

DCHV300 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

DCHV300 Single-Output DC Converter

Description

The DCHV300 Series DC/DC converter uses field proven design topology to generate 300W output power.

The unit accepts an input voltage of 750VDC (525V – 975VDC range), the traction voltage typically 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 demonstrated MTBF exceeding 150,000 hours at 45°C. The unit is cooled by natural air convection, so no fans are required.

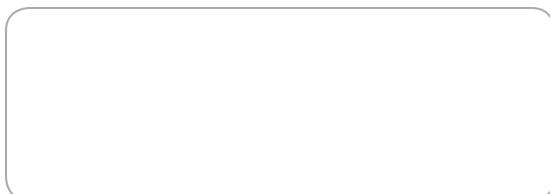
Features

- Single regulated and adjustable output
- Rugged construction
- Full electronic protection
- Convection/conduction cooled
- Field-proven design
- N+1 redundancy available

Specifications (Specifications Subject to Change Without Notice)

Input Voltage	750VDC (525V – 975V range) Input current: 0.7A max.
Input Protection	Inrush current limiting Varistor Reverse polarity Internal safety fuse Lower voltage than specified input min. will not damage unit
Input Isolation	3000VDC input to chassis on each unit 3000VDC input to output on each unit 5600VDC type test 500VDC output to chassis
Output Voltages	12VDC, 24VDC, 36VDC or 48VDC Output is floating; either terminal can be grounded Other voltages on request
Redundancy Diode	Available as option
Standards	Designed to meet EN 60950 and EN50155
Line / Load Regulation	+/- 1.5% 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 Overvoltage Protection	Second regulator loop, completely stable and independent of main regulator loop
Output Overload Protection	Rectangular current limiting with short-circuit protection (no hiccup) Thermal shutdown in case of insufficient airflow (self-resetting)
Efficiency	Typical 80% at full load
EMI	EN50121-3-2 conducted and radiated
Switching Frequency	55kHz +/- 3kHz
Output Ripple/Noise	Better than 0.2% rms or 1% pp (@ 20MHz BW)
Operating Temperature	-25°C to 55°C for full specification
Temperature Drift	0.03% per °C over operating temperature range
Cooling	Natural air convection
Environmental Protection	Ruggedizing, Conformal coating
Vibration/Shock	Designed to meet IEC 61373 Cat 1 A&B
Humidity	5 – 95% non-condensing
MTBF	150,000 hours @ 45°C (calculated)
Indicators	Green “Output ON” LED visible through cooling slots
Control Input	None
Alarm Output	None (Available as option)
Connections	12 pole barrier type terminal block with 3/8” spacing
Dimensions	F3: 132 x 62 x 290mm (5.2” x 2.5” x 11.4”) including mounting flanges and terminals
Weight	1.8kg
RoHS Compliance	According to requirements
Warranty	2 years

Available from:



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The power conversion company

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