8-Port Skorpion Gigabit Diagnostic Switch

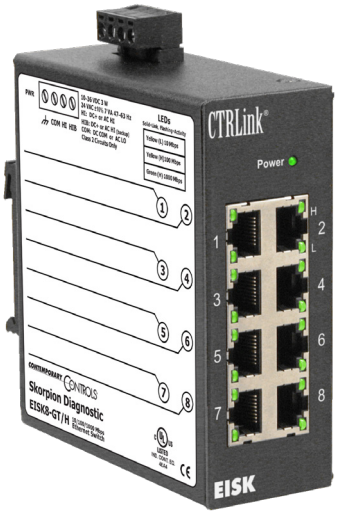
Plug and Play Diagnostic Switch for Protocol Debugging

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 Gigabit Diagnostic Switch this is unnecessary.

The EISK8-GT/H retains all the virtues of switched Ethernet technology such as 10/100/1000 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. Also, GigE jumbo frames up to 9216 bytes are supported for the highest possible system performance. The EISK8-GT/H can be permanently installed on an installation or replaced with a regular Skorpion switch after commissioning.

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

- Plug-and-Play operation
- 10/100/1000 Mbps data rates
- Shielded RJ-45 connectors
- Auto-negotiation of speed and duplex
- Auto-MDIX supports cable inversion
- No address learning, all messages flood to all ports



