SmartGen

MAKING CONTROL SMARTER

BAC2402VE

BATTERY CHARGER

USER MANUAL

郑州众智科技股份有限公司

SMARTGEN(ZHENGZHOU)TECHNOLOGY CO.,LTD.

SmartGen众智 **Chinese trademark**

SmartGen **English trademark**

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

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Table 1 - Software Version

Date	Version	Note
2022-04-25	1.0	Original release.

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1 OVERVIEW

Fit with up-to-date power supply device, charger BAC2402VE 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 24V lead-acid batteries with the maximum output current 2A.

2 PERFORMANCE AND CHARACTERISTICS

- Switch power supply structure, wide input voltage range, small size, light weight, and high efficiency rate;
- 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;
- Built-in current protective circuit for short-circuit protection;
- Suitable for 24V storage battery with the maximum charging current 2A;
- LED display: Power indication and charging indication.

3 CHARGING PRINCIPLE

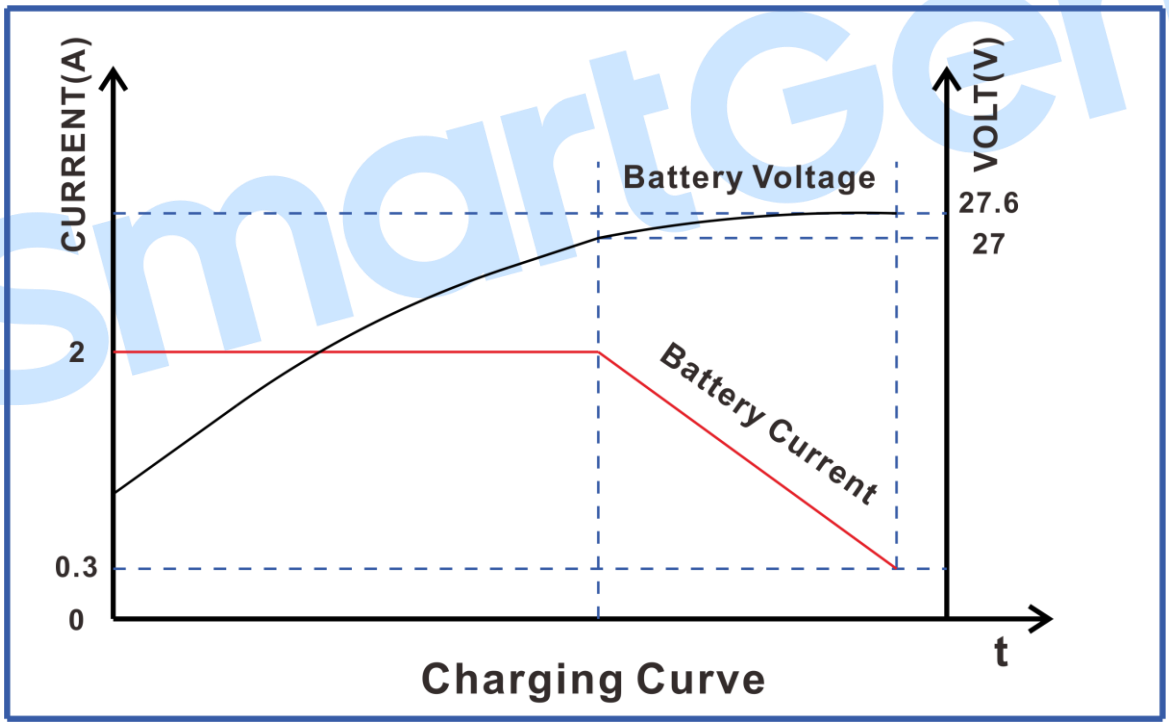

Fig.1- Charging Principle

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 voltage value exceeds 27.6V, the battery is basically fully charged. 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

Table 2 – Parameters Specification

Items	Contents	Parameters
Input Characteristics	Nominal AC Voltage	AC (100~277)V
	Max. AC Voltage	AC (90~305)V
	Max. Input Current	1.2A
	No-load Power Used	<2W
	AC Frequency	45Hz~65Hz
	Max. Working Efficiency	90%
Output Characteristics	No-load Output Voltage	27.6V, (Error±2%)
	Rated Charging Current	2A, (Error±5%)
	Max. Output Power	55W
Insulating Property	Insulation Resistance	Between input and output, input and shall both are: DC 500V, and in 1min $R_L \geqq 50M\Omega$
	Insulation Voltage Resistance	Between input and output, input and PE both are: AC3kV, and in 1min leakage current: $I_L \leqq 3.5mA$
Working Conditions	Working Temperature	(-30~+55)°C
	Storage Temperature	(-40~+85)°C
	Working Humidity	20%RH~93%RH (No condensation)
Shape Structure	Weight	150g
	Dimension	80mm×35.5mm×65mm (length*width*height)

