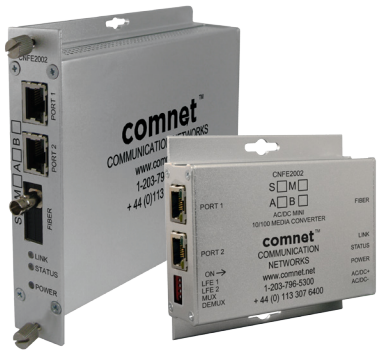
2 Channel 10/100 Mbps Ethernet Electrical To Optical Media Converter with Optional Power over Ethernet (PoE+)

CNFE200(X)(M,S)(1,2)[POE][HO][/M] Series

HARDENED | 803.2at | 803.2at | CONVERTER | 2



The ComNet Ethernet CNFE200X media converter series are two-channel Ethernet electrical to optical media converters with optional PoE+. These auto-negotiating devices accept two 10/100 Mbps electrical inputs and convert this to a single 100 Mbps optical output. This series of media converters are available as multimode or single-mode and one and two fiber SC and ST optical connectors. The ComNet exclusive Demux feature allows for port isolation, replicating two media converters over one fiber. The ComNet exclusive Mux feature prevents network video flooding of multicast traffic with DIP switch selection of the fiber port as a dedicated uplink path. The CNFE200(X) series can be powered by wide range AC or DC input while the CNFE200(X)POE units meet the 802.3at standard and provide 30 watts of PoE+ power, with an option for a 60 watt CNFE200(X)POEHO model. The PoE models can be powered by a sold seperately 48 to 56 volt DC power supply.

FEATURES

› Optional 30W or 60W PoE+ on ports 1 and 2

› 10/100 Mbps Ethernet
- 2 × 10/100 BASE-T/TX electrical ports
- 100 BASE-FX optical port

› Electrical ports support Auto-Negotiation for 10 Mbps or 100 Mbps, full duplex or half duplex data.

› Optical port supports 100 Mbps full duplex data

› Automatic MDI/MDI-X crossover

› Distances up to: 3 km (2 mi) Multimode
20 km (12 mi) Single Mode

› Link Fault Pass-Through feature detects if either of the copper ports are down and triggers the optical port to switch states to indicate the failure to the head-end.

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

› ST or SC optical connectors

› 1 or 2 fiber design

› Voltage transient protection on all power and signal input/output lines provides protection from power surges and other voltage transient events.

› No in-field optical adjustments required

› Full size units feature a contact closure output for remote side link failure detection

› Standard size is hot-swappable rack module

› Standard size is interchangeable between stand-alone or rack mount use – ComFit

› IEEE 802.3 compliant

› Lifetime Warranty

APPLICATIONS

› Optical transmission of Ethernet-compatible industrial security access control systems, intercom systems, VOIP (Voice over IP) telephony networks, and IP-compatible CCTV camera surveillance networks

› Optical Ethernet transmission to wireless LAN access points

› Optical transmission of any Ethernet-compatible equipment with a maximum data rate of 100 Mbps

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2 Channel 10/100 Mbps Ethernet Electrical To Optical Media Converter with Optional Power over Ethernet (PoE+)

SPECIFICATIONS

Ethernet

Data Rate	10/100 Mbps IEEE 802.3 Compliant Full Duplex or Half Duplex Electrical Port/Full Duplex Optical Port

Connectors

Optical	ST or SC, 1 or 2 Fibers
Power	Terminal Block
Data	RJ45

LED Indicators

- Optical Link/Data Activity
- Electrical Link/Data Activity
- Power
- Unit Status
- PoE Status

Power

Operating Voltage Range	Mini non PoE: 8 to 24 VDC or 22 to 27 VAC Mini PoE: 48 to 56 VDC Standard: 8 to 24 VDC
Power Consumption	3W (without PoE load)

Fault Relay (Full Size Units Only)

Response Time	25 msec typical
Output Channels	1
Rating	0-36V, 190mA (AC or DC)

PoE Pin Assignment

RJ45 ports support IEEE802.3at
End-point Positive (VCC+): RJ45 pin 1, 2 (RJ45 pin 1,2 and 4,5 on 60W ports)
Negative (VCC-): RJ45 pin 3, 6 (RJ45 pin 3,6 and 7,8 on 60W ports)

