

# DCHV50 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
- Fuel Cells

## DC/DC Converters

### DCHV50 Single-Output DC Converter

#### Description

This rugged, industrial quality DC/DC converter series uses field proven design topology to generate the specified output power.

It is a mature design with a track record in numerous applications.

The unit accepts a 700Vdc input voltage. To ensure high reliability and long operating life, all critical components on the primary side are designed and tested for corona inception levels that are significantly higher than the operating voltages.

Full electronic protection, low component count, large design headroom, and the use of components with established reliability result in a high MTBF.

Cooling is via base-plate to a heat-sinking surface and by natural convection.

Customized versions are also available.

The unit is manufactured at our plant under strict quality control.

#### Features

- Rugged industrial quality
- Wide DC-input voltage range
- Field-proven design
- Full electronic protection
- Conduction/convection cooled (no fans)

# Specifications ( Specifications Subject to Change Without Notice)

<b>Input Voltage</b>	700Vdc nominal 600V-800V operating range Other input range on request
<b>Input Protection</b>	Inrush current limiting Varistor Reverse polarity protection Internal safety fuse Lower voltage than specified input min. will not damage unit
<b>Isolation</b>	3000VDC input to chassis 3000VDC input to output 5600VDC type test 500VDC output to chassis
<b>Standards</b>	Designed to meet EN60950 and related standards
<b>EMI</b>	EN55022 Class A with margins
<b>Switching Frequency</b>	47kHz +/- 2kHz
<b>Output Voltage/Current</b>	12V/4A, 24Vdc/2A or 48Vdc/1A Output is floating; either terminal can be grounded Other outputs on request
<b>Redundancy Diode</b>	None Available as option
<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 1msec recovery time
<b>Output Ripple/Noise</b>	Better than 0.2% Vrms or 1% Vpp of the output voltage (20MHz BW)
<b>Output Overload Protection</b>	Rectangular current limiting with short-circuit protection (no hiccup) Thermal shutdown in case of insufficient airflow (self-resetting)
<b>Output Overvoltage Protection</b>	Second regulator loop, completely stable and independent of main regulator loop
<b>Efficiency</b>	Typically 80% at full load
<b>Operating Temperature</b>	0°C to 50°C cold plate temperature for full specification without derating Extended temperature ranges available
<b>Temperature Drift</b>	0.03% per °C over operating temperature range
<b>Cooling</b>	Conduction to customer heatsink or chassis and natural convection
<b>Environmental Protection</b>	Basic ruggedizing and conformal coating Heavy ruggedizing available on request
<b>Vibration/Shock</b>	IEC 61373 Cat 1 A&B
<b>Humidity</b>	5 – 95% non-condensing
<b>MTBF</b>	130,000 hours @ 45°C Demonstrated MTBF is significantly higher
<b>Indicators</b>	Green "Output ON" LED visible through cooling slots
<b>Control Input</b>	None Available as option
<b>Alarm Outputs</b>	None Available as option
<b>Dimensions</b>	F1: 114 x 51 x 201 mm including terminal block and flanges. Mounting holes are clear
<b>Weight</b>	0.8 kg
<b>Connections</b>	Barrier type terminal block with 3/8" spacing
<b>RoHS Compliance</b>	Fully compliant
<b>Warranty</b>	2 years

Available from:



## RIPEnergy®

The power conversion company

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