

Long Reach PoE over Coaxial Extender Kit



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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.

Convenient PoE over Coaxial Extender in Harsh Environment

The LRP-101C-KIT, a PLANET Long Reach PoE solution, is a Single-port PoE over Coaxial Extender Kit featuring long range data and power transmission for distance up to 1,000m (3,280ft.) over coaxial cable, and another 100m over Ethernet cable to remote PoE IP camera, PoE wireless AP or access control systems complied with 802.3af/at PoE. The LRP-101C-KIT provides point to point application for easy plug-n-play operation and deployment in climatically demanding environments with wide temperature range from -20 to 70 degrees C. Without the problem of power source, it makes the installation of remote PoE powered devices easier and more efficiently.

Power over Ethernet

- Eliminates power cabling with PoE over coaxial
- Supports Power over Ethernet PSE (PoE Injector)
- Power and Ethernet data transmission of 1,000m over coaxial cabling
- Complies with IEEE 802.3af / IEEE 802.3at Power over Ethernet PD on RJ45 port
- Supports Long Reach PoE power up to 30.8 watts (depending on power source and cable distance)
- Supports PoE Power up to 25 watts (depending on power source and cable distance)
- Auto detects remote powered device (PD)
- Plug and Play; no PC required

Industrial Case and Installation

- Supports extensive LED indicators for network diagnostics
- Metal case protection
- Compact size, DIN-rail and wall-mount design
- Supports EFT surge protection of 2kV DC for power line
- Supports Ethernet ESD protection of 4kV DC
- -20 to 70 degrees C operating temperature



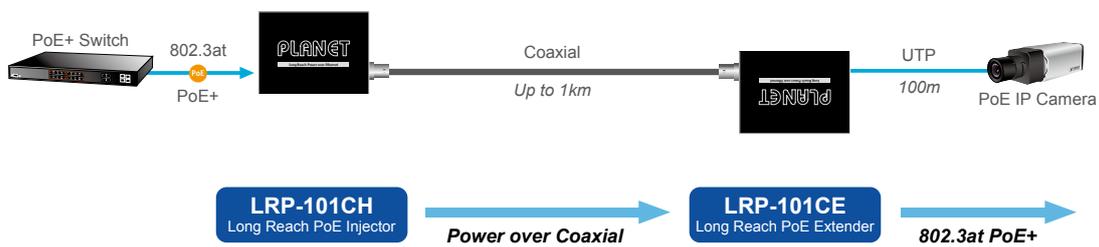
Composition of Long Reach PoE over Coaxial Extender Kit

The LRP-101C-KIT consists of a Long Reach PoE injector and a Long Reach PoE extender set which can work in pair anywhere on your network infrastructure. It contains two brand-new products:

- LRP-101CH: 1-Port 10/100TX PoE PD + 1-Port Coax Long Reach PoE Injector
- LRP-101CE: 1-Port 10/100TX PoE PSE + 1-Port Coax Long Reach PoE Extender

The LRP-101CH transmits data and power over coaxial cable to the LRP-101CE, which can be located as far as 1,000m away. It will then deliver the data and power output with a maximum of up to 25 watts to a PoE PD over Ethernet cable, thus expediting the IP surveillance network or wireless LAN infrastructure in long distance.

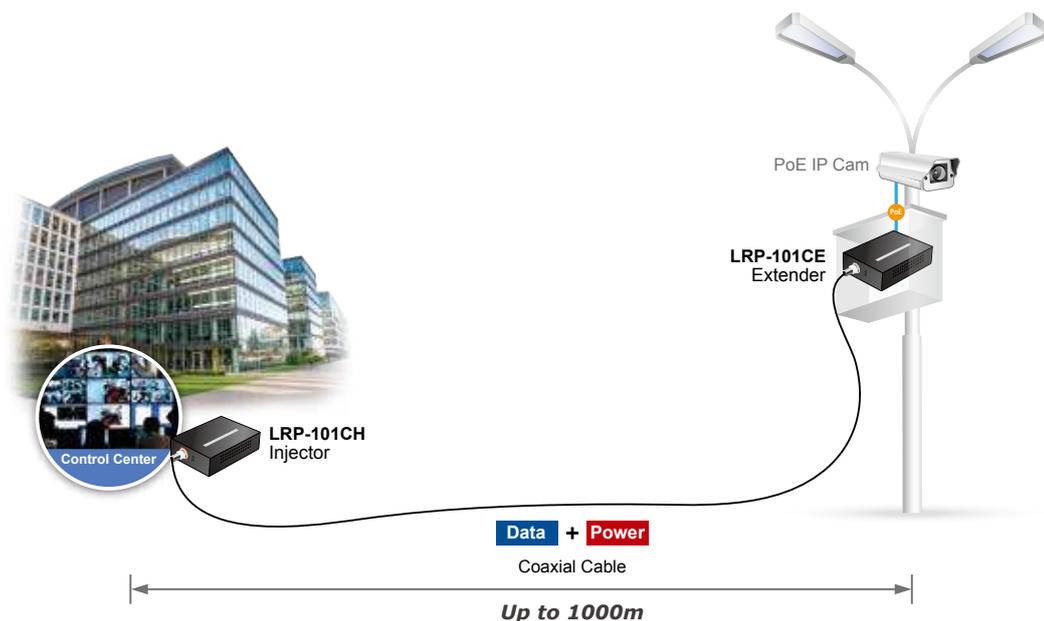
Both of the two products come in a compact but rugged metal housing. Their wall-mounted design fits easily in any space-limited location.



