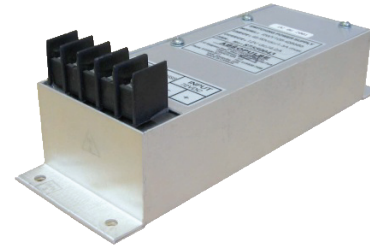


Encapsulated DC/DC Converter for Railway and other Heavy Duty Applications RWY 30 ... 100 Series

- ◆ Rugged, field-proven design
- ◆ Complete encapsulation
- ◆ Wide temperature range
- ◆ Full electronic protection
- ◆ Wide input ranges



The RWY 30 ... 100 Series fully encapsulated, railway quality DC/DC converter uses a field-proven design to generate up to 100W output power. It is a mature product with a track-record in numerous applications. This converter 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 RWY 30 ... 100 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 Varistor Reverse polarity protection Internal safety fuse Lower voltage than specified minimum input 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

130kHz \pm 5kHz

Output Voltage

12V or 24V are standard. Output is floating, either terminal can be grounded Other outputs upon request

Redundancy Diode

None

Line/Load Regulation

+/- 1% combined from zero load to full load

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

Transzorb installed across the output

Efficiency

80 to 90% depending on input/output configuration

Operating Temperature Range

-40 to +70oC cold-plate temperature for full specification

Temperature Drift

0.03% per °C over operating temperature range

Cooling

Conduction cooling via base plate to customer heat-sink or chassis

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 (W x H x L)

P100: 58 x 54 x 181 mm (2.3" x 2.1" x 7.1") including terminal block and flanges Mounting holes are clear

Weight

0.6kg (1.4 lb)

Connections

5-pole barrier-type terminal block with 3/8" spacing Cover can be provided upon 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.



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