

500W, Rugged, Industrial Quality AC/DC Power Supply HBC 500-FT Series

- Rugged Industrial quality
- Conduction/convection cooling
- Full electronic protection
- Large design headroom
- Reduced size, F3 enclosure
- Most versions are available from stock



The HBC 500 series is a rugged, industrial quality AC/DC power supply that uses field-proven topology to generate 500W output power. It is a simplified version of the field proven HBC 319 series with the same electrical performance but with fewer available options. The unit has two output terminals "Redundant" via a built-in redundancy diode, and "Non-Redundant" which is direct. Cooling is via base plate to a heat-sinking surface and by natural convection. The unit is rated for 50°C operation without derating. Full electronic protection, low component count, large design headroom, and the use of components with established reliability result in a high MTBF. It is manufactured at our plant under strict quality control. For customized versions with additional options, and for Eurocard plug-in modules, the HBC 319 and HBC 419 series will remain available.

SPECIFICATIONS

Input Voltage

115/230Vac +/- 15%, 47 - 63Hz
Voltage selection by internal jumper
Input also accepts 220V – 370Vdc range

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
1000VDC output to chassis

Standards

Designed to meet EN 60950 and related standards

EMI

EN55022 Class A with margins

Switching Frequency

55 KHz +/-3KHz

Hold Up Time

Minimum 3ms at full load for
5% drop of output voltage at nominal input

Output Voltage/Current

24V/20A, 48V/10A or 125V/4A on the "Redundant" output
Voltage on the "Direct" terminal is one diode drop higher.
Output is floating, either terminal can be grounded.
Consult factory for other voltages

Redundancy Diode

Installed internally on the "Redundant" terminal

Line/Load Regulation

+/- 1% combined from zero load to full load on the "Direct" output

Dynamic Response

Max 5% voltage deviation for 10% to 50% load step, with better than 1msec recovery time

Output Ripple / Noise

Less than 1% of output voltage peak to peak or 0.2% RMS of the output voltage (20MHz BW)

Output Overload Protection

Rectangular current limiting with short-circuit protection (no hiccup)
Thermal shutdown in case of insufficient cooling (self resetting)

Output Overvoltage Protection

Double regulator loop completely stable and independent of main loop

Efficiency

80% - 87% at full load, depending on output voltage

Operating Temperature Range

0°C to 50°C cold plate temperature for full specification without derating
(For extended temperature range see HBC 319 Series)

Temperature Drift

0.03% per °C over operating temperature range

Cooling

Conduction via base plate to customer heatsink or chassis and natural convection

Environmental Protection

Basic ruggedizing
Heavy ruggedizing and conformal coating available as an option

Shock/Vibration

IEC 61373 Cat 1 A&B

Humidity

5 - 95% non-condensing

MTBF

150,000 hours @ 45 °C
Demonstrated MTBF is significantly higher.

Indicators

Green "Output ON" LED visible through the cooling slots

Control Input

None

Alarm Output

Form C contacts

Package/Dimensions (W x H x L)

F3: 132 x 64 x 300 mm
(5.2" x 2.5" x 11.8") including mounting flanges and terminals
Mounting holes are clear

Weight

2 kg (4.4 lb)

Connections

12-pole barrier type terminal block with 3/8" spacing

RoHS Compliance

Fully compliant

Warranty

Two years subject to application within good engineering practice

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