BAC1203

BATTERY CHARGER

USER MANUAL

SMARTGEN (ZHENGZHOU) TECHNOLOGY CO., LTD.

Chinese trademark

English trademark

SmartGen — make your generator ***smart***

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Software Version

Date	Version	Note
2013-08-06	1.0	Original release.
2013-12-05	1.1	Modify the "Working Temperature" as (-30~55)°C.
2016-04-25	1.2	Remove the Logos of Smartgen on the product pictures.

CONTENT

1. OVERVIEW

Fit with up-to-date power supply device, float charger BAC1203 is specially designed for meet the charging characteristics of the lead-acid engine starter batteries and can be used for long-term float charging of 12V lead-acid batteries.

2. PERFORMANCE AND CHARACTERISTICS

1) Switch power supply structure, wide input alternating voltage range, small size, light weight, high efficiency rate;

2) Automatic two-stage charging process (first constant current, then constant voltage) carried out according to storage battery charging characteristics to prevent overcharging and significantly prolong battery lifetime;

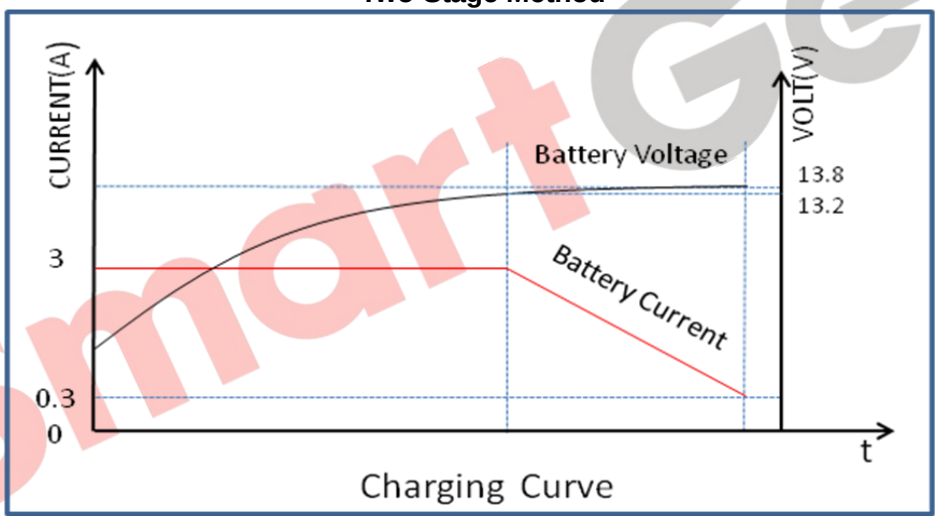
3) Built-in current protective circuit for short-circuit protection and reverse connection protection. If failure occurs, power indicator and charging indicator will flash rapidly.

4) Suitable for 12V storage battery and the rated current is 3A;

5) LED display: Power indication (Green light) and charging indication (Red light);

3. CHARGING PRINCIPLE

Two-Stage Method

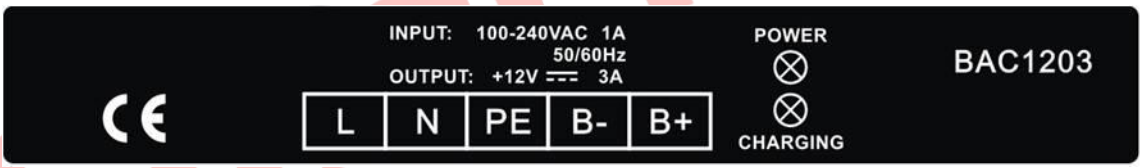


Charging is performed according to the battery charging characteristics using two-stage method. Charging type is ‘constant current type’ which means that when the battery terminal voltage falls below the pre-set value, charging current will be constant; when the battery terminal voltage exceeds the pre-set value, charging current will decrease with the rising of terminal voltage until the pre-set current value is reached; then Chargers automatically return to float mode and the charging indicator will illuminate. As soon as charging current value falls below 0.3A and the constant voltage value is reached, the battery is basically charged (charging indicator will extinguish). After that charging current will only neutralize the battery self discharge. Even long-term charging cannot harm the battery, as charger can keep the battery fully charged and so guarantee long lifetime of the battery.

4. PARAMETERS CONFIGURATION

Items	Contents	24V
Input Characteristics	Nominal AC Voltage	AC (100~240)V
	Max. AC Voltage	AC (90~280)V
	AC Frequency	50Hz/60Hz
	Max. Current	1A
	Efficiency	>80%
Output Characteristics	Rated Charging Current	3A
	Charging Current Error	±2%
	Max. Output Power	42W
	No-load Output Voltage	13.8V (Error±1%)
	No-load power consumption	<3W
Insulating Property	Insulation Resistance	Between input and output, input and shell both are: DC500V 1min R_L≧50MΩ
	Insulation Voltage	Between input and output, input and shell both are: AC1500V 50Hz 1min; leakage current: I_L≦3.5mA
Working Condition	Working Temperature	(-30~55)°C
	Storage Temperature	(-40~85)°C
	Working Humidity	20%RH~93%RH (No condensation)
	Storage Humidity	10%RH~95%RH (No condensation)
Shape Structure	Weight	0.38kg
	Dimension	110.5mm×106mm×45mm (length*width*height)

5. OPERATION



BAC1203 MASK

1. Connect terminals L and N to alternating voltage (100~240)V using BVR 1mm^2 multi-strand copper line.
2. Connect B+ and B- to battery positive and negative using multi-strand BVR1.5mm^2 copper wires.
3. PE terminal: earth terminal; connect to shell innerly.
4. POWER: power supply indicator, illuminated when the charger is operating normally.
5. CHARGING: charging indicator, illuminated when charging current exceeds 0.3A while extinguished when battery charging is finished.

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.

6. CASE DIMENSIONS