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
- EN50155 input ranges
- Convection cooled
- Full electronic protection
- Wide selection of input/output combinations
- 3U x 160mm Eurocard (Plug-in) module

This rugged, industrial quality plug-in converter utilizes field-proven technology to generate the required output power. It is a mature design with a track record in numerous applications. The series is rated for operation over a -25 to +70°C temperature range without derating, with natural convection cooling. Heat generating components are installed on an aluminum heatsink block, which is connected to the heatsink plate on the side of the module. This also provides exceptional mechanical ruggedness. The input and output are filtered for low noise. Full electronic protection, low component count, large design headroom, and the exclusive use of components with established reliability contribute to a high MTBF. The unit is manufactured at our plant under strict quality control. The unit meets the requirements of EN50155 for electronic equipment used on railway rolling stock. It 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 EN60950-1 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
EN50121-3-2

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 transzorb.

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 (H x W x D)
3U x 10HP x 160mm

Weight
0.8 kg (1.8 lbs)

Connections
H15 DIN connector

RoHS
Compliant

Warranty
Two years subject to application within good engineering practice

The specifications on this data sheet are generic and are subject to change. Enhancements to these specifications can be provided upon request.

OEM of industrial and railway AC/DC power supplies and battery chargers, DC/DC converters, DC-AC sine-wave inverters, phase & frequency converters, DC-output UPS systems and complete power systems in 19" and 23" racks since 1982. Custom & standard. ABSOPULSE is a BABT-approved facility

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