

150W, Rugged, Industrial Quality DC-DC Converter with Wide Input Range DCW 150-F1 Series



- Rugged industrial quality
- Wide DC-input voltage range
- Field-proven design
- Conduction/convection cooled
- Full electronic protection
- Wide input ranges

This rugged, industrial quality power converter utilizes field-proven technology to generate the required output power. It is a mature design with a track record in numerous applications. Cooling is by conduction via baseplate. Additional cooling is achieved by natural convection through the cooling slots. All heat generating components are installed on aluminum heatsink blocks which are thermally connected to the base plate. This also provides exceptional mechanical ruggedness. Conformal coating provides protection against humidity and airborne contaminants. An optional built-in redundancy diode allows for parallel and N+1 operation. A Form C output fault alarm is available on request. 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.

SPECIFICATIONS

Input Voltage

Two standard input ranges are available:
20 - 60Vdc or 65 - 160Vdc
Consult factory for other input voltages and ranges

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,
1500VDC input to output,
500VDC output to chassis

Standards

Designed to meet EN 60950 and related standards

EMI

EN55022 Class A with margins

Switching Frequency

55kHz \pm 3kHz

Output Voltage

12V, 24V, 48V or 125Vdc
Consult factory for other voltages

Redundancy diode

Not installed
Available as option

Line/Load Regulation

\pm 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 short circuit protection (hiccup type)
Thermal shut-down with automatic recovery in case of insufficient cooling.

Output Overvoltage Protection

Double regulator loop

Efficiency

Output voltage dependent
Typically 80% at full load

Operating Temperature

0°C to 50°C for full specification
Wider temperature ranges available

Temperature Drift

0.03% per °C over operating temperature range

Cooling

Conduction to customer heatsink or chassis and natural convection

Environmental Protection

Basic ruggedizing
Optional heavy ruggedizing and conformal coating is available

Shock/Vibration

IEC 61373 Cat 1 A&B

Humidity

5 – 95% non-condensing

MTBF

140,000 hours @ 45°C
Demonstrated MTBF is significantly higher

Indicators

Green "Power ON" LED, visible through the cooling slots

Control Input

None

Alarm Outputs

Optional Form C alarm

Package/Dimensions (W x H x L)

F1: 114 x 51 x 201mm
(4.5" x 2" x 7.9") including terminal block and flanges
Mounting holes are clear

Weight

0.8kg (1.8 lbs)

Connections

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

RoHS

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



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