PowMr POW-M35-PRO-12V24V

PowMr 35A MPPT Solar Charge Controller User Manual

Model: POW-M35-PRO-12V24V

1. Product Overview

The PowMr 35A MPPT Solar Charge Controller is an advanced device designed to manage the power flow from your solar panels to your battery bank, ensuring efficient and safe charging. It features Maximum Power Point Tracking (MPPT) technology to maximize solar energy harvesting and is compatible with various battery types, including lead-acid and lithium batteries.



Front view of the PowMr 35A MPPT Solar Charge Controller, showing the LCD display and control buttons.

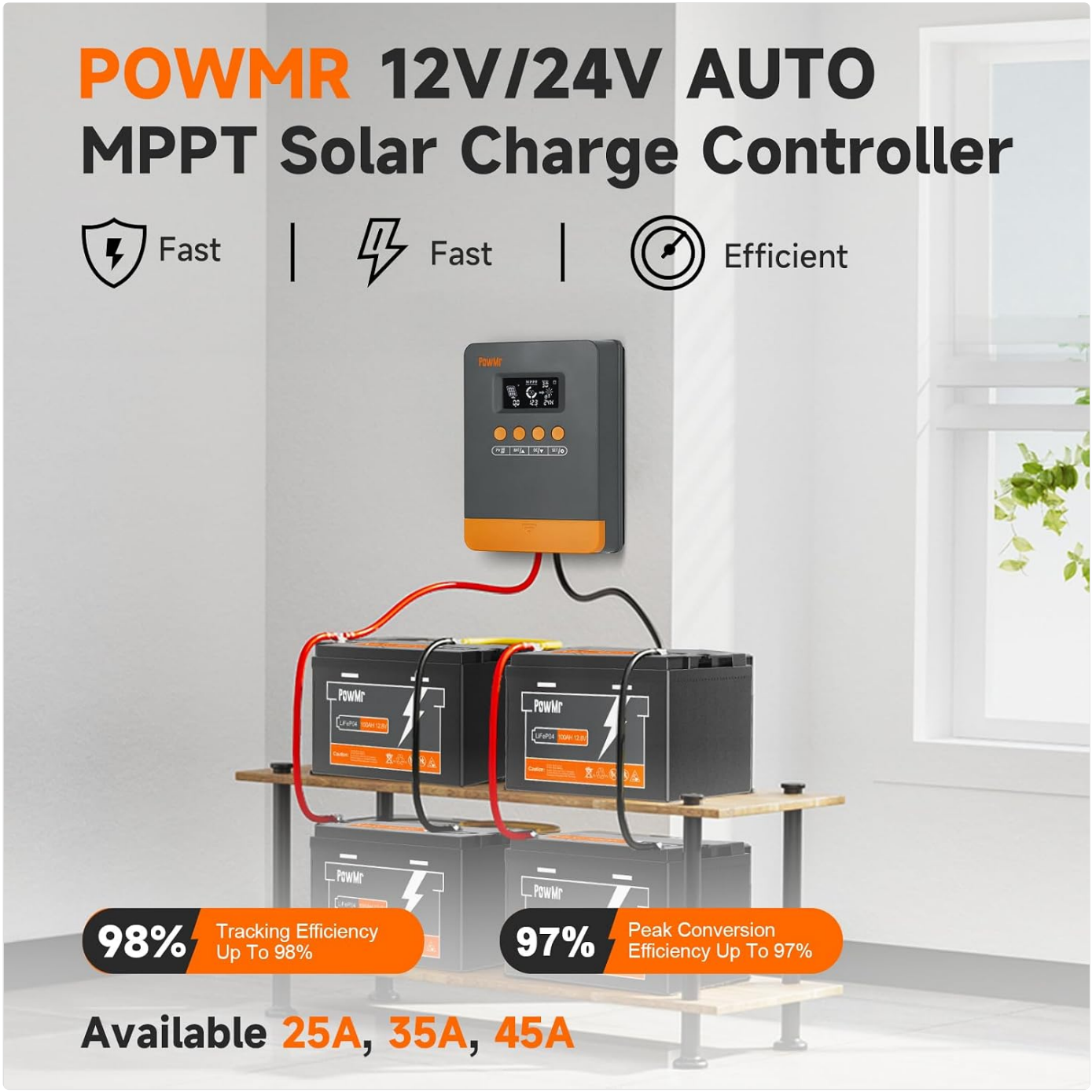


Illustration demonstrating the high tracking and conversion efficiency of the PowMr 12V/24V Auto MPPT Solar Charge Controller in a typical setup.

