

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.

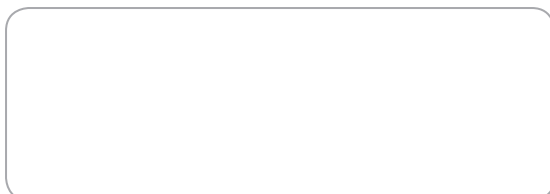
Features

- 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)

Input Voltage	750VDC (525V – 975V range) Input current: 4.8A max.
Input Protection	Inrush current limiting Varistors Reverse polarity protection Internal safety fuse Lower voltage than specified input min. will not damage unit
Isolation	2250VDC input to chassis 4300VDC input to output 5600VDC type testing 8mm spacing 500VDC output to chassis
Output Voltages	24VDC +/-0.1V/ 83A Output is floating; either terminal can be grounded
Output Separation Diode	Installed internally for separation for the internal modules
Line / Load Regulation	+/- 2% combined from zero load to full load including separation diodes
Dynamic Response	Max 5% voltage deviation for 10% to 50% load step, with better than 1msec recovery time
Output Overvoltage Protection	Second regulator loop, completely stable and independent of main regulator loop OVP limit: 27V +/- 2V
Output Overload Protection	Rectangular current limiting with short-circuit protection (no hiccup) Thermal shutdown in case of insufficient airflow (self-resetting) Current Limit: 89A +/-4A
Efficiency	80% at full load
Standards	Designed to meet EN 60950-1 and corresponding standards
EMI	EN 55022 Class A with margins
Switching Frequency	55kHz +/- 3kHz
Output Ripple/Noise	Better than 60mVrms and 300mVpp (@ 20MHz BW)
Operating Temperature	-25°C to 50°C for full specification
Temperature Drift	0.03% per °C over operating temperature range
Cooling	By built-in high quality fans
Environmental Protection	Ruggedizing and conformal coating
Vibration/Shock	IEC 61373 Cat 1 A&B
Humidity	5 – 95% non-condensing
MTBF	110,000 hours @45°C (fans not included)
Indicators	None
Control Input	None
Alarm Output	Form C relay
Connections	Input: Terminal block Output: Threaded studs
Dimensions	3U3: 187 x 132 x 407mm Mounting ear holes are clear
Weight	7kg
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
www.ripenergy.ch