

## 200W, Rugged DC/DC Converter for redundant operation in Railway and other Heavy Duty Applications RWD 200 Series - Generic Data-sheet

- Built-in redundancy diode
- Rugged construction
- Single output
- 200W output power
- Meets EN50155 and EN60950
- Complete encapsulation
- Conduction cooling
- Compact case



The RWD 200 series single output, push-pull converter provides 200W output power. This high-density unit is entirely potted with a thermally conductive MIL-spec. silicon rubber compound for resistance against shock, vibration, humidity, moisture, dust and insects. The converter is conduction cooled via a base plate and designed for operation within a wide temperature range without de-rating. The use of components with many years of established reliability and generous headroom contribute to a the demonstrated MTBF exceeding 1,000,000 hours at typical operating temperatures. The unit is intended for transportation, mining, oil rigs, military and other harsh environments. This design meets the requirements of EN50155 for electronic equipment used on rolling stock. A built-in output separation diode allows for redundant operation.

### SPECIFICATIONS

#### Standard Input Voltages

24V (14.4 – 37Vdc)  
36V (22 – 55Vdc)  
48V (28 – 74Vdc)  
72V (42 – 110Vdc)  
110Vdc (57 – 168Vdc)  
Other inputs upon request

#### Input Protection

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

#### Isolation

According to EN 50155. Typically:  
Input to chassis: 1500Vdc  
Input to output: 3000Vdc  
Output to chassis: 1500Vdc

#### 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 ±5kHz

#### Standard Output Voltage/Current

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

#### 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

#### 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  
(cold plate)

#### MTBF

200,000 hours @ 45 °C  
Demonstrated MTBF exceeds  
1,000,000 hours at typical  
operating temperatures

#### Indicators

None.  
Optional 'ON' LED available

#### Environmental Protection

Full encapsulation

#### Connections

5-pole barrier-type terminal block  
with 3/8" spacing.

#### Dimensions (W x L x H)

3.7" x 9" x 2.6" including terminal  
block and flanges

#### Weight

2.9 lbs ( 1.3 kg)

#### RoHS Compliance

According to requirements

#### Warranty

Twelve months 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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