2. Safety Information

Please read all instructions and warnings carefully before installation and operation. Incorrect installation can lead to serious injury or damage to the equipment. Always ensure proper polarity and connection order.

- Ensure all connections are secure and correct before applying power.
- Do not disassemble or attempt to repair the controller yourself. Contact qualified personnel.
- Install the controller in a well-ventilated area, away from flammable materials.
- Use appropriate circuit breakers and fuses for all connections.



The PowMr solar controller incorporates 9 electronic protections, including PV overcurrent, PV short circuit, PV reverse polarity, battery reverse polarity, battery over voltage, battery over discharge, lithium battery low temperature, load overcurrent, and overtemperature protection.

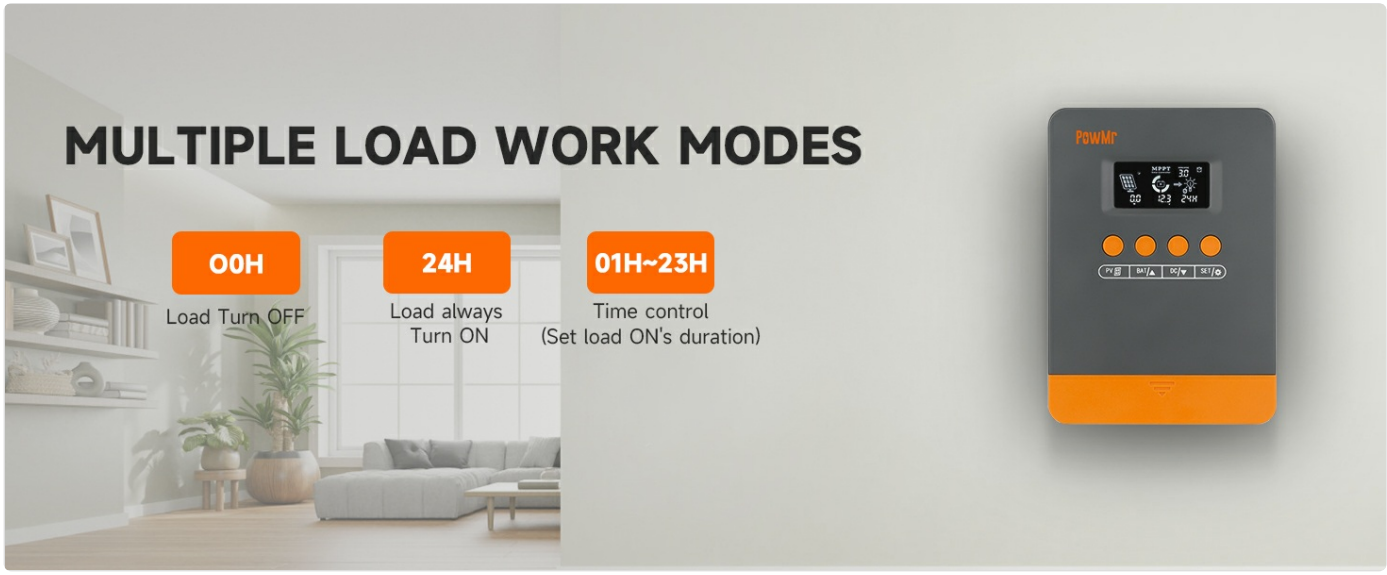
3. Setup and Installation

Follow these steps for proper installation of your solar charge controller. Adhering to the correct wiring sequence is critical to prevent damage to the unit and connected components.

