

COPPER LINE[®]

Ethernet over Copper Transmission Extenders

Ethernet Transmission over Coaxial or UTP Cable

Ethernet over Copper

CopperLine[®] is an advanced and unique technology that extends Ethernet networks beyond the 100-meter limitation encountered when using UTP for IP Video and Ethernet-based applications. CopperLine[®] is a cost-saving alternative that enables you to use existing coaxial and UTP cables for significantly greater Ethernet transmission distances.

Choose CopperLine[®]:

- Longest Available Transmission Distances
- All CLFE(X)EOC Coax and CLFE(X)EOU UTP Models Support Pass-Through PoE
- All CL(L,R)FE(X)POEC and CL(L,R)FE(X)POEU Models Support PoE+ Power Injection and Pass-Through Power
- Fixed Data at Maximum Specified Distance
- Consumes Less than 1 Watt per Port
- Price and Performance - CopperLine[®]

CopperLine[®] Features

- Extends Ethernet Networks beyond 100 m limitations for CCTV and IT projects
- Cost-effective
- Extends standard Ethernet:
 - » 10BaseT up to 3,000 ft (914 m) and 100BaseT up to 2,000 ft (610 m) over UTP
 - » 10BaseT up to 5,000 ft (1,524 m) and 100BaseT up to 2,000 ft (610 m) over Coax
- Switch-selectable LAN rate optimizes the best possible rate/distance design for each application
- High data rate - ideal for high bandwidth requirements of Mega-pixel cameras or multiple IP cameras
- Compatible with any LAN device - fully transparent to Ethernet networks and higher layer protocols
- Easy to install - no IP address programming or other networking setup required
- Indicating LEDs for link status and data rate
- Very low power - remote units can share power supply with camera
- Now form- and fit-compatible with all ComNet Products
- Lifetime Warranty
- Designed and made in the USA using a unique state-of-the-art data transmission technology

AGENCY COMPLIANCE

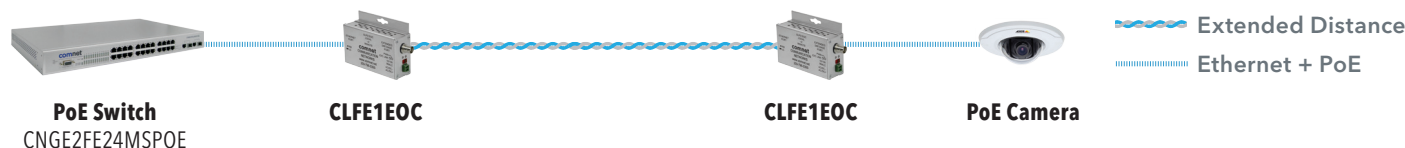


Ethernet-over-Copper Extender with Pass-Through PoE

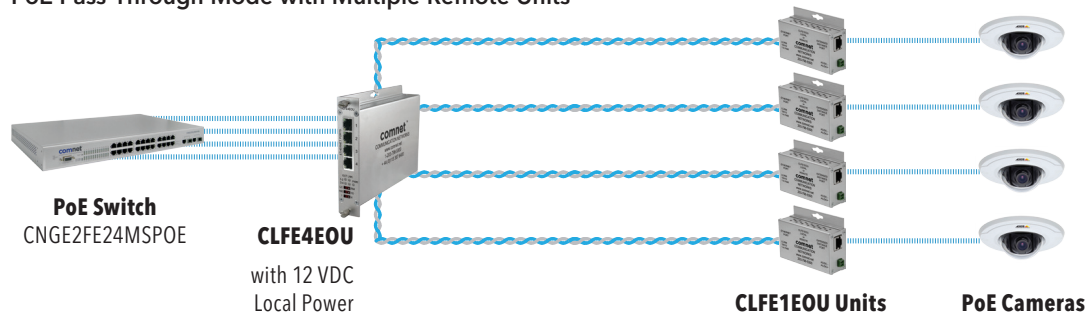
The ComNet™ CopperLine® Ethernet over copper line supports up to sixteen channels of 10/100Mbps Ethernet with Pass-through PoE over twisted pair cable (CAT-5, UTP), or over coaxial cable. The single channel units may be powered by a PoE switch or the included power supply. Four, eight, and sixteen channel units operate from local power. These units provide the ultimate flexibility for extending a powered device (PD) over long distance copper. DIP switches are provided for user-selection of local or remote, 10 or 100Mbps, and 1 pair or 4 pair (UTP) settings.



