

### EIMC Miniature Media Converters



- **Plug-and-Play (PnP)**
- **Miniature size**
- **10BASE-T/10BASE-FL or 100BASE-TX/100BASE-SX or 100BASE-TX/100BASE-FX conversion**
- **Shielded RJ-45 connectors or SC/ST-style fibre optic connectors**
- **Auto-negotiated data rate, duplex, and flow control on twisted-pair ports**
- **Built-in uplink provision**

- **Powered from an unregulated DC power source (10–36 V) or from an AC power source (8–24 V, 47–63 Hz). Power is provided through a quick-disconnect terminal strip.**
- **Built-in uplink provision**
- **Multimode or single-mode fibre**
- **Full- or half-duplex operation on twisted-pair ports**
- **Provision for redundant power connections**
- **LEDs for link, activity, and power**
- **Easy DIN-rail installation**
- **Industrial environment EMC compatible**
- **UL 508 Listed, Industrial Control Equipment**
- **C-UL Listed, CSA 22.2 No. 14-M91, Industrial Control Equipment**
- **CE Mark**
- **RoHS compliant**

### PRODUCT OVERVIEW

The EIMC media converters offer a solution for those industrial applications requiring a trouble-free, robust method of converting between copper and fibre media.

All the models support full- or half-duplex mode. The EIMC-10T/F can operate at 10 Mbps and convert 10BASE-T to 10BASE-FL (850 nm) or it can operate at 100 Mbps and convert 100BASE-TX to 100BASE-SX (850 nm). Three models pass 100-Mbps data between 100BASE-TX and 100BASE-FX (1300 nm) segments: the EIMC-100T/FT makes the fibre optic connection via ST-style connectors, whereas the EIMC-100T/FC and EIMC-100T/FCS do so via SC-style connectors.

**Two front panel DIP switches set the operational mode — full-duplex, half-duplex or transparent.**

Each unit will auto-negotiate data rate and duplex with its copper partner in transparent mode, but only the data rate will be negotiated in either the half- or full-duplex mode.

There is no auto-negotiation on the fibre side. The fibre port settings are slaved to what is negotiated on the copper side. In either half- or full-duplex mode, the EIMC-10T/F fibre connection can be up to 300 m under 100BASE-SX operation or 2 km under 10BASE-FL operation.

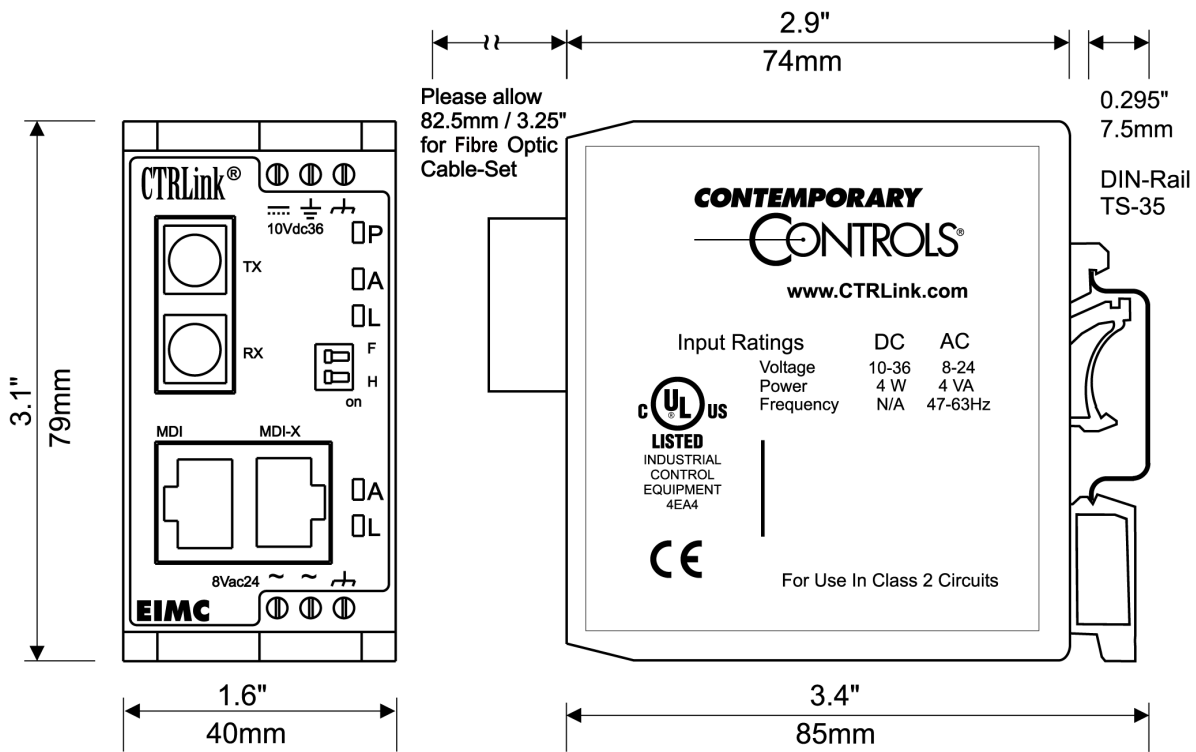
Both the EIMC-100T/FC and the EIMC-100T/FT are limited to 412 m in half-duplex mode and 2 km in full-duplex mode. The EIMC-100T/FCS extends fibre distance to 15 km in full-duplex mode.

