

# 150W, Rugged, Wide Input Range Industrial Quality DC-DC Converter

## DCW 150-F1 Series



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

This rugged, industrial quality DC-DC 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. 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 EN60950 -1 and related standards

#### EMI

EN55032 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  
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 "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: 113 x 51 x 198 mm  
4.45" x 2" x 7.8" includes mounting flanges, excludes terminal block  
Mounting holes are clear

#### Weight

0.8kg (1.8 lbs)

#### Connections

9-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	$\frac{+}{-}$	-	+
1	2	3	4	5	6	7	8	9

**Please note.** Terminal Block Pin-Out depends on Input/Output configuration. Please refer to the Pin-out on the custom Data Sheet (SCD) provided with your quotation.

**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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