



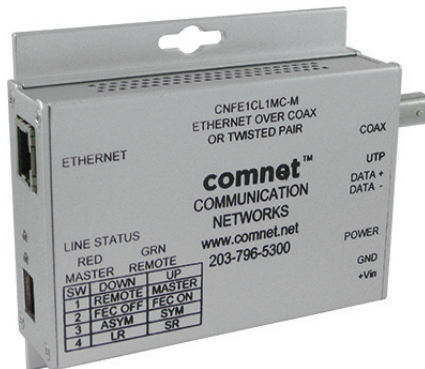
INCLUDED



HARDENED



EXTENDER



The ComNet™ CNFE1CL1MC and CNFE1CL1MC-M are environmentally hardened modems that support Ethernet over twisted pair or coaxial cable using VDSL2 technology at data rates of up to 90 Mbps. Ethernet data may be transmitted over a telephone-grade twisted copper pair, legacy serial cabling, or standard 75Ω coaxial cable circuits, making these rugged units ideal for those applications where it is desired to utilize an existing installed base of copper wiring for Ethernet transmission. These modems are the perfect solution for upgrading a legacy twisted copper or coaxial cable plant for use with Ethernet, when compared to the significant costs of installing new network cabling. The CNFE1CL1MC-M may be deployed in most out-of-plant installations, such as those found in intelligent transportation systems and factory automation/control applications.

## FEATURES

- › Utilizes latest VDSL2 technology for fastest data rate transmission and greatest transmission distance
- › Supports transmission distances of up to 10,000 ft (3 km) over twisted copper, or up to 1500 ft (457 m) over coaxial cable
- › Symmetric line rates of over 91 Mbps
- › Automatically sets fastest possible data rate vs. cable quality and transmission distance
- › User-configurable master/remote, forward error correction, asymmetrical/symmetrical data, and long-reach/short-reach selection
- › IEEE 802.3 Compliant. 10/100 BASE-T/TX Ethernet port with automatic MDI/MDI-X crossover
- › Screw Terminals for twisted copper circuits, or BNC connector for coaxial cable
- › Fully compliant with the environmental requirements (ambient operating temperature, mechanical shock, vibration, humidity with condensation, high-line/low-line voltage conditions, and voltage transient protection) of NEMA TS-1/TS-2 for Traffic Signal Control Equipment
- › Voltage transient protection on all power and signal input/output lines provides protection from power surges and other voltage transient events.
- › Model CNFE1CL1MC-M is a smaller-sized package for stand-alone mounting only, for use in those applications where space may be limited
- › Model CNFE1CL1MC may be utilized as a stand-alone package, or may be mounted within the ComNet C1 Card Cage, and is fully hot-swappable
- › Lifetime warranty

## APPLICATIONS

- › Ethernet transmission over existing copper telephone-grade, serial or 75Ω coaxial cable

## SPECIFICATIONS

## Interface

Ethernet Port	Ethernet connector	RJ45
	Cable	Cat 5, Cat 5e, Cat 6
	Data Rate	10/100Mbps
	Distance	100m (328ft)

## Line Side Port 1 (Twisted Pair)

UTP connector	Screw Terminal Block	
Cable	Telephone-grade 19 to 26 AWG (one twisted pair)	
Throughput	(Downstream /	Upstream)
1000 ft (305 m)	70 Mbps /	68 Mbps
2500 ft (762 m)	26 Mbps /	17 Mbps
5000 ft (1524 m)	16 Mbps /	1 Mbps
7500 ft (2286 m)	5 Mbps /	0.5 Mbps
10,000 ft (3048 m)	1 Mbps /	0.25 Mbps

## Line Side Port 2 (75Ω Coax)

Coaxial connector	BNC	
Impedance	75 ohm coax	
Throughput:	(Downstream /	Upstream)
200 ft (61 m)	88 Mbps /	95 Mbps
500 ft (152 m)	85 Mbps /	93 Mbps
1000 ft (305 m)	83 Mbps /	89 Mbps
1500 ft (457 m)	76 Mbps /	83 Mbps

Faster data rates and greater transmission distances thru coaxial cable are possible, depending upon the type and quality of the coaxial cable utilized

User-Configurable Selection of:

- Master/Remote Operation
- Symmetrical/Asymmetrical Data
- Forward Error Correction
- Long or Short Range operation for optimal BER (Bit Error Rate) performance

## Power

Operating Voltage Range	12-27 VAC or 12-27 VDC @ < 320 mA
Power Consumption	9W

## Electrical &amp; Mechanical

Number of Rack Slots	1 (CNFE1CL1MC)
Overload Protection	Automatic Resettable Solid-State Current Limiters
Circuit Board	Meets IPC Standard
Size (L×W×H)	CNFE1CL1MC-M: 4.1 × 3.7 × 1.1 in, (10.4 × 9.4 × 2.8 cm)  CNFE1CL1MC: 6.1 × 5.3 × 1.1 in, (15.5 × 13.5 × 2.8 cm)
Shipping Weight	<2 lbs./0.9 kg

## Environmental

MTBF	>100,000 hours
Operating Temp	-40° C to +75° C
Storage Temp	-40° C to +85° C
Relative Humidity	0% to 95% (non-condensing) <sup>1</sup>

AGENCY COMPLIANCE

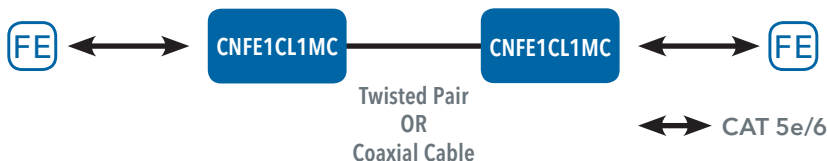


MADE IN THE  
**USA**

## ORDERING INFORMATION

Part Number	Description
CNFE1CL1MC-M	Ethernet over Twisted Pair or Coax, Small Size
CNFE1CL1MC	Ethernet over Twisted Pair or Coax, ComFit Size
Accessories	24 VAC Power Supply (included)
Options	[1] Add suffix '/C' for Conformally Coated Circuit Boards to extend to condensation conditions (Extra charge, consult factory)

## TYPICAL APPLICATION



Low Power Consumption