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 heat-sinking surface. Low component count, large design headroom, 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, oilrigs, 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 ±5kHz Push-pull
130kHz ±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
± 1% combined from zero load on V1 output;
± 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 +70oC 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
IEC 61373 Cat 1 A&B

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

MTBF
150,000 hours @ 45 oC
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 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 are subject to change.

ANALYTIC SYSTEMS
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