5kW Rugged, Industrial Quality Rack-mount AC-DC Power System with 1kW Plug-in Modules
PFC 419F-5K-4U19 Series

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

PFC 419F-EH plug-in module (1kW)
4U x 16HP x 304mm

Fully loaded PFC 419F-5K-4U19 system
4U x 19" x 15"

This is a modular, industrial quality AC-DC power supply system with power factor corrected input. It can be built with up to five 1kW PFC 419F-EH plug-in power supply modules assembled in a 4U x 19" card-frame, delivering a maximum of 5000W or 4000W with N+1 redundancy. Each hot-insertable module has a built-in redundancy diode which allows for parallel connection and N+1 redundant operation. This feature also makes the system suitable for battery charging. This mature design has large design headroom and is rated for operation over the specified temperature range without de-rating. Each plug-in module is cooled by two high quality built-in fans. Full electronic protection and the use of components with established reliability results in a high demonstrated MTBF confirmed by a track record in numerous applications. The system is manufactured at our plant under strict quality control.

SPECIFICATIONS

Input Voltage
95-264Vac (Universal) 47… 63Hz
Input Current: 14Arms max. per plug in module
Power Factor is better than 0.97 at full load for the entire input range.
Meets EN61000-3-2

Input Protection
On each plug-in module:
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
1000VDC output to chassis

Standards
Designed to meet EN60950-1 and related standards.

EMI
EN 55032 Class A with margins

Switching Frequency
See plug-in module data sheet

Hold-Up Time
Minimum 5ms at full load for 5% drop of output voltage at nominal input

Output Voltage/Current
24Vdc/41A, 48Vdc/20A,
110V/9A or 125V/8A per module with convection cooling
Max output 1000W per module
Max output 5000W per shelf
Consult factory for other outputs

Redundancy Diode
Installed on each plug-in module
Hot insertion allowed

Line/Load Regulation
±1.5% combined from zero load to full load including 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 (constant current)
Thermal shutdown on each module in case of insufficient cooling (self resetting)

Output Overvoltage Protection
Each plug in module has over voltage protection

Efficiency
Output voltage dependent
Typically 80% at full load

Operating Temperature
0°C to 50°C for full specification
Extended temperature range available on request

Temperature Drift
0.03% per °C over operating temperature range

Cooling
Each plug-in module has two high quality built in fans

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
115,000 hours @45°C per plug in module.
Demonstrated MTBF is significantly higher.
Fans are not included.

Indicators
On front panel of each module:
Green "Output ON" LED connected before redundancy diode

Controls
None
Options available

Alarm Output
Form C Module fail alarm on the shelf. Optocoupler alarm on the module

Package/Dimensions (W x H x D)
4U x 19" x 15" (shelf) including connections
4U x 16HP x 304mm (PCB) (plug- in modules)

Weight
Fully loaded shelf with 5 modules: 19.5kg, 43 lb
Plug-in module: 2.8 kg, 6 lb

Connections:
1/4"-20 studs for input and output
H15 DIN connector on modules

RoHS Compliance
Compliant

Warranty
Two years subject to application within good engineering practice

Enhancements to these general specifications and customizing 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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Made in Canada