

### Gigabit DC to DC Converter

#### Features

- Input Voltage 12VDC or 24VDC or 48VDC
- IEEE 802.3af/at Compliant or Passive PoE Output
- Dual Inputs for Connecting 2 Power Sources
- Integrated 10/100/1000MB PoE Inserter
- High Power up to 35W
- Low Self Consumption Power
- Short Circuit, Over Current and Reverse/Over Voltage Protect
- High Temperature Operation
- Compact Size – Maximize Available Space



TP-DCDC-1248GD  
17W 802.3af



TP-DCDC-1248GD-HP  
35W 802.3af/at

#### Applications

- 12V / 24V / 48V Battery Systems, Vehicle Applications
- Wireless Access Points and Client Devices
- IP Phone and Security Camera Systems

#### Description

The TP-DCDC Gigabit Series of DC to DC converters offered by Tycon Power Systems are a low cost and high efficiency solution for those requiring IEEE802.3af and IEEE802.3at or Passive Power over Ethernet from a 12VDC or 24VDC or 48VDC voltage source like a battery system or vehicle. They have an integrated POE injector to apply the power and data output to the CAT5 Ethernet cable. The output voltage is regulated and protected. They have two isolated inputs for connecting 2 power sources, like a primary and backup power source. A metal enclosure model is available for industrial applications.

They accept gigabit data-in to a shielded RJ45 Jack and provide gigabit data-out and PoE power on the shielded RJ45 output jack. They work by supplying power on the unused Ethernet pins 4,5(V+) and 7,8(V-). They have various protections for surge, short circuit and overload. The units have power outputs up to 35W.

#### 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+	Data Pair A+
2	BI_DA-	Data Pair A-	BI_DA-	Data Pair A-
3	BI_DB+	Data Pair B+	BI_DB+	Data Pair B+
4	BI_DC+	Data Pair C+	+Vdc + BI_DC+	power(+)+Data Pair C+
5	BI_DC-	Data Pair C-	+Vdc + BI_DC-	power(+)+Data Pair C-
6	BI_DB-	Data Pair B-	BI_DB-	Data Pair B-
7	BI_DD+	Data Pair D+	-Vdc + BI_DD+	power(-)+Data Pair D+
8	BI_DD-	Data Pair D-	-Vdc + BI_DD-	power(-)+Data Pair D-

## Specifications

	TP-DCDC-1224G	TP-DCDC-1248GD	TP-DCDC-1248GD-M	TP-DCDC-1248GD-HP	TP-DCDC-2448GD-HP	TP-DCDC-4848GD-HP
<b>DC Input Voltage</b>	9VDC – 36VDC	9VDC – 36VDC	9VDC – 36VDC	10VDC – 15VDC	18VDC – 36VDC	+/- 36 to 72VDC
<b>DC Input Connector</b>	Removeable Screw Type Compression Wire Terminal (12 AWG Max)					
<b>DC Output Voltage</b>	24V (Passive)	48V (802.3af)	48V (802.3af)	56V (802.3af/at)	56V (802.3af/at)	56V (802.3af/at)
<b>Data in &amp; Data/POE Output Connector</b>	RJ45 (Shielded)					
<b>Output Current (max)</b>	0.8A	0.35A	0.35A	0.625A	0.625A	0.625A
<b>Output Power (max)</b>	19W	17W	17W	35W	35W	35W
<b>Self Consumption Power</b>	1W					
<b>Efficiency (min)</b>	75%					
<b>Line Regulation</b>	1%					
<b>Load Regulation</b>	5%					
<b>Ripple</b>	1%					
<b>Noise</b>	1%					
<b>EMC Standards</b>	FCC Class B EN55022 Class B					
<b>Safety Standards</b>	UL1950, CSA 22.2 &TUV EN60950					
<b>Operating Temperature</b>	-30 to +60°C (-22 to +140°F)					
<b>Operating Humidity</b>	5% - 90%					
<b>Storage Temperature</b>	-40 to +80°C (-40 to +176°F)					
<b>Dimensions (LxWxH)</b>	85 x 76 x 36mm (3.4 x 3 x 1.4")			125 x 75 x 38mm (4.9 x 3 x 1.5")		
<b>Weight</b>	134g (4.7oz)			300g (10.6oz)		
<b>Warranty</b>	1 Year					



TP-DCDC-1248GD-M  
(Metal Enclosure)

### DC Input Connector

FG		Frame Ground Do Not connect to VIN-
VIN-		DC (-) Voltage In
VIN+		DC (+) Voltage In Isolated Input #1
VIN+		DC (+) Voltage In Isolated Input #2

## System Ordering:

### TP-DCDC-1224G

### TP-DCDC-1248GD

### TP-DCDC-1248GD-M

### TP-DCDC-1248GD-HP

### TP-DCDC-2448GD-HP

### TP-DCDC-4848GD-HP

9-36VDC IN 24VDC Passive OUT, 19W DC to DC Converter with PoE Inserter

9-36VDC IN 48VDC 802.3af OUT, 17W DC to DC Converter with PoE Inserter

9-36VDC IN 48VDC 802.3af OUT, 17W DCDC Converter/PoE Inserter. Metal Case

10-15VDC IN 56VDC 802.3af/at OUT, 35W DC to DC Converter/PoE Inserter

18-36VDC IN 56VDC 802.3af/at OUT, 35W DC to DC Converter/PoE Inserter

36-72VDC IN 56VDC 802.3af/at OUT, 35W DC to DC Converter/PoE Inserter