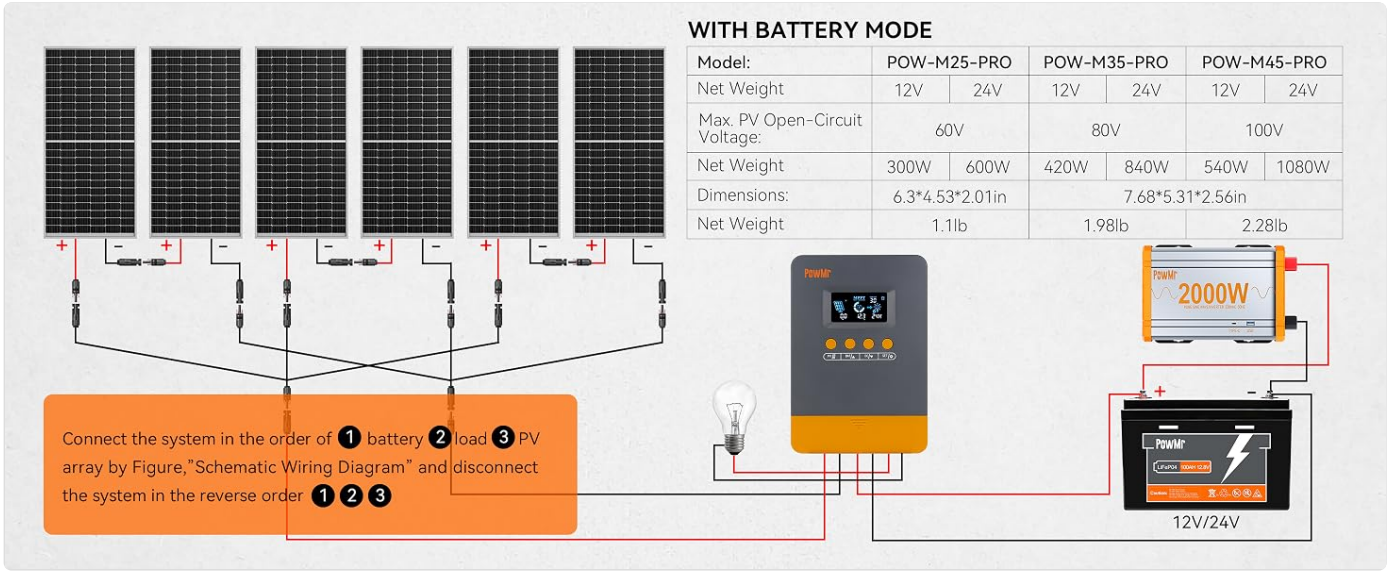
3.1 Wiring Sequence

1. **Connect the Battery:** First, connect the battery to the charge controller. Ensure correct polarity (positive to positive, negative to negative). The controller will power on once the battery is connected.
2. **Connect the Solar Panels:** Next, connect the solar panels to the charge controller. Ensure correct polarity. The controller will begin charging the battery if sufficient solar input is available.
3. **Connect the Load (Optional):** Finally, connect your DC loads to the load terminals of the controller.

To disconnect the system, reverse the order: disconnect the load, then the solar panels, and finally the battery.



A visual guide to the two-step easy connection process: 1) Wiring the battery, and 2) Wiring solar panels. The diagram emphasizes connecting the battery first, then the solar panels.