Electrical & Mechanical

Current Protection	Automatic Resettable Solid-State Current Limiters
Circuit Board	Meets IPC Standard
Size (L×W×H)	Standard: 6.1 × 5.3 × 1.1 in (15.5 × 13.5 × 2.8 cm) Mini: 4.1 × 3.7 × 1.1 in (10.4 × 9.4 × 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)[1]

Ethernet Standards

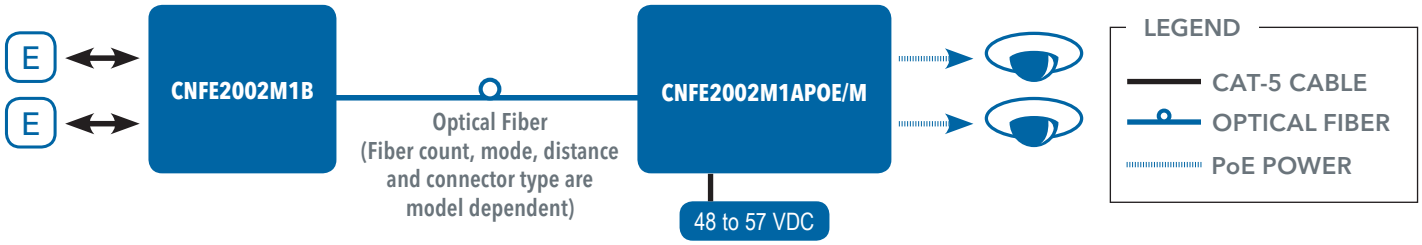
IEEE 802.3 for 10BASE-T
IEEE 802.3u for 100BASE-TX and 100BASE-FX
IEEE 802.3at for Power Sourcing Equipment (PSE) and PoE

[1] May be extended to humidity with condensation conditions by adding suffix '/C'

AGENCY COMPLIANCE
PART 15 COMPLIANT · E322911 · N24621

MADE IN THE USA

TYPICAL APPLICATION



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ORDERING INFORMATION – Standard Mount DC-Only Media Converter

Part Number	Description	Connector	Fibers Req'd	Fiber	Optical Pwr Budget	Max Distance	# Rack Slots
CNFE2002M1A	2 Channel 10/100 Mbps Ethernet 1310/1550nm	ST	1	Multimode	10 dB	3 km (2 mi)	1
CNFE2002M1B	2 Channel 10/100 Mbps Ethernet 1550/1310nm	ST	1	Multimode	10 dB	3 km (2 mi)	1
CNFE2002S1A	2 Channel 10/100 Mbps Ethernet 1310/1550nm	ST	1	Singlemode	15 dB	20 km (12 mi)	1
CNFE2002S1B	2 Channel 10/100 Mbps Ethernet 1550/1310nm	ST	1	Singlemode	15 dB	20 km (12 mi)	1
CNFE2003M2	2 Channel 10/100 Mbps Ethernet 1310nm	SC	2	Multimode	10 dB	3 km (2 mi)	1
CNFE2003S2	2 Channel 10/100 Mbps Ethernet 1310nm	SC	2	Singlemode	15 dB	20 km (12 mi)	1
CNFE2004M1A	2 Channel 10/100 Mbps Ethernet 1310/1550nm	SC	1	Multimode	10 dB	3 km (2 mi)	1
CNFE2004M1B	2 Channel 10/100 Mbps Ethernet 1550/1310nm	SC	1	Multimode	10 dB	3 km (2 mi)	1
CNFE2004S1A	2 Channel 10/100 Mbps Ethernet 1310/1550nm	SC	1	Singlemode	15 dB	20 km (12 mi)	1
CNFE2004S1B	2 Channel 10/100 Mbps Ethernet 1550/1310nm	SC	1	Singlemode	15 dB	20 km (12 mi)	1
CNFE2005M2	2 Channel 10/100 Mbps Ethernet 1310nm	ST	2	Multimode	10 dB	3 km (2 mi)	1
CNFE2005S2	2 Channel 10/100 Mbps Ethernet 1310nm	ST	2	Singlemode	15 dB	20 km (12 mi)	1
Included Accessories	DC Plug-in Power Supply, 90-264 VAC, 50/60 Hz (Included, for benign 0 to 50°C applications only. Hardened power supply available, consult factory)						
Options	[1] Add suffix '/C' for Conformally Coated Circuit Boards to extend to condensation conditions (Extra charge, consult factory) DIN-Rail Mounting Adaptor Plate Kit – With mounting hardware (Optional, order model DINBKT1 or DINBKT4)						

