

# 87 @ \$ SERIES

8 C/DC Single Output: 60 Watts



## Features

- Cost optimized
- Rugged industrial quality
- Single regulated output
- Full electronic protection
- Convection/conduction cooled
- Field-proven design in a wide range of applications

## Description

This rugged, industrial quality DC/DC converter is a simplified version of the field-proven DCW 100 Series and is built on a 3" x 5" PCB. It is a mature design with a track record in numerous applications. Cooling is by conduction via the semi-open enclosure to a heat-sinking surface and by natural convection. Low component count, large design headroom, and the use of components with established reliability result in a high MTBF. Fully enclosed or open PCB versions are available. Heavy ruggedizing and conformal coating are available for operation in extreme environments. The unit is manufactured at our plant under strict quality control. The unit is also available in versions fully compliant with railway standard EN 50155.

## Generic Specifications

### Input Voltage

24V, 36V, 48V, 110V or  
125Vdc as standard  $\pm 15\%$   
Other inputs are available on request

### Input Protection

Inrush current limiting  
Varistor  
Reverse polarity  
Internal safety fuse  
Lower voltage than specified  
minimum input will not damage unit

### Isolation

1500VDC input to chassis,  
1500VDC input to output,  
500VDC output to chassis  
Or according to requirements

### Standards

Designed to meet EN 60950 and  
corresponding UL and CSA standards

### EMI

EN 55022 Class B

### Switching Frequency

47kHz +/- 2kHz

### Output Voltage/Current

12V/5A, 24V/2.5A, 48V/1.25A,  
125V/0.5A are standard.  
Other voltages on request

### Redundancy Diode

None

### Line/Load Regulation

Better than  $\pm 5\%$  combined from  
10% load to full load

### Dynamic Response

Max 5% voltage deviation for 10%  
to 50% load step, with better than  
1msec recovery time

### Output Ripple / Noise

Better than 1% of output voltage  
peak to peak or 0.2% RMS of the  
output voltage (20MHZ BW)

### Output Overload Protection

Current limiting with short circuit  
protection (hiccup mode)

### Output Overvoltage Protection

Transorb clamp on output

### Efficiency

Output voltage dependent.  
Typically 80% at full load

### Operating Temperature Range

0°C to 50°C for full specification  
Extended rating depends on  
available conduction and  
convection.

### Temperature Drift

0.03% per °C over operating  
temperature range

### Cooling

Conduction to customer heatsink  
or chassis and natural convection

### Environmental Protection

Basic ruggedizing  
Heavy ruggedizing and conformal  
coating as option

### Vibration/Shock

IEC 61373 Cat 1 A&B

### Humidity

5 – 95% non-condensing

### MTBF

180,000 hours @ 45°C (calculated)  
Demonstrated MTBF is significantly  
higher

### Indicators

None on standard version

### Control Input

None

### Alarm Output

None

### Package / Dimensions

F0: 86 x 48 x 155mm  
(3.4" x 1.9" x 6.1")  
Mounting holes are clear

### Weight

0.55kg (1.2 lbs)

### Connections

Barrier type terminal block  
with 3/8" spacing, 6 poles

### RoHS Compliance

Fully compliant

### Warranty

Two years subject to application  
within good engineering practice

Enhancements to these general specifications can be accommodated upon request. Specifications subject to change.