

## 400Vac Input, Rugged, Industrial Quality 3kW Power Supply with PFC-Input PHI 3K-3U3 Series

- Electronic power factor correction (PFC)
- Wide AC-input voltage range
- Rugged, industrial quality Field-proven design
- Adjustable single output
- Full electronic protection
- N+1 redundancy



This rugged, industrial quality AC-DC power supply with PFC input delivers up to 3kW output power. It utilizes a field proven modular design concept with a track record in numerous heavy-duty applications. The unit is built with internal power modules, a PHI 3000 and two KHH 1502. A built-in redundancy diode separates the internal modules and also allows for a number of units to be connected in parallel to achieve higher output power, N+1 redundancy or to create a 3-phase high power system. The output redundancy diode also makes the unit suitable for battery charging applications. Built-in fans provide sufficient airflow for operation to the specified temperature without de-rating. Full electronic protection, low component count, large design headroom and the use of components with established reliability result in a high MTBF. The unit is manufactured at our plant under strict quality control.

### SPECIFICATIONS

#### Input Voltage

400Vac nominal  
340 - 480Vac operating range  
47-63Hz  
Input current: 11Arms max  
Power Factor is min.0.97 at full load for the entire input range.  
Meets EN61000-3-2

#### 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  
5600V type test  
8mm spacing  
2250Vdc output to chassis

#### Standards

Designed to meet EN60950-1 and related standards

#### EMI

EN55032 Class A

#### Switching Frequency

50kHz  $\pm$  150kHz PFC stage  
55kHz  $\pm$  5kHz Output stage

#### Output Voltage/Current

200Vdc/15A or 400Vdc/7A continuous  
Output is floating; either terminal can be grounded  
Consult factory for other voltages

#### Redundancy Diode

Installed internally

#### Line/Load Regulation

$\pm$ 1% 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

Less than 1% peak-to-peak or 0.2% RMS of the output voltage (20MHz BW)

#### Output Overload Protection

Rectangular current limiting with short-circuit protection (no hiccup)  
Thermal shutdown in case of insufficient cooling (self resetting)

#### Output Over-voltage Protection

Second regulator loop completely stable and independent of the main regulator loop.

#### Efficiency

Better than 80% at full load, depending on output voltage

#### Operating Temperature Range

0 to +50°C for full specification with proper cooling  
Extended temp. range available

#### Temperature Drift

0.03% per °C over operating temperature range

#### Cooling

By two built-in high quality fans

#### Environmental Protection

Basic ruggedizing and conformal coating  
Heavy ruggedizing available as option

#### Shock/Vibration

IEC 61373 Cat 1 A&B

#### Humidity

5 - 95% non-condensing

#### MTBF

90,000 hours @ 45°C (fans excluded)  
Demonstrated MTBF is significantly higher.

#### Indicators

None

#### Control Input

None  
Available as option

#### Alarm Output

Not installed  
Available as option

#### Package / Dimensions

3U3: 187 x 132 x 407mm (7.4" x 5.2" x 16") including terminal blocks and fans, excluding mounting brackets

#### Weight

Approx. 7kg (15 lbs)

#### Connections

Input: Terminal block  
Output: Terminal block

#### RoHS Compliance

Fully compliant

#### Warranty

Two years subject to application within good engineering practice

Please note that ABSOPULSE inverters are designed and built to customer specifications. The specifications on this data sheet are generic and will vary depending on input/output configuration and other customer requirements. Generic 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*



#### ABSOPULSE ELECTRONICS LTD

110 Walgreen Road, Ottawa, Ontario, K0A 1L0, CANADA  
Tel: +1-613-836-3511 | Fax: +1-613-836-7488

E-mail: [absopulse@absopulse.com](mailto:absopulse@absopulse.com) | <http://www.absopulse.com>