comnet
Communication Networks

Mini Ethernet-over-Coax Extender Remote Units Powered by External or PoE Source

CLRFE1EOC(P,E)/M

COPPERLINE®

HARDENED | EXTENDER | PASS-THRU

The ComNet™ CopperLine® Ethernet-over-coax minis are an ultra-small form factor addition to the ComNet Copperline product family. These miniature remote units provide 10/100 Mbps Ethernet data with or without Pass-through PoE power over extended distance coaxial cable. Available in both standard and PoE applications, the mini CopperLine units will allow extended distance over copper to be used in applications where space is extremely limited. Automatically configured as remote units, and with user configurable selection of 10 Mbps or 100 Mbps speed these units are simple to install.

FEATURES

› Transmits individual Ethernet data with or without Pass-through PoE over Coaxial cable

› Extends Ethernet up to 5,000 feet (1,524 m) at 10 Mbps or 2,000 feet (610m) at 100 Mbps over Coaxial cable

› Extended temperature operation from -40°C to +75°C

› Extended Pass-through PoE meets the IEEE 802.3af standard for Power over Ethernet

› Full 10/100 Mbps Bandwidth

› Supports Multicast, Unicast and Jumbo Frame

› Symmetric Bandwidth provides consistent upload and download with virtually zero packet loss over the total usable distance

› Type tested to RFC-2544 TCP/IP network bandwidth packet transmission standards

› User-selectable data rate for maximum bandwidth and transmission distance utilization

› Complies with all major IEEE standards and RFC network protocols for UDP, TCP/IP, HTTP/HTTPs

› Designed to meet full compliance with the environmental requirements (ambient operating temperature, mechanical shock, vibration, humidity with condensation, high-line/low-line voltage conditions and transient voltage protection) of NEMA TS-1/TS-2 and the Caltrans Specification for Traffic Signal Control Equipment.

› Designed and manufactured in the USA

› LED status indicators confirm operating status

› Can be DIN-rail mounted with optional DINBKT4 mounting kit

› Lifetime warranty

APPLICATIONS

› Retrofit existing analog CCTV installations to Ethernet-based systems

› CCTV systems for casinos, airports, school campuses

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SPECIFICATIONS

Ethernet

Data Interface	10/100BaseT(X) Ethernet
Data Rate	DIP switch selection of 10/100 Mbps Full data rate / full duplex up to the maximum rated distance
RFC	2544 TCP/IP Packet Transmission
Standards	IEEE 802.3af PoE (CLRFE1EOCP/M), RFC: 768 UDP, 2068 HTTP, 793 TCP 791 IP, 1783 TFTP, 894 IP over Ethernet.

Transmission Distances[1]

See chart below

Connectors

Ethernet	RJ-45
Extended Distance	Pigtailed BNC
Operating Power	CLRFE1EOCP/M: Powered by PoE CLRFE1EOCE/M: 2-pin screw terminal

LED Indicators

Operating Power
Ethernet Link and Activity
Extended Link and Activity

Power

CLRFE1EOCP/M	Runs off PoE pass-through only
CLRFE1EOCE/M	12 VDC or 24 VAC
Power Consumption	1.5 W

Mechanical

Current Protection	Automatic Resettable Solid-State Current Limiters
Circuit Board	Meets IPC Standard
Size (L×W×H)	2.3 × 1.6 × 1.1 in (5.7 × 4.1 × 2.8 cm)
Shipping Weight	<1 lbs./0.45 kg

Environmental

MTBF	>100,000 hours
Operating Temp	– 40˚ C to +75˚ C UL Safety certifications conducted at maximum ambient temperatures (T_{ma}) of 65°C.
Storage Temp	– 40˚ C to +80˚ C
Relative Humidity	0% to 95% (non-condensing)[2]

AGENCY COMPLIANCE

PART 15 COMPLIANT E322911 N24621

MADE IN THE USA

MAXIMUM TRANSMISSION DISTANCES[1]

