2500W, Rugged DC-DC Converter for Heavy-duty Industrial Applications
BAP 2K5-3U3 & BAP 2K5-3U4 Series

- Rugged industrial quality
- Field-proven design
- Regulated and adjustable output
- Cooling by high quality internal fans
- Full electronic protection
- Modular construction

3U4 chassis

3U3 chassis

Chassis depends on required input/output configuration

This rugged, industrial quality DC-DC power converter uses 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 internal modules, which are connected parallel via redundancy diodes. This modular construction also provides inherent redundancy; the failure of one internal module only causes a drop in output power while the unit remains operational. 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. This also ensures exceptional mechanical ruggedness. 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
24Vdc (21-30V)
48Vdc (42-60V)
125Vd (105-145V)
Other inputs on request
(12Vdc input with reduced power)
Consult factory for other voltages

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

Isolation
According to input voltage minimum of:
1000Vdc input to chassis,
1500Vdc input to output,
500Vdc output to chassis

Standards
Designed to meet EN62368-1 and related standards

EMI
EN55032 Class A as a minimum

Switching Frequency
80KHz ±3KHz

Output Voltages
24V/104A, 36V/69A, 48V/52A,
72V/34A, 96V/26A or 125V/20A
2500W continuous output power
Output is floating; either terminal can be grounded
Consult factory for other voltages

Redundancy diode
Not installed
Available as option

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% V rms (20MHz BW)

Output Overload Protection
Rectangular current limiting with short-circuit protection (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 Range
0°C to 50°C for full specification
Extended temperature ranges available

Temperature Drift
0.03% per °C over operating temperature range

Cooling
Forced air by two high-quality built-in fans

Environmental Protection
Ruggedizing
Conformal coating

Shock/Vibration
IEC61373 Cat 1 A&B

Humidity
5 - 95% non-condensing

MTBF
130,000 hours at 45°C
Demonstrated MTBF is significantly higher

Indicators
None
Available as option

Control Input
None. Available as option

Alarm Output
None. Output Fail Alarm (Form C) as option

Package/Dimensions (W x H x L)
3U3 chassis or 3U4 chassis, depending on input/output required
3U3 chassis:
132 x 187 x 381 mm
(3U) 5.2 x 7.4 x 15"
3U4 chassis:
132 x 244 x 381 mm
(3U) 5.2" x 9.6" x 15"
Excludes connectors and mounting brackets

Weight
3U3: 6.5 kg (14 lb)
3U4: 8 kg (18 lb)

Connections
Depends on input/output combination required

RoHS Compliance
Compliant

Warranty
Two years subject to application within good engineering practice

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.

ABSOPULSE ELECTRONICS LTD
110 Walgreen Road, Ottawa. Ontario | K0A 1L0 | CANADA
Tel: +1-613-836-3511 | Fax: +1-613-836-7488
https://absopulse.com/contact | https://www.absopulse.com

August 18, 2026/CL/TS

Made in Canada