

XH-M603 Solar Charge Controller Module User Manual

12-24V Storage Lithium Battery Charger Control Switch Protection Board With LED Display

1. Introduction

The XH-M603 is a versatile charge control module designed for managing the charging of 12V to 24V storage and lithium batteries. It features a clear digital display for real-time voltage monitoring and precise control over charging parameters. This module helps protect your batteries from overcharging and over-discharging, extending their lifespan and ensuring reliable power management.

2. Specifications

Feature	Value
Product Model	XH-M603
Input Voltage	DC 10-30V
Display Precision	0.1V
Control Precision	0.1V
Output Type	Direct Output
Voltage Tolerance	+/-0.1V
Application Fields	12-24V storage battery
Dimensions	82.50 x 58.00 x 18 mm
Weight	41.70g
Relay Current Rating	8A (DC)

3. Package Contents

The package includes:

- 1 x XH-M603 DC 12V-24V Lithium Battery Charge Control Protection Board with LED Display

4. Setup and Wiring

Proper wiring is crucial for the safe and effective operation of the XH-M603 module. Refer to the diagram below for correct connections.

PRODUCT INTRODUCTION

- 1.Model: XH-M603
- 2.Input Voltage: DC 10-30V
- 3.Display Precision: 0.1V
- 4.Control Precision: 0.1V
- 5.Output Type: direct output
- 6.Voltage Tolerance: $\pm 0.1V$
- 7.Application Fields: 12-24V storage battery
- 8.Size: 82*58*18mm

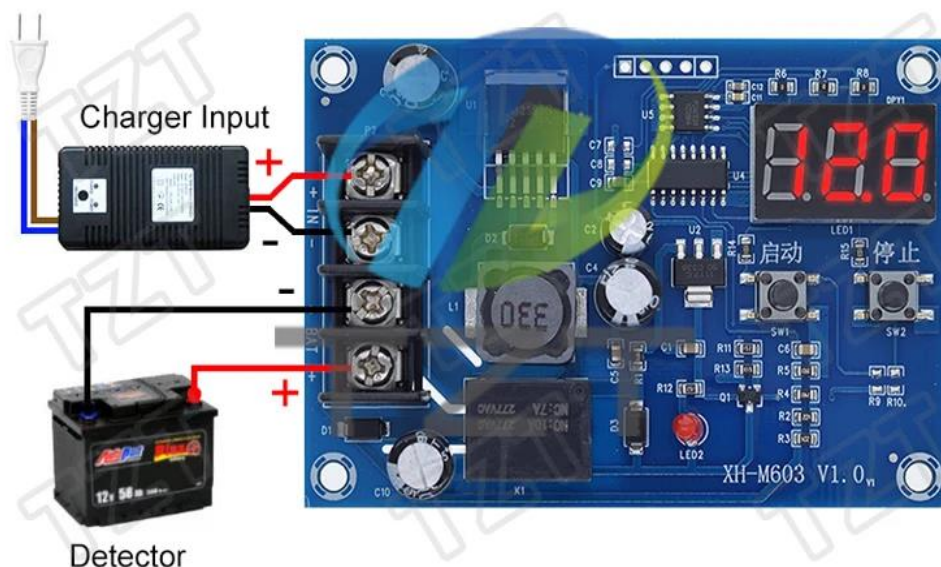
USING METHOD

- 1.Set Starting Voltage: in normal display voltage state, press the button will display start charging voltage; long press for 3s the digital tube will flash; you can start or stop button to set starting up charge voltage value
- 2.Set Stop Voltage: in normal display voltage state, press the button will display stoping charge voltage; TZZT; long press the button for 3s the digital tube will flash; you can start or stop button to set stoping charge voltage value
- 3.Factory Reset: in power on state press the start/stop button at the same time, digital tube will display 888; that represents factory reset settings

PACKAGE INCLUDED

- 1× DC12V-