

200W, IP66-Rated, Railway Quality DC-DC Converter RWY 200-D2 (IP66) Series

- Packaged in waterproof IP66 enclosure
- Internal module ruggedized and conformal coated
- EN50155 input ranges
- For train and mobile applications
- Rugged, field-proven design
- Full electronic protection



The rugged, railway quality DC-DC converters employ field-proven design topology to generate the required output power. The units are packaged in robust, waterproof, die cast aluminum IP66 enclosures. The input and output are via sealed cable glands, circular connectors or custom connections. The internal boards are ruggedized and conformal coated for immunity to high levels of shock and vibration. Cooling is by internal conduction to the walls of the IP66 enclosure and by baseplate to an external chassis or cabinet wall, with additional convection via the outside surface. If installed on a heat-sinking surface, cooling is further enhanced and the converters achieve higher output power. Low component count, large design headroom, and the use of components with established reliability result in a high MTBF. The units meet the requirements of EN50155 for electronic equipment used on rolling stock. They are also suitable for transportation, mining, oilrigs, military and other harsh environments. The converters are manufactured at our plant under strict quality control. Customized versions are also available.

SPECIFICATIONS

Standard Input Voltages

24Vdc (14.4 – 34V) or
36Vdc (22 – 51V) or
48Vdc (28 – 67V) or
72Vdc (43 – 101V) or
96Vdc (58 – 135V) or
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 EN60950-1 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

EN50121-3-2

Switching Frequency

80kHz \pm 5kHz

Output Voltage/Current

12V, 24V, 48V or 110Vdc
Output is floating, either terminal
can be grounded
Other outputs upon request

Redundancy Diode

None

Line/Load Regulation

\pm 1% combined from zero load
to 50% load step, with better than
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
short-circuit protection (hiccup
type)
Thermal shutdown with automatic
recovery in case of insufficient
cooling

Output Overvoltage Protection

Second regulator loop completely
stable and independent of main
regulator loop

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

-25 °C to 55 °C for full specification
Extended temperature ranges
available on request

Temperature Drift

0.03% per °C over operating
temperature range

Cooling

Conduction to customer heat-sink
or chassis and by additional
natural convection via the surface
of the IP66 enclosure

Environmental Protection

IP66 enclosure
Internal module: ruggedized
Potting of the internal module is
also available

Shock/Vibration

IEC 61373 Cat 1 A&B

Humidity

5 - 95% non-condensing

MTBF

150,000 hours @ 45 °C
Demonstrated MTBF is
significantly higher

Indicators

None

Control Input

None

Alarm Output

None

Package/Dimensions (W x H x D)

*Overall dimensions incl. mounting
flanges/baseplate):*
D2: 150 x 93.2 x 318 mm
5.9" x 3.67" x 12.5"
*Dimensions of enclosure body
(excluding connectors):*
150 x 90 x 270 x mm
5.9" x 3.54" x 10.6"

Weight

Approx: 3.6 kg; 8 lb

Connections

Internal barrier-type terminal block
accessible via sealed cable
glands. Optional connectors
instead of cable glands

RoHS Compliance

Compliant

Warranty

Two years subject to application
within good engineering practice.

ABSOPULSE power supplies are designed and built to customer requirements. The specifications on this data sheet are generic guidelines only and are subject to change

OEM of industrial and railway quality DC-DC converters, AC-DC power supplies and battery chargers, DC-AC sine-wave inverters, phase and frequency converters, DC-output UPS systems and complete power systems in 19" and 23" racks since 1982. Custom or standard. ABSOPULSE is a BABT-approved Facility



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