BCC6A MK2 AUTOMATIC BATTERY CHARGER
USER MANUAL

Software Version

No.	Version	Date	Note
1	V1.0	2023-06-01	Original release.
2	V1.1	2024-08-27	Update Curve Chart.

Chongqing Mebay Technology Co.,Ltd
Add: No6-2,Building 4, Gangan Rd, Jiangbei District, Chongqing.
Tel：+86-23-6869 3061
Fax：+86-23-6765 8207
Web：http://www.mebay.cn
http://www.cqmb.cn
E_mail：sales@mebay.cn

Symbol Description

Symbol	Description
 Note	Remind operators to operate correctly, otherwise it may cause the equipment not to work correctly.
 Be care	It is indicated that potential hazards can damage equipment without proper precautions.
 Warning	It is indicated if appropriate preventive measures are not taken, potentially dangerous situations may result in death, serious personal injury or significant property losses.

Warning

1. The installation of this equipment must be carried out by professionals.
2. When installing and operating the Charger, please read the entire instruction manual first.
3. Any maintenance and commissioning of the equipment must be familiar with all the equipment, safety standards and precautions in advance, otherwise it may cause personal injury or damage to related equipment.
4. This product is specially designed for charging lead-acid batteries. Because of the output contains impulse components, it can not be directly used as a power supply for electronic equipment without lead-acid batteries. Otherwise, it may cause interference or even damage to electronic devices.

Be Care

1. Please pay attention to prevent water or other liquid from being sprinkled on this charger.
2. When using this charger, we should pay attention to ventilation and heat dissipation and keep away from high temperature and heat radiation.

Catalogue

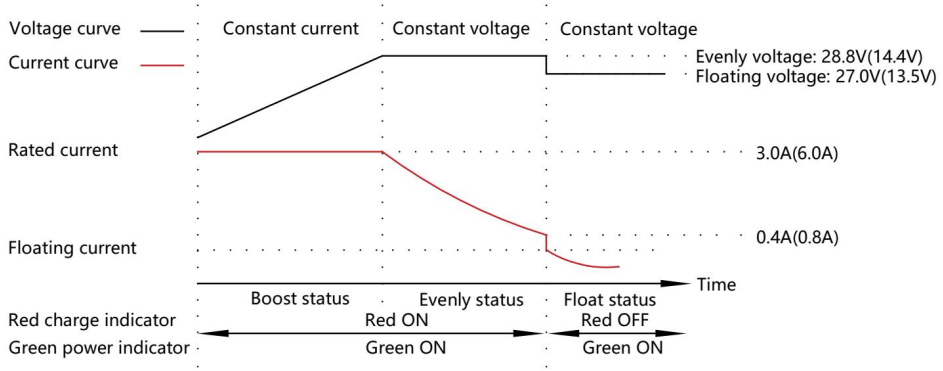
1. Summary

The charger is specially designed for the lead-acid battery used in the engine. It adopts the three-stage intelligent control mode of constant current fast charging, constant voltage evenly and trickle floating charging. It can be charged for a long time without damage to the battery. It can maintain the full state of the battery and ensure the service life of the battery. The charger can be used in parallel with the engine charging generator without disconnecting the charger during the operation of the engine.

2. Main Features

- ◆ Large area for heat dissipation, good effect and strong anti-interference ability.
- ◆ The use of aluminium for heat dissipation, good heat dissipation and high interference resistance;
- ◆ Using advanced switching power supply mode, wide AC input voltage range.
- ◆ Three stage intelligent charging to maintain battery power automatically.
- ◆ With over-current, short circuit and reverse connection protection.
- ◆ It has charging voltage fine tuning function.
- ◆ It has LED led, which can indicate the working state of the charger.

3. Charging Principle



The charger adopts a three-stage intelligent control mode in accordance with the characteristics of lead-acid batteries.

The first charging mode is "constant current mode", when the battery voltage is lower than the preset value, it is a constant current charging stage; the charging current is rated at 3A (6A), the high current charging makes the battery power rise rapidly, the rising process is a fast charging state, the performance is character by the red charging indicator light is always on.

The second stage of charging mode is "constant voltage mode", when the battery voltage rises above the preset value soon after charging in constant current mode, the charging current decreases as the battery voltage rises, the charger maintains constant voltage output at this time, the charging current decreases slowly and the terminal voltage of the battery is slowly stabilised at the average charging

voltage value, during this process the red The charging indicator lights up. The internal timer starts timing when the evenly state is reached and the charging current drops below 0.4A (0.8A) or after approx. 3.5 hours to float charge mode;

The charger enters an evenly charge state: when the charging current is greater than 0.4A (0.8A) and less than 2.6A (5.2A).

The third stage of charging mode is "float mode", after the battery has been charged in both modes, the battery is basically full, the charger output voltage automatically switches to the float voltage of 27V (13.5V), the charging current drops to 0.4A (0.8A), the performance characteristics of the red charging indicator goes out. The float mode charging current offsets the self-discharge of the battery and maintains the battery in a fully charged state without the need to disconnect the charger and has no effect on battery life.

4. Specification

Category	Items	12V	24V
Input	Nominal AC Voltage	AC 95~280V	
	Max. AC Voltage	AC 90~305V	
	AC Frequency	50Hz/60Hz	
	Max. Input Current	2A	
	Max. Efficiency	>85%	
Output	Charging Current	6A,(Error±2%)	3A,(Error ±2%)
	Float Voltage	13.5V	27V
	Evenly Voltage	14.4V	28.8V
	Max. Output Power	87W	
	No-load power consumption	<3W(Error ±1%)	
Insulation	Insulation Resistance	Between input and output, input and shell both are: DC500V 1min R>500MQ	
	Insulation Voltage	Between input and output, input and shell both are: DC 1500V 1min Leakage current: I<3.5mA.	
Working Condition	Working Temperature	-30-55°C	
	Storage Temperature	-40-85°C	
	Working Humidity	20%RH-93% RH(No condensation)	
EMC	EN：55032； IEC/EN61000-4； GB/T17626；		
Profile	Dimension	155mmx95mmx51mm(Length*Width*Height)	
	Mounting hole distance	132mm×80mm(Length*Width)	
	Weight	0.5kg	

5. Operation instruction

◆ **Charge voltage regulation:**

When the charger is installed on site for voltage regulation, the battery must be disconnected from the charger and the voltage potentiometer (VOLT ADJ.) must be adjusted at the same time as the output voltage of the charger is measured until the appropriate value is reached.

Clockwise adjustment of the VOLT ADJ. potentiometer can increase the output voltage and reduce the output voltage by counterclockwise adjustment.

Note: 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.

Note: During gen-set 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. Panels and instructions

◆ Panel diagram

◆ Descriptions of terminal connection

No.	Function	Description	Cable cross sectional area
L	AC input L	AC input,MAX AC95-280V.	1.0mm^2
N	AC input N		1.0mm^2
PE	GND connected terminal	Internally connected with shell.	1.5mm^2
B-	Battery B-	Charger output negative.	1.5mm^2
B+	Battery B+	Charger output positive.	1.5mm^2

◆ Indicator function description

Indicator	Status	Function
POWER	ON	The charger works normally.
	OFF	The charger is not energized or failed.
CHARGING	ON	The charger is in charging state, and the output current is >0.4A.
	OFF	The charger is in floating charge state, and the output

		current is <0.4A.

7. Overall Dimension and Terminal connection

◆ **Overall Dimension:**

◆ The battery charger is installed by four screws with the diameter of 4MM.

◆ Installation size as below :W80mm * H132mm