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› Bolisila MPPT Solar Charge Controller User Manual

Bolisila SY-SLCD 100A

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Model: SY-SLCD 100A

INTRODUCTION

This manual provides essential information for the safe and efficient operation of your Bolisila MPPT Solar Charge Controller. This device is designed to manage power flow from your solar panels to your battery bank, ensuring optimal charging and protecting your battery from overcharge and over-discharge.

The controller automatically detects 12V, 24V, 36V, or 48V battery systems and features a multi-function LCD with backlight for dynamic display of operational data and working status.

Key Features:

- Multi-function LCD with backlight display and clock.
- Dynamic display of operational data and working status.
- Easy installation and setup; automatic battery voltage detection.
- Multiple protections: overcharge, over-discharge, overload, short circuit, reverse polarity, over-heat, and battery under-voltage.

SETUP AND INSTALLATION

Proper installation is critical for the safe and effective operation of your solar charge controller. Please follow these instructions carefully.

Connection Order:

1. **Connect the Battery First:** Ensure the battery voltage is sufficient for proper identification by the controller.
 - For 12V battery: Voltage higher than 10V.
 - For 24V battery: Voltage higher than 20V.
 - For 36V battery: Voltage higher than 30V.
 - For 48V battery: Voltage higher than 40V.

Warning: Connecting the photovoltaic panel before the battery may cause voltage identification errors and potential damage to the controller.

2. **Connect the Photovoltaic (PV) Panel:** Connect your solar panels to the controller. The required PV panel voltage varies based on your battery system:

- For 12V batteries: Use approximately 18V photovoltaic panels.
- For 24V batteries: Use approximately 30-37V photovoltaic panels.
- For 48V batteries: Use approximately 60-72V photovoltaic panels.

3. **Connect the Load (Optional):** If you are connecting a DC load directly to the controller, connect it after the battery and PV panel.

Disconnection Order:

To disconnect the system, reverse the connection order: Disconnect the load first, then the photovoltaic panel, and finally the battery.

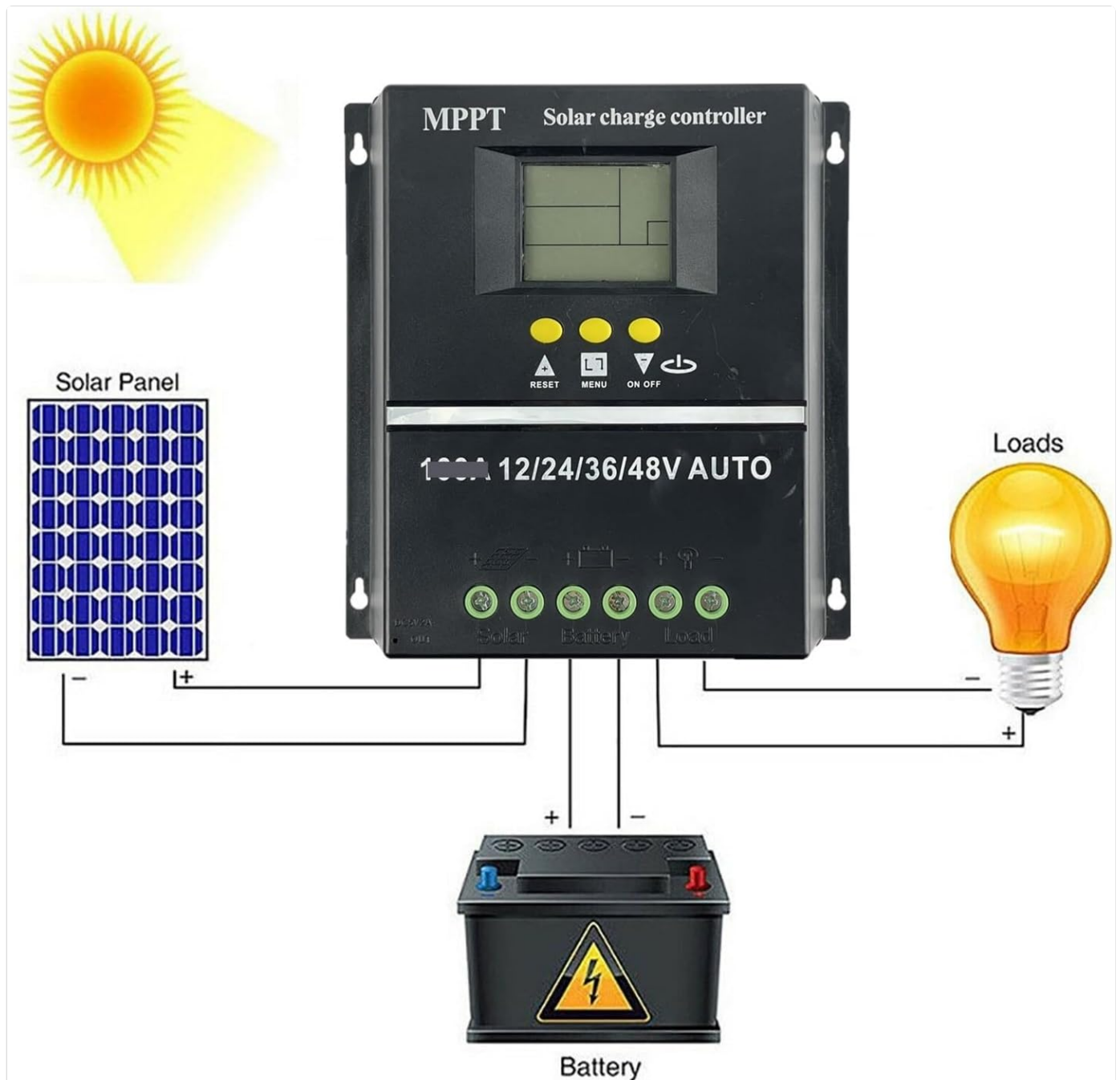


Figure 1: Wiring diagram illustrating the connection of solar panel, charge controller, battery, and DC load. Ensure positive and negative terminals are correctly matched.



