

# High Power PoE Extender

## eco-power130T/R



**eco-power130T**

**eco-power130R**

### **Description:**

This is a preliminary specification for “High power PoE extender over coax” solution. By using novel RF technology, it can extend the transmission distance of high power (>30W) and Ethernet signal up to 200~ 300m over coaxial cable. The PoE power and signal from PoE switch or PoE injector are input into eco-power 130T and converted into coaxial cable. eco-power 130R receives the signal and power from coaxial cable and converts back to PoE interface. This solution allow user to provide high power over 200~300m PoE link by a simple, reliable and cost-effective method.

## Specification:

Model Number		eco-power130T	eco-power130R	
<b>Interface</b>				
Connector	Data + Power Port	1 RJ-45 female connector (IN) (POE in)	1 RJ-45 female connectors (OUT) (POE out)	
	Data+ Power Port	1 F female connector (OUT)	1 F female connector (IN)	
Coax Cable		RG6/RG11 75 ohm video-grade coaxial cable (used for Cable TV )		
<b>Electrical</b>				
Standard		IEEE 802.3af/at or Pre-at		
Speed		10/100Mbps for full duplexer		
Ethernet Cable		1~2m STP (shielded) cable at eco-power 130T side < 100m STP cable at eco-power 130R side		
Transmission distance		300m @ low DC resistance RG 11 for high power output 200m @ low DC resistance RG 6 for high power output 300m @ regular RG6 for low power output (refer to figure 1)		
Power operation range for PD device		60mA~700mA		
<b>Power</b>				
Powered by PoE		YES		
Input Operating Voltage		36~57 VDC @ RJ-45 female connector	36~57 VDC @ F female connector	
Output Voltage		36~57 VDC @ F female connector	36~57 VDC @ RJ-45 female connector	
Remote Powering ability		-----	Maximal 31.5W	Cable & power supply dependant
Power consumption		<=1 W	<=2.5W	

# Preliminary

Mechanical			
Enclosure material	Aluminum alloy		
Mounting	wall mounting available		
Dimension	112 mm x 72mm x 31.5 mm	112 mm x72mm x 31.5 mm	Not include connector
Environment			
Operating temperature	-10 to +60degree C		

