Hyuduo Hyuduootmwkgan92-13

Hyuduo 30A PWM Solar Charge Controller User Manual

Model: Hyuduootmwkgan92-13 | Brand: Hyuduo

1. Introduction

This manual provides comprehensive instructions for the installation, operation, and maintenance of your Hyuduo 30A PWM Solar Charge Controller. This device is designed to manage the power flow from your solar panels to your battery bank, ensuring efficient charging and protecting your battery from overcharge and over-discharge. It is suitable for 12V and 24V solar systems.

Figure 1: Front view of the Hyuduo 30A PWM Solar Charge Controller.

2. Safety Information

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

- Ensure the battery has sufficient voltage for the controller to recognize the correct battery type during first installation.
- Install the controller as close as possible to the battery to minimize voltage drop from long wires.
- This controller is designed for lead-acid batteries (OPEN, AGM, GEL). It is not suitable for other battery types.
- Ensure all connections are tight and correct to prevent damage.
- Do not disassemble or attempt to repair the controller yourself. Contact qualified personnel for service.
- Keep the controller away from water, flammable gases, and corrosive substances.

3. Product Features

The Hyuduo 30A PWM Solar Charge Controller incorporates advanced technology for reliable solar power management:

- **Industrial Grade Master Control Chip:** Ensures stable and efficient operation with complete 3-stage PWM charging management.
- **Large LCD Display:** Provides clear status and data, allowing easy mode switching and parameter configuration.
- **Comprehensive Protection:** Built-in overcurrent, short circuit, open circuit, and reverse connection protection. All protections are self-recovery type, preventing damage to the controller.
- **MOS Anti-Backup Circuit:** Features ultra-low heat generation, ensuring optimal device performance and longevity.
- **Durable Construction:** Made from excellent ABS material, providing impact resistance, high ignition point, and anti-aging/erosion properties.
- **USB Output:** Two USB output ports (5V, 1A maximum) for charging external devices.

4. Package Contents

Please verify that all items are present in your package:

- Hyuduo 30A PWM Solar Charge Controller
- User Manual (This document)

5. Product Overview

Familiarize yourself with the components of your solar charge controller.

Figure 2: Top view showing connection terminals and buttons.

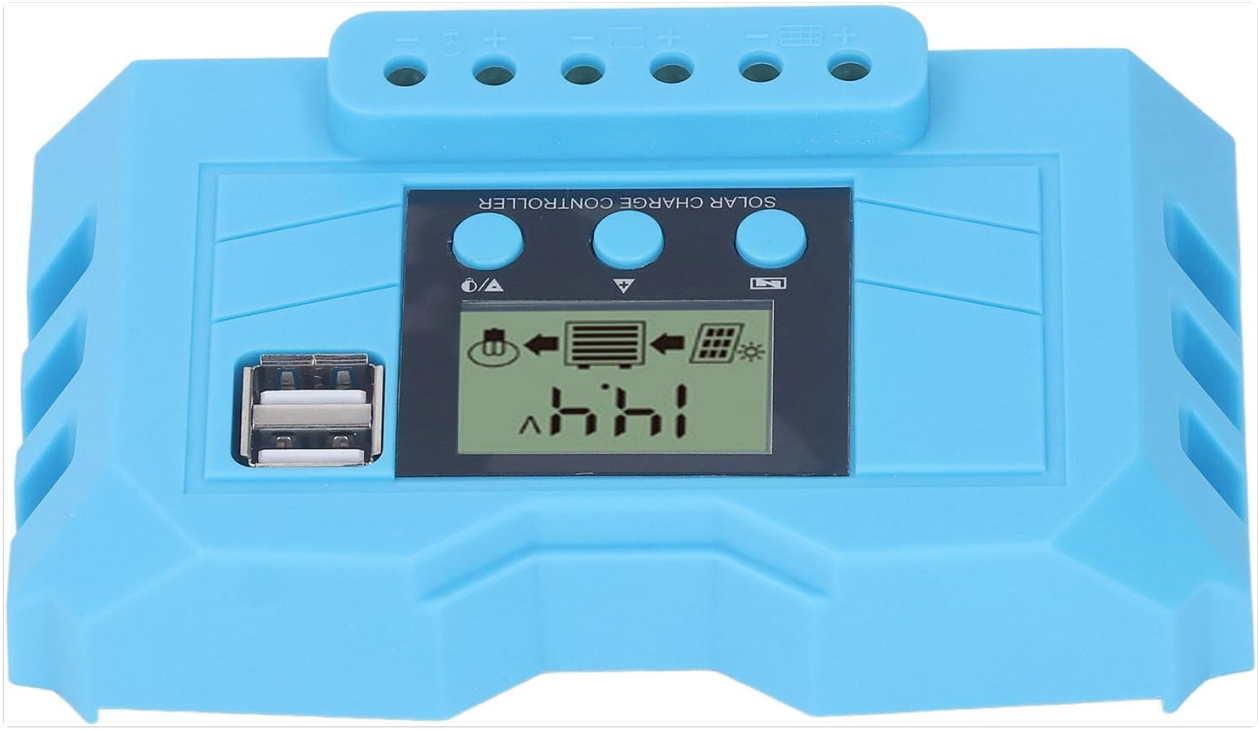

Figure 3: Detailed view of the LCD display and control buttons.

