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EPEVER LS1024EU

EPEVER LS1024EU Solar Charge Controller User Manual

Model: LS1024EU | Brand: EPEVER

1. Introduction and Overview

The EPEVER LandStar EU series controller, specifically the LS1024EU model, is an advanced Pulse Width Modulation (PWM) solar charge controller designed for off-grid solar panel battery charging systems. It features a USB output port for charging electronic devices and incorporates the latest digital techniques for efficient and reliable operation. This manual provides essential information for the proper installation, operation, and maintenance of your LS1024EU solar charge controller.

Figure 1: Front view of the EPEVER LS1024EU Solar Charge Controller, showing the LED indicators, USB port, and terminal connections.

2. Important Safety Information

5.1 LED Indicators

- **Charging Status LED (⑨):** Indicates the charging status from the solar panel to the battery.
- **Battery Status LED (⑦):** Shows the current battery voltage level.
- **Load Status LED (⑧):** Indicates the status of the connected DC load (ON/OFF, Overload, Short-circuit).

5.2 Battery Type Selection

The controller supports Sealed, Gel, and Flooded battery types. It is crucial to select the correct battery type for optimal charging and battery longevity.

1. **Enter Setting Mode:** Press and hold the button (⑥) for 5 seconds until the battery status LEDs (⑦) start flashing.
2. **Select Desired Mode:** Press the button (⑥) repeatedly to cycle through the battery types (Sealed, Gel, Flooded). The flashing LEDs will indicate the selected type.
3. **Save Setting:** The selected mode will be saved automatically if no operation is performed for 5 seconds, and the LEDs will stop flashing.

Figure 4: Battery Type Selection Process and Indicators.

5.3 Load Output Control

The load output can be manually controlled via the button (⑥). A short press of the button will toggle the load output ON or OFF.

5.4 USB Output

The USB output port (⑤) provides 5VDC/1.2A power, suitable for charging small electronic devices.

6. Maintenance

Regular maintenance ensures the longevity and optimal performance of your EPEVER LS1024EU solar charge controller.

- **Check Connections:** Periodically inspect all wiring connections to ensure they are tight and free from corrosion. Loose connections can cause excessive heating and damage.
- **Clean the Controller:** Keep the controller clean and free from dust and debris. Use a dry cloth to wipe the surface. Do not use liquid cleaners.
- **Inspect for Damage:** Visually inspect the controller for any signs of physical damage, such as cracks or frayed wires.
- **Ventilation:** Ensure that the area around the controller remains well-ventilated to prevent overheating.

7. Troubleshooting

This section provides guidance for common issues you might encounter with your LS1024EU controller.

Problem	Possible Cause	Solution
No LED indication	Battery not connected or reverse polarity; Battery voltage too low.	Check battery connections and polarity. Ensure battery voltage is above 8V.
Charging LED off during daylight	Solar panel not connected or reverse polarity; Insufficient sunlight; PV open circuit voltage too low.	Check PV connections and polarity. Ensure sufficient sunlight. Verify PV voltage.
Load not working	Load output OFF; Load short circuit; Load overload; Battery voltage too low (LVD).	Press button to turn load ON. Check load for short circuit. Reduce load. Charge battery.
USB output not working	No device connected; Device requires more than 1.2A; Controller fault.	Connect device. Check device current requirement. Contact support if issue persists.

For issues not covered here, please refer to the detailed specifications or contact EPEVER customer support.

8. Technical Specifications

Below are the detailed technical specifications for the EPEVER LS1024EU solar charge controller.

Model	LS0512EU	LS1012EU	LS1024EU	LS2024EU	LS3024EU
Equalize charging voltage*	Gel: ----, Sealed: 14.6V, Flooded: 14.8V				
Boost charging voltage*	Gel: 14.2V, Sealed: 14.4V, Flooded: 14.6V				
Float charging voltage*	Gel / Sealed / Flooded:13.8V				
Low voltage reconnect voltage*	Gel / Sealed / Flooded:12.6V				
Low voltage disconnect voltage*	Gel / Sealed / Flooded:11.1V				
USB output	5VDC/1.2A				5VDC/2A
Self-consumption	12V≤5mA; 24V≤7mA				
Temperature compensation coefficient	-5mV/℃/2V (25℃)				
Grounding	Common Positive				
Overall dimension(mm)	109.7x65.5x20.8	120.3x67x21.8	120.3x67x21.8	148x85.6x34.8	148x106.8x43.7
Terminal	14AWG(2.5mm²)	12AWG(4mm²)	12AWG(4mm²)	10AWG(6mm²)	8AWG(10mm²)
Net Weight	0.09kg	0.1kg	0.1kg	0.18kg	0.29kg
Enclosure	IP20				
Working environment temperature	-35℃～+55℃				
Relative humidity	≤95% (N.C.)				

* Technical data for 12V system at 25℃, twice in 24V system.

Figure 5: Detailed Technical Specifications for LS Series Models.

Parameter	Value (LS1024EU)
Nominal System Voltage	12/24VDC Auto
Rated Charge Current	10A
Rated Discharge Current	10A
USB Output Port	5VDC/1.2A
Battery Input Voltage Range	8V 32V
Max. PV Open Circuit Voltage	50V
Self-consumption	12V≤5mA
Charge Circuit Voltage Drop	≤0.13V
Discharge Circuit Voltage Drop	≤0.17V
Temperature Compensation Coefficient	-5mV/°C/2V

Parameter	Value (LS1024EU)
Working Environment Temperature	-35℃ +55℃
Humidity	≤95% N.C.
Enclosure	IP20
Grounding	Common Positive
Overall Dimension	120.3 x 67 x 21.8 mm
Mounting Dimension	111.5mm
Mounting Hole Size	Φ4.5mm
Terminals	12AWG/4mm²
Net Weight	0.1kg

9. Warranty and Support

EPEVER products are designed for reliability and performance. For any technical assistance or support, please refer to the following information.

- **Technical Support:** Free technical support is available from authorized sales agents like GolandCentury.
- **Service Centers:** GolandCentury has established service centers in key regions including Chicago (USA), Munich (Germany), Toronto (Canada), and Melbourne (Australia) to provide local support.
- **Product Quality:** EPEVER aims to provide high-quality products with consistent performance.

For specific warranty terms and conditions, please consult your purchase documentation or the official EPEVER website.

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