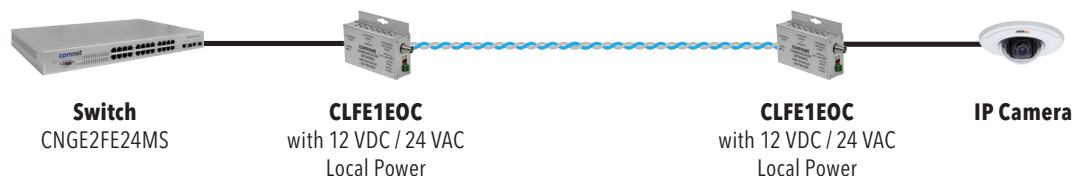
PoE Pass-Through Mode



PoE Pass-Through Mode with Multiple Remote Units



Non-PoE Mode



CopperLine® Ethernet over Unshielded Twisted Pair (UTP)

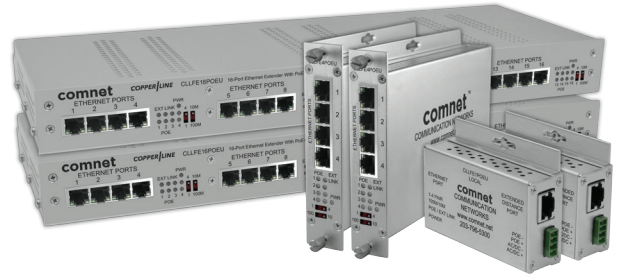
Model	Ports	Function
CLFE1EOU	1	1 channel Ethernet over UTP with Pass-through PoE
CLFE4EOU	4	4 channel Ethernet over UTP with Pass-through PoE
CLFE8EOU	8	8 channel Ethernet over UTP with Pass-through PoE
CLFE16EOU	16	16 channel Ethernet over UTP with Pass-through PoE

CopperLine® Ethernet over Coaxial Cable

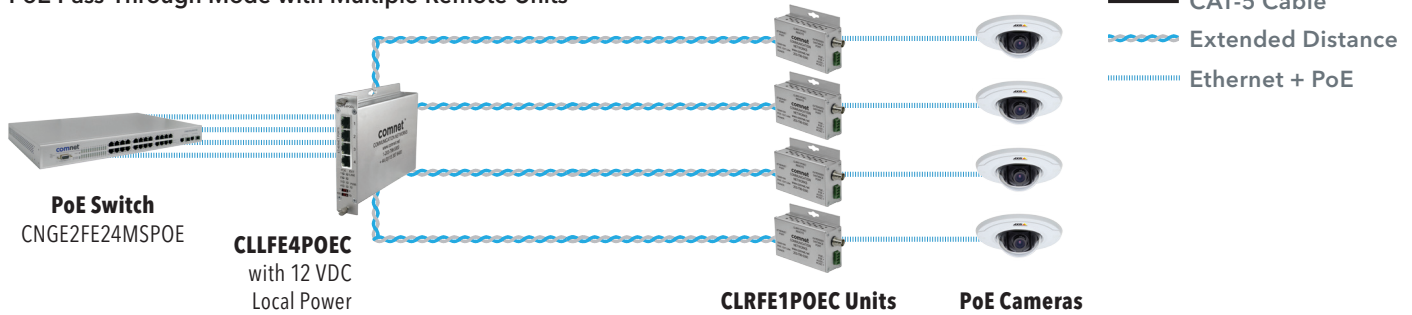
Model	Ports	Function
CLFE1EOC	1	1 channel Ethernet over Coaxial Cable with Pass-through PoE
CLFE4EOC	4	4 channel Ethernet over Coaxial Cable with Pass-through PoE
CLFE8EOC	8	8 channel Ethernet over Coaxial Cable with Pass-through PoE
CLFE16EOC	16	16 channel Ethernet over Coaxial Cable with Pass-through PoE

