

200W, Dual-Output Encapsulated DC/DC Converter for Railway & other Heavy Duty Applications RWY 272 Series



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

The RWY 272 Series fully encapsulated, dual output DC/DC converter uses a field-proven design to generate 200W output power. The V1 output is fully regulated and V2 is a tracking output. This is a mature product with a track-record in numerous applications. It 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 272 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 tracking

Output Voltage/Current

Two individually isolated outputs,
2 x 12V/8A each is standard.
Parallel connection for 16A or
connection in series for 24/8A is
also possible.
2 x 24V also available
Consult factory for other voltages

Redundancy Diode

None

Line/Load Regulation

\pm 1% combined from zero load
on V1 output;
 \pm 5% on V2 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

Designed to meet 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: 113 x 53 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.
Cover provided on 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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