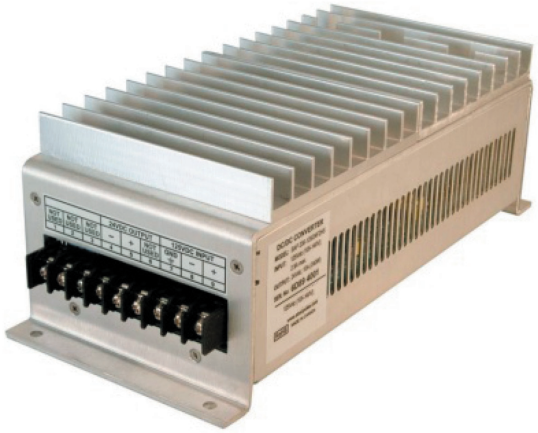
DCCrail200HS Series DC/DC Voltage Converter



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

DCCrail200HS Series (isolated)

Description

This rugged, railway quality DC/DC converter uses field proven topology to generate up to 200W output power. It is a mature design with a track record in numerous applications.
Cooling is via heat-sink fins on the top of the unit; installation on a heat-sinking surface is not required.
The unit can also be installed on thermally non-conductive surfaces, such as plastic, or on curved, uneven surfaces.
An optional built-in redundancy diode allows for paralleling and N+1 operation or back-up battery connected.
Additional ruggedizing and conformal coating are available for applications that require higher immunity to shock, vibration and humidity.
Full electronic protection, low component count, large design headroom, 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.
It is manufactured at our plant under strict quality control. Customized versions are available.

Features

- Rugged construction
- For train and mobile applications
- Pure convection cooling by heat-sink fins
- Regulated and adjustable output
- 200W output power
- EN 50155 input ranges
- N+1 redundancy available as option
- 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 input min. will not damage unit
Isolation	Input to chassis: 1500Vdc Input to output: 3000Vdc Output to chassis: 1500Vdc
Output Voltages	12V/16A, 24V/8A, 36V/5A, 48V/4A or 110V/1.8A Consult factory for other voltages (Any voltage in the 12V to 125V range) Outputs are floating; either terminal can be grounded
Switching Frequency	55kHz +/- 3kHz
Redundancy Diode	Not included Available as option
Line / Load Regulation	± 1% combined from zero load to full load
Dynamic Response	Max 5% voltage deviation for 10% to 50% load step, with better than 1msec recovery time
Output Overvoltage Protection	Double regulator loop. Second loop completely stable and independent of main regulator loop
Overload Protection	Rectangular current limiting with short-circuit protection (no hiccup) Thermal shutdown in case of insufficient cooling (self-resetting)
Efficiency	Typically 85% at full load depending on input/output combination
EMI	EN55022 Class B and EN50121-3-2 conducted and radiated
Output Ripple/Noise	Better than 1% of output voltage peak to peak or 0.2% RMS of the output voltage (20MHZ BW)
Immunity	Meets criteria as requested in EN50155 and EN50121-3-2 according to: EN61000-4-2 (ESD), EN61000-4-3 (RF Immunity), EN61000-4-4 (Fast Transient), EN50155 (Surge), EN61000-4-6 (Conducted immunity), EN50155 (Voltage variation)
MTBF	150,000 hours @ 45°C Demonstrated MTBF is significantly higher
Indicators	Green ‘Output ON’ LED visible through cooling slots
Control Input	None
Alarm Output	None on standard version Optional output fail, Form C contacts
Environmental Protection	Ruggedizing Conformal coating
Shock/Vibration	IEC 61373 Cat 1 A&B
Humidity	5 – 95% non-condensing
Operating Temperature	-25°C to + 55°C for full specification Extended temperature ranges with derating
Temperature Drift	0.03% per °C over operating temperature range
Cooling	Convection by heat-sink fins on top of unit
Connections	9-pole barrier-type terminal block with 3/8” spacing
Dimensions	Modified F2 with heat-sinks on top: 114 x 114 x 261 mm including terminal block and flanges. Mounting holes are clear
Weight	1.6 Kg
Standards	Meets EN60950-1 and EN50155
RoHS Compliance	Fully compliant
Warranty	2 years

Available from:

RIPEnergy®

The power conversion company

RIPEnergy AG
Wägitalstrasse 24
CH-8854 Siebnen
Switzerland

Ph +41-(0)43-818 53 85
Fax +41-(0)43-818 53 87
www.ripenergy.ch

Version 1.5.13