

data

SHEET



EIPE Skorpion PoE Injector – Single Point PSE

The EIPE Power over Ethernet (PoE) Power Injector in the Skorpion family offers a simple method of connecting a single PoE end-device to a non-PoE 10/100 Mbps Ethernet switch. In automation systems, 24 VAC/VDC power is very common and the EIPE accepts this input and internally transforms it to the 48 VDC required for PoE. The EIPE is compliant to the IEEE

802.3af standard and is considered mid-span Power Sourcing Equipment (PSE) that resides between the non-PoE switch and the Powered Device (PD) delivering the required 15.4 watts of power at its output connector. The EIPE is ideal for applications when 48 volt PoE power is unavailable.



- 24 VAC/VDC powered
- Can fully power one Powered Device (PD)
- Mid-span Power Sourcing Equipment (PSE)
- 10BASE-T/100BASE-TX
- Isolated 15.4 W power output
- IEEE 802.af compliant
- DIN-rail mounting
- Rugged metal enclosure
- Diagnostic LEDs
- Enhanced EMC compliance
- CE mark

Overview

Like all Skorpion products the EIPE Power Injector is powered from a 24 VAC or VDC source. This input power requirement eliminates the need for a 48 VDC power supply (and its expense) typically associated with PoE requirements. In many industrial control systems 24 VDC is readily available within the control panel, just like 24 VAC is available at the BAS system. By utilizing the readily available power sources The EIPE internally generates the 48 VDC PoE power eliminating any concerns regarding grounded primary power and supplies it to the Powered Device (PD).

There are two RJ-45 connectors on the unit. The top connector, labeled Ethernet, attaches to the non-PoE switch while the bottom connector, labeled PoE, attaches to the PD. Transmit and receive signals are freely passed between the two connectors as if the injector was not present. However, 48 VDC power

is injected into the spare pins on the bottom RJ-45 connector for use by the PD. The injector does not interfere with any communication between the non-PoE switch and the PD.

The Power Injector supports the 802.3af protocol for powering up devices. With the Power Injector powered up, an Ethernet cable is attached to the PD. No power is applied to the PD until a valid 25 kΩ resistance, called the signature, is sensed by the Power Injector. Once this value is sensed, the Power Injector applies power to the unused pairs thereby powering the PD. Even with total cable length approaching 100 m, the PD can assume that a minimum of 12.95 watts is available at its input pins.

The EIPE utilizes a rugged metal enclosure and metal DIN-rail clip for control panel mounting.

