

## Very High Power DC to DC Converter

### 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
- 5 Gigabit Data Throughput
- Low Voltage Disconnect Feature
- Short Circuit, Over Current and Reverse/Over Voltage Protection
- Industrial Temperature Range to 70C



TP-DC-1256GD-BT w/ Metal Housing

### Applications

- 12VDC / 24VDC / 48VDC Remote Power Systems
- 48VDC or -48VDC Remote Power Systems (Isolated In/Out)
- 802.3bt Compatible Devices
- 802.3bt Compatible High Power Cameras and Radio's
- PoE Lighting Applications

### Description

The 5 Gigabit compatible TP-DC-1256GD-BT are very high power DC to DC converters / PoE inserters designed for the latest 802.3bt PoE standard. The unique PoE inserter supplies 56VDC Class 8 802.3bt PoE power on all 8 Ethernet wires (4 Pair). They support data throughput rates to 5Gigabit. They are backward compatible with 802.3at devices.

The wide input voltage range (10VDC to 60VDC) makes these units universal in battery powered applications. The units input/output is isolated so they work in a negative ground or positive ground system. They have a locking DC wire terminal connector with 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. The units have a metal housing and come complete with a DIN Rail mounting kit for mounting to a standard DIN rail.

### Device Pinouts

| RJ-45 Input (Data Only) |        |              | TP-DC-1256GD-BT<br>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-  |

