

# AC to DC Battery Charger

This AC to DC battery charger employs a three-stage variable charging voltage algorithm. It is designed to maximize battery lifetime across diverse recharging applications and battery technologies.



## ADDITIONAL IMAGES



## Overview

### Versatile AC to DC Battery Charging Solution

The CSB series is a high-frequency AC converter and battery charger designed for diverse applications including electric vehicles, renewable energy systems, and industrial equipment. It features a three-stage variable charging algorithm to maximize battery lifetime and is compatible with Lead Acid, Gel, AGM, and LiFePO4 battery technologies. The unit's wide AC input range and robust protection features make it ideal for use with unstable power sources, generators, or shore power.

## Key Performance Metrics

### Performance Highlights

**1000 W**

Max Power (CSB10)

**2000 W**

Max Power (CSB20)

**1.5 %**

Load Regulation

## Electrical Input

Input Voltage (High Type)	184-286Vac (Full performance); 90-184Vac (Derates to 50%)
Input Voltage (Low Type)	96-145Vac (Full performance); 70-96Vac (Derates to 50%)
Frequency Range	40Hz to 70Hz

## Electrical Output

### Model Output Current

Model Series	Voltage Options	Max Current
CSB10X1224	12V / 24V	75A / 37.5A
CSB10X3648	36V / 48V	25A / 18.75A
CSB20XXX	12V / 24V / 36V / 48V	120A / 60A / 40A / 30A

## Battery Compatibility

### Configurable Charging Profiles

Type	Fast Voltage	Float Voltage
Gel	14.4V	13.5V
AGM	14.8V	13.7V
LiFePO4 (Profile 1)	14.1V	13.7V
LiFePO4 (Profile 2)	14.6V	13.7V

### Supported Battery Types

Lead Acid, Gel, AGM, LiFePO4

## Protection & Safety

### Safety Systems

- Input Over/Under Voltage Protection
- Reverse Battery Polarity Protection (with fuses)
- Output Over Voltage Protection
- Charger Over Temperature Protection (Shutdown at 105°C)
- Battery Temperature Sensing (BTS) Dynamic Adjustment

### Compliance & Standards

UL458 • CSA22.2#107.1 • ISO 9001 • CE

## Physical Specifications



Rear view showcasing the air cooling system, grounding terminal, BTS port, and DC output terminals.

### Dimensions (CSB10XXX)

261.4 x 160 x 70 mm

### Unit Weight (CSB10XXX)

2.65 kg

### Cooling Method

Smart Fan Control (Speed adjusted by temperature and current)

## Operational Features



Front panel featuring status indicators, charge current control (0-100%), and configuration switches.

### Parallel Operation

Yes

### Max Parallel Units

2