LRP extenders and the PoE PD at long range.



### Securing Network Connection with 128-bit AES Encryption

Simply by pressing the PAIR button on the LRP-201HT and LRP-201ET, users can easily set up a hassle-free, secure network within minutes. When the PAIR LED turns on, it provides 128-bit AES encryption for network security and data protection.



**128-bit AES Encryption for Network Security and Data Protection**

### Plug & Play Installation

With the plug and play feature, the LRP-201ET can be used immediately without the need of configuration and is also compliant with all kinds of IP network protocols. Moreover, the rich diagnostic LEDs on the front panel show the operating status of the individual port and the whole system, enabling the administrator to efficiently manage the network.

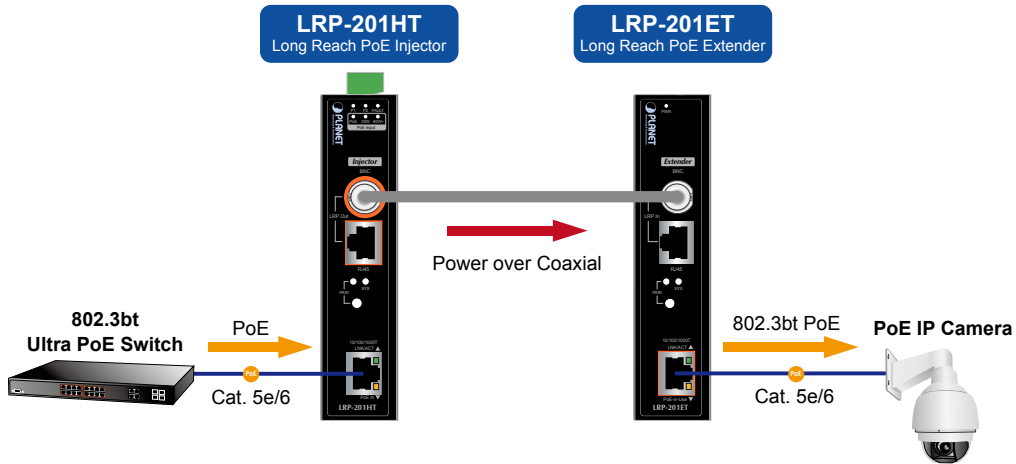
## Applications

Working in pair with PLANET LRP-201HT Long Reach PoE Injector, powered by either the external DC power adapter or PoE++ Ethernet switch, the LRP-201ET's 802.3at/bt standard PoE output goes to a PoE PD. The LRP-201-KIT, made up of the LRP-201HT and LRP-201ET, can be widely used in Intelligent Transportation Systems (ITS), traffic surveillance, security monitoring, automation control, intelligent residential districts and so on.

The LRP-201ET can function in four different kinds of combinations:

■ **Type 1 –LRP-201HT with PoE power input connects to LRP-201ET via coaxial cable**

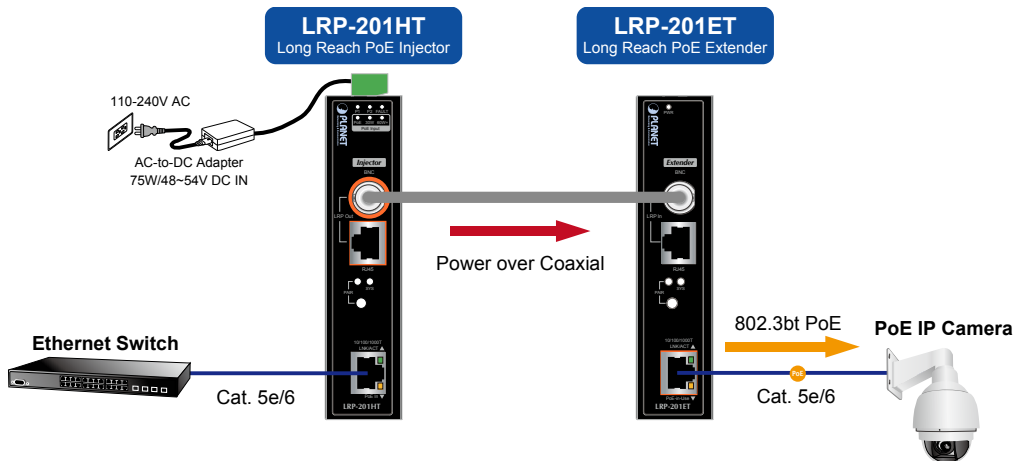
The LRP injector is powered via IEEE 802.3at/bt PoE and connecting to LRP-201ET with coaxial cable. The IEEE 802.3at/bt compliant PoE PD will automatically be powered by the LRP extender via UTP.



