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› [Temank MPPT 60A Solar Charge Controller User Manual](#)

## Temank MPPT 60A

# Temank MPPT 60A Solar Charge Controller User Manual

Model: MPPT 60A

## 1. INTRODUCTION

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This manual provides detailed instructions for the installation, operation, maintenance, and troubleshooting of your Temank MPPT 60A Solar Charge Controller. Please read this manual thoroughly before installation and use to ensure optimal performance and safety.

## 2. KEY FEATURES

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- **Maximum 12 Units in Parallel:** Expand your solar system's capacity and power output by connecting up to 12 units in parallel. This enhances reliability, stability, and simplifies system maintenance.
- **Customizable Charging Current Limit:** Supports various battery types (12V/24V/36V/48V lead-acid and lithium) with a configurable charging current range of 2A to 60A. Rated load output current is 25A.
- **Efficient Heat Dissipation:** Features a die-cast aluminum construction and a turbofan for dual cooling, activating above 45°C and deactivating below 40°C for quiet and effective temperature management.
- **Multiple Battery Compatibility:** Negative grounding design compatible with Sealed, Gel, Flooded, LiFePO4, and Lithium-Ion batteries. User-programmable absorption voltage, float voltage, low voltage cutoff, and load timer.
- **Enhanced Protection:** Comprehensive protection against overcurrent, short circuit, reversed polarity, overvoltage, over-discharge, and over-temperature. Includes an external temperature probe for precise battery temperature monitoring.
- **99% Tracking Technology:** Advanced Maximum Power Point Tracking (MPPT) technology ensures continuous tracking of the array's maximum power point for up to 99% tracking efficiency and 97% peak conversion efficiency.
- **Lithium Battery Activation:** Activates lithium batteries using solar panel energy, with precautions to prevent overcharging. Note: Do not charge lithium batteries below 0°C.

## 3. SETUP AND INSTALLATION

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Proper installation is crucial for the safe and efficient operation of your solar charge controller. Follow these steps carefully.

### 3.1 Mounting the Controller

Mount the controller on a flat, stable surface, such as a wall, using appropriate fasteners. Ensure adequate ventilation around the unit for optimal heat dissipation.

# 60 AMP

## MPPT SOLAR CHARGE CONTROLLER

- 12V/24V/36V/48V AUTO
- Work With Lead-acid and Lithium Battery
- Supports Up to 12 Units in Parallel
- Dual cooling with a fan and heat sink for efficient heat dissipation.
- External Temperature Probe Configuration

**60A**

Charging Current

**155V**

Max.PV Input Voltage  
when in 36V or 48V Battery

**2880W**

Max.PV Input Power  
when in 48V Battery

**12**

Max Number of  
Parallel Unit



Image: The Temank MPPT 60A Solar Charge Controller mounted on a wooden wall, showing its display and connection terminals. This image illustrates the physical mounting of the device.

### 3.2 Wiring Diagram and Connections

Follow the wiring diagram below for connecting the solar panels, battery, and load to the controller. Always ensure correct polarity and secure connections.

Your browser does not support the video tag.

Video: "POW-M60-ULTRA Parallel Installation and Wiring Guide" - This video demonstrates the step-by-step installation and wiring process for the POW-M60-ULTRA controller, including connections for solar panels, battery, and inverter.

1. **Connect the Battery:** Connect the battery to the controller's battery terminals. Ensure correct polarity (positive to positive, negative to negative). It is recommended to connect a circuit breaker between the battery and the controller.
2. **Connect the Solar Panels:** Connect the solar panels to the controller's PV input terminals. Ensure correct polarity. A circuit breaker should be installed between the solar panels and the controller.
3. **Connect the Load:** Connect your DC load to the controller's load terminals.
4. **Parallel Communication (if applicable):** If using multiple controllers in parallel, connect them using communication cables. Ensure to distinguish between parallel communication ports and temperature probe ports.

5. **Temperature Probe:** Connect the temperature probe to the controller and secure the other end to the battery case for accurate temperature monitoring.

