

500W, Rugged, Industrial Quality, Fan Cooled AC-DC Converter HBC 65F-F3W Series



- Rugged industrial quality
- Field-proven design
- Cooling by built-in fans
- Low noise output
- Full electronic protection
- N+1 redundancy as option

This rugged, industrial quality AC-DC power supply uses field proven topology to deliver the required output power. An optional built-in redundancy diode allows for parallel connection to achieve higher output power or N+1 redundancy, and also makes the unit suitable for battery charging applications. Cooling is by high quality built-in fans which draw air into the unit, and by conduction via the baseplate. 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. 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

115/230Vac ±15%
Voltage selection by internal jumper
or 300Vdc ±15%
47 - 63Hz
Other inputs are available 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 EN60950-1
and related standards

EMI

EN 55022 Class A with margins

Switching Frequency

55kHz ±3kHz

Hold Up Time

Min. 5ms at any input for 5%
drop in output voltage

Output Voltage

12Vdc/40A, 24Vdc/20A,
48Vdc/10A or 125Vdc/4A
Output is floating; either
terminal can be grounded
Other outputs on request

Redundancy diode

Available as an option

Line/Load Regulation

± 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%
peak- to-peak of the output
voltage (20MHz BW)

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

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
Conformal coating

Shock/Vibration

IEC 61373 Cat 1 A&B

Humidity

5 - 95% non-condensing

MTBF

130,000 hours @ 45 °C
(fans excluded)
Demonstrated MTBF is
significantly higher.

Indicators

None on standard version
Available as option

Control Input

None on standard version
Available as option

Alarm Outputs

None on standard version
Available as option

Package/ Dimensions (W x H x L)

F3W: 157 x 65 x 295 mm
(6.2" x 2.5" x 11.6") including
terminal block and flanges
Mounting holes are clear.

Weight

2.3kg (5 lbs)

Connections

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

RoHS Compliance

Compliant

Warranty:

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

Terminal Block Pin-out

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

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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