

## DC to DC Converter

### Features

- Input Voltage 9-36VDC; Output 18V, 24V or 48VDC
- IEEE 802.3af compliant model and non-compliant models
- Dual Inputs for connecting 2 power sources
- Integrated 10/100MB POE Inserter
- High Power up to 24W
- Short Circuit, Over Current and Reverse/Over Voltage Protection
- High Temperature Operation
- Compact size – Maximize Available Space


*TP-DCDC-12xx*

### Applications

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


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

### Description

The TP-DCDC Series of DC to DC converters offered by Tycon Power® are a low cost and high reliability solution for those requiring 18V to 48VDC Power over Ethernet voltage from a 12 or 24V battery system. They have an integrated POE injector to apply the 48VDC to the CAT5 Ethernet cable. The output is regulated 18V, 24V or 48VDC from an input voltage between 9VDC and 36VDC. 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 data-in to a shielded RJ45 Jack and provide 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-). An IEEE 802.3af compliant model is available for those applications requiring 802.3af handshake.

They have various protections for surge, short circuit and overload. The units have power output up to 24W.

The DCDC converters are DIN rail mountable using DIN Rail adaptors pn: DIN-ClipKit-UNI

### Device Pinouts

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	DC power(+)
5	NC	No Connection	+Vdc	DC power(+)
6	TX-	Data Transmit(-)	TX-	Data Transmit(-)
7	NC	No Connection	-Vdc	DC power(-)
8	NC	No Connection	-Vdc	DC power(-)

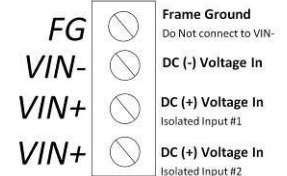
### Specifications

	TP-DCDC-1218	TP-DCDC-1224	TP-DCDC-1248 (M)	TP-DCDC-1248D
<b>DC Input Voltage</b>	9VDC – 36VDC	9VDC – 36VDC	9VDC – 36VDC	9VDC – 36VDC
<b>DC Input Connector</b>	Removeable Screw Type Compression Wire Terminal (12 AWG Max)			
<b>DC Output Voltage (+/-2.5%)</b>	18V (Passive)	24V (Passive)	48V (Passive)	48V (802.3af)
<b>Data in &amp; Data/POE Output Connector</b>	RJ45 (Shielded)			
<b>Output Current (max)</b>	1.0A	0.8A	0.5A	0.35A
<b>Output Power (max)</b>	18W	19W	24W	16.8W
<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 Part 15 Sub B Class A, CE 55032, 55035			
<b>Safety Standards</b>	EN/IEC 60950			
<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)			
<b>MTBF (Mean Time Between Failure)</b>	166,000 Hours			
<b>Dimensions (LxWxH)</b>	85 x 76 x 36mm (3.4 x 3 x 1.4")			
<b>Weight</b>	134g (4.7oz)			
<b>Warranty</b>	3 Years			

**DC Input Connector**

## Surge / Lightning Protection

Operating Voltage	Data 5V
Clamping Voltage	Data 16.5V (@I PP =5A, t p =8/20µs, I/O pin to GND)
Peak Pulse Current	20A (tp=8/20µs)
Pin Protected	4 pin protected (signal pairs)
Max. Shut Capacitance	<3pF (VR = 0V, f = 1MHz, I/O pin to GND) < 1.5 pF (VR = 0V, f = 1MHz, Between I/O pins)
IEC COMPATIBILITY (EN61000-4)	IEC61000-4-2 (ESD) ±15kV (air), ±8kV (contact) IEC61000-4-4 (EFT) 40A (5/50ns) IEC61000-4-5 (Lightning) 20A (8/20µs)

**System Ordering:**

<b>TP-DCDC-1218</b>	9-36VDC IN 18VDC OUT, 18W DC to DC Converter with PoE Inserter
<b>TP-DCDC-1224</b>	9-36VDC IN 24VDC OUT, 19W DC to DC Converter with PoE Inserter
<b>TP-DCDC-1248</b>	9-36VDC IN 48VDC OUT, 24W DC to DC Converter with PoE Inserter
<b>TP-DCDC-1248M</b>	9-36VDC IN 48VDC OUT, 24W DC to DC Converter with PoE Inserter. Metal Case.
<b>TP-DCDC-1248D</b>	9-36VDC IN 48VDC OUT, 16.8W DC to DC Converter with 802.3af PoE Inserter

**For further information contact:**

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