

Generic10hmnzyxa3

Solar MPPT Boost Controller 72V 300W User Manual

Model: Generic10hmnzyxa3 | Brand: Generic

INTRODUCTION

This manual provides essential information for the safe and efficient operation of your Solar MPPT Boost Controller. This device is designed to optimize power transfer from solar panels to various battery types, including lithium and lead-acid batteries, with voltages ranging from 24V to 72V. It features advanced Maximum Power Point Tracking (MPPT) technology to maximize energy harvesting and includes a clear digital display for real-time monitoring of system parameters.



Figure 1: Front view of the Solar MPPT Boost Controller with input and output wires.

KEY FEATURES

- **Energy Saving and High Efficiency:** Utilizes advanced MPPT technology with a tracking efficiency of up to 98% and conversion efficiency of 97% to maximize solar energy utilization.
- **Versatile Battery Compatibility:** Supports a wide range of battery types, including lithium and lead-acid batteries, with nominal voltages of 24V, 36V, 48V, 60V, and 72V.
- **Clear Digital Display:** Features a 4-digit digital tube display for real-time monitoring of panel voltage, charging current, and battery voltage, allowing for easy parameter setting.
- **Safety and Security:** Equipped with a child lock function to prevent accidental changes to settings, ensuring safe operation.
- **Dynamic Parameter Monitoring:** Provides direct and dynamic display of device operating data and working status.
- **Low Power Consumption:** Operates with zero standby power consumption, drawing power from the solar panel during the day and consuming no power at night.



Figure 2: The controller's digital display provides real-time data and allows for parameter adjustments.

SPECIFICATIONS

Parameter	Value
Model Number	Generic10hmnzyxa3
Brand	Generic
Maximum Power	≤300W
Solar Input Voltage Range	12V ~ 50V (Solar panel voltage must be lower than battery voltage)
MPPT Voltage Range	15V ~ 45V
MPPT Efficiency	≥99%
Machine Efficiency	≥95%
Overvoltage Protection (Adjustable)	28.8V (24V), 43.2V (36V), 57.6V (48V), 72.0V (60V), 86.4V (72V)
Operating Temperature	-35°C ~ 55°C
Waterproof Class	IP54
Insulation	AC1KV, 5min test / ≥20MΩ
Display Type	Digital (4-digit tube)
Package Dimensions	8.27 x 3.94 x 1.97 inches
Item Weight	1.09 pounds
Country of Origin	China

SETUP AND INSTALLATION

Proper installation is crucial for the safe and efficient operation of your MPPT boost controller. Please follow these guidelines carefully:

- Mounting:** Choose a dry, well-ventilated location away from direct sunlight and moisture. Ensure adequate space around the controller for heat dissipation.
- Wiring Sequence:**
 - Connect the battery to the controller first. Ensure correct polarity (positive to positive, negative to negative). The controller will power on once the battery is connected.
 - Next, connect the solar panel array to the controller. Ensure correct polarity. The solar panel voltage must be lower than the battery voltage for proper boost operation.
- Fuse Installation:** The controller comes with an inline fuse holder. Ensure the appropriate fuse (e.g., 10A, as seen in images) is correctly installed in the battery positive line to protect against overcurrent.
- Secure Connections:** Double-check all wiring connections to ensure they are tight and secure to prevent loose contacts and potential hazards.

