EISX *CTRLink*® Series — Wide Temperature Switches

Flexibility in Design

- 9- or 8-port 10/100 Mbps compact switches

- Fibre options include multimode and single-mode versions, ST and SC connectors

- Wide-range temperatures (–40°C to +75°C)

Simple Installation

- Compact size (3.7" H x 3.9" D x 3.6" W; 95 mm x 99 mm x 92 mm)

- Easy panel or DIN-rail installation

- Input power range is 10–36 VDC or 8–24 VAC, 47–63 Hz. Power is provided through a quick-disconnect terminal strip.

- Provisions for redundant power connections

- LEDs for link/activity/data rate and power

Plug-and-Play Functionality

- Auto-MDIX on copper ports

- Auto-negotiated data rate, duplex, and flow control on copper ports

- Full- or half-duplex operation on copper ports

Standards Compliant

- 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

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Product Overview

EISX switches, supporting both copper and fibre optics, answer the call for those industrial and commercial applications requiring a small footprint and extended temperature range from –40°C to +75°C. This series is ideal for situations where outdoor temperatures are expected and compact size is a necessity.

Each unit segments the Ethernet LAN into multiple collision domains, acting as a "bridge" between data links to create a larger network diameter than possible with repeating hubs. Each copper port automatically negotiates data rate, duplex, and flow control.

The switch learns port assignments by reading Ethernet frames and logging source addresses into a table which can hold over 4,000 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 of frames is implemented using 256 kB of built-in memory.
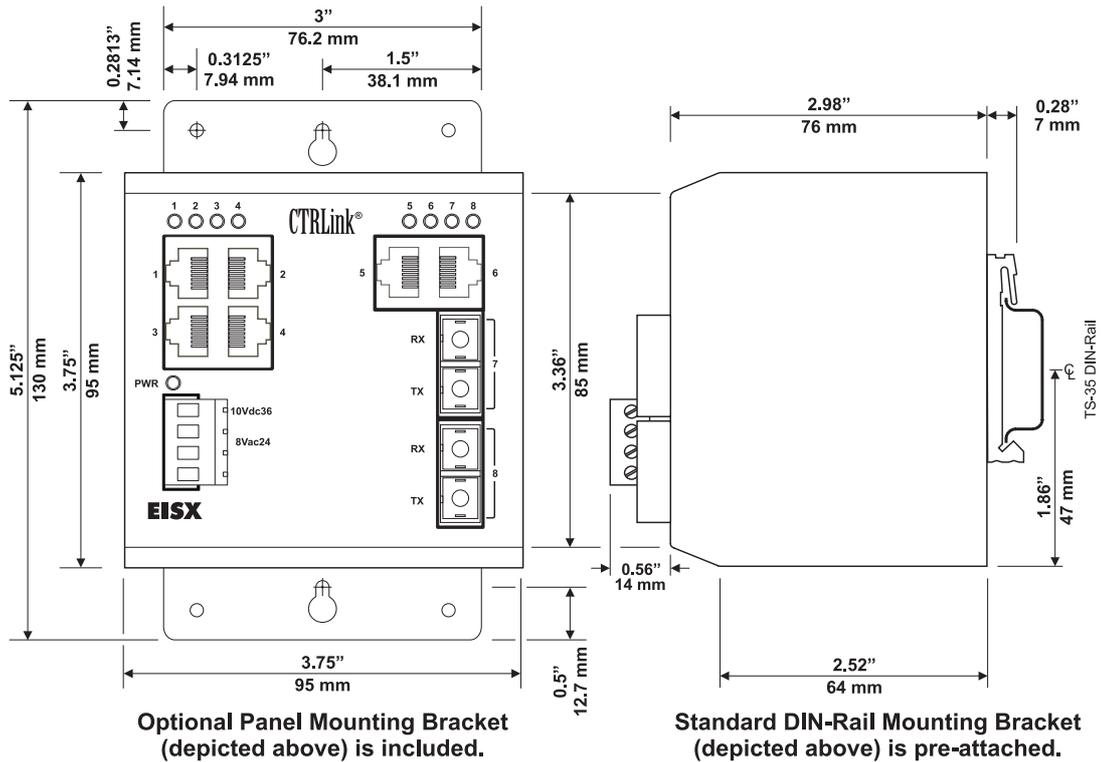
Only standard straight-through cables are needed to connect copper ports to NIMs or another hub. Eight (MDIX) copper ports are available on the EISX9-100T for attaching local devices with the ninth copper port being used as an uplink port. In addition to one power LED, each port has an LED showing link/activity/data rate by colour: green for 100 Mbps and yellow for 10 Mbps. Flashing indicates port activity.

