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Bioenno Power SC-4830JUD

Bioenno Power SC-4830JUD Universal Solar Charge Controller
User Manual

Model: SC-4830JUD | Brand: Bioenno Power

1. INTRODUCTION

Thank you for choosing the Bioenno Power SC-4830JUD Universal Solar Charge Controller. This versatile controller is designed for use in solar systems with an integrated LCD display. It supports charging LiFePO4 (Lithium Iron Phosphate), AGM, and SLA batteries across 12V, 24V, 36V, and 48V systems. The controller can handle up to 30 Amps input from solar panels and features proprietary CC/CV (Constant Current/Constant Voltage) circuitry to ensure optimal battery charging and system protection. A solar charge controller is essential for any solar setup involving a panel, battery, and/or load to maintain regulated voltage output.



Figure 1: Angled view of the Bioenno Power SC-4830JUD Solar Charge Controller, showing the LCD display and connection terminals.

2. SETUP AND CONNECTIONS

Before making any connections, ensure all power sources are disconnected. Connect components in the following order: Battery > Solar Panel > Load. This sequence is crucial for proper system initialization and protection.

2.1 Terminal Connections

The controller features screw-type terminals for secure connections. Always observe correct polarity (+/-) as indicated on the device.

1. **Battery Connection:** Connect your battery to the terminals marked with a battery icon. This connection must be made first to allow the controller to detect system voltage.
2. **Solar Panel Connection:** Connect your solar panel(s) to the terminals marked with a solar panel icon. Ensure the solar panel voltage is within the controller's specified range.
3. **Load Connection:** Connect your DC loads (e.g., lights, radios) to the terminals marked with a light bulb icon. The controller provides a regulated output for these loads.

2.2 USB Ports

The controller includes two USB ports for charging small electronic devices like phones or tablets. These ports provide 5V/1A output.



Figure 2: Top view of the controller, highlighting the LCD display, control buttons, and connection terminals for solar panel, battery, load, and USB ports.

2.3 Mounting

The controller features integrated mounting holes on its sides, allowing it to be securely attached to a hard surface for permanent placement. The back of the unit includes cooling fins for heat dissipation.

3. OPERATING INSTRUCTIONS

The integrated LCD display and control buttons allow for monitoring and configuration of the charge controller.

3.1 LCD Display and Buttons

The LCD displays various system parameters such as voltage, current, charge status, and battery type. The buttons (Menu, Up, Down) are used to navigate through the display interfaces and adjust settings.

30A/50A/60A:

current
voltage
load
discharge

STATUS CODES

INDICATOR	STATE	DESCRIPTION	MEANING
PANEL	No icon	PANEL OFF, FUNCTION ICON OFF	No Solar Panel detected
	Function icon On	NOT INDICATING	Solar charging stopped
	Function icon On	PANEL LOAD FUNCTION ICON ON, BATTERY ICON IS SCROLLING	Solar Panels are charging Battery
LOAD	Function icon On	BOTH INDICATORS ARE ON SOLID	Load is ON
	Light Bulb icon On	LOAD INDICATOR ON, FUNCTION INDICATOR FLASHING	Load is OFF
	Function icon Flashing	NO BARS	Battery requires charging
BATTERY	Battery icon Empty	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)

Biometric Power SC-4830UD-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 Biometric Power SC-4830UD Series CC/CV Solar Charge Controller. Your product series 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 GEL. The controller uses our proprietary CC/CV (Constant Current/ Constant Voltage) circuitry to ensure maximum compatibility and performance with the Biometric Power Batteries. 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.

MENU
UP(+)
ON/OFF
DOWN(-)

Figure 3: Detailed view of the LCD display, showing indicator icons, status codes, and their meanings for charge, load, and battery status.

3.2 Battery Type Selection

The controller is universally compatible and can be set for various battery types (LiFePO4, AGM, Sealed Lead-Acid). To set the battery type:

1. Press and hold the 'Menu' button for 5 seconds to enter the setting interface.
2. Use the 'Up' and 'Down' buttons to navigate to the battery type setting.
3. Press 'Menu' again to confirm your selection.

3.3 Charge Management

The controller automatically adjusts its charge mode (e.g., bulk, absorption, float) based on the selected battery chemistry to optimize charging and prolong battery life. It features CC/CV circuitry for efficient charging.