Functions	LRP Injector	LRP Extender
	LRP-201HT	LRP-201ET
Power Input	RJ45 with 802.3at/bt PoE input	BNC with DC power over coaxial input
Power Output	BNC with DC power over coaxial output	RJ45 with 802.3at/bt PoE output

■ **Type 2 –LRP-201HT with 48–54V power adapter connects to LRP-201ET via coaxial cable**

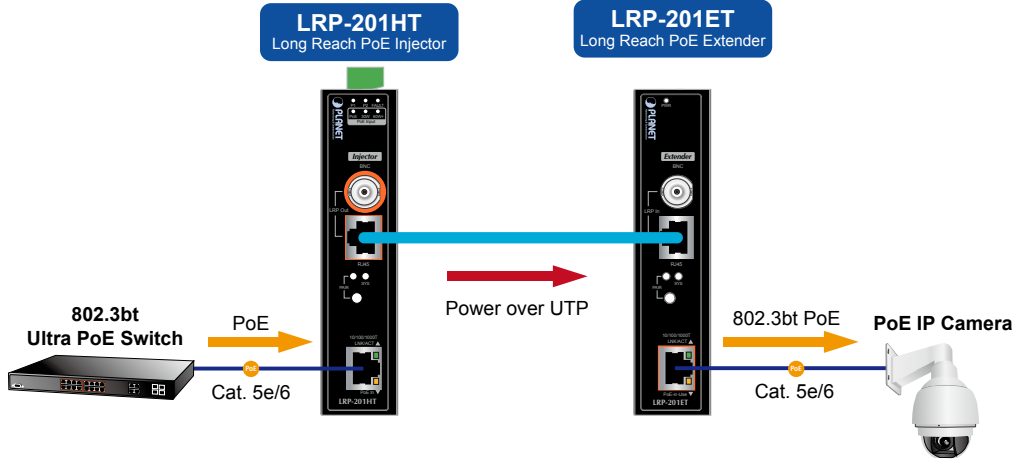
The LRP injector is powered via the external power adapter and connected to LRP-201ET via coaxial cable. The IEEE 802.3at/bt compliant PoE PD will automatically be powered by the LRP extender via UTP.



Functions	LRP Injector	LRP Extender
	LRP-201HT	LRP-201ET
Power Input	Power adapter with 48–54V DC in	BNC with DC power over coaxial input
Power Output	BNC with DC power over coaxial output	RJ45 with 802.3at/bt PoE output

