



DCHV500 DC/DC CONVERTER

SERIES DCHV500

This rugged, industrial quality DC/DC converter utilizes field-proven topology to generate 500W output power. It is a mature design with a track record in numerous applications.

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.

The unit accepts a 600Vdc 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.

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



High frequency technology



Light weight, compact size



Full electronic protection



Conduction Cooling (no Fan)



Optional Extended temperature range



Optional Output fail alarm (Form C)

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

SPECIFICATIONS

Input Voltage	600Vdc nominal 450V- 800V operating range Other 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 3000Vdc input to output 5600Vdc type test 1000Vdc output to chassis
Switching Frequency	55kHz ±3kHz
Output Voltage	24V, 36V, 48V or 110Vdc Output is floating; either terminal can be grounded Other outputs on request
Redundancy Diode	None Available as option
Load/Line Regulation	±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	Min. 80% at full load depending on input/output configuration
Output Overload Protection	Rectangular current limiting with short-circuit protection (no hiccup) Thermal shutdown in case of insufficient airflow (self-resetting)
Output Overvoltage Protection	Second regulator loop, completely stable and independent of main regulator loop
Standards	Designed to meet EN 60950-1, EN 62368-1, 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 and conformal coating Heavy ruggedizing available on request
Shock/Vibration	IEC 61373 Cat 1 A&B
Dimensions	FX: 153 x 67 x 358 mm including terminal block and flanges
Weight	2.2 Kg
Connections	12-pole barrier type terminal block with 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 Available as option
Alarm output	None Available as option
RoHS Compliance	Fully compliant
Warranty	2 years

Terminal Block Pin-out

ALARM (option)			DC OUTPUT				DC INPUT				
FAIL OPEN	COM	FAIL CLOSED	+	+	-	-	GND	N/C	+	N/C	-
1	2	3	4	5	6	7	8	9	10	11	12

