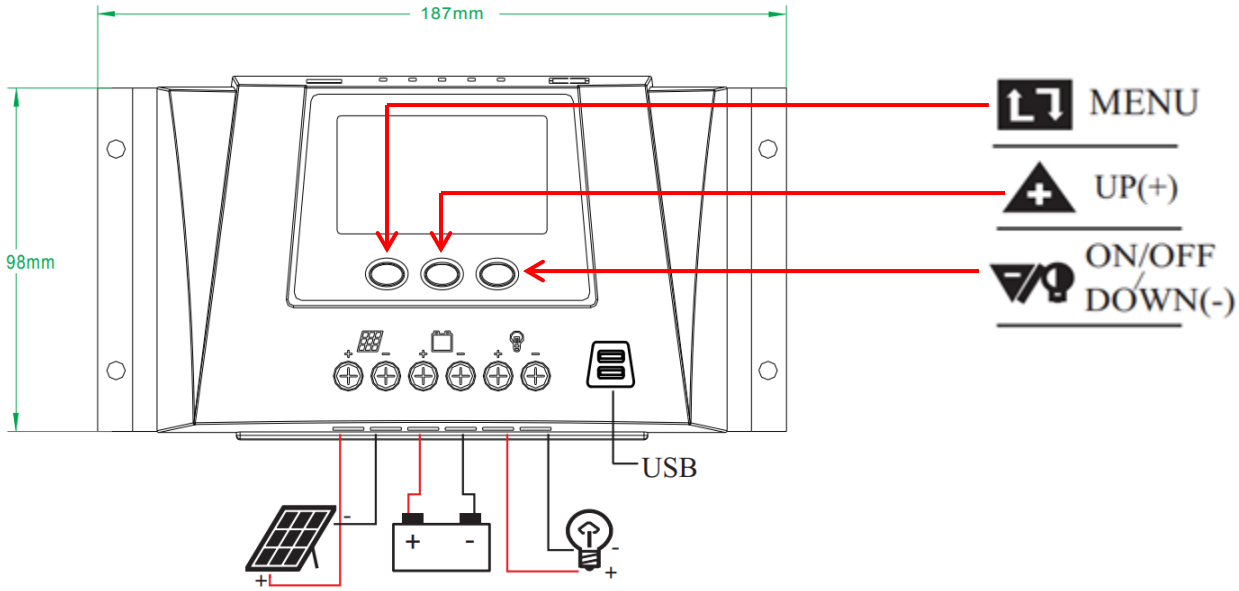
Bioenno Power SC-4830JUD CC/CV Series User Manual

12V/24V/36V/48V CC/CV SOLAR CHARGE CONTROLLER FOR LFP

THIS CONTROLLER IS FACTORY SET FOR LITHIUM IRON PHOSPHATE BATTERIES

OVERVIEW

Thank you for choosing the Bioenno Power SC-4830JUD Series CC/CV Solar Charge Controller. Your product comes in 30A Maximum Load Current and is designed to be used with Lithium Iron Phosphate (also commonly known as LiFePO4 or LFP) batteries and can be additionally set for AGM and SLA. 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.



SPECIFICATIONS

Rated Voltage: 12V/24V/36V/48V

Maximum Load Current: 30A

Input Voltage Range: <50V*

Load Disconnect: 9.9V/11.2V/13.2V/14V (Depending on voltage of system)

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

Operation Temperature: -31°F to 131°F (-30°C to 50°C)

Dimensions: 7.3 in. x 3.66 in. x 2.08 in. (186mm x 93 mm x 53 mm)