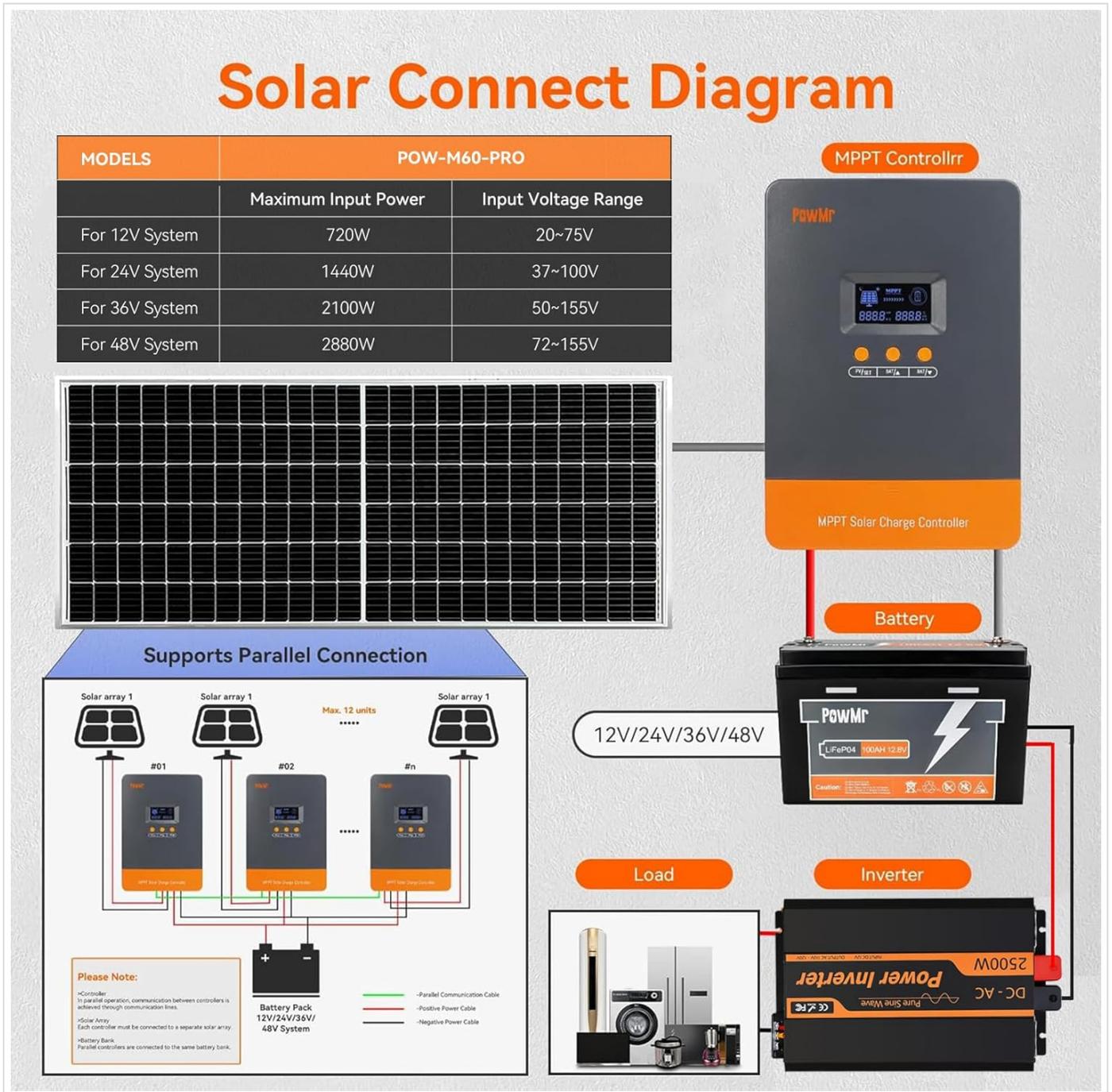


Image: A detailed diagram showing the connections for a solar power system with the Temank MPPT 60A Solar Charge Controller, including solar panels, battery, and inverter. It also illustrates parallel connection capabilities.

