EoC Passive Converter

CAT5E/CAT6 to Coax

- Converts between CAT5E/CAT6 and Coaxial Cable Transmission
- Long Distance Power Transmission Distances via Coaxial Cable
- Supports PoE Transmission, up to 1000 m (3280 ft)
- Supports the IEEE802.3 and IEEE802.3u Standards
- Supports MDI/MDX Self-adaptation

System Overview

The LR1002 EoC Passive Converter converts a power signal between an Ethernet cable and a coaxial cable. The converter is a component of Dahua's innovative Enhanced Power over Ethernet (ePoE) system that transmits power and data over long distances without the need for repeaters or multiple switches.

Enhanced Power over Ethernet (ePoE) Technology

Dahua's innovative ePoE technology offers a plug-and-play solution to transmit power and data over long distances via Ethernet or coaxial cables, reducing installation time and saving money. ePoE technology is a viable, cost-effective solution for extending transmission distances and for converting existing, coax-based analog systems into IP systems. For video security and surveillance installers, ePoE technology saves time and money by reducing overall cabling requirements, allowing for existing coax cable to be used, and minimizing the number of peripheral devices needed. For new installations, ePoE offers the ability to design long-distance applications without the need for additional repeaters.

Enhanced PoE encompasses pure IP systems where a single CAT 5 cable can carry signals up to 800 m (2624 ft), and IP/Analog hybrid systems where the technology leverages existing analog infrastructure to transmit power and data up to 1000 m (3281 ft) over RG59 coaxial cable. Enhanced PoE is compatible with three connection modes operating over the same network simultaneously: traditional IP networks, long-distance ePoE networks and coaxial networks. ePoE technology seamlessly integrates the latest high-definition IP cameras with a coaxial infrastructure using the Ethernet over Coaxial (EoC) protocol to convert between analog and IP power and data transmissions.

Technical Specification

Functional Ports	One (1) RJ45, 10/100 Mbps Base-TX One (1) BNC
Transmission Distance	100 Mbps: 400 m (1312 ft) 10 Mbps: 1000 m (3280 ft)
Power Consumption	< 1 W
Transmission Bandwidth	RG59 Coaxial Cable: 400 m (1312 ft) at 100 Mbps, 1000 m (3280 ft) at 10 Mbps
PoE Protocol	Based on power inout from ePoE Switch or ePoE NVR
Network Standards	IEEE802.3, IEEE802.3u
Operating Temperature	– 40 °C to 60 °C (– 40 °F to 158 °F)
Application Humidity	0% to 95%
Lightning Protection	Common Mode: 6 KV Differential Mode: 2 KV
Dimensions (W x D x H)	56.0 mm x 27.0 mm x 21.0 mm (2.20 in. x 1.06 in. x 0.83 in.)
Weight	0.283 kg (0.62 lb)

Ordering Information

Type	Part Number	Quantity	Description
EoC Passive Converter	LR1002	2	One (1) 100 Mbps Base-TX Ethernet Cable, RJ45 One (1) RG59 Coaxial Cable, BNC 400 m (1312 ft) at 100 Mbps 1000 m (3280 ft) at 10 Mbps

ePoE Transmission Distances

Via CAT5E/CAT6 Ethernet Cable

ePoE supply voltage 48 V
Maximum DC resistance < 10 Ω/100 m

Cable Length, m (ft)	Bandwidth, Mbps	PoE Load Capacity, W	Hi-PoE Load Capacity, W	Working Mode
100 (328)	100	25.5	53	IEEE/E100
200 (656)	100	25.5	33	E100
300 (984)	100	19	19	E100
400 (1312)	10	17	17	E10
500 (1640)	10	13	13	E10
800 (2625)	10	7	7	E10

Via CAT5E/CAT6 Ethernet Cable

ePoE supply voltage 53 V
Maximum DC resistance < 10 Ω/100 m

Cable Length, m (ft)	Bandwidth, Mbps	PoE Load Capacity, W	Hi-PoE Load Capacity, W	Working Mode
100 (328)	100	25.5	53	IEEE/E100
200 (656)	100	25.5	47	E100
300 (984)	100	25.5	32	E100
400 (1312)	10	23	26	E10
500 (1640)	10	20	20	E10
800 (2625)	10	13	13	E10

Via RG-59 Coaxial Cable

ePoE supply voltage 48 V
Maximum DC resistance < 5 Ω/100 m

Cable Length, m (ft)	Bandwidth, Mbps	PoE Load Capacity, W	Hi-PoE Load Capacity, W	Working Mode
100 (328)	100	25.5	50	IEEE/E100
200 (656)	100	25.5	30	E100
300 (984)	100	18	18	E100
400 (1312)	100	15	15	E100
500 (1640)	10	12	12	E10
800 (2625)	10	6	6	E10
1000 (3281)	10	5	5	E10

Via RG-59 Coaxial Cable

ePoE supply voltage 53 V
Maximum DC resistance < 5 Ω/100 m

Cable Length, m (ft)	Bandwidth, Mbps	PoE Load Capacity, W	Hi-PoE Load Capacity, W	Working Mode
100 (328)	100	25.5	52	IEEE/E100
200 (656)	100	25.5	48	E100
300 (984)	100	25.5	30	E100
400 (1312)	100	20	23	E100
500 (1640)	10	16	16	E10
800 (2625)	10	10	10	E10
1000 (3281)	10	8	8	E10

ePoE Applications

Passive EoC