■ Type 3—LRP-201HT with PoE power input connects to LRP-201ET via UTP cable

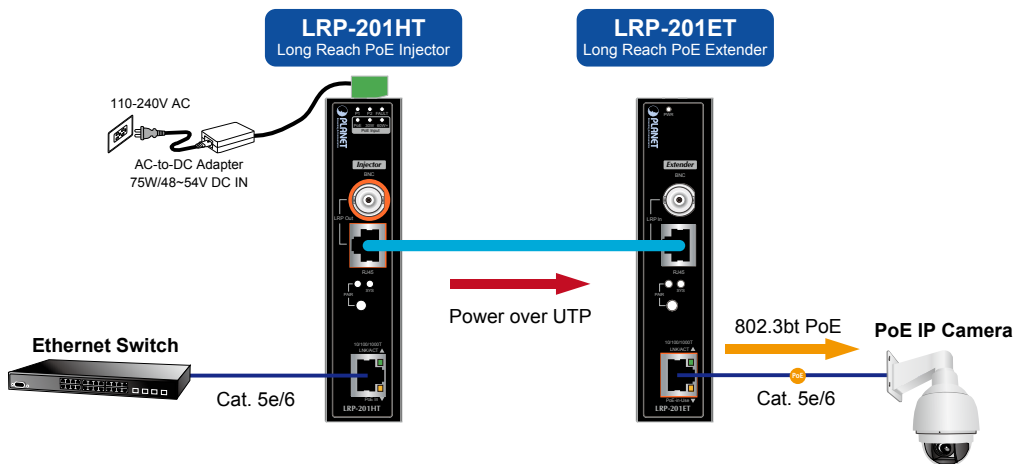
The LRP injector is powered via IEEE 802.3at/bt PoE and connected to LRP-201ET via UTP cable. The IEEE 802.3at/bt compliant PoE PD will automatically be powered by the LRP extender via UTP.



Functions	LRP Injector	LRP Extender
	LRP-201HT	LRP-201ET
Power Input	RJ45 with 802.3at/bt PoE input	UTP with DC power over UTP input
Power Output	UTP with DC power over UTP output	RJ45 with 802.3at/bt PoE output

■ Type 4—LRP-201HT with 48~54V power adapter connects to LRP-201ET via UTP cable

The LRP injector is powered via the external power adapter and connected to LRP-201ET via UTP cable. The IEEE 802.3at/bt compliant PoE PD will automatically be powered by the LRP extender via UTP.



Functions	LRP Injector	LRP Extender
	LRP-201HT	LRP-201ET
Power Input	Power adapter with 48~54V DC in	UTP with DC power over UTP input
Power Output	UTP with DC power over UTP output	RJ45 with 802.3at/bt PoE output

## Specifications

Model		LRP-201ET		
Functions		Long Reach PoE Extender		
Hardware Specifications				
Ethernet Interface	Copper	10/100/1000BASE-T RJ45 Auto-negotiation/ Auto-MDI/MDI-X		
	Power over Ethernet Standard	IEEE 802.3at/bt PoE PSE		
	PoE Output	53V DC, 1.2A max.		
	PoE Budget	Up to 60 watts		
	PoE Mode	Pair 1 End-span: 1/2 (-), 3/6 (+) Pair 2 Mid-span: 4/5 (+), 7/8 (-)		
	Data Rate	100/100/1000Mbps		
	Cabling	Cat. 5e or above		
	Maximum Distance	100 meters		
Maximum Frame sizes	1522 bytes			
Long Reach PoE Interface*	Connectivity	1 x RJ45 female connector Long Reach PoE over UTP PD		
	Power Input	40~54V DC		
	Power Pin Assignment	Coaxial ■ BNC center pole: DC+ ■ BNC shield: DC- UTP ■ RJ45 Pins 1, 3, 5, 7: VCC+ ■ RJ45 Pins 2, 4, 6, 8: VCC-		
	Cabling	Coaxial ■ Coaxial cable: 75 ohm ■ RG-6/U cable, less than 12Ω/1000 ft. ■ RG-59/U cable, less than 30Ω/1000 ft. UTP ■ Cat. 5e/6 UTP cable ■ EIA/TIA-568 100-ohm STP		
	Maximum Distance	Coaxial ■ Max. 200m with PoE++ output (656ft.) ■ Max. 400m with PoE+ output (1312ft.) ■ Max. 600m with PoE output (1,968ft.) UTP ■ Max. 100m with PoE++ output (328ft.) ■ Max. 200m with PoE+ output (656ft.) ■ Max. 300m with PoE output (984ft.) ■ Max. 400m with PoE output (1,312ft.)		
	Long Reach Ethernet Standard	ITU-T G.hn		
	Modulation Type	OFDM		
	Security	128-bit AES encryption		
	Frequency Band	1 ~ 100 MHz		
	Multiple nodes	Supports up to 4 LRP extenders within 0.6km		
	LRP Compatibility	LRP-201HT- 1-Port LRP Injector		
	LRP Coaxial Performance	Distance	Data Rate (Upload / Download)	54V DC Input
200m		480/530 Mbps	54W	40W
400m		285/345 Mbps	29W	25W
600m		100/121 Mbps	16W	14W
LRP UTP Performance	Distance	Data Rate (Upload / Download)	54V DC Input	60W PoE++ Input
	100m	398/476 Mbps	53W	34W
	200m	279/295 Mbps	51W	32W
	300m	106/154 Mbps	37W	29W
LED Indicators	<ul style="list-style-type: none"> <li>■ PWR</li> <li>■ SYS</li> <li>■ PAIR</li> <li>■ PoE-in-Use</li> <li>■ LNK/ACT</li> </ul>			

