data
SHEET

5-Port Skorpion Diagnostic Switch
Plug and Play Diagnostic Switch for Protocol Debugging

One benefit of switched Ethernet technology is that the switch restricts directed messages to only those ports party to the communication. This improves overall network throughput by not burdening end stations with useless traffic. However, this feature makes protocol debugging difficult because a protocol analyser tool attached to an unused port on the switch cannot observe any directed messages of interest. In the past, the solution was to change out the switching hub with a repeating hub but with the Skorpion Diagnostic Switch this is unnecessary.

The Skorpion Diagnostic Switch retains all the virtues of switched Ethernet technology such as 10/100 Mbps data rates on individual segments, auto-negotiation,

Auto-MDIX but with one exception — no address learning. All messages — directed, multicast, broadcast — are flooded to all ports on the switch allowing a protocol analyser tool such as Wireshark® the ability to observe all traffic on the network. The Skorpion Diagnostic Switch can be permanently installed on an installation or replaced with a regular Skorpion switch once a system is commissioned.

This device can also be useful when developing embedded Ethernet devices because you can connect the Skorpion Diagnostic Switch between two embedded Ethernet devices and view their messages using Wireshark.

- Plug-and-Play operation
- 10BASE-T/100BASE-TX
- Shielded RJ-45 connectors
- Auto-negotiation of speed and duplex
- Auto-MDIX supports cable inversion

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

Wireshark is a registered trademark of the Wireshark Foundation which can be accessed at www.wireshark.org.
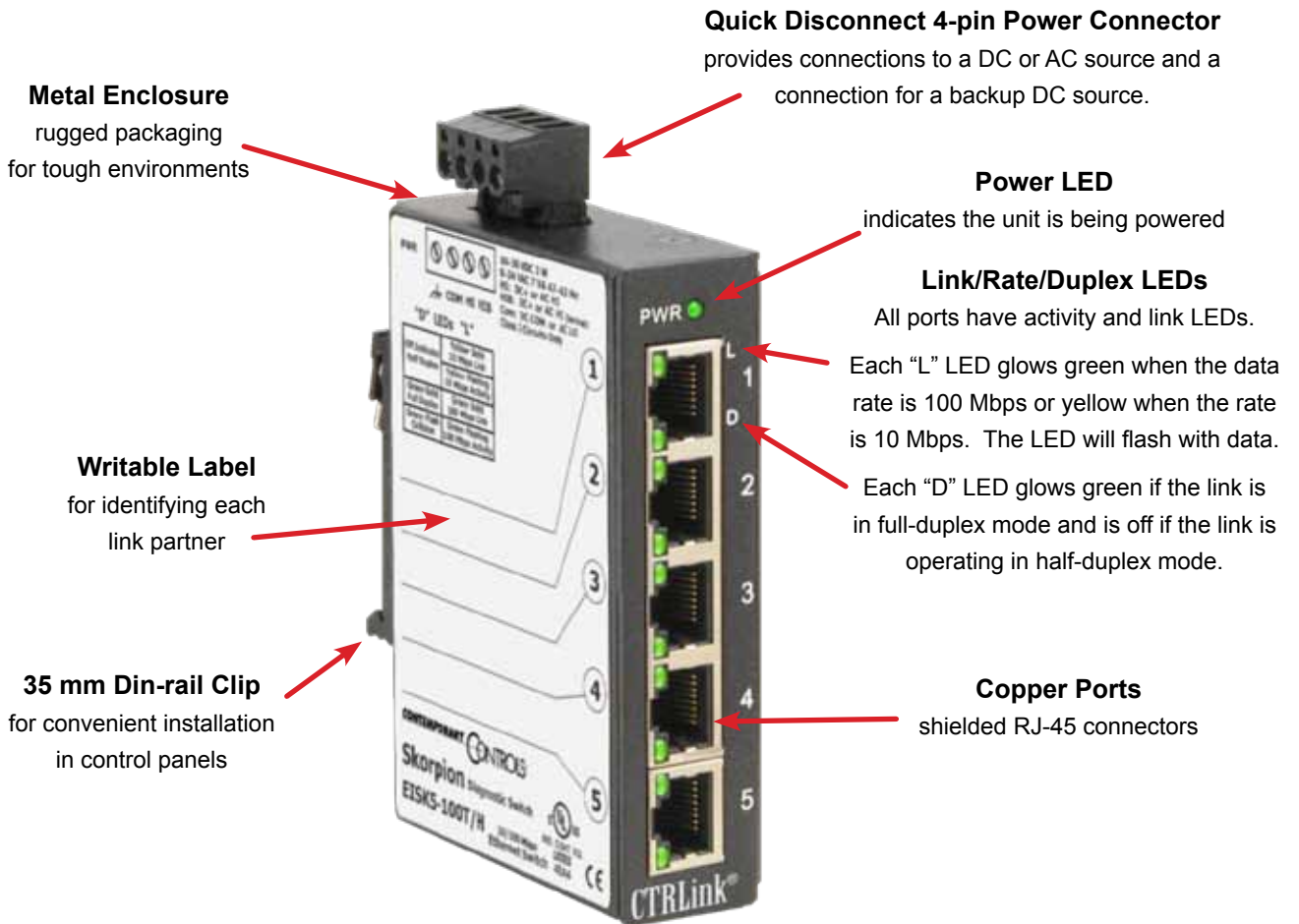
CTRLink®

