

# PFC4K5-3U SERIES

## AC/DC Rack Mount Power Supplies: 4500 Watts

### Features

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



PFC 1K5 module: 5 x 5 x 12"  
(depth excludes connector)



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

### Description

This modular, industrial quality AC/DC power supply system with power factor corrected input is built with three 1500W, PFC 1K5 power supply modules assembled on a 3U x 19" stainless steel cradle (CR3U-3XU5512). The PFC 1K5 units are equipped with connectors which allow hot pluggability. 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 headrooms 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.

### General Specifications

#### Input Voltage per PFC1K5 Module

95-264Vac (Universal) 47... 63Hz  
Input Current: 18Arms max.  
Power Factor is better than 0.97 at full load for the entire input range.  
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  
500VDC output to chassis

#### Standards

Designed to meet EN60950-1 and related standards.

#### EMI

EN 55022 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

100kHz input section  
55kHz output section

#### Output Voltage/Current per Module

13.8V / 100A  
24V/60A, 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 plug-in 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 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 module has one high quality built in fan

#### 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

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

#### Indicators

Diagnostic Output ON LED 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:  
3U x 19" x 18.1"  
PFC 1K5 modules in U5512 chassis:  
127 x 127 x 460mm  
(5.0" x 5.0" x 18.1") including Anderson SB175A connectors

#### Weight

3U system with 3x PFC1K5 modules:  
20kg (44 lbs)

#### Connections

Input: IEC receptacle  
Output: Anderson Connector SB175A  
Alarm: Phoenix MSTBA 2.5/3-G on each module

# CR3U-3XU5512 SERIES

3U x 19in Tray for 5x5in Power Supplies



3U x 19" stainless steel cradle with  
3 x PFC 1K5 modules (U5512 chassis - 5 x 5 x 12")

## Product description

The CR 3U-3XU5512 cradle (tray) is designed to fit into a standard 3RU x 19" rack. It is made of high quality stainless steel to ensure its rigidity under the weight of the modules. Plastic side guards and Lexan® bottom protectors allow for easy insertion of Amtex standard PFC1K5 ( 1.5KW ) modules. The U5512 stand-alone modules each measure 5" x 5" x 12.5" and are fitted with matching stainless steel front panels.

## Material

Stainless steel

## Weight of CR3U-3XU5512 steel tray:

(not including plug-in modules)

4.3 kg (9.5lbs)

