



DCHV100 DC/DC CONVERTER

SERIES DCHV100

This rugged, industrial quality DC/DC converter utilizes field-proven topology to generate 100W output power.

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

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



Optional Output fail alarm (Form C)

SPECIFICATIONS

| | |
|-------------------------------|--|
| Input Voltage | 600Vdc nominal 450V- 800V operating range Other input range on request Idle current at no load, 600V input: 4.7mA |
| 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 500Vdc output to chassis |
| Switching Frequency | 47kHz ±2kHz |
| 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 | ±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 80% at full load |
| Output Overload Protection | Rectangular current limiting with short-circuit protection (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, 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 | F2: 114 x 58 x 256 mm including terminal block and flanges Mounting holes are clear |
| Weight | 1.2 Kg |
| Connections | 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

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

