

LINOVISION

New-Generation PoE & Ethernet over
Coax Converter
UltraReach EOC2
Quick Guide (V1.1/2026-7-27)



Quick Guide

Package Contents



UltraReach EOC-T2
(Transmitter)



UltraReach EOC-R2
(Receiver)



Wall Mounting
Accessory

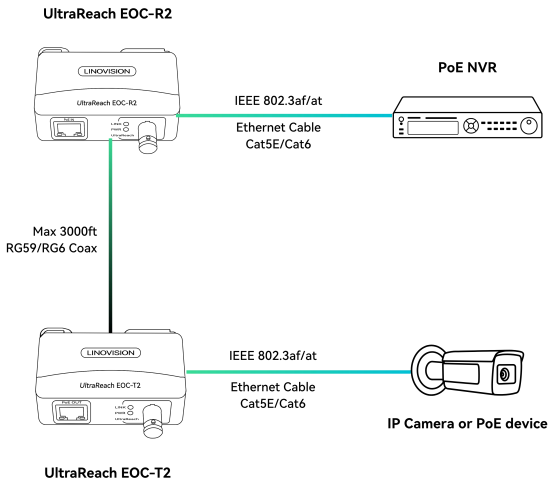


Screw Bag



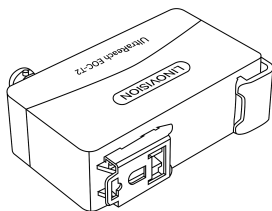
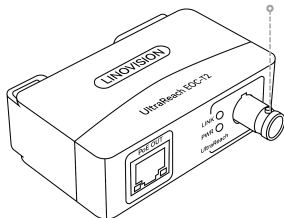
Quick Guide

Connection Diagram

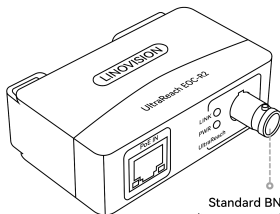


Transmitter & Receiver

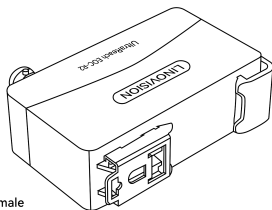
Standard BNC female
(bayonet-style) connector



UltraReach EOC-T2

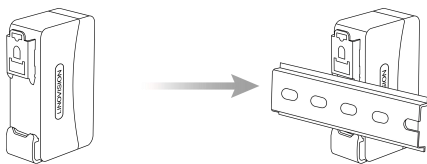
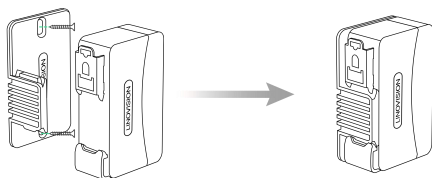


Standard BNC female
(bayonet-style) connector



UltraReach EOC-R2

Installation



DIN-rail Installation & Wall Mounting

Specifications

Hardware		
Model	UltraReach EOC-T2 (Transmitter)	UltraReach EOC-R2 (Receiver)
Function Port	1 * 10/100 Mbps Base-TX 1 * BNC	
Power Consumption	<2W	
Transmission Bandwidth	RG59 coaxial cable: 400m/100Mbps, 1000m/10Mbps	
PoE Protocol	The EOC2 operates as a PoE PD on the Receiver side and a PoE PSE on the Transmitter side, enabling PoE power pass-through over coaxial cable. PoE power and Ethernet data are first received by the Receiver, then regenerated and output by the Transmitter to the downstream device.	
	Transmitter (PSE): Delivers IEEE 802.3af/at-compliant PoE power to downstream powered devices (IP cameras, etc.), supporting IEEE 802.3af/at or 48 V Passive PoE (power on pairs 1/2 (+), return on 3/6 (-)).	Receiver (PD): Accepts PoE input from an upstream PoE source, with automatic support for PoE Mode A or Mode B. A 30 W PoEt source is recommended for stable operation.
Network Standard	IEEE802.3, IEEE802.3u, IEEE802.3x	
Capatible Cables	RJ45 Port: Cat 5e, Cat 6 BNC Port: RG59, RG6, RG11; UTP/twisted-pair cable (BNC-to-twisted-pair adapters required)	
Lightning Protection	Common Mode 6KV Differential Mode 3KV	
Operating Temperature	-30°C to 65°C (-22°F to 149 °F)	
Operating Humidity	5%-95%	
Weight	95 g (0.209 lb)	
Dimension (W×D×H)	79 * 52 * 25 mm (3.11 * 2.05 * 0.98 in)	

Specifications

Transmission Distance		Performance
100 m (330 ft)	Bandwidth	100 Mbps
	Load Capacity	21 W
400 m (1300 ft)	Bandwidth	100 Mbps
	Load Capacity	9 W
1000 m (3280 ft)	Bandwidth	10 Mbps
	Load Capacity	4W
*Base on RG59 Cable & 48V PoE Input		

LED Indicators

UltraReach EOC-R2			
Interface	LED/Color	Status	Indication
UltraReach	LINK/Green	On	The Ethernet link to the UltraReach EOC-T2 is active, and link-rate negotiation is complete.
	PWR/Red	On	Power is being supplied to the UltraReach EOC-T2.
PoE IN	Green	Blinking	Ethernet data is being transmitted.
	Yellow	On	The Ethernet port is operating at 100 Mbps.

