

3000W Rugged, Industrial Quality AC/DC Power Supply HBC 3K-3U3 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 the required output power. The system is built with three 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. Cooling is by two high-quality built-in fans and by conduction via the baseplate which provide sufficient airflow for operation without de-rating to the specified temperature. The fans draw air into the unit. All heat generating components are installed on aluminum heatsink blocks which are thermally connected to the base plate. This also ensures exceptional mechanical ruggedness. Conformal coating provides protection against humidity and airborne contaminants. The input and output are filtered for low noise. Full electronic protection, low component count, large design headroom and the exclusive use of components with established reliability contribute to 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 EN60950-1 and corresponding standards

EMI

EN 55022 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/125A, 36V/83, 48V/62A,
56V/53A, 110V/27A, 125V/24A or
250V/12A
Output is floating, either terminal can be grounded
Other outputs on request

Redundancy Diode

Installed for separation of the internal modules

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
Wider range available on request

Temperature Drift

0.03% per °C over operating temperature range

Cooling

Forced air by two high-quality built-in fans

Environmental Protection

Ruggedizing
Conformal coating
Heavy ruggedizing available on request

Shock/Vibration

IEC61373 Cat 1 A&B

MTBF

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

Indicators

Diagnostic Output ON LED on each internal module visible through the rear perforation.

Control Input

None on standard version
Available on request

Alarm Output

None on standard version
Form C output Fail Alarm on request

Package/Dimensions (H x W x D)

3U3: 132 x 187 x 407 mm (5.2 x 7.4 x 16") including terminal blocks and fans, excluding mounting brackets

Weight

Approx. 6.5kg (14 lb)

Connections

Input: Terminal block
Output: Terminal block or threaded studs

RoHS Compliance

Compliant

Warranty

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

Please note that ABSOPULSE power supplies are designed and built to customer specifications. The specifications on this data sheet are generic and will vary depending on input/output configuration and other customer requirements. Generic specifications are subject to change

Designer and manufacturer of quality converters, inverters, UPS systems, complete rack mount systems and DC-input fluorescent lamp inverters since 1982. Custom or standard. Absopulse is a BABT-approved Facility



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