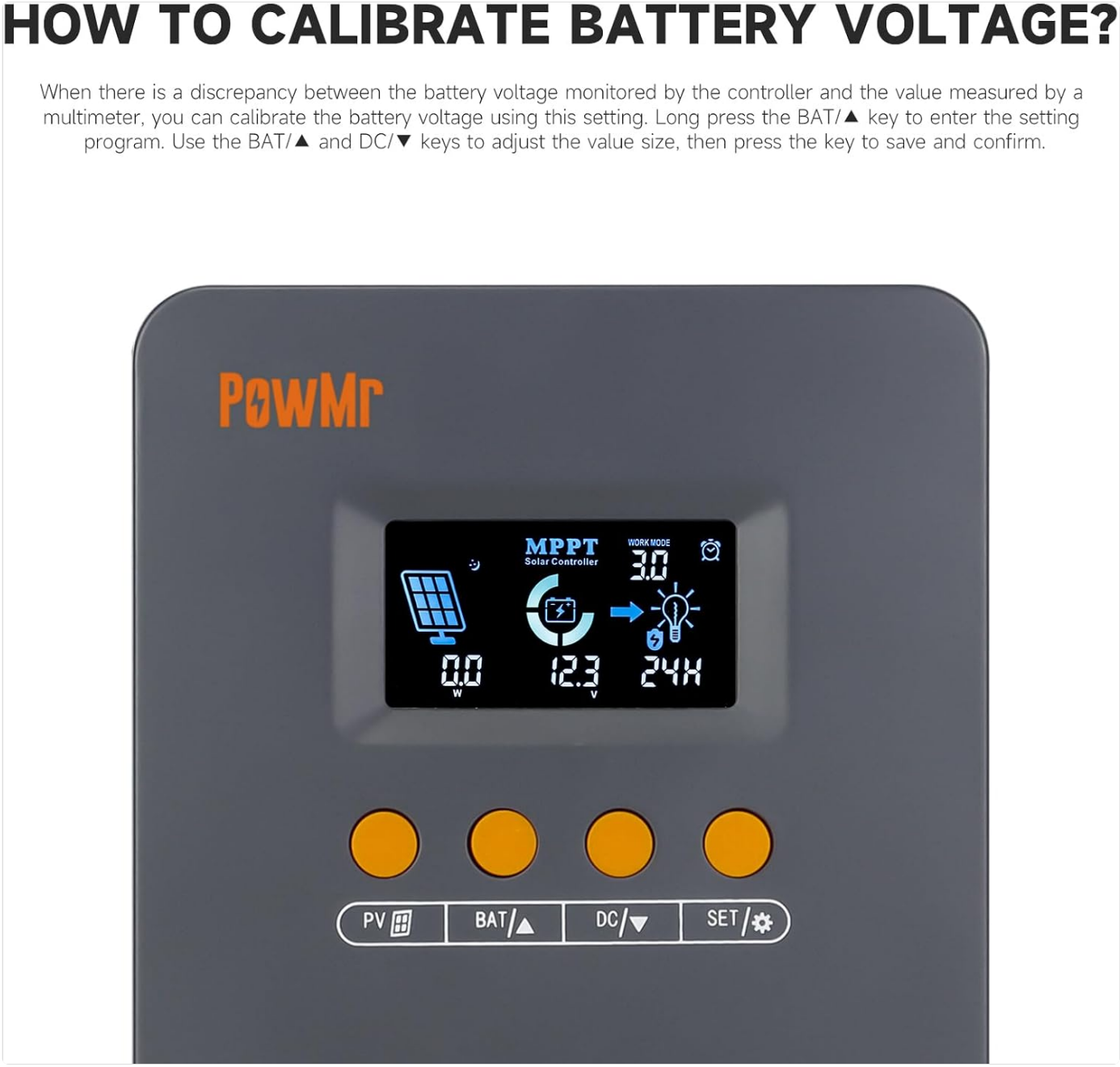
Detailed schematic wiring diagram showing the connection of solar panels, the PowMr controller, battery, inverter, and DC load. It highlights the connection order: battery, load, then PV array.

4. Operating Instructions

The PowMr solar charge controller features an intuitive LCD display and four control buttons for easy operation and parameter adjustment.

4.1 LCD Display and Buttons

The LCD screen provides real-time information about the system status, including PV voltage, battery voltage, charging current, and load status. The four buttons (PV, BAT, DC, SET) allow navigation and parameter modification.



Close-up view of the controller's LCD screen and the PV, BAT, DC, and SET buttons.

4.2 Battery Voltage Calibration

If there is a discrepancy between the battery voltage displayed by the controller and the value measured by a multimeter, you can calibrate the battery voltage. Long press the **BAT/▲** key to enter the setting program. Use the**BAT/▲** and **DC/▼** keys to adjust the value, then press the key to save and confirm.

