OOYCYOO P 60A

OOYCYOO MPPT 60A Solar Charge Controller User Manual

Model: P 60A

1. Introduction

This manual provides detailed instructions for the installation, operation, and maintenance of your OOYCYOO MPPT 60A 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. It supports automatic 12V/24V system voltage identification and is compatible with various battery types.
Key features include a backlit LCD display, a 4-stage battery charging algorithm, and comprehensive protection functions.

2. Safety Instructions

- Always connect the battery first, then the solar panel, and finally the load. Disconnect in reverse order.
- Ensure all wiring is correctly polarized to prevent damage.
- Do not connect inverters or inductive loads directly to the controller's load terminals.
- Install the controller in a well-ventilated area, away from flammable materials.
- The controller generates heat during operation; ensure adequate airflow. The integrated cooling fan activates when the temperature exceeds 45°C and turns off below 40°C.
- Use appropriate circuit breakers and fuses for all connections.
- This device is for indoor use only. Protect it from water and moisture.

3. Product Overview

The OOYCYOO MPPT 60A Solar Charge Controller is designed for efficient solar power management. It features an LCD display for real-time data, multiple protection functions, and support for various battery types.

3.1 Package Contents

- 1 x OOYCYOO MPPT 60A Solar Charge Controller
- 1 x Temperature Sensor

- 1 x User Manual (English)

