

100W, Rugged DC/DC Converter in Eurocard (Plug-in) format for Railway and other Demanding Environments

DCW 100R-EH Series

- ◆ Field-proven rugged design
- ◆ For train and mobile applications
- ◆ Convection cooled
- ◆ Full electronic protection
- ◆ Wide selection of input/output combinations
- ◆ 3U x 160mm Eurocard (Plug-in) module



The DCW 100R-EH Series rugged, railway quality DC/DC converter in Eurocard (Plug-in) format utilizes field proven topology to generate up to 100W continuous power, depending on the input/output configuration. 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, with natural convection cooling. These models are fully ruggedized and conformal coated for immunity to shock, vibration, humidity, moisture, dust and insects. This 3U x 160mm Eurocard design is optimized for low component count and high efficiency. The use of components with established reliability results in a high demonstrated MTBF. The DCW 100R-EH is manufactured at our plant under strict quality control. Customized versions are also available.

SPECIFICATIONS

Input Voltage

48Vdc (29 - 67V)
72Vdc (43 - 101V)
96Vdc (58 - 135V)
110Vdc (66 - 154V)
Other inputs upon request

Input Protection

Inrush current limiting
Varistor
Reverse polarity protection
Internal safety fuse
Lower voltage than the specified input min. 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 110A/0.9A are standard. Derating may be required depending on input voltage. Consult factory for other voltages and higher power rating

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
Thermal shut-down with automatic recovery in case of insufficient cooling.

Output Overvoltage Protection

Double regulator loop and transorb.

Efficiency

80 to 90% at full load depending on input/output configuration

Operating Temperature

-25 to +70°C with convection cooling.
Unimpeded airflow required.

Temperature Drift

0.03% per °C over operating temperature range

Cooling

Convection by natural air
Movement

Environmental Protection

Ruggedizing
Conformal coating

Shock/Vibration

IEC 61373 Cat 1 A&B

Humidity

5 - 95% non-condensing

MTBF

Min. 150,000 hours @45 °C
Demonstrated MTBF is significantly higher

Indicators

Output ON green LED on the front panel

Control Input

None

Alarm Output

None

Package / Dimensions

Eurocard: 3U x 10HP x 160mm

Weight

0.63 kg (1.4 lbs)

Connections

H15 DIN connector

RoHS

Fully compliant

Warranty

Two years subject to application within good engineering practice

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



ANALYTIC SYSTEMS
Power Conversion Solutions

8128 River Way, Delta B.C. V4G 1K5 Canada T. 604.946.9981 F. 604.946.9983 TF. 1.800.668.3884 (US/CANADA)

www.analyticssystem.com