1500W Rugged, Industrial Quality AC-DC Power Supply with PFC-Input
PFC 1K5-U5512L Series

- Electronic power factor correction (PFC)
- Rugged industrial quality
- Full electronic protection
- Cooling by internal fan
- Field-proven design
- N+1 redundancy as an option

This rugged, industrial quality power converter utilizes field proven technology to generate the required output power. It is a mature design with a track record in numerous applications. The unit is built with field proven internal modules. An optional built-in redundancy diode in each module allows for parallel connection and N+1 redundant operation. 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. 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.

SPECIFICATIONS

Input Voltage
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
Inrush current limiting
Varistor
Internal safety fuse
Lower voltage than the specified min. input will not damage the unit

Isolation
2250VDC input to chassis
4300VDC input to output; 8mm spacing
Min. 500VDC output to chassis corresponding to output voltage

Standards
Designed to meet EN60950-1 and related standards

EMI
EN55032 Class A with margins

Switching Frequency
100kHz PFC input section
55kHz ±3kHz output section

Hold Up Time
Min. 10ms at any input for 5% drop in the output voltage

Output Voltage/Current
12Vdc/100A, 24Vdc/60A, 28Vdc/53A, 48Vdc/30A, 54Vdc/27A or 125Vdc/12A
Output is floating, either terminal can be grounded
Maximum output power 1500W
Other outputs available on request

Redundancy Diode
None. Available on request
Not available for 12V version

Line/Load Regulation
±1% combined from zero load to full load

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
80% - 84% at full load, depending on output voltage

Operating Temperature Range
0°C to +50°C for full specification with proper cooling
Extended temperature ranges available on request

Temperature Drift
0.03% per °C over operating temperature range

Cooling
Forced air by high quality built-in fan and conduction to customer heat-sink or chassis

Environmental Protection
Basic ruggedizing
Heavy ruggedizing and conformal coating available on request

Shock/Vibration
IEC 61373 Cat 1 A&B

Humidity
5 - 95% non-condensing

MTBF
120,000 hours @ 45 °C
Demonstrated MTBF is significantly higher.
Fans excluded

Indicators
Diagnostic Green high intensity Output ON LED visible through the rear cooling slots

Control Input
None

Alarm Output
None
Available on request

Package/Dimensions (W x H x D)
U5512L: 127 x 127 x 305 mm (5” x 5” x 12”) excluding terminal blocks, L-brackets or fan cover

Weight
5.2 kg (11.5 lbs)

Connections
Input: 2-pole terminal block 1/2” spacing
Output: Terminal block with 1/2” spacing

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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