## Application:

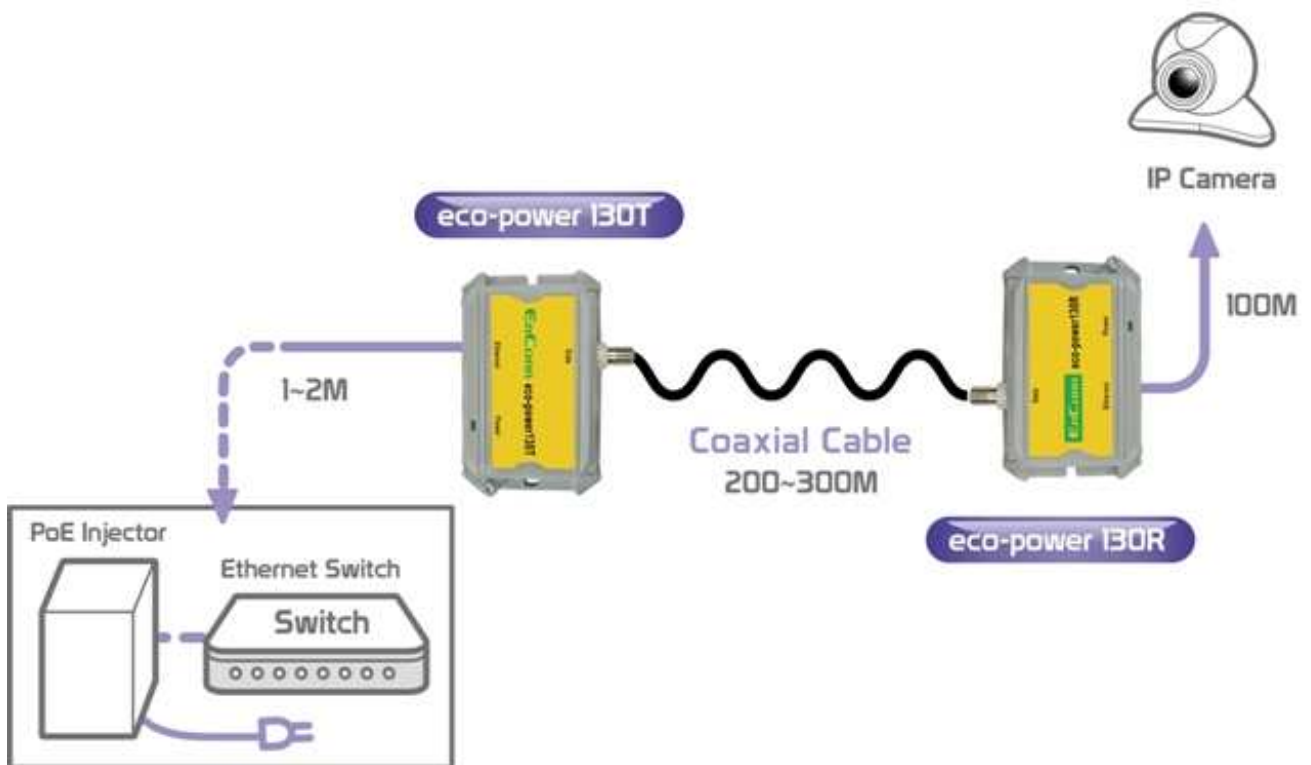
