

DCCrail200-IP66 Series DC/DC Voltage Converter



Benefits

- Ultra-Quiet
- Power sensitive electronics without interference
- Rugged & Reliable
- Ensure years of safe and trouble free operation

Applications

- Railway / Transportation
- Mining
- Oil Rigs
- Military Applications
- Marine / Automotive / RV
- Electric Utilities and Substations
- Telecom Power Plants
- Manufacturing Locations
- Steel Mills
- Industrial Controls
- OEM Applications

DC/DC Converters

DCCrail200-IP66 Series (isolated)

Description

The railway quality DC/DC converters employ a field-proven design topology to generate 200W output power. They are packaged in a watertight, rugged diecast aluminum IP66 enclosure with sealed circular connectors. The internal converter unit is entirely potted with a thermally conductive MIL-grade silicon rubber compound for immunity to high levels of shock and vibration.

Cooling is by conduction and convection via the walls of the IP66 enclosure. 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 converter is manufactured at our plant under strict quality control. Customized versions are also available.

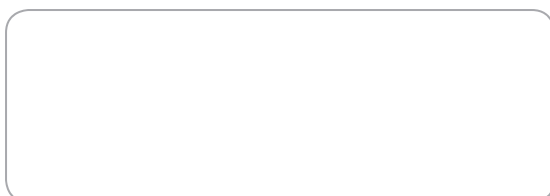
Features

- Packaged in watertight IP66 enclosure
- Rugged construction
- Internal module fully encapsulated
- Conduction cooling
- Single output
- 200W output power
- Meets EN50155 and EN60950
- Wide temperature range
- Full electronic protection
- Telecom quality
- Field-proven design
- 2 years parts and labour warranty

Specifications (Specifications Subject to Change Without Notice)

Input Voltage range	24Vdc (14.4 – 34V) 36Vdc (22 – 51V) 48Vdc (29 – 67V) 72Vdc (43 – 101V) 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
Output Voltages	12V/16A, 24V/8A, 48V/4.1A or 110V/1.8A 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% 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 1ms recovery time
Output Overvoltage Protection	Second regulator loop completely stable and independent of main regulator loop
Overload Protection	Rectangular current limiting with short-circuit protection (hiccup type) Thermal shutdown with automatic recovery in case of insufficient cooling
Efficiency	80 to 90% depending on input/output configuration
EMI	EN55022 Class B and EN50121-3-2 conducted and radiated
Output Ripple/Noise	Less than 1% peak-to-peak or 0.2% RMS of the output voltage (20MHZ BW)
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)
MTBF	150,000 hours @ 45°C Demonstrated MTBF is significantly higher
Indicators	None (Optional 'ON' LED adapter available)
Control Input	None
Alarm Output	None
Environmental Protection	IP66 enclosure. The internal module is fully encapsulated with a thermally conductive silicon potting compound with UL94V-0 flammability rating.
Shock/Vibration	IEC 61373 Cat 1 A&B
Humidity	5 – 95% non-condensing Contact factory for higher rating
Operating Temperature	-40 to +70°C cold-plate temperature for full specification
Temperature Drift	0.03% per °C over operating temperature range
Cooling	Cooling is by conduction and convection via the walls of the IP66 enclosure
Connections	Harwin 90C series, IP66 Input: C90-3102R10SL-4P (mating: C90-3106F10SL-4S) Output: C90-3102R10SL-3S (mating: C90-3106F10SL-3P)
Dimensions	IP66 case with dimensions: 220 x 120 x 80mm
Weight	2.5 Kg
Safety	Meets EN60950-1 and EN50155
RoHS Compliance	Fully compliant
Warranty	2 years

Available from:



RIPEnergy®

The power conversion company

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