



## EIMK Industrial Ethernet Media Converters

### *Making the Copper to Fiber Connection*

The EIMK Skorpion Media Converter series makes the conversion of an Ethernet copper segment to fiber simple. By operating full-duplex at 100 Mbps provides the highest possible performance on 100 Mbps links. The EIMK is a true media converter and not just a two-port Ethernet switch. Therefore performance is enhanced by not introducing the store-and-forward data latency inherent in

a switch. Both multimode and single-mode models are available with SC connectors, ST connectors model is only available in multimode. Fiber distances of up to 15 km are possible with the single-mode model — up to 2 km with the multimode models. On the copper side, both MDI and MDIX ports are available to compliment either an end station port or a switch port.

- Plug-and-Play operation
- 100BASE-TX/100BASE-FX conversion
- Shielded RJ-45 and SC/ST-style fiber optic connectors
- Full-duplex operation
- MDI and MDIX copper ports
- Far End Fault feature



- DIN-rail mounting
- Rugged metal enclosure
- Diagnostic LEDs
- Enhanced EMC compliance
- UL 508 listed, c-UL listed, CE mark
- 24 VAC/VDC powered

## Overview

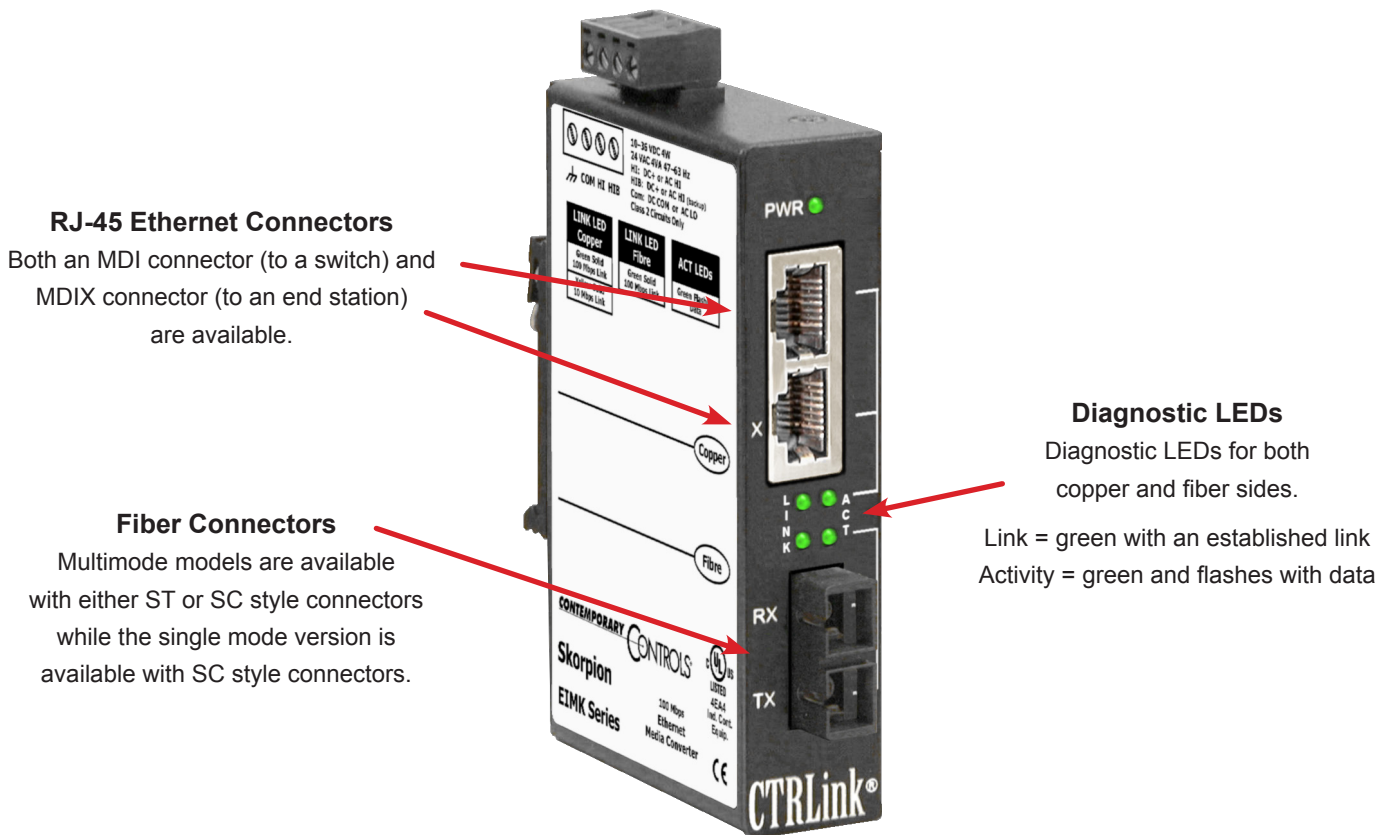
Each of the three models supports full-duplex operation for 100BASE-TX and 100BASE-FX segments. Two models support multimode fiber optic connections: the EIMK-100T/FT makes the fiber optic connection via ST-style connectors, whereas the EIMK-100T/FC does so via SC connectors. The model EIMK-100T/FCS supports single-mode fiber via SC connectors. Maximum distance with 62.5/125 µm multimode fiber cables is 2 km while single-mode fiber can span up to 15 km.