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

The all-new ComNet™ CopperLine® Ethernet over copper line has a completely new look and is now form and fit compatible with all ComNet products. With a greater focus on providing PoE power to devices on the network, the CL(L,R)FE(X)POE(C,U) line can act as power sourcing equipment (PSE) or pass through power from a different source. Available in single, four, eight and sixteen port models, the CL(L,R)FE(X)POE(C,U) line can transmit 10/100Mbps Ethernet with PoE+ Power Injection and Pass-through PoE+ over twisted pair cable (CAT-5, UTP) or over coax. You can connect this series directly to a PoE+ switch, or it can source PoE+ power with a 48 to 56 Volt input to either the Local or Remote ends. The CL(L,R)FE(X)POE(C,U) line can provide great flexibility for extending the distance of a powered device over longer copper media distances.



PoE Pass-Through Mode with Multiple Remote Units



Local PoE Injection Mode



Remote PoE Injection Mode



CopperLine® Ethernet over Unshielded Twisted Pair (UTP) with PSE PoE and Pass-through PoE

Local Model	Remote Model	Function
CLLFE1POEU	CLRFE1POEU	1 channel Ethernet over UTP with Pass-through PoE and PSE PoE
CLLFE4POEU	CLRFE4POEU	4 channel Ethernet over UTP with Pass-through PoE and PSE PoE
CLLFE8POEU	n/a	8 channel Ethernet over UTP with Pass-through PoE and PSE PoE
CLLFE16POEU	n/a	16 channel Ethernet over UTP with Pass-through PoE and PSE PoE

CopperLine® Ethernet over Coaxial Cable with PSE PoE and Pass-through PoE

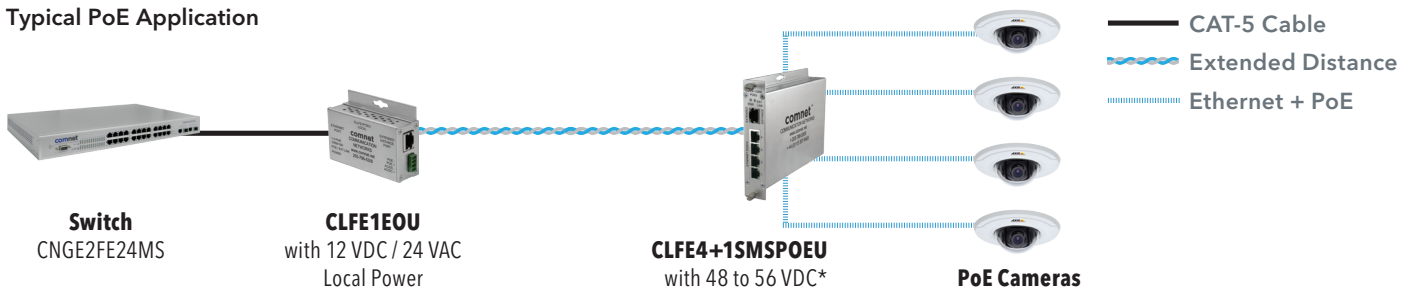
Local Model	Remote Model	Function
CLLFE1POEC	CLRFE1POEC	1 channel Ethernet over Coaxial Cable with Pass-through PoE and PSE PoE
CLLFE4POEC	CLRFE4POEC	4 channel Ethernet over Coaxial Cable with Pass-through PoE and PSE PoE
CLLFE8POEC	n/a	8 channel Ethernet over Coaxial Cable with Pass-through PoE and PSE PoE
CLLFE16POEC	n/a	16 channel Ethernet over Coaxial Cable with Pass-through PoE and PSE PoE

