

BCC3A BATTERY CHARGER USER MANUAL



Software Version

No.	Version	Date	Note
1	V1.0	2020-05-06	Original release.

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.



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

**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.

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Notes:

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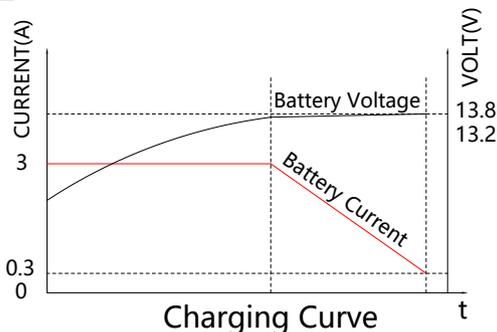
Summary

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, current limiting 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.

Main Features

- ◆ The metal shell has good heat dissipation effect and strong anti-interference ability.
- ◆ Using advanced switching power supply mode, wide AC input voltage range.
- ◆ Three stage intelligent charging to maintain battery power automatically.
- ◆ With short circuit and reverse connection protection.
- ◆ It has charging voltage fine tune function.
- ◆ It has LED which can indicate the working state of the charger.

Charging Principle



The charger is designed according to the characteristics of the lead-acid battery used in the engine, and adopts the three-stage intelligent control mode of constant current fast charging, current limiting and trickle floating charging. When the battery voltage is lower than the presets value, the charging current decreases with the increase of the battery voltage and enters the current-limiting charging stage. Thereafter, the charging current only counteracts the self-discharge of the battery, and maintains the battery in full state without disconnecting the charger, which has no effect on the battery life.

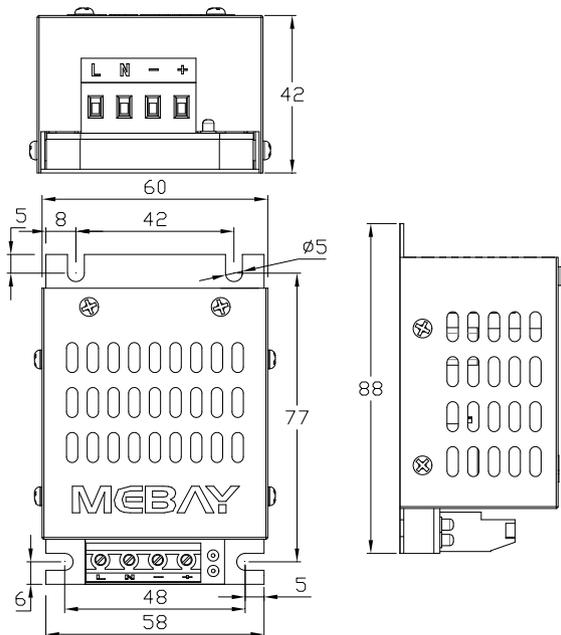
Specification

Category	Items	12V
Input	Nominal AC Voltage	AC 100~280V
	Max. AC Voltage	AC 90~305V
	AC Frequency	50Hz/60Hz

	Max. Input Current	1A
	Max. Efficiency	85%
Output	Charging Current	3A (Error±5%)
	Max. Power	40W
	No-load Voltage	13.8V, (Error ±1%)
Insulation	Insulation Resistance	Between input and output, input and shell both are: DC500V 1min $R_L > 500MQ$
	Insulation Voltage	Between input and output, input and shell both are: AC 1600V 50Hz 1min Leakage current: $I_L 3.5mA$.
Working Condition	Working Temperature	-30-55°C
	Storage Temperature	-40-85°C
	Working Humidity	20%RH-95% RH (No condensation)
Profile	Weight	0.3kg
	Dimension	88mmx64mmx42mm(Length*Width*Height)

Overall Dimension and Terminal connection

◆ Overall Dimension:



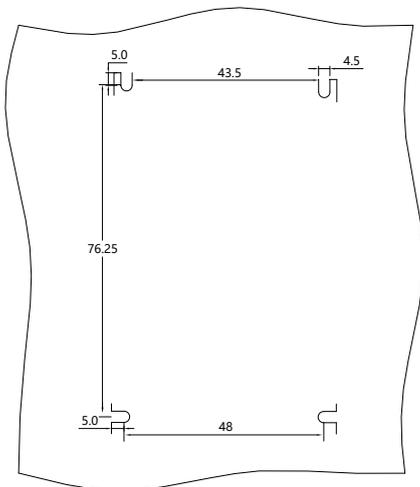
◆ Descriptions of terminal connection

No.	Function	Description	Cable cross sectional area
L	AC input L	AC input, MAX AC100-280V.	1.0mm ²
N	AC input N		1.0mm ²
B-	Battery B-	Battery positive and negative	1.5mm ²
B+	Battery B+		1.5mm ²

Installation instruction

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

◆ Installation size as below: W44mm * H77mm



◆ withstand and voltage test



If you need to test the system voltage withstand, please disconnect all the charger terminals to avoid high voltage into the damaged charger.

Panels and instructions

◆ Panel diagram



◆ POWER indicator function description

Indicator Status	Mani function
Illuminated	The charger works normally.
Eliminated	The charger is not energized or failed.

◆ CHARGING indicator function description

Indicator Status	Main function
Illuminated	The charger is in charging state, and the output current is >0.3A.
Eliminated	The charger is in floating charge state, and the output current is <0.3A.



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 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.