Transparent mode is meant for applications where a pair of EIMC devices terminate the ends of a fibre link — making the two copper partners to auto-negotiate as if they were directly connected. However, if the intent is to link up at 100 Mbps, then either an EIMC-100T/FC or EIMC-100T/FT should be used to ensure maximum fibre distance. If the application requires that an EIMC mate with an existing fibre hub or switch; then the proper EIMC model must be selected to match the data rate and fibre wavelength of the fibre port partner. Select half- or full-duplex operation accordingly and verify that the data rates on the copper and fibre end devices are the same.

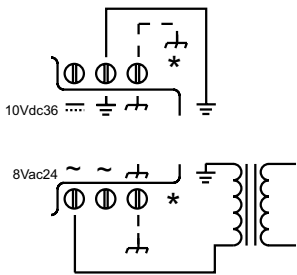
**Several LEDs are provided for convenient front panel diagnostics.** The Power LED (P) glows green when power is applied. Each port has two LEDs. The green Port Activity LED (A) flashes with activity while the link LED (L) indicates the data rate by colour: green for 100 Mbps and yellow for 10 Mbps.

All units mount on TS-32 or TS-35 DIN-rail and offer redundant power provisions.

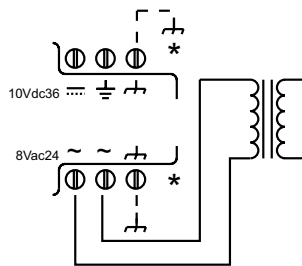
### Mechanical



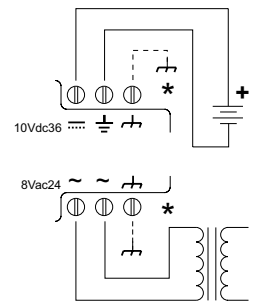
### Power Diagrams



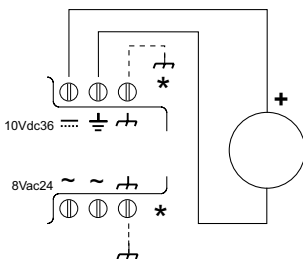
**AC Powered**  
(grounded secondary)



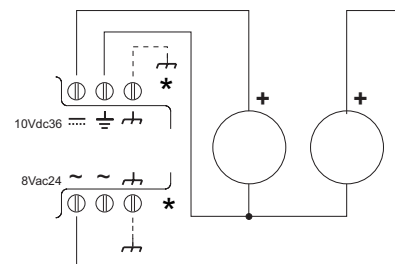
**AC Powered**  
(ungrounded secondary)



**AC Powered with Battery Backup**



**DC Powered**



**Redundant DC Power**

\* Connecting either or both chassis connections to earth is optional in all applications.

