

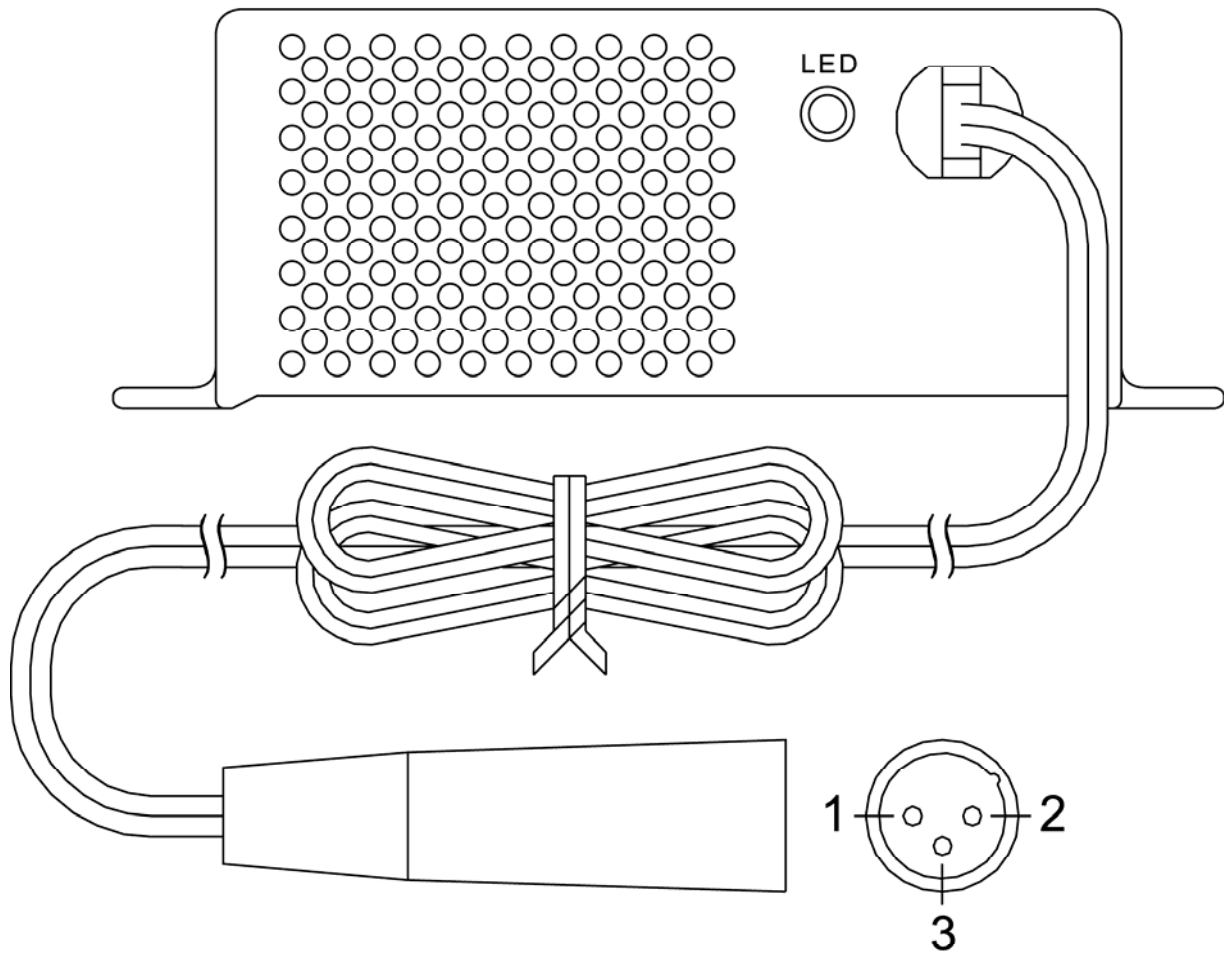
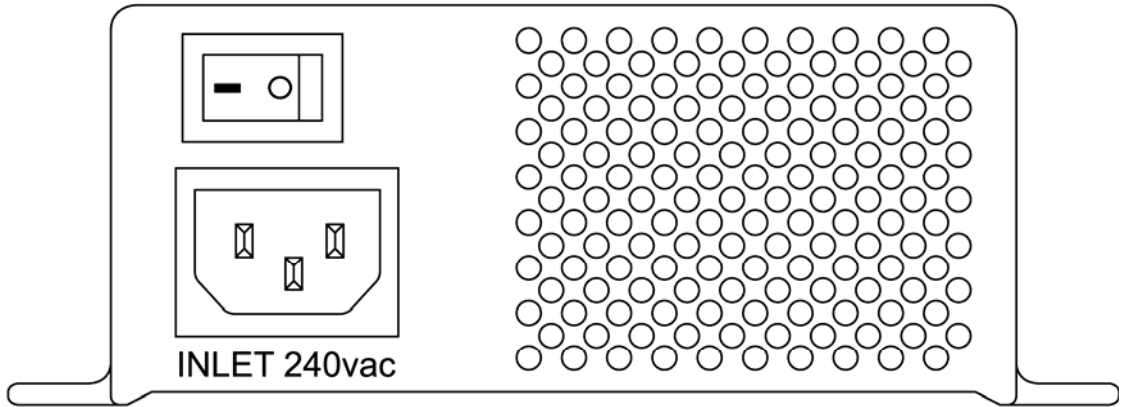