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

CTRLink®

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

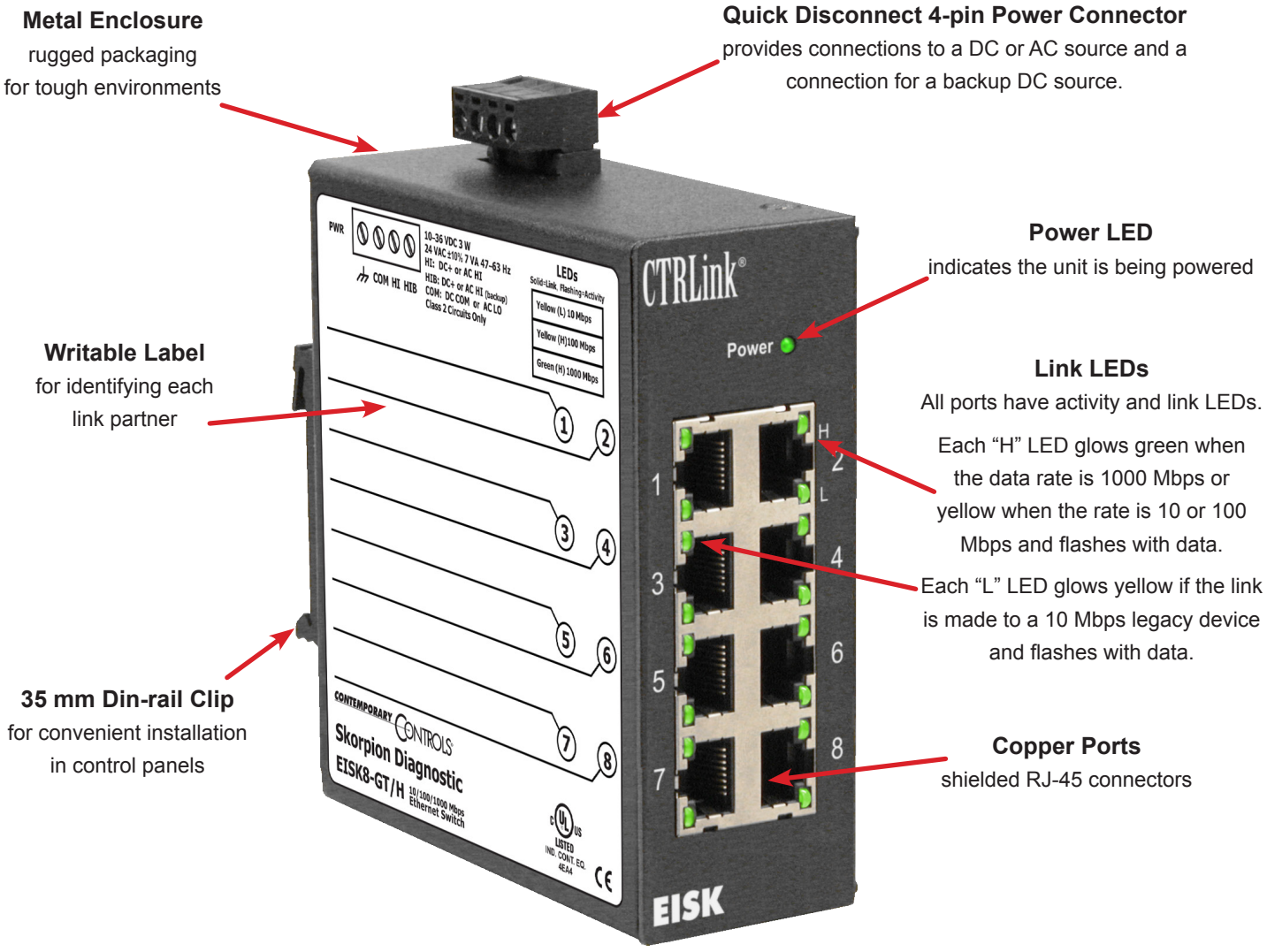
Overview

The EISK8-GT/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 EISK8-GT/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 EISK8-GT/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.



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 10/100/1000 Mbps data rate using RJ-45 connectors, 100 m (max) Supports jumbo frames up to 9216 bytes

LEDs

Power	Green = power OK
"H" LEDs	Green = 1000 Mbps communication established
	Yellow = 100 Mbps communication established
"L" LEDs	Yellow = 10 Mbps communication established
"H" or "L" LEDs	Flashing = data transmissions occurring

Regulatory Compliance

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

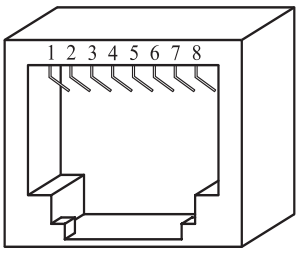
c UL us LISTED

CE

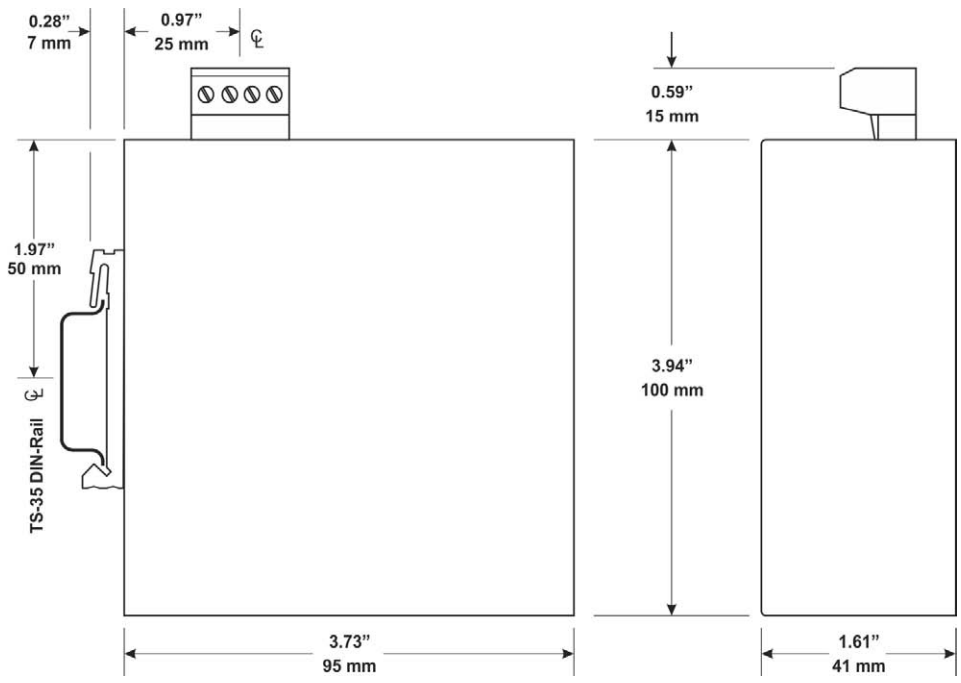
RoHS✓

RJ-45 Connector Pin Assignments

Pin	Function
1	BI_DA+
2	BI_DA–
3	BI_DB+
4	BI_DC+
5	BI_DC–
6	BI_DB–
7	BI_DD+
8	BI_DD–



