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## Temank 25A

# Temank MPPT Solar Charge Controller 25A 12V/24V Auto User Manual

Comprehensive guide for installation, operation, and maintenance of your Temank 25A MPPT Solar Charge Controller.



## 1. INTRODUCTION

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This manual provides essential instructions for the safe and efficient use of your Temank MPPT Solar Charge Controller. This device is designed to manage power flow from solar panels to batteries, ensuring optimal charging and battery longevity. It is compatible with both 12V and 24V battery systems and supports various battery types, including lead-acid and lithium.



Image 1: Front view of the Temank MPPT Solar Charge Controller 25A, showing the LCD display and control buttons.

## 2. SAFETY INFORMATION

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Please read and understand all safety instructions before installation and operation. Failure to follow these instructions may result in electric shock, fire, or severe injury.

- Ensure all wiring is correctly polarized and securely connected to prevent short circuits and damage.
- Always disconnect the photovoltaic (PV) input before adjusting parameters or performing maintenance.
- Install the controller in a well-ventilated area, away from flammable materials and direct sunlight.
- Wear appropriate personal protective equipment (PPE) when working with batteries and electrical systems.
- The controller features comprehensive protection against overcurrent, short circuit, reversed polarity, overvoltage, over-discharge, and over-temperature. However, proper installation is crucial for these protections to function effectively.
- Avoid charging lithium batteries below 0°C to prevent damage.



*Image 2: Visual representation of the intelligent protection features, including over-discharging, overcharging, overload, short circuit, reverse current, temperature compensation, and reverse polarity protection.*

### 3. PRODUCT FEATURES

The Temank MPPT Solar Charge Controller offers advanced features for efficient and safe solar power management:

- **Advanced MPPT Technology:** Maximizes solar panel output with up to 98% tracking efficiency and 97% peak conversion efficiency.
- **Wide Battery Compatibility:** Supports 12V and 24V lead-acid (Sealed, Gel, Flooded) and lithium (LiFePO<sub>4</sub>, Lithium-Ion) batteries.
- **Comprehensive Protection:** Includes safeguards against short circuits, overcurrent, reverse polarity, overvoltage, over-discharge, and over-temperature.
- **External Temperature Probe:** Enhances battery temperature monitoring for precise charging.
- **Lithium Battery Activation:** Can activate lithium batteries using solar panel energy.
- **Clear LCD Screen:** Provides real-time system status and easy parameter adjustment with four intuitive buttons.
- **Durable Construction:** Die-cast aluminum housing for excellent heat dissipation.