SCREEN, INTERFACE AND FUNCTION PARAMETERS

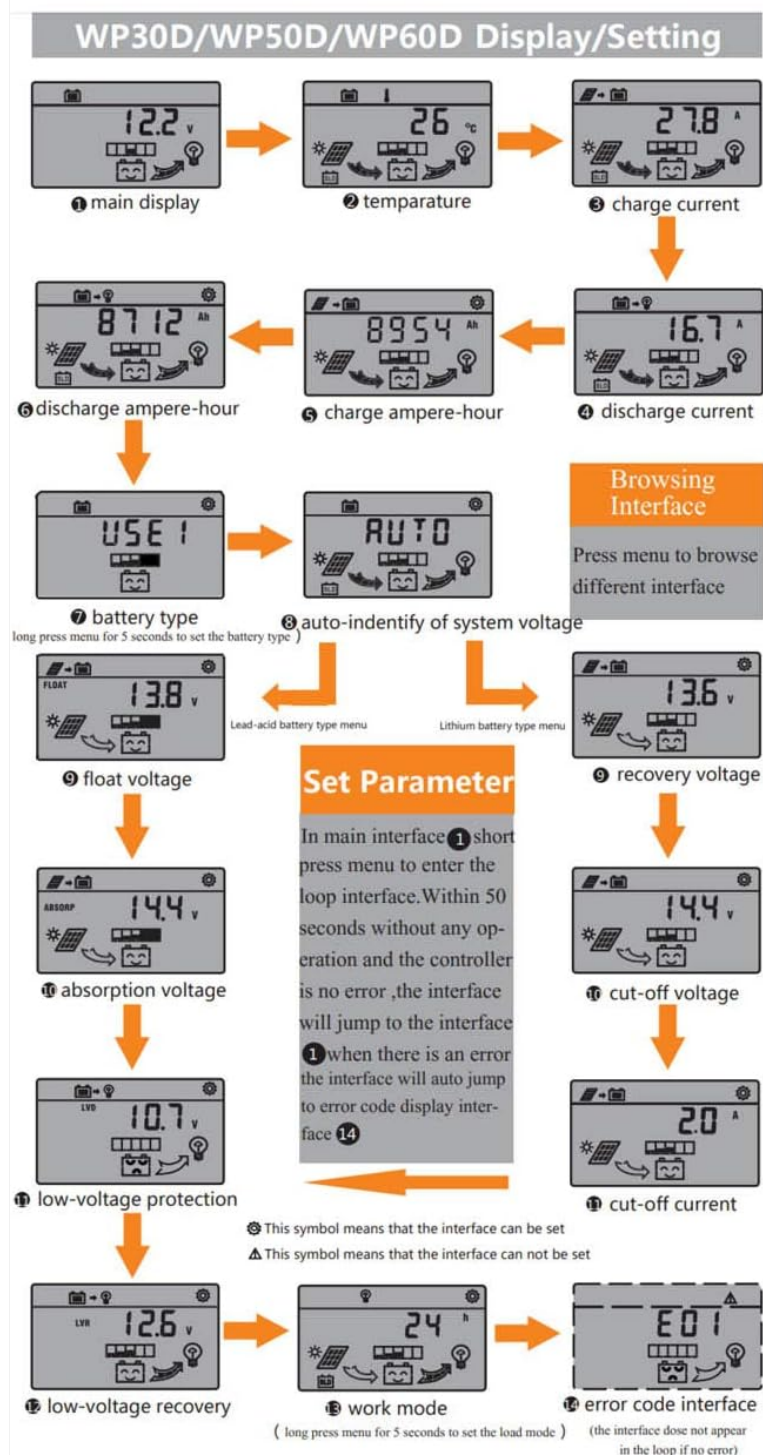


Figure 4: Screen interface and function parameters, including charge management settings for different battery types and voltage ranges.

4. MAINTENANCE

To ensure optimal performance and longevity of your Bioenno Power Solar Charge Controller, regular maintenance is recommended:

- **Cleanliness:** Keep the controller clean and free from dust and debris. Use a dry, soft cloth for cleaning.
- **Connections:** Periodically check all terminal connections to ensure they are tight and free from corrosion. Loose connections can lead to power loss or overheating.
- **Ventilation:** Ensure the cooling fins on the back of the unit are not obstructed to allow for proper heat dissipation.
- **Environment:** Operate the controller within its specified environmental conditions (temperature, humidity) to prevent damage.

5. TROUBLESHOOTING

This section provides guidance on common issues you might encounter with your solar charge controller.

5.1 Common Issues and Solutions

- **No Display/Power:**
 - Check battery connections and ensure correct polarity.
 - Verify battery voltage is above the minimum operating voltage for the controller.
- **Battery Not Charging:**
 - Ensure solar panel connections are secure and correctly polarized.
 - Check for sufficient sunlight on the solar panels.
 - Verify the selected battery type matches your connected battery.
 - Inspect the solar panel for damage or shading.
- **Load Not Receiving Power:**
 - Check load connections and polarity.
 - Ensure the battery has sufficient charge. The controller may cut off load power if battery voltage is too low (low-voltage protection).
 - Check the load settings on the LCD display.
- **Error Codes (E01, E02, etc.):**
 - Refer to Figure 4 for a list of common error codes and their meanings. These typically indicate issues with voltage, current, or internal faults.
 - If an error persists, disconnect all power, wait a few minutes, and reconnect. If the error returns, contact customer support.

5.2 Status Codes and Indicator Icons

The LCD display uses various icons and status codes to communicate the system's state. Familiarize yourself with these indicators as shown in Figure 3 to quickly diagnose issues.

6. SPECIFICATIONS

Model Number	SC-4830JUD
Brand	Bioenno Power
Battery Voltage Compatibility	12V / 24V / 36V / 48V (Automatic Detection)

Maximum Current	30A
Solar Panel Input Voltage Range	17V to 100V
Battery Chemistry Support	LiFePO4, AGM, Sealed Lead-Acid
Charge Mode	CC/CV (Constant Current/Constant Voltage), depends on battery chemistry
Display Type	LCD
USB Output	2 x 5V/1A
Dimensions (L x W x H)	7.3 in. x 3.66 in. x 2.08 in. (186mm x 93 mm x 53 mm)
Item Weight	1 pound (16 ounces)
Color	Black

7. WARRANTY AND SUPPORT

For warranty information, technical support, or service inquiries, please contact Bioenno Power customer service. Keep your purchase receipt as proof of purchase.

Contact Information: Please refer to the official Bioenno Power website or your product packaging for the most current contact details.

ASK A QUESTION ABOUT THIS MANUAL

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page’s manual context to help answer it.

Name

Anonymous

Email

you@example.com

After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. [Privacy details](#).

Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question

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