Power Input

24 VDC 21 W or 24 VAC 38 VA half-wave regulated design allows power sharing with other half-wave devices

Ethernet

10/100 Mbps Ethernet from a non-PoE Ethernet Switch

Power over Ethernet

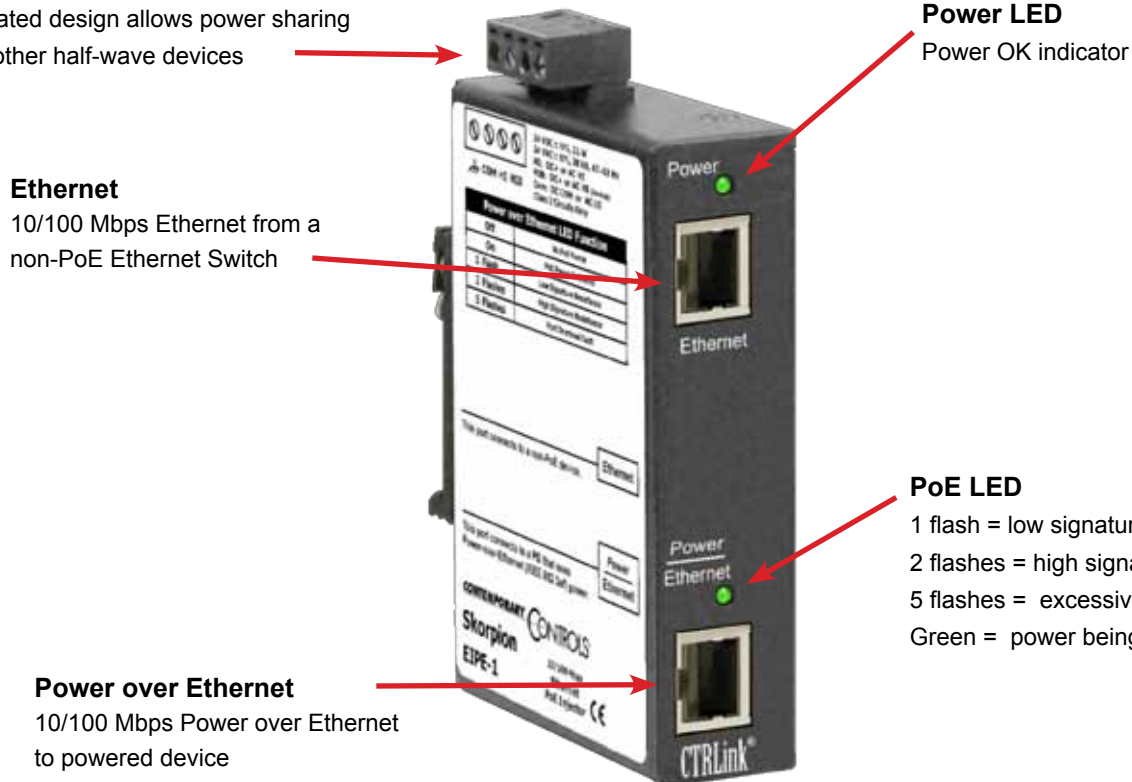
10/100 Mbps Power over Ethernet to powered device

Power LED

Power OK indicator

PoE LED

1 flash = low signature resistance
2 flashes = high signature resistance
5 flashes = excessive current
Green = power being supplied



Specifications

Power Requirements 24 VDC $\pm 10\%$ 21 W or 24 VAC $\pm 10\%$ 38 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

Ethernet Communications IEEE 802.3 10/100 Mbps data rate
10BASE-T, 100BASE-TX physical layer
100 m (max) CAT5 cable length total for both cables

LEDs

Power	Green = power OK
Power over Ethernet	Green = power being delivered
	1 flash = low signature resistance
	2 flashes = high signature resistance
	5 flashes = excessive current
	Off = no power being delivered

Regulatory Compliance CE Mark; CFR 47, Part 15 Class A; RoHS



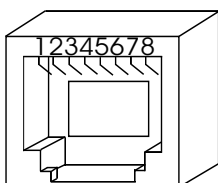
RJ-45 Connector Pin Assignments

Ethernet

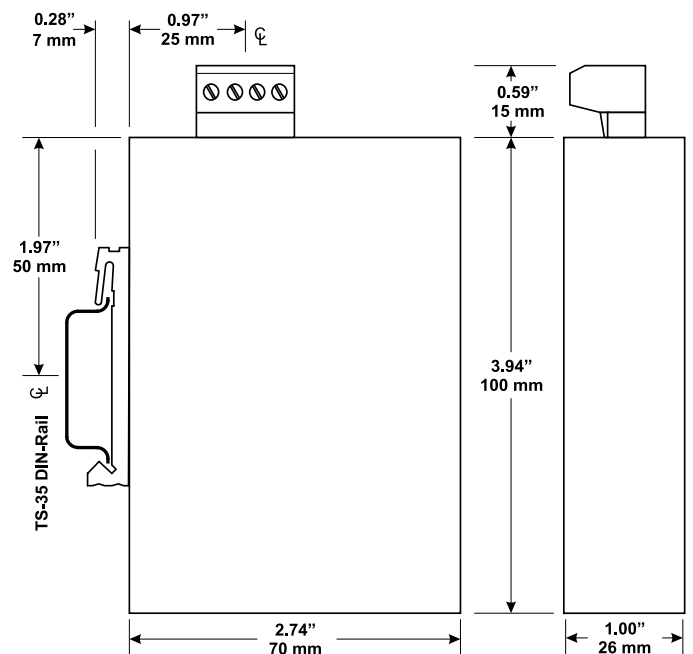
Pin	Function
1	Signal 1
2	Signal 2
3	Signal 3
4	N/C
5	N/C
6	Signal 4
7	N/C
8	N/C

