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› Srliya MPPT Solar Controller MPJ40-40A User Manual

Srliya MPJ40-40A

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Model: MPJ40-40A

1. INTRODUCTION

This manual provides comprehensive instructions for the installation, operation, and maintenance of your Srliya MPPT Solar Controller MPJ40-40A. This device is designed to efficiently manage power flow from solar panels to batteries, ensuring optimal charging and system protection. It features lithium battery self-activation and is compatible with DC 12V and 24V systems, supporting a maximum PV input of DC 100V.

2. SAFETY INFORMATION

Please read all safety instructions carefully before installation and operation. Failure to follow these instructions may result in personal injury, damage to the controller, or damage to other components in your solar system.

- Ensure all connections are correct and secure before applying power.
- Always connect the battery to the controller first, then the solar panel, and finally the load. Disconnect in the reverse order.
- Do not disassemble or attempt to repair the controller yourself. Contact qualified personnel for service.
- Install the controller in a well-ventilated area, away from flammable materials and direct sunlight.
- Use appropriate circuit breakers or fuses for all connections to prevent overcurrent damage.
- Wear appropriate personal protective equipment, such as safety glasses and insulated gloves, when working with electrical systems.

3. PRODUCT OVERVIEW

The Srliya MPPT Solar Controller MPJ40-40A is a robust and efficient device for managing your solar power system. It features an intelligent digital display for easy parameter setting and monitoring.



Front view of the Sriya MPPT Solar Controller MPJ40-40A, showing the digital display and control buttons. The display provides real-time system information, and the buttons allow for easy navigation and parameter adjustments.



Angled view of the solar controller, highlighting the connection terminals at the bottom. These terminals are clearly labeled for solar panel input, battery connection, and load output.



Bottom view of the solar controller, showing the heat sink fins for efficient heat dissipation. This design ensures the controller operates within safe temperature limits, enhancing its lifespan and reliability.

4. SPECIFICATIONS

Feature	Specification
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Item Type	Solar Controller
Rated Voltage	DC 12V / 24V (Auto-sensing)
Maximum PV Voltage	DC 100V
Material	Aluminum Alloy, ABS
Color	Black
Package Dimensions	9.45 x 7.87 x 4.33 inches
Item Weight	3.37 pounds
Model Number	Srliya9tybg07coi-12

5. SETUP AND INSTALLATION

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

- Mounting:** Choose a dry, well-ventilated indoor location, protected from direct sunlight, high temperatures, and moisture. Mount the controller vertically on a wall or suitable surface, ensuring adequate airflow around the heat sink fins. Leave at least 15 cm (6 inches) of clearance above and below the controller for proper heat dissipation.
- Battery Connection:** Connect the battery to the controller's battery terminals first. Ensure correct polarity (positive to positive, negative to negative). The controller will automatically detect the system voltage (12V or 24V).
- Solar Panel Connection:** Connect the solar panel(s) to the controller's PV terminals. Again, observe correct polarity. Ensure the open-circuit voltage of your solar array does not exceed the controller's maximum PV voltage (DC 100V).
- Load Connection (Optional):** If you are connecting a DC load directly to the controller, connect it to the load terminals. Ensure correct polarity. The controller provides protection for the load.
- Verify Connections:** Double-check all wiring for correct polarity and secure connections. Loose connections can cause overheating and damage.

Important: Always connect the battery first and disconnect the battery last to prevent damage to the controller.

6. OPERATING INSTRUCTIONS

Once installed, the controller will begin operating automatically. The digital display provides real-time information about your system's status.

6.1 Display and Buttons

The intelligent human-computer interaction display screen allows for easy monitoring and parameter adjustments. Use the buttons below the display to navigate through menus and modify settings.

- Up/Down Buttons:** Navigate through menu options or increase/decrease values.
- Enter Button:** Confirm selections or enter a menu.
- Exit Button:** Return to the previous menu or exit settings.

6.2 Key Features

- **MPPT Technology:** The controller utilizes Maximum Power Point Tracking (MPPT) technology to maximize the energy harvest from your solar panels, achieving up to 99% utilization rate.
- **Lithium Battery Self-Activation:** This controller includes a self-activation function specifically designed for lithium batteries, simplifying setup for these battery types. It is universally compatible with various lithium battery chemistries.
- **Automatic System Voltage Recognition:** The controller automatically detects whether your battery system is 12V or 24V.
- **Comprehensive Protections:** Built-in protections include high and low voltage protection, overload protection, over-heating protection, positive and negative polarity reverse connection protection, output short circuit protection, and overcurrent protection.
- **Wide Application Range:** Suitable for various solar power generation systems, including solar street lights, solar chargers, solar light boxes, and RV applications.

6.3 Parameter Settings

Refer to the on-screen menu for specific parameter settings such as battery type, charge voltage limits, load control modes, and timer settings. Adjust these parameters according to your battery manufacturer's recommendations and your system requirements.

7. MAINTENANCE

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

- **Inspection:** Periodically inspect all wiring connections for tightness and corrosion. Ensure no wires are frayed or damaged.
- **Cleaning:** Keep the controller clean and free from dust and debris. Use a dry cloth to wipe the exterior. Do not use liquid cleaners.
- **Ventilation:** Ensure the ventilation openings and heat sink fins are not obstructed to allow for proper heat dissipation.
- **Environmental Conditions:** Verify that the operating environment remains within the specified temperature and humidity ranges.

8. TROUBLESHOOTING

If you encounter issues with your solar controller, refer to the following common problems and solutions:

Problem	Possible Cause	Solution
Controller display is off	Battery not connected or low voltage; reverse polarity.	Check battery connections and voltage. Ensure correct polarity. Charge battery if voltage is too low.
Battery not charging	Solar panel not connected; low solar input; reverse PV polarity; PV voltage too low/high.	Check solar panel connections and polarity. Ensure sufficient sunlight. Verify PV voltage is within range (below 100V).
Load not working	Load disconnected; overload; short circuit; low battery voltage.	Check load connections. Reduce load. Check for short circuits. Charge battery.

Overheating	Poor ventilation; excessive load.	Ensure adequate airflow around the controller. Reduce load if possible.
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If the problem persists after attempting these solutions, please contact customer support.

9. WARRANTY AND SUPPORT

For warranty information and technical support, please refer to the documentation provided with your purchase or contact the seller directly. Keep your purchase receipt as proof of purchase.

Manufacturer: Sriya

Model: MPJ40-40A

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