**BCS - 1216**  
**BCS - 2408**  
**USER'S MANUAL**

## SPECIFICATION

MODEL		BCS-1216	BCS-2408
OUTPUT	BOOST CHARGE VOLTAGE	14.4V	28.8V
	FLOAT CHARGE VOLTAGE	13.6V	27.2V
	BATTERY TYPE	Open & Sealed Lead Acid	
	OUTPUT CURRENT(max.)	16A	8A
INPUT	VOLTAGE RANGE	180 ~ 264 vac	
	FREQUENCY RANGE	47 ~ 63Hz	
	EFFICIENCY (Typ.)	85%	86%
	POWER FACTOR (Typ.)	>0.65 at 230 vac	
	AC CURRENT (Typ.)	3A/230 vac	
	INRUSH CURRENT (Typ.)	COLD START 60A	
	LEAKAGE CURRENT	<3.5mA / 240 vac	
PROTECTION	OVER LOAD	90 ~ 110% rated output current Protection type : Constant current limiting, recovers automatically after fault condition is removed	
	REVERSE POLARITY	By internal fuse	
	OVER VOLTAGE	15 ~ 17V	30 ~ 35V
		Protection type : Shut down o/p voltage, re-power on to recover	
	OVER TEMPERATURE	Protection type : Automatically derate charge current until zero	
ENVIRONMENT	WORKING TEMP.	-10 ~ +40°C (Refer to output load derating curve)	
	WORKING HUMIDITY	20 ~ 90% RH non-condensing	
	STORAGE TEMP., HUMIDITY	-40 ~ +85°C, 10 ~ 95% RH	
	TEMP. COEFFICIENT	±0.05%/°C (0 ~ 45°C)	
	VIBRATION	10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes	
SAFETY & EMC	SAFETY STANDARDS	EN60335-2-29 CB Approved by TUV	
	WITHSTAND VOLTAGE	I/P-O/P:3Kvac I/P-FG:1.5Kvac O/P-FG:0.5Kvac	
	ISOLATION RESISTANCE	I/P-O/P, I/P-FG, O/P-FG:100M Ohms/500VDC	
	EMI CONDUCTION & RADIATION	Compliance to EN55022 (CISPR22) Class B	
	HARMONIC CURRENT	Compliance to EN61000-3-2,-3	
	EMS IMMUNITY	Compliance to EN61000-4-2,3,4,5,6,8,11; ENV50204, EN55024, Light industry level, criteria A	
OTHERS	MTBF	115.8Khrs min. MIL-HDBK-217F (25°C)	
	DIMENSION	253*135*48.5mm(L*W*H)	
	PACKING	1.45Kg	
NOTE	<p>1. All parameters NOT specially mentioned are measured at 230vac input, rated load and 25°C of ambient temperature.</p> <p>2. Ripple &amp; noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf &amp; 47uf parallel capacitor.</p> <p>3. Tolerance : includes set up tolerance, line regulation and load regulation.</p> <p>4. Test condition is at 25°C, charging current will change under different temperature.</p>		

ON/OFF  
SWITCH



Pin No.	Assignment
1	DC OUTPUT +V
2	DC OUTPUT -V
3	DC OUTPUT -V

**OPERATING PROCEDURE:**

Make sure the charger is switched OFF when connecting to the batteries. The polarity must be correct: charger output ( + ) should be connected to the ( + ) terminal of batteries and charger output ( - ) should be connected to the ( - ) terminal.