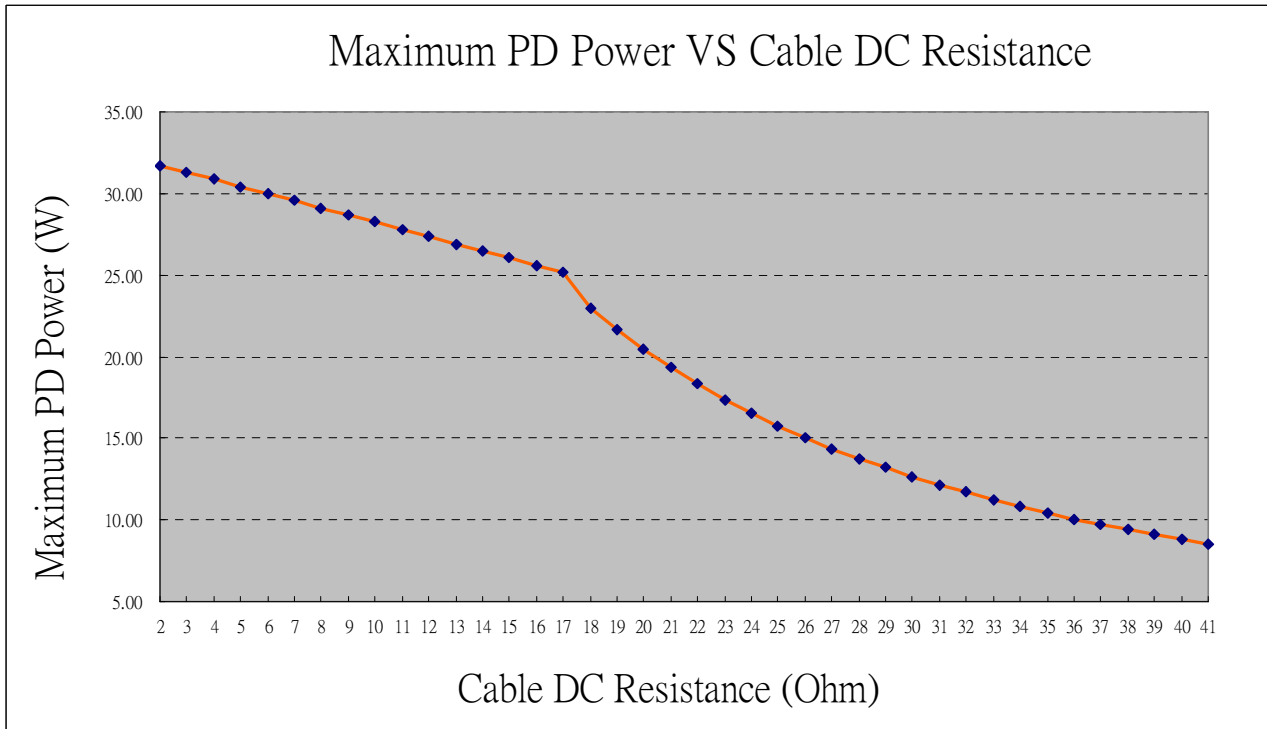
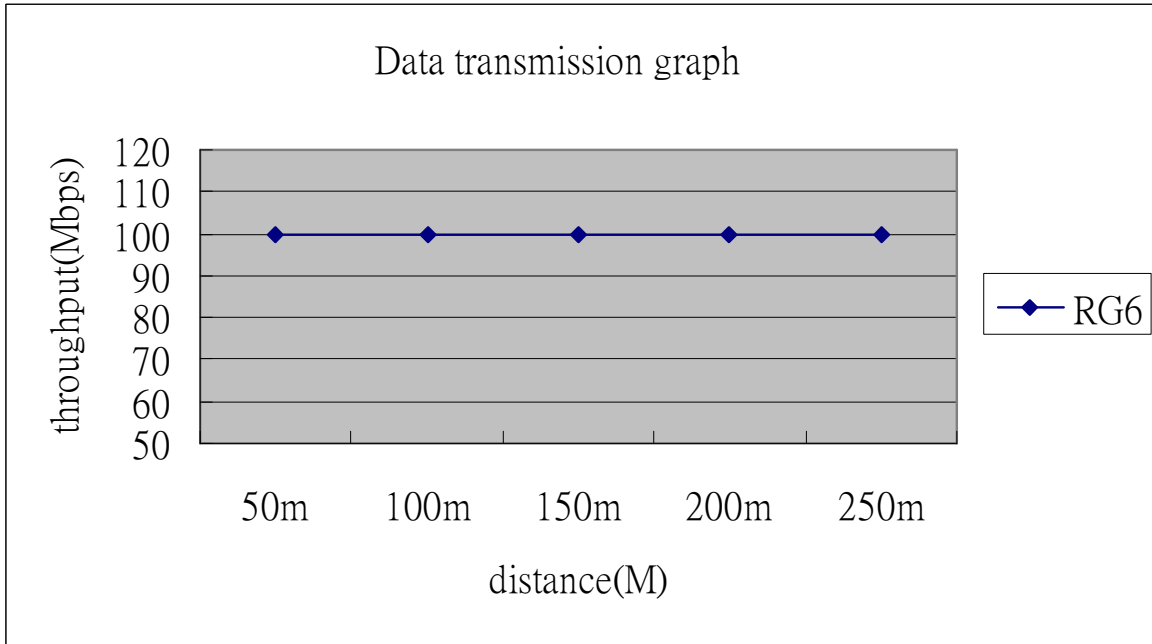