# POWMr 12V/24V AUTO MPPT Solar Charge Controller

 Safe |  Fast |  Efficient

**98%** Tracking Efficiency  
Up To 98%

**97%** Peak Conversion  
Efficiency Up To 97%

Available **25A, 35A, 45A**

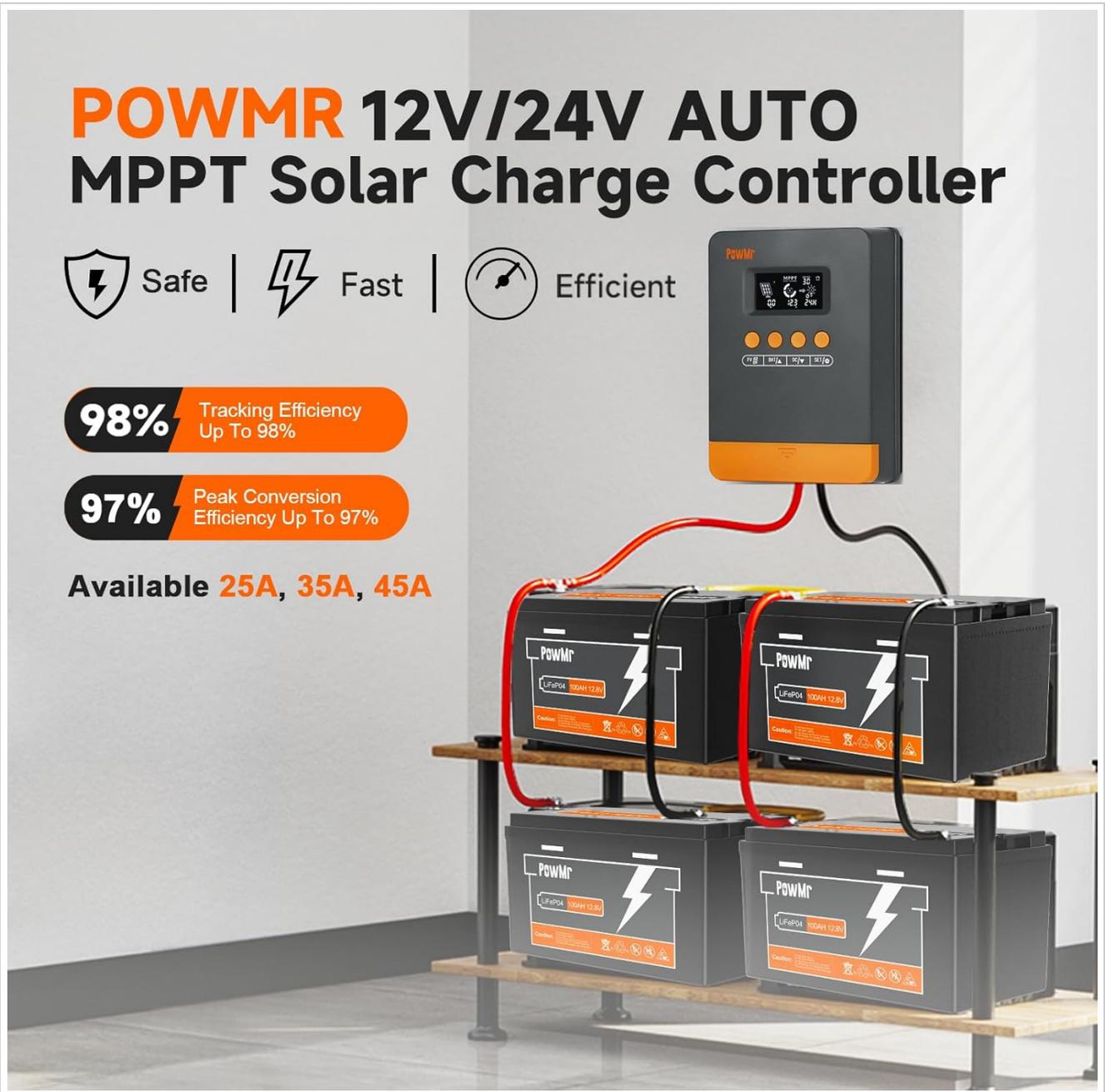


Image 3: Overview of the MPPT Solar Charge Controller highlighting 98% tracking efficiency and 97% peak conversion efficiency.

## 4. SETUP AND INSTALLATION

Follow these steps for proper installation of your solar charge controller. Ensure all connections are secure and correct before powering on the system.

### 4.1 Wiring Diagram

# WITH BATTERY MODE

Model:	POW-M25-PRO		POW-M35-PRO		POW-M45-PRO	
Net Weight	12V	24V	12V	24V	12V	24V
Max. PV Open-Circuit Voltage:	60V		80V		100V	
Net Weight	300W	600W	420W	840W	540W	1080W
Dimensions:	6.3*4.53*2.01in		7.68*5.31*2.56in			
Net Weight	1.1lb		1.98lb		2.28lb	

