



# CS1204/1204L

## 24 Volt 120 Watt Intelligent Battery Chargers

### Features/Benefits

- 120 Watt constant output power. Batteries charge in approximately 1/2 the time as 6 Amp rated conventional battery chargers.
  - LED indication of improper battery connection, charge timeout, and over-temperature conditions.
  - CS1204/CS1204L can work as an onboard charger with Control Solutions CS11XX series motor controllers or other industry controllers.
  - Five-stage charging, when used with the CS11XX series motor controllers: cell preparation, charge qualification, bulk charge, cell balancing, and float charge.
  - Float charge voltage is temperature compensated. Maintains a full charge in all temperature conditions without damaging batteries.
- Active low charging output signal to disable motor drive during charging (CS1204L).
  - Constant voltage (not pulsed) to reduce battery heating and increase battery life.
  - Accurate float charge voltage allows charger to be left connected to batteries indefinitely to maintain full charge.



### Description

The CS1204 and CS1204L are heavy-duty battery chargers designed to charge two 12V or single 24V, 24 Amp-Hour (or larger) sealed lead acid batteries wired in series. The CS1204/1204L utilize an internal micro-processor to add key features and monitor battery conditions to ensure batteries are fully charged without overcharging.

When used as a stand alone charger or in conjunction with a Control Solutions CS11XX Motor Controller, the CS1204 Battery Charger provides an effective and intelligent solution for charging and maintaining lead-acid batteries. Protection against short circuits, voltage surges, reversed battery polarity, and over temperature are provided to ensure long battery life and safe operation. The CS1204L is designed for applications with other industry controllers that require an active low charging output signal to disable motor drive during charging.

Another intelligent feature built into the CS1204/1204L is the front panel LEDs, which display charging status

and diagnostic error codes. When used with a CS11XX Motor Controller with an optional display, the error codes are displayed on the optional display as well.

### About Us

Control Solutions LLC designs, manufactures and provides American made mobility products for the dealer-provider marketplace. We are committed to providing state-of-the-art designed products that will give the independent dealer a competitive advantage.

Product reliability is our top priority. Significant investments into the design of our custom ASIC chip along with controller design and years of experience, has made our controllers an industry standard.

Control Solutions LLC is a pioneer of several industry standards and user features. We continue to innovate and evaluate new ideas and strive to help shape the future of electric mobility



Visit our website:  
[www.controls.com](http://www.controls.com)



BR0050-02

# CS1204/1204L

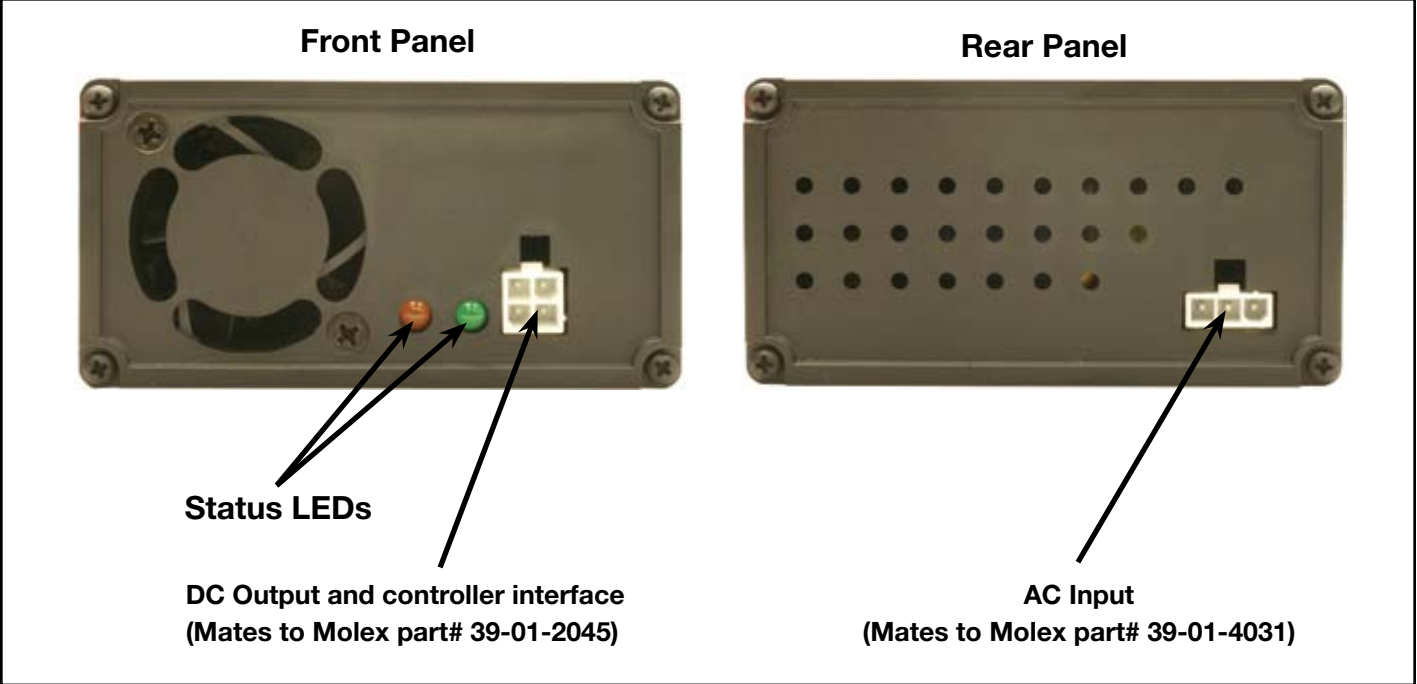
## 24 Volt 120 Watt Intelligent Battery Chargers

### Specifications

CS1204/1204L Specifications	Minimum	Typical	Maximum
AC Input Voltage	90	120/220	240
AC Input Frequency	50	60	60
AC Input Current – Amps		1.2/1.6	2.0
Output Bulk Charge Voltage	29.8	30	30.2
Output Float Charge Voltage	26.6*	27.6*	28.6*
Nominal Bulk Charge Current – Amps@24Vdc		5.4	
Peak Bulk Charge Current – Amps			7.0
Trickle Charge Current – mAmps		50	
Operating Ambient Temperature – °F (°C)	14 (-10)	77 (25)	113 (45)
Physical Size, Inches (mm)		6.5 x 3.8 x 1.9 (165 x 97 x 48)	
Weight, lbs (Kg)		1.5 (.68)	

\* Inversely proportional to ambient temperature – For example: Ambient greater than 25°C= float voltage less than 27.6 volts.

### CS1204/1204L Front and Rear Panels



Specifications subject to change without notice.

Designed & Manufactured  
  
in the USA  
BR0050-02



CONTROL SOLUTIONS LLC™  
2520 Diehl Road, Aurora, Illinois 60502  
Tel: 630.806.7062 Fax: 630.806.7065  
www.controls.com