

# RCH2500 Series AC Battery Charger



## Benefits

- Quiet operation
- Power sensitive electronics without interference
- Rugged & Reliable
- Ensure years of safe and trouble free operation
- Fast & Accurate Charging

## Applications

- Oil drilling and transport sites
- Pipeline Industry
- Marine & other Rugged Environments
- Steel mills
- Electric Utilities and Substations
- Base Station Power (Radio & Telecommunications)
- OEM Applications
- Field Work / Construction Sites
- Solar Power Systems
- Emergency Power Backup (UPS)
- Security Systems

# Battery Chargers

## RCH2500 Series

### Description

The RCH2500-120NP-EQ rugged, industrial quality battery charger uses field-proven high-frequency conversion technology to deliver up to 2500W continuous output power. In float-mode it provides 135Vdc/16A for charging a 120V (60 cell) battery.

The equalize function, activated by a push-button "EQ/ON", elevates the output voltage to 141Vdc for the battery.

The equalize time is controlled by a built in timer, adjustable in the 1-9 hour range.

The equalize mode can be de-activated at any time by pushing the "EQ/OFF" button.

This charger is constructed with internal modules, connected in parallel, which also provide inherent redundancy: the failure of one module would only cause a minor loss in output power.

The unit is rated for heavy-duty applications with -40°C to +70°C temperature rating for full specification.

Cooling is by convection via louvers on the cabinet. The absence of fans, low component count and the use of components with established reliability result in a high MTBF.

The charger output is equipped with a built-in crossbar diode and output breaker as a safety feature against accidental reverse battery connection.

Other protection includes input inrush current limiting, over-voltage protection, short circuit protection, and a self-resetting thermostat for thermal protection.

An optional Charger Fail Alarm (Form C) indicates loss of AC input power.

The unit is manufactured at our plant under strict quality control.

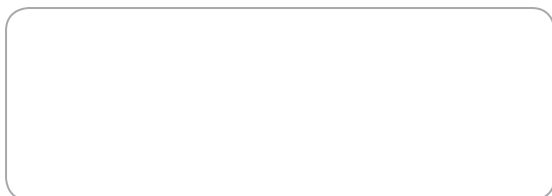
### Features

- 2500W output power without fan
- Full electronic protection
- Telecom quality
- Field-proven design
- 2 years parts and labour warranty

# Specifications ( Specifications Subject to Change Without Notice)

<b>Input Voltage</b>	240Vac, 47-63Hz 190-264Vac operating range, Input Current: 23Arms max PFC-input versions are also available
<b>Input Protection</b>	Inrush current limiting Varistors Internal safety fuses Input breaker also for AC ON/OFF Lower input voltages than the specified minimum will not damage the unit
<b>Isolation</b>	2250VDC input to chassis 4300VDC input to output 8mm spacing 1000VDC output to chassis
<b>Charging Current and Voltage</b>	135Vdc $\pm$ 0.5V/16A float voltage 2500W continuous Equalize timer with push button activation for 141Vdc Other voltages on request The output is floating, either terminal can be grounded
<b>Output Separation Diode</b>	Installed internally on each power module
<b>Efficiency</b>	Min. 80% at full load
<b>Line / Load Regulation</b>	$\pm$ 1% combined from zero load to full load including output separation diodes
<b>Dynamic Response</b>	Max 5% voltage deviation for 10% to 50% load step, with better than 1msec recovery time
<b>Output Ripple/Noise</b>	Better than 1% of output voltage peak to peak or 0.2% RMS of the output voltage (20MHz BW)
<b>Output Overload Protection</b>	Rectangular current limiting with short-circuit protection Thermal shutdown with automatic reset in case of insufficient cooling (self-resetting) Current Limit set to: 17A $\pm$ 0.8A Charger output is protected against reverse battery connection by builtin crossbar diode and output breaker Warning: Battery must be fused externally, directly at the battery
<b>Output Overvoltage Protection</b>	Double regulator loop. Second regulator loop, completely stable and independent of main regulator loop. OVP setting: 155V $\pm$ 5V
<b>EMI</b>	Meets EN 55022 Class A as minimum
<b>Switching Frequency</b>	55kHz $\pm$ 3kHz
<b>Operating Temperature Range</b>	-40° to +70°C for full specification
<b>Humidity</b>	5 - 95% non-condensing
<b>Temperature Drift</b>	0.03% per °C over operating temperature range
<b>Cooling</b>	By convection via louvers on the cabinet
<b>Environmental Protection</b>	Basic ruggedizing, Conformal coating
<b>Shock/Vibration</b>	IEC 61371 Cat 1 A&B
<b>Dimensions</b>	610 x 203 x 610 mm Wall-mounted case with louvers
<b>Connections</b>	Input/output terminals: Phoenix 6-10/2 terminals Cable entries via two feed through bushings at the bottom of the enclosure
<b>Weight</b>	15 Kg
<b>Standards</b>	Designed to meet EN 60950 and corresponding UL/CSA standards
<b>MTBF</b>	150,000 hours at 45°C per module, which are in redundant configuration Demonstrated MTBF significantly higher
<b>Indicators</b>	Internal green 'OUTPUT ON' indicator for each module (five LEDs) for verification of operation
<b>Output Control</b>	Equalize timer (141Vdc) with 1-9 hour timing, Push buttons for ON/OFF control
<b>Alarm output</b>	None, Available as option
<b>RoHS Compliance</b>	Fully compliant
<b>Warranty</b>	Two years subject to application within good engineering practice

Available from:



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