



SmartGen[®]
ideas for power

BAC1210 Battery Charger

USER MANUAL



ZHENGZHOU SMARTGEN TECHNOLOGY CO.,LT



Chinese trademark

SmartGen[®] English trademark

SmartGen — make your generator *smart*

Smartgen Technology Co., Ltd.

No. 28 Jinsuo Road

Zhengzhou

Henan Province

P. R. China

Tel: +86-371-67988888/67981888

+86-371-67991553/67992951

+86-371-67981000(overseas)

Fax: 0086-371-67992952

Web: <http://www.smartgen.com.cn>

<http://www.smartgen.cn>

Email: sales@smartgen.cn

All rights reserved. No part of this publication may be reproduced in any material form (including photocopying or storing in any medium by electronic means or other) without the written permission of the copyright holder.

SmartGen Technology reserves the right to change the contents of this document without prior notice.

Software Version

Date	Version	Note
2015-03-09	1.0	Original release

CONTENTS

1	OVERVIEW.....	4
2	PERFORMANCE AND CHARACTERISTICS	4
3	CHARGING PRINCIPLE	5
4	SPECIFICATION AND PARAMETERS	6
5	Efficiency Curve	7
6	OPERATION	7
7	CASE DIMENSION	8

SmartGen

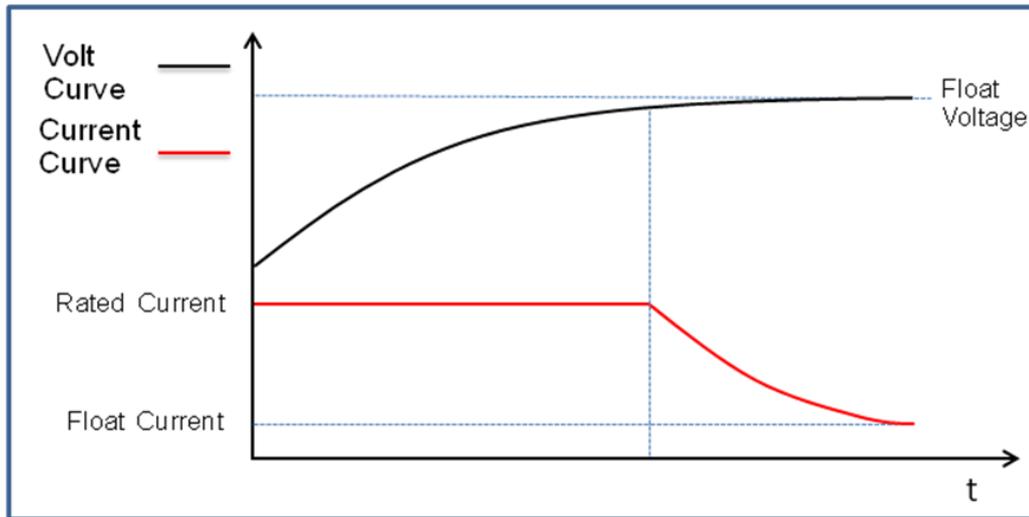
1. OVERVIEW

Fit with up-to-date power supply device, float charger BAC1210 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, which can give effective protection when output over current, short-circuit or reverse connection occurs. Regard power lamp or charge lamp fast blinking as alarm.
- 4) Suitable for 12V storage battery and the rated current is 10A;
- 5) LED display: Power indication (Green light) and charging indication (Red light).