3.2 Component Identification

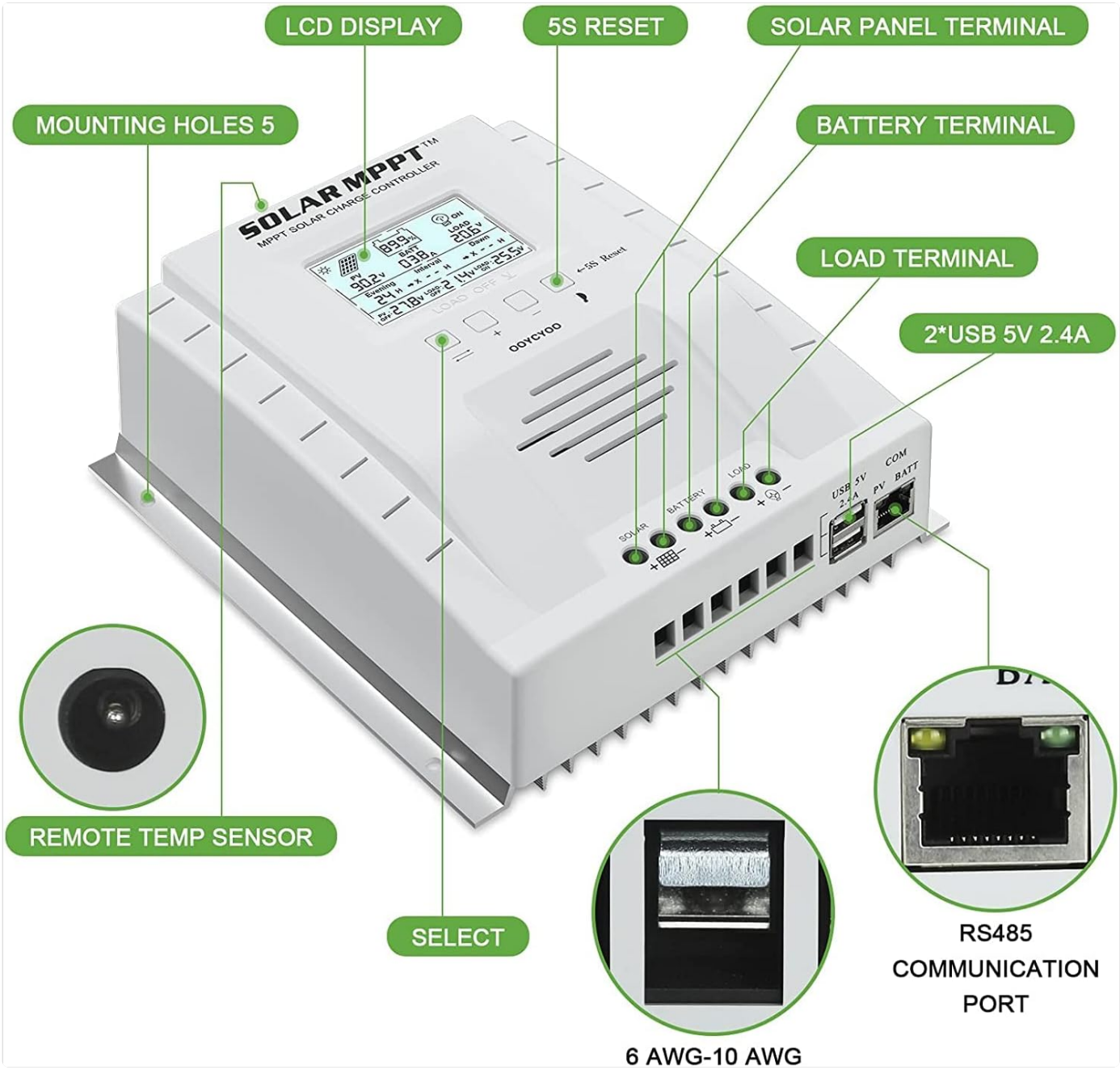


Figure 1: Front and side view of the OOYCYOO MPPT 60A Solar Charge Controller with key components labeled. Labels include LCD Display, 5S Reset button, Solar Panel Terminal, Battery Terminal, Load Terminal, USB 5V 2.4A ports, RS485 Communication Port, Remote Temp Sensor port, and Mounting Holes.

The controller features a clear LCD display on the front for monitoring system status. Below the display are control buttons for navigation and settings. Connection terminals for solar panels, battery, and load are located at the bottom. USB ports and an RS485 communication port are on the side.

4. Setup and Installation

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

4.1 Mounting the Controller

- Choose a dry, well-ventilated location, protected from direct sunlight, high temperatures, and water.
- Ensure there is sufficient space around the controller for heat dissipation.
- Mount the controller vertically on a wall or stable surface using the provided mounting holes.

4.2 Wiring Connections

Follow the connection order precisely to avoid damage to the controller or other components.

1. **Connect the Battery:** 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 the system voltage (12V or 24V).
2. **Connect the Solar Panels:** Connect the positive and negative leads from your solar panel array to the corresponding PV terminals on the controller. Ensure correct polarity. Do not exceed the maximum PV input voltage of 100V DC.
3. **Connect the Load (Optional):** Connect your DC loads to the load terminals on the controller. Note that the load output is for DC loads only. Do not connect inverters or inductive loads directly to these terminals.
4. **Connect the Remote Temperature Sensor:** Plug the temperature sensor into its dedicated port. This sensor helps the controller optimize charging based on battery temperature.

