

Rack-mount Power System with 1000W Plug-in Modules and PFC-input PFC 410F Modules

- Rugged industrial quality
- Electronic power factor correction (PFC)
- Up to 5000W per 19" shelf
- Up to 1000W per plug-in module
- Full electronic protection
- Fan cooling
- Field-proven design topology
- Hot swappable, N+1 redundant



The PFC 410F is a modular industrial quality AC/DC power supply system with power factor corrected input. The system can be built with up to five, 1000W plug-in modules assembled in a 4U x 19" card-frame. It delivers a maximum of 5000W or 4000W with N+1 redundancy. Standard outputs available for each module are 24V/41A or 48V/20A. 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 410F 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 410F 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 as 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/41A or 48V/20A 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 BABT-approved Facility



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