

5000W, Rugged, Industrial Quality AC-DC Power Supply with 3-phase Active PFC-Input PFH 5K-A3P/XX-3U7



- Active power factor correction (PFC)
- 3-Phase input, 3 wire connection
- Rugged, industrial quality
- Field-proven design topology
- Full electronic protection
- Modular internal redundancy

This rugged, industrial quality AC-DC power supply with active power factor corrected input utilizes field proven technology to generate the required output power. The system is built with six PFH 65 internal modules, which are connected parallel via internal redundancy diodes. This modular construction also provides inherent redundancy; the failure of one internal module only causes a reduction in output power while the system remains operational. The input and output are filtered for low noise. High quality built-in fans provide sufficient airflow for operation within the specified temperature range without de-rating. The fans draw air into the unit, and exhaust at the terminal side of the unit. All heat generating components are installed on aluminum heatsink blocks which are thermally connected to the base plate. This also ensures exceptional mechanical ruggedness. Conformal coating provides protection against humidity and airborne contaminants. Full electronic protection, low component count, large design headroom, and the exclusive use of components with established reliability contribute to a high MTBF. The unit is manufactured at our plant under strict quality control. Several units can be connected parallel for higher output power.

SPECIFICATIONS

Input Voltage

208Vac, 3-phase, 47-63Hz
197-264Vac operating range
Input current: 18Arms per phase
Power Factor is better than 0.97 at full load for the entire input range.
Power factor meets EN61000-3-2 and EN61000-3-12
(400Vac, 3-phase input also available in different series).

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
Output to chassis: according to output voltage

Standards

Designed to meet EN60950-1 and related standards

EMI

EN55032 Class A with margins

Switching Frequency

Input Stage 80kHz \pm 5kHz
Output Stage: 55kHz \pm 3kHz

Output Voltage/Current

Any voltage 24V 400Vdc
5000W continuous output
The output is floating
Other outputs on request

Redundancy Diode

Installed internally for separation of the internal modules

Line/Load Regulation

\pm 1% combined from zero load to full load including redundancy diodes

Dynamic Response

Max 5% voltage deviation for 10% to 50% load step, with better than 1msec recovery time

Output Ripple/Noise

Better than 0.2% rms or 2% peak-to-peak of output voltage (20MHz BW)

Output Overload Protection

Rectangular current limiting with short-circuit protection
Thermal shutdown with automatic reset in case of insufficient airflow (self-resetting)

Output Overvoltage Protection

Second regulator loop completely stable and independent of main regulator loop

Efficiency

Depends on input/output configuration.
Min. 84% at full load

Operating Temperature Range

0°C to 50°C for full specification without derating
Extended temperature range available

Temperature Drift

0.03% per °C over operating temperature range

Cooling

By high quality built-in fans

Environmental Protection

Basic ruggedizing
Conformal coating

Shock/Vibration

IEC 61373 Cat 1 A&B

Humidity

5 - 95% non-condensing

MTBF

140,000 hours @ 45°C per internal power card (fans excluded)
Demonstrated MTBF is significantly higher

Indicators

Green "Output ON" LED on each internal module visible through the cooling slots

Control Input

None

Alarm Output

Not installed
Available on request

Package/Dimensions H x W x D

3U7/19: 19" rack mount
132 x 483 x 407mm
(3U) 5.2" x 19" x 16")

3U7 chassis-mount

132 x 432 x 407 mm
(3U) 5.2" x 17" x 16"
(includes terminals)

Weight

14 kg (30 lbs)

Connections

Input: Terminal block 5-pole with 1/2" spacing
Output: Terminal block suitable for output configuration

RoHS Compliance

Compliant

Warranty

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

The specifications on this data sheet are generic and are subject to change. Enhancements to these specifications can be provided upon request.

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