UltraReach EOC-T2			
Interface	LED/Color	Status	Indication
UltraReach	LINK/Green	On	The Ethernet link to the UltraReach EOC-R2 is active, and link-rate negotiation is complete.
	PWR/Red	On	Power is being received from the UltraReach EOC-R2.
PoE OUT	Green	Blinking	Ethernet data is being transmitted.
	Yellow	On	The Ethernet port is operating at 100 Mbps.

FAQ Related

1. Can multiple devices be connected via single coaxial cable?

A: Yes, one pair of EOC converter can be used to transmit multiple device over single coaxial cable with NVR/POE Switch/WI-FI AP. The connection will be multiple device -> NVR/POE Switch/WI-FI AP -> EOC. Transmitter -> Coaxial cable -> EOC Receiver -> POE NVR/POE Switch/POE Injector with Internet. Please note that the EOC receiver has to be connected to an POE NVR or POE Switch to be powered.

2. Can I use the IP camera with 4k quality, record in a NVR without losing the quality?

A: Yes. The transmission bandwidth can be max 100Mbps in 1000ft, or 10Mbps in 3000ft. The required bandwidth for one 4K IP camera is about 8Mbps (H.264 encoding) or 4Mbps (H.265 encoding). So it is definitely no problem to transmit 4K IP camera video over coax without losing quality.

3. Will this work for extending connectivity between a router and an Ethernet switch? Or extending WIFI?

A: Yes. But you need a POE injector in EOC receiver side to provide power to EOC receiver and EOC transmitter. It is recommended to use 56V 30W POE injector. And the transmission bandwidth maybe dropped to 10M bps depends on the cable quality. And limit the power consumption below 10W. Please also make sure there is no additional BNC connector or splitter in the middle of RG59 or RG6 cable.

4. What's the maximum load capacity of this EOC Converter?

A: The maximum load capacity is 21W in 300ft transmission which is sufficient to power a regular IP PTZ camera. The load capacity can be at least 11W in 1000ft transmission which is sufficient to power most of IP cameras or VoIP phones.

5. What kind of POE device it can be working with?

A: It can work with POE IP cameras, POE Wi-Fi AP, VoIP phones, etc.

6. What POE standards does this support?

A: It supports IEEE802.3af and IEEE802.3at standard. It is working with most of the IP cameras and mini PTZs in the market, we also have customers use this to power POE WIFI AP and it is working well.

FAQ Related

7. Why my POE device is offline when working with our EOC (IP Over Coax) Converter?

A : Several main reasons are as follow:

1. EOC transmitter has to be connected to POE device (IPC/VoIP), and EOC receiver is connected to POE supply device (POE NVR, POE Switch or POE Injector). The reverse connection will not work.
2. It is used for point-to-point coax cable direct connection only, no BNC repeater/T- connect/splitter in the middle.
3. It may be caused by insufficient load capacity. The maximum load capacity is 21W in 300ft transmission which is sufficient to power a regular IP PTZ camera. The load capacity can be at least 11W in 1000ft transmission which is sufficient to power most of IP cameras or VoIP phones.
4. No power supply will also make it fail to work. Please be informed that EOC receiver has to be connected to an POE NVR, POE Switch or POE Injector to be powered.

8. Can this EOC converter working with non-POE device? Do i need a power injector if I don't need PoE?

A : Yes, this EOC converter can work with non-POE device like PC/NVR, etc. And you still need a power injector to power the EOC receiver side even though don't need poe.

9. Can I use a RG11 coax cable with the EOC Transmitter and Receiver?

A : It should be working with RG11 cable and please prepare the cable with BNC connectors.

10. How can I mount them?

A : It supports DIN Rail installation (Standard 35mm din rail), or you can put it inside a regular camera's junction box, since it is very small in dimension, that is 79 * 52 * 25 mm (3.11 * 2.05 * 0.98 in).

Debug Progress

Correct Connection

(EOC-Transmitter to the camera or POE Device side, and EOC-Receiver to the POE Switch or POE Injector side)



Direct Coax Cable

Between EOC-Transmitter and EOC-Receiver, NO splitter, NO T-Connector in the middle, Use RG59 or RG6 cable is fine



PoE Power for EOC-Receiver

Good quality IEEE802.3at 30W PoE power is strongly recommended. Many NVR and POE Switches does not provide sufficient POE power and will heavily affect transmission distance



Check LED Status

PWR LED (Red): It indicates power status, make sure that this PWR LEDs are on.
LINK LED (Green): It indicates active data transmission, please make sure that LINK LEDs are on.



Check Cable Distance and Power Load

Below are the most common issues and you need to double check

Check the BNC Connector, make sure the connector is well done, or you can replace it with a pre-made cable to double check.

Check PoE Switch or PoE Injector's PoE budget. Many PoE Switch says their PoE is compliant to IEEE802.3AT(30W), but they will not supply sufficient power especially when other ports are occupied concurrently.

Please not to ground the shield layer of coax cable

Try to replace with another better quality cable

Try to reduce signal interference



Check your PoE device mode

This EOC Transmitter supports PoE device at mode A (data and power through pin 1,2,3,6) only. Please make sure that your PoE device is working in PoE mode A.