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**PowMr UT-POW-M35-PRO**

# PowMr MPPT Solar Charge Controller 35Amp 12V/24V Auto User Manual

Model: UT-POW-M35-PRO

## 1. Introduction

This manual provides comprehensive instructions for the installation, operation, and maintenance of your PowMr MPPT Solar Charge Controller. This device is designed to efficiently manage power flow from your solar panels to your battery bank, ensuring optimal charging and system protection. Please read this manual thoroughly before installation and use to ensure safe and correct operation.

## 2. Safety Information

- Ensure all wiring is correctly connected and securely fastened to prevent loose connections and overheating.
- Always disconnect the solar panel and battery power before installing or adjusting the controller.
- Install the controller in a well-ventilated area, away from flammable materials and direct sunlight.
- Use appropriate circuit breakers or fuses for the solar panel, battery, and load circuits.
- This device is designed for 12V/24V lead-acid, gel, and lithium batteries. Ensure battery type is correctly set.
- Do not attempt to disassemble or repair the controller yourself. Contact qualified personnel for service.

## 3. Product Features

- Advanced Maximum Power Point Tracking (MPPT) technology for high tracking efficiency.
- Automatic 12V/24V system voltage identification.
- Multi-stage charging algorithm (Bulk, Absorption, Float) for optimal battery health.
- Comprehensive electronic protection against overcharge, over-discharge, overload, short circuit, and reverse polarity.
- LCD display for real-time system status and parameter settings.
- Built-in temperature compensation.

## 4. Package Contents

- PowMr MPPT Solar Charge Controller
- Dedicated Mounting Screws
- Instruction Manual (this document)

## 5. Product Overview

The PowMr MPPT Solar Charge Controller features a clear LCD display and intuitive buttons for easy operation. Below is an image illustrating the main components of the controller.




**Figure 1:** Front view of the PowMr MPPT Solar Charge Controller. It shows the PowMr logo at the top left, an LCD screen displaying

"MPPT Solar Controller", "WORK MODE", and numerical values (e.g., 0.0W, 12.3V, 24H). Below the screen are four orange circular buttons and a row of five rectangular buttons labeled PV, BAT/▲, DC/▼, SET/⚙.

### 5.1. LCD Display and Buttons

- **LCD Screen:** Displays real-time system parameters such as solar panel voltage, battery voltage, charging current, load current, and various work modes.
- **PV Button:** Used to view solar panel related parameters.
- **BAT/▲ Button:** Used to view battery related parameters and to increase values during settings.
- **DC/▼ Button:** Used to view DC load related parameters and to decrease values during settings.
- **SET/⚙ Button:** Used to enter and exit the setting menu, and to confirm selections.

## 6. Setup and Installation

### 6.1. Mounting the Controller

1. Choose a dry, well-ventilated location, protected from direct sunlight, high temperatures, and moisture.
2. Ensure there is sufficient space around the controller for heat dissipation.
3. Use the dedicated mounting screws to securely fasten the controller to a vertical surface.

### 6.2. Wiring Connections

**Important:** Always connect the battery first, then the solar panel, and finally the load. Disconnect in the reverse order.

1. **Battery Connection:** Connect the positive and negative terminals of the battery to the corresponding battery terminals on the controller. Ensure correct polarity. The controller will automatically detect 12V or 24V system voltage.
2. **Solar Panel Connection:** Connect the positive and negative terminals of the solar panel array to the corresponding PV terminals on the controller. Ensure correct polarity.
3. **DC Load Connection (Optional):** Connect the positive and negative terminals of your DC load to the corresponding load terminals on the controller. Ensure correct polarity.

Ensure all connections are tight and secure to prevent voltage drops and potential hazards.

## 7. Operating Instructions

### 7.1. Initial Power-Up

Upon connecting the battery, the controller will power on and display the current battery voltage. If solar panels are connected and receiving sunlight, the charging indicator will illuminate, and the display will show charging parameters.

### 7.2. Browsing Parameters

Press the **PV**, **BAT/▲**, or **DC/▼** buttons to cycle through different display screens showing solar, battery, and load parameters respectively.

### 7.3. Setting Parameters

1. Press and hold the **SET/⚙** button for 5 seconds to enter the setting mode. The parameter value will start flashing.
2. Use the **BAT/▲** and **DC/▼** buttons to adjust the value.
3. Press the **SET/⚙** button again to confirm the current setting and move to the next parameter.
4. To exit the setting mode, press and hold the **SET/⚙** button for 5 seconds, or wait for 15 seconds for it to automatically exit.

Refer to the detailed parameter list in the full manual for specific adjustable values and their functions (e.g., battery type, over-discharge voltage, load work mode).

## 8. Maintenance

- **Regular Inspection:** Periodically check all wiring connections for tightness and corrosion.
- **Cleaning:** Keep the controller clean and free from dust and debris. Use a dry cloth for cleaning.
- **Ventilation:** Ensure the ventilation openings are not blocked to allow proper heat dissipation.
- **Battery Health:** Monitor battery voltage and condition regularly.

## 9. Troubleshooting

| Problem | Possible Cause | Solution |
|---|---|---|
| Controller not powering on | Battery not connected or reverse polarity; battery voltage too low. | Check battery connections and polarity. Ensure battery voltage is above minimum operating voltage. |
| No charging from solar panels | Solar panels not connected or reverse polarity; insufficient sunlight; PV voltage too low/high. | Check PV connections and polarity. Ensure panels are in direct sunlight. Verify PV voltage is within controller's operating range. |
| Load not working | Load disconnected or reverse polarity; battery low voltage disconnect; overload protection activated. | Check load connections and polarity. Charge battery. Reduce load or check for short circuits. |
| Abnormal display or error codes | Internal fault or sensor issue. | Disconnect all power (PV, battery, load) for a few minutes, then reconnect battery first. If issue persists, contact support. |

## 10. Specifications

| Parameter | Value |
|---|---|
| Model Number | UT-POW-M35-PRO |
| System Voltage | 12V/24V Auto Recognition |
| Rated Charge Current | 35A |
| Battery Types Supported | Lead-acid (Sealed, Gel, Flooded), Lithium |
| Package Dimensions | 9.4 x 6.5 x 4 inches |
| Item Weight | 1.98 pounds |

*Note: For detailed electrical specifications such as maximum PV input voltage and power, please refer to the official product documentation or contact PowMr support.*

## 11. Warranty and Support

PowMr products are designed for reliability and performance. This product typically comes with a standard manufacturer's warranty. For specific warranty terms, duration, and conditions, please refer to the warranty card included with your product or visit the official PowMr website.
For technical support, troubleshooting assistance, or warranty claims, please contact PowMr customer service through their

official website or the retailer from whom you purchased the product. Please have your model number (UT-POW-M35-PRO) and purchase details ready when contacting support.

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