

## 280W, Rugged Dual output DC/DC Converter for Railway and other Heavy Duty Applications RWY 282 Series



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

The RWY 282 Series fully encapsulated, dual output DC/DC converter uses a field-proven design to generate 280W output power. Both outputs are individually regulated and current limited. 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. The unit is also suitable for transportation, mining, oil rigs, military and other harsh environments. The RWY 100 is manufactured at our plant under strict quality control. Customized versions are also available.

### SPECIFICATIONS

#### Standard Input Voltages

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

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

#### Switching Frequency

80kHz ±5kHz

#### 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 per output (whichever represents the limit) Outputs are floating; either terminal can be grounded

#### 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

#### Environmental Protection

Full encapsulation with thermally conductive silicon potting compound with UL94V-0 flammability rating.

#### Shock/Vibration

Meets 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 ABBT-approved Facility.*



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