10/100 Mbps 4+1 Ethernet Self-Managed Switches with 30 Watt Power over Ethernet (PoE+)

The all-new ComNet™ CLFE4+1SMS[POE](C,U) is a five-port Ethernet over coaxial cable/UTP self-managed switch with uplink management functionality and features four copper ports operating at 10/100 Mbps and is designed to combine four electrical ports into a single electrical CAT-5, UTP or coax CopperLine® port that forwards this data to the next network device. No programming required to use this product. The ComNet CLFE4+1SMS comes pre-programmed; preventing network video flooding with DIP switch selection of the fifth electrical port as uplink or as an unmanaged switch. When paired with a 48 to 56 VDC power supply, Ports 1-4 of the CLFE4+1SMSPOE can supply up to thirty watts of PoE to each port and incorporate PoE+ features based on the IEEE 802.3at standard.



Typical PoE Application



* For non-PoE applications, use the CLFE4+1SMS(C,U) with a 12 VDC Power Supply

CopperLine® Self-Managed Switch - Ethernet over Unshielded Twisted Pair (UTP)

Model	Function
CLFE4+1SMSU	4 Port 10/100 Mbps Ethernet Self-Managed Switch, UTP CopperLine® Uplink Port
CLFE4+1SMSPOEU	4 Port 10/100 Mbps Ethernet Self-Managed Switch, PoE+, UTP CopperLine® Uplink Port

CopperLine® Self-Managed Switch - Ethernet over Coaxial Cable

Model	Function
CLFE4+1SMSC	4 Port 10/100 Mbps Ethernet Self-Managed Switch, Coaxial CopperLine® Uplink Port
CLFE4+1SMSPOEC	4 Port 10/100 Mbps Ethernet Self-Managed Switch, PoE+, Coaxial CopperLine® Uplink Port



Complete Product Documentation

The complete CopperLine® product line is listed on ComNet's website, along with data sheets and instruction manuals.

Scan this QR Code or visit:

