

DCC419 Series DC/DC Voltage Converter



Benefits

- Ultra-Quiet
- Power sensitive electronics without interference
- Rugged & Reliable
- Ensure years of safe and trouble free operation

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

DC/DC Converters

DCC419 Single-Output DC Converter

Description

This system contains rugged, industrial quality DC/DC plug in converters and uses field-proven topology to generate the required output power. It is a mature design with large design headrooms and rated for operation over a wide temperature range without derating. The strict use of components with many years of established reliability results in a high demonstrated MTBF confirmed by a track record in hundreds of applications.

Each module has a built-in redundancy diode which allows for an unlimited number of units to be paralleled for higher output power and N+1 redundant operation. The built-in redundancy also allows battery connection to the output for back-up purposes.

The modules are hot insertable. Modules with different outputs can be combined in one shelf to create a multi-output system. The plug-in modules are cooled by natural air convection. Heat generating components are installed on an aluminum heatsink block, which is connected to the large heatsink on the side of each module.

The unit has full electronic input/output protection, and meets EMI emission standards with wide margins. The design is optimized for low component count and high efficiency. The whole system is manufactured at our plant under strict quality control.

Features

- Rugged industrial quality
- 4U x 19" x 15" shelf
- 500W per module or 2500W per 19" shelf
- Front panel adjustment & LED status
- Hot insertable
- N+1 redundancy
- Fully protected
- Field-proven design in wide range of applications
- 2 years parts and labour warranty

Specifications (Specifications Subject to Change Without Notice)

Input Voltage range	24Vdc (21 – 30V) 48Vdc (42 – 60V) 125Vdc (88 – 140V) Please consult factory for other voltages and ranges
Input Protection	Inrush current limiting Varistor Reverse polarity protection Internal safety fuse Lower voltage than the specified minimum input will not damage the unit
Input Isolation	1000VDC input to chassis 1500VDC input to chassis 500VDC output to chassis as a minimum Isolation voltages correspond to input/output combination
Output Voltages	24V/20A, 48V/10A or 125V/4A 500W per module with convection cooling Consult factory for other voltages
Redundancy Diode	Installed on each plug-in module
Line / Load Regulation	Typically $\pm 1\%$ combined from no load to full load (depending on output voltage)
Dynamic Response	Max 5% voltage deviation for 10% to 50% load step, with better than 1msec recovery time
Output Overvoltage Protection	Second regulator loop
Output Overload Protection	Rectangular current limiting with short circuit protection (constant current) Thermal shutdown with automatic recovery in case of reduced airflow
Efficiency	85% typical depending on the input/output configuration
EMI	EN 55022 Class A as a minimum
Switching Frequency	55KHz +/- 3KHz
Output Ripple/Noise	Better than 1% of output voltage peak to peak or 0.2% RMS of the output voltage (20HZ BW)
Operating Temperature	0 to +50°C (standard model with convection cooling) Extended temperature range available
Temperature Drift	0.03% per °C over operating temperature range
Cooling	Natural air convection
Environmental Protection	Basic ruggedizing. Conformal coating and full ruggedizing as option
MTBF	180,000 hours at 45°C per plug-in module. Demonstrated MTBF is significantly higher
Indicators	Output ON LED Test Points on front-panel
Controls	Adjustment potentiometer on front-panel
Alarm Output	Form C module fail alarm on the shelf. Optocoupler alarm on the module
Connections	H15 DIN connector on modules. Terminal block for shelf Other terminations available, please consult factory
Dimensions	4U x 16HP x 304mm (module) 4U x 19" x 15" (shelf) including connections
Standards	Designed to meet EN 60950 and related standards
RoHS Compliance	Fully compliant
Warranty	2 years

Available from:



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