3. CHARGING PRINCIPLE

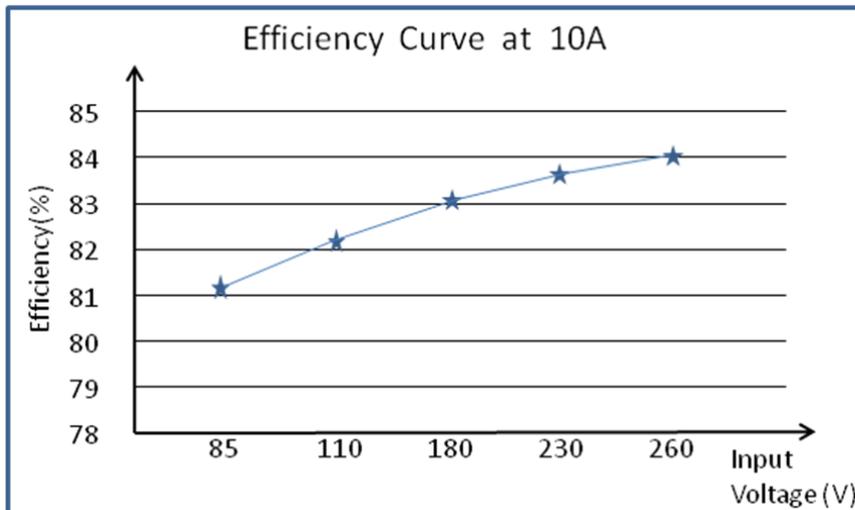


Charging is performed according to the battery charging characteristics using two-stage method. Charging type is 'constant current type' which means that when the battery terminal voltage falls below the pre-set value, charging current will be constant; when the battery terminal voltage exceeds the pre-set 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. As soon as charging current value falls below 0.5A 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. SPECIFICATION AND PARAMETERS

Items	Contents	Parameters	
Input Characteristics	Nominal AC Voltage	AC (100~240)V	
	Max. AC Voltage	AC (90~280)V	
	AC Frequency	50Hz/60Hz	
	Max. Current	3A	
	Efficiency		AC 110V
>81%			>83%
Output Characteristics	Rated Charging Current	10A (Error±1%)	
	Max. Output Power	135W	
	No-load Output Voltage	13.8V (Error±1%)	
	No-load power consumption	<3W	
Insulating Property	Insulating Resistance	Between input and output, input and shell both are: DC500V 1min $R_L \geq 500M\Omega$	
	Insulating Voltage	Between input and output, input and shell both are: AC1500V 50Hz 1min Leakage current: $I_L \leq 3.5mA$	
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	0.8kg	
	Dimension	145.5mm*131mm*55mm (length*width*height)	

5. EFFICIENCY CURVE



6. OPERATION

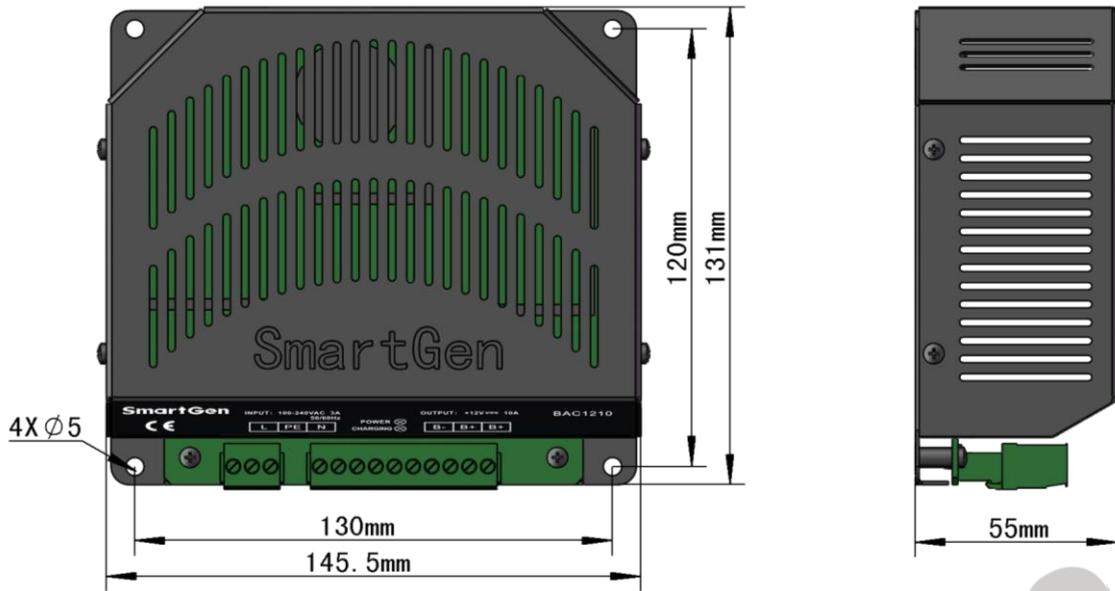


- 1) Connect terminals L and N to alternating voltage (100-240)V using BVR 1mm² multi-strand copper line.
- 2) Connect B+ and B- to battery positive and negative using BVR 2.0mm² multi-strand copper line.
- 3) PE terminal inside has already been connected to shell, which is earth terminal.
- 4) POWER: power supply indicator, illuminated when the charger is operating normally.
- 5) CHARGING: charging indicator, illuminated when charging current exceeds 0.5A, extinguished when charging is done.

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 DIMENSION



SmartGen