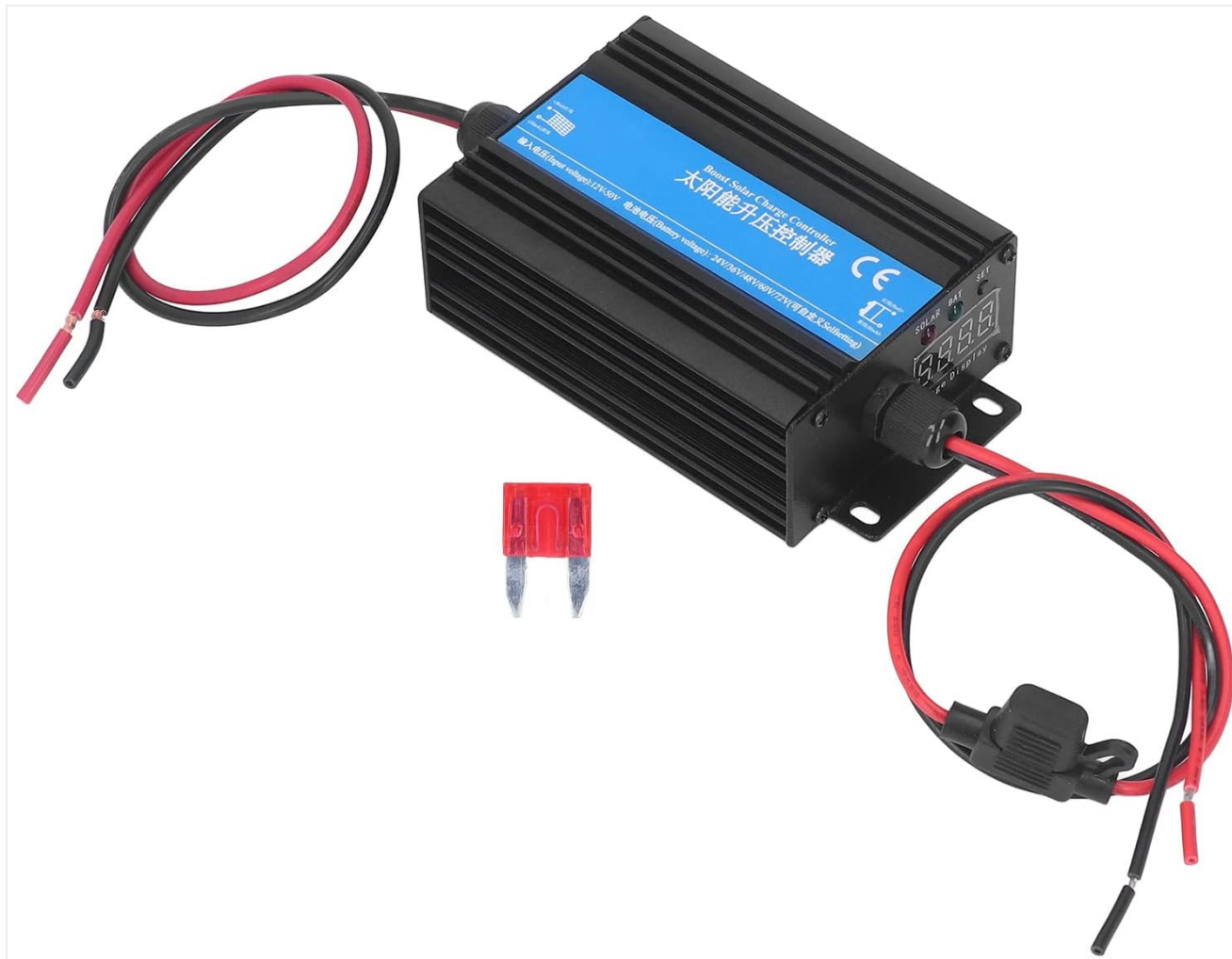


Figure 3: The controller includes an inline fuse for circuit protection.

OPERATING INSTRUCTIONS

The controller's digital display provides real-time information and allows for parameter adjustments. The "SET" key is used to navigate and modify settings.

Display Information:

The 4-digit digital tube display cycles through various parameters, including:

- Solar Panel Voltage (Input Voltage)
- Charging Current
- Battery Voltage (Output Voltage)
- Other operational data

Setting Battery Voltage and Charging Parameters:

The controller allows users to set the battery voltage and charging parameters. While the full procedure is not detailed in the provided information, typically this involves:

1. Pressing the "SET" button to enter the parameter setting mode.
2. Using navigation buttons (if available, or repeated presses of "SET") to select the parameter to adjust (e.g., battery type, overvoltage protection threshold).
3. Adjusting the value using increment/decrement buttons (or similar interaction).
4. Saving the settings, often by holding the "SET" button or waiting for an auto-save.

Note: The provided information mentions a "Child lock function" to prevent accidental changes. To unlock, you may need to open the four screws on the side of the controller, as indicated in the product description. Refer to the complete manual for detailed instructions on disabling/enabling the child lock and setting specific parameters.

MAINTENANCE

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

- **Cleaning:** Periodically clean the exterior of the controller with a dry, soft cloth to remove dust and debris. Do not use liquid cleaners.
- **Connections:** Annually inspect all wiring connections for tightness and corrosion. Loose connections can lead to overheating and inefficient operation.
- **Ventilation:** Ensure that the area around the controller remains clear to allow for proper airflow and heat dissipation.
- **Fuse Check:** If the controller is not functioning, check the inline fuse. A blown fuse (as shown in Figure 3) indicates an overcurrent event and needs replacement with a fuse of the same rating.

TROUBLESHOOTING

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

Problem	Possible Cause & Solution
Controller not powering on / No display	◦ No battery connection: Ensure the battery is correctly connected and has sufficient charge. ◦ Blown fuse: Check the inline fuse on the battery positive line (refer to Figure 3). Replace if blown. ◦ Reverse battery connection: The product description states "Reverse Connection: Reverse connection of battery will blow". Ensure correct polarity.
No charging / Low charging current	◦ Insufficient solar input: Check solar panel connections. Ensure adequate sunlight. ◦ Solar panel voltage too high/low: Ensure solar input voltage is within the 12V-50V range and lower than battery voltage. ◦ MPPT not active: Ensure solar panel voltage is within the MPPT range (15V-45V). ◦ Battery full: The controller will stop charging when the battery reaches its full charge voltage.
Incorrect display readings	◦ Loose connections: Check all wiring for secure connections. ◦ Sensor issue: If problem persists after checking connections, contact support.

Problem	Possible Cause & Solution
Settings cannot be changed	◦ Child lock active: Refer to the "Operating Instructions" section regarding the child lock function.

WARRANTY AND SUPPORT

For warranty information, please refer to the terms and conditions provided by your retailer or the manufacturer at the time of purchase. This product is manufactured by Generic.

If you encounter issues not covered in this manual or require further assistance, please contact the seller or manufacturer's customer support. When contacting support, please have your product model number (Generic10hmnzyxa3) and purchase details ready.