

Installation Guide

EISX Switches provide popular PnP functionality: auto-negotiation, 10/100 Mbps data rate, half- or full-duplex operation, and flow control.

Each switch learns port assignments by reading Ethernet frames and logs source addresses on a table which can hold over 4000 addresses. With this information, it improves throughput by restricting traffic to only those ports party to a data exchange — while other data is simultaneously exchanged on other ports. Store-and-forward operation is implemented and broadcast, multicast, or unicast transmissions are received by all ports.

The EISX also provides preamble regeneration with symmetry and amplitude compensation — retiming signals to eliminate jitter. Digital pre-emphasis compensates for inherent signal strength roll-off. Link integrity is monitored, verifying that a working adapter or hub is on the distant end of a segment.

All ports support PAUSE flow control for full-duplex links and backpressure for half-duplex. All RJ-45 ports feature Auto-MDIX for ease of cabling.

The switches are powered from wide-range, low-voltage AC or DC sources and redundant power connections are provided for backup considerations. They come with the hardware for either DIN-rail or panel mounting. The front panels feature a power LED and bi-color LEDs for the link status, activity, and data rate of each port.

Designed for Industrial Ethernet applications, the switch complies with EMC immunity and emissions compatibility standards for industrial environments.

Specifications

Electrical

INPUT	DC	AC
Voltage:	10–36 V	8–24 V
Power		
Non-fiber Units:	6 W	6 VA
Fiber Units:	10 W	10 VA
Frequency:	N/A	47–63 Hz

Environmental

Operating Temp:	–40°C	to +75°C
Storage Temp:	–40°C	to +85°C
Humidity:	10–95%, non-condensing	

DIN-rail Mounting TS-35

Shipping Weight 1 lb (0.45 kg)

Regulatory Compliance

CE Mark; EN55022; EN55024
 CFR 47, Part 15, Class A
 UL508 — Industrial Control Equipment
 For use in Class 2 circuits

Functional

Compliance:	ANSI/IEEE 802.3	
	Copper	Fiber
Data Rates:	10/100 Mbps	100 Mbps
Signaling:	10BASE-T 100BASE-TX	100BASE-FX
Connectors:	RJ-45 (shielded)	SC or ST
Segment Length (max):	100 m	2 km*
	* multimode, full-duplex	** single mode, full-duplex
		15 km**
		full-duplex

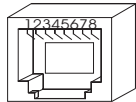
LED Indicators

Power	green
Port Activity	flashing
Port Rate/Link	green (100 Mbps) yellow (10 Mbps)

RJ-45 Connector Pin Assignments

Pin Function

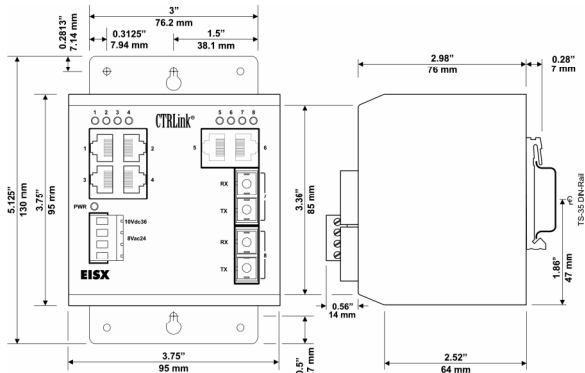
1	TD+
2	TD–
3	RD+
6	RD–



(All other pins are unused.)

Mechanical

The dimensions for the model EISX8-100T/FC (shown here) apply for all models.



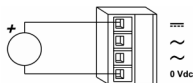
Optional Panel Mounting Bracket (depicted above) is included.

Standard DIN-Rail Mounting Bracket (depicted above) is pre-attached.

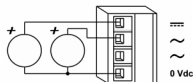
Power Options

The EISX can be powered in various ways as illustrated below :

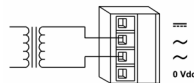
DC POWERED



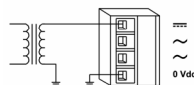
REDUNDANT DC POWERED



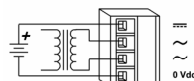
AC POWERED



AC POWERED WITH 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 power consumption. Power conductors can be stranded (16–18 AWG) or solid (16–22 AWG). Zero volts and the chassis are isolated from each other. Input connections are reverse-polarity protected. Primary power backup for a substitute DC supply or backup battery is possible by way of built-in redundant diode-isolated inputs, but separate provisions are required for charging any backup battery.

LED Indicators

To aid troubleshooting, each port LED glows solid if a link exists, flashes to show activity and shows data rate by color: green for 100 Mbps and yellow for 10 Mbps. A power LED is provided.

Network Connections

Cabling requirements appear in the table below. With the Auto-MDIX feature, either crossover or standard straight-through cables may be used to connect to any copper port. When connecting fiber between one device and another, the transmit port of one unit must connect to the receive port of the other unit — and vice versa. Half-duplex operation is not supported on the fiber port.

Medium	Signaling & Data Rate	Minimum Cable Needed	Maximum Segment Distance
Copper	10BASE-T 100BASE-TX 10/100 Mbps	CAT 5 UTP	100 m (328 ft)
Fiber	100BASE-FX 100 Mbps	Multimode 50/125 or 62.5/125 μ m	Full-Duplex : 2 km (6562 ft)
		Single Mode	Full-Duplex : 15 km (49212 ft)

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>

Contemporary Controls Ltd
Sovereign Court Two, UWSP
Sir William Lyons Road
Coventry CV4 7EZ UK
Tel: +44 (0)24 7641 3786
Fax: +44 (0)24 7641 3923
E-mail: info@ccontrols.co.uk

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: EN 55022:1995 (CISPR22: 1993), Class A; EN 55024:1998, ITE – Immunity – Limits and Methods.

Manufacturer's Declaration of January 1, 2005: I declare that the EISM5-100T conforms to the above directives and standards.

George M. Thomas, President

TD020815-01B