Mechanical Drawing

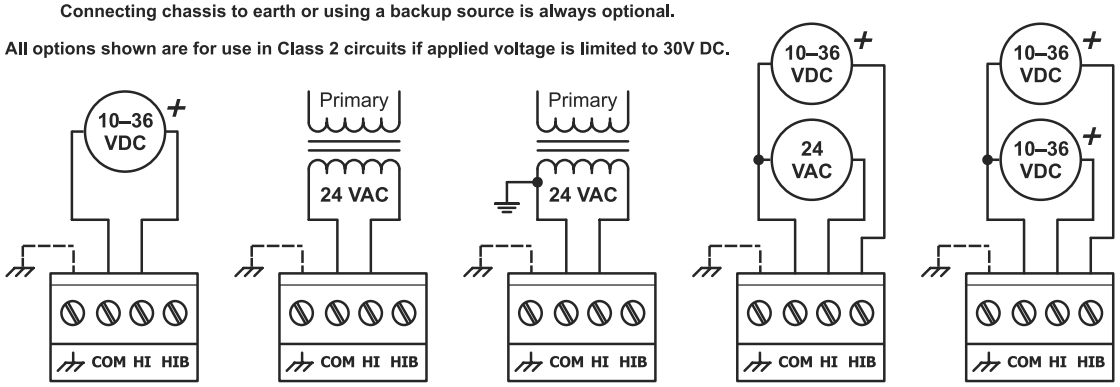


Power Considerations

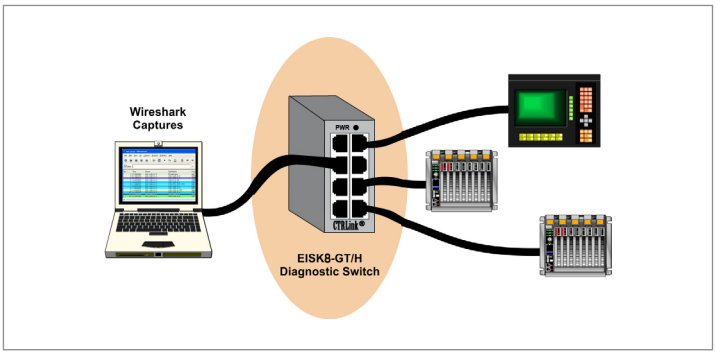
Applied voltage must be 10–36 VDC or 24 VAC ±10% and deliver a current commensurate with power consumption. The recommended size for solid power conductors is 16–20 AWG; and for stranded conductors use 16–18 AWG. Zero volts (COM) is isolated from chassis (earth). Input connections are reverse-polarity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

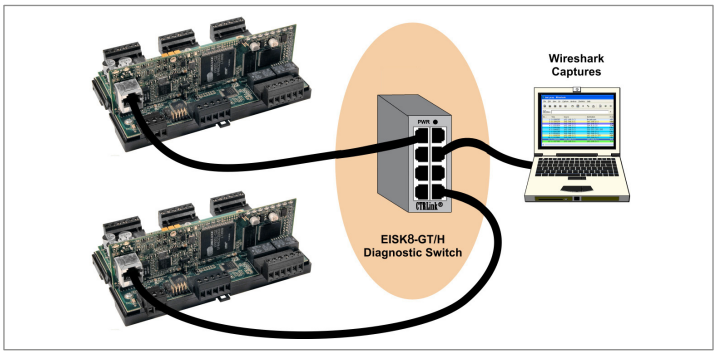
Input power: 10–36 VDC or 24 VAC ± 10%, 47–60 Hz.
Connecting chassis to earth or using a backup source is always optional.

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



Typical Installations





Ordering Information

Model	*Description*
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