

Installation Guide

EIMC Industrial Ethernet [Media Converters](#) allow transparent, low-cost and robust connections between copper and fiber media. Each of three models supports full or half duplex operation. The [EIMC-10T/F](#) operates at 10 Mbps for 10BASE-T and 10BASE-FL signaling. Two models pass 100-Mbps data between 100BASE-TX and 100BASE-FX segments: The [EIMC-100T/FT](#) makes the fiber optic connection via ST-style connectors, whereas the [EIMC-100T/FC](#) does so via SC-style connectors.

Maximum distance with 62.5/125 μm fiber cables is 2 km in full-duplex mode, but segments operating in half-duplex mode are limited by the collision domain to 412 m. Two front-panel DIP switches set the operational mode to full duplex, half duplex or transparent. The data rate on the fiber cable is matched automatically, but a connection to the copper partner is established *only* if the partner meets the connection requirements.

In transparent mode, auto-negotiation sets the data rate for twisted-pair and the mode to full- or half-duplex for all protocols—allowing 10/100BASE-TX and 10BASE-T devices to communicate over a fiber optic link.

Two RJ-45 connectors (one MDI-X port and one MDI port) allow either straight-through or crossover copper cabling. Several LEDs allow troubleshooting from front-panel observations.

All units mount on TS-32 or TS-35 DIN-rail, operate from a wide range of low-voltage AC or DC power and offer redundant power connections.

Designed for Industrial Ethernet applications, all models comply with EMC immunity and emissions compatibility standards for industrial environments.

Specifications

This device is intended for use with Class 2 circuits.

Electrical

Input	DC	AC
Voltage:	10-36 V	8-24 V
Power:	4 W	4 VA
Frequency:	N/A	47-63 Hz

Environmental

Operating Temp.:	0°C to +60°C
Storage Temp.:	-40°C to +85°C
Humidity: (non-cond.)	10% to 95%

DIN-rail Mntg: TS-32 or TS-35

Shipping Wgt: 1 lb (0.45 kg)

Regulatory Compliance

CE Mark; CFR47 Part 15, Class A
UL508 Industrial Control Equipment

LED Indicators

Activity	green
Data Rate	yellow/green

Functional

Compliance:	ANSI/IEEE 802.3
Data Rates:	10/100 Mbps

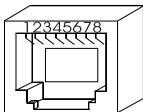
Signaling (Connectors) [Cable distance]

Copper	Fiber / Wavelength (nm)
10BASE-T	10BASE-FL / 850 *
100BASE-TX (RJ-45)	100BASE-FX / 1300**
[0 to 100 m]	(*ST only, **SC or ST)
	[2 m to 2 km]

RJ-45 Connector Pin Assignments

Pin Function

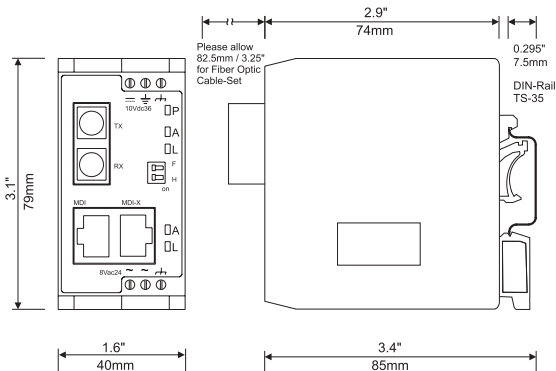
1	TD+
2	TD-
3	RD+
6	RD-



(All other RJ-45 pins are unused.)

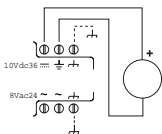
Mechanical

Dimensions shown are for model EIMC-100T/FC but are valid for all EIMC models.

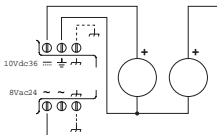


Power Options

DC POWERED

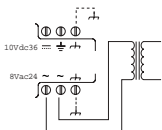


REDUNDANT DC POWERED



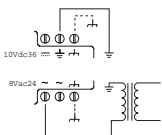
AC POWERED

(ungrounded secondary)

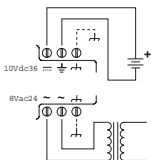


AC POWERED

(grounded secondary)



AC POWERED WITH BATTERY BACKUP



Power Considerations

Voltage in the range of 10–36 VDC or 8–24 VAC must deliver current commensurate with 4-watt power consumption; size conductors accordingly. Zero volts is tied to ground, but is isolated from the chassis. Inputs are reverse-polarity protected. Primary power can be backed-up by a DC supply or battery via redundant diode-isolated inputs, but separate means are needed for charging a battery.

DIP Switch Settings

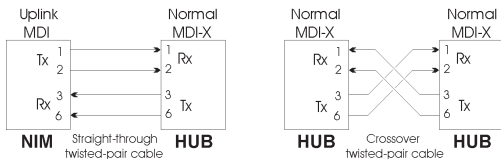
Set to **F** for Full Duplex or to **H** for Half Duplex. Set both switches left (off) for Transparent Mode where speed and duplex autonegotiate—if the fiber partner is TIA/EIA-785 compliant. If 2 EIMCs in Transparent Mode link 2 copper nodes via fiber, the copper nodes will negotiate directly with each other.

LED Indicators

The power LED glows green when power is applied. Each port has 2 LEDs: **A** flashes green as data is transferred and **L** indicates the port data rate by color—green for 100 Mbps or yellow for 10 Mbps.

Copper Cabling Option

A cabling option exists for copper lines: crossover wiring via the “normal” port (MDI-X); straight-through wiring via the “uplink” port (MDI). **Note:** the two RJ-45 ports can NOT be used simultaneously.



Uplink Ports vs. Normal Ports

NEED MORE HELP INSTALLING THIS PRODUCT?

More information can be found in the Technical Support part of our web site at www.ccontrols.com. If contacting our office, ask for Technical Support.

WARRANTY

Contemporary Controls (CC) warrants this product to the original purchaser for two years from the shipping date. If it fails to operate in compliance with its specification during this period, CC will, at its option, repair or replace the product at no charge. Product returned to CC for repair is warranted for one year from the date that the repaired product is shipped back to the purchaser or for the remainder of the original warranty period, whichever is longer. The customer is responsible for shipping product; CC assumes no responsibility for product until received. This limited warranty covers products only as delivered. User modification may void the warranty. Damage from abuse, accident, disaster, misuse, or incorrect installation are not covered. This warranty in no way warrants suitability of the product for any specific application. More warranty information can be found at www.ccontrols.com.

Warning: This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

RETURNING PRODUCTS FOR REPAIR

Before returning a product for repair, contact the manufacturer (USA office) or its representative (UK office) below for instructions on return procedure:

Contemporary Control Systems, Inc.
2431 Curtiss Street
Downers Grove, Illinois 60515 USA
Tel: +1-630-963-7070
Fax: +1-630-963-0109
E-mail: info@ccontrols.com
WWW: <http://www.ccontrols.com>

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Coventry CV4 7EZ UK
Tel: +44 (0)24 7641 3786
Fax: +44 (0)24 7641 3923
E-mail: ccl.info@ccontrols.com

DECLARATION OF CONFORMITY

Applied Council Directives: EMC Directive 89/336/EEC as amended by 92/31/EEC & 93/68/EEC; General Product Safety Directive 92/59/EEC

Standards to which Conformity is Declared: Information Technology Equipment — EN 55022:1998 + A1:2000, Class A; EN 55024:1998

Manufacturer's Declaration of January 1, 2002: I declare that all units in the EIMC product line conform to the above directives and standards.

George M. Thomas, President

TD011300-01D