RAJANT

SPEC SHEET

# Power Injector

## 25-100172-001 High-Power PoE Injector

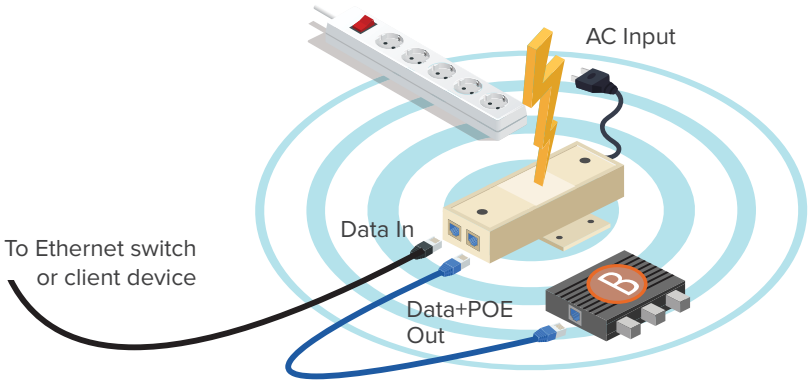
**This gigabit passive Power Over Ethernet (PoE) injector** supplies power to a BreadCrumb device over Ethernet cable. It accepts AC input from 90V to 264V (47Hz to 63Hz), and outputs up to 50W at 48VDC. It supports Ethernet data speeds up to 1000 Mbps, offering excellent throughput for Ethernet traffic such as mesh-to-wired network communications as well as BCICommander® and Automatic Protocol Tunneling (APT) control traffic. This device is not sealed for ingress of dust or water, therefore it must be used in indoor environments or outdoor NEMA enclosures.

### Power Injector Key Features

- Remotely power equipment through Category 5 or better Ethernet cable up to 100 m length
- Built-in Ethernet and AC surge protection
- Auto-ranging switching power supply
- Short circuit, over-current and over-voltage protection
- High-power, 50W, passive PoE
- Compatible with 10/100/1000 Mbps Ethernet data speeds
- High bandwidth for data, voice, and video applications
- Wide temperature range operation
- Compact size—floor, desktop, wall mount, and DIN rail mount

### Power Injector Applications

To power a Rajant ME4, KM3, or DX2 BreadCrumb, use one 25-100172-001 Power Injector per Rajant BreadCrumb as illustrated below in an indoor environment or weatherproof enclosure. Consult your Breadcrumb User Guide to ensure the BreadCrumb is a compatible model.




### Using the PoE Injector to Your Benefit

The 25-100172-001 is a special Power over Ethernet injector offered through Rajant, which has a regulated 48VDC PoE output. Normally, higher power injectors have an output voltage of 56V. This injector is regulated to 48VDC PoE output to be compatible with devices that are sensitive to the higher voltages.

These are quality mid-span power sources for years of reliable operation even in the toughest conditions. They accept data-in to a shielded RJ45 Jack and provide surge protected data-out and power on the shielded RJ45 output jack. They work by supplying power to the remote device on Ethernet pins 4,5(V+) and 7,8(V-). The Ethernet spec supports distances up to 100m (328 feet).

The units are auto-ranging and accept AC inputs from 90VAC to 264VAC (50/60 Hz). They supply regulated 48VDC 50W with load regulation within 5%. They have various protections for surge, short circuit, overload and overvoltage.

| DEVICE PINOUT | RJ-45 Input (Data Only) | | RJ-45 Output (Data & Power) | |
|---|---|---|---|---|
| Pin | Symbol | Description | Symbol | Description |
| 1 | BI_DA+ | Data RX+ | BI_DA+ | Data RX(+) |
| 2 | BI_DA- | Data RX- | BI_DA- | Data RX(-) |
| 3 | BI_DB+ | Data TX+ | BI_DB+ | Data TX(+) |
| 4 | BI_DC+ | Data RX+ | BI_DC+, Vo+ | Data RX(+) , DC power(+) |
| 5 | BI_DC | Data RX- | BI_DC-, Vo+ | Data RX(-) , DC power(+) |
| 6 | BI_DB- | Data TX- | BI_DB- | Data TX(-) |
| 7 | BI_DD+ | Data RX+ | BI_DD+, Vo | Data RX(+) , DC power(-) |
| 8 | BI_DD- | Data RX- | BI_DD-, Vo- | Data RX(-) , DC power(-) |

| TP-POE-HP-48G-RC | |
|---|---|
| **AC Input** | 90-264VAC 47-63Hz, IEC-320-C13 Socket |
| **PoE Output** | 48VDC Passive PoE, (4,5 V+) (7,8 V-), 1.04A 50W, Shielded RJ45 |
| **Max Inrush Current (120VAC)** | 30A |
| **Efficiency (min)** | 85% |
| **Line / Load Regulation** | 1% / 5% |
| **Ripple / Noise** | 1% / 2% |
| **Protections** | Over-Voltage, Short Circuit, Over-Current |
| **Surge Protection** | Ethernet: 4 Pin (1/2,3/6) Common Mode Protection, 7.5V Clamping Voltage, 5.4A (8/20µs) Peak Pulse Current, <2pF Shunt Capacitance AC Input: Operating voltage = 385VDC, Clamping voltage = 775VDC, Maximum discharge current is 1200A (8/20us) |
| **EMC Standards** | FCC Class B, EN55032, EN55024, EN55035, AS/NZS CISPR 32, IEC 61000-3/-4 |
| **Safety Standards** | UL62368-1, CE EN62368-1, CB IEC EN62368-1, AS/NZS 62368-1 |
| **Environmental Standards** | RoHs |
| **MTBF** | 96,803 Hours |
| **Operating Temperature** | -30 to +60°C (-22 to +140°F) |
| **Operating Humidity (RH)** | 5% - 90% |
| **Storage Temperature** | -40 to +80°C (-40 to +176°F) |
| **Dimensions (Lx W x H)** | 125 x 75 x 38mm (4.9 x 3 x 1.5”) |
| **Weight** | 300g (10.6oz) |
| **Enclosure** | Plastic, unsealed |
| **Warranty** | 90 Days |

**Tel:** 484.595.0233 | **www.rajant.com**

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