

4.5kW Rugged, Industrial Quality Rack-mount AC/DC Power System with 1.5kW Hot-replaceable Slide-in Modules PFC 4K5-CR3U/19-3 Series

- Active power factor correction (PFC)
- Rugged industrial quality
- Up to 4500W per 19" shelf
- Full electronic protection
- Fan cooling
- Field-proven design
- Hot replaceable, N+1 redundant



PFC 1K5 module in M5512 chassis

3U x 19" stainless steel cradle with 3 x PFC 1K5 modules

This modular, industrial quality AC/DC power supply system with active power factor corrected input is built with three 1500W, PFC 1K5 power supply modules assembled on a 3U x 19" stainless steel cradle (CR 3U/19-3). For cost-reduction, the cradle has no motherboard, but each PFC 1K5 unit is equipped with connectors which allow hot replacement. A built-in redundancy diode in each module allows for parallel connection and N+1 redundant operation. The system delivers a maximum of 4500W or 3000W with N+1 redundancy. The PFC 1K5 modules are based on field-proven topology. They have large design headroom and are rated for operation over the specified temperature range without de-rating. Each module is cooled by a high quality built-in fan. 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 per PFC1K5 Module

95-264Vac (Universal) 47... 63Hz
Input Current: 18Arms max.
Power Factor is meets EN61000-3-2 and EN61000-3-12

Input Protection

On each 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

EN55032 Class A with margins

Hold-Up Time

Minimum 10ms at full load for 5% drop of output voltage at nominal input

Switching Frequency per Module

80kHz input section
55kHz output section

Output Voltage/Current per Module

48V/30A, 54V/27A, 110V/13A or 125Vdc/12A per module with fan cooling

Output is floating, either terminal can be grounded
Max output 1500W per module
Max output 4500W per shelf
Consult factory for other outputs

Redundancy Diode

Installed on each module
Hot insertion allowed

Line/Load Regulation

±2% 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 (no hiccup)
Thermal shutdown on each module in case of insufficient cooling (self-resetting)

Output Overvoltage Protection

Second regulator loop, completely stable and independent of main regulator loop

Efficiency

Output voltage dependent
Typically 87% 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 module has one high quality built in fan

Environmental Protection

Ruggedizing
Conformal coating

Shock/Vibration

IEC 61373 Cat 1 A&B

Humidity

5-95% non-condensing

MTBF

120,000 hours @45°C per module.
Demonstrated MTBF is significantly higher.
Fans are not included.

Indicators

Diagnostic Output ON LED installed on each internal module visible through the rear cooling slots

Controls

None. Options available

Alarm Output

Module fail alarm Form C on each module

Package/Dimensions (H x W x D)

Stainless steel rack-mount cradle, CR 3U/19-3: 3U x 19" x 12.4"
PFC 1K5W modules in M5512 chassis 127 x 127 x 329 mm (5" x 5" x 12.96")

Weight

3U system with 3x M5512 modules: 20kg (44 lbs) approx.

Connections

Input: 6-pole Mate-N-Lok
Output: 9-pole Mate-N-Lok
Alarm: 4-pole Mate-N-Lok
Or other suitable connectors

RoHS Compliance

Compliant

Warranty

Two years subject to application within good engineering practice
Contamination related failures and shipping costs excluded.

Enhancements to these general specifications and customizing can be accommodated upon request. Specifications are subject to change.

OEM of industrial & railway quality AC/DC power supplies and battery chargers, DC/DC converters, DC-AC sine-wave inverters, phase and frequency converters, DC-output UPS systems and complete power systems in 19" & 23" racks since 1982. Custom or standard. ABSOPULSE is a BABT-approved facility



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