

3000W, Opto-less, High Reliability, Industrial Quality DC-DC Converter BHR 3K-3U3 Series



- No optocouplers, low component count
- Rugged construction
- Conformal coating
- High input/output isolation
- Cooling by high quality built-in fans
- Full electronic protection
- Customized versions available

This rugged, industrial quality DC-DC converter is designed for a long operating life. By eliminating optocouplers in the feedback loop, the MTBF of the unit is greatly improved over conventional designs. The converter is built with three BHR 65 internal modules which are connected in parallel via redundancy diodes. 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, which exhausts at the terminal side of the unit. All heat generating components are installed on aluminum heatsink blocks which are thermally connected to the internal heatsink plate. This also ensures exceptional mechanical ruggedness. Conformal coating provides protection against humidity and airborne contaminants. Full electronic protection, large design headroom and the use of components with established reliability also contribute to the long operating life of the unit. Customized versions are available. The unit is manufactured at our plant under strict quality control.

SPECIFICATIONS

<p>Input Voltage 48Vdc (42-60V) 125Vd (105-145V) For other input voltages, please consult factory.</p> <p>Input Protection Inrush current limiting Varistor Reverse polarity protection Internal safety fuse Lower voltage than the specified minimum input will not damage the unit</p> <p>Isolation 2250VDC input to chassis 4300VDC input to output 8mm spacing 700VDC output to chassis (or according to output voltage)</p> <p>Standards Designed to meet EN 60950-1 and corresponding UL and CSA standards</p> <p>EMI EN55032 Class A with margins</p> <p>Switching Frequency 55kHz ±3kHz</p>	<p>Output Voltages 24Vdc/120A, 48Vdc/60A, 125Vdc/24A 3000W continuous Output is floating; either terminal can be grounded Consult factory for other voltages</p> <p>Redundancy diode Installed internally for separation of the internal modules</p> <p>Line/Load Regulation ± 2% combined from no load to full load including redundancy diode</p> <p>Dynamic Response Max 5% voltage deviation for 10% to 50% load step, with better than 1msec recovery time</p> <p>Output Ripple/Noise Better than 1% of output voltage peak to peak or 0.2% Vrms (20MHz BW)</p> <p>Output Overload Protection Rectangular current limiting with hiccup type short-circuit protection Thermal shutdown in case of insufficient cooling (self -resetting)</p> <p>Output Overvoltage Protection Second regulation loop completely stable and independent of the main regulator loop</p>	<p>Efficiency Typically 85% at full load depending on input/output combination</p> <p>Operating Temperature Range 0°C to 50°C for full specification Extended temperature ranges available on request</p> <p>Temperature Drift 0.03% per °C, over operating temperature range</p> <p>Cooling Forced air by high quality built-in fans. Fans draw air into the unit</p> <p>Environmental Protection Ruggedizing Conformal coating</p> <p>Shock/Vibration IEC 61373 Cat 1 A&B</p> <p>Humidity 5 - 95% non-condensing</p> <p>MTBF 140,000 hours at 45 °C Demonstrated MTBF is significantly higher</p>	<p>Indicators None</p> <p>Control Input None Available as option</p> <p>Alarm Output None on standard version Output fail alarm Form C contacts installed on request</p> <p>Package/Dimensions (H x W x D) 3U3: 132 x 187 x 381 mm 5.2 x 7.4 x 15" excluding terminal block and mounting flanges Mounting holes are clear Can be chassis or 19" rack mounted</p> <p>Weight 8kg (18 lbs.)</p> <p>Connections Input: Terminal block Output: Threaded studs, M6</p> <p>RoHS Compliance Compliant</p> <p>Warranty Two years subject to application within good engineering practice Contamination related failures not covered.</p>
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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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