

250W, Rugged, Industrial Quality DC-DC Converter with up to 350V DC-output Voltage DCW 280-F1W Series



- Rugged industrial quality
- Wide DC-input voltage range
- Conduction/convection cooled – no fans
- Field-proven design
- Full electronic protection

This rugged, industrial quality DC-DC converter generates up to 250W continuous output power, depending on the input/output configuration. The design is based on field proven DCW 150 topology. 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. 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

24V, 36V, 48V, 125V, 250Vdc
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

Corresponding to input/output voltage:
1500Vdc input to chassis
2250VDC input to output
500VDC min. output to chassis
500VDC min. between outputs

Standards

Designed to meet EN62368-1 and related standards

EMI

EN55032 Class A with margins

Switching Frequency

47kHz \pm 2kHz

Output Voltage

250V, 300V or 350Vdc
Total output power 250W continuous
Output is floating, either terminal can be grounded

Redundancy diode

None
Available as option

Line/Load Regulation

\pm 1% combined from no 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)

Overload Protection

Rectangular current limiting with cycling-type short circuit protection

Output Overvoltage Protection

Double regulator loop

Efficiency

Typically 85% at full load depending on input/output configuration

Operating Temperature

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

Temperature Drift

0.03% per °C over operating temperature range

Cooling

Conduction via base plate to customer heat-sink or chassis and natural convection

Environmental Protection

Basic ruggedizing
Conformal coating

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 output ON LED visible through cooling slots

Control Input

None

Alarm Output

None on standard version
Available as option

Package/Dimensions (W x H x L)

F1W: 163 x 51 x 198 mm
6.43" x 2" x 7.78" Includes baseplate, excludes terminals. Mounting holes are clear.

Weight

1.4 kg (3 lbs)

Connections

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

RoHS

Compliant

Warranty

Two years subject to application within good engineering practice

Terminal Block Pin-out

DC OUTPUT						DC INPUT					
-	NOT USED	NOT USED	NOT USED	+	NOT USED	NOT USED	NOT USED	NOT USED	GND	+	-
1	2	3	4	5	6	7	8	9	10	11	12

ABSOPULSE power supplies are designed and built to customer requirements. The specifications on this data sheet are generic guidelines only and are subject to change

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



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