

250W, Rugged Dual output DC/DC Converter for Railway and other Heavy Duty Applications RWY250 Series - Generic Data-sheet

- Rugged construction
- Dual output
- 250W output power
- Meets EN50155 and EN60950
- Complete encapsulation
- Conduction cooling
- Compact case



The RWY 250 series dual-output converter provides a maximum output of 250W. It employs forward topology on one output and push-pull topology on the other. Both outputs are individually regulated and current limited. 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.

SPECIFICATIONS

Standard Input Voltages

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 EN50155. Typically:
Input to chassis: 1500Vdc
Input to output: 3000Vdc
Output to chassis: 1500Vdc

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

Standard Output Voltage/Current

Two individually regulated
outputs. Any single voltage on
either output within the 5V to
72Vdc range is available.
Max 140W or max 12A for output 1
and max 100W or max 8A for
output 2 (whichever represents the
limit). Outputs are floating; either
terminal can be grounded

Switching Frequency

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

Redundancy Diode

None

Line/Load Regulation

+/- 1.5% 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

Output Overvoltage Protection

Transorb installed across each
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

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

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

Dimensions

4.4" x 7.9" x 2.4" including
terminal block and flanges.

Weight

2.9 lbs (1.3 kg)

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.



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