



## DCHV50 DC/DC CONVERTER

### SERIES DCHV50

This rugged, industrial quality DC/DC converter utilizes field-proven topology to generate 50W output power.

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

Cooling is by conduction via baseplate. Additional cooling is achieved by natural convection through the cooling slots.

All heat generating components are installed on aluminum heatsink blocks which are thermally connected to the base plate. This also provides exceptional mechanical ruggedness.

Conformal coating provides protection against humidity and airborne contaminants.

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

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

Customized versions are also available.

### APPLICATIONS

- Marine / Automotive / RV
- Electric Utilities and Substations
- Telecom Power Plants
- Manufacturing Locations
- Steel Mills
- Military Applications (COTS)
- Industrial Controls
- OEM Applications
- Solar / Alternative Power Systems
- Fuel Cells

### FEATURES

- Rugged industrial quality
- High DC-input voltage
- Wide DC-input voltage range
- Custom inputs available upon request
- Field-proven design
- Conduction / convection cooling (no fans)
- Full electronic protection
- N+1 redundancy available as option
- Single output
- Custom outputs available



High frequency technology



Light weight, compact size



Full electronic protection



Conduction Cooling (no Fan)



Optional Extended temperature range

# SPECIFICATIONS

Input Voltage	600Vdc nominal 450V- 800V operating range Wider input range on request
Input Protection	Inrush current limiting Varistor Reverse polarity protection Internal safety fuse Lower voltage than the specified minimum input will not damage the unit
Isolation	3000Vdc input to chassis 4300Vdc input to output 5600Vdc type test 700Vdc output to chassis
Switching Frequency	47kHz $\pm$ 3kHz
Output Voltage	12V, 24V or 48Vdc Output is floating; either terminal can be grounded Other outputs on request
Redundancy Diode	None Available as option
Load/Line Regulation	$\pm$ 1% combined from zero load to full load
Dynamic Response	Max 5% voltage deviation for 10% to 50% load step, with better than 1msec recovery time
Output Ripple Noise	Better than 1% of output voltage peak to peak or 0.2% Vrms (20MHz BW)
Efficiency	Typically 85% at full load depending on input/output combination
Output Overload Protection	Rectangular current limiting with hiccup type short-circuit protection
Output Overvoltage Protection	Transzorb across the output
Standards	Designed to meet IEC61010-1, CE and related standards
EMI	EN55032 Class A with margins

Operating Temperature	0°C to 50°C cold plate temperature for full specification without derating Extended temperature ranges available
Humidity	5 - 95% non-condensing
Temperature Drift	0.03% per °C over operating temperature range
Cooling	Conduction to customer heatsink or chassis and natural convection
Environmental Protection	Basic ruggedizing Conformal coating Heavy ruggedizing available on request
Shock/Vibration	IEC 61373 Cat 1 A&B
Dimensions	F1: 114 x 51 x 201mm including terminal block and flanges Mounting holes are clear
Weight	0.8 Kg
Connections	9-pole barrier type terminal block, 3/8" spacing
MTBF	130,000 hours at 45°C Demonstrated MTBF is significantly higher
Indicators	Green "Output ON" LED, visible through the cooling slots
Control Input	None
Alarm output	None
RoHS Compliance	Fully compliant
Warranty	2 years

## Terminal Block Pin-out

VDC OUTPUT			VDC INPUT					
NOT USED	+	-	GND	NOT USED	+	NOT USED	- COM	NOT USED
1	2	3	4	5	6	7	8	9