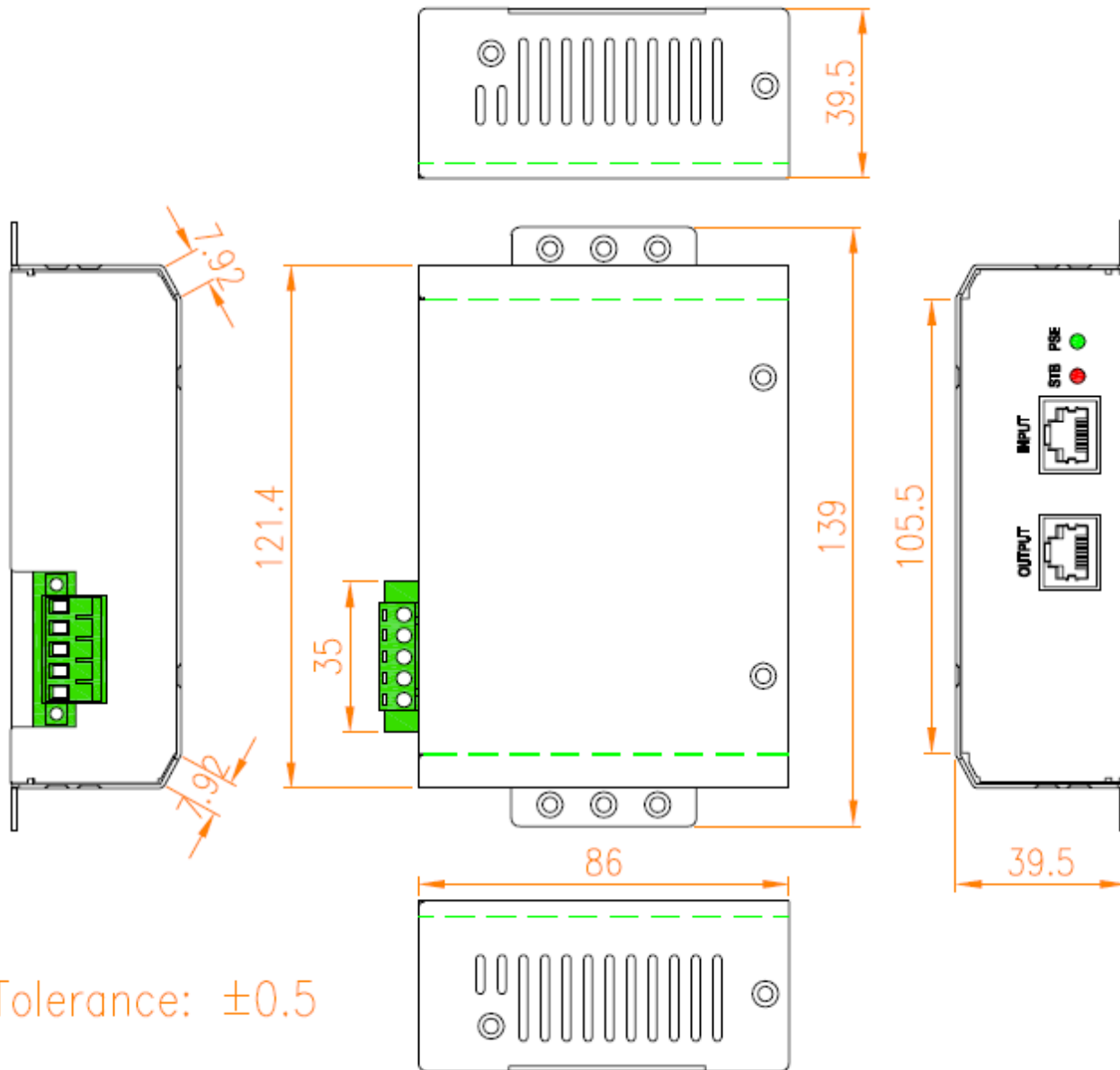
## Specifications

|  | TP-DC-1256GD-BT   |
|--|---|
| <b>Input Voltage</b>                           | +/- 10VDC to 60VDC  |
| <b>DC Input Connector</b>                      | Removeable Screw Type Compression Wire Terminal, 5 Pin (12 AWG Max)   |
| <b>POE Specification</b>                       | 802.3bt Class 8 ( 8 Wire , 4 Pair ) 3456V+, 1278V-  |
| <b>LED Definition</b>                          | <b>RJ45 Output Connector:</b> Left LED: Green = Pins 1,2,3,6 are Powered<br>Right LED: Green = Pins 4,5,7,8 are Powered<br><b>Main LED:</b> STB LED: RED = PoE Output is OFF<br>PSE LED: GREEN = PoE Output is ON |
| <b>Output Voltage (+/-2.5%)</b>                | 56VDC   |
| <b>Data in &amp; Data/POE Output Connector</b> | RJ45 (Shielded)   |
| <b>Data Rate</b>                               | Up to 5 Gigabit   |
| <b>Output Current (max)</b>                    | 1.25A   |
| <b>Output Power (max)</b>                      | 70W   |
| <b>Self-Consumption Power</b>                  | 2W  |
| <b>Low Voltage Protection</b>                  | ~8-9VDC Unit will power down to conserve battery  |
| <b>Other protections</b>                       | Overcurrent (110% of rated), Short Circuit, Reverse Polarity, Surge Protection  |
| <b>Efficiency</b>                              | 85% Min (10VDC to 60VDC Input) (Full Load)  |
| <b>Line Regulation, Ripple, Noise</b>          | 1%  |
| <b>Load Regulation</b>                         | 5%  |
| <b>EMC Standards</b>                           | EN55032/55035   |
| <b>Safety Standards</b>                        | EN62368-1   |
| <b>Operating Temperature</b>                   | -40 to +70°C (-40 to +158°F)  |
| <b>Operating Humidity (RH)</b>                 | 5% - 90%  |
| <b>MTBF (Mean Time Between Failure)</b>        | 102,277 Hours   |
| <b>Storage Temperature</b>                     | -40 to +85°C (-40 to +185°F)  |
| <b>Dimensions (LxWxH)</b>                      | 86 x 139 x 40mm (3.4 x 5.5 x 1.57")   |
| <b>Weight</b>                                  | 550g (19.4oz)   |
| <b>Warranty</b>                                | 3 Years   |



DIN Rail Adapters Included





Tolerance:  $\pm 0.5$

**System Ordering:**

**TP-DC-1256GD-BT** +/- 10-60VDC IN, 56VDC PoE OUT, 70W DC to DC Converter with 4 Pair IEEE 802.3bt Class 8 PoE Inserter for 802.3bt compatible devices. Metal Housing.

**For further information contact:**

Tyconsystems.com



14641 S 800 W Suite A  
Bluffdale, UT 84065  
PH: 801-432-0003  
FAX: 801-618-4220