EARNMee 30A-red

EARNMee 30A Boost MPPT Solar Charge Controller 1200W User Manual

Model: 30A-red

1. Introduction

This manual provides detailed instructions for the installation, operation, and maintenance of your EARNMee 30A Boost MPPT Solar Charge Controller. This device is designed to efficiently manage power from solar panels to charge various battery types, including LiFePO4, Lithium, Lead-acid, and Gel batteries, in 48V, 60V, and 72V systems. Please read this manual thoroughly before use to ensure proper function and safety.

2. Product Overview

The EARNMee 30A Boost MPPT Solar Charge Controller features advanced Maximum Power Point Tracking (MPPT) technology for optimal solar energy harvesting. It includes a high-definition LCD for real-time monitoring and comprehensive protection features.

Key Features:

- **Superior MPPT Technology:** Up to 99% tracking efficiency and 98% conversion efficiency for maximum energy harvest.
- **Wide Battery Compatibility:** Supports Lead-acid, LiFePO4, Ternary Lithium, and Gel batteries.
- **Adjustable Voltage:** Manual selection for 48V, 60V, and 72V battery banks.
- **HD LCD Display:** Provides real-time data on voltage, current, power, and system status.
- **Compact & Durable Design:** Lightweight (0.7kg) with upgraded MC4 solar connectors for waterproof and dustproof protection.
- **Smart Cooling & Full Protection:** Built-in intelligent cooling fan and safeguards against overcharge, over-voltage, over-current, over-power, and over-temperature.
- **Simple Operation:** Two-button interface for easy navigation and data checking.

Product Components:

The controller features input terminals for solar panels, output terminals for battery connection, an LCD display, and

control buttons.

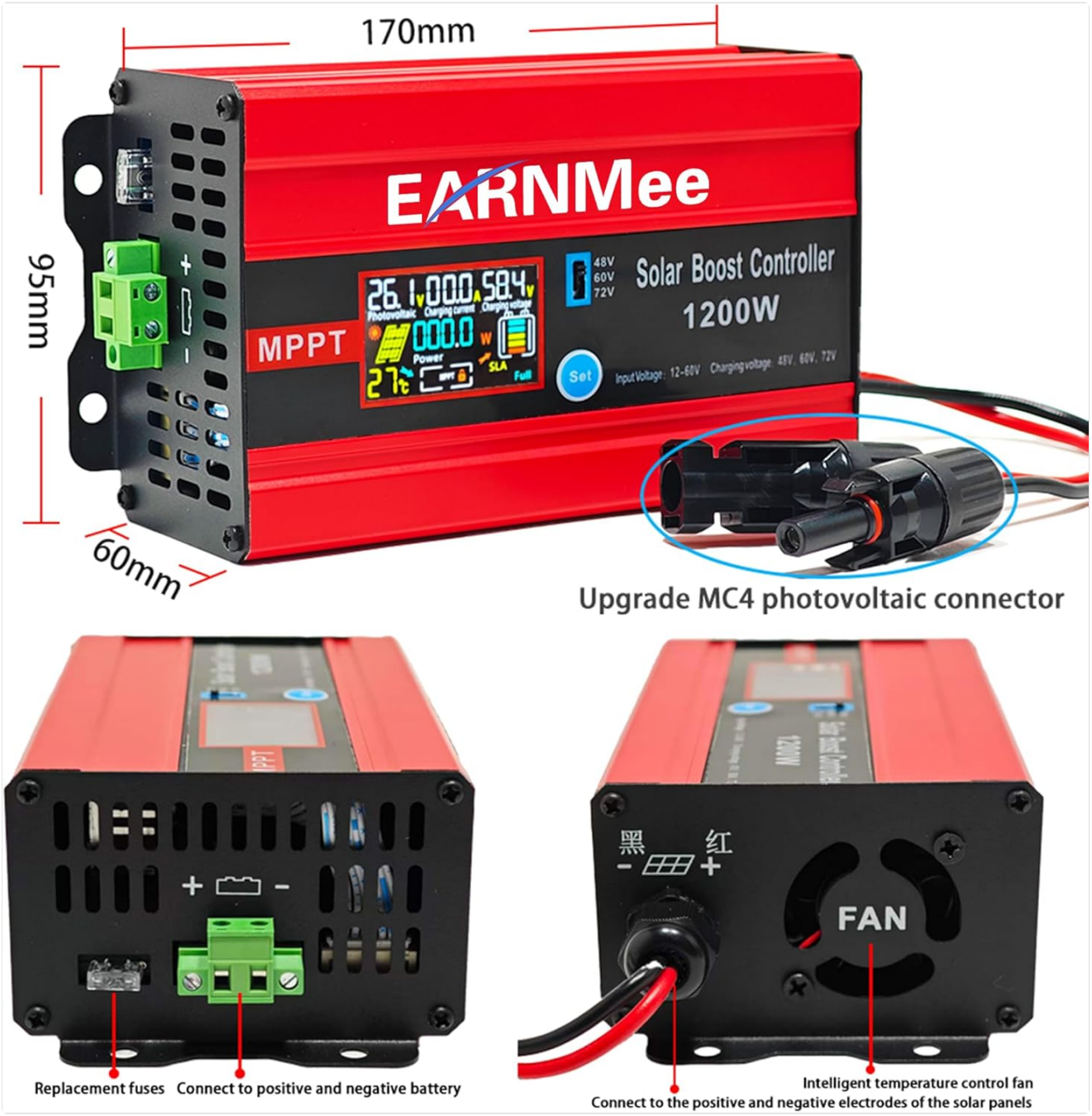

Figure 2.1: Front and rear view of the EARNMee 30A Boost MPPT Solar Charge Controller, showing dimensions and connection terminals. The image highlights the input and output ports, fan, and fuse location.

