



RLH Industries, Inc.

fiberopticlink.com

PRODUCT
DATA SHEET

DS-166 2025-1001

Unmanaged 10/100/1G Flex PoE++ Industrial Injector

ETH-INJ-BT-1

Flex Power, 12-55VDC Powered PoE+ (802.3at 30 Watts)

The RLH Industrial Gigabit Ultra PoE++ Injector simultaneously outputs power and Gigabit Ethernet data transmission to a connected Powered Device (PD). It can supply up to 90W of PoE in compliance with the IEEE 802.3bt standard's Type 4 PoE designation, supporting an extensive range of high-powered applications. A unique Flex Power feature enables this 90W PoE output to persist while the injector's power terminals receive an input voltage rated as low as 12VDC.

Its rugged, IP30-rated metal housing ensures that the injector can reliably operate in harsh industrial environments expressing temperatures between -40°C and 75°C. This injector's design supports multiple power input terminals for redundancy, a fault relay terminal that communicates the loss of a redundant power source, and status LEDs on the housing's front panel for the injector's system power and PoE output.

Injectors serve as an alternative power source and data transfer channel for Powered Devices when only non-PoE Ethernet switches are available in a network, or PoE switches are impractical to use. Injectors with PoE++ capabilities are ideal for applications with power-hungry PDs such as monitored PTZ IP cameras, gate and building access controllers, wireless access points, and thin clients. This RLH Injector is covered by our 5 Year Warranty.



Unmanaged 10/100/1G Flex PoE++ Industrial Injector

Features

System

- Inject up to 90W of PoE (IEEE 802.3af/at/bt-compliant)
- Supports up to Gigabit Ethernet data transfer rates (10/100/1000Mbps)
- Flex Power - Constant 48VDC PoE++ output at low input voltages
- Power redundancy/failover and redundant power loss fault relay
- Supports Mode A, Mode B, and 4-Pair Mode PoE power relaying
- Status LEDs for the injector's system power and PoE output
- Overload current protection and reverse polarity protection
- "Plug and Play" system installation and usage

Environment

- Hardened to operate in -40°C to +75°C (-40°F to +167°F)
- DIN rail or Wall Mount (Wall mount ears included)

Power

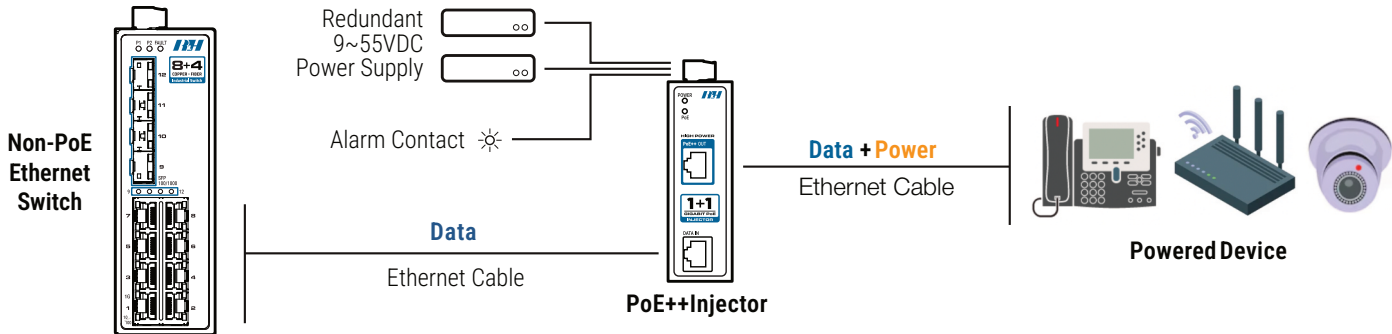
- Redundant Power Inputs (9~55VDC)

Quality

- UL Listed
- TAA, NDAA and RoHS Compliant
- Highly reliable 762,640-hour MTBF
- Covered by our 5 Year Warranty



