

## POE Power Sources

### Features

- Remotely Power Equipment thru CAT5 Cable up to 100m
- Built in Ethernet and AC Surge Protection
- Autoranging Switching Power Supply
- Short Circuit, Over Current and Over Voltage Protection
- Medium Power and High Power Models Available
- 802.3af, 802.3at and Passive POE Models Available
- 10/100Mb and 10/100/1000Mb Models Available
- High Temperature Industrial Operation
- Compact size – Floor / Desktop / Wall Mount



TP-POE Medium Power

### Applications

- Wireless Access Points and Client Devices
- IP Phone and Security Camera Systems



TP-POE-HP High Power

### Description

The TP-POE Power Over Ethernet Power Sources offered by Tycon Power Systems are quality midspan 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 the unused Ethernet pins 4,5(V+) and 7,8(V-). For the “R” model the voltage is reversed. 4,5(V-) and 7,8(V+). The Ethernet spec supports distances up to 100m (328 feet).

There are models available that support 802.3af and 802.3at as well as models that support Gigabit Ethernet. The units are autoranging so that they accept AC inputs from 90VAC to 264VAC (50/60 Hz) and they supply regulated DC Voltage at the output. They have various protections for surge, short circuit, overload and overvoltage. The medium power models (TP-POE) have power output up to 24W and the high power models (TP-POE-HP) up to 50W. They are available in 18V, 24V and 48-56V DC Output with load regulation within 5%. The CI model has a special current sense LED which changes color when a POE device is plugged onto the CAT5 cable.

If the remote device does not support power over Ethernet, splitters (POE-SPLT-S) are available to split the data and DC voltage at the remote device. If the remote device requires reverse voltage the POE-XOVER cable can be used.

### Device Pinouts

#### 10/100 Pinout

| RJ-45 Input (Data Only) |        |                  | RJ-45 Output (Data & Power) |                       |
|-------------------------|--------|------------------|-----------------------------|-----------------------|
| Pin                     | Symbol | Description      | Symbol                      | Description           |
| 1                       | RX+    | Data Receive(+)  | RX+                         | Data Receive(+)       |
| 2                       | RX-    | Data Receive(-)  | RX-                         | Data Receive(-)       |
| 3                       | TX+    | Data Transmit(+) | TX+                         | Data Transmit(+)      |
| 4                       | NC     | No Connection    | +Vdc (-V for R Model)       | DC power(+) (- for R) |
| 5                       | NC     | No Connection    | +Vdc (-V for R Model)       | DC power(+) (- for R) |
| 6                       | TX-    | Data Transmit(-) | TX-                         | Data Transmit(-)      |
| 7                       | NC     | No Connection    | -Vdc (+V for R Model)       | DC power(-) (+ for R) |
| 8                       | NC     | No Connection    | -Vdc (+V for R Model)       | DC power(-) (+ for R) |

## Gigabit 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(-) |

## General Specifications

|  |   |
|--|---|
| <b>AC Input</b>                                      | 90-264VAC 47-63Hz   |
| <b>Max Inrush Current (120VAC)</b>                   | 30A   |
| <b>Efficiency (min)</b>                              | 85%   |
| <b>Line / Load Regulation</b>                        | 1% / 5%   |
| <b>Ripple / Noise</b>                                | 1% / 2%   |
| <b>Protections</b>                                   | Over-Voltage, Short Circuit, Over-Current   |
| <b>Surge Protection (+/- 4KV)</b><br>(IEC 61000-4-2) | Ethernet: 4 Pin (1/2,3/6) Common Mode Protection, 7.5V Clamping Voltage<br>5.4A (8/20 $\mu$ s) Peak Pulse Current, <2pF Shunt Capacitance<br>AC Input: Operating voltage = 385VDC, Clamping voltage = 775VDC, Maximum discharge current is<br>1200A(8/20 $\mu$ s) |
| <b>EMC Standards</b>                                 | FCC Class B EN55022 Class B   |
| <b>Safety Standards</b>                              | UL1950, CSA 22.2 & TUV EN60950  |
| <b>Environmental Standards</b>                       | RoHs  |
| <b>Operating Temperature</b>                         | -30 to +60°C (-22 to +140°F)  |
| <b>Operating Humidity (RH)</b>                       | 5% - 90%  |
| <b>Storage Temperature</b>                           | -40 to +80°C (-40 to +176°F)  |



| Product Selector      | POE Output Voltage (+/- 2.5%) | Output Current | Output Power | POE Type | Dimensions (LxWxH)                  | Weight           |
|-----------------------|-------------------------------|----------------|--------------|----------|-------------------------------------|------------------|
| <b>TP-POE-18</b>      | 18V                           | 1A             | 18W          | Passive  | 85 x 76 x 36mm<br>(3.4 x 3 x 1.4")  | 150g<br>(5.3oz)  |
| <b>TP-POE-24</b>      | 24V                           | 0.8A           | 19W          | Passive  |                                     |                  |
| <b>TP-POE-24IR-CI</b> | 24V (Reversed)                | 0.8A           | 19W          | Passive  |                                     |                  |
| <b>TP-POE-48</b>      | 48V                           | 0.5A           | 24W          | Passive  |                                     |                  |
| <b>TP-POE-48D</b>     | 48V                           | 0.33A          | 16W          | 802.3af  |                                     |                  |
| <b>TP-POE-18G</b>     | 18V                           | 1A             | 18W          | Passive  |                                     |                  |
| <b>TP-POE-24G</b>     | 24V                           | 0.8A           | 19W          | Passive  |                                     |                  |
| <b>TP-POE-48G</b>     | 48V                           | 0.5A           | 24W          | Passive  |                                     |                  |
| <b>TP-POE-48GD</b>    | 48V                           | 0.35A          | 16.8W        | 802.3af  |                                     |                  |
| <b>TP-POE-HP-18</b>   | 18V                           | 2A             | 36W          | Passive  | 125 x 75 x 38mm<br>(4.9 x 3 x 1.5") | 300g<br>(10.6oz) |
| <b>TP-POE-HP-24</b>   | 24V                           | 2A             | 48W          | Passive  |                                     |                  |
| <b>TP-POE-HP-48</b>   | 56V                           | 0.9A           | 50W          | Passive  |                                     |                  |
| <b>TP-POE-HP-24G</b>  | 24V                           | 1.5A           | 36W          | Passive  |                                     |                  |

|                       |     |        |     |              |  |  |
|-----------------------|-----|--------|-----|--------------|--|--|
| <b>TP-POE-HP-48G</b>  | 56V | 0.9A   | 50W | Passive      |  |  |
| <b>TP-POE-HP-48GD</b> | 56V | 0.625A | 35W | 802.3at / af |  |  |

**Notes:**

- All shipments F.O.B. Bluffdale, UT 84065
- Tycon Power Systems Power Sources carry a 1 year warranty

**System Ordering:**

|                       |  |  |
|-----------------------|--|--|
| <b>TP-POE-18</b>      | 18V 18W Passive POE Power Source with US Power Cord*                                 |   |
| <b>TP-POE-24</b>      | 24V 19W Passive POE Power Source with US Power Cord*                                 |  |
| <b>TP-POE-24IR-CI</b> | 24V 19W Passive POE Reverse Voltage Power Source with current ind and US Power Cord* |  |
| <b>TP-POE-48</b>      | 48V 24W Passive POE Power Source with US Power Cord*                                 |  |
| <b>TP-POE-48D</b>     | 48V 18W 802.3af POE Power Source with US Power Cord*                                 |  |
| <b>TP-POE-18G</b>     | 18V 18W Gigabit Passive POE Power Source with US Power Cord*                         |  |
| <b>TP-POE-24G</b>     | 24V 19W Gigabit Passive POE Power Source with US Power Cord*                         |  |
| <b>TP-POE-48G</b>     | 48V 24W Gigabit Passive POE Power Source with US Power Cord*                         |  |
| <b>TP-POE-48GD</b>    | 48V 16.8W 802.3af POE Power Source with US Power Cord*                               |  |
| <b>TP-POE-HP-18</b>   | 18V 36W High Power Passive POE Power Source with US Power Cord*                      |  |
| <b>TP-POE-HP-24</b>   | 24V 36W High Power Passive POE Power Source with US Power Cord*                      |  |
| <b>TP-POE-HP-48</b>   | 56V 50W High Power Passive POE Power Source with US Power Cord*                      |  |
| <b>TP-POE-HP-24G</b>  | 24V 24W High Power Passive Gigabit POE Power Source with US Power Cord*              |  |
| <b>TP-POE-HP-48G</b>  | 56V 50W High Power Passive Gigabit POE Power Source with US Power Cord*              |  |
| <b>TP-POE-HP-48GD</b> | 56V 35W High Power 802.3at/af Gigabit POE Power Source with US Power Cord*           |  |

\*Add an "E" suffix for Euro power cord

**POE-XOVER** POE Voltage Crossover Cable - converts standard POE pin-out to reverse voltage pin-out

**POE-SPLT-S** Passive Splitter – 5.5/2.1mm DC Plug

**POE-YSPLT-S** Passive Y\* Splitter – 5.5/2.1mm DC Plug

(\*Power is supplied on both RJ45 and DC Plug)

**For further information contact:**

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