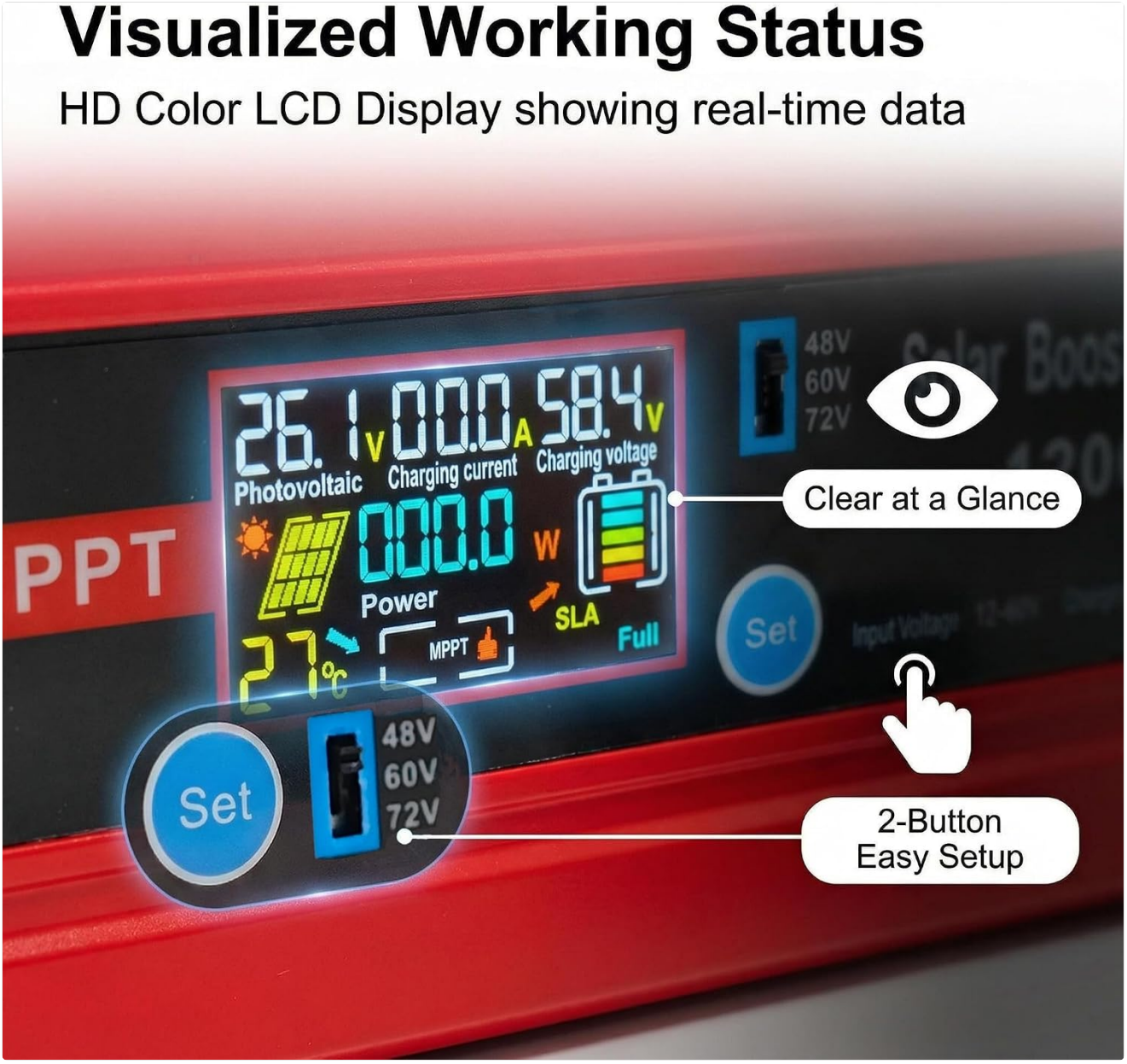

Figure 2.2: Detailed view of the controller's HD LCD color screen, displaying photovoltaic voltage, charging current, charging voltage, power, and battery state. The 'Set' button and voltage adjustment switch are also visible.

Figure 2.3: Illustration of the internal smart cooling fan and airflow within the controller, emphasizing its multi-protection features against overcharge, overvoltage, overcurrent, overpower, and overtemperature.

