LINOVISION

POE IP Over Coax Converter

User Manual

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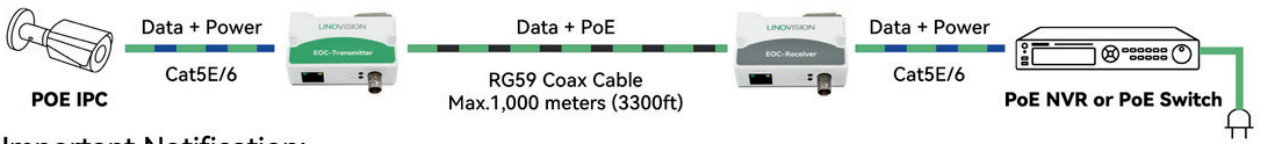
Introduction

LINOVISION PoE & Ethernet over Coax (EOC) Converter is used to transmit network data (video, audio, control signal) and PoE power over existing coaxial cables or twisted pair cables. The max. transmission distance can be up to 3,000ft. It has been widely used to upgrade traditional analogue video surveillance system to IP surveillance system without replacing coaxial cables.

Typical Connection Diagram



Important Notification:

1. EOC-Receiver has to be connected to a IEEE802.3af/at PoE switch or PoE NVR. It is strongly recommend to use a good quality 30W POE+ port.
2. The coaxial cable has to be poin-to-point direct cable between EOC-Receiver and EOC-Transmitter, no BNC repeater/T-connect/splitter in the middle.
3. The EOC-Transmitter outputs PoE mode A only (power and data through pin 1,2,3,6).

Package Included

EOC Transmitter

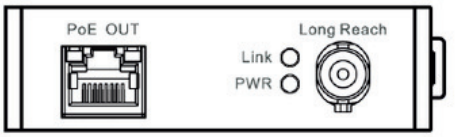
EOC Receiver

EOC RBNC to Twist Pair Connector eceiver

Screw Bag

User Manual

Panel View



EOC Transmitter

EOC Receiver

SN	Name	Note
1	PoE OUT	PoE Output Port
2	PoE IN	PoE Input Port
3	Link	BNC Port Link Indicator Light E100: On for 3 seconds, off for 1 second E10: On for 1 second, off for 1 second
4	PWR	Power indicator Light
5	Long Reach	Coaxial Cable Port

Data Sheet

Technical Specification	
Model	EOC-Transmitter/Receiver
Function	1*10/100Mbps Base-TX 1*BNC
Power Consumption	<2W
Transmission Bandwidth	RG59 coaxial cable
	400m/100Mbps, 1000m/10Mbps
PoE Protocol	IEEE802.3af,IEEE802.3at
Network Standard	IEEE802.3(x),IEEE802.3u
Lightning Protection	Common Mode 4KV Differential Mode 2KV
Operating Temperature	-30°C to 65°C (-22° F to 149° F)
Operating Humidity	5%~95%
Weight(each)	61 g(0.1341bs)
Dimension (W x D x H)	79mm x 52mm x 23mm (3.1" X 2.0" X 0.9")

Transmission Performance

Transmission Performance		Performance
100m(330ft)	Bandwidth	100Mbps
	Load Capacity	21W
300m(1,000ft)	Bandwidth	100Mbps
	Load Capacity	11W
1000m(3,280ft)	Bandwidth	10Mbps
	Load Capacity	4W

- This chart is based on regular RG59 coaxial and powered by standard DC48V POE injectors.
- This EOC converter can transmit up to 100Mbps network data and load max 11W POE device in 300 meters (or 1,000ft).
- The network bandwidth will be automatically lowered to 1 OMbs over 1,000ft and the max transmission distance is 3,280ft. This bandwidth is still sufficient for single 4K IP camera.
- **The performance will be better when using RG6 cable or DC53V POE injectors.**

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 trans-mitter. 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 RJ5 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 3.5mm din rail), or you can put it inside a regular camera's junction box, since it is very small in dimension, that is 3.1” x 2.0” x 0.9”

11 Will this work with AT&T digital internet?

A : This IP over Coax converter is not designed to be working with this kind of 4G LTE router.

*** (For more information: https://www.linnovision.com/support Or just contact us through Amazon.)**

LINOVISION EOC-CONVERTER 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, NOT-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 incdicates active data transmission, please make sure that LINK LEDs are on. (In E100 mode: On for 3 seconds and off for 1 second; In E10 mode, On for 1 second and off for 1 second)

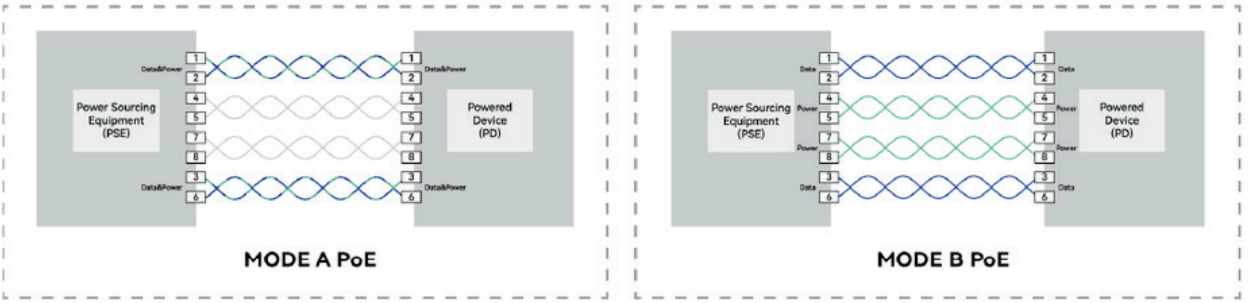
Check Cable Distance and Power Load

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.

PoE Mode A and B Definition



PoE Power and Distance Performance

100Mbps Max 21W	100Mbps Max 11W	10Mbps Bandwidth Max 4W PoE Load
330ft	1,000ft	3,000ft