2000W Rugged, Industrial Quality AC/DC Power Supply
HBC 2K Series (230Vac or 300Vdc input)

- Rugged industrial quality
- Single phase 230Vac or 300Vdc input
- Cooling by built in fans
- Full electronic protection
- Field-proven design topology
- Modular redundancy

This rugged, industrial quality AC/DC power supply uses field-proven topology to generate up to 2000W output power. The system is built with two HBH 65 internal modules, which have a track-record in numerous heavy-duty applications. A built-in redundancy diode separates the internal modules and also allows for a number of units to be connected in parallel to achieve higher output power or additional redundancy. The output redundancy diode also makes the unit suitable for battery charging applications. High quality built-in fans provide sufficient airflow for operation to the specified temperature without de-rating. The fans draw air into the unit and the exhaust exits at the rear of the unit. Additional ruggedizing and conformal coating are available for applications that require higher immunity to shock, vibration and humidity. The input and output are filtered for low noise. Full electronic protection, low component count, large design headroom, and the use of components with established reliability result in a high MTBF. The unit is manufactured at our plant under strict quality control.

SPECIFICATIONS

Input Voltage
230Vac ±15%; 47-63Hz
or 300Vdc (270-350Vdc)
Other DC inputs are also available

Input Protection
Inrush current limiting
Varistors
Internal safety fuses
Lower voltage than the specified minimum input will not damage the unit

Input Isolation
2250VDC input to chassis
4300VDC input to output
8mm spacing
Min. 700Vdc output to chassis, corresponding to output voltage

Standards
Designed to meet EN60950-1 and corresponding standards

EMI
EN 55022 Class A with margins

Switching Frequency
55 kHz ± 5kHz

Hold Up Time
Minimum 5ms at full load for 5% drop of output voltage at nominal input

Output Voltages
24V/83A, 36V/55A,
48Vdc/40A, 54Vdc/37A,
110V/18A, 125Vdc/16A or 250V/8A
Output is floating, either terminal can be grounded
Other outputs on request

Redundancy Diode
Installed on each internal module for separation and redundancy

Line/Load 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 0.2% RMS or 1% of output voltage peak-to-peak (20MHz BW)

Overload Protection
Rectangular current limiting with short circuit protection
Thermal shutdown with automatic reset in case of insufficient airflow

Output Over-voltage Protection
Double regulator loop completely stable and independent of main loop

Efficiency
Min 80% at full load depending on input/output configuration

Operating Temperature
0 °C to 50 °C for full specification
Extended temperature range available

Temperature Drift
0.03% per °C over operating temperature range

Cooling
Forced air by two high-quality built-in fans

Environmental Protection
Basic ruggedizing
Heavy ruggedizing and conformal coating on request

Shock/Vibration
IEC61373 Cat 1 A&B

MTBF
90,000 hours @45 °C
(fan excluded)
Demonstrated MTBF is significantly higher.

Indicators
Green "Output ON" LED visible on each internal module through the cooling slots
The LED is connected before the redundancy diode.

Control Input
None on standard version
Available on request

Alarm Output
None on standard version
Form C output Fail Alarm on request

Package/Dimensions (W x H x D)
U5512: 127 x 127 x 317 mm
(5" x 5" x 12.5"). Four M6 threaded insert at the bottom surface for mounting

Weight
5.2kg (11.5 lbs)

Connections
Barrier type terminal blocks with 3/8" spacing

RoHS Compliance
Fully compliant

Warranty
Two years subject to application within good engineering practice
Contamination related failures not covered.

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