Each unit accepts wide-range, low-voltage AC or DC power and has terminals for redundant power.
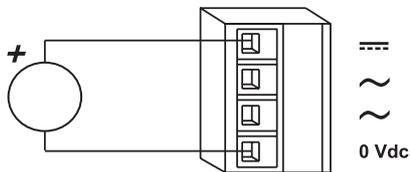
The unit is shipped with a DIN-rail clip installed. If direct mounting to a sub-panel is desired, an optional panel mounting bracket, shipped with the product, can be installed after removing the DIN-rail clip.
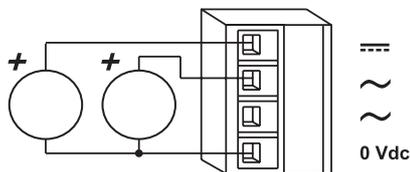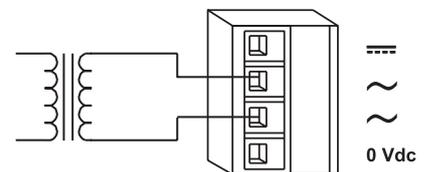
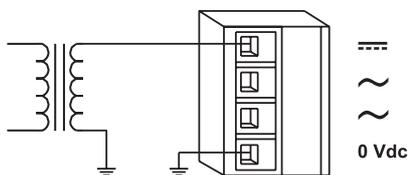# EISX *CTRLink®* **Series** — **Wide Temperature Switches**

Mechanical

Optional Panel Mounting Bracket
(depicted above) is included.

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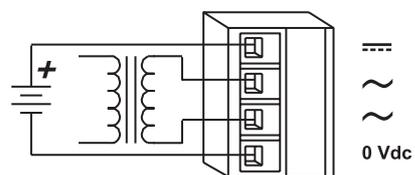
Power Diagrams

DC Powered

Redundant DC Powered

AC Powered

AC Powered with Grounded Secondary

AC Powered with Battery Backup

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Specifications

Electrical

	DC	AC
Input voltage	10–36 Volts	8–24 Volts
Input power (max)	6 W (EISX9-100T)	6 VA (EISX9-100T)
	10 W (EISX9-100T/FT, FC, FCS)	10 VA (EISX9-100T/FT, FC, FCS)
	10 W (EISX8-100T/FT, FC, FCS)	10 VA (EISX8-100T/FT, FC, FCS)
Input frequency	N/A	47–63 Hz

Environmental

Operating temperature	–40°C to +75°C
Storage temperature	–40°C to +85°C
Relative humidity	10–95%, noncondensing
Protection	IP30

Functional

Standards	IEEE 802.3
Process type	Store-and-Forward

Ports	Copper	Fibre 1300 nm
Number of ports	9, 8, 6	0, 1 or 2
Interface	10BASE-T/100BASE-TX 10 or 100 Mbps Auto-negotiated data rate, flow control, full- or half-duplex mode and Auto-MDIX cable connection	100BASE-FX 100 Mbps Full-duplex mode
Connectors	Shielded RJ-45	SC (on multimode or single-mode models) ST (only on multimode models)
Maximum segment length	100 m	2 km (multimode), optical budget: 13 dB 15 km (single-mode), optical budget: 19 dB

LED signal indicators	Link LED:
	  Yellow — 10 Mbps
	  Green — 100 Mbps
	  Green Flashing — Activity
		Green — 100 Mbps link
		Flashing — Activity

LED power indicator	Green	
Flow control	Half-duplex (backpressure)	Full-duplex (PAUSE)
Aging	300 seconds	

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RJ-45 Pin Assignments

MDI-X[1] RJ-45	10BASE-T/100BASE-TX Usage
1	TD+
2	TD–
3	RD+
4	Not Used
5	Not Used
6	RD–
7	Not Used
8	Not Used

[1]Ports normally assume the internal crossover function, but will automatically adapt to connected devices.

Electromagnetic Compatibility

Standard	Test Method	Description	Test Levels
EN 55024	EN 61000-4-2	Electrostatic Discharge	6 kV contact
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 B
EN 55022	CISPR 22	Conducted Emissions	Class B
CFR 47, Part 15	ANSI C63.4	Radiated Emissions	Class A

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Ordering Information

Copper Only

Model	Description
EISX9-100T	**9-Port 10/100Mbps EISX Switch**

Fibre and Copper

Model	Description
EISX9-100T/FC	**Eight-port 10/100 — one-port 100BASE-FX (multimode) switch, SC connectors**
EISX9-100T/FT	**Eight-port 10/100 — one-port 100BASE-FX (multimode) switch, ST connectors**
EISX9-100T/FCS	**Eight-port 10/100 — one-port 100BASE-FX (single-mode) switch, SC connectors**
EISX8-100T/FC	**Six-port 10/100 — two-port 100BASE-FX (multimode) switch, SC connectors**
EISX8-100T/FT	**Six-port 10/100 — two-port 100BASE-FX (multimode) switch, ST connectors**
EISX8-100T/FCS	**Six-port 10/100 — two-port 100BASE-FX (single-mode) switch, 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)**