

2000W, Rugged, Industrial Quality DC-DC Converter BAP 2K-U5512L Series



- Rugged industrial quality
- Full electronic protection
- Cooling by high quality internal fan
- Field-proven design

This rugged, industrial quality DC-DC converter uses a field proven technology to generate the required output power. It is a mature design with a track record in numerous applications. The system is built with two BAP 65F internal modules that are connected in parallel via redundancy diodes. The input and output are filtered for low noise. A high quality built-in fan provides sufficient airflow for operation within the specified temperature range without de-rating. The fan draws 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. Options include a Form C output fail alarm and remote shutdown. 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

48Vdc (42-60V)
125Vdc (105-145V)
24Vdc (21-30V) input with derating to 1500W
Other inputs on request

Input Protection

Inrush current limiting
Varistor
Reverse polarity protection
Internal safety fuse
Lower voltage than the specified minimum input will not damage the unit

Input Isolation

Depends on the required input/output combination
At a minimum:
1000VDC input to chassis,
1500VDC input to output,
500VDC output to chassis

Standards

Designed to meet EN60950-1 and related UL & CSA standards

EMI

EN 55032 Class A with margins

Switching Frequency

55kHz \pm 3kHz

Output Voltage

48V/30A, 72V/20A,
96V/15A or 125V/12A
2000W continuous output power;
12V/120A, 36V/40A or 24V/60A
1500W continuous output power
Output is floating, either terminal can be grounded
Other outputs on request

Redundancy diode

Installed internally

Line/Load Regulation

\pm 1% combined from 10% load to full load including output diode

Dynamic Response

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

Output Ripple/Noise

Better than 1% of output voltage peak to peak or 0.2% rms of the output voltage (20MHz BW)

Overload Protection

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

Output Overvoltage Protection

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

Efficiency

Typically 85% at full load depending on input/output combination

Operating Temperature

0°C to +50°C for full specification
Extended temperature range available

Temperature Drift

0.03% per °C over operating temperature range

Cooling

Forced air by two built-in fans and conduction to customer heatsink or chassis

Environmental Protection

Basic ruggedizing
Conformal coating

Shock/Vibration

IEC 61373 Cat 1 A&B

Humidity

5 - 95% non-condensing

MTBF

110,000 hours @ 45°C (fans not included)
Demonstrated MTBF is significantly higher.

Indicators

Diagnostic "Output ON" LED on each internal module, visible through the rear perforation.

Control Input

Optional

Alarm Outputs

None on standard version
Output Fail Alarm (Form C) as option

Package/Dimensions (W x H x L)

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: Terminal block
Output: Terminal block

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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