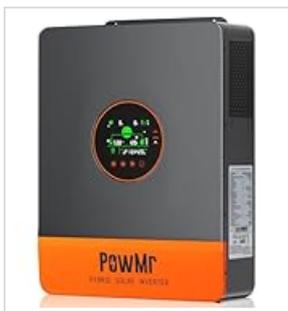


Image: A simplified 2-step connection diagram for the Temank MPPT 60A Solar Charge Controller, showing the sequence of connecting the battery and solar panels with circuit breakers.

### 3.3 Powering On the System

After all wiring is complete and checked for security and correct polarity, power on the system in the following sequence:

1. Switch on the battery breaker connected to the controller.
2. Switch on the PV breaker.
3. If an inverter is used, switch on the inverter-side breaker.

**Important:** Always connect the battery to the controller first before connecting solar panels or other components.

## 4. OPERATING INSTRUCTIONS

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The controller features an LCD display and buttons for easy operation and monitoring.

### 4.1 Display Interface Overview

The main screen displays three key sections: photovoltaic data, battery charging data, and load operation modes. Use the buttons to navigate through different parameters.

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Video: "POW-M60-ULTRA Controller Setup Guide" - This video provides a detailed guide on how to set up and operate the POW-M60-ULTRA controller, including navigating the display and adjusting settings.

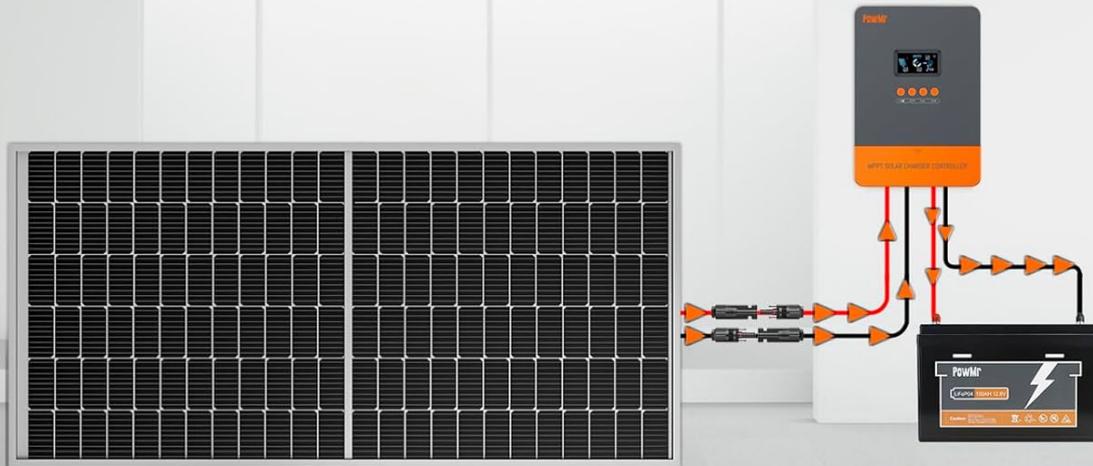
### 4.2 Setting Battery Type

The controller supports 14 predefined battery types. Select the appropriate type to ensure correct charging parameters. If your battery type is not listed, you can use the "USE" option for manual configuration.

- Sealed Lead-Acid Battery (SEL)
- Gel Sealed Lead-Acid Battery (GEL)
- Flooded Lead-Acid Battery (FLd)
- 4-Series LiFePO4 Battery (L04)
- 7-Series LiFePO4 Battery (L07)
- 8-Series LiFePO4 Battery (L08)
- 15-Series LiFePO4 Battery (L15)
- 16-Series LiFePO4 Battery (L16)
- 3-Series Lithium-Ion Battery (N03)
- 6-Series Lithium-Ion Battery (N06)
- 7-Series Lithium-Ion Battery (N07)
- 13-Series Lithium-Ion Battery (N13)
- 14-Series Lithium-Ion Battery (N14)
- User-Defined (USE)

# SOLAR PANEL SPECIFICATIONS

MAX.PV OPEN-CIRCUIT VOLTAGE: 160VDC  
(FOR 36V/48V SYATEM)



MODELS	POW-M60-ULTRA	
	Maximum Input Power	Input Voltage Range
For 12V System	720W	20~80V
For 24V System	1440W	37~105V
For 36V System	2100W	50~160V
For 48V System	2800W	72~160V

Image: A visual representation of the various battery types compatible with the Temank MPPT 60A Solar Charge Controller, along with their corresponding display codes and a note about disconnecting PV input before setting parameters.