Media	COAX - RG59/U			
Data Rate	10M		100M	
Source Power	15W	30W	15W	30W
Non-PoE Max.Distance[1]	5,000 ft 1,524 m		2,000 ft 610 m	
PoE CLASS2 (6.5W)[1]	3,000 ft 914 m	3,000 ft 914 m	2,000 ft 610 m	2,000 ft 610 m
PoE CLASS3 (13W)[1]	750 ft 228 m	850 ft 259 m	750 ft 228 m	850 ft 259 m

[1] Distance figures are based on a 50 V PSE PoE power source, and external power supplies for the extenders. Distance figures are obtained using in-house testing mirroring installations. Factors such as coaxial cable quality, the number of connectors and splices in the cable run, the use of PoE, and environmental conditions encountered within the installation might affect the actual transmission distance and should be taken into consideration. Due to advanced negotiation signaling required in IEEE802.3at applications, pass-through applications are limited to IEEE802.3af PD devices only.

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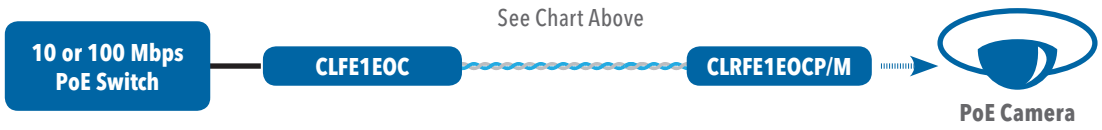
ORDERING INFORMATION

Part Number	Description	Position	Channels	Form Factor	Cable
CLRFE1EOCE/M	Miniature CopperLine Single Channel Ethernet over COAX External Power	Remote	1	Mini Size	Coax
CLRFE1EOCP/M	Miniature CopperLine Single Channel Ethernet over COAX PoE Powered	Remote	1	Mini Size	Coax
Accessories:	Unit-appropriate power supply (one each provided with each CLRFE1EOCE/M extender unit)				
Options	[2] Add suffix '/C' for Conformally Coated Circuit Boards to extend to condensation conditions (Extra charge, consult factory) DIN-Rail Mounting Adaptor Kit - With Mounting Hardware (Optional, order model DINBKT4)				

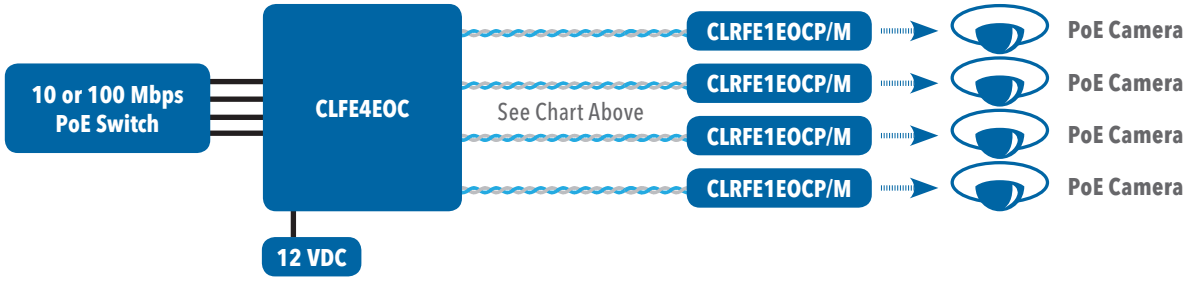
TYPICAL APPLICATIONS

CAT-5 CABLE
COAX
PoE POWER

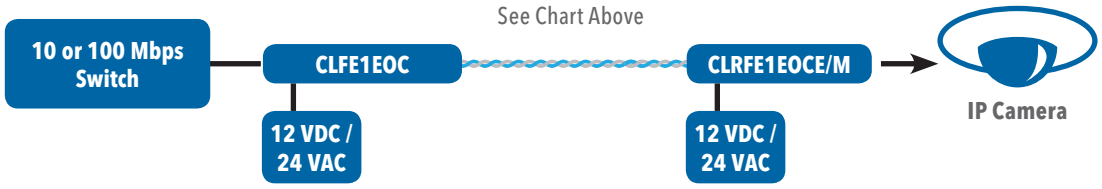
PoE Pass-Through Mode



PoE Pass-Through Mode with Multiple Remote Units



Non-PoE Mode



Low Power Consumption

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