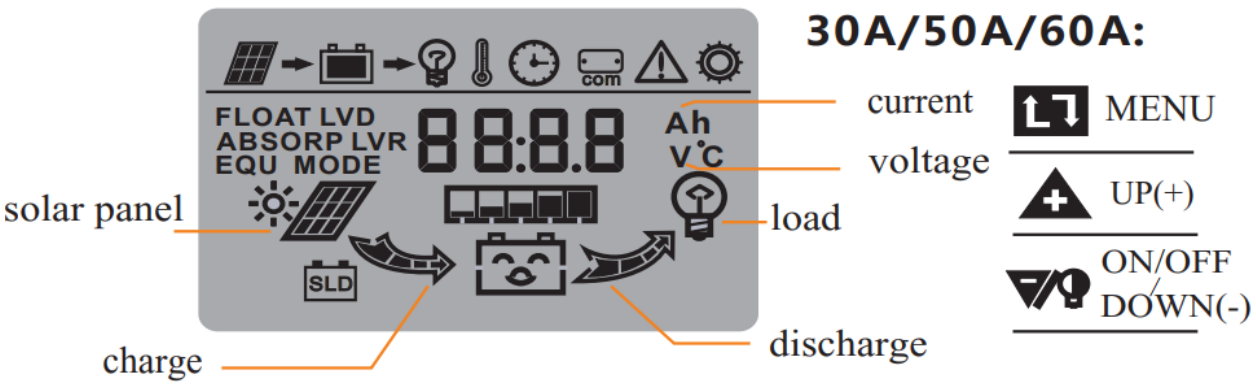
Weight: 0.84 lbs. (0.38 kg)

*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 30A
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

VARIABLE VOLTAGE/HIGH CURRENT DISPLAY



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

INDICATOR ICONS

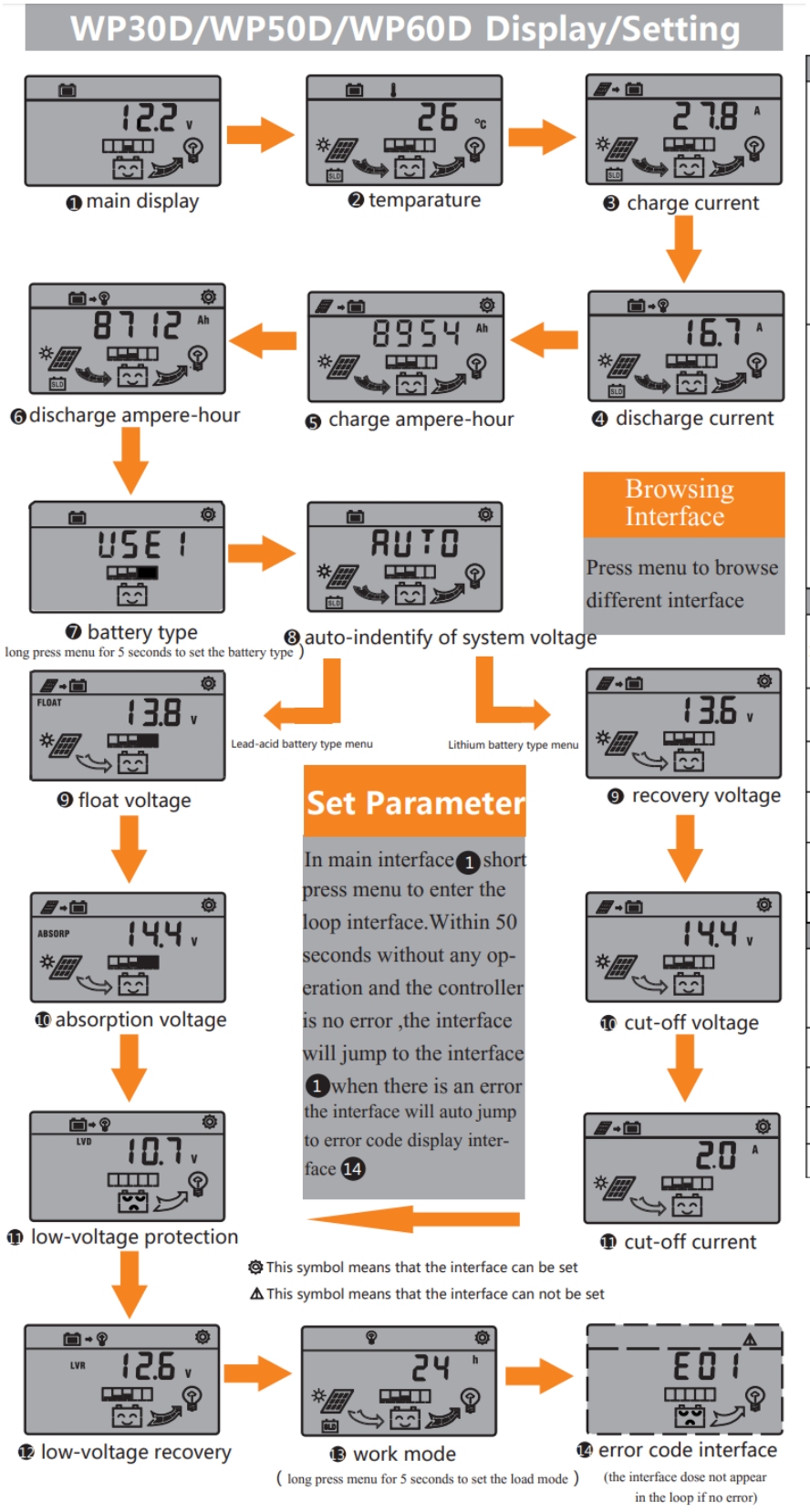
Solar Panel: Solar Panel (icon may be solid or flashing depending on current usage or situation)