Fig. 1 Maximum PD power vs. cable dc resistance



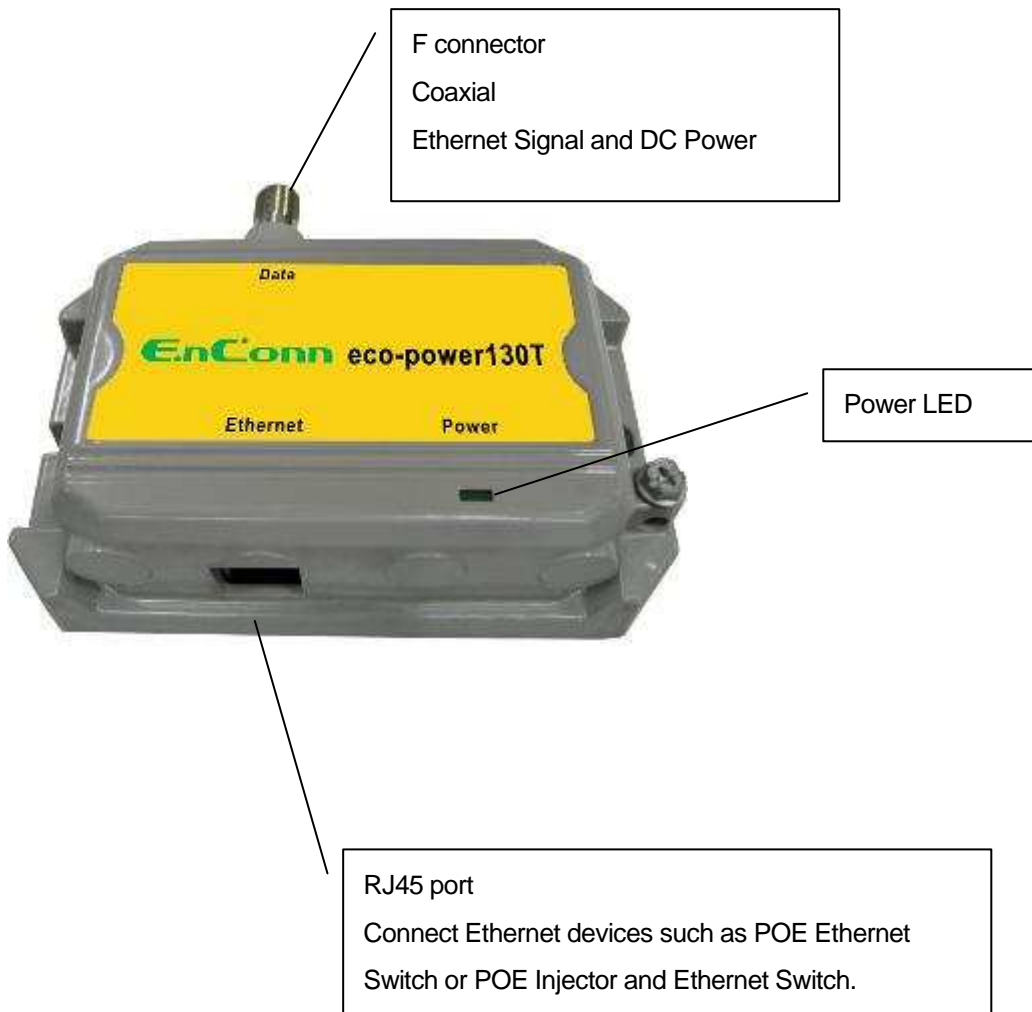
1. Used 40W PoE power injector of PENT1040B5600F01 for test.
2. Cable DC Resistance =  
DC Resistance of Cable Inner conductor + DC Resistance of Cable Shield.
3. Typically, regular resistance of RG 6 is 13 ohm/100m.
4. Typically, regular resistance of RG11 is 4.9 ohm/100m.
5. Resistance of Low resistance RG6 such as WC5CFB16-200H is 3.7 ohm/100m.
6. Resistance of Low resistance RG11 such as WC7CFB-A is 2.4 ohm/100m.
7. DC Cable Resistance should include Lan UTP Cable, 10ohm/100M (for standard POE interface, cat 5E)

