

DCCrail400 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

DCCrail400 Series (isolated)

Description

The DCCrail400 Series fully encapsulated, single output DC/DC converter uses a field-proven design to generate 400W output power.

It is a mature product with a track-record in numerous applications. This converter is entirely potted with a thermally conductive MIL-grade silicon rubber compound to ensure immunity to shock, vibration and humidity. It is conduction cooled via a base plate to a heatsinking surface.

Low component count, large design headrooms, 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.

The unit is also suitable for transportation, mining, oil rigs, military and other harsh environments. The DCCrail400 is manufactured at our plant under strict quality control. Customized versions are also available.

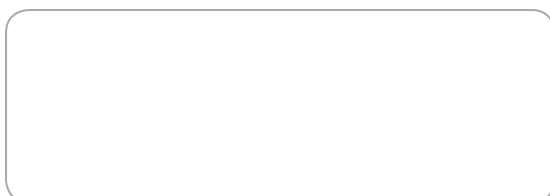
Features

- Compact case
- Rugged construction
- Complete encapsulation
- Conduction cooling
- Single output
- 400W output power
- Compliance to EN 50155
- Competitive price
- Full electronic protection
- Telecom quality
- Field-proven design
- 2 years parts and labour warranty

Specifications (Specifications Subject to Change Without Notice)

Input Voltage range	48V (29 – 67Vdc) 72V (43 – 101Vdc) 96V (58 – 135Vdc) 110V (66 – 154Vdc) 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/33A, 24V/16A, 36V/11A, 48V/8A or 110V/3.6A Consult factory for other voltages Outputs are floating; either terminal can be grounded
Switching Frequency	55kHz \pm 3kHz
Redundancy Diode	Not installed on standard version
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 (not hiccup) 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 available)
Control Input	None
Alarm Output	None, (Optional Form C Contact available)
Environmental Protection	Full encapsulation with thermally conductive silicon potting compound with UL94V-0 flammability rating.
Shock/Vibration	Designed to meet IEC 61373 Cat 1 A&B and Cat 2
Humidity	5–95% non-condensing Contact factory for higher rating
Operating Temperature	-40°C to +70°C cold plate temperature for full specifications
Temperature Drift	0.03% per °C over operating temperature range
Cooling	Conduction cooling via base plate to customer cold plate
Connections	9-pole barrier type terminal block, 3/8" spacing
Dimensions	23.2cm x 13.1cm x 7.6cm including terminal block and flanges. Mounting holes are clear
Weight	2.2 Kg
Standards	Meets EN60950 and EN50155
RoHS Compliance	Fully compliant
Warranty	2 years

Available from:



RIPEnergy®

The power conversion company

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