

# 1000W, Rugged, Industrial Quality, Conduction/convection Cooled AC/DC Power Supply with PFC-input PFL 1K – XXF44T Series

- Electronic power factor correction (PFC)
- Rugged industrial quality
- Field-proven internal modules
- Conduction/convection cooling, no fans
- Single phase input
- Full electronic protection
- N+1 redundancy



This rugged, industrial quality AC/DC power supply with PFC input delivers up to 1000W output power. It is built with two field proven PFC 319 internal modules, which have a track record in numerous heavy-duty applications. This modular construction provides inherent redundancy; the failure of one internal module would result in a 50% drop in output power while the unit remains functional at half power. This design can also be used as a 500W redundant power supply. Several units can be paralleled for higher output power. The unit has no internal fans, and is cooled 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. The unit is manufactured at our plant under strict quality control.

## SPECIFICATIONS

### Input Voltage

95-264Vac, 47... 63Hz  
Input Current: 13A rms 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  
500VDC output to chassis

### Standards

Designed to meet EN 60950 and related standards

### EMI

EN 55022 Class A with margins

### Switching Frequency

50 –150kHz (load dependent)  
on input section  
55kHz ± 3kHz on output section

### Output Voltage/Current

24Vdc/40A 1000W continuous  
Output is floating; either terminal can be grounded  
48V/20A or 125V/8A are also available  
Other outputs also on request

### Redundancy Diode

Installed on each internal module for separation and redundancy

### Line/Load Regulation

+/- 1% combined from zero load to full load including built-in redundancy diode

### 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)  
Current Limit: 43A ± 2A

### Output Overvoltage Protection

Double regulator loop  
OVP setting: 31V ± 2V

### 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

### Shock/Vibration

IEC 61373 Cat 1 A&B

### Humidity

5-95% non-condensing

### MTBF

140,000 hours @45°C per internal module  
Demonstrated MTBF is significantly higher.

### Indicators

Green "Output ON" LED visible on each internal module through the cooling slots

### Control Input

None

### Alarm Output

None installed  
Available as option

### Package / Dimensions (WxHxL)

F44T: 267 x 64 x 353mm  
(10.5" x 2.5" x 13.9")  
Mounting holes are clear

### Weight

4.5kg (10 lbs)

### Connections

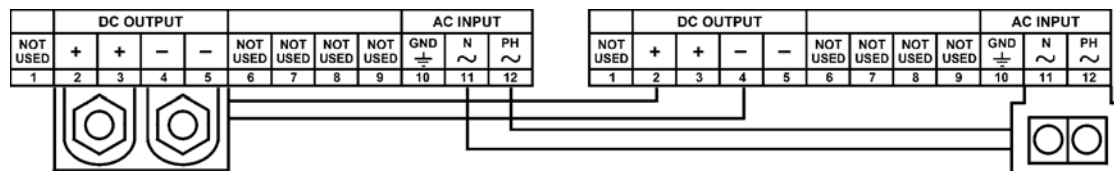
Input: Terminal block with 13mm spacing  
Output: Threaded studs

### RoHS Compliance

Fully compliant

### Warranty

Two years subject to application within good engineering practice



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