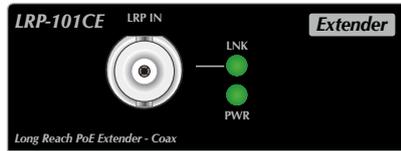
Functions	LRP Injector	LRP Extender
	LRP-101CH	LRP-101CE
Power Input	RJ45 with 802.3at/af PoE input or power adapter with 48~56V DC in	BNC with DC power over coaxial input
Power Output	BNC with DC power over coaxial output	RJ45 with 802.3at/af PoE output
LAN Connection	NVR or PoE+ Ethernet switch at head-end	PoE IP camera, PoE wireless AP, PoE access control at remote site

IP Ethernet and Power over Long Existing Coaxial Cable

A normal UTP cable can only be extended up to 100 meters, but the LRP-101C-KIT can extend PoE networking up to 1,000 meters (3,280ft.) **over existing 75 ohm coaxial cable** 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 IP camera at long range.



**BNC Connector
Long Reach PoE IN**



**RJ45 Connector
802.3af/at PoE Output**

Stable Operating Performance under Difficult Environments

PLANET Long Reach PoE Extender Kit is the perfect solution for distance extension for PoE or non-PoE networking for warehouses, parking lots, campuses, casinos, and many more. They can operate stably under temperature ranging from -20 to 70 degrees C to enable the users to conveniently operate the kit in almost any location.

Plug-n-play Installation

With the plug and play feature, PLANET Long Reach PoE Extender Kit 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.

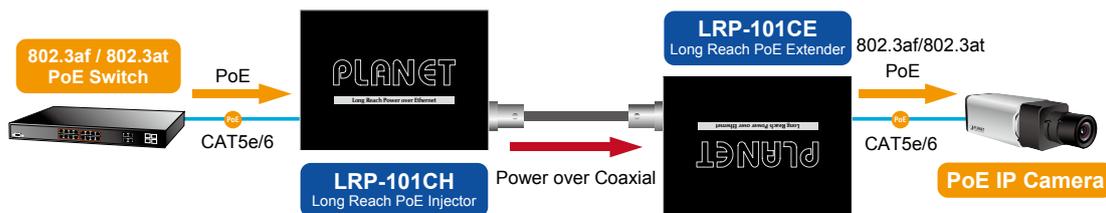
Applications

The LRP-101C-KIT includes two products: The LRP-101CH, a Coax Long Reach PoE Injector (LRP injector), and the LRP-101UE, a Coax Long Reach PoE Extender (LRP extender). Working in pair, the LRP-101CH can be powered by either external DC power adapter or PoE+ Ethernet switch, and from there, the LRP-101CE's 802.3at standard PoE output goes to PoE Powered Device (PD). The LRP-101C-KIT can be widely used in Intelligent Transportation Systems (ITS), traffic surveillance, security monitoring, automation control, intelligent residential districts and so on.

