

2000W, Industrial Quality Battery Charger with PFC-input BCP 2K-E/600 Series



- Electronic Power Factor Correction (PFC)
- Rugged, industrial quality
- Field-proven design
- Cooling by built in fans
- Fully protected

The BCP 2K-E/600 is a rugged, industrial quality battery charger with PFC-input. It provides 2kW for charging a 600V external battery bank. The unit is built with three field proven CAP 275F internal power modules. An output separation diode installed within the unit also allows for the parallel connection of several units for higher output power. Built-in fans provide sufficient airflow for operation without de-rating in the specified temperature range. The output is protected against accidental reverse battery connection by a crossbar diode with a user accessible 600Vdc safety fuse. The battery must also be fused externally, directly at the battery. Full electronic protection, low component count, large design headroom and the use of components with established reliability result in a high MTBF. The unit is manufactured at our plant under strict quality control.

SPECIFICATIONS

Input Voltage

240Vac nominal, 47... 63Hz, single phase
190-264Vac operating range
Input Current: 13Arms max.
An optional 90-264Vac operating range, 47... 63Hz, input current: 27Arms max. at 90V is also available
Power Factor is better than 0.97 at full load for the entire input range.
Meets EN61000-3-2 and EN61000-3-12
Consult factory for other voltages

Input Protection

Inrush current limiting
Varistor
Internal safety fuse
Lower voltage than the specified minimum input will not damage the unit

Input Isolation

2250Vdc input to chassis
4300Vdc input to output,
8mm spacing
1500Vdc output to chassis

Standards

Meets EN60950 and corresponding UL and CSA standards

EMI

EN55022 Class A with margins

Switching Frequency

50 - 150kHz load dependent

Output Voltages/Currents

600V/3.3A
2000W continuous
Adjustable 520-630V by trimming potentiometers accessible through holes on the top cover.
The output is isolated, either terminal can be grounded
Consult factory for other voltages

Output Separation Diode

Installed internally

Line/Load Regulation

±1% combined from no load to full load including built in separation 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.
Thermal shut-down with automatic recovery in case of insufficient cooling
Crossbar diode with user accessible safety fuse (600Vdc fuse)

Warning: Battery must be fused externally, directly at the battery

Output Overvoltage Protection

Second regulator loop, completely stable and independent of main regulator loop

Efficiency

Min 80% at full load

Operating Temperature

0°C to +50°C for full specification
Wider temperature ranges available on request

Battery Temp. Compensation

None
Available as an option

Temperature Drift

0.03% per °C over operating temperature range

Cooling

By built in high quality fans

Environmental Protection

Ruggedizing
Conformal coating

Shock/Vibration

IEC 61373 Cat 1 A&B

Humidity

5 - 95% non-condensing

MTBF

80,000h at 45°C
Demonstrated MTBF is significantly higher

Indicators

Charger "ON" LED on each internal module visible through the rear cooling slots

Alarm Outputs

Not installed on standard version

Package/Dimensions (W x H x D)

3U3: 187 x 132 x 407mm
(7.4" x 5.2" x 16")
Mounting holes are clear

Weight

Approx 6.5 kg (14 lbs)

Connections

Input: Terminal block
Output: Terminal Block

RoHS Compliance

Fully compliant

Warranty

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



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