<http://www.comnet.net/comnet-products/copperline/>

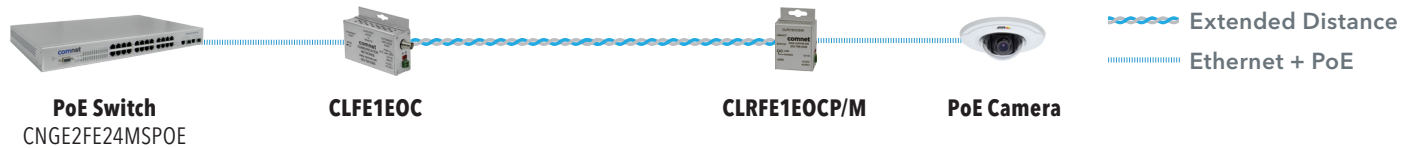


Mini Ethernet-over-Coax Extender Remote Units Powered by External or PoE Source

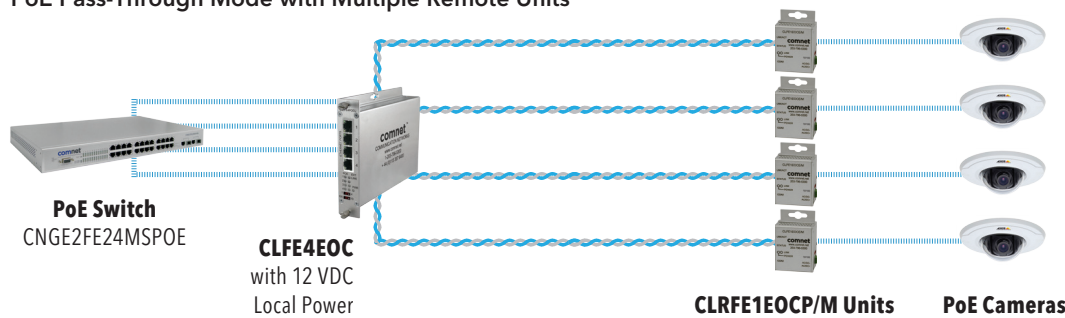
These Ethernet-over-coax minis are an ultra-small form factor addition to the ComNet™ CopperLine® product family. These miniature remote units provide 10/100 Mbps Ethernet data with or without Pass-through PoE power over extended distance coaxial cable. Available in both standard and PoE applications, the mini CopperLine® CLRFE1EOC/M 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 and fully compatible with the entire CopperLine® product line.



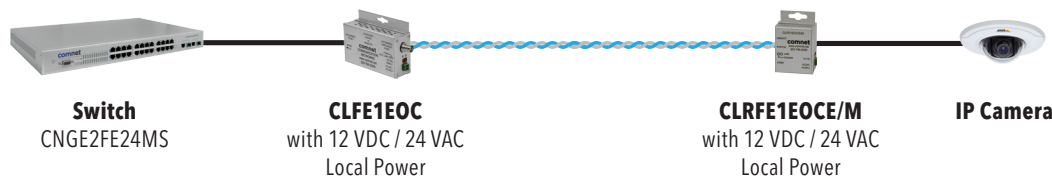
PoE Pass-Through Mode



PoE Pass-Through Mode with Multiple Remote Units



Non-PoE Mode



CopperLine® Mini Ethernet-over-Coax Extender Remote Units

Model	Function
CLRFE1EOCE/M	Miniature CopperLine® Single Channel Ethernet over Coax External Power, Remote
CLRFE1EOCP/M	Miniature CopperLine® Single Channel Ethernet over Coax PoE Powered, Remote



All Eyes on CopperLine®

Now playing on ComNetTV: ComNet's North America Trainer introduces the all-new CopperLine® products. Scan this QR Code to visit <http://youtu.be/6FQ9IZtgzIA>



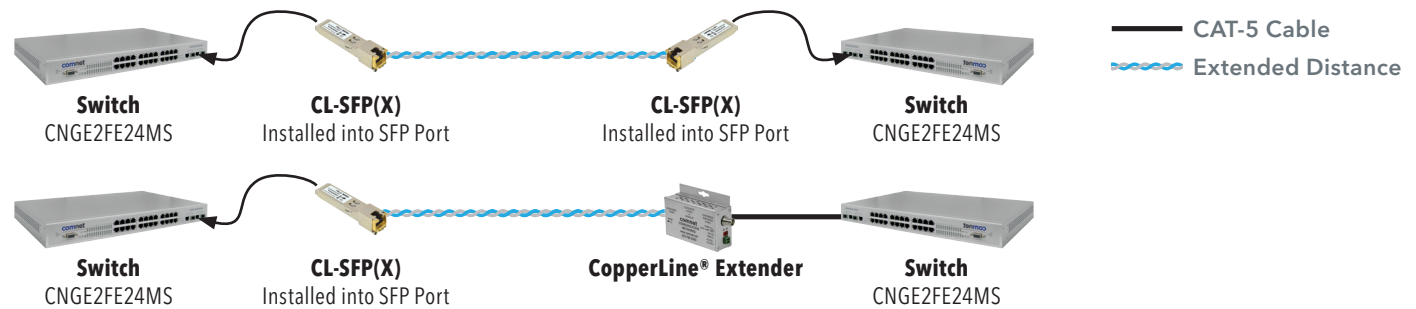
Small Form-Factor Pluggable Copper Range Extender Modules

The ComNet™ CopperLine® CL-SFP is a small form-factor pluggable Ethernet extender module that improves bandwidth and distance of existing copper networks. It helps avoid installation costs of new fiber lines on site by allowing full 10 Mbps or 100 Mbps Ethernet bandwidth to be extended over 2-wire twisted pair or coaxial cable.

