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› OOYCYOO 100A MPPT Solar Charge Controller User Manual

## OOYCYOO 100A 12V 24V 36V 48V

# OOYCYOO 100A MPPT Solar Charge Controller User Manual

Model: 100A 12V 24V 36V 48V

## 1. INTRODUCTION

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This manual provides essential instructions for the safe installation, operation, and maintenance of your OOYCYOO 100A MPPT Solar Charge Controller. Please read this manual thoroughly before installation and use to ensure optimal performance and longevity of the product. Keep this manual for future reference.

### Safety Precautions

- Ensure all wiring is correctly connected and secured to prevent short circuits or damage.
- Always connect the battery first, then the solar panel, and finally the load. Disconnect in the reverse order.
- Do not attempt to repair or modify the controller yourself. Contact qualified personnel for service.
- Install the controller in a well-ventilated area, away from flammable materials and direct sunlight.
- Wear appropriate personal protective equipment (PPE) during installation, including eye protection and insulated gloves.

## 2. PRODUCT OVERVIEW

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The OOYCYOO 100A MPPT Solar Charge Controller is designed to efficiently manage power from your solar panels to charge various battery types, including 12V, 24V, 36V, and 48V systems. It features advanced Maximum Power Point Tracking (MPPT) technology for high conversion efficiency.

### Key Features:

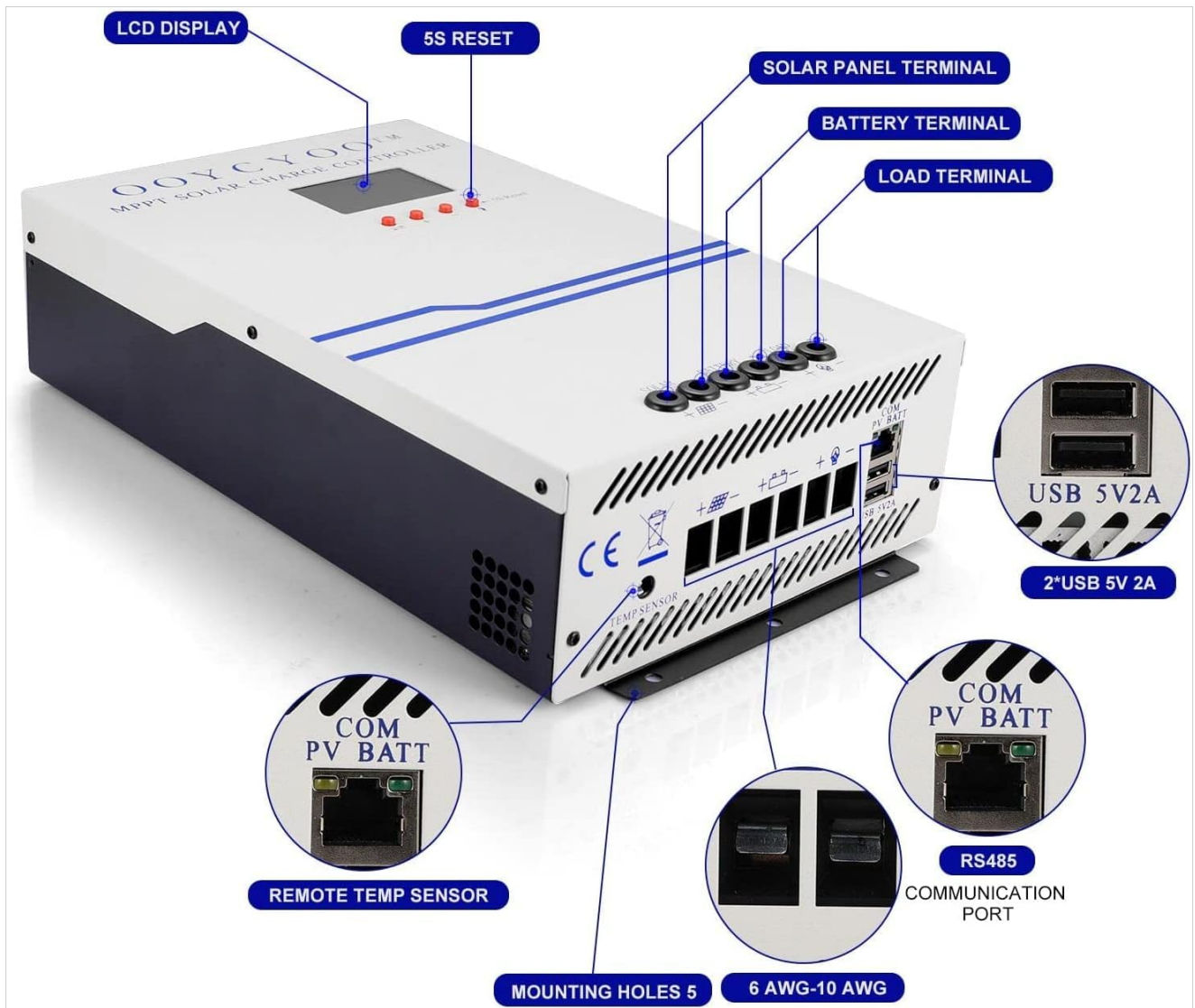
- Automatic identification of 12V/24V/36V/48V DC system voltage.
- High maximum power tracking rate ( $\geq 99\%$ ) and conversion rate ( $> 99\%$ ).
- Compatible with multiple battery types: USER (customizable), Flooded, Sealed, Gel, and Lithium (LiFePO<sub>4</sub>, Li(NiCoMn)O<sub>2</sub>).
- Programmable settings for absorption voltage, floating voltage, and low voltage disconnect.
- Integrated LCD display showing charge amount (KWH) and other operational data.

