comnet

CopperLine® CL(L,R)FE(X)POE(C,U)

HARDENED	PSE	PD	ETHERNET OVER COPPER	PoE
-40° TO +65° C	IEEE802.3at	IEEE802.3af	EXTENDER	30W PoE+
-40° TO +65° C	802.3at	802.3af/at	EXTENDER	30W

The ComNet CopperLine® Ethernet over copper line supports up to sixteen channels of 10/100Mbps Ethernet with PoE+ Power Injection and Pass-through PoE+ over twisted pair cable (CAT-5, UTP) or over coax. With the ability to connect directly to a PoE+ switch, or the ability to generate PoE+ power with a 48 to 56 V input* to either the Local or Remote ends, these units provide the ultimate flexibility for extending a powered device (PD) over long distance copper. A complete set includes both a Local and Remote module. Remote units are available in small package sizes that include one or four channels, and Local modules are available in the same packages as well as a 1RU rack for larger channel counts.

FEATURES

› Transmits individual Ethernet data channels with PoE+ Power Injection or Pass-through PoE+ over standard UTP or Coaxial cable

› Extends Ethernet up to 3,000 feet (914 m) at 10 Mbps or 2,000 feet (610 m) at 100 Mbps over UTP cable

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

› Extended temperature operation from -40°C to +65°C

› Extended Pass-through PoE meets the IEEE 802.3at 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

› Tested and certified† by an independent laboratory for 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 CALTRANS Traffic Signal Control Equipment Specifications.

› LED status indicators confirm operating status

› Available in small-size, ComFit interchangeable stand alone or 1RU high rack mounted models

› Designed and manufactured in the USA

› Lifetime Warranty

APPLICATIONS

› Retrofit existing analog CCTV installations to Ethernet-based systems

› CCTV systems for casinos, airports, school campuses

Power Supply for PoE applications is sold separately.

† One Channel Units Only. Multichannel units are designed to meet NEMA TS-2 Spec.

SPECIFICATIONS

AGENCY COMPLIANCE
FCC PART 15 COMPLIANT CE cULus RoHS MADE IN THE USA

Ethernet

Data Interface	10/100BaseT(X) Ethernet
Data Rate	DIP-switch selectable 10/100Mbps
	Full data rate / full duplex up to the maximum rated distance
RFC	2544 TCP/IP Packet Transmission
Standards	IEEE 802.3af/at PoE+,
	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	Coaxial (C): female BNC
	Ethernet (U): RJ-45
Operating Power	Powered by PoE or 4-pin screw terminal for local power or power injection

Power

Pass-Through Mode	1 CH: Operates on PoE power
	or optional 9 to 36 VDC or 24 VAC, 1.5 W
	4 CH: 9 to 15 VDC, 6 W
	8 CH: 12 to 15 VDC, 12 W
	16 CH: 12 to 15 VDC, 24 W
Power Injection Mode	1 CH: 48 to 56 VDC, 30 W
	4 CH: 48 to 56 VDC, 120W & 9 to 15 VDC, 6W
	8 CH: 48 to 56 VDC, 240W & 12 to 15 VDC, 12 W
	16 CH: 48 to 56 VDC, 480 W & 12 to 15 VDC, 24 W
Current Protection	Automatic Resettable Solid-State Current Limiters

Mechanical

LED Indicators	Operating Power PoE Power
	Ethernet Link and Activity
	Ethernet Speed
	Extended Link and Activity
Circuit Board	Meets IPC Standard
Size (L×W×H)	1 CH: 3.3 × 2.5 × 1.1 in (8.4 × 6.4 × 2.8 cm)
	4 CH: 6.1 × 5.3 × 1.1 in (15.5 × 13.5 × 2.8 cm)
	8+ CH: 6.1 × 19 × 1.75 in (15.5 × 48.26 × 4.45 cm)
Number of Rack Slots	1 (4CH Version Only)
Shipping Weight	1 CH: <1 lbs / 0.5 kg
	4 CH: <2 lbs / 0.9 kg
	8+ CH: <5 lbs / 2.3 kg

Environmental

MTBF	>100,000 hours
Operating Temp	– 40˚ C to +65˚ C
Storage Temp	– 40˚ C to +80˚ C
Relative Humidity	0% to 95% (non-condensing)[2]

[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 and copper 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. When using UTP models Pass-Through PoE and Local PoE Injection is only possible in 4-pair mode.*

