

## Rack-mount Power System with 1500W Plug-in Modules and PFC-input PFC 415F Modules

- Rugged industrial quality
- Electronic power factor correction (PFC)
- Up to 75000W per 19" shelf
- Up to 1500W per plug-in module
- Full electronic protection
- Fan cooling
- Field-proven design topology
- Hot swappable, N+1 redundant



The PFC 415F is a modular industrial quality AC/DC power supply system with power factor corrected input. The system can be built with up to five, 1500W plug-in modules assembled in a 4U x 19" card-frame. It delivers a maximum of 7500W or 6000W with N+1 redundancy. Standard outputs available for each module are 24V/60A and 48V/30A. The hot-insertable modules have built-in redundancy diodes, a feature which makes the unit suitable for battery charging. Fan-cooling provides sufficient airflow for operation without de-rating up to 50°C ambient temperature. Suitable for a wide range of applications, the PFC 415F features full electronic protection, high efficiency and low output noise. Robust construction ensures that the power supply withstands high levels of vibration and shock. The use of components with established reliability results in a high demonstrated MTBF. The PFC 415F is manufactured at our plant under strict quality control.

### GENERIC SYSTEM SPECIFICATIONS

#### Input Voltage

Universal 95 ... 264VAC  
47 – 63Hz  
Consult factory for other inputs

#### Power Factor

Min. 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 corresponding UL and CSA standards

#### EMI

EN55022 Class A minimum

#### Hold Up Time

Min. 10ms at any input for 5% drop in the output voltage

#### Switching Frequency

50-150KHz Boost section  
(dependent on the load)  
55 KHz +/-3KHz for the DC/DC  
(half-bridge) section

#### Output Voltage/Current (per plug-in module)

24V/60A and 48V/30A are standard  
Consult factory for other voltages

#### Redundancy Diode

Installed on each plug-in module

#### 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

Less than 1% 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 Over-voltage Protection

Second regulator loop.

#### Efficiency

Output voltage dependent .  
Typically 80% at full load

#### Operating Temperature Range

0 to +50°C for full specification,  
Extended temperature range available

#### Temperature Drift

0.03% per °C over operating temperature range

#### Cooling

Forced air by internal fans

#### Environmental Protection

Basic ruggedizing  
Ruggedizing and conformal coating as option

#### MTBF

135,000 hours @ 45°C  
(fans excluded) for each plug-in module  
Demonstrated MTBF is significantly higher.

#### Indicators

Green "Output ON" LED on the front panel of each plug-in module

#### Alarm Output

Module Fail Alarm  
Opto-coupler on the plug-in module (C-E opens on alarm)  
Form C on the shelf

#### Package / Dimensions

Plug-in module:  
4U x 16HP x 18"  
Shelf:  
4U x 19" x 21"

#### Connections

H15 Connector on plug-in module  
Terminal blocks on the shelf

#### RoHS Compliance

Fully compliant

#### Warranty

Two years subject to application within good engineering practice

**Enhancements to these general specifications can be accommodated upon request. 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 BAPT-approved Facility*



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