ESD Protection	6KV DC
PAIR Button	Press for 3 sec to join LRP-201HT
Reset Button	Press over 10 sec to return to factory default
Enclosure	IP30 slim type metal case
Installation	DIN-rail kit or wall-mount ear
Dimensions (W x D x H)	135 x 87.8 x 32mm
Weight	510g
Power Requirements	<ul style="list-style-type: none"> <li>■ BNC Power over Coaxial Input: 40~54V DC, 1.8Amax.</li> <li>■ RJ45 Power over Ethernet Input: 40~54V DC, 1.8A max.</li> </ul>
<b>Standards Conformance</b>	
Standards Compliance	IEEE 802.3 10BASE-T Ethernet IEEE 802.3u 100BASE-TX Fast Ethernet IEEE 802.3ab 1000BASE-T Gigabit Ethernet IEEE 802.3bt 4-pair Power over Ethernet Type 3 IEEE 802.3at Power over Ethernet Plus IEEE 802.3af Power over Ethernet
Regulatory Compliance	FCC Part 15 Class A, CE
<b>Environment</b>	
Temperature	Operating: -20~70 degrees C Storage: -30~75 degrees C
Humidity	Operating: 5~95% (non-condensing) Storage: 5~95% (non-condensing)
<b>Standard Accessories</b>	
Package Contents	<ul style="list-style-type: none"> <li>■ LRP-201ET</li> <li>■ User's Manual</li> <li>■ Wall-mount Kit</li> <li>■ RJ45 Dust Cap x 2</li> <li>■ Warning Sticker</li> </ul>

\* Please do not connect any Ethernet device to LRP IN Port of the LRP-201ET; otherwise, it will damage the Ethernet device.

## Ordering Information

LRP-201ET	Industrial 1-Port 10/100/1000T Ultra PoE + 1-Port Coax/UTP Long Reach PoE Extender (-20~70 degrees C)
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## Related Products

LRP-201-KIT	Industrial 1-Port 10/100/1000T Ultra PoE + 1-Port Coax/UTP Long Reach PoE Kit (LRP-201ET + LRP-201HT)
IPOE-171-60W	Industrial Single-Port 10/100/1000Mbps 802.3bt PoE Injector (60 watts, -40~75 degrees C, 48~56VDC)
IPOE-171-95W	Industrial Single-Port 10/100/1000Mbps 802.3bt PoE Injector (95 watts, -40~75 degrees C, 12~48V DC)
GS-5220-24UP4XV	L2+ 24-Port 10/100/1000T Ultra PoE + 4-Port 10G SFP+ Managed Switch with LCD Touch Screen (400W)
GS-5220-24UP4XVR	L2+ 24-Port 10/100/1000T Ultra PoE + 4-Port 10G SFP+ Managed Switch with LCD Touch Screen and Redundant Power (400W)