

# 5000W, 400Vac, 3-phase Input, Rugged, Industrial Quality, AC-DC Power Supply with Active PFC-input PFHI 5K-3U7



- Active power factor correction (PFC)
- High input voltage
- 3-Phase input, 3 wire connection
- Rugged industrial quality
- Cooling by high quality internal fans
- Full electronic protection

This rugged, industrial quality, high input voltage 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 three PFH1700 and three KHI1700 internal power cards. 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

400Vac, 3-phase, 47-63Hz  
340-460Vac operating range  
Input current: 10Arms 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

### 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  
5600Vdc type testing  
Output to chassis: according to output voltage

### Standards

Designed to meet EN62368-1 and related standards

### EMI

EN55032 Class A with margins

### Switching Frequency

55kHz  $\pm$ 3kHz

### Output Voltage/Current

Any fixed voltage 300V... 600Vdc  
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)

### 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

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

Forced air by high quality built-in fans.  
Fans draw air into the unit

### Environmental Protection

Basic ruggedizing  
Conformal coating  
Heavy ruggedizing available as an option

### Shock/Vibration

IEC 61373 Cat 1 A&B

### Humidity

5-95% non-condensing

### MTBF

140,000 hours @45°C (fan excluded)  
Demonstrated MTBF is significantly higher

### Indicators

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

### Control Input

None on standard version  
Available as option

### Alarm Output

Not installed on standard version  
Available as option

### Package/Dimensions H x W x D

**3U7 chassis-mount**  
132 x 432 x 382 mm  
5.2" x 17" x 15"

Excludes connectors, mounting brackets, fans

### 3U7/19: 19" rack mount

132 x 483 x 382 mm  
(3U) 5.2" x 19" x 15")

Excludes connectors, mounting brackets, fans

### Weight

14 kg, 31 lb.

### Connections

Input: Terminal block with 3/8" 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 costs excluded.

ABSOPULSE power supplies are designed and built to customer requirements. The specifications on this data sheet are generic guidelines only and are subject to change.

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



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