HOW TO CALIBRATE BATTERY VOLTAGE?

When there is a discrepancy between the battery voltage monitored by the controller and the value measured by a multimeter, you can calibrate the battery voltage using this setting. Long press the BAT/▲ key to enter the setting program. Use the BAT/▲ and DC/▼ keys to adjust the value size, then press the key to save and confirm.



The LCD screen displaying the battery voltage calibration interface, indicating how to adjust the voltage value.

4.3 Battery Type Selection

The controller is compatible with various battery types. You can select pre-set parameters for Sealed, Gel, Flooded, and Lithium (LFP) batteries, or customize charging parameters for other battery types.



The controller supports multiple 12V/24V battery types, including AGM, GEL, FLD (Flooded), LI (Lithium), and SLA. Users can select pre-set parameters or define custom charging parameters.

4.4 Load Work Modes

The controller offers multiple load work modes to suit different application needs:

- **00H:** Load Turn OFF
- **24H:** Load always Turn ON
- **01H~23H:** Time control (Set load ON's duration)



Visual representation of the multiple load work modes available on the controller: 00H (Load Turn OFF), 24H (Load always Turn ON), and 01H~23H (Time control for load duration).

5. Maintenance

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

- **Inspect Connections:** Periodically check all wiring connections for tightness and corrosion. Loose connections can cause overheating and poor performance.
- **Clean Controller:** Keep the controller clean and free from dust and debris. Ensure ventilation openings are not blocked.
- **Monitor System Performance:** Regularly check the LCD display for normal operation and any error codes. Compare readings with a multimeter if necessary.
- **Battery Health:** Ensure your batteries are well-maintained according to their manufacturer's guidelines.

6. Troubleshooting

The controller's LCD display provides fault codes to help diagnose common issues. Refer to the table below for troubleshooting guidance.



The LCD screen displaying working mode information and a table of common fault codes with their causes and solutions.

Troubleshooting Guide

Fault Code	Cause	Solution
18	Input photovoltaic voltage too low	Increase the number of solar panels or connect them in series to raise the photovoltaic input voltage.
60	Overtemperature protection	Allow the equipment to cool to below the recovery temperature to resume normal charging and discharging.

Fault Code	Cause	Solution
63	Battery voltage too high	Measure to confirm if battery voltage exceeds rated voltage and disconnect photovoltaic array circuit breaker.
65	Battery voltage too low	Charge the battery until voltage exceeds the undervoltage recovery point. Refer to "5.7 Default Parameters for Different Battery Types" for details.
71	Input photovoltaic voltage too high	Reduce the number of photovoltaic arrays connected to the controller to lower photovoltaic input, or adjust series and parallel connections to reduce voltage or current values.
72	Overdischarging current	Reduce output terminal load to ensure total load is within rated limits of the controller and battery.
73	Overcharging current	Reduce output terminal load to ensure total load is within rated limits of the controller and battery.

7. Specifications

Key technical specifications for the PowMr 35A MPPT Solar Charge Controller (POW-M35-PRO-12V24V).

Technical Specifications

Feature	Description
Model Number	POW-M35-PRO-12V24V
Max PV Input (12V Battery)	420W
Max PV Input (24V Battery)	840W
Max. PV Open-Circuit Voltage	<80V
Battery Voltage	12V/24V Auto
Charging Algorithm	3-stage (MPPT)
Tracking Efficiency	Up to 98%
Peak Conversion Efficiency	Up to 97%
Display Type	LCD
Product Dimensions	5.31 x 2.55 x 7.67 inches (13.49 x 6.48 x 19.48 cm)
Item Weight	1.98 pounds (900 grams)
Country of Origin	China

8. Warranty and Support

For warranty information and technical support, please refer to the documentation provided with your purchase or contact PowMr customer service directly. Details regarding warranty periods and claims procedures are typically available on the manufacturer's official website or through your retailer.

Always provide your product model number (POW-M35-PRO-12V24V) and purchase date when seeking support to ensure efficient service.

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