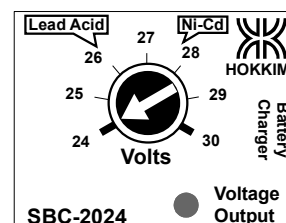


HOKKIM *giving you control* Control & Protection Relays

Model : SBC-2024
Description : 20 Ampere Battery Charger.
Type : Constant Voltage SCR controlled with over current protection.

Features

- Terminals for voltmeter and ammeter.
- Boost facility provided with Boost ON warning Red LED.
- Output voltage available for testing.
- Output voltage adjustable for Lead Acid or Ni-Cd battery.
- 5 nos. 10,000uF capacitor for smooth DC output.
- Short circuit protection.
- Super compact in size.
- Charger fail alarm contact.
- Clear terminals marking for easy connection.

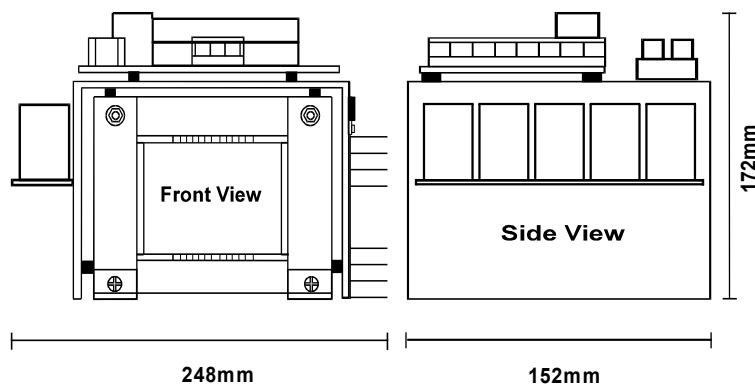


Utilization

The Hokkim SBC-20 battery charger is very versatile and suitable for charging Lead Acid or Nickel Cadmium Battery. It can also be used as a power supply source by adding one or more 10,000uF 50V capacitor in parallel to the output B+ and B- terminal. To test the charger, connect the capacitor and press the START button, wait until the output voltage is stable and release the button. If the test load exceed the current setting, the SBC-20 switches off automatically.

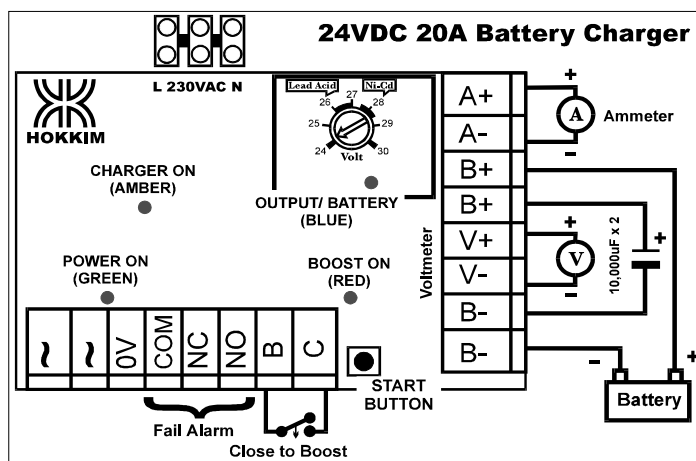
When a battery is connected to the SBC-20 to be charge, the voltage of the battery must not be less than half the rated voltage. If so, the SBC-20 will not start charging automatically. You have to manually start it by pressing the START button. In this case, monitor the voltage until it reaches more than half the rated voltage, then release the button. If the battery voltage is above half the rated voltage the SBC-20 will start charging it automatically when connected.

The charger can be permanently connected to the generator's battery, even if the generator is running. Once the generator's alternator has charge the battery to a voltage higher then the SBC-20's set voltage, it will automatically switch off the charging.



Technical Data

Supply Voltage	240VAC $\pm 10\%$
Frequency	50-60Hz
Output Voltage	☐ 12VDC ☐ 24VDC
Boost Voltage	+10% of Set Voltage
Maximum Output Current	20A
Indication LED	1) Input voltage (Green) 2) Output Voltage (Blue) 3) Boost ON (Red) 4) SCR Control (Amber)
Consumption	(24V) : 270VA(Full Load) 20VA(No Load)



Additional Information.

Reverse Polarity

Warning : If the battery is reverse polarity connected, the blue output LED will not light and the charger will not start charging. In this case Do Not press the START button. If you press the START button the charger SCR will Definitely Be Burnt.

Typical Charging Voltage

It is recommended to check with battery manufacturer.

<u>Type</u>	<u>12 Volts</u>	<u>24 Volts</u>
Lead Acid	13.0V - 13.5V	26.0V - 27.0V
Nickel Cadmium	13.75V - 14.25V 10 Cells	27.5V - 28.5V 20 Cells

Important : The first time switching on the charger, check the charging current and the battery voltage every hour until the charging current is near zero. Make sure the battery voltage does not exceed the battery manufacturer recommended charging voltage. After that periodically check the battery voltage with a digital voltmeter and the battery water level according to your maintenance schedule to maximize the battery life. If you do not do this, you may need to replace your battery or charger in a short time.

Battery Water

Warning : Do Not use Lead Acid battery water normally used for cars for Nickel Cadmium batteries or you will definitely damage your Nickel Cadmium battery. Use only distill water for Nickel Cadmium batteries and Lead Acid battery water or distill water for Lead Acid Batteries. Your battery warranty is void if you fail to observe this.

Gassing

When gassing occurs, the battery is being over charged. Check the charger voltage and reduce the charging voltage accordingly. To avoid over heating of battery and charger, it is better to gradually increase the charging voltage to bring the battery voltage to normal full charge state.

Float or Trickle Charge

A battery is said to float when charging voltage is slightly higher then the open circuit voltage of the battery. This helps the battery to continuously maintain its full charge state. It is critical to correctly apply a float voltage across the battery or under or over charging may occur, resulting in reduced life and service of battery. Use an accurate digital voltmeter to check.

Boost or Equalizing Charge

The purpose of a boost or equalizing charge is to ensure that every plate in every cell is brought with certainty to a state of full charge by a slight overcharge (boost). Do not perform equalizing charges on a routine basis, only under certain conditions like ; a) After heavy discharge, b) Uneven cell voltage, c) When electrolyte level falls below minimum and after topping up with distill water.

Terminate boost charge when above conditions are normal and the cell gasses freely and equally. Do not leave a battery under boost charge for more then 48 hours. To be certain check details with battery manufacturer.

This additional information only serves as a guide.
 You are fully responsible to get the exact recommendation for your battery.