Fig2. Data transmission

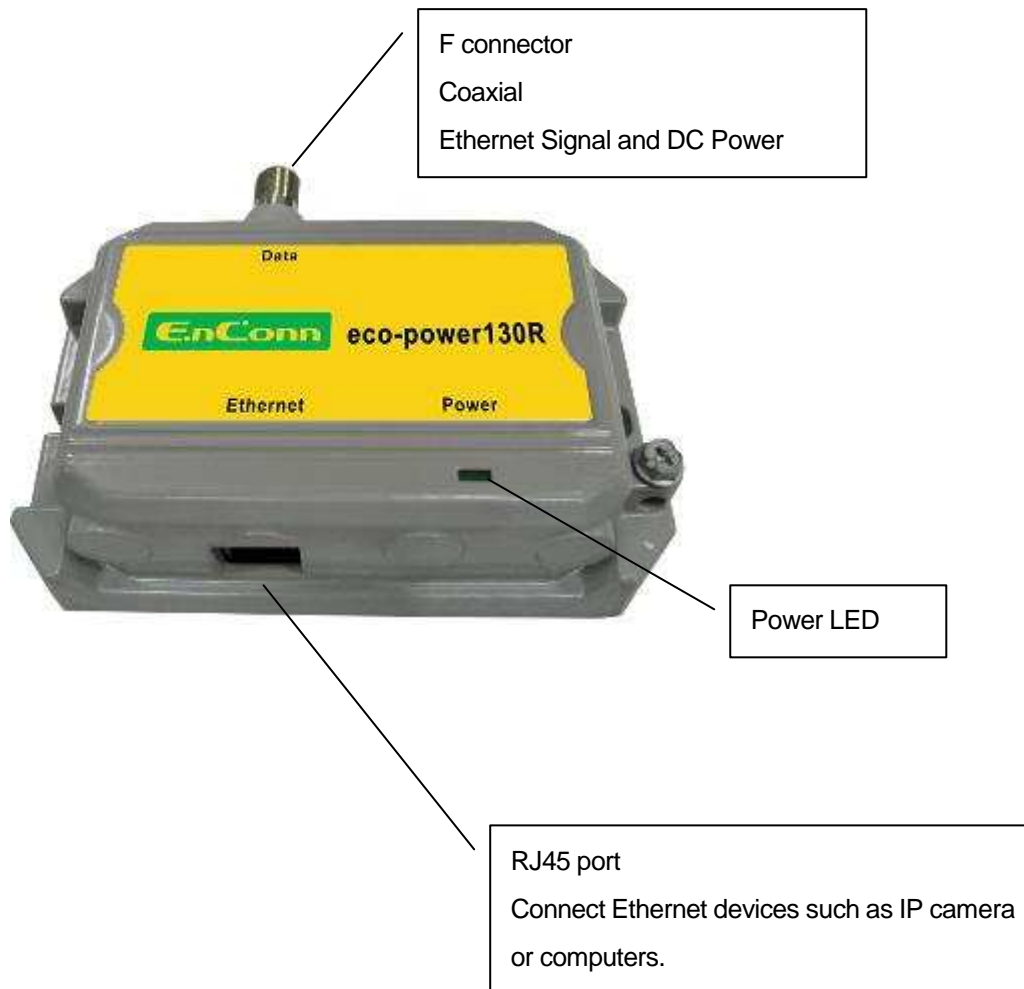


# Hardware Overview

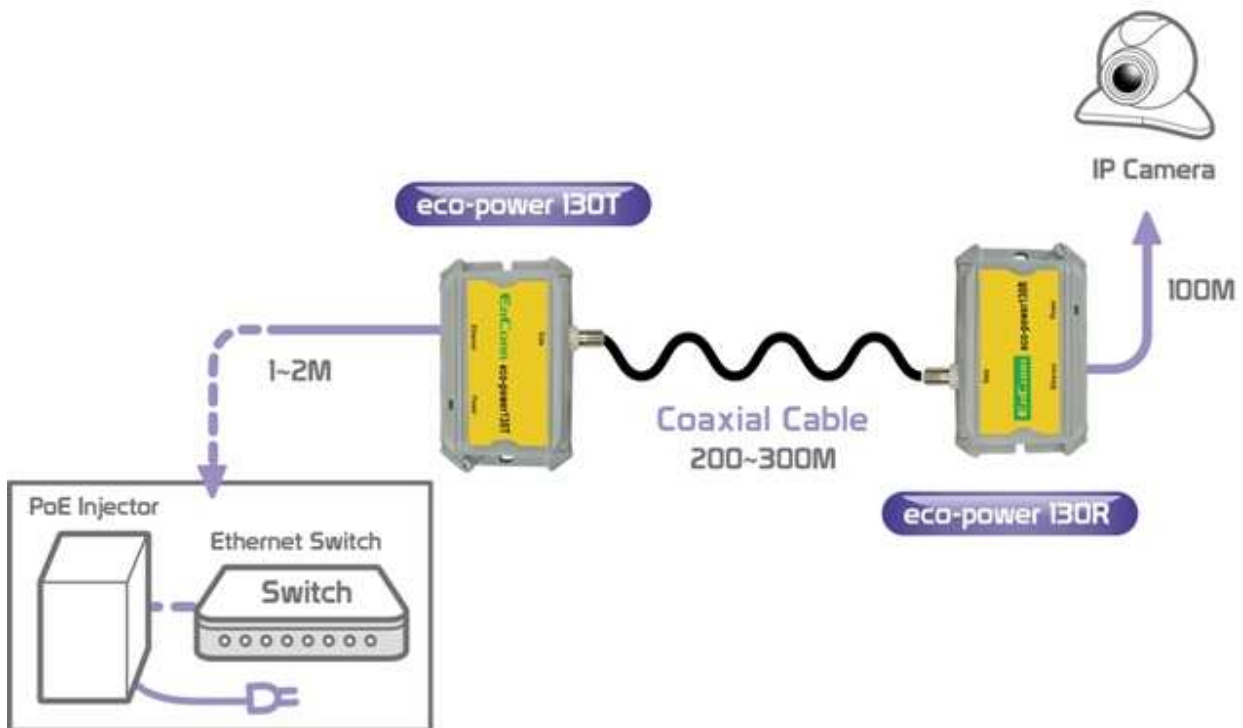
## eco-power130T



## eco-power130R



## Installation



1. First, Plug the eco-power130R network connector into the Ethernet port on your IP Camera.
2. Connect a coaxial cable between the eco-power130T and the eco-power130R.
3. Connect eco-power130T Ethernet cable into the Ethernet port on your POE Ethernet Switch or POE Injector and Ethernet Switch.

- Status LED

A green solid light indicates a proper connection to the power supply.