3. Safety Information

- Ensure all connections are secure and correct before powering on the system.
- Do not attempt to disassemble or repair the controller yourself. Contact qualified personnel for service.
- Install the controller in a well-ventilated area, away from flammable materials and direct sunlight.
- Wear appropriate personal protective equipment (PPE) when working with electrical systems.
- Verify battery voltage and type compatibility before connecting to the controller. Incorrect voltage settings can damage the battery and controller.
- Keep children away from the solar power system components.

4. Setup

Follow these steps for proper installation of the solar charge controller:

1. **Mounting:** Choose a suitable location for mounting the controller. Ensure adequate airflow for cooling and protection from environmental elements.
2. **Battery Connection:**
   Connect the positive and negative terminals of your battery to the corresponding battery terminals on the controller. Ensure correct polarity. The controller supports 48V, 60V, and 72V battery banks. Use the manual switch on the controller to select the correct battery voltage.
3. **Solar Panel Connection:**
   Connect the positive and negative poles of your solar panel array to the corresponding PV input terminals on the controller. The controller uses upgraded MC4 photovoltaic connectors. Ensure correct polarity.

Figure 4.1: The controller's wide battery compatibility, supporting LiFePO4, Lithium, Lead-acid, and Gel batteries. The adjustable switch for 48V, 60V, and 72V battery systems is also shown.

Figure 4.2: Detail of the waterproof and dustproof MC4 connectors, ensuring secure and reliable connections for the solar panel input.

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Video 4.1: This video demonstrates the connection process for the Boost MPPT Solar Charge Controller, including connecting to the battery and solar panels. It highlights the use of MC4 connectors and the LCD display.

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Video 4.2: This video illustrates the connection of a 60A MPPT Charge Controller to a 12V lithium battery, providing a visual guide for battery connection and system setup.

5. Operating Instructions

Once installed, the controller will automatically begin charging. The HD LCD display provides real-time information about your solar system.

LCD Display and Buttons:

- The LCD screen shows photovoltaic voltage, charging current, charging voltage, power, and battery state.
- Use the 'Set' button to navigate through different display screens or to enter settings mode.
- The voltage adjustment switch allows you to manually set the target battery voltage (48V, 60V, or 72V). Ensure this matches your battery bank.

Monitoring:

Regularly check the LCD display to monitor the system's performance. This includes:

- **Photovoltaic Voltage:** The voltage coming from your solar panels.
- **Charging Current:** The current flowing into your battery.
- **Charging Voltage:** The voltage at which your battery is being charged.
- **Power:** The instantaneous power being generated by the solar panels.
- **Battery State:** Indicates the current charge level of your battery.

6. Maintenance

To ensure the longevity and optimal performance of your solar charge controller, perform the following maintenance tasks:

- **Regular Cleaning:** Keep the controller clean and free from dust and debris. Use a dry cloth to wipe the exterior. Do not use liquids or solvents.
- **Connection Checks:** Periodically inspect all wiring connections (solar panel to controller, controller to battery) to ensure they are tight and free from corrosion.
- **Ventilation:** Ensure the cooling fan and ventilation openings are not obstructed to prevent overheating.
- **Environmental Conditions:** Verify that the controller is operating within its specified temperature and humidity ranges.

7. Troubleshooting

If you encounter issues with your solar charge controller, refer to the following common problems and solutions:

Problem	Possible Cause	Solution
No display/No power	Loose battery connection; Battery voltage too low; Blown fuse.	Check battery connections; Ensure battery voltage is above minimum operating level; Inspect and replace fuses if necessary.
Low charging current	Insufficient solar input (shade, cloudy weather); Incorrect PV connection; Damaged solar panel.	Check solar panel placement and weather conditions; Verify PV wiring and polarity; Test solar panel output.
Battery not charging	Incorrect battery type setting; Battery voltage setting mismatch; Faulty battery.	Confirm battery type and voltage settings on the controller; Test battery health.

Problem	Possible Cause	Solution
Overheating	Poor ventilation; Excessive load; High ambient temperature.	Ensure clear airflow around the controller; Reduce load if possible; Relocate to a cooler environment.

If the problem persists after attempting these solutions, please contact customer support.

8. Specifications

Feature	Specification
Input Voltage	12-60V DC
Maximum Input Current	30A
Input Power Range	10-1200W
Output Voltage (Manual)	48V / 60V / 72V
Maximum Output Current	15A
PV Panel Type Compatibility	Single crystal or polysilicon
Battery Compatibility	Lead-Acid, AGM, Gel, LiFePO4, Ternary Lithium
Product Dimensions (L x W x H)	6.69" x 2.36" x 3.74" (170mm x 60mm x 95mm)
Item Weight	1.5 Pounds (0.7 kg)
Material	Acrylonitrile Butadiene Styrene (ABS), Metal
Display Type	LCD
Smart Home Compatibility	Not Smart Home Compatible

9. Warranty and Support

For warranty information or technical support, please refer to the documentation included with your purchase or contact EARNMee customer service directly. Ensure you have your product model number (30A-red) and purchase details available when seeking support.