ORDERING INFORMATION – Mini AC/DC Power Media Converter (non-PoE)

Part Number	Description	Connector	Fibers Req'd	Fiber	Optical Pwr Budget	Max Distance	# Rack Slots
CNFE2002M1A/M	2 Channel 10/100 Mbps Ethernet 1310/1550nm	ST	1	Multimode	10 dB	3 km (2 mi)	N/A
CNFE2002M1B/M	2 Channel 10/100 Mbps Ethernet 1550/1310nm	ST	1	Multimode	10 dB	3 km (2 mi)	N/A
CNFE2002S1A/M	2 Channel 10/100 Mbps Ethernet 1310/1550nm	ST	1	Singlemode	15 dB	20 km (12 mi)	N/A
CNFE2002S1B/M	2 Channel 10/100 Mbps Ethernet 1550/1310nm	ST	1	Singlemode	15 dB	20 km (12 mi)	N/A
CNFE2003M2/M	2 Channel 10/100 Mbps Ethernet 1310nm	SC	2	Multimode	10 dB	3 km (2 mi)	N/A
CNFE2003S2/M	2 Channel 10/100 Mbps Ethernet 1310nm	SC	2	Singlemode	15 dB	20 km (12 mi)	N/A
CNFE2004M1A/M	2 Channel 10/100 Mbps Ethernet 1310/1550nm	SC	1	Multimode	10 dB	3 km (2 mi)	N/A
CNFE2004M1B/M	2 Channel 10/100 Mbps Ethernet 1550/1310nm	SC	1	Multimode	10 dB	3 km (2 mi)	N/A
CNFE2004S1A/M	2 Channel 10/100 Mbps Ethernet 1310/1550nm	SC	1	Singlemode	15 dB	20 km (12 mi)	N/A
CNFE2004S1B/M	2 Channel 10/100 Mbps Ethernet 1550/1310nm	SC	1	Singlemode	15 dB	20 km (12 mi)	N/A
CNFE2005M2/M	2 Channel 10/100 Mbps Ethernet 1310nm	ST	2	Multimode	10 dB	3 km (2 mi)	N/A
CNFE2005S2/M	2 Channel 10/100 Mbps Ethernet 1310nm	ST	2	Singlemode	15 dB	20 km (12 mi)	N/A
Inlcuded Accessories	DC Plug-in Power Supply, 90-264 VAC, 50/60 Hz (Included, for benign 0 to 50°C applications only. Hardened power supply available, consult factory)						
Options	[1] Add suffix '/C' for Conformally Coated Circuit Boards to extend to condensation conditions (Extra charge, consult factory) DIN-Rail Mounting Adaptor Plate Kit – With mounting hardware (Optional, order model DINBKT2 or DINBKT4)						

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ORDERING INFORMATION – Mini PoE Media Converter

