

DCCrail1500 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

DCCrail1500 Series (isolated)

Description

The DCCrail1500 is a railway quality DC/DC converter that uses a field technology to deliver the required output power. It is a mature design with a track record in numerous applications. The unit is built with two internal modules, which also provide inherent redundancy; the failure of one module would only cause a minor loss in output power. Several shelves can be paralleled for higher output power.

The unit has input and output filtering in compliance with EN55022 and EN50121-3-2 conducted and radiated EMI standards.

Built-in fans provide sufficient airflow for operation without de-rating to the specified temperature. Full electronic protection eliminates failure due to abnormal operational conditions, including application errors. The internal models are fully ruggedized and conformal coated for immunity to shock, vibration and moisture. Low component count, large design headrooms, and the use of components with established reliability result in a high MTBF.

It meets the requirements of EN50155 for electronic equipment used on railway rolling stock. The unit is manufactured at our plant under strict quality control.

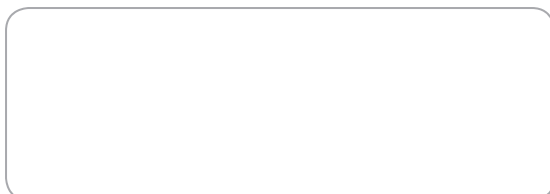
Features

- Compact case
- Rugged construction
- Single output
- 1500W output power
- Full electronic protection
- Telecom quality
- Field-proven design
- 2 years parts and labour warranty

Specifications (Specifications Subject to Change Without Notice)

Input Voltage range	110V (66 – 154Vdc) Other inputs upon request
Input Protection	Inrush current limiting Reverse polarity protection Varistor Internal safety fuse Lower voltage than specified minimum input will not damage unit
Isolation	Depends on the required input/output combination. At minimum: Input to chassis: 1500Vdc Input to output: 3000Vdc Output to chassis: 1500Vdc
Output Voltages	28Vdc +/-0.2V /53A Consult factory for other voltages
Switching Frequency	55kHz ±3kHz
Redundancy Diode	Installed on each internal module for separation and redundancy
Line / Load Regulation	+/- 1.5% combined from zero load to full load including redundancy diode
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 Thermal shutdown with automatic reset in case of insufficient cooling (self-resetting)
Efficiency	90% depending on input/output configuration
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 of EN50155 and EN50121-3-2 according to the following standards: EN 61000-4-2 (ESD), EN61000-4-3 (RF Immunity), EN61000-4-4 (Fast Transients) EN50155 (Surge), EN61000-4-6 (Conducted Immunity), EN50155 (Voltage Variations)
MTBF	150,000 hours @ 45°C per internal module. Demonstrated MTBF is significantly higher.
Indicators	None (available as option)
Control Input	None (available as option)
Alarm Output	Form C contacts for module fail alarm available on request
Environmental Protection	Ruggedizing, Conformal coating
Shock/Vibration	IEC 61371 Cat 1 A&B
Humidity	5 – 95% non-condensing
Operating Temperature	-25 to +55°C for full specification
Temperature Drift	0.03% per °C over operating temperature range
Cooling	Forced air by high-quality built-in fans
Connections	Input: Terminal block Output: Threaded studs
Dimensions	3U2 132 x 132 x 407 mm including terminal block and flanges Mounting holes are clear
Weight	4.5 Kg
Safety	Designed to meet EN60950 and EN50155
RoHS Compliance	Fully compliant
Warranty	2 years

Available from:



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The power conversion company

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