Housed in a small form-factor pluggable (SFP) module enclosure, it is designed for plug-and-play installation into any 100BASE-FX Ethernet unit with an MSA-compliant port. These must be used in pairs, with a CL-SFP module installed at both ends of the connection, or a CopperLine® unit installed at one end.

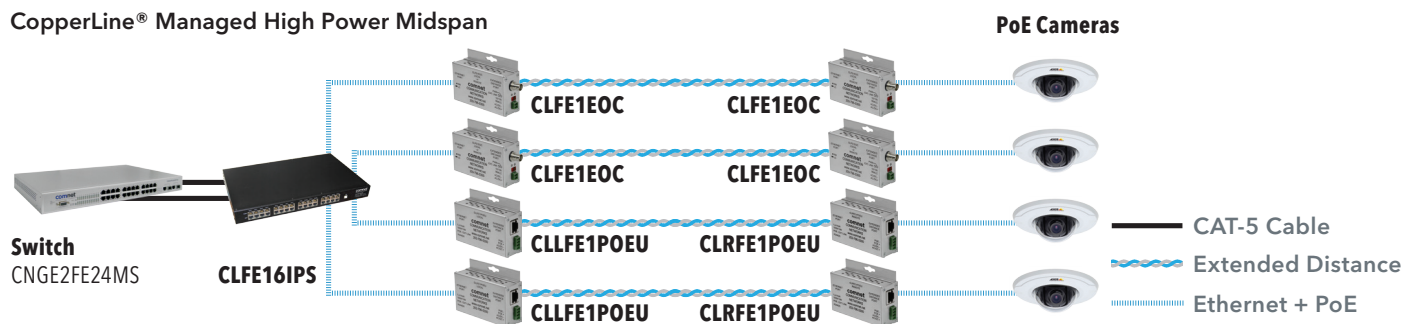


Model	Function
CL-SFP1	10 Mbps Copper Range Extending SFP
CL-SFP3	100 Mbps Copper Range Extending SFP



CopperLine® High-Power Mid-Span Injector

Model	Function
CLFE8IPS	8 Port, High Power PoE Midspan Injector, 37 Watts Per Port
CLFE16IPS	16 Port, High Power PoE Midspan Injector, 37 Watts Per Port



CopperLine® Accessories

Model	Function
CLSETUP	IP Camera Setup and PoE Tester
CL-ESP	Single Port Ethernet Voltage Transient & Surge Protector
CLRJ2COAX	RJ-45 Plug-to-Coax (BNC) - for use with CL-SFP(X) only
CLRJ2COAXCAB	RJ-45 Plug-to-Coax (BNC) Cable Assembly - for use with CL-SFP(X) only



Design Assistance

The ComNet Technical Support and Design Center provides pre-sale and post-sale support for Ethernet transmission network and fiber optic system design. The department is staffed by some of the most highly experienced, regarded and recognized experts in the industry. Our direct Design Center phone number is **1-888-678-9427** or you can call **1-203-796-5300** in the US or **+44 (0)113 307 6409** throughout Europe and ask for the Design Center, or contact us by Email at designcenter@comnet.net

Lifetime Warranty

We're so confident in the long-term reliability of our products, we back them with a no-questions asked Lifetime Warranty.

Delighting the Customer

ComNet's Customer Care Center is here to provide solutions. Staffed by experienced, knowledgeable, and courteous representatives, the ComNet Customer Care team is there to help. Customer Care representatives are available to answer your questions concerning pricing, product availability, order status, shipping dates, returns, warranty claims and so much more.

Product Training and Education

ComNet offers a full curriculum of fiber optic and Ethernet product training designed to educate you to make the right choices when selecting transmission equipment for your projects. Available on-line or in-person, ComNet training qualifies for CEU credit.

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