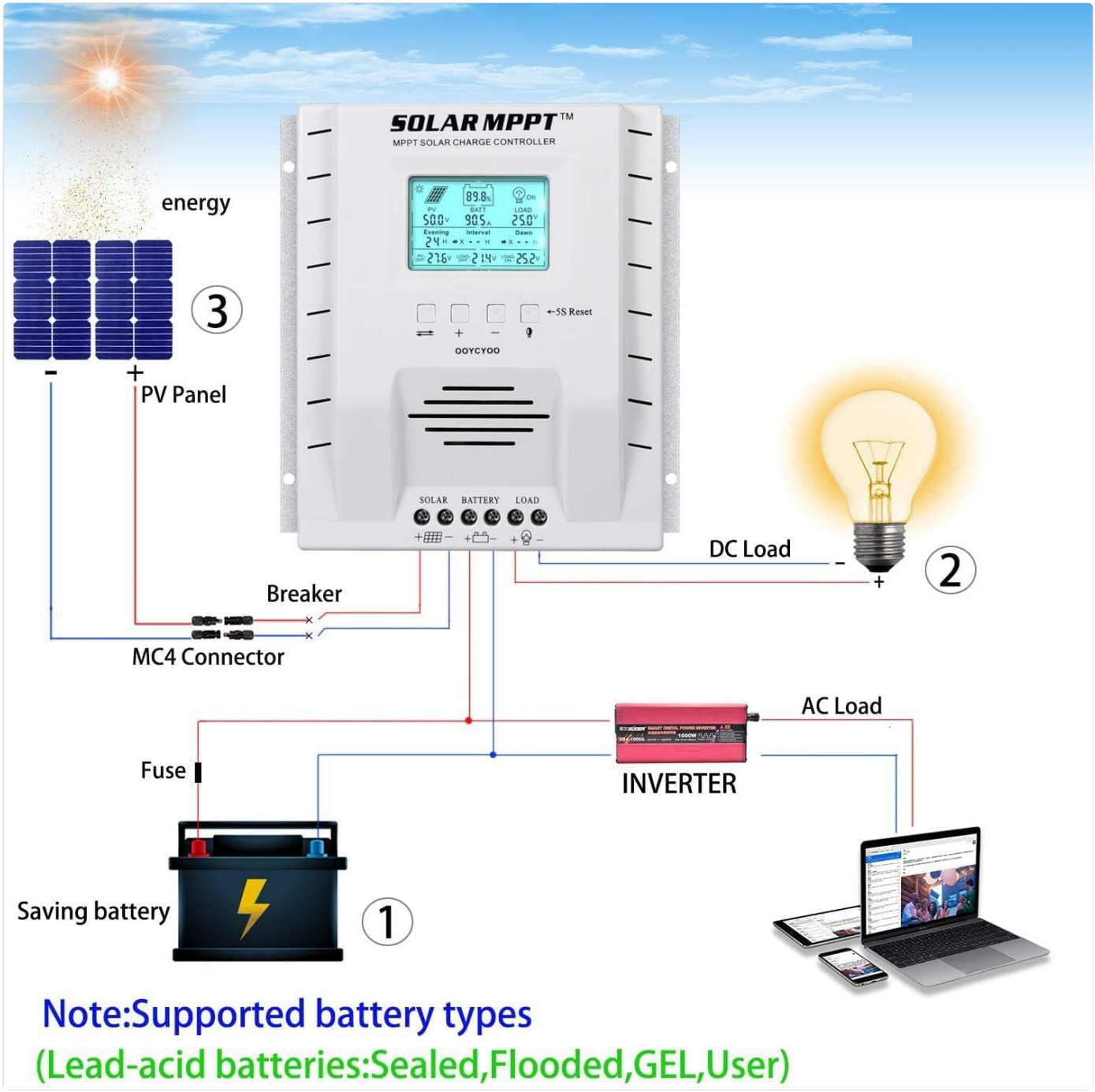


Figure 2: Illustrative wiring diagram showing connections for solar panels, battery, and DC load to the MPPT charge controller. The diagram also shows optional AC load connection via an inverter (not directly to the controller's load terminals).

Important Note: Always connect the battery first and disconnect the solar panel last. Incorrect connection order can damage the controller.

5. Operating Instructions

Once installed, the controller will begin operation automatically. The LCD display provides real-time system information.

5.1 LCD Display and Buttons

Figure 3: Close-up of the controller's backlit LCD display showing various parameters like PV voltage, battery voltage, load current, and charging status. Below the screen are four control buttons.

The backlit LCD displays critical system parameters such as PV voltage, battery voltage, charging current, load current, and accumulated energy (KWH). The four buttons below the display are used for navigation and settings adjustment:

- **Toggle Key:** Used to cycle through display screens or confirm selections.
- **'+' (Plus) Key:** Increases values or moves forward in menus.
- **'-' (Minus) Key:** Decreases values or moves backward in menus.
- **Manual Switch Load Key:** Toggles the load output on/off manually.
- **5S Reset:** Press and hold for 5 seconds to restore factory settings.

5.2 Battery Charging Algorithm

The controller utilizes a 4-stage charging algorithm to optimize battery life and performance:

1. **Bulk Charge:** Charges the battery at maximum current until the voltage reaches the boost voltage.
2. **Boost Charge:** Charges at a constant voltage for a set period to ensure full charge.
3. **Float Charge:** Maintains the battery at a lower voltage to prevent self-discharge and overcharging.
4. **Equalization (for specific battery types):** Periodically overcharges the battery to balance cell voltages and prevent sulfation.

5.3 Supported Battery Types

The controller is compatible with various battery types, including:

- Lead-Acid (Sealed, Gel, Flooded)
- Lithium (LFP)
- User-defined parameters for other battery types.

Pre-set charging parameters are available for Sealed, Gel, Flooded, and LI (LFP) batteries. Users can customize parameters for other battery types as needed.

6. Protection Functions

The OOYCYOO MPPT 60A Solar Charge Controller incorporates multiple protection mechanisms to ensure system safety and longevity:

- PV Overcurrent/Overpower Protection
- PV Short Circuit Protection
- PV Reverse Polarity Protection
- Reverse Charging at Night Protection
- Battery Reverse Polarity Protection
- Battery Overvoltage Protection
- Battery Over-discharge Protection
- Battery Overtemperature Protection
- Controller Overtemperature Protection
- Lithium Battery Low Temperature Protection
- Load Short Circuit Protection
- Load Overload Protection
- TVS High Voltage Transient Protection

Figure 4: Image highlighting the protective functions of the MPPT Solar Controller, emphasizing its robust design for system safety.

7. Maintenance

Regular maintenance ensures optimal performance and extends the lifespan of your solar charge controller.

- **Check Connections:** Periodically inspect all wiring connections for tightness and corrosion. Tighten any loose connections.
- **Clean the Controller:** Keep the controller clean and free of dust. Use a dry cloth to wipe the exterior. Ensure ventilation openings are not obstructed.
- **Inspect for Damage:** Check for any signs of physical damage, overheating, or unusual odors.
- **Battery Inspection:** Follow the manufacturer's maintenance guidelines for your specific battery type.

8. Troubleshooting

This section addresses common issues you might encounter with your solar charge controller.