Power Over Ethernet

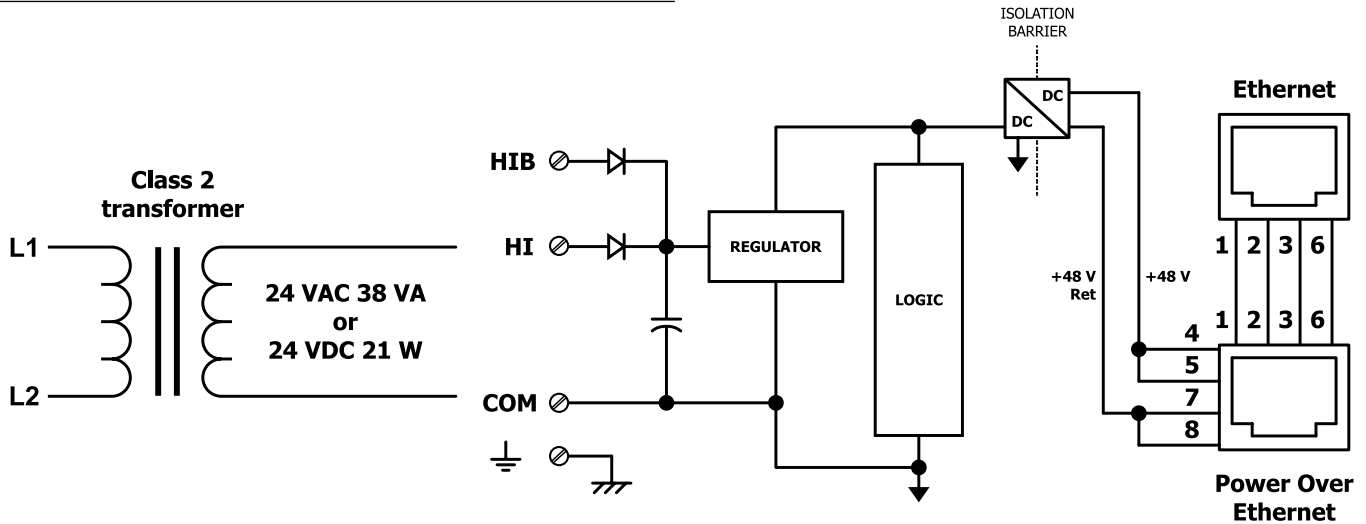
Pin	Function
1	Signal 1
2	Signal 2
3	Signal 3
4	+ 48 VDC
5	+ 48 VDC
6	Signal 4
7	48 VDC return
8	48 VDC return



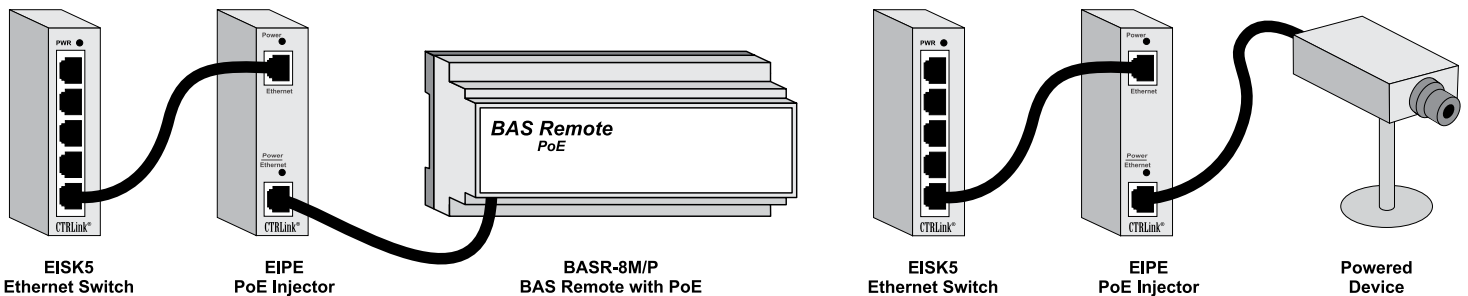
Mechanical Drawing



Power Input and Output Circuitry



Typical PoE Installations



Ordering Information

Model	RoHS	Description
EIPE-1		PoE mid-span power injector

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