

Smartgen[®]

BAC06A Battery Charger

USER MANUAL



Smartgen Technology



众智电子 Chinese trademark

Smartgen[®] English trademark

Smartgen — make your generator *smart*

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Software Version

Version	Date	Note
1.0	2011-02-15	Original release.
1.1	2012-8-6	Modify some units.
1.2	2012-10-31	Modify the mask.

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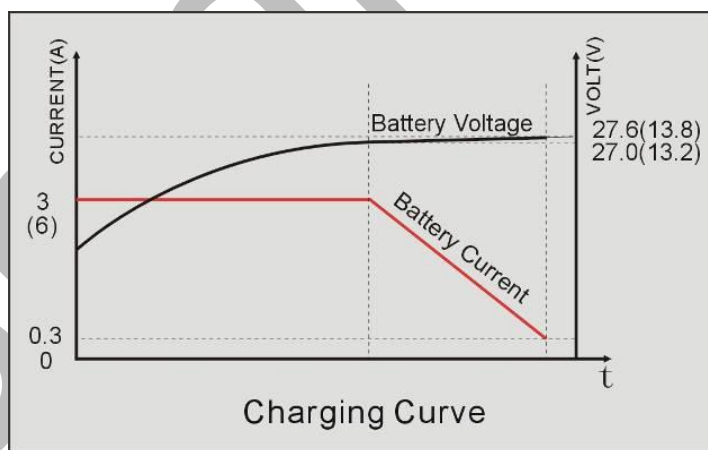
1 SUMMARY

BAC06A switching battery charger adopts the latest switch power components, which is designed for charging lead-acid starting battery according to its property. The charger is suitable for lead-acid battery float charge. The maximum charge current for 12V charger is 6A; the maximum charge current for 24V charger is 3A.

2 PERFORMANCE AND CHARACTERISTICS

- 1) Designed in switching power structure, wide range of AC voltage input, small volume, light weight and high efficiency;
- 2) Two-stage charging method (constant current firstly and then constant voltage), fully considering charging property of the lead-acid battery, can avoid overcharging and extent extend the battery life to the fullest;
- 3) With short circuit and reverse connection protection;
- 4) Charging voltage and current can be adjusted via potentiometer on the spot;
- 5) Suitable for 12V and 24V batteries, corresponding types are BAC06A-12V and BAC06A-24V;
- 6) LED display: Power indication and charging indication;

3 CHARGING PRINCIPLE



According to charging property of the lead-acid battery, BAC06A battery charger uses 2-stage charging method and charge mode is "constant-current". When battery voltage is under the threshold, it is charging in constant-current mode; when the battery voltage is higher than the threshold, the charging current is decreasing as the battery voltage is rising until it reaches the set voltage, and then charge mode is turned into "floating charge". Charge current is gradually reducing

and battery voltage is rising up to the set value. When charging current is lower than 0.3A, the battery is basically fully charged (charging indicator eliminates). Afterwards, charging current will offset self-discharge of the battery. Thus the charger can maintain a full charged condition and extend the battery life.

4 SPECIFICATION

Battery Voltage	12V	24V
Max. Charge Current	6A	3A
Charge Voltage Range	(13~14.5)V	(26~29)V
Charge Current Range	(3~7)A	(1.5~3.5)A
AC Voltage	(95~280)VAC	
AC Frequency	50 Hz/60Hz	
Power Consumption	120W	115W
No-Load Power Consumption	Less than 3W	
Efficiency	More than 80%	More than 85%
Working Temperature	(-40~60)°C	
Storage Temperature	(-40~85)°C	
Weight	0.65kg	
Case Dimensions	143 mm×92 mm×52mm	

5 SETTING

5.1 Voltage Adjustment

When adjusting the voltage on the spot, disconnect the battery from the charger, and then measure the output voltage of the charger while adjusting voltage potentiometer (VOLT) to a proper value.

5.2 Current Adjustment

Connect battery output firstly. When battery voltage is under 22.0V (11.0 V), adjust the current potentiometer (AMP) and set proper charge current. Output current can also be estimated according to the current potentiometer, which is recommended.

6 OPERATION

1. Terminals L and N connect AC 220V, using multi-strand BVR 1mm² copper wires.

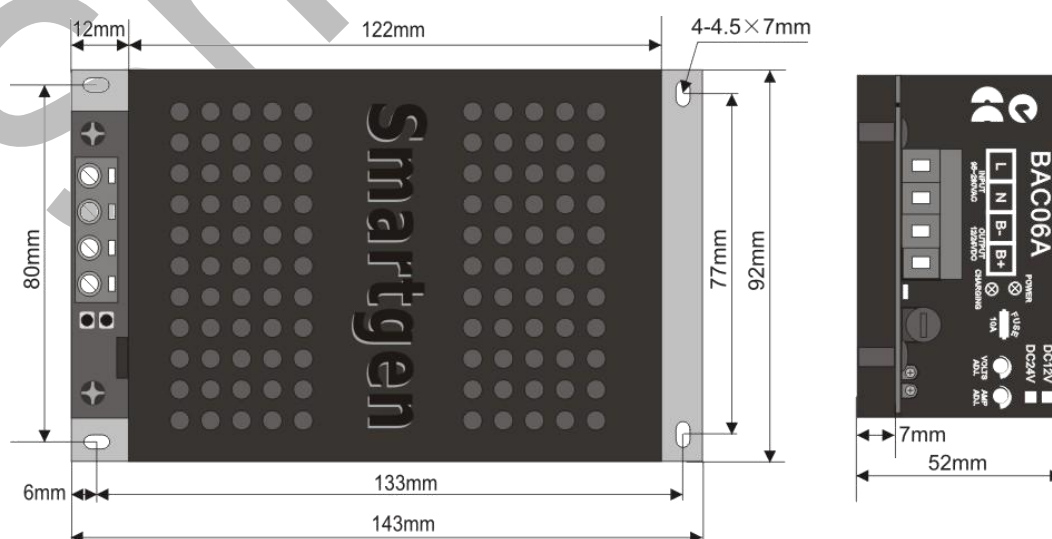
2. Terminals B+ and B- connect battery positive and negative, using multi-strand BVR1.5mm² copper wires.
3. POWER: Power indicator. When charger works, it will illuminate.
4. CHARGING: Battery charging indicator. When charging current is over 0.3A, it will illuminate.
5. VOLT: Voltage adjustment potentiometer.
6. AMP: Current adjustment potentiometer.
7. Output 10A fuse. Reverse connection will cause fuse blown. After correcting the connection and changing another fuse, it can continue working.
8. Procedures of changing fuse:
 - a) Press hard on the slotted screwdriver, screw counter-clockwise and then take out the fuse.
 - b) Put a new fuse into the block, press the slotted screwdriver and screw clockwise.

Note: improper operation or over tightening may damage the block.

NOTE: 1) Because there is diode and current-limiting circuit inner the charger, it can be used together with charging generator, and there is no need to disconnect the charger when cranking.

- 2) During genset is running, high current will cause voltage drop in charging line, so recommend separately connecting to battery terminal to avoid disturbance on sampling precision.

7 CASE DIMENSIONS



8 ORDER INFORMATION

BAC06A battery charger has two types:

BAC06A-12V for 12V Battery, output current is 6A.

BAC06A-24V for 24V Battery, output current is 3A.

Please specify the charger type when ordering.

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