Problem	Possible Cause	Solution
Controller not powering on / LCD blank	No battery connected or battery voltage too low. Reverse polarity connection.	Ensure battery is connected first and has sufficient voltage. Check battery polarity.
No charging from solar panels	Solar panels not connected or reverse polarity. Insufficient sunlight. PV voltage too low or too high.	Check solar panel connections and polarity. Ensure adequate sunlight. Verify PV voltage is within operating range (e.g., 18V-96V for 12V system, 36V-96V for 24V system).
Load not working	Load output disabled. Load short circuit or overload. Battery voltage too low.	Check load output status on LCD. Disconnect load and check for short circuit. Ensure battery is sufficiently charged.
Controller overheating	Poor ventilation. Excessive load or charging current.	Ensure adequate airflow around the controller. Reduce load or charging current if possible.
Inaccurate voltage readings	Loose connections. Faulty temperature sensor.	Check all wiring connections. Ensure temperature sensor is properly connected.

9. Specifications

Technical specifications for the OOYCYOO MPPT 60A Solar Charge Controller.

Parameter	Value
Rated Charge Current	60A
System Voltage	12V/24V Auto Identification
Max. PV Open Circuit Voltage	100V DC
Max. PV Input Power (12V System)	750W
Max. PV Input Power (24V System)	1500W
DC/DC Transfer Efficiency	Up to 98.7%
Operating Temperature	-20°C to +55°C
Terminal Size	10 AWG
Dimensions (L*W*H)	8.3 x 8.4 x 3.4 inches (21.2 x 20.8 x 8.4 cm)
Weight	3 lbs (1.28 kg)
Display Type	LCD Backlight
UPC	768461886785
Model Number	P 60A

system	solar panel		Max.PV input power	
Battery voltage	Open circuit voltage	Max.Power.voltage	40A	60A
12V system	≤ 48V (Voc)	≤ 36V (Vmp)	520W	750W
24V system	≤ 96V (Voc)	≤ 72V (Vmp)	1040W	1500W

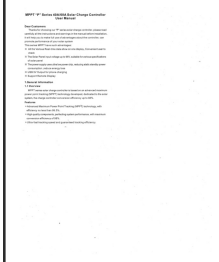
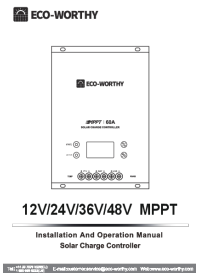
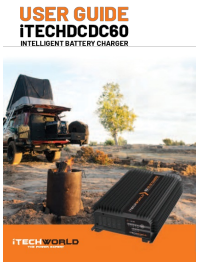
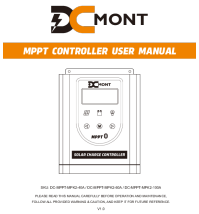
Figure 5: Technical data table for the OOYCYOO MPPT 60A Solar Charge Controller, detailing system voltage, open circuit voltage, and maximum power for solar panels.

Figure 6: Dimensional drawing of the OOYCYOO MPPT 60A Solar Charge Controller, showing its length, width, and depth in inches.

10. Warranty and Support

For warranty information or technical support, please contact your retailer or the manufacturer directly. Refer to the product packaging or purchase documentation for specific contact details.

Related Documents - P 60A

	[OOYCYOO MPPT Solar Power Generation System Controller User Manual] This document provides comprehensive instructions and technical specifications for the OOYCYOO MPPT Solar Power Generation System Controller. Learn about installation, parameter settings, protection features, and system wiring for optimal solar energy utilization.
	[Ooycyoo MPPT 'P' Series 40A/60A Solar Charge Controller User Manual] Explore the Ooycyoo MPPT 'P' Series 40A/60A Solar Charge Controller. This user manual details advanced MPPT technology, features like real-time display, USB charging, and multi-stage battery charging, along with essential safety and installation guidance for solar energy systems.
	[ECO-WORTHY 60A MPPT Solar Charge Controller Installation and Operation Manual] This manual provides comprehensive instructions for the installation, operation, and maintenance of the ECO-WORTHY 60A MPPT Solar Charge Controller. It covers safety precautions, product features, installation steps, working principles, troubleshooting, and specifications for 12V, 24V, 36V, and 48V systems.
	[iTECHDCDC60 Intelligent Battery Charger User Guide | iTECHWORLD] Comprehensive user guide for the iTECHDCDC60 Intelligent Battery Charger from iTECHWORLD. This guide covers product overview, quick start, installation, specifications, and safety precautions for 12V/24V systems.
	[DC MONT MPPT Controller User Manual: DC-MPPT-MPK2 Series] Comprehensive user manual for DC MONT MPPT Solar Charge Controllers (DC-MPPT-MPK2-40A, -60A, -100A). Features include built-in Bluetooth, backlit LCD display, and compatibility with Flooded, AGM, Gel, and Lithium-ion batteries. Covers safe installation, operation, parameter settings, and troubleshooting for efficient solar energy management.