

# DCHVR2000 Series DC/DC Voltage Converter



## Benefits

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

## Applications

- Trams, light Rail, Metros
- Electric Utilities and Substations
- Telecom Power Plants
- Manufacturing Locations
- Steel Mills
- Military Applications (COTS)
- Industrial Controls
- OEM Applications
- Solar / Alternative Power Systems

## DC/DC Converters

### DCHVR2000 Single-Output DC Converter

#### Description

The DCHVR2000-750/24 DC/DC converter uses field proven design topology to generate 2kW output power at 24Vdc.

The unit accepts an input voltage of 750Vdc (525V – 975Vdc range), typical traction voltage required for mass transit vehicles (trams, light rail, metros, mining locomotives etc).

An optional built-in redundancy diode would allow for a number of units to be connected in parallel to achieve higher output power or N+1 redundancy.

The output separation diode also makes the unit suitable for battery charging applications.

To ensure high reliability and long operating life, all critical components on the primary side are designed and tested for corona inception levels which are significantly higher than the operating voltages.

The chassis-mount design features low component count and high efficiency. The use of high quality components and rigorous quality control results in a high demonstrated MTBF.

Ruggedizing and conformal coating provide higher immunity to shock, vibration, humidity, moisture, dust and insects.

Custom versions are available. The unit is manufactured at our plant under strict quality control.

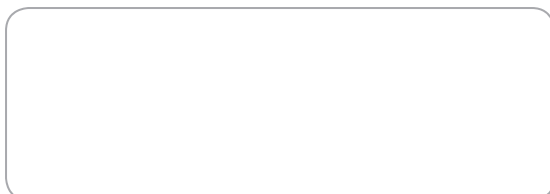
#### Features

- Single regulated and adjustable output
- Rugged construction
- Full electronic protection
- Fan cooling
- Field-proven design
- N+1 redundancy available

# Specifications ( Specifications Subject to Change Without Notice)

<b>Input Voltage</b>	750VDC (525V – 975V range) Input current: 5A max.
<b>Input Protection</b>	Inrush current limiting Varistors Reverse polarity protection Internal safety fuse Lower voltage than specified input min. will not damage unit
<b>Isolation</b>	3000VDC input to chassis on each unit 3000VDC input to output on each unit 5600VDC type test 500VDC output to chassis
<b>Output Voltages</b>	24VDC +/-0.1V/ 83A Output is floating; either terminal can be grounded
<b>Redundancy Diode</b>	Available as option
<b>Line / Load Regulation</b>	+/- 1.5% combined from zero load to full load
<b>Dynamic Response</b>	Max 5% voltage deviation for 10% to 50% load step, with better than 1msec recovery time
<b>Output Overvoltage Protection</b>	Second regulator loop, completely stable and independent of main regulator loop OVP limit: 30V +/- 2V
<b>Output Overload Protection</b>	Rectangular current limiting with short-circuit protection (no hiccup) Thermal shutdown in case of insufficient airflow (self-resetting) Current Limit: 88A +/-5A
<b>Efficiency</b>	Min 80% at full load
<b>Standards</b>	Designed to meet EN 60950 and EN50155
<b>EMI</b>	EN55022 Class B and EN50121-3-2 conducted and radiated
<b>Immunity</b>	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)
<b>Switching Frequency</b>	55kHz +/- 3kHz
<b>Output Ripple/Noise</b>	Better than 60mVrms and 300mVpp (@ 20MHz BW)
<b>Operating Temperature</b>	-25°C to 55°C for full specification Wider range available as option
<b>Temperature Drift</b>	0.03% per °C over operating temperature range
<b>Cooling</b>	By two built-in fans
<b>Environmental Protection</b>	Ruggedizing and conformal coating
<b>Vibration/Shock</b>	Designed to meet IEC 61373 Cat 1 A&B
<b>Humidity</b>	5 – 95% non-condensing
<b>MTBF</b>	85,000 hours @45°C (fans not included) Demonstrated MTBF is significantly higher
<b>Indicators</b>	Optional
<b>Control Input</b>	None
<b>Alarm Output</b>	Optional
<b>Connections</b>	Input: Barrier type terminal block with 3/8" spacing Output: Copper bar with ¼ " hole for output
<b>Dimensions</b>	231x140x369 mm including mounting flanges
<b>Weight</b>	7kg
<b>RoHS Compliance</b>	Fully compliant
<b>Warranty</b>	2 years

Available from:



## RIPEnergy®

The power conversion company

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