The LRP-101C-KIT can function in two different kinds of combinations:

Type 1 – LRP-101CH with PoE power input and LRP-101CE with PoE power output

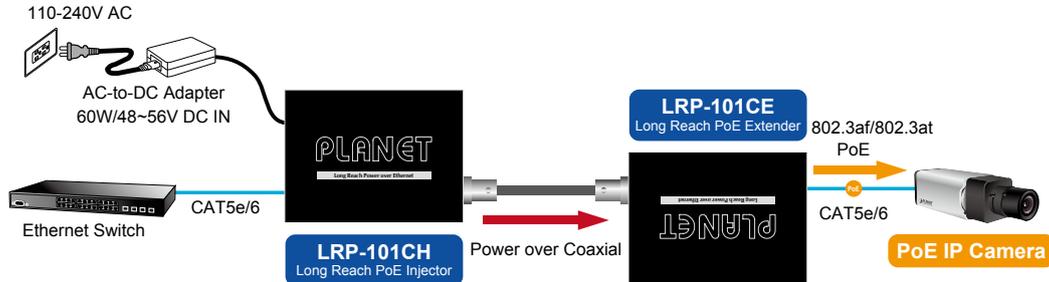
The LRP-101CH injector is powered by IEEE 802.3at/af PoE source and it transmits data and power over coaxial cable to the LRP-101CE extender. An IEEE 802.3at/af compliant PoE PD will then automatically be powered by the LRP-101CE via UTP cabling.



Functions	LRP Injector	LRP Extender
	LRP-101CH	LRP-101CE
Power Input	RJ45 with 802.3at/af PoE input	BNC with DC power over coaxial input
Power Output	BNC with DC power over coaxial output	RJ45 with 802.3at/af PoE output

Type 2 – LRP-101CH with 48~56V DC power input and LRP-101CE with PoE power output

The LRP-101CH injector is powered via the DC power adapter and it transmits data and power over coaxial cable to the LRP-101CE extender. An IEEE 802.3at/af compliant PoE PD will then automatically be powered by the LRP-101CE via UTP cabling.



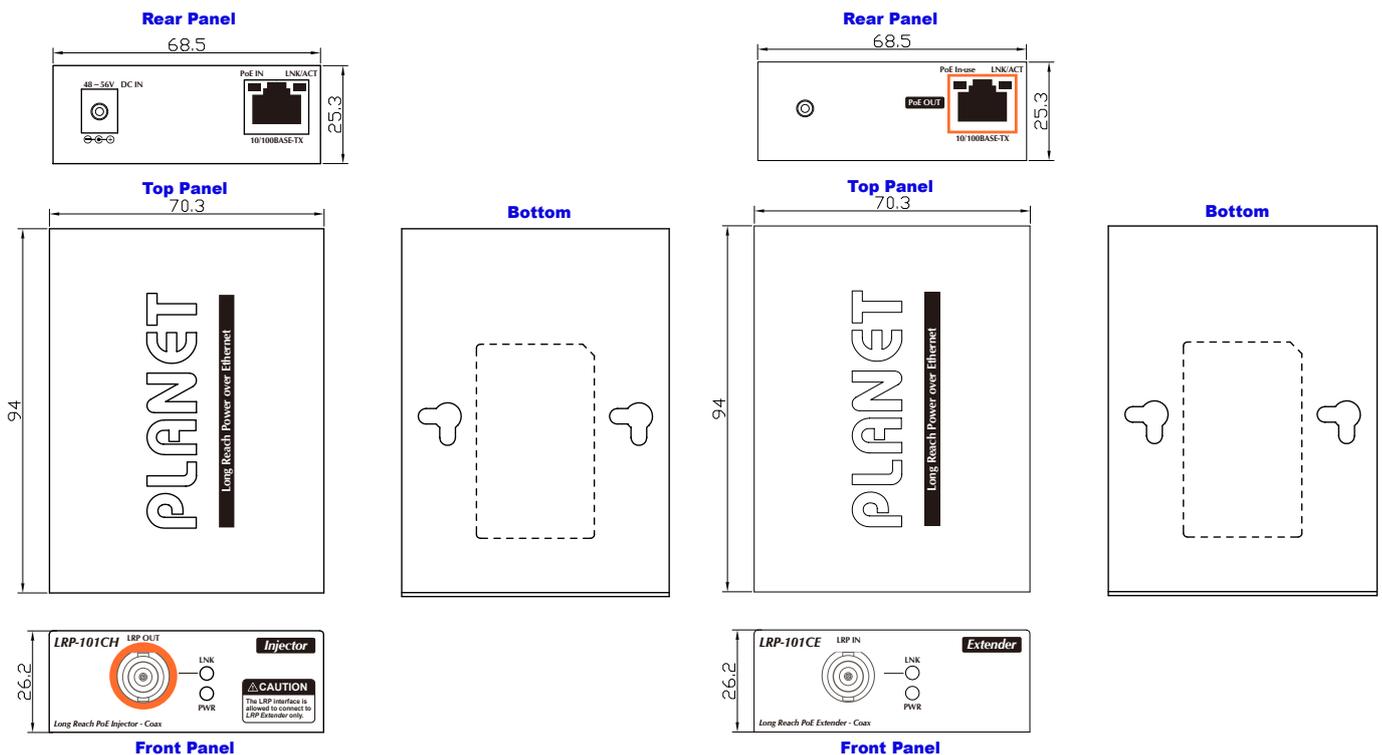
Functions	LRP Injector	LRP Extender
	LRP-101CH	LRP-101CE
Power Input	Power adapter with 48~56V DC in	BNC with DC power over coaxial input
Power Output	BNC with DC power over coaxial output	RJ45 with 802.3at/af PoE output

