

100W, Rugged DC/DC Converter for Railway and other Demanding Environments

DCW 100R Series



- Field-proven rugged design
- For train and mobile applications
- Conduction/convection cooled
- Full electronic protection
- Wide selection of input/output combinations

The DCW 100R Series rugged, single output DC/DC converter use a field proven topology to generate 100W output power. It is a mature design with a track record in hundreds of applications. The series is rated for operation over a -25 to +70°C temperature range without derating. It is cooled by conduction via baseplate to a heatsinking surface and by natural convection. These models are fully ruggedized and conformal coated for immunity to shock, vibration, humidity, moisture, dust and insects. This chassis-mount design is optimized for low component count and high efficiency. The use of components with established reliability results in a demonstrated MTBF exceeding 1,000,000 hours. The DCW 100R is manufactured at our plant under strict quality control. Customized versions are also available.

SPECIFICATIONS

Input Voltage

48Vdc (28 – 74V)
72Vdc (42 – 110V)
110Vdc and 96Vdc (57 – 168V)
Other inputs on request

Input Protection

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

Isolation

1500Vdc input to chassis
3000Vdc input to output
1500Vdc output to chassis

Standards

Designed to meet IEC60950 and EN50155

Immunity

Meets criteria of EN50155 and EN50121-3-2 including:
EN 61000-4-2 (ESD)
EN 61000-4-3 (RF Immunity)
EN 61000-4-4 (Fast Transients)
EN 50155 (Surge)
EN 61000-4-6 (Conducted Imm.)
EN 50155 (Voltage Variations)

EMI

EN55022 Class B and EN50121-3-2 conducted and radiated

Switching Frequency

47KHz +/- 2KHz

Output Voltage/Current

12V/8A, 24V/4A; 48V/2A or 110V/0.9A are standard.
Consult factory for other voltages

Redundancy diode

None

Line/Load Regulation

±1% combined

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)

Overload Protection

Current limiting with hiccup type short circuit protection

Output Overvoltage Protection

Double regulator loop and transzorb

Efficiency

Min 80% at full load

Operating Temperature

-25 to +70°C cold-plate temperature

Temperature Drift

0.03% per °C over operating temperature range

Cooling

Conduction to customer heatsink or chassis and natural convection

Environmental Protection

Ruggedizing
Conformal coating

Shock/Vibration

Designed to meet IEC 61373
Cat 1 A&B

Humidity

5 – 95% non-condensing

MTBF

Min. 170,000 hours @45°C

Indicators

None

Control Input

None

Alarm Output

None

Package/Dimensions (W x H x L)

F0: 86.4 x 48.3 x 154.9 mm (3.4" x 1.9" x 6.1") including terminal block and flanges.
Mounting holes are clear

Weight

0.55kg (1.2 lbs)

Connections

6-pole barrier-type terminal block, 3/8" spacing

RoHS

Fully compliant

Warranty

Two years subject to application within good engineering practice

Enhancements to these general specifications can be accommodated upon request.

*Designer and manufacturer of quality converters, inverters, UPS systems, complete rack mount systems and DC-input fluorescent lamp inverters since 1982. Custom or standard.
Absopulse is a BABT-approved Facility*



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