

# PST-DC4812 (PSTC-4812012)

## 48 volt to 12 volt DC/DC Converter (Regulator)



Fully isolated 150 Watt 48 volt to 12 volt DC/DC converter at low cost. Suitable for voltage stabilization of automobile electronics, special purpose UPS, etc.

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This fully isolated DC/DC converter is useful for voltage conversion to operate 12 volt electronics off 48 volt vehicles, golf carts, fork lifts and telecom busses, best for radios, stereos, DVDs, CB radios, transmitters. This DC to DC converter closely regulates the output voltage over a range of input voltages.

Model Number	PST-DC4812 also known as PSTC-4812012
DC/DC Converter	
Input Voltage Range	36 VDC to 70 VDC
Output Voltage	12 Volts DC (Factory setting 12.2V at terminal block)
Peak Current	18 Amps for 5 minutes
Peak Wattage	216 Watts for 5 minutes
Continuous Current	12.5 Amps
Continuous Output Power	150 Watts
Minimum Output for rated voltage regulation	0 A
No-Load Overhead	<100 mA

Line Regulation	±1%
Load Regulation	± 5% at terminal block
Efficiency	80% typical
Topology	Transformer Isolated Forward Converter Topology
Switchmode Frequency	67 kHz
Isolation	Input to Output: 1500Vac for 1second, Input to Frame Ground: 1500Vac for 1second
Input Connection	Screw Terminal Block
Output Connection	Screw terminal block
Protections:	(1) Low Input Drop Out (2) Input Polarity Protect (3) Input Fuse (4) Output Short Circuit Protect (5) Output Current Limited (6) Output Over Voltage Protect
Temperature	0 to 65°C (32 to 150°F)
Dimensions	172 x 98 x 42 mm 6.75 x 4 x 1.6 inches
Weight	0.9 kg, 2 pounds

NOTE: The top cover of this unit does not fit. It bows over a capacitor and leaves a 2 mm gap between the top cover and the sides. This is a feature of this converter and is not a sign of damage or miss-assembly.



Input terminals



Output terminals

## Installation instructions:

Install in an area free from rain, dust, or salt spray where there is air can flow past the unit for cooling.

The input terminals are labeled "+ G -" on the three terminal connector. Connect the input making sure of the polarity. The "G" terminal is the frame ground. It is fully isolated from the input and output terminals and can be connected to the frame of the vehicle if desired, or left unconnected.

There are 3 sets of plus output terminals and 4 sets of minus output terminals. They are marked + + + - - - . They are all in parallel, the full current can be drawn from a single pair or multiple pairs. The multiple connectors are for your convenience if there is more than one appliance to be connected.

The extra terminal marked "C" is optional and rarely used. It is a plus terminal that is diode isolated from the other terminals. This is used for a battery backup function. If the output voltage is adjusted so that 13.8 volts appears at the "C" terminal it will charge a battery. Then if a load is connected to the battery it will act as a battery backup power supply with an unregulated battery backup only for the equipment attached to the "C" terminal, not the other plus terminals.

Voltage is set for 12 volts at the factory. To adjust the voltage remove the top cover and turn the trimpot VR1. VR1 is near the transformer and the output toroid. The output voltage range is approximately 11 V to 13.9 V.

Bent Cover: The top cover is bent over the top of a capacitor leaving a 2 mm gap between the cover and the sides of the converter. This is a feature of this first build and not a sign of miss-assembly. In the future this problem will be solved by using a smaller capacitor.

## Advantages:

- ◆ Inexpensive high current DC/DC converter stabilizes voltage for equipment designed for automotive applications that require 12 to 13.8 volts.
- ◆ The DU4812 DC/DC Converter can be used to provide regulated 12VDC from 48 volt golf carts, fork lifts, and telecom busses.
- ◆ High efficiency DC/DC Converter >85%.

**PowerStream Technology:** 140 South Mountainway Drive, Orem  
Utah 84058

Phone: 801-764-9060, 9062, 9063, or 9064 ◆ Fax: 801-764-9061

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PST-DC4812 DC/DC converter  
Converters 48 volts to 12 volts  
Input voltage range 36VDC to 72VDC  
Continuous output current 12.5 Amps, peak 18 Amps

The terminal labeled "C" is a current-limited charger for charging 12 volt lead acid batteries