ORDERING INFORMATION

Part Number	Description	Position	Channels	Form Factor	Cable
CLLFE1POEC	1 Port EOC Ethernet Extender	Local	1	Small Size	Coax
CLRFE1POEC	1 Port EOC Ethernet Extender	Remote	1	Small Size	Coax
CLLFE1POEU	1 Port EOU Ethernet Extender	Local	1	Small Size	UTP
CLRFE1POEU	1 Port EOU Ethernet Extender	Remote	1	Small Size	UTP
CLLFE4POEC	4 Port EOC Ethernet Extender	Local	4	ComFit (1 Slot)	Coax
CLRFE4POEC	4 Port EOC Ethernet Extender	Remote	4	ComFit (1 Slot)	Coax
CLLFE4POEU	4 Port EOU Ethernet Extender	Local	4	ComFit (1 Slot)	UTP
CLRFE4POEU	4 Port EOU Ethernet Extender	Remote	4	ComFit (1 Slot)	UTP
CLLFE8POEC	8 Port EOC Ethernet Extender	Local	8	1 RU 19" Rack Mount	Coax
CLLFE8POEU	8 Port EOU Ethernet Extender	Local	8	1 RU 19" Rack Mount	UTP
CLLFE16POEC	16 Port EOC Ethernet Extender	Local	16	1 RU 19" Rack Mount	Coax
CLLFE16POEU	16 Port EOU Ethernet Extender	Local	16	1 RU 19" Rack Mount	UTP

Accessories:	Unit-appropriate power supply (Included, for benign 0 to 50°C applications only. Hardened power supply available, consult factory). For PoE injection sold separately 48-56VDC PSU is required.
	48 Volt DC Plug-in Power Supply (extra charge, consult factory)
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 DINBKT1 or DINBKT4) (Suitable for 1CH and 4CH units only)

In a continuing effort to improve and advance technology, product specifications are subject to change without notice.

MAXIMUM TRANSMISSION DISTANCES[1]

Media	COAX - RG59/U				UTP - 4 pair				UTP - 1 pair	
Data Rate	10M		100M		10M		100M		10M	100M
Source Power	15W	30W	15W	30W	15W	30W	15W	30W	N/A	
Non-PoE Max.Distance[1]	5,000 ft 1,524 m		2,000 ft 610 m		3,000 ft 914 m		2,000 ft 610 m		3,000 ft 914 m	1,000 ft 305 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)	3,000 ft (914 m)	3,000 ft (914 m)	2,000 ft (610 m)	2,000 ft (610 m)	N/A	
PoE CLASS3 (13W)[1]	750 ft (228 m)	850 ft (259 m)	750 ft (228 m)	850 ft (259 m)	750 ft (228 m)	850 ft (259 m)	750 ft (228 m)	850 ft (259 m)	N/A	
PoE CLASS4 (25.5W)[1]	N/A	335 ft (102 m)	N/A	335 ft (102 m)	N/A	335 ft (102 m)	N/A	335 ft (102 m)	N/A	

[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 and copper 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. When using UTP models Pass- Through PoE and Local PoE Injection is only possible in 4-pair mode.

MAXIMUM TRANSMISSION DISTANCES WITH 54V INPUT (CL(L,R)FE1POEU ONLY)

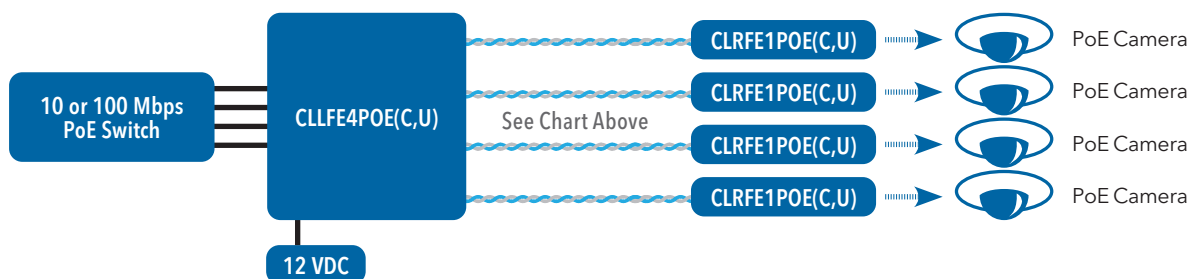| Media	COAX - RG59/U				UTP - 4 pair			
Data Rate	10M		100M		10M		100M	
Source Power	15W	30W	15W	30W	15W	30W	15W	30W
PoE Up to 25W	N/A	N/A	N/A	N/A	N/A	1000 ft (305 m)	N/A	1000 ft (305 m)

Running multiple signals in the same twisted pair cable could affect signal quality and is not recommended.
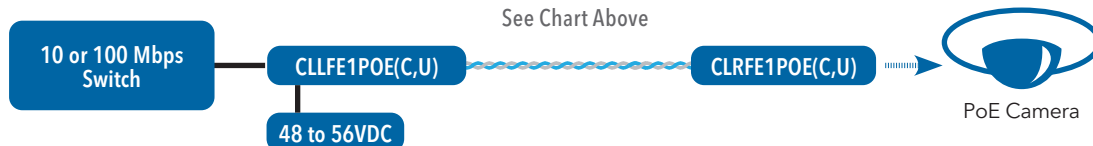
TYPICAL APPLICATIONS

Cat-5 Cable
Twisted Pair / Coax
PoE Power

PoE Pass-Through Mode

PoE Pass-Through Mode with Multiple Remote Units

Local PoE Injection Mode

Remote PoE Injection Mode

ACRE®
Intelligent Security, Simplified

25 May 2022