5 OPERATION

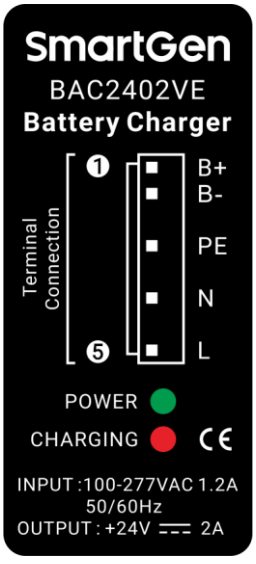

Fig.2 – BAC2402VE Mask

Table 3 –Wiring Connection

Icon	Function	Description
1	B+	Connect to positive electrode of battery, and recommend using BVR1.5mm^2 multi-strand copper wire.
2	B-	Connect to negative electrode of battery, and recommend using BVR1.5mm^2 multi-strand copper wire.
3	PE	Terminal connect to the ground
4	AC input terminals	Terminal L and Terminal N connect to AC (100-277) V, and recommend using above BVR1.0 mm^2 multi-strand cooper wire.
5		
Red Indicator Lamp	Charging indicator	Lamp illuminates while charging.
Green Indicator Lamp	Power indicator	Lamp illuminates while charger is working.

NOTE 1:

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

6 CASE DIMENSIONS

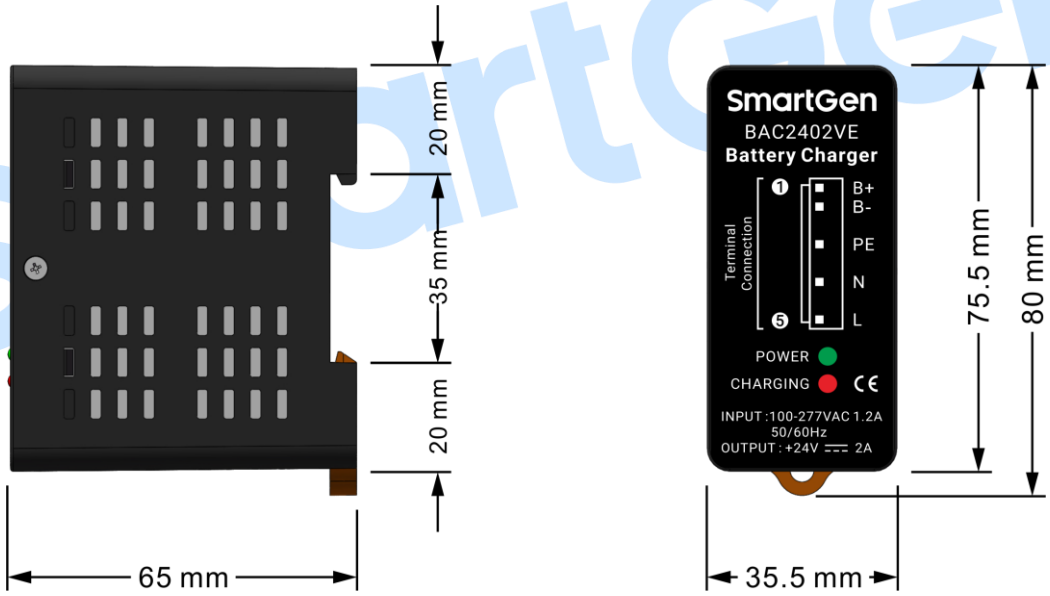

Fig.3 – BAC2402VE Guide-rail Installation

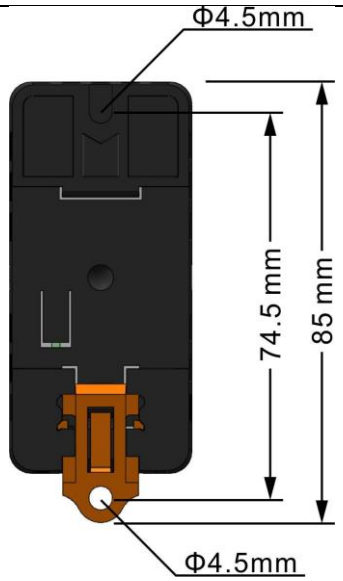

Fig.4 – BAC2402VE Screw Fixed Installation

7 APPENDIX: PACKING LIST

Table 4 – Packing List

No.	Name	Quantity	Remark
1	BAC2402VE battery charger	1	
2	Dupont plug	1	
3	Pin	10	
4	Installation instruction	1	