## 4.3 Load Operation Mode Settings

The controller offers various load operation modes:

- **24H:** Load output is always on.
- **00H (Light Control Mode):** The controller turns on the load output after sunset and turns it off after sunrise.
- **01H to 23H (Light Control + Time Control Mode):** The controller turns on the load output after sunset for a specified duration (e.g., 01H for 1 hour, 02H for 2 hours, up to 23 hours).

## 4.4 Parallel Operation Setup

For systems with multiple controllers, parallel communication ensures synchronized charging programs. The controller with the lowest communication code acts as the master, and others as slaves.

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Video: "How to Set Up Solar System with solar Controller & Inverter" - This video provides a general overview of setting up a solar system, which can be helpful for understanding the context of parallel controller operation.



Image: A schematic illustrating the parallel operation of multiple Temank MPPT 60A Solar Charge Controllers, showing communication cables and connections to solar arrays and a shared battery bank.

## 5. MAINTENANCE

Regular maintenance ensures the longevity and efficiency of your solar charge controller.

- **Inspect Connections:** Periodically check all wiring connections for tightness and corrosion.
- **Clean the Unit:** Keep the controller clean and free from dust and debris to ensure proper heat dissipation.
- **Monitor Performance:** Regularly check the display for any error codes or unusual readings.
- **Battery Health:** Monitor battery voltage and temperature to ensure they are within recommended ranges.

## 6. TROUBLESHOOTING

If you encounter issues, refer to the following common troubleshooting tips:

- **Controller Displays "Night Mode":** If the solar controller displays night mode during daylight, ensure the PV input is properly connected and receiving sufficient sunlight. Perform a reset by disconnecting all power (PV and battery), then reconnecting only the battery, and holding the last button for more than 5 seconds to restore factory settings.
- **No Charging:** Check all connections, especially solar panel and battery connections, for proper polarity and secure fit. Verify solar panel output voltage.
- **Overheating:** Ensure adequate ventilation around the controller. Check if the turbofan is operating when temperatures exceed 45°C.
- **Incorrect Readings:** Verify the battery type setting matches your connected battery. Calibrate battery voltage if there's a discrepancy with a multimeter reading.

## 7. SPECIFICATIONS

Feature	Value
Brand	Temank
Model	MPPT 60A
Rated Battery Charging Current	60A (Configurable 2-60A)
Rated Load Output Current	25A
System Voltage	12V/24V/36V/48V Auto
Max. PV Input Power (12V System)	720W
Max. PV Input Voltage Range (12V System)	DC20V~DC75V
Max. PV Input Power (24V System)	1440W
Max. PV Input Voltage Range (24V System)	37~100V
Max. PV Input Power (36V System)	2100W

Feature	Value
Max. PV Input Voltage Range (36V System)	50~155V
Max. PV Input Power (48V System)	2800W
Max. PV Input Voltage Range (48V System)	72-155V
Max. Parallel Units	12
Tracking Efficiency	≥99%
Peak Conversion Efficiency	Up to 97%
Cooling Method	Dual Cooling (Die-cast aluminum, Turbofan)
Operating Temperature	Up to 45°C (Fan activates)
Display Type	LED or LCD
Material	Aluminum
Item Weight	4.05 pounds (1.84 Kilograms)
Package Dimensions	10.79 x 8.35 x 4.49 inches

## 8. WARRANTY AND SUPPORT

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For warranty information and technical support, please refer to the manufacturer's official website or contact your retailer. Protection plans are available for purchase separately.

- **3-Year Protection Plan:** Available for purchase.
- **4-Year Protection Plan:** Available for purchase.
- **Complete Protect:** Monthly plan covering eligible past and future purchases.

Manufacturer: Temank

Seller: Y-SOLAR