Encapsulated DC/DC Converter for Railway, Mobile and Industrial Applications
RWY 15 … 30 Series

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

The RWY 15…30 Series fully encapsulated, rugged, single output DC/DC converter uses a field-proven design to generate up to 30W 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 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. RWY 15…30 is manufactured at our plant under strict quality control. Customized versions are also available.

SPECIFICATIONS

Standard Input Voltages
24Vdc (14.4 – 34V) 15W max
36Vdc (22 – 51V) 25W max
48Vdc (29 - 67V) 30W max
72Vdc (43 – 101V) 30W max
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 conducted and radiated

Switching Frequency
130kHz ±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

Output Overvoltage Protection
Transzorb installed across the output

Efficiency
80 to 90% at full load depending on input/output configuration

Operating Temperature Range
-40 to +70°C cold-plate temperature for full specification

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 (W x H x L)
P30: 57 x 56 x 147 mm
(2.25" x 2.2" x 5.8") including terminal blocks and flanges.
Mounting holes are clear.

Weight
0.7 kg (1.5 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 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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