

## 300W, Rugged, Industrial Quality DC/DC Converter with Wide Input Range DCW 300 Series



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

The DCW 300 Series rugged, industrial quality DC/DC converter uses field proven technology to generate 300W 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 300 is manufactured at our plant under strict quality control.

### SPECIFICATIONS

#### Input Voltage

24Vdc (21-29V)  
48Vdc (42-56V)  
125Vd (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 with margins

#### Switching Frequency

55kHz +/- 3kHz

#### Output Voltage

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

#### Redundancy diode

Not installed

#### 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 Second  
loop completely stable and  
independent of main regulator  
loop

#### Efficiency

Output voltage dependent.  
Typically 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 via base plate to  
customer heatsink or chassis  
and/or natural convection

#### Environmental Protection

Basic ruggedizing  
Heavy ruggedizing and conformal  
coating as option

#### 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)

F3: 132 x 64 x 300 mm  
5.2" x 2.5" x 11.8" including  
terminal block and flanges  
Mounting holes are clear

#### Weight

2 kg (4.4 lb) approx.

#### Connections

12-pole barrier type terminal  
block with 3/8" spacing for  
input/output

#### RoHS

Fully compliant

#### Warranty

Two years subject to application  
within good engineering practice

#### Terminal block Pin-out

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

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*



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