PoE Extender

eco-power100T/R

eco-power100T

eco-power100R

Description:

This is a preliminary specification for “PoE extender over coax” solution. By using novel RF technology, it can extend the transmission distance of power 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 100T and converted into coaxial cable. eco-power 100R receives the signal and power from coaxial cable and converts back to PoE interface. This solution allow user to provide 200~300m PoE link by a simple, reliable and cost-effective method.

Specification:

Model Number		**eco-power100T**	**eco-power100R**	
Interface				
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)	
Cable		RG6 video-grade coaxial cable		
Electrical				
Standard		IEEE 802.3af		
Speed		10/100Mbps for full duplexer		
Ethernet Cable		<=2m STP (shielded) cable at eco-power100T <=100m UTP cable at eco-power100R		
Transmission distance		300m @RG6 video-grade coaxial cable 300m coax cable + 100 UTP cable		
Frequency Allocation		0~125MHz		
Power				
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 15.4W	Cable & power supply dependant
Power consumption		<=1 W	<=2.5W	
Maximal passing current		1.5 A		
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:

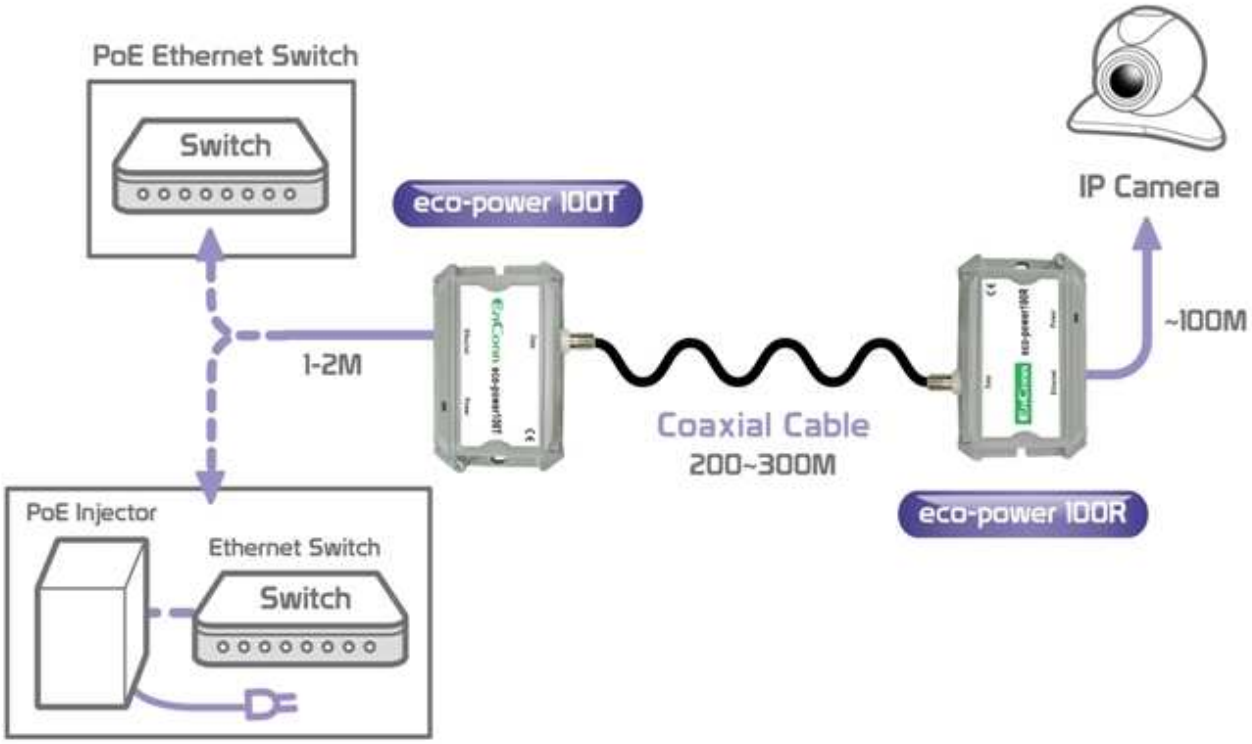
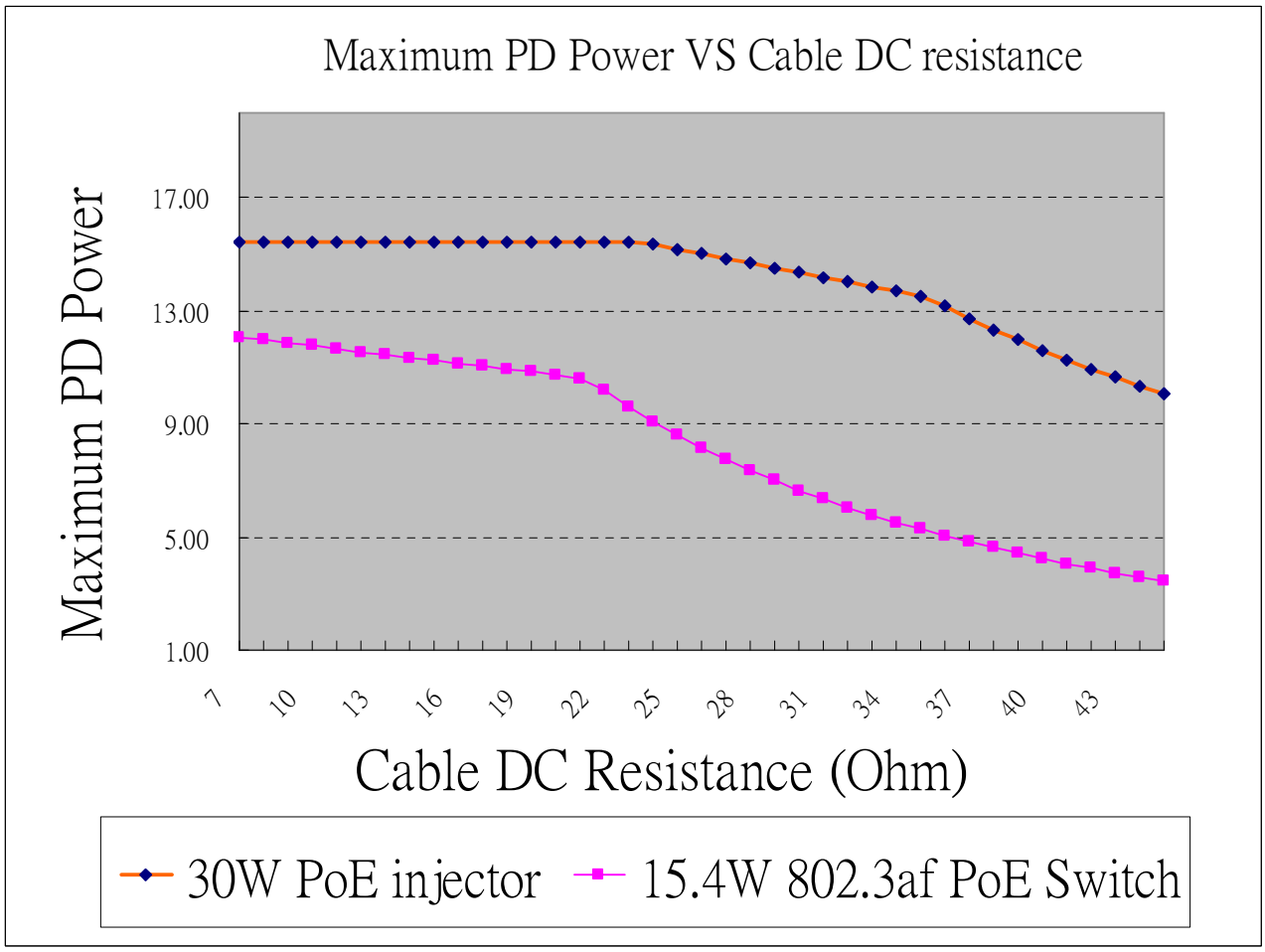
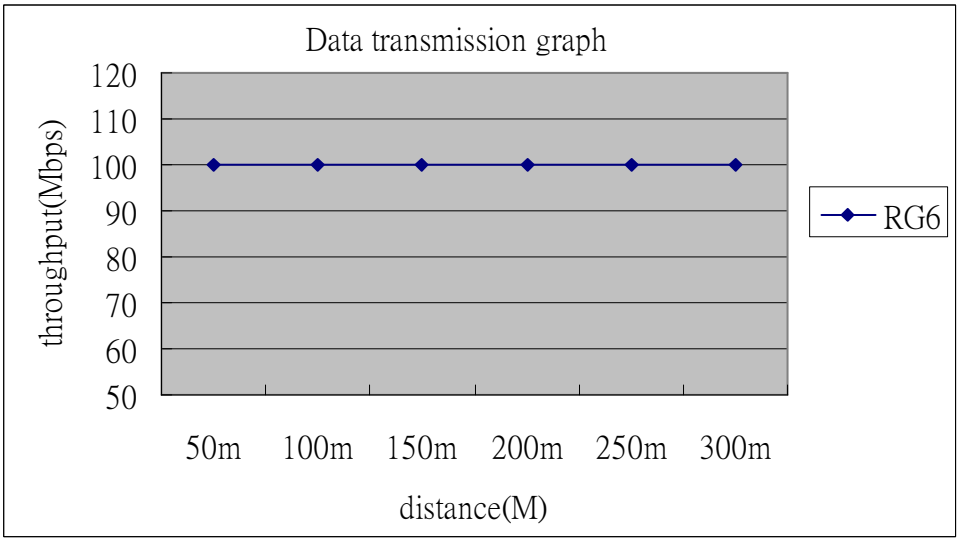


Fig.1 Maximum PD power v.s. cable DC resistance



1. 30W PoE injector : PD-7001G 55V, 0.57A
2. 15.4W 802.3af SW: standard POE Switch, 48V/375mA.
3. Cable DC Resistance = DC Resistance of Cable Inner conductor + DC Resistance of Cable Shield.
4. Typically, regular resistance of RG 6 is 13 ohm/100m.
5. Typically, regular resistance of RG 59 is 17 ohm/100m.
6. Typically, regular resistance of RG11 is 4.9 ohm/100m.
7. Resistance of Low resistance RG6 such as WC5CFB16-200H is 3.7 ohm/100m.
8. Resistance of Low resistance RG11 such as WC7CFB-A is 2.4 ohm/100m.


Data transmission graph
120
110
100
90
80
70
60
50
throughput(Mbps)
50m
100m
150m
200m
250m
300m
distance(M)
RG6