

200W, Dual-Output Encapsulated DC/DC Converter for Railway & other Heavy Duty Applications RWY 182 Series

- Rugged, field-proven design
- Dual output
- Complete encapsulation
- Very wide temperature range
- Full electronic protection
- Wide input ranges



The RWY 182 Series fully encapsulated, dual output DC/DC converter uses a field-proven design to generate 200W output power. It employs forward topology on one output and push-pull topology on the other. Both outputs are individually regulated and current limited. This is a mature product with a track-record in numerous applications. The unit 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 RWY 182 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.
Reverse polarity protection
Varistor.
Internal safety fuse
Lower voltage than specified
input min. will not damage unit

Isolation

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

Standards

Meets EN60950 and EN50155

Immunity

Meets criteria of EN50155 and
EN50121-3-2 including
EN 61000-4-2 (ESD)
EN61000-4-3 (RF Immunity)
EN61000-4-4 (Fast Transients)
EN50155 (Surge)
EN61000-4-6 (Conducted Imm.)
EN50155 (Voltage Variations)

EMI

EN55022 Class B and
EN50121-3-2 conducted
and radiated

Switching Frequency

80kHz \pm 5kHz. Push-pull
130kHz \pm 5kHz forward.

Output Voltage/Current

Two individually regulated
outputs. Any single voltage on
either output within the 5V to
72Vdc range is available.
Max 100W or max 8A per output
(whichever represents the limit)
Outputs are floating; either
terminal can be grounded

Redundancy Diode

None

Line/Load Regulation

+/- 1% combined from zero load to
full load on each output

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 the main
regulator loop for the main output.
Transzorb installed across other
output

Efficiency

80 to 90% depending on
input/output configuration

Operating Temperature Range

-40 to +70°C cooling surface
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

Meets IEC 61373
Cat 1 A&B and Cat 2 as a min.

Humidity

5 – 95% non-condensing
Contact factory for higher rating

MTBF

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

Indicators

None.
Optional 'ON' LED available

Control Input

None

Alarm Output

None

Package/Dimensions

P300: 112.5 x 53.3 x 201 mm
4.4" x 2.1" x 7.9" including
terminal block and flanges.
Mounting holes are clear

Weight

1.3 kg (2.9 lbs)

Connections

9 pole barrier-type terminal block
with 3/8" spacing. Cover provided

RoHS Compliance

According to requirements

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.



ABOPULSE ELECTRONICS LTD

110 Walgreen Road
Ottawa, Ontario. K0A 1L0. CANADA
Tel: (613) 836-3511 Fax: (613) 836-7488
E-mail: absopulse@absopulse.com
www.absopulse.com