## Specifications

Electrical	DC	AC
Input voltage	10–36 Volts	8–24 Volts
Input power	4 W	4 VA
<b>Input frequency</b>	N/A	47–63 Hz

### Environmental

Operating temperature	0°C to +60°C
Storage temperature	–40°C to +85°C
Relative humidity	10–95% non-condensing
Protection	IP30

### Functionality

Standards	IEEE 802.3
Process type	Bit-Level Repeating

Ports	Copper twisted-pair	Fibre 850 or 1300 nm
Number of ports	One	One
Interface	10BASE-T/100BASE-TX 10 or 100 Mbps Auto-negotiated data rate, flow control, full- or half-duplex operation (Transparent mode)	10BASE-FL or 100BASE-FX 10 or 100 Mbps Full- or half-duplex mode
Connectors	Shielded RJ-45	SC (on multimode or single-mode models) ST (only on multimode models)
Maximum segment length Multimode Optical budget: 13 dB	100 m	10BASE-FL, 2 km 100BASE-TX, 2 km 100BASE-SX, 300 m
Maximum segment length Single-mode Optical budget: 19 dB	100 m	100BASE-FX, 15 km
LED indicators	Green Link (L) Yellow — 10 or 100 Mbps Green Flashing — Activity (A)	Green — 10 or 100 Mbps link Flashing — Activity
LED power indicator	Green	

### RJ-45 Pin Assignments

#### MDI-X<sup>1</sup> 10BASE-T/100BASE-TX

RJ-45	Usage
1	TD+
2	TD–
3	RD+
4	Not Used
5	Not Used
6	RD–
7	Not Used
8	Not Used

<sup>1</sup> Unit has both an MDI and MDIX port.

**Electromagnetic Compatibility**

Standard	Test Method	Description	Test Levels
EN 55024	EN 61000-4-2	Electrostatic Discharge	6 kV contact & 4 kV air
EN 55024	EN 61000-4-3	Radiated Immunity	10 V/m, 80 MHz to 1 GHz
EN 55024	EN 61000-4-4	Fast Transient Burst	1 kV clamp & 2 kV direct
EN 55024	EN 61000-4-5	Voltage Surge	1 kV L-L & 2 kV L-Earth
EN 55024	EN 61000-4-6	Conducted Immunity	10 Volts (rms)
EN 55024	EN 61000-4-11	Voltage Dips & Interruptions	1 Line Cycle, 1 to 5 s @ 100% dip
EN 55022	CISPR 22	Radiated Emissions	Class A
EN 55022	CISPR 22	Conducted Emissions	Class B
CFR 47, Part 15	ANSI C63.4	Radiated Emissions	Class A

**Ordering Information****Copper and Fibre**

Model	Description
EIMC-10T/F	10BASE-T/10BASE-FL multimode, (850 nm) media converter, ST connectors
EIMC-100T/FC	100BASE-TX/100BASE-FX multimode, (1300 nm) media converter, SC connectors
EIMC-100T/FT	100BASE-TX/100BASE-FX multimode, (1300 nm) media converter, ST connectors
EIMC-100T/FCS	100BASE-TX/100BASE-FX single-mode, (1300 nm) media converter, SC connectors

**Accessories**

Model	Description
AI-XFMR	Wall-mount plug-in transformer, 120 VAC input/24 VAC output (nominal values)
AI-XFMR-E	Wall-mount plug-in transformer, 230 VAC input/24 VAC output (nominal values)

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