

280W, Rugged DC/DC Converter for Railway and other Heavy Duty Applications RWY 280 Series – Generic Data-sheet

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



The RWY 280 series single output, push-pull converter provides a maximum output of 280W. It is the single output version of the RWY 282 design. 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 the 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

12V/23A or 24V/11A
Consult factory for other
voltages
Outputs are floating; either
terminal can be grounded

Switching Frequency:

80kHz \pm 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

Second regulator loop
completely stable and
independent of main regulator
loop

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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