

## 1000W On-Board Battery Charger for Vehicles in Cold Climates BCP 1K-27CB Series



- Very rugged industrial quality
- Field-proven design
- Conduction/convection cooled – no fan
- Full electronic protection

The BCP 1K rugged, industrial quality battery charger was designed for the specific purpose of assisting vehicle warm-up in cold climates. The output is 27.5Vdc at 36A for float charging the 24Vdc battery on transportation vehicles, on days when the ambient temperature drops below 0°C. In addition to maintaining the battery condition, it provides sufficient power to keep essential on-board equipment and heater-fans operational during the vehicle warm-up period. The charger can be permanently installed on the vehicle. It operates at full specification over a -40°C to +50°C cold plate temperature range. Cooling is by conduction via baseplate to chassis wall and additional convection. The absence of fans, large design headroom, and the use of components with established reliability result in a high MTBF. The unit was designed for North American 115Vac nominal input (100V-132Vac range). Custom input and output options are available on request. It is manufactured at our plant under strict quality control. The rugged design is based on field proven technology with a track record in transportation environments including railway, trucking and aviation.

### SPECIFICATIONS

<p><b>Input Voltage</b> 115Vac nominal 100V-132Vac Input current: 16A rms max. Power Factor: &gt; 0.8 by active circuit</p> <p><b>Input Protection</b> Inrush current limiting Surge Protection Internal safety fuse Lower voltage than the specified minimum input will not damage the unit</p> <p><b>Isolation</b> 2250Vdc input to chassis 4300Vdc input to output 8mm spacing 500Vdc output to chassis</p> <p><b>Standards</b> Designed to meet EN60950, SAE International J1455 and corresponding UL &amp; CSA standards</p> <p><b>EMI</b> EN55022 Class A</p> <p><b>Switching Frequency</b> 50 - 150kHz (load dependent)</p>	<p><b>Output Voltage/Current</b> +27.5V +/- 0.2V/36A 1000W continuous Output is floating</p> <p><b>Separation Diode</b> Installed internally</p> <p><b>Line/Load Regulation</b> ± 1.5% combined from zero load to full load including separation diode</p> <p><b>Output Ripple/Noise</b> Better than 60mVrms or 300mV peak to peak, (@ 20MHz BW)</p> <p><b>Output Overload Protection</b> Rectangular current limiting with short-circuit protection Thermal shutdown in case of insufficient airflow (self-resetting) Current Limit: 39A +/- 2A</p> <p><b>Output Over-voltage Protection</b> Second regulator loop, completely stable and independent of main regulator loop OVP limit: 30V +/-2V</p>	<p><b>Efficiency</b> 83% at full load</p> <p><b>Operating Temperature Range</b> -40°C to +50°C for full specification</p> <p><b>Temperature Drift</b> 0.03% per °C over operating temperature range</p> <p><b>Storage Temperature</b> -40°C to +70°C</p> <p><b>Cooling</b> Conduction via baseplate to chassis wall and additional convection</p> <p><b>Environmental Protection</b> Full ruggedizing Heavy conformal coating</p> <p><b>Shock/Vibration</b> IEC61373 Cat 1 A&amp;B as minimum and SAE International J1455</p> <p><b>Humidity</b> 5-95% non-condensing</p> <p><b>MTBF</b> 85,000 hours @25°C in the typical operating environment</p>	<p><b>Indicators</b> None</p> <p><b>Alarm Output</b> None</p> <p><b>Package/ Dimensions (W x H x L)</b> 140 x 165 x 356 mm (5.5" x 6.5" x 14") Mounting holes are clear</p> <p><b>Weight</b> 4.6kg (10 lbs)</p> <p><b>Connections</b> Input: Fixed line cord Output: Threaded studs, ¼" DIA</p> <p><b>RoHS Compliance</b> Not requested, but accepted</p> <p><b>Warranty</b> Two years subject to application within good engineering practice</p> <p><b>Service Period</b> Guaranteed for 10 years minimum</p>
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**Enhancements to these general specifications and customizing can be accommodated upon request. Specifications subject to change.**

*Designer and manufacturer of quality converters, inverters, UPS systems, complete rack mount systems and DC-input fluorescent lamp inverters since 1982. Custom or standard. Absopulse is a BABT-approved facility.*



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