Ethernet-over-Copper Extender With 30W PSE PoE+



CL(L,R)FE(X)POE(C,U)

COPPER LINE HARDENED FOR SU2.3at SU2.3



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 +75°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 Ethernetbased 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.

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

SPECIFICATIONS	5	AGENCY COMPLIANCE	
Ethernet		LED Indicators	Operating Power
Data Interface	10/100BaseT(X) Ethernet	:	PoE Power
Data Rate	DIP-switch selectable 10/100Mbps		Ethernet Link and Activity
	Full data rate / full duplex up to the maximum		Ethernet Speed
	rated distance		Extended Link and Activity
RFC	2544 TCP/IP Packet Transmission	Mechanical	
Standards	IEEE 802.3af/at PoE+,	Current Protection	Automatic Resettable Solid-State Current Limiters
	RFC: 768 UDP, 2068 HTTP, 793 TCP	Circuit Board	Meets IPC Standard
	791 IP, 1783 TFTP, 894 IP over Ethernet.	Size (L×W×H)	1 CH: 3.3 × 2.5 × 1.1 in (8.4 × 6.4 × 2.8 cm)
Transmission Distances ¹	See chart below		4 CH: 6.1 × 5.3 × 1.1 in (15.5 × 13.5 × 2.8 cm)
Connectors			8+ CH: 6.1 × 19 × 1.75 in (15.5 × 48.26 × 4.45 cm)
Ethernet	RJ-45	Number of Rack Slots	1 (4CH Version Only)
Extended Distance	Coaxial (C): female BNC	Shipping Weight	1 CH: <1 lbs./0.5 kg
	Ethernet (U): RJ-45		4 CH: <2 lbs./0.9 kg
Operating Power	Powered by PoE or 4-pin screw terminal for local	:	8+ CH: <5 lbs./2.3 kg
	power or power injection	Environmental	
Power		MTBF	>100,000 hours
Pass-Through Mode	1 CH: Operates on PoE power	Operating Temp	– 40° C to +75° C
5	or optional 9 to 36 VDC or 24 VAC, 1.5 W		UL Safety certifications conducted at maximum
	4 CH: 12 to 15 VDC, 6 W		ambient temperatures (T _{ma}) of 65°C.
	8 CH: 12 to 15 VDC, 12 W	Storage Temp	– 40° C to +80° C
	16 CH: 12 to 15 VDC, 24 W	Relative Humidity	0% to 95% (non-condensing) ²
Power Injection Mode	1 CH: 48 to 56 VDC, 30 W	[1] Distance figures are based on a 50	V PSE PoE power source, and external power supplies for
	4 CH: 48 to 56 VDC, 120 W		obtained using in-house testing mirroring installations.
	8 CH: 48 to 56 VDC, 240W & 12 to 15 VDC, 12 W		cable quality, the number of connectors and splices in the
	16 CH: 48 to 56 VDC, 480 W & 12 to 15 VDC, 24 W		ronmental conditions encountered within the installation n distance and should be taken into consideration. When

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	Remote 1 Small Size		Coax	
CLLFE1POEU	1 Port EOU Ethernet Extender	Local	1	Small Size	UTP	
CLRFE1POEU	1 Port EOU Ethernet Extender	Remote	Remote 1 Small Size		UTP	
CLLFE4POEC	4 Port EOC Ethernet Extender	Local	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	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		Соах	
CLLFE16POEU	16 Port EOU Ethernet Extender	Local	16	1 RU 19" Rack Mount	UTP	

Options: 48 Volt DC Plug-in Power Supply (extra charge, consult factory)

[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)



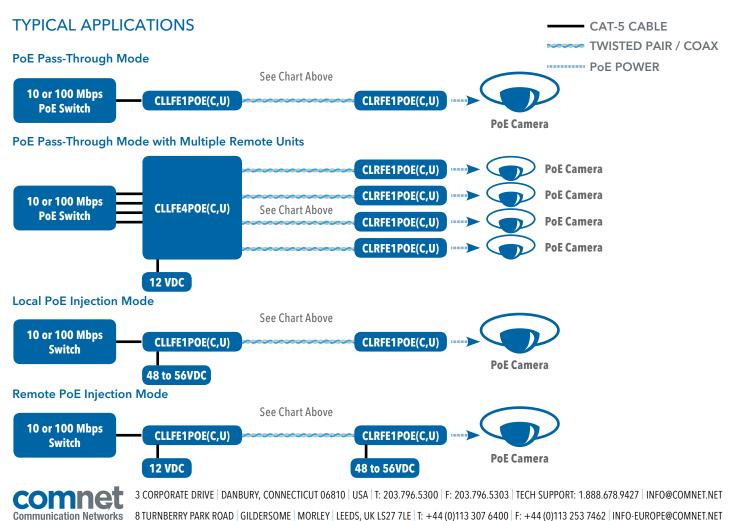
MAXIMUM TRANSMISSION DISTANCES¹

Media	COAX - RG59/U				UTP - 4 pair				UTP - 1 pair	
Data Rate	10M		10	100M		10M		100M		100M
Source Power	15W	30W	15W	30W	15W	30W	15W	30W	N/A	
Non-PoE Max.Distance ¹		20 ft 24 m	1 -)0 ft) m	· ·	00 ft 4 m	· ·	2,000 ft 610 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)	N/A							
PoE CLASS4 (25.5W) ¹	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	10	М	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)	



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