

2000W Rugged, Industrial Quality AC/DC Power Supply HBL 2KF-FT Series

- Rugged industrial quality
- Field-proven design
- Single phase 230Vac input
- Cooling by built-in fans
- Full electronic protection
- N+1 redundancy as option



This rugged, industrial quality AC/DC power supply uses field-proven topology to generate the required output power. It is a mature design with a track record in numerous applications. Cooling is by two long life fans on one side of the unit, with additional conduction via base plate to a heat-sinking surface. An optional built-in redundancy diode allows for paralleling and N+1 operation or back-up battery connected. 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
Other inputs are available on request

Input Protection

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

Input Isolation/Safety

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

Standards

Designed to meet EN60950-1 and corresponding standards

EMI

Meets EN 55022 Class A with margins

Switching Frequency

55kHz ± 3 kHz

Hold Up Time

Minimum 10ms at full load for 5% drop of output voltage @ 230V nominal input

Output Voltages

48Vdc/42A, 56Vdc/36A or 125Vdc/16A
Output is floating, either terminal can be grounded
Other outputs on request

Redundancy Diode

None
Available on customized versions; please verify with factory.

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

Typically 80% at full load depending on input/output combination

Operating Temperature

0°C to 50°C full specification
Extended temperature ranges available with de-rating

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 as option

Shock/Vibration

IEC61373 Cat 1 A&B

MTBF

Min. 160,000 hours @45°C (fan excluded)
Demonstrated MTBF is significantly higher.

Indicators

None

Control Input

None on the standard version

Alarm Output

None on the standard version

Package/Dimensions (W x H x L)

FF6: 237 x 65 x 356 mm (9.3" x 2.6" x 14") including terminal block and flanges
Mounting holes are clear

Weight:

3.6 kg (8 lbs)

Connections

Input: 3-pole barrier type terminal block with 13mm spacing
Output: 12-pole barrier type terminal block with 9.5mm spacing

RoHS Compliance

Fully compliant

Warranty

Two years subject to application within good engineering practice
Contamination related failures and shipping costs excluded.

Terminal Block Pin-Out

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



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