

1000W, Rugged, Industrial Quality, AC-DC Power Supply with PFC-input PFH 65F-F3W and PFH 65F-F3TF Series

- Fixed frequency power factor correction (PFC)
- Rugged industrial quality
- Cooling by internal fans
- Single phase input
- Full electronic protection
- N+1 redundancy available as option



F3W chassis



F3TF chassis

This rugged, industrial quality AC-DC power supply with PFC input uses field proven PFQ 65 topology to deliver the required output power. The units are available in two mechanical formats. The F3W chassis is cooled by two long-life built-in fans on one side of the unit, with additional conduction via base plate to a heat-sinking surface. Alternatively, the F3TF version is cooled entirely by two long-life fans on the top of the unit; no additional cooling is required. This version is raised above the installation surface, which allows for mounting on uneven or thermally non-conductive surfaces. 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. 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

95-264Vac, 47... 63Hz
Input current 13A max at 95V
Power Factor is better than 0.97 at full load for the entire input range.
Meets EN61000-3-2

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
1300VDC output to chassis

Standards

Designed to meet EN60950-1 and related UL/CSA standards

EMI

EN 55022 Class A with margins

Switching Frequency

Input Stage: 80kHz ± 5kHz
Output Stage: 55kHz ± 3kHz

Hold Up Time

Min. 5ms at nominal input for 5% drop of the output voltage at any input

Output Voltage/Current

24Vdc/40A, 48Vdc/20A, 110Vdc/9A or 125Vdc/8A
Output is floating; either terminal can be grounded
Other outputs available on request

Redundancy Diode

Not installed
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 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 (no hiccup)
Thermal shutdown in case of insufficient cooling (self-resetting)

Output Overvoltage Protection

Second regulator loop completely stable and independent of the main 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

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

Humidity

5-95% non-condensing

MTBF

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

Indicators

None

Control Input

None

Alarm Output

None
Form C output Fail Alarm as option

Package/ Dimensions (W x H x L)

F3TF chassis - fans on top of unit
132 x 100 x 300 mm (5.2" x 3.9" x 11.8") or
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

DC OUTPUT						ALARM (OPTION)			AC INPUT		
NOT USED	NOT USED	+	+	-	-	FAIL OPEN	COM	FAIL CLOSED	GND	N	PH
1	2	3	4	5	6	7	8	9	10	11	12



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