

## 280W, Rugged Dual output DC/DC Converter for Railway and other Heavy Duty Applications RWY282 Series - Generic Data-sheet

- Rugged construction
- Dual output
- 280W output power
- Meets EN50155 and EN60950
- Complete encapsulation
- Conduction cooling
- Compact case



The RWY 282 series dual-output, push-pull converter provides a maximum output of 280W. Both outputs are individually regulated and current limited. This high-density unit is entirely potted with a thermally conductive MIL-spec. silicon rubber compound for resistance against shock, vibration, humidity, moisture, dust and insects. The converter is conduction cooled via a base plate and designed for operation within a wide temperature range without de-rating. The use of components with many years of established reliability and generous headroom contribute to a demonstrated MTBF exceeding 1,000,000 hours at typical operating temperatures. The unit is intended for transportation, mining, oil rigs, military and other harsh environments. This design meets the requirements of EN50155 for electronic equipment used on rolling stock.

### SPECIFICATIONS

#### Standard Input Voltages

36V (22 – 55Vdc)  
48V (28 – 74Vdc)  
72V (42 – 110Vdc)  
110Vdc (57 – 168Vdc)  
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

#### 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

#### Switching Frequency

80kHz ±5kHz

#### 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

#### MTBF

200,000 hours @ 45 °C  
Demonstrated MTBF exceeds  
1,000,000 hours at typical  
operating temperatures.

#### Indicators

None.  
Optional 'ON' LED available

#### Environmental Protection

Full encapsulation

#### Connections

9 pole barrier-type terminal block  
with 3/8" spacing. Cover provided

#### Dimensions

4.4" x 7.9" x 2.4" including  
terminal block and flanges.

#### Weight

2.9 lbs (1.3 kg)

#### Warranty

Twelve months 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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