Application



General Specifications

Ethernet Ports:	(Data)	10/100/1000Base-T(X)
	(Data + Power)	10/100/1000Base-T(X) with PoE++ (IEEE 802.3af/at/bt-compliant)
PoE Pinout:	Mode A	Pin 1 (V-), Pin 2 (V-), Pin 3 (V+), Pin 6 (V+)
	Mode B	Pin 4 (V+), Pin 5 (V+), Pin 7 (V-), Pin 8 (V-)
	4-Pair Mode	Pin 1 (V-), Pin 2 (V-), Pin 3 (V+), Pin 4 (V+), Pin 5 (V+), Pin 6 (V+), Pin 7 (V-), Pin 8 (V-)
	*This injector supports Mode A, Mode B, and 4-Pair Mode PoE relaying power schemes	
LED Indicators:	PWR	Active power, with redundancy (GREEN) Active power, without redundancy (RED)
	PoE	Active PoE supplied to the Powered Device (GREEN)
Alarm Relay Contact:	24 VDC, 1A resistive Normally Open Relay (SPDT) (Redundant Power Status Alarm)	
Network Cable Requirements:	10Base-T	2-pair UTP/STP CAT3+ cable, EIA/TIA-568 100-ohm (100m/328ft maximum distance)
	100Base-TX	2-pair UTP/STP CAT5+ cable, EIA/TIA-568 100-ohm (100m/328ft maximum distance)
	1000Base-TX	4-pair UTP/STP CAT5e+ cable, EIA/TIA-568 100-ohm (100m/328ft maximum distance)
*The total length between the two devices connected through the injector must not exceed 100m/328ft		
Power Input:	Dual 9-55VDC redundant power input terminals	
Overload Current Protection:	Present (slow-blow fuse)	
Reverse Polarity Protection:	Present (polarity insensitive power input terminal contacts)	
Power Consumption:	95 Watts Max.	(at full 90W PoE load)
Maximum PoE Output:	60 Watts	(at 9VDC power input)
	90 Watts	(at 12-55VDC power input)
Housing:	Metal, IP30 protection	
Dimensions:	H 1.2" x W 3.7" x D 3.0", (30mm x 95mm x 75mm) - not including DIN clip	
Weight:	0.79 lbs./ 0.36 kg (Unit Weight), 1.12 lbs./ 0.50 kg (Shipping Weight)	
Mounting:	Standard T-35 DIN rail clip and wall mount ears (Included)	



General Specifications (cont.)

Temperature:	Storage	-40°C to +85°C (-40°F to + 185°F)
	Operating	-40°C to + 75°C (-40°F to + 167°F)
Ambient Relative Humidity:	5% to 95% (non-condensing)	
Installation:	Standard DIN rail (TS-35) or wall mount *Wall mount brackets included	
EMI:	FCC Part 15 Subpart B Class A, CE EN55032, CE EN55035, CE EN61000-4-2/3/4/5/6/8/11/12	
Stability Testing:	IEC60068-2-32 (Free fall), IEC60068-2-27 (Shock), IEC60068-2-6 (Vibration)	
Safety:	CE, FCC Class A, UL 61010-1 3rd Edition, UL 61010-2-201 1st Edition, File Number: E480850	
Compliance:	NDAA, TAA, RoHS and Reach Compliant	
MTBF:	762,640 hrs. - Telcordia SR-332, Issue 3, GB, 25°C	
Warranty:	5 Years - Visit www.fiber opticlink.com for warranty details	

Ordering Information

Description	Part Number
Industrial Gigabit Ultra PoE++ Injector, Powered by 9-55VDC	ETH-INJ-BT-1

Optional Accessories - Power Supplies

Description	Part Number
Industrial AC/DC + DC/DC Switching Power Supply, 24 Volts, 6.3 Amps, 150 Watts	AD1150-24F
Industrial AC/DC + DC/DC Switching Power Supply, 48 Volts, 3.2 Amps, 150 Watts	AD1150-48F
Industrial AC/DC + DC/DC Switching Power Supply, 24 Volts, 10 Amps, 240 Watts	AD1240-24C
Industrial AC/DC + DC/DC Switching Power Supply, 48 Volts, 5 Amps, 240 Watts	AD1240-48C

RLH Compatible PoE Powered Devices

Description	Part Number
Smart 4 Input Sensor, Rugged Ethernet IO Device for Monitoring and Alarming, Dry Contact Sensing	SM-IN4-DR-2
Smart 4 Input Sensor, Rugged Ethernet IO Device for Monitoring and Alarming, 5-15VDC Contact Sensing	SM-IN4-12-2
Smart 4 Input Sensor, Rugged Ethernet IO Device for Monitoring and Alarming, 24-48VDC Contact Sensing	SM-IN4-48-2
Smart 4 Relay Output, Rugged Ethernet IO Device for Monitoring and Alarming, Normally Open Relays	SM-OUT4-NO-2
Smart 4 Relay Output, Rugged Ethernet IO Device for Monitoring and Alarming, Normally Closed Relays	SM-OUT4-NC-2

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