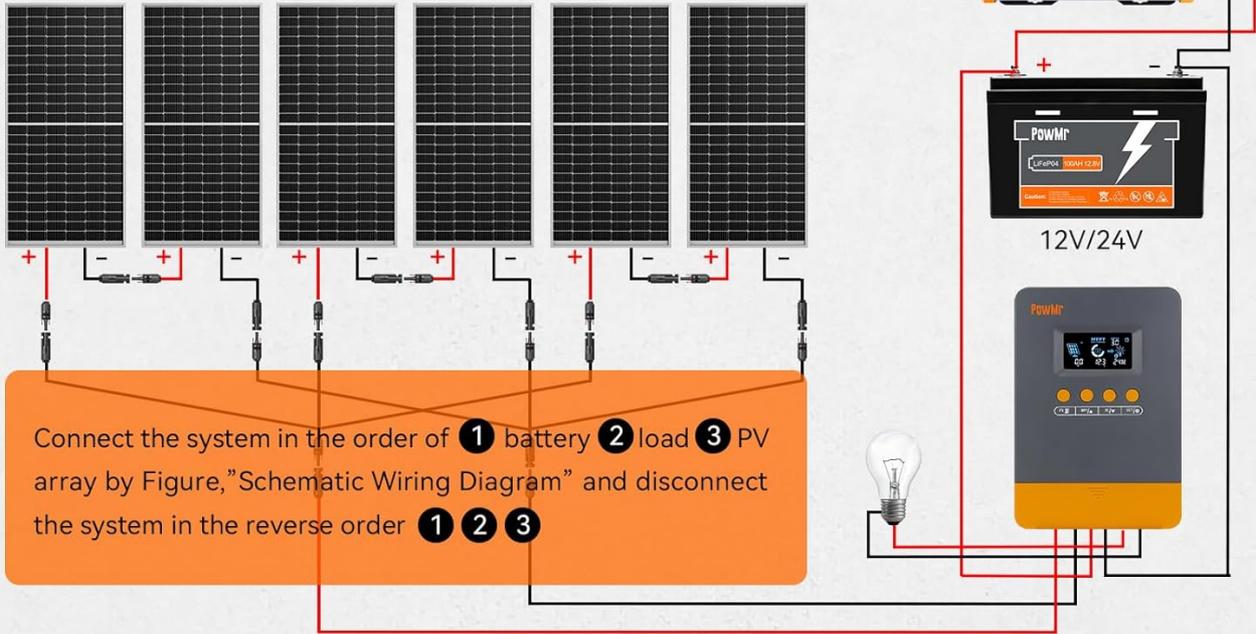


Image 4: Detailed wiring diagram showing connections for solar panels, battery, load, and inverter to the MPPT solar charge controller.

## 4.2 Connection Steps

Connect the system components in the following order:

- 1. Connect the Battery:** First, connect the battery to the charge controller. Ensure correct polarity (positive to positive, negative to negative). The controller will automatically detect the battery voltage (12V or 24V).
- 2. Connect the Load (Optional):** If using a DC load directly from the controller, connect it next.
- 3. Connect Solar Panels:** Finally, connect the solar panels to the charge controller. Ensure correct polarity.

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

# 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.



Image 5: Step-by-step visual guide for connecting the battery and solar panels to the charge controller.

**Important: The PV input must be disconnected before setting parameters to prevent system errors or damage.**

## 5. OPERATING INSTRUCTIONS

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### 5.1 LCD Display and Buttons

The controller features an LCD screen and four buttons for navigation and settings:

- **PV Button:** Displays photovoltaic (solar panel) information.
- **BAT/▲ Button:** Displays battery information and increases values in settings.
- **DC/▼ Button:** Displays DC load information and decreases values in settings.
- **SET/⚙️ Button:** Enters/exits settings menu and confirms selections.

# BACKLIGHT LCD SCREEN



Fault Code	Fault 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.
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 "3.7 Default Parameters for Different Battery Types" for specific 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.
73	Overcharging current	
72	Overdischarging current	Reduce output terminal load to ensure total load is within rated limits of the controller and battery.

Image 6: Close-up of the backlit LCD screen showing various working modes and fault codes.

## 5.2 Battery Type Selection

To select the appropriate battery type:

1. Long press the **BAT/▲** key to enter the setting program.
2. Use the **BAT/▲** and **DC/▼** keys to toggle through the battery type options.
3. Press the **SET/⊗** key to save and confirm your selection.

Available battery types include Sealed, Gel, Flooded, LiFePO4, Lithium-Ion, and User-defined (USE).

# Work With Multiple 12/24V Batteries

Long press the BAT/▲ key to enter the setting program. Use the BAT/▲ and DC/▼ keys to toggle through the battery type options, then press the key to save and confirm. If you select User-defined battery type, you can proceed with setting the following battery parameters.



Image 7: Diagram illustrating how to select different battery types (AGM, GEL, FLD, LI, SLA) using the controller's interface.

## 5.3 Load Work Modes

The controller supports multiple load work modes to manage connected DC loads:

- **00H (Load Turn OFF):** The load output is always off.
- **24H (Load always Turn ON):** The load output is always on.
- **01H~23H (Time control):** The load output is on for a specified duration (1 to 23 hours) after sunset.

# MULTIPLE LOAD WORK MODES

**00H**

Load Turn OFF

**24H**

Load always  
Turn ON

**01H~23H**

Time control  
(Set load ON's duration)



Image 8: Visual explanation of the different load work modes (00H, 24H, 01H-23H) for controlling connected devices.

## 5.4 Battery Voltage Calibration

If there is a discrepancy between the battery voltage displayed on the controller and a multimeter reading, you can calibrate the voltage:

1. Long press the **BAT/▲** key to enter the setting program.
2. Use the **BAT/▲** and **DC/▼** keys to adjust the displayed voltage value to match your multimeter.
3. Press the **SET/⊗** key to save and confirm.