5.1. Display and Buttons

The large LCD display shows real-time system status and parameters. The three buttons below the display allow for navigation and setting adjustments:

- **Left Button:** Menu / Enter
- **Middle Button:** Up / Increase
- **Right Button:** Down / Decrease

6. Specifications

Parameter	Value
System Voltage	12V, 24V Automatic Adaptation
Rated Discharge Current	10A (Note: Product title indicates 30A, please refer to product label for actual rating)
Maximum Photovoltaic Voltage	Max 23V for 12V Battery; Max 46V for 24V Battery
Light Control On Threshold	PV Panel 8V (Light Control On with delay)
Light Controlled Off Threshold	PV Panel 8V (Light Controlled Off with delay)
USB Output	2 Way USB Output, 5V, 1A (Maximum)
Operating Temperature	-35°C to +60°C
Material	ABS
Package Dimensions	5.51 x 3.15 x 1.57 inches
Item Weight	5.3 ounces

Note: The product description lists a Rated Discharge Current of 10A, while the product title specifies 30A. Please verify the actual rating on the product label or packaging.

7. Installation (Setup)

Follow these steps for proper installation of your solar charge controller. Ensure all power sources are disconnected before making any connections.

Figure 4: Rear view with wiring terminals.

1. **Connect the Battery:** Connect the battery to the charge controller first. Ensure the battery has sufficient voltage for the controller to recognize the correct battery type (12V or 24V). Connect the positive (+) and negative (-) terminals correctly.
2. **Connect the Solar Panel:** Connect the solar panel to the charge controller. Ensure correct polarity (+ and -).
3. **Connect the Load:** Connect the DC load to the charge controller. Ensure correct polarity (+ and -).

Important: Always connect the battery first, then the solar panel, and finally the load. Disconnect in the reverse order: load, then solar panel, then battery.
Install the controller in a well-ventilated area, away from direct sunlight and moisture. Mount it as close to the battery as possible to prevent voltage drop in the battery cables.

8. Operating Instructions

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

8.1. Display Modes

The LCD cycles through various display screens automatically. You can also manually cycle through them or enter parameter setting mode using the buttons.

8.2. Parameter Configuration

To adjust charging and discharge parameters:

1. Press the **Menu** button (left button) to enter the parameter setting interface.
2. Use the **Up** (middle) and **Down** (right) buttons to navigate through parameters.
3. Press the **Menu** button again to select a parameter for modification. The value will start flashing.
4. Use the **Up** and **Down** buttons to change the value.
5. Press the **Menu** button to confirm the new value and exit the modification mode for that parameter.
6. Long press the **Menu** button to exit the parameter setting interface.

Refer to the specific icons on the LCD for battery status, solar charging status, and load discharge status.

9. Maintenance

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

- **Inspect Connections:** Periodically check all wiring connections for tightness and corrosion.
- **Clean the Controller:** Keep the controller clean and free from dust and debris. Use a dry cloth for cleaning.
- **Ventilation:** Ensure the installation area remains well-ventilated to prevent overheating.
- **Battery Health:** Monitor your battery's health and ensure it is properly maintained according to the battery manufacturer's guidelines.

10. Troubleshooting

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

Problem	Possible Cause	Solution
No display/No power	Battery not connected or low voltage; reversed polarity; loose connection.	Check battery connections and voltage. Ensure correct polarity. Tighten all terminals.
Battery not charging	Solar panel not connected or low voltage; reversed polarity; shading on panels; faulty panel.	Check solar panel connections and voltage. Ensure correct polarity. Clear any shading. Test solar panel output.
Load not working	Load not connected or reversed polarity; battery low; load overcurrent; load output disabled.	Check load connections and polarity. Charge battery. Reduce load. Check load output settings on controller.
Overcurrent/Short circuit protection activated	Load current exceeds controller rating; short circuit in load wiring.	Reduce load or use a smaller load. Inspect load wiring for short circuits. The controller should self-recover once the fault is cleared.

11. Warranty and Support

For warranty information or technical support, please contact your retailer or the manufacturer directly. Keep your purchase receipt as proof of purchase.
For further assistance, please visit the Hyuduo Store.