Two RJ-45 connectors (one MDIX port and one MDI port) allow either straight-through or crossover copper cabling. Link and activity LEDs allow troubleshooting on both the copper and fiber sides. Far End Fault feature allows the stations on both ends of the fiber to indicate established link (Link LED on) or indicate if there is a half break or no link (Link LED off). Link LEDs also indicate if a copper Ethernet

connection is established. If a half-break or no link on the fiber side occurs, the copper port will also go down. This provides network fault indication on both ends. There must be a valid link on both copper and fiber sides in order for link LEDs to light up solid, indicating a complete connection. Activity (ACT) LEDs indicate data traffic when flashing.

All units mount on TS-35 DIN-rail and operate from either a 24 V AC or DC power source while offering redundant power connections. By incorporating a half-wave rectifier design, the sharing of the power source with other half-wave devices is possible.

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



### RJ-45 Ethernet Connectors

Both an MDI connector (to a switch) and MDIX connector (to an end station) are available.

### Fiber Connectors

Multimode models are available with either ST or SC style connectors while the single mode version is available with SC style connectors.

### Diagnostic LEDs

Diagnostic LEDs for both copper and fiber sides.

Link = green with an established link  
Activity = green and flashes with data

# Specifications

**Power Requirements** 10–36 VDC ±10% 3W or 24 VAC ±10% 5VA 47–63 Hz

**Operating Temperature** 0°C to 60°C

**Storage Temperature** –40°C to 85°C

**Relative Humidity** 10–95%, non-condensing

**Protection** IP30

**Mounting** TS-35 DIN-rail

**Shipping Weight** 1 lb (0.45 kg)

**Fiber Transceivers** **TX Power (min)** **RX (min)** **Wavelength** **Optical Budget**

Multimode –19 dBm –32 dBm 1310 nm 13 dB

Single-mode –15 dBm –32 dBm 1310 nm 17 dB

**Ethernet Communications** IEEE 802.3 100 Mbps data rate  
 100BASE-TX using RJ-45 connectors (MDI and MDIX), 100 m (max)  
 100BASE-FX multimode using SC or ST connectors, 2 km (max)  
 100BASE-FX single-mode using SC connectors, 15 km (max)

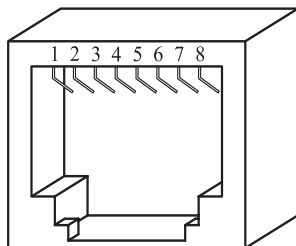
**LEDs**  
 Power Green = power OK  
 Link Green = communication established  
 Activity Green = data transmissions occurring (flashes)

