

Bioenno Power SC-122420JUD CC/CV Series User Manual

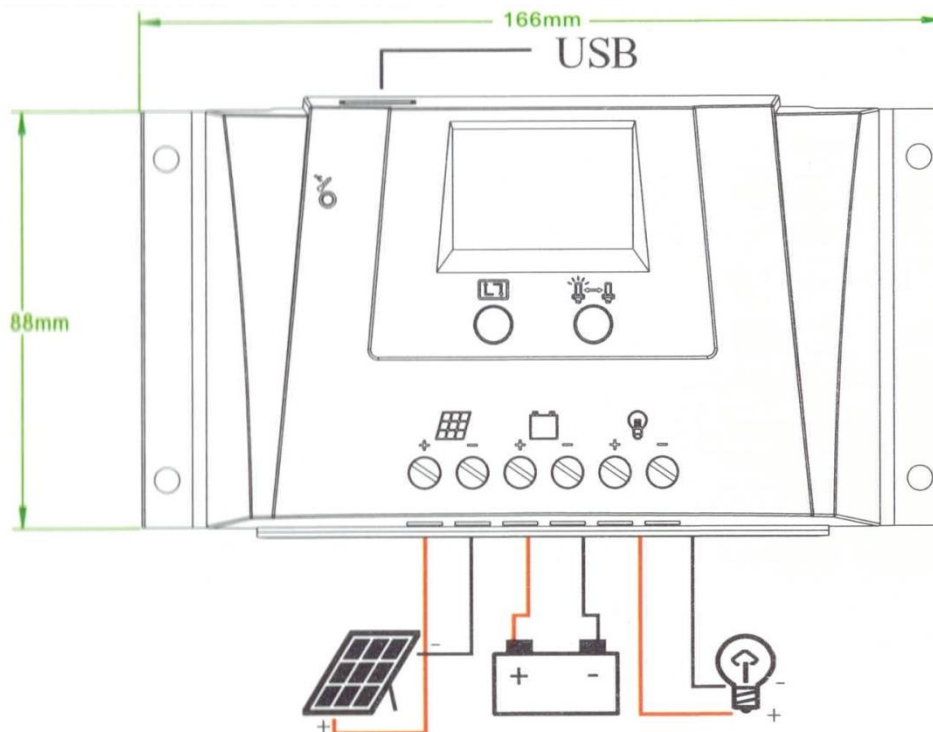
CC/CV SOLAR CHARGE CONTROLLER FOR LFP

THIS CONTROLLER IS FOR USE WITH LITHIUM IRON PHOSPHATE BATTERIES ONLY



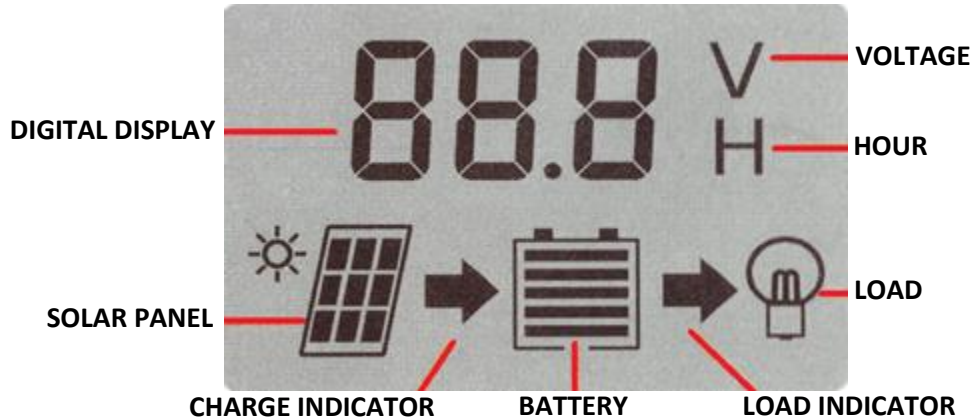
OVERVIEW

Thank you for choosing the Bioenno Power SC-122420JUD Series CC/CV Solar Charge Controller. Your product comes in 20A Maximum Load Current and is designed to be used with Lithium Iron Phosphate (also commonly known as LiFePO4 or LFP) batteries only. The controller uses our proprietary CC/CV Constant Current/ Constant Voltage circuitry to ensure maximum compatibility and performance with the Bioenno Power battery. Your Solar Charge Controller comes equipped with an LCD display with a visual presentation of usage status for your solar system and additionally features our smart technology chipset which allows your Solar Charge Controller to automatically function at the correct mode of operation as well as the ability to manually adjust between different modes of operation and load power delivery.

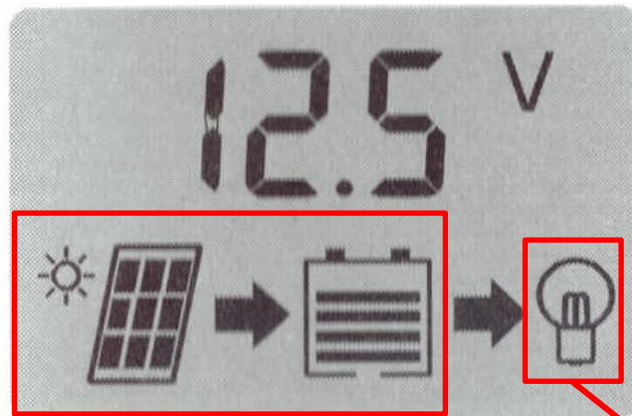


DISPLAY

Your LCD display will come with the following icons:



The Main Display Menu should display a combination of one or more of the following icons upon startup of your Solar Charge Controller Unit:



These are the icons you should expect to see and engage with under Bioenno Power recommended usage conditions. These icons reflect the state of function of your Solar Panel and your Battery.

YOUR LOAD SHOULD BE CONNECTED TO YOUR BATTERY AND NOT TO THE SOLAR CHARGE CONTROLLER DIRECTLY.

While you can safely attach your load to the load port, we do not recommend using the load port to support your device(s). Always connect your load directly to the battery. You generally can ignore this icon.

SPECIFICATIONS

Rated Voltage: 12V/24V

Maximum Load Current: 20A

Input Voltage Range: <50V*

Float/Absorption: 14.4V~27.6V

Load Disconnect: 10.7V/21.4V

Efficiency: 95%~97% (In optimum conditions)

Operation Temperature: -4°F ~ 122°F (-20°C ~ 50°C)

Dimensions: 6.5 in. x 3.46 in. x 1.5 in. (166 mm x 88 mm x 38 mm)

Weight: 0.59 lbs. (0.27 kg)

*Note: This solar charge controller can accept any voltage under 50V but it will not boost the voltage if the panel voltage is less than the battery voltage. Make sure your panel voltage is higher than your battery voltage for optimum performance.

OPERATION PROCEDURE ORDER

- 1) Make sure the total rated current of the Solar Panel Array and Load are less than the rated current of your Solar Charge Controller – in this case your maximum current is 20A
- 2) Make sure the polarity of the wiring from your Solar Panel Array, Battery and Load are correctly matched to prevent the risk of a short circuit which may damage unprotected devices
- 3) Mount you Solar Charge Controller to your selected surface and fasten it securely using screws
- 4) Check whether the Battery voltage and Solar Panel Array voltage is within the requested range
- 5) Loosen the screw terminals on your Solar Charge Controller – there are 6 screw terminals total from left to right in this order: Solar Panel Positive, Solar Panel Negative, Battery Positive, Battery Negative, Load Positive and Load Negative
- 6) Connect the Battery's input to your Solar Controller using the two screw terminals in the middle marked with the Battery pictogram, you may need an adapter – attach the wiring securely but do not over-torque your Solar Charge Controller's terminals
- 7) Connect your Load to your Battery's output using the Battery as the buffer between the Solar Panel Array and the Load (we DO NOT recommend using the Load Terminals for most uses) – attach the wiring securely but do not over-torque your Solar Charge Controller's terminals
- 8) Connect the Solar Panel Array to the Solar Panel Input on your Solar Charge Controller using the two screw terminals on the left marked with the Solar Panel pictogram – attach the wiring securely but do not over-torque your Solar Charge Controller's terminals
- 9) Your Solar Charge Controller should assume standard operation herein

STATUS CODES

INDICATOR	STATE	DESCRIPTION	MEANING
CHARGE/ PANEL	No Icons	PANEL OFF, FUNCTION ICON OFF	No Solar Panel detected
	Panel Icon On Function Icon Off	PANEL ICON ON, FUNCTION ICON NOT INDICATING	Solar charging stopped
	Panel Icon On Function Icon On	PANEL AND FUNCTION ICON ON, BATTERY ICON IS SCROLLING	Solar Panels are charging Battery
LOAD	Function Icon On Light Bulb Icon On	BOTH INDICATORS ARE ON SOLID	Load is ON
	Function Icon Flashing Light Bulb Icon On	LOAD INDICATOR ON, FUNCTION INDICATOR FLASHING	Load is OFF
BATTERY	Battery Icon Empty	NO BARS	Battery requires charging
	Battery Icon Scrolling	SCROLLING BARS	Battery is charging
	Battery Icon Full	FULL BARS, NO SCROLLING	Battery is fully charged

FAULTS AND REMEDIES

ERROR CODE	PHENOMENON	REMEDY
E01	BATTERY LOW VOLTAGE	CHECK OPERATION MODE, CONFIRM OPERATION MODE IS SET DEFAULT TO "AUTO" OR SET TO CORRECT VOLTAGE IF YOU ALREADY HAVE A SPECIFIC SYSTEM ASSEMBLED
E02	OVERLOAD, LOAD IS OFF	DECREASE LOAD
E03	SHORT CIRCUIT, LOAD IS OFF	REMOVE BATTERY AND LOAD, CONFIRM THERE IS NO REVERSE-POLARITY, RE-ATTACH IN CORRECT CONFIGURATION
E04	OVERVOLTAGE ON BATTERY, LOAD IS OFF	CHECK BATTERY, CONFIRM BATTERY IS APPROPRIATELY SIZED FOR APPLICATION
E05	OVERCURRENT ON SOLAR PANEL, CONTROLLER HAS STOPPED CHARGING	CHECK PANEL OUTPUT, LOWER PANEL OUTPUT IF TOO HIGH

***Note:** In the event of a short circuit, your Solar Charge Controller trip an auto-reset fuse – disconnect load immediately, let it stand for 10-20 minutes, the internal fuse will automatically reset during this period. Before resuming operation, confirm your load does not exceed the 20A Maximum Load Current of your Solar Charge Controller.

Contact Us

Mail: **Bioenno Power**
3657 W. McFadden Ave.
Santa Ana, California 92704

E-mail: **sale@bioennopower.com**
Phone: **+1 888 336-7864**

SC-122420JUD CONTROLLER ADDENDUM

This is an addendum to the user manual. By default the SC-122420JUD is set to charge LiFePO4 batteries. To charge other battery chemistries, do the following:

- 1) Press the Menu (left red) button until "b00" shows on the display
- 2) Hold down the Menu (left red button) for 5 seconds, until the "b00" setting starts to flash.
- 3) Push the Select (right red button) until "b01, b02, b03" shows up corresponding the following
 - b00 = LiFePO4
 - b01 = Flooded Lead Acid
 - b02 = AGM (Absorbed Glass Mat)
 - b03 = Gel
 - b04 = LiFePO4

b00 is the same as b04 settings