

1500W, Rugged, Industrial Quality DC/DC Converter BAP 1K5 Series

- Rugged industrial quality
- Field-proven design in a wide range of applications
- Low noise output
- Fan cooling
- Full electronic protection
- Modular

**U5512
Chassis**



**3U3
Chassis**



Mechanical size depends on input/output configuration, and other requirements.

This rugged, industrial quality DC/DC converter uses a field proven technology to generate up to 1500W, depending on input/output combination. It is a mature design with a track record in numerous applications. The unit is built with internal modules. Built-in fans provide sufficient airflow for operation without de-rating to the specified temperature. Full electronic protection eliminates failure due to abnormal operational conditions, including application errors. The input and output are filtered for low noise. Low component count, large design headroom, and the use of components with established reliability result in a high MTBF. Options include a Form C output fail alarm and remote shutdown. Additional ruggedizing and conformal coating are available for applications that require high immunity to shock, vibration and humidity. The unit is manufactured at our plant under strict quality control.

SPECIFICATIONS

Input Voltage

24Vdc (21-30V)
48Vdc (42-60V)
125Vd (105-145V)
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 minimum:
1000VDC input to chassis,
1500VDC input to output,
500VDC output to chassis

Standards

Designed to meet EN60950 and related UL & CSA standards

EMI

EN 55022 Class A as minimum

Switching Frequency

55kHz +/- 3kHz

Output Voltage

12V/120A, 24V/60A, 36V/40A,
48V/30A, 72V/20A, 96V/15A or
125V/12A are standard
Output is floating, either terminal can be grounded
Other outputs on request

Redundancy diode

Optional

Line/Load Regulation

+/- 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
Optional heavy ruggedizing and conformal coating is available

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)

Most versions are in U5512:
127 x 127 x 316 mm (5" x 5" x 12.5") including mounting flanges, terminals
Complex version is 3U3:
187 x 132 x 407 mm (7.4 x 5.2 x 16") including terminals, excluding flanges

Weight

U5512 or 3U2: 5.2 kg (11.5 lb.)
3U3: 7 kg (15 lb.)

Connections

Depends on input/output combination

RoHS Compliance

Fully compliant

Warranty

Two years subject to application within good engineering practice
Contamination related failures not covered.



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