

## 500W, Rugged, Industrial Quality DC/DC Converter DCW 500 Series



- Rugged industrial quality
- Conduction/convection cooled
- Full electronic protection
- Field-proven design in a wide range of applications
- Wide input range

The DCW 500 Series rugged, industrial quality DC/DC converter uses field proven technology to generate 500W output power. It is a mature design with a track record in numerous applications. Cooling is by conduction via base-plate to a heat-sinking surface and by natural convection. Low component count, large design headroom and the use of components with established reliability results in a high, demonstrated MTBF. Optional heavy ruggedizing and conformal coating provide additional immunity to shock, vibration and moisture. This chassis-mount design is also optimized for cost efficiency. The DCW 500 is manufactured at our plant under strict quality control.

### SPECIFICATIONS

#### Input Voltage

24Vdc (21-29V)  
48Vdc (42-56V)  
125Vdc (105-145V)  
Consult factory for other voltages

#### Input Protection

Inrush current limiting  
Varistor  
Reverse polarity  
Internal safety fuse  
Lower voltage than specified minimum input will not damage unit

#### Input Isolation

Appropriate to the input/output configuration to meet safety standards, as minimum:  
1000VDC input to chassis  
1500VDC input to output  
500VDC output to chassis

#### Standards

Designed to meet EN60950 and related standards

#### EMI

EN 55022 Class A as a minimum

#### Switching Frequency

55kHz +/- 3kHz

#### Output Voltage

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

#### Redundancy diode

Not installed  
Available as option

#### Line/Load Regulation

± 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

Current limiting with short circuit protection (hiccup mode)  
Thermal shut-down with automatic recovery in case of insufficient cooling.

#### Output Overvoltage Protection

Double regulator loop

#### Efficiency

Depends on input/output configuration  
Typically min 80% at full load

#### Operating Temperature

0°C to 50°C cold plate temperature 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

160,000 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)

F4: 130 x 64 x 353 mm (5.1" x 2.5" x 13.9") including terminal block and flanges  
Mounting holes are clear

#### Weight

2.2 kg (5 lb) approx.

#### Connections

9-pole barrier type connector for output and alarm with 3/8" spacing  
2-pole barrier type with 0.512" spacing for input connector

#### RoHS

Fully compliant

#### Warranty

Two years subject to application within good engineering practice

#### Terminal Block Pin-out

DC OUTPUT						ALARM			DC INPUT	
DIRECT		REDUNDANT		-	-	FAIL OPEN	COM	FAIL CLOSED	-	+
1	2	3	4	5	6	7	8	9	10	11

**Enhancements to these general specifications can be accommodated upon request. Designed to meet common approval requirements**

*Designer and manufacturer of quality converters, inverters, UPS systems, complete rack mount systems and DC-input fluorescent lamp inverters since 1982. Custom or standard. Absopulse is a BABT-approved Facility*



#### ABOPULSE ELECTRONICS LTD

110 Walgreen Road  
Ottawa, Ontario. K0A 1L0. CANADA  
Tel: +1-613-836-3511 | Fax: +1-613-836-7488  
E-mail: [absopulse@absopulse.com](mailto:absopulse@absopulse.com)  
<http://www.absopulse.com>