Figure 2: Front view of the Bolisila MPPT Solar Charge Controller, showing the LCD display, control buttons (RESET, MENU, ON/OFF), and input/output terminals for Solar, Battery, and Load.

OPERATING INSTRUCTIONS

Charging Protection Description:

The controller implements a multi-stage charging process to protect your battery and extend its lifespan. The charging voltages adjust based on the detected battery system voltage:

- **For 12V Battery:** Boost charging voltage is higher than 14.8V, then converts to a floating charging voltage of 13.8V.

- **For 24V Battery:** Boost charging voltage is higher than 29.6V, then changes to a float charging voltage of 27.6V.
- **For 36V Battery:** Boost charging voltage is higher than 44.4V, then changes to a floating charging voltage of 41.4V.
- **For 48V Battery:** Boost charging voltage is higher than 59.2V, then changes to a floating charging voltage of 55.2V.

Clock Setting Instructions:

Once the battery is connected:

1. Press the "**MENU**" button to enter the clock setting interface.
2. Use the "**RESET**" or "**ON/OFF**" buttons to adjust the time.
3. Short press the "**MENU**" button again to save the settings.

Charging Voltage Setting Instructions:

After connecting the battery and setting/saving the clock:

1. Long press the "**MENU**" button for 3-5 seconds.
2. The screen will display "L**V", indicating the floating charge voltage. Use the "**RESET**" or "**ON/OFF**" buttons to adjust this value.
3. Short press "**MENU**" again. The screen will display "H**V", indicating the boost charging voltage. Use the "**RESET**" or "**ON/OFF**" buttons to adjust this value.
4. Continue short pressing "**MENU**" to cycle through other settings and save.

MAINTENANCE

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

- **Cleanliness:** Keep the controller clean and free from dust and debris. Use a dry cloth for cleaning.
- **Connections:** Periodically check all wiring connections to ensure they are tight and free from corrosion. Loose connections can lead to power loss or overheating.
- **Ventilation:** Ensure the controller has adequate ventilation to prevent overheating. Do not block the cooling fins or vents.
- **Environmental Conditions:** Operate the controller within its specified temperature and humidity ranges. Avoid direct exposure to water or extreme weather conditions.

TROUBLESHOOTING

The Bolisila MPPT Solar Charge Controller is equipped with multiple protection features to ensure safe operation. If you encounter issues, refer to the following:

Protection Mechanisms:

- **Overcharge Protection:** Prevents battery damage from excessive charging.
- **Over-discharge Protection:** Protects the battery from being drained too low.
- **Overload Protection:** Shuts down if the connected load exceeds the controller's capacity.
- **Short Circuit Protection:** Automatically disconnects in case of a short circuit.
- **Reverse Polarity Protection:** Protects against incorrect wiring of battery or solar panels.
- **Over-heat Protection:** Reduces power or shuts down if internal temperature is too high.
- **Battery Under-voltage Protection:** Prevents battery damage from operating at critically low voltage.

Common Issues and Solutions:

- **Voltage Identification Error:** If the controller does not correctly identify the battery voltage, ensure the battery was connected first and its voltage meets the minimum requirements (e.g., >10V for 12V battery). Disconnect all power, then reconnect the battery first, followed by the solar panel.
- **No Display/Power:** Check battery connections and ensure the battery has sufficient charge.
- **No Charging:** Verify solar panel connections, ensure adequate sunlight, and check for any error codes on the LCD.

SPECIFICATIONS

The following are the technical specifications for the Bolisila MPPT Solar Charge Controller (SY-SLCD 100A model):

Specification	Value
Model	SY-SLCD 100A
System Voltage	12V/24V/36V/48V Auto
Rated Charge Current	100A
Boost Charging Voltage (12V Battery)	>14.8V
Float Charging Voltage (12V Battery)	13.8V
Boost Charging Voltage (24V Battery)	>29.6V
Float Charging Voltage (24V Battery)	27.6V
Boost Charging Voltage (36V Battery)	>44.4V
Float Charging Voltage (36V Battery)	41.4V
Boost Charging Voltage (48V Battery)	>59.2V
Float Charging Voltage (48V Battery)	55.2V
Package Dimensions	1.18 x 0.79 x 0.39 inches
Item Weight	1.54 pounds (700 Grams)
Manufacturer	Bolisila
Color	Sy-slcd 100a



Figure 3: Top-down view of the controller showing approximate dimensions (190mm width, 180mm height).



Figure 4: Side view of the controller, highlighting the USB 5V/2A output ports and the robust terminal connections for solar, battery, and load.

WARRANTY AND SUPPORT

For warranty information and technical support, please refer to the documentation included with your product package or contact Bolisila customer service directly. Details regarding specific warranty periods and terms are typically provided by the manufacturer at the time of purchase.

For further assistance, please visit the official Bolisila website or contact their support channels.

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page's manual context to help answer it.

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Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question

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