Specifications

Model	LRP-101CH	LRP-101CE			
Functions	Long Reach PoE Injector	Long Reach PoE Extender			
Hardware Specifications					
Ethernet Interface	Copper	10/100BASE-TX RJ45 auto-negotiation / auto-MDI/MDI-X			
	Power over Ethernet Standard	IEEE 802.3at/af PoE PD (Powered Device)			
	PoE Input	Supports both Mid-span and End-span PSE Input Range: 48~56V DC			
	PoE Output	-			
	PoE Budget	-			
	PoE Mode	-			
	Data Rate	100/100Mbps			
	Cabling	Cat5e or above			
	Maximum Distance	100 meters			
Maximum Frame Size	1522 bytes				
Long Reach PoE Interface	Connectivity	1 x BNC female connector Long Reach PoE over coaxial PSE			
	Power Input	-			
	Power Output	41~56V DC			
	Power Pin Assignment	- BNC center pole: DC+ - BNC shield: DC -			
	Cabling	Coaxial cable: 75 ohm RG-6/U cable, less than 12Ω/1,000ft. RG-59/U cable, less than 30Ω/1,000ft.			
	Maximum Distance	Max. 200m with PoE+ output (656ft.) Max. 600m with PoE output (1,968ft.) Max. 1200m without PoE output (3,937ft.)			
	Long Reach Ethernet Standard	IEEE 1901			
	Modulation Type	Wavelet-OFDM			
	Security	128-bit AES encryption			
	Frequency Band	2 ~ 28 MHz			
	Encryption	AES 128-bit			
Performance**			LRP-101CE 802.3at/af PoE Output Capability**		
		Distance	Data Rate* (Upload / Download)	LRP-101CH with 56V DC in	LRP-101CH with 30W PoE+ in
		200m	93 / 93Mbps	29W	16W
		400m	93 / 93Mbps	22W	14W
		600m	87 / 91Mbps	13W	10W
		800m	75 / 83Mbps	10W	8W
	1000m	55 / 73Mbps	8W	7W	

	LRP Compatibility	LRP-101CE - 1-Port LRP Extender	With power over coaxial input - LRP-101CH, 1-Port LRP Injector - LRP-822CS, 8-Port LRP over Coax Switch - LRP-1622CS, 16-Port LRP over Coax Switch
LED Indicators		4 x LEDs - PWR - LRP LNK - PoE IN - LNK/ACT	4 x LEDs - PWR - LRP LNK - PoE-in-use - LNK/ACT
ESD Protection		4KV DC	
EFT Protection		2KV	-
Enclosure		Metal case	
Installation		Wall mount or DIN rail with optional kit	
Dimensions (W x D x H)		94 x 70 x 26 mm	
Weight		200g	375g
Power Requirements		- RJ45 PoE Input: 802.3at/af 48~56V DC - DC Input: 48~56V DC	BNC Power over Coaxial Input: 44~56V DC
Standards Conformance			
Standards Compliance		IEEE 802.3 10BASE-T Ethernet IEEE 802.3u 100BASE-TX Fast Ethernet IEEE 802.3af Power over Ethernet (802.3at Type 1) IEEE 802.3at Power over Ethernet (802.3at Type 2)	
Regulation Compliance		FCC Part 15 Class A, CE	
Environment			
Temperature		Operating: -20~70 degrees C Storage: -40~75 degrees C	
Humidity		Operating: 5~95% (non-condensing) Storage: 5~95% (non-condensing)	
Note		*1. Upload: LRP-101CE to LRP-101CH, data stream. Download: LRP-101CH to LRP-101CE, data stream. 2. As there are various resistance values in the category of RG-59/U or RG-6/U cable, the actual data rate will vary on the quality of the copper wire and environment factors. ** Depending on what the DC/PoE Power Input and the length of coaxial cable are.	

Drawing





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