

## 250W, Rugged, Encapsulated DC/DC Converter for Heavy Duty Applications PDC 250 Series

- Designed for very harsh environments
- High reliability
- Single output
- Full electronic protection
- Field-proven design
- Fully encapsulated
- Conduction cooling



The PDC 250 Series rugged DC/DC converter delivers up to 250W output power. Designed for operation in very harsh environments, the unit is entirely potted with a thermally conductive MIL-spec. silicon rubber compound to increase resistance to humidity, moisture, shock and vibration. Cooling is via baseplate by conduction. The unit was designed for continuous operation at 70°C with installation on appropriate sized heat-sinking surface. The exclusive use of components with many years of established reliability and generous headroom contributes to an MTBF that exceeds 180,000 hours at 45°C.

### SPECIFICATIONS

#### Input Voltage

125Vdc (105-140V) or  
250Vdc (210-280V)  
Consult factory for other voltages

#### Input Protection

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

#### Isolation

2250VDC input to chassis  
4300VDC input to output,  
8mm spacing  
500VDC output to chassis

#### Standards

Designed to meet EN60950 and  
related national standards.

#### EMI

EN 55022 Class A as a minimum

#### Switching Frequency

55KHz +/- 3KHz

#### Output Voltages

12Vdc/20A, 24Vdc/10A,  
36Vdc/17A or 48Vdc/5A,  
72Vdc/3.3A  
Consult factory for other voltages

#### Line/Load Regulation

+/-1% combined from zero load to  
full load, including separation  
diode

#### 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% Vrms  
(20MHz BW)

#### Output Overload Protection

Rectangular current limiting with  
short-circuit protection (no hiccup)  
Current limit typically set for  
110% of nominal output current  
Thermal shutdown in case of  
insufficient cooling (self resetting)

#### Output Overvoltage Protection

Second regulator loop  
Typically set at 120% of nominal  
output voltage

#### Efficiency

Min. 80% at 250W

#### Operating Temperature Range

-40-70°C cold plate temperature  
for full specification

#### Temperature Drift

0.03% per °C over operating  
temperature range

#### Cooling

Conduction via base plate

#### Environmental Protection

Fully encapsulated and potted  
enclosure

#### Shock/Vibration

Meets requirements of IEC 61373  
Cat 1 A&B and Cat 2 as a  
minimum.

#### MTBF

180,000 hours at 45°C  
Demonstrated MTBF exceeds  
1,000,000 hours at typical operating  
temperatures

#### Indicators

None

#### Control Input

None

#### Alarm Output

None

#### Dimensions

P 59: 108 x 51 x 191 mm  
4.3" x 2.8" x 7.5"  
including terminal block and flanges  
Mounting holes are clear

#### Weight

2 kg (4.5 lbs.)

#### Connections

7 pole, screw-type terminal block,  
3/8" spacing

#### RoHS Compliance

(Directive 2002/95/EC)  
According to requirements

#### Warranty

Twelve months subject to application  
within good engineering practice

Enhancements to these general specifications can be accommodated upon request. Specifications subject to change.

*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: (613) 836-3511 Fax: (613) 836-7488  
E-mail: [absopulse@absopulse.com](mailto:absopulse@absopulse.com)  
[www.absopulse.com](http://www.absopulse.com)