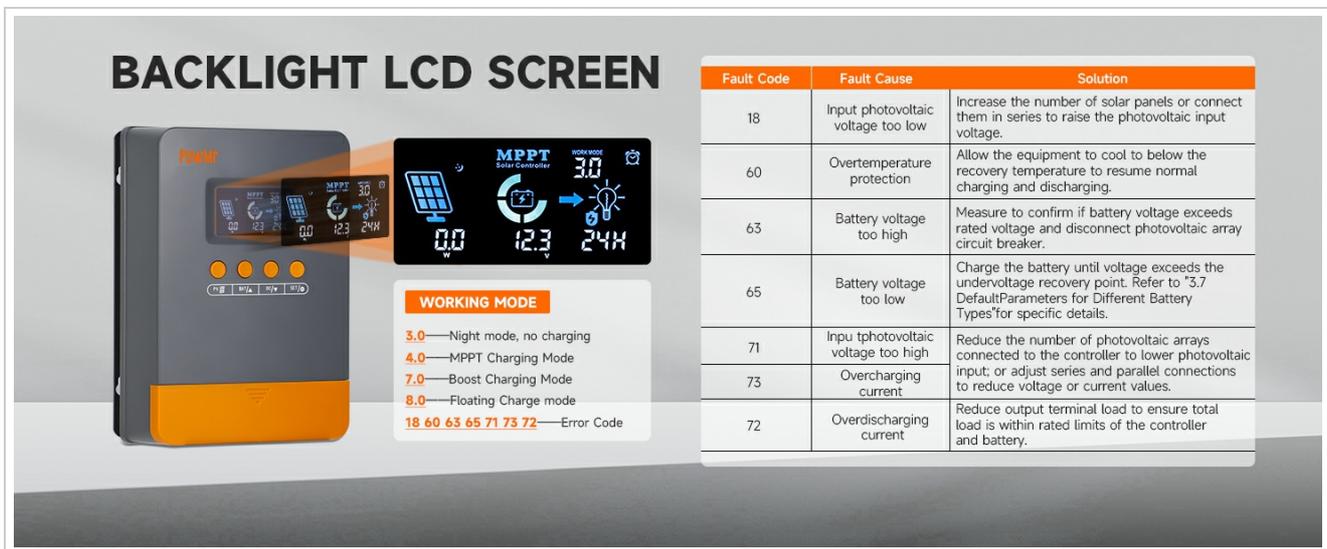


Image 9: Illustration of the battery voltage calibration process on the LCD screen.

## 6. MAINTENANCE

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

- **Inspect Connections:** Periodically check all wiring connections for tightness and corrosion. Loose connections can cause overheating and poor performance.
- **Clean the Controller:** Keep the controller's exterior clean and free of dust. Ensure ventilation openings are not obstructed to maintain proper heat dissipation.
- **Monitor Performance:** Regularly check the LCD display for normal operation and any fault codes. Compare readings with external meters if available.
- **Battery Health:** Monitor battery voltage and health according to battery manufacturer guidelines.

## 7. TROUBLESHOOTING

The controller's LCD screen displays fault codes to help diagnose issues. Refer to the table below for common fault codes and their solutions.

Table 1: Fault Codes and Solutions

Fault Code	Fault 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.
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 '3.7 Default Parameters for Different Battery Types' for specific details.

Fault Code	Fault Cause	Solution
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.
73	Overcharging current	Reduce output terminal load to ensure total load is within rated limits of the controller and battery.
72	Overdischarging current	Reduce output terminal load to ensure total load is within rated limits of the controller and battery.

## 8. SPECIFICATIONS

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Key technical specifications for the Temank 25A MPPT Solar Charge Controller:

- **Model:** 25A
- **Battery Voltage:** 12V/24V Auto
- **Max PV Input (12V Battery):** 300W
- **Max PV Input (24V Battery):** 600W
- **Max. PV Open-Circuit Voltage:** <60V
- **Operating Temperature:** -20°C to 60°C (approximate, based on 6E+1 Degrees Celsius)
- **Item Weight:** 1.1 pounds (approximately 0.5 kg)
- **Package Dimensions:** 6.5 x 4.5 x 2.01 inches (approximately 16.5 x 11.4 x 5.1 cm)
- **Display Type:** LCD
- **Color:** Orange

## 9. WARRANTY AND SUPPORT

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For warranty information, technical support, or any inquiries regarding your Temank MPPT Solar Charge Controller, please contact Temank customer service. Refer to the product packaging or the official Temank website for contact details.

The manufacturer provides responsive customer service to assist with any issues or questions you may have.

