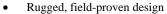
200W, Rugged DC/DC Converter for redundant operation in Railway and other Heavy Duty Applications

**RWD 200 Series** 



- Built-in redundancy diode
- Complete encapsulation
- Very wide temperature range
- Full electronic protection
- Wide input ranges

The RWD 200 Series fully encapsulated, single output, DC/DC converter uses a field-proven design to generate 200W output power. A built-in output separation diode allows for redundant operation. It is a mature product with a track-record in numerous applications. This converter is entirely potted with a thermally conductive MIL-grade silicon rubber compound to ensure immunity to shock, vibration and humidity. It is conduction cooled via a base plate to a heatsinking surface. Low component count, large design headrooms, and the use of components with established reliability result in a high MTBF. The unit meets the requirements of EN50155 for electronic equipment used on rolling stock. The unit is also suitable for transportation, mining, oil rigs, military and other harsh environments. The RWD 200 is manufactured at our plant under strict quality control. Customized versions are also available.

#### **SPECIFICATIONS**

#### **Standard Input Voltages**

24Vdc (14.4 – 34V) 36Vdc (22 – 51V) 48Vdc (29 - 67V) 72Vdc (43 – 101V) 96Vdc (58 – 135V) 110Vdc (66 - 154V) Other inputs upon request

#### Input Protection

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

#### Isolation

1500Vdc input to chassis 3000Vdc input to output 1500Vdc output to chassis

#### Standards

Meets EN 60950 and EN 50155

#### **Immunity** Meets criteria of EN 50155 and EN

50121-3-2 including: EN 61000-4-2 (ESD) EN 61000-4-3 (RF Immunity) EN 61000-4-4 (Fast Transients) EN 50155 (Surge) EN 61000-4-6 (Conducted Imm.) EN 50155 (Voltage Variations)

#### **EMI**

EN 55022 Class B and EN 50121-3-2 conducted and radiated

# **Switching Frequency**

 $80kHz \pm 5kHz$ 

# Output Voltage/Current

12Vdc/16A or 24Vdc/8A. Output is floating, either terminal can be grounded Consult factory for other voltages.

# **Redundancy Diode**

Internal redundancy diode for redundancy

# Line/Load Regulation

+/- 1.5% combined from zero load to full load including redundancy diode

# **Dynamic Response**

Max 5% voltage deviation for 10% to 50% load step, with better than 1msec recovery time

### **Output Ripple/Noise**

Less than 1% peak-to-peak or 0.2% RMS of the output voltage (20MHZ BW)

# **Output Overload Protection**

Rectangular current limiting with hiccup type short-circuit protection Thermal shutdown with automatic recovery in case of insufficient cooling

### **Output Overvoltage Protection**

Second regulator loop completely stable and independent of main regulator loop Transzorb clamp

### **Efficiency**

80 to 90% depending on input/output configuration

# **Operating Temperature Range**

-40 to +70°C cold plate temperature for full specifications

# **Temperature Drift**

0.03% per °C over operating temperature range

#### Cooling

Conduction cooling via base plate to customer chassis or heat-sink

# **Environmental Protection**

Full encapsulation with thermally conductive silicon potting compound with UL94V-0 flammability rating.

# Shock/Vibration

Designed to meet IEC 61373 Cat 1 A&B and Cat 2 as a min.

5 – 95% non-condensing

150,000 hours @ 45°C Demonstrated MTBF is significantly higher

# **Indicators**

None. Optional 'ON' LED available

#### **Control Input**

None

# **Alarm Output**

None

# Package/Dimensions (W x H x L)

P200L: 94 x 60 x 230 mm 3.7" x 2.36" x 9.05" including terminal block and flanges Mounting holes are clear

# Weight

1.3kg (2.9 lbs.)

#### Connections

5-pole barrier-type terminal block with 3/8" spacing. Cover can be provided upon request

# **RoHS Compliance**

Fully compliant

# Warranty

Two years subject to application within good engineering practice.

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

Designer and manufacturer of quality ac-dc power supplies and battery chargers, converters, inverters, dc-output 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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