

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

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



European Stocking Distributor
Phone: +41 44 730 33 53

Email: sales@hvps-condatas.com / www.hvps-condatas.com
Rietbachstrasse 7, 8952 Schlieren (ZH), Switzerland