- Comprehensive protection functions: PV over current/power, PV short circuit, PV reverse polarity, night reverse charging, battery reverse polarity, battery over voltage, battery over discharge, battery overheating, controller overheating, lithium battery low temperature, load short circuit, load overload, TVS high voltage transients.
- Built-in cooling fan for efficient heat dissipation, activating when temperature  $>45^{\circ}\text{C}$  and deactivating when  $<40^{\circ}\text{C}$ .
- USB 5V 2A charging ports.

### Component Identification:



**Figure 1:** Front and back view of the Ooycyoo 100A MPPT Solar Charge Controller, showing the LCD display and connection terminals.



**Figure 2:** Detailed view of the controller's connection terminals, including Solar Panel, Battery, Load, Remote Temp Sensor, and USB ports.

### 3. SPECIFICATIONS

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Parameter	Value
Rated Charge Current	100A
System Nominal Voltage	12V/24V/36V/48V DC Auto Identifying
Max. PV Open Circuit Voltage	150VDC
12V System Max. PV Input Power	1300W (Voc ≤96V)
24V System Max. PV Input Power	2600W (Voc ≤112V)
36V System Max. PV Input Power	3800W
48V System Max. PV Input Power	5000W (Voc ≤150V)
MPPT Best Working Voltage Range (12V)	DC18V-DC96V
MPPT Best Working Voltage Range (24V)	DC36V-DC112V
MPPT Best Working Voltage Range (48V)	DC72V-DC150V
Maximum DC/DC Transfer Efficiency	98.7%
Power Terminal Wire Gauge	10 AWG
Dimensions (L x W x H)	12" x 7.8" x 3.2" (30.5cm x 19.8cm x 8.1cm)
Weight	9.5 lbs (4.3 kg)
Operating Temperature	Up to 40°C (Fan operates above 45°C)
Material	Metal
Display Type	LCD
USB Output	5V 2A

# 100A 5000W MPPT CHARGE CONTROLLER 12V 24V 48V BATTERY



- Auto identity 12V/24V/48V DC systems voltage.
- Max Power Current:100A,Load output current:40A
- Max. PV Input VOC:60V@12V battery,112V@24V battery,144V@48V battery
- Max. PV Input Power: 1300W@12V battery/2600w @24V battery/5000w@48V battery
- Compattible with Lead-Acid(Lithium/Sealed/Gel/ Flooded) batteries
- Common-Postive Ground MPPT Controller
- A key to open and close the load
- A key to restore the factory settings
- 0 layer display-it will display all information at one time, one screen
- USB 5V charge 2A

## Application

System	Solar panel		MAX.PV input power
	Open circuit voltage	Max.power voltage	
Bettyery voltage			100A
12V system	≤60V (Voc)	≤96V(Vmp)	1300W
24V system	≤96V (Voc)	≤112V(Vmp)	2600W
48V system	≤112V (Vol)	≤144V(Vmp)	5000W

Figure 3: Application table detailing solar panel input requirements for different system voltages.

## 4. SETUP AND INSTALLATION

Proper installation is crucial for the safe and efficient operation of your solar charge controller. Refer to Figure 2 for terminal identification.

### Installation Steps:

1. **Mounting:** Choose a dry, well-ventilated location, protected from direct sunlight, high temperatures, and moisture. Ensure adequate clearance around the controller for air circulation, especially for the cooling fan. Use the mounting holes provided to secure the controller to a stable surface.
2. **Battery Connection:** Connect the battery cables to the battery terminals on the controller (marked with '+' and '-'). Ensure correct polarity. Connect the other end of the cables to your battery bank. *Always connect the battery first.*
3. **Solar Panel Connection:** Connect the solar panel cables to the PV terminals on the controller (marked with '+' and '-'). Ensure correct polarity. Connect the other end of the cables to your solar panel array.
4. **Load Connection (Optional):** If you are connecting a DC load directly to the controller, connect the load cables to the load terminals (marked with '+' and '-'). Ensure correct polarity.