Overview

The EISK5-100T/H can be used for control panel installations where one needs the ability to diagnose problems in the field. It can also be used in a development environment when debugging code. A metal DIN-rail clip attached to the aluminium enclosure can survive the toughest installation. A writable side label allows the installer an opportunity to document field cabling locations right on the unit.

The EISK5-100T/H is powered from a source of either 24 VAC ±10% or 10–36 VDC. With redundant power connections, a backup power scheme can be supported. A removable power connector facilitates the servicing of the unit.

LEDs built into the RJ-45 connector indicate data rate and activity on each of the five ports. For each port, the data rate will be indicated along with port activity — thereby greatly assisting in troubleshooting connection issues.

The EISK5-100T/H is UL 508 Listed and c-UL Listed for Industrial Control Equipment. It complies with CFR 47 Part 15 Class A, and carries the CE Mark. It is RoHS compliant.

Metal Enclosure
rugged packaging for tough environments

Quick Disconnect 4-pin Power Connector
provides connections to a DC or AC source and a connection for a backup DC source.

Power LED
indicates the unit is being powered

Link/Rate/Duplex LEDs
All ports have activity and link LEDs.

Each "L" LED glows green when the data rate is 100 Mbps or yellow when the rate is 10 Mbps. The LED will flash with data.

Each "D" LED glows green if the link is in full-duplex mode and is off if the link is operating in half-duplex mode.

Writable Label
for identifying each link partner

35 mm Din-rail Clip
for convenient installation in control panels

Copper Ports
shielded RJ-45 connectors

CONTEMPORARY CONTROLS

Specifications

Power Requirements	10–36 VDC 3 W or 24 VAC ±10% 7 VA 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)
Ethernet Communications	IEEE 802.3 10/100 Mbps data rate using RJ-45 connectors, 100 m (max)

LEDs

	Power	Green = power OK
	"L" LEDs	Green = 100 Mbps communication established Yellow = 10 Mbps communication established Flashing = data transmissions occurring
	"D" LEDs	Green = Full-duplex communication established Off = Half-duplex communication established

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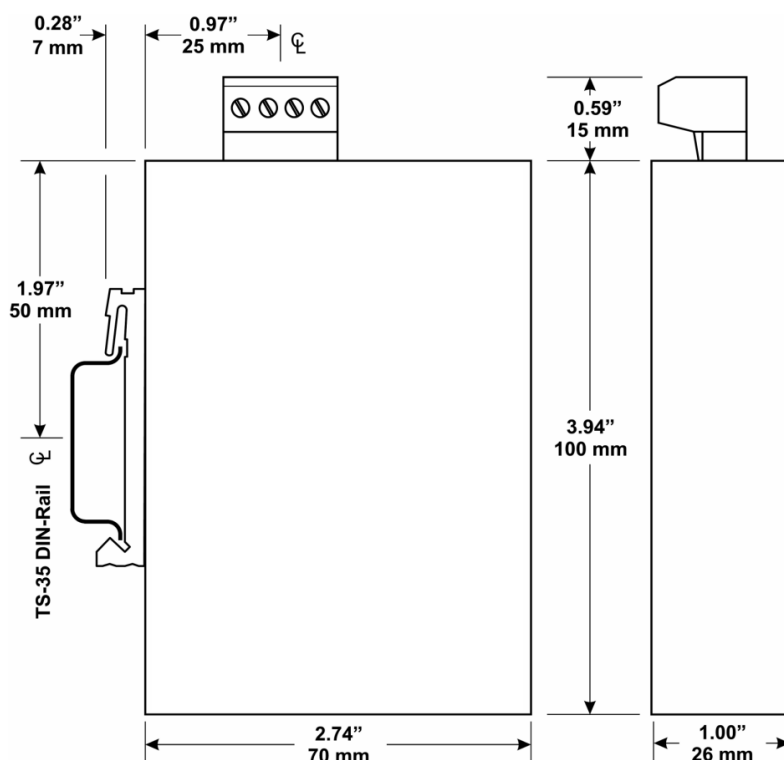UL 508 Industrial Control Equipment

