

# Chargetek CK150-1 Lead-Acid Battery Charger Specification

## 1 INTRODUCTION

This document establishes the performance of the Chargetek CK150-1 Lead-Acid Battery Charger.

## 2 DESCRIPTION

The CK150-1 is a single output, 1.5A lead-acid battery charger utilizing a three-state charging algorithm. The CK150 is intended for use with 12V battery systems and operates from 120VAC 50-60Hz service. A battery must be connected to the output for the charger to operate to provide no sparking during connections.

The charging algorithm is as follows:

**Fast charge:** Supplies  $I_{FAST}$  in a constant current mode until the battery voltage reaches  $V_{FASTTERM}$ . Charger mode changes to absorption mode.

**Absorption mode:** Regulates battery voltage at  $V_{FASTTERM}$  until charger current drops to  $I_{ABSORBTERM}$  at which time the charger mode changes to float charge.

**Float charge:** Regulate battery voltage at  $V_{FLOAT}$ . If the voltage drops to  $V_{FLOATTERM}$  the charger will begin charging in the fast charge mode.

The following LED indicators are provided:

Fast/Float: Off – Battery not connected or improperly connected  
Red – Fast or Bulk Charge  
Blinking Red/Green: Absorption (topping off) Mode  
Green – Float Mode

Service: Red – Consult factory, unit may require service  
Off: Normal State

The following protection features are incorporated into the CK150:

**Reverse polarity:** Battery leads may be reversed without damage to the charger or battery.

**Short circuit:** The output may be short circuited without damage to the charger.

**Over voltage:** In the event of a component failure resulting in loss of regulation, the charger will automatically shutdown to prevent damage to the battery. The service LED will illuminate.

**Over temperature:** Over temperature protection is provided to lower the output current until the unit's temperature drops to an acceptable level.

**Waterproof/**

**Vibration resistant:** The electronic components of the CK150 are encapsulated in UL approved, flame retardant material.

### 3 ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value	Unit	Conditions
V <sub>AC</sub>	AC Supply Voltage	100 – 132	VAC	47Hz – 63Hz
I <sub>ACFAST</sub>	AC Current during Fast Charge	1.0 0.5	Amps RMS	100VAC
T <sub>OPR</sub>	Operating Temperature	-10 to 55	°C	Ambient
T <sub>STG</sub>	Storage Temperature	-30 to 80	°C	
	Operating Humidity	99	% RH	

### 4 DC ELECTRICAL CHARACTERISTICS

Symbol	Parameter	Minimum	Typical	Maximum	Unit	Conditions
V <sub>FASTTERM</sub>	Bulk termination voltage	14.4	14.5	14.6	V	25 °C
V <sub>FLOAT</sub>	Float voltage	13.4	13.5	13.6	V	I <sub>OUT</sub> < 0.3 A, 25°C
I <sub>FAST</sub>	Bulk charge current	1.5 1.0	1.7 1.1	1.8 1.2	A A	Initial Current at Turn On Phase Back Current
I <sub>ABSORBTERM</sub>	Absorption Mode Transition Current	0.3	0.35	.40	A	Battery at Top Off
V <sub>absfl</sub>	Absorption Mode Reactivation after Float	11.2	11.5	11.8	V	Load applied in float discharging battery
I <sub>STANDBY</sub>	Standby Current		2		ma	AC Off

### 5 PHYSICAL CHARACTERISTICS

Size: 6" x 3.16" x 2.6" – see Figure 1  
 Weight: 3.2 lbs.  
 AC Cord length: 7" or 6'  
 DC Cord length: 6'  
 DC Cord termination: Ring terminals (can be changed upon request)

Figure 1 – CK150 Physical Dimensions