- 5. Temperature Sensor Connection:** Connect the included temperature sensor to the designated 'TEMP SENSOR' port. Place the sensor near the battery to ensure accurate temperature compensation for charging.
- 6. Power On:** Once all connections are secure and verified for correct polarity, the controller will power on and display information on the LCD screen.

### Compatible Battery Types:

The controller supports various battery types. Ensure you select the correct battery type in the controller settings for proper charging and protection.

## COMPATIBLE WITH MULTIPLE BATTERY TYPES

AGM

GEL

FLOODED

LITHIUM

12.60inch  
32cm



7.87inch/20cm  
3.15inch/8cm

**AGM / Sealed, Gel, Flooded, and Lithium-Iron phosphate  
(—12V/24V=12V/24V/48V) Ready**

**Figure 4:** The controller is compatible with AGM, Sealed, Gel, Flooded, and Lithium-Iron Phosphate batteries.

## 5. OPERATING INSTRUCTIONS

### LCD Display and Navigation:

The backlit LCD display provides real-time operational data. It directly shows the amount of charge in KWH, eliminating the need for external measuring instruments. Use the buttons below the display to navigate through menus and adjust settings.

- **Navigation Buttons:** Typically, there are buttons for 'Up', 'Down', 'Enter', and 'Escape' or similar functions to browse and confirm settings.
- **5S Reset:** A dedicated button or combination of buttons may be available for a 5-second reset, which can be used to restart the controller or clear certain errors.

## Parameter Settings:

The controller allows user-programmable settings for various parameters, especially for the 'USER' battery type. Consult the on-screen menu for specific options.

- **Battery Type Selection:** It is critical to select the correct battery type (AGM, Sealed, Gel, Flooded, or Lithium) to ensure proper charging algorithms and prevent battery damage. For Lithium batteries, specific voltage parameters may need to be set.
- **Charging Voltages:** For 'USER' battery types, you can customize absorption voltage, float voltage, and low voltage disconnect (LVD) thresholds. Refer to your battery manufacturer's specifications for recommended values.
- **Load Timer:** If a DC load is connected, you may be able to set a timer for its operation.
- **Factory Settings:** A key is available to restore the factory settings if needed.

## 6. MAINTENANCE

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Regular maintenance ensures the long-term reliability and performance of your solar charge controller.

- **Cleaning:** Periodically clean the exterior of the controller with a dry cloth. Ensure the ventilation openings are free from dust and debris to maintain proper airflow for cooling.
- **Connection Checks:** Annually, inspect all wiring connections for tightness and corrosion. Loose connections can cause overheating and power loss.
- **Environmental Inspection:** Ensure the installation environment remains dry and free from excessive dust or extreme temperatures.
- **Firmware Updates:** Check the manufacturer's website periodically for any available firmware updates, though this controller may not support user updates.

## 7. TROUBLESHOOTING

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This section addresses common issues you might encounter. For problems not listed here, please contact customer support.

Problem	Possible Cause	Solution
Controller not powering on / No display	Battery not connected or reverse polarity; Battery voltage too low; Loose battery connection.	Check battery connections and polarity. Ensure battery voltage is above the minimum operating threshold. Tighten connections.
No charging from solar panels	PV panels not connected or reverse polarity; PV voltage too low/high; Shading on panels; PV short circuit.	Check PV connections and polarity. Ensure PV voltage is within the controller's operating range. Remove shading. Check for PV short circuit.
Battery not fully charged	Incorrect battery type setting; Insufficient solar input; Battery degradation.	Verify battery type setting. Increase solar panel capacity or reduce load. Test battery health.
Load not working	Load not connected or reverse polarity; Load short circuit; Load overload; Battery low voltage disconnect (LVD) activated.	Check load connections and polarity. Check for short circuits or overloads. Charge battery.
Controller overheating	Poor ventilation; Excessive ambient temperature; Overload.	Ensure adequate airflow around the controller. Reduce load if possible. Relocate to a cooler environment.

## 8. WARRANTY AND SUPPORT

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OOYCYOO products are manufactured to high-quality standards. Specific warranty terms and conditions are typically provided with your purchase documentation or can be found on the official OOCYOO website.

For technical support, troubleshooting assistance, or warranty claims, please contact OOCYOO customer service through the retailer where you purchased the product or visit the official OOCYOO website for contact information.

Please have your product model number (100A 12V 24V 36V 48V) and purchase date available when contacting support.