RoHS ✓

RJ-45 Connector Pin Assignments

Pin	Function
1	TD+
2	TD–
3	RD+
4	Not Used
5	Not Used
6	RD–
7	Not Used
8	Not Used

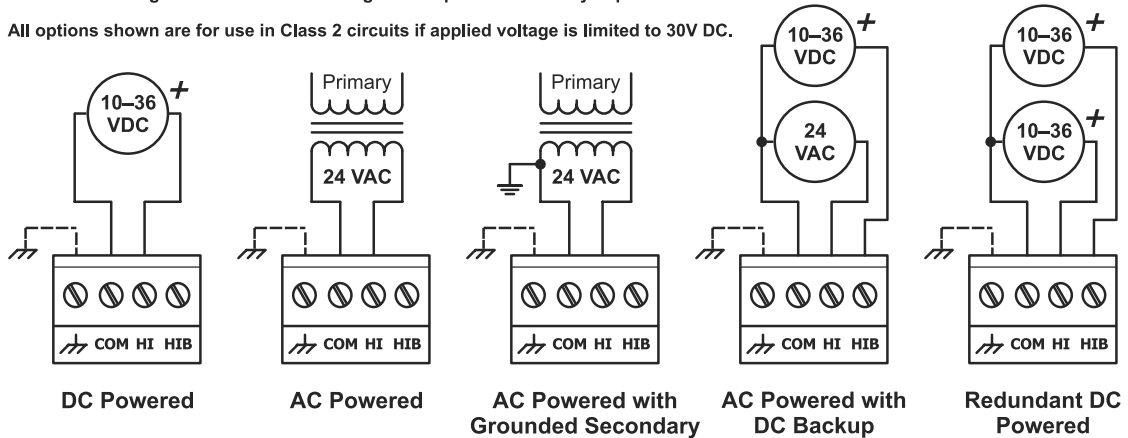## Mechanical Drawing

CONTEMPORARY CONTROLS   DS-EISK5H00-BA2
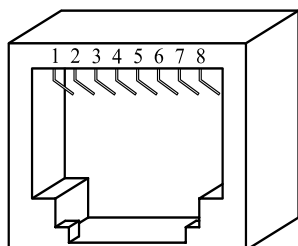
Power Considerations
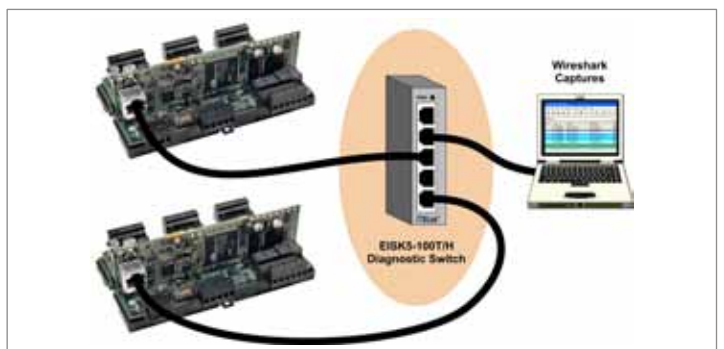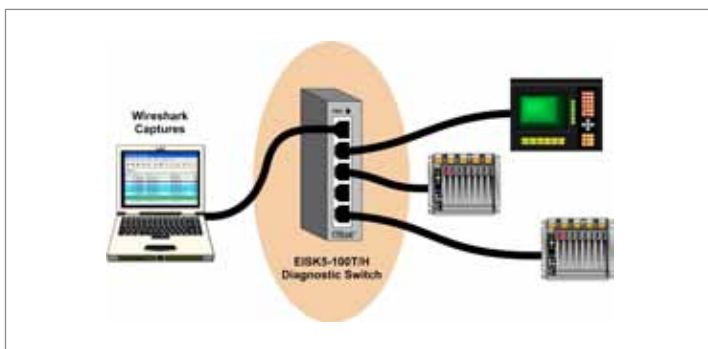
Applied voltage must be 10–36 VDC or 24 VAC ±10% and deliver a current commensurate with power consumption. The recommended size for solid power conductors is 16–20 AWG; and for stranded conductors use 16–18 AWG. Zero volts (COM) is isolated from chassis (earth). Input connections are reverse-polarity 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.

DC Powered	AC Powered	AC Powered with Grounded Secondary	AC Powered with DC Backup	Redundant DC Powered

Typical Installations

Ordering Information

Model	Description
EISK5-100T/H	5 ports 10/100 Mbps Skorpion diagnostic switch

CONTEMPORARY CONTROLS