**Regulatory Compliance** CE Mark; CFR 47, Part 15 Class A; RoHS;  
 UL 508 Industrial Control Equipment

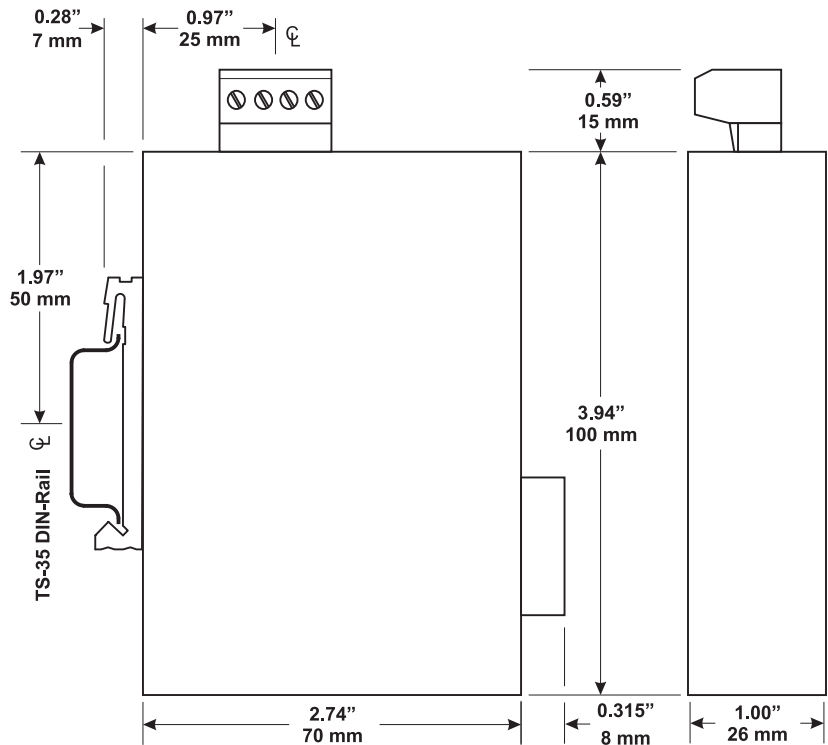


## RJ-45 Connector Pin Assignments

Pin	Function
1	TD+
2	TD–
3	RD+
4	N/C
5	N/C
6	RD–
7	N/C
8	N/C



## Mechanical Drawing

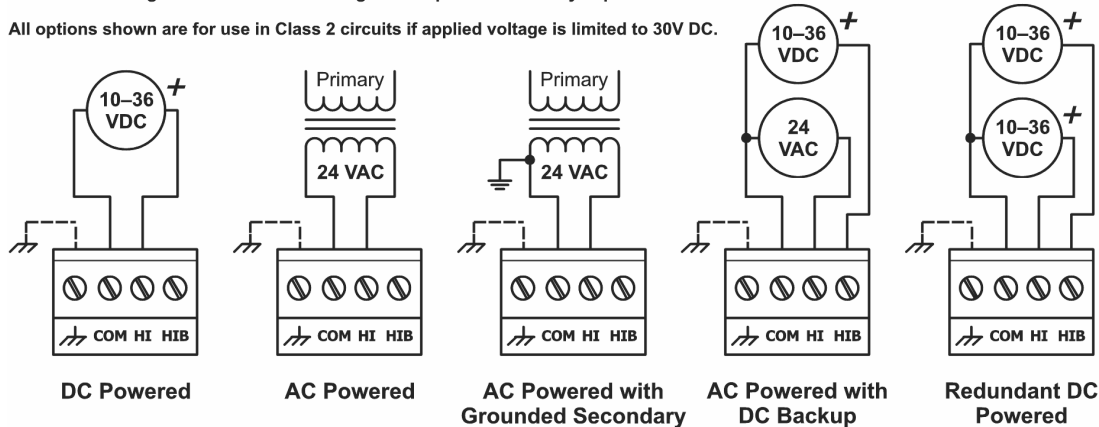


## Power Considerations

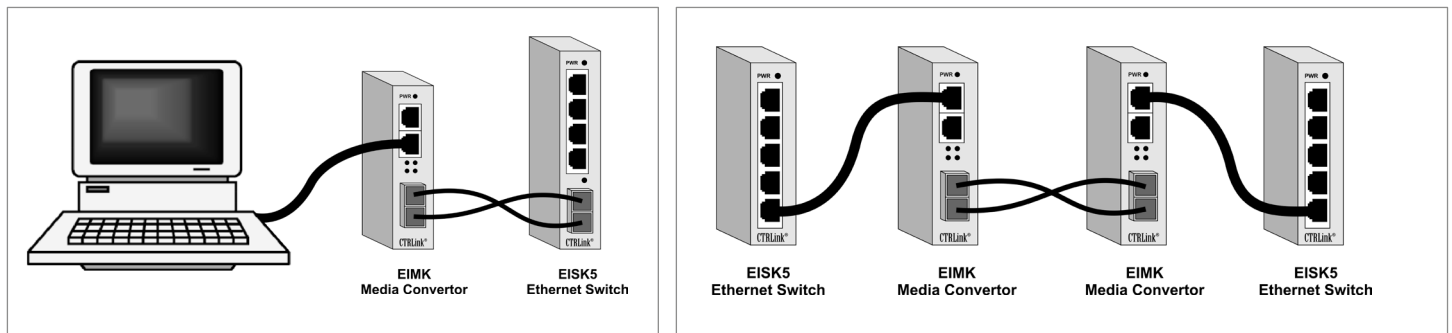
Applied voltage must be in the specified range and deliver a current commensurate with power consumption. The recommended size for solid power conductors is 16–20 AWG; and for stranded conductors use 16–18 AWG. Zero volts (COM) is isolated from chassis (earth). Input connections are reverse-polarity protected.

Input power: 10–36 VDC or 24 VAC ± 10%, 47–60 Hz.  
Connecting chassis to earth or using a backup source is always optional.

All options shown are for use in Class 2 circuits if applied voltage is limited to 30V DC.



## Typical Media Converter Installations



## Ordering Information

Model	Description
EIMK-100T/FT	Skorpion 100BASE-TX/100BASE-FX MM ST-Fiber Media Converter
EIMK-100T/FC	Skorpion 100BASE-TX/100BASE-FX MM SC-Fiber Media Converter
EIMK-100T/FCS	Skorpion 100BASE-TX/100BASE-FX SM SC-Fiber Media Converter

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