

EPEVER VS1024AU

EPEVER VS1024AU PWM Charge Controller User Manual

Model: VS1024AU | Brand: EPEVER

1. INTRODUCTION

This manual provides detailed instructions for the installation, operation, and maintenance of the EPEVER VS1024AU PWM Charge Controller. This high-quality 10A 12V/24V automatic work charge controller features an LCD display and dual USB interfaces, designed for efficient and reliable solar power management.

The VS1024AU utilizes a series PWM charging mode, ensuring full performance within its operating temperature range. It supports multiple load control modes and incorporates comprehensive electronic protection for enhanced safety and durability.

2. SAFETY INSTRUCTIONS

- Ensure all wiring is correctly polarized and securely connected to prevent damage to the controller or connected devices.
- Always connect the battery first, then the solar panel, and finally the load. Disconnect in the reverse order.
- Do not exceed the maximum input voltage or current ratings of the controller.
- Install the controller in a well-ventilated area, away from direct sunlight, high temperatures, and moisture.
- This device is designed for indoor use. Protect it from water and dust.
- Only qualified personnel should perform installation and maintenance.
- The controller has positive grounding.

3. PRODUCT OVERVIEW

The EPEVER VS1024AU features a clear LCD display for monitoring system status and two USB ports for charging external devices.



Figure 3.1: Front view of the EPEVER VS1024AU PWM Charge Controller, showing the LCD screen, MENU and SET buttons, and dual USB charging ports.



Figure 3.2: Another front view of the EPEVER VS1024AU, highlighting the EPEVER branding and the overall compact design.



Figure 3.3: Side view of the controller, displaying the product label with model number VS1024AU, voltage, current, and various certifications including CE and RoHS. The label also includes a product identifier: 04130650127G8VGE-00526.

Key Features:

- LCD display for real-time monitoring of system parameters.
- Dual USB interfaces (5VDC/2.4A) for charging mobile devices.
- Intelligent 3-stage PWM charging (Bulk, Boost/Equalization, Float).
- Supports three battery types: Sealed, Gel, and Flooded.
- Multiple load control modes: Manual, Light Control, Dual Time, and Debug.
- Real-time energy statistics function.
- Comprehensive electronic protections: overcharge, over-discharge, overload, short circuit, reverse polarity for battery and solar panel.

4. SETUP AND INSTALLATION

Follow these steps carefully to install your EPEVER VS1024AU charge controller. Ensure all power sources are disconnected before beginning installation.

Wiring Sequence:

1. **Connect the Battery:** Connect the battery to the charge controller's battery terminals. Ensure correct polarity. The controller will display battery voltage.
2. **Connect the Solar Panel:** Connect the solar panel to the charge controller's solar panel terminals. Ensure correct polarity.
3. **Connect the Load:** Connect the DC load to the charge controller's load terminals. Ensure correct polarity.

Important: Always connect the battery first and disconnect the load first to prevent damage to the controller.



Figure 4.1: Bottom view of the EPEVER VS1024AU, illustrating the terminal connections for the temperature sensor, solar panel, battery, and DC load. Note the positive grounding configuration.

Mounting:

- Choose a dry, well-ventilated location, protected from direct sunlight and moisture.
- Mount the controller vertically on a wall or flat surface to allow for proper heat dissipation.
- Ensure there is sufficient clearance around the controller for air circulation.

5. OPERATING INSTRUCTIONS

LCD Display and Buttons:

The controller features an LCD display and two buttons: **MENU** and **SET**.

- **MENU Button:** Press to cycle through different display screens (e.g., battery voltage, solar current, load status). Long press to enter or exit setting mode.
- **SET Button:** Press to adjust parameters in setting mode. Long press to confirm settings.

Setting Battery Type:

The controller supports Sealed, Gel, and Flooded battery types. To set the battery type:

1. Long press the **MENU** button until the battery type icon flashes.
2. Use the **SET** button to select the desired battery type.
3. Long press the **MENU** button to confirm and exit.

Load Control Modes:

The controller offers several load control modes:

- **Manual Mode:** Load can be turned ON/OFF manually via the controller.
- **Light Control Mode:** Load turns ON at dusk and OFF at dawn.
- **Dual Time Mode:** Load turns ON at dusk and stays ON for a set number of hours, then turns ON again for another set number of hours before dawn.
- **Debug Mode:** For testing purposes, typically keeps the load ON.

Refer to the detailed manual for specific steps on configuring each load control mode using the MENU and SET buttons.

6. MAINTENANCE

Regular maintenance ensures optimal performance and longevity of your charge controller.

- **Check Connections:** Periodically inspect all wiring connections for tightness and corrosion. Loose connections can cause overheating and damage.
- **Clean the Controller:** Keep the controller clean and free from dust and debris. Use a dry cloth for cleaning. Do not use liquids.
- **Inspect for Damage:** Check for any physical damage to the casing, display, or terminals.
- **Monitor Performance:** Regularly check the LCD display for normal operation and expected voltage/current readings.

7. TROUBLESHOOTING

Problem	Possible Cause	Solution
No display/Controller not working	Battery not connected or low voltage; reverse polarity.	Check battery connections and voltage. Ensure correct polarity. Charge battery if too low.
Battery not charging	Solar panel not connected; low sunlight; reverse polarity of solar panel; faulty solar panel.	Check solar panel connections and polarity. Ensure adequate sunlight. Test solar panel output.
Load not working	Load disconnected; overload; short circuit; load control mode setting.	Check load connections. Reduce load if overloaded. Check for short circuits. Verify load control mode settings.
USB ports not charging	Device not compatible; controller in low power mode.	Ensure device is compatible with 5V/2.4A USB. Check battery voltage.

8. SPECIFICATIONS

Parameter	Value
Model	VS1024AU
Rated Charge Current	10A
Rated Discharge Current	10A
System Voltage	12V / 24V Auto
Max. PV Open Circuit Voltage	12V Battery: 22V; 24V Battery: 50V
USB Output	5VDC / 2.4A
Grounding	Positive
Operating Temperature	-20°C to +55°C

Parameter	Value
Enclosure IP Rating	IP30
Dimensions (L x W x H)	14.2 x 8.51 x 4.19 cm
Weight	220 g
Certifications	CE, RoHS, FC

9. WARRANTY AND SUPPORT

The EPEVER VS1024AU PWM Charge Controller comes with a **1-year manufacturer warranty** from the date of purchase.

This warranty covers defects in materials and workmanship under normal use. It does not cover damage caused by improper installation, misuse, accidents, unauthorized modifications, or natural disasters.

Customer Support:

For technical support, warranty claims, or further assistance, please contact your retailer or the manufacturer directly. Please have your model number (VS1024AU) and purchase date available when contacting support.

Manufacturer: SolarV (as per product specifications)

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.

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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