At no time should the ( + ) and the ( - ) be shorted together or the charger may be damaged.

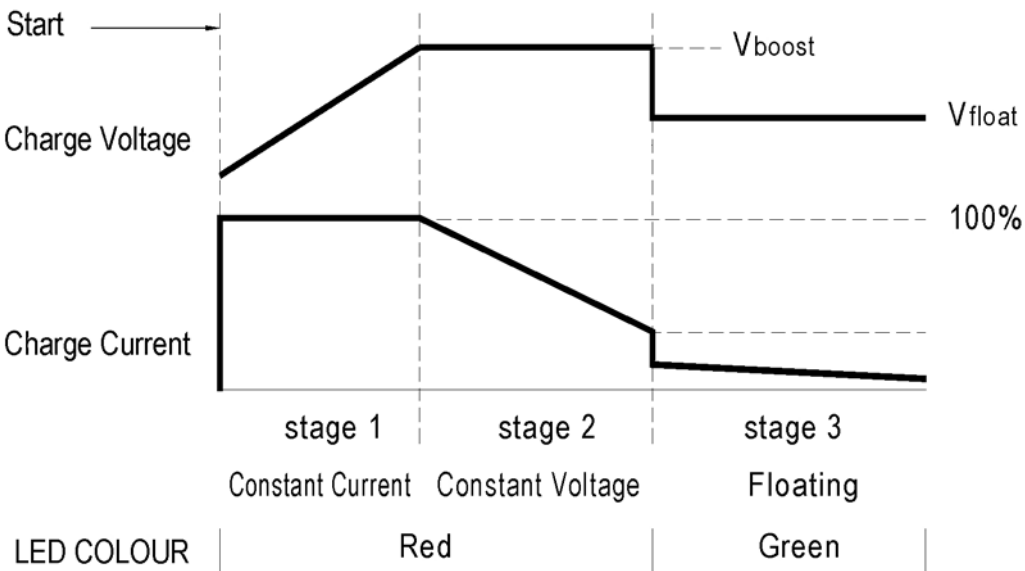
Set the ON/OFF power switch to ON and check whether the operation of the LED is correct (red: boost – charging; green: float – charge complete).

**NOTES:**

1. The charger is only suitable for “lead-acid” batteries.
2. The charger should be used in a place with good ventilation and protected from rain or excessive moisture.
3. Make sure the charging voltage and charging current are suitable for the batteries you are using.
4. Turn off the charger before connecting or disconnecting the charger output cable and plug.
5. The charger has a 2-year warranty. Damage from misusing the charger will not be included in the coverage of warranty.

**STATUS UNDER GENERAL OPERATION:**

At the beginning stage of operation, the charger provides maximum current with 14.4V of output voltage (for 12V batteries) to charge the batteries. The LED indicator will indicate RED and the built-in fan will run to dissipate the heat. After a period of time (probably a couple of hours, based on the capacity of batteries), the charging current will decrease gradually. After reaching 10% of it’s maximum value, the charger will go into “float (charge complete)” stage. The fan will stop running, charging voltage will decrease to 13.6V, and the LED will turn to GREEN. The relationship between charging current and charging voltage for each operation stage are shown in the curves below:



State	BCS-1216	BCS-2408
Vboost	14.4V	28.8V
Vfloat	13.6V	27.2V

**SUGGESTED BATTERY CAPACITY:**

1. It will not cause any problems if the capacity of batteries are larger than the suggested value. It just takes more time to fully charge the batteries.
2. If you have any question about the suitable charging current for the batteries, please refer to the technical data provided by the battery manufacturers or consult the vendor of the batteries.

Model	Suggested Battery Capacity
BCS-1216	60-100 Amp hour
BCS-2408	30-60 Amp hour

**TROUBLE SHOOTING:**

Fault Description	Possible Reasons	Solution
No output voltage	Power switch is not set to ON	Set the power switch to ON
	Wrong polarity of the battery connection	Connect with correct battery polarity
	Output fuse open	Replace output fuse
Can't achieve FLOAT mode (green light) after long period of charging. (>8 ~ 10 hours)	Batteries are ageing or damaged	Replace the batteries
	Battery capacity or size too large for charger	Resize batteries or charger

**WARNING :** Explosive gases. Prevent flames and sparks. Provide adequate ventilation during charging.

Disconnect the supply before making or breaking the connections to the battery.

**Caution :**

1. Temperature of the case may be high during charging.
2. During charging, the battery must be placed in a well ventilated area.