

2000W Rugged, Industrial Quality AC-DC Power Supply

HBC 2K-U5512 Series (230Vac or 300Vdc input)



- Rugged industrial quality
- Single phase 230Vac or 300Vdc input
- Cooling by high quality 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 the required 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. The input and output are filtered for low noise. 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. 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 $\pm 15\%$; 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 EN62368-1 and corresponding standards

EMI

EN55032 Class A with margins

Switching Frequency

55kHz ± 5 kHz

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

$\pm 1\%$ 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 with proper cooling
Extended temperature ranges available on request

Temperature Drift

0.03% per °C over operating temperature range

Cooling

Forced air by high quality built-in fan and conduction to customer heat-sink or chassis

Environmental Protection

Basic ruggedizing
Conformal coating

Shock/Vibration

IEC61373 Cat 1 A&B

MTBF

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

Indicators

Green high intensity "OUTPUT ON" LED visible from the terminal side

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)

U5512L: 127 x 127 x 305 mm
5" x 5" x 12". Dimensions exclude terminals and fans
Four L- brackets for mounting with M5 x 10mm screws

Weight

5.2 kg (11.5 lbs)

Connections

Input: 3-pole terminal block with 13mm spacing
Output: 2-pole terminal block with 13mm spacing

RoHS Compliance

Fully compliant

Warranty

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

ABSOPULSE power supplies are designed and built to customer requirements. The specifications on this data sheet are generic guidelines only and are subject to change OEM of industrial and railway quality DC-DC converters, AC-DC power supplies and battery chargers, DC-AC sine-wave inverters, phase and frequency converters, DC-output UPS systems and complete power systems in 19" and 23" racks since 1982. Custom or standard. ABSOPULSE is a BABT-approved facility.



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