

# DCCrail40 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

DCCrail40 Series (isolated)

### Description

The DCCrail40 Series fully encapsulated, rugged, single output DC/DC converter uses a field-proven design to generate up to 40W output power.

It is a mature product with a track-record in numerous of 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 DCCrail40 is manufactured at our plant under strict quality control.

Customized versions are also available.

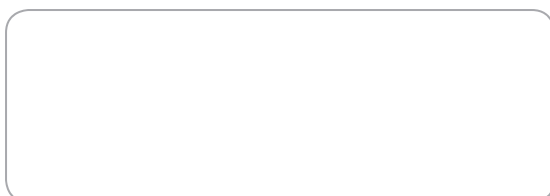
### Features

- Field-proven rugged design
- Compact case
- Convection/conduction cooling
- Complete encapsulation
- 40W output power
- Compliance to EN50155
- Full electronic protection
- Wide input ranges
- 2 years parts and labour warranty

# Specifications ( Specifications Subject to Change Without Notice)

<b>Input Voltage range</b>	24Vdc (14.4 – 34V) 36Vdc (22 – 51V) 48Vdc (29 – 67V) 72Vdc (43 – 101V) 96Vdc (58– 135V) 110Vdc (66 – 154V)
<b>Input Protection</b>	Inrush current limiting Reverse polarity protection Varistor Internal safety fuse Lower voltage than specified input min. will not damage unit
<b>Isolation</b>	Input to chassis: 1500Vdc Input to output: 3000Vdc Output to chassis: 1500Vdc
<b>Output Voltages</b>	12V/3.3A, 24V/1.6A, 36V/1.1A, 48V/0.8A or 110V/0.36A Outputs is floating; either terminal can be grounded Consult factory for other voltages
<b>Switching Frequency</b>	130kHz +/-5kHz
<b>Redundancy Diode</b>	None
<b>Line / Load Regulation</b>	+/- 1% combined from zero load to full load
<b>Dynamic Response</b>	Max 5% voltage deviation for 10% to 50% load step, with better than 1ms recovery time
<b>Output Overvoltage Protection</b>	Transzorb installed across the output
<b>Output Overload Protection</b>	Rectangular current limiting with hiccup type short-circuit protection Thermal shutdown with automatic recovery in case of insufficient cooling
<b>Efficiency</b>	80 to 90% depending on input/output configuration
<b>EMI</b>	EN55022 Class B and EN50121-3-2 conducted and radiated
<b>Output Ripple/Noise</b>	Less than 1% peak-to-peak or 0.2% RMS of the output voltage (20MHZ BW)
<b>Immunity</b>	Meets criteria as requested in EN50155, EN50121-3-2 including EN 61000-4-2 (ESD) EN 61000-4-3 (RF Immunity) EN 61000-4-4 (Fast Transients) EN 50155 (Surge) EN 61000-4-6 (Conducted Immunity) EN 50155 (Voltage Variations)
<b>MTBF</b>	150,000 hours @ 45°C Demonstrated MTBF is significantly higher
<b>Indicators</b>	None, Optional 'ON' LED available
<b>Control Input</b>	None
<b>Alarm Output</b>	None
<b>Environmental Protection</b>	Full encapsulation with thermally conductive silicon potting compound with UL94V-0 flammability rating.
<b>Shock/Vibration</b>	Designed to meet IEC 61373 Cat 1 A&B and Cat 2 as a min.
<b>Operating Temperature</b>	-40 to +70°C cold-plate temperature for full specification
<b>Temperature Drift</b>	0.03% per °C over operating temperature range
<b>Humidity</b>	5 – 95% non-condensing
<b>Cooling</b>	Conduction cooling via base plate to customer heat-sink or chassis
<b>Connections</b>	5-pole barrier-type terminal block with 3/8" spacing. Cover can be provided upon request
<b>Dimensions</b>	58 x 61 x 181 mm including terminal block and flanges Mounting holes are clear
<b>Weight</b>	0.8 Kg
<b>Standards</b>	Meets EN60950 and EN50155
<b>RoHS Compliance</b>	Fully compliant
<b>Warranty</b>	2 years

Available from:



## RIPEnergy®

The power conversion company

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