Part Number	Description	Optic Connector	Fibers Req'd	Fiber	Optical Pwr Budget	Max Distance
CNFE2002M1APOE/M	2 Ch 10/100 Mbps Ethernet 1310/1550nm, 30 W PoE+, A Side	ST	1	Multimode	10 dB	3 km (2 mi)
CNFE2002M1BPOE/M	2 Ch 10/100 Mbps Ethernet 1310/1550nm, 30 W PoE+, B Side	ST	1	Multimode	10 dB	3 km (2 mi)
CNFE2002S1APOE/M	2 Ch 10/100 Mbps Ethernet 1310/1550nm, 30 W PoE+, A Side	ST	1	Singlemode	15 dB	20 km (12 mi)
CNFE2002S1BPOE/M	2 Ch 10/100 Mbps Ethernet 1310/1550nm, 30 W PoE+, B Side	ST	1	Singlemode	15 dB	20 km (12 mi)
CNFE2002M1APOEHO/M	2 Ch 10/100 Mbps Ethernet 1310/1550nm, 60 W PoE++, A Side	ST	1	Multimode	10 dB	3 km (2 mi)
CNFE2002M1BPOEHO/M	2 Ch 10/100 Mbps Ethernet 1310/1550nm, 60 W PoE++, B Side	ST	1	Multimode	10 dB	3 km (2 mi)
CNFE2002S1APOEHO/M	2 Ch 10/100 Mbps Ethernet 1310/1550nm, 60 W PoE++, A Side	ST	1	Singlemode	15 dB	20 km (12 mi)
CNFE2002S1BPOEHO/M	2 Ch 10/100 Mbps Ethernet 1310/1550nm, 60 W PoE++, B Side	ST	1	Singlemode	15 dB	20 km (12 mi)
CNFE2003M2POE/M	2 Ch 10/100 Mbps Ethernet 1310nm, 30 W PoE+	SC	2	Multimode	10 dB	3 km (2 mi)
CNFE2003S2POE/M	2 Ch 10/100 Mbps Ethernet 1310nm, 30 W PoE+	SC	2	Singlemode	15 dB	20 km (12 mi)
CNFE2003M2POEHO/M	2 Ch 10/100 Mbps Ethernet 1310nm, 60 W PoE++	SC	2	Multimode	10 dB	3 km (2 mi)
CNFE2003S2POEHO/M	2 Ch 10/100 Mbps Ethernet 1310nm, 60 W PoE++	SC	2	Singlemode	15 dB	20 km (12 mi)
CNFE2004M1APOE/M	2 Ch 10/100 Mbps Ethernet 1310/1550nm, 30 W PoE+, A Side	SC	1	Multimode	10 dB	3 km (2 mi)
CNFE2004M1BPOE/M	2 Ch 10/100 Mbps Ethernet 1310/1550nm, 30 W PoE+, B Side	SC	1	Multimode	10 dB	3 km (2 mi)
CNFE2004S1APOE/M	2 Ch 10/100 Mbps Ethernet 1310/1550nm, 30 W PoE+, A Side	SC	1	Singlemode	15 dB	20 km (12 mi)
CNFE2004S1BPOE/M	2 Ch 10/100 Mbps Ethernet 1310/1550nm, 30 W PoE+, B Side	SC	1	Singlemode	15 dB	20 km (12 mi)
CNFE2004M1APOEHO/M	2 Ch 10/100 Mbps Ethernet 1310/1550nm, 60 W PoE++, A Side	SC	1	Multimode	10 dB	3 km (2 mi)
CNFE2004M1BPOEHO/M	2 Ch 10/100 Mbps Ethernet 1310/1550nm, 60 W PoE++, B Side	SC	1	Multimode	10 dB	3 km (2 mi)
CNFE2004S1APOEHO/M	2 Ch 10/100 Mbps Ethernet 1310/1550nm, 60 W PoE++, A Side	SC	1	Singlemode	15 dB	20 km (12 mi)
CNFE2004S1BPOEHO/M	2 Ch 10/100 Mbps Ethernet 1310/1550nm, 60 W PoE++, B Side	SC	1	Singlemode	15 dB	20 km (12 mi)
CNFE2005M2POE/M	2 Ch 10/100 Mbps Ethernet 1310nm, 30 W PoE+	ST	2	Multimode	10 dB	3 km (2 mi)
CNFE2005S2POE/M	2 Ch 10/100 Mbps Ethernet 1310nm, 30 W PoE+	ST	2	Singlemode	15 dB	20 km (12 mi)
CNFE2005M2POEHO/M	2 Ch 10/100 Mbps Ethernet 1310nm, 60 W PoE++	ST	2	Multimode	10 dB	3 km (2 mi)
CNFE2005S2POEHO/M	2 Ch 10/100 Mbps Ethernet 1310nm, 60 W PoE++	ST	2	Singlemode	15 dB	20 km (12 mi)
Options	48 VDC Plug-in Power Supply, 90-264 VAC, 50/60 Hz (Optional, consult factory for application-appropriate power supply) [1] Add suffix '/C' for Conformally Coated Circuit Boards to extend to condensation conditions (Extra charge, consult factory) DIN-Rail Mounting Adaptor Plate Kit – With mounting hardware (Optional, order model DINBKT2 or DINBKT4)					

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Low Power Consumption

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