

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 high-quality built-in fan
- Field-proven design
- N+1 redundancy as an option

This rugged, industrial quality AC-DC power supply with PFC input 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 EN 61000-3-2 and EN 61000-3-12

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 corresponds to output voltage

Standards

Designed to meet EN 62368-1 and related standards

EMI

EN 55032 Class A with margins

Switching Frequency

100kHz PFC input section
55kHz $\pm$ 3kHz output section

Hold Up Time

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

Output Voltage/Current

12Vdc, 24Vdc, 28Vdc, 48Vdc, 54Vdc or 125Vdc
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

$\pm$ 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
Conformal coating

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". Dimensions exclude terminals and fans
Four L- brackets for mounting with M5 x 10mm screws

Weight

5.2 kg (11.5 lbs)

Connections

Terminal block for input and output
M6 stud for chassis GND

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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