

## 802.3bt PoE Inserter w/ DC Input

### Features

- Input Voltage 10VDC to 60VDC
- 8 wire (4 Pair) 56VDC 802.3bt PoE Output
- High Power Output to 70W
- Dual DC Inputs for Connecting 2 Power Sources
- 10G Data Throughput up to 80m
- Low Voltage Disconnect Feature
- Short Circuit, Over Current and Reverse/Over Voltage Protection
- Industrial Temperature Range -40 to 70C



TP-DCDC-1256GD-BT

### Applications

- 12VDC / 24VDC Remote Power Systems
- 48VDC or -48VDC Remote Power Systems
- 802.3bt PoE 4 Pair Powered Cameras and Radio's
- 802.3at PoE Powered Devices
- PoE Lighting Applications



TP-DCDC-2456GD-BT

### Description






The 10G compatible TP-DCDC-1256GD-BT and TP-DCDC-2456GD-BT are 802.3at/bt compatible high power DC to DC converters/PoE inserters designed for operation in industrial environments. The inserters conform to the new IEEE802.3bt Power Over Ethernet standards for industry compatibility. The PoE inserters supply 56VDC PoE power on all 8 Ethernet wires (4 Pair). They are backward compatible with 802.3at so they will safely power 802.3at and 802.3af devices in addition to the new 802.3bt devices.

The wide input voltage range (10VDC to 60VDC) of the TP-DCDC-1256GD-BT makes these units universal in battery powered applications. The TP-DCDC-2456GD-BT is a lower cost option for applications with 18-36VDC available. The input and output are isolated so they work in a negative ground or positive ground system. They have two DC inputs for connecting 2 power sources, like a primary and backup power source. They have various protections for low voltage, surge, short circuit and overload.

### Device Pinouts

| RJ-45 Input (Data Only) |        |              | RJ-45 Output (Data & Power) |                         |
|-------------------------|--------|--------------|-----------------------------|-------------------------|
| Pin                     | Symbol | Description  | Symbol                      | Description             |
| 1                       | BI_DA+ | Data Pair A+ | BI_DA+, Vo-                 | Data Pair A+, Ch1 POE - |
| 2                       | BI_DA- | Data Pair A- | BI_DA-, Vo-                 | Data Pair A-, Ch1 POE-  |
| 3                       | BI_DB+ | Data Pair B+ | BI_DB+, Vo+                 | Data Pair B+, Ch1 POE+  |
| 4                       | BI_DC+ | Data Pair C+ | BI_DC+, Vo+                 | Data Pair C+, Ch2 POE+  |
| 5                       | BI_DC- | Data Pair C- | BI_DC-, Vo+                 | Data Pair C-, Ch2 POE+  |
| 6                       | BI_DB- | Data Pair B- | BI_DB-, Vo+                 | Data Pair B-, Ch1 POE+  |
| 7                       | BI_DD+ | Data Pair D+ | BI_DD+, Vo-                 | Data Pair D+, Ch2 POE-  |
| 8                       | BI_DD- | Data Pair D- | BI_DD-, Vo-                 | Data Pair D-, Ch2 POE-  |

**Specifications**

|  | TP-DCDC-1256GD-BT   | TP-DCDC-2456GD-BT   |
|--|---|---|
| <b>Input Voltage</b>                           | +/- 10VDC to 60VDC  | +/- 18VDC to 36VDC  |
| <b>DC Input Connector</b>                      | Removeable Screw Type Compression Wire Terminal, 5 Pin (12 AWG Max)   |   |
| <b>POE Specification</b>                       | IEEE802.3bt (4 Pair); backward compatible with 802.3at and 802.3af  |   |
| <b>Output Voltage (+/-2.5%)</b>                | 56VDC   |   |
| <b>Data Throughput</b>                         | CAT6A or better cable: 10G @ 80M , 5G @ 100M<br>CAT5E Cable: 5G @ 100M  |   |
| <b>Data in &amp; Data/POE Output Connector</b> | RJ45 (Shielded)   |   |
| <b>Output Current (max)</b>                    | 1.25A Total   |   |
| <b>Output Power (max)</b>                      | 70W Total   |   |
| <b>Self-Consumption Power</b>                  | 2W  |   |
| <b>Efficiency</b>                              | 80% Min   |   |
| <b>Low Voltage Protection</b>                  | <9V Turn off Input  | <16V Turn off Input   |
| <b>Surge Protection</b>                        | 30kV (IEC 61000-4-2,-4,-5)  |   |
| <b>Line Regulation, Ripple, Noise</b>          | 1%  |   |
| <b>Load Regulation</b>                         | 5%  |   |
| <b>EMC Standards</b>                           | FCC Class B EN55022 Class B   |   |
| <b>Safety Standards</b>                        | CSA 22.2 &TUV EN60950   |   |
| <b>Operating Temperature</b>                   | -40 to +70°C (-40 to +158°F)  |   |
| <b>Operating Humidity (RH)</b>                 | 5% - 90%  |   |
| <b>Storage Temperature</b>                     | -40 to +85°C (-40 to +185°F)  |   |
| <b>MTBF (Mean Time Between Failure)</b>        | 68,278 Hours  | 55,489 Hours  |
| <b>Dimensions (LxWxH)</b>                      | 90 x 118 x 40mm (3.5 x 4.6 x 1.57")   | 125 x 75 x 38mm (4.9 x 3 x 1.5")  |
| <b>Weight</b>                                  | 335g (11.8oz)   | 255g (9oz)  |
| <b>Warranty</b>                                | 3 years   |   |
| <b>LED Function</b>                            |  <p>LED#1 Mode A Pins 1,2,3,6<br/>LED#2 Mode B Pins 4,5,7,8<br/>Green = Handshake Valid, PoE On<br/>Red = Pwr On, No Device Detected</p>   |  <p>Top LED = Power On (Green)<br/>Left RJ45 LED Mode A Pins 1,2,3,6<br/>Right RJ45 LED Mode B Pins 4,5,7,8<br/>Green = Handshake Valid, PoE On<br/>Off = No Device Detected</p> |
| <b>Back Panel</b>                              |  <p>FG = Frame/Chassis Ground<br/>Connect to Earth Ground</p> <p>Powered through wire terminal or DIN Connector</p>  <p>DIN Rail Adapters Included</p> |  <p>FG = Frame/Chassis Ground<br/>Connect to Earth Ground</p>  |

**System Ordering:****TP-DCDC-1256GD-BT** +/- 10-60VDC IN, 10G, 56VDC 802.3bt PoE OUT, 70W**TP-DCDC-2456GD-BT** +/- 18-36VDC IN, 10G, 56VDC 802.3bt PoE OUT, 70W**For further information contact:**

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