

# 1000W, Rugged, Conduction/Convection Cooled Industrial Quality Power Supply

## HBL 1K Series



- Rugged industrial design
- Conduction/convection cooling, no fan
- Full electronic protection
- Field-proven design
- Competitive price

This rugged, industrial quality AC/DC power supply utilizes field proven technology to deliver up to 1000W depending on input/output configuration. It has an excellent track record in numerous applications. Cooling is by conduction via base plate to a heat-sinking surface and by natural convection. Full electronic protection, low component count, large design headroom, and the use of components with established reliability result in a high MTBF. Additional ruggedizing and conformal coating are available for applications that require higher immunity to shock, vibration and humidity. The unit is manufactured at our plant under strict quality control. Customized versions and fan-cooled versions with increased output power are also available.

### SPECIFICATIONS

#### Input Voltage

115/230Vac  $\pm 15\%$ ; 47-63Hz  
Voltage selection by internal jumper  
250Vdc (190 – 370V)  
Other voltages on request

#### Input Protection

Inrush current limiting  
Varistor  
Internal safety fuse  
Lower voltage than the specified minimum input will not damage the unit

#### Isolation

2250VDC input to chassis  
4300VDC input to output  
8mm spacing  
500VDC output to chassis

#### Standards

Designed to meet EN 60950 and related standards

#### EMI

Meets EN 55022 Class A as a minimum

#### Switching Frequency

55 KHz +/-3KHz

#### Hold Up Time

Minimum 10ms at full load for 5% drop of output voltage at nominal input

#### Output Voltage/Current

24V/38A, 28V/32V,  
48V/21A, 56V/18A or 125V/8A  
Other outputs on request

#### Redundancy Diode

None  
Available as option on outputs 48V and higher

#### Line/Load Regulation

+/- 1% combined from zero load to full load on both outputs

#### 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% RMS of the output voltage (20MHz BW)

#### Overload Protection

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

#### Output Overvoltage Protection

Double regulator loop

#### Efficiency

Output voltage dependent  
Typically 80% at full load

#### Operating Temperature

0°C to 50°C cold plate temperature for full specification  
Extended temperature range available

#### Temperature Drift

0.03% per °C over operating temperature range

#### Cooling

Conduction via base plate to customer chassis or heatsink and additional natural air convection through cooling slots

#### Environmental Protection

Basic ruggedizing  
Heavy ruggedizing and conformal coating as option

#### MTBF

Min. 160,000 hours @45°C  
Demonstrated MTBF is significantly higher.

#### Indicators

Green Output LED visible through the cooling slots

#### Alarm Outputs

None on standard version  
Available as an option

#### Dimensions (W x H x L)

F6: 210 x 64 x 356 mm;  
(8.3" x 2.5" x 14") including terminals and mounting flanges  
Mounting holes are clear

#### Weight:

3.2 kg (7 lbs)

#### Connections

Barrier-type terminal block, 3/8" spacing

#### RoHS Compliance

Fully compliant

#### Warranty:

Two years subject to application within good engineering practice

#### Terminal Block Pin-out

| OUTPUT |   |   |   |          |     |     |     |     | INPUT    |          |          |     |   |    |
|--------|---|---|---|----------|-----|-----|-----|-----|----------|----------|----------|-----|---|----|
| +      | + | + | + | NOT USED | RTN | RTN | RTN | RTN | NOT USED | NOT USED | NOT USED | GND | N | PH |
| 1      | 2 | 3 | 4 | 5        | 6   | 7   | 8   | 9   | 10       | 11       | 12       | 1   | 2 | 3  |

**Enhancements to these general specifications and customizing can be accommodated upon request. 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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