Battery: Battery (icon may be solid, scrolling or empty depending on current usage or situation)

Load: Light Bulb (icon may be solid or flashing depending on current usage or situation)

Function: Arrow (icon may be solid or flashing depending on current usage or situation)

SCREEN, INTERFACE AND FUNCTION PARAMETERS



Charge management

Lead-acid batteries	3-stage charging(bulk charge, absorption charge, float charge)				
	Lead-acid batteries	Sealed	GEL	Flood	USE1
	Float voltage	13.8V	13.8V	13.8V	13.8V (9~15V adjustable)
	Absorpion voltage	14.4V	14.0V	14.6V	14.4V (9~15V adjustable)
	Absorption time	2h			
	Absorption recorvery voltage	12.6V			
	Limited charge voltage	15.5V			
	Temperature compensation	-4mV/cell/ °C			

Lithium batteries	3-stage charging(bulk charge,constant-voltage charge,stop charge)					
	Lithium batteries	3.7-3	3.7-4	3.2-4	3.2-5	USE2
	Constant voltage	12.6V	16.8V	14.4V	18.0V	14.4V(9~17V adjustable)
	Cut-off charge current	2A(0.1A~30A adjustable)				
	Recorvery charge voltage	12.0V	16.0V	13.6V	17.0V	13.6V(9~17V adjustable)

Discharge Management

Batteries Type	Lead-acid batteries	Lithium Battery				
		3.7-3	3.7-4	3.2-4	3.2-5	USE1
Low-voltage protection	10.7V(9~15V adjustable)	9.9V	13.2V	11.2V	14.0V	11.2V(9~17V adjustable)
Low-voltage recovery	12.6V(9~15V adjustable)	11.1V	14.8V	12.8V	16.0V	12.8V(9~17V adjustable)
Over-voltage protection	16.0V	18.5V				
Over-voltage recovery	15.5V	18.0V				
USB power	5V USB , the maxium output current is 2A					

Voltage Indentify Range Of Battery

System voltage	Lead-acid batteries	Lithium Battery				
		3.7-3	3.7-4	3.2-4	3.2-5	USE2
12V	≤ 17V	≤14.6V	≤18.8V	≤16.4V	≤20V	≤ 16.4V
24V	≤ 30V	≤26.2V	≤34.6V	≤29.8V	≤37V	≤29.8V
36V	≤40.8V	≤38.2V	≤50.8V	≤43.6V	≤54.4V	≤43.6V
48V	>40.8V	> 38.2V	>50.8V	> 43.6V	> 54.4V	> 43.6V

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 30A Maximum Load Current of your Solar Charge Controller.

MANUAL MODE RESET/OVERRIDES

This unit has multiple programmed settings for 12V only, 24V only, 36V only, 48V only and AUTO – the AUTO setting is the recommended setting as it will accommodate for all voltages.

1. Press Menu Button (Left Button) to cycle to 48V
2. Hold down Menu Button for 5 seconds or until display begins flashing
3. Toggle ON/OFF/DOWN Button (Right Button) and cycle to AUTO (recommended setting) or other settings depending on your application
4. Hold down Menu Button for 5 seconds and wait for unit to reboot in correct mode

*For AGM/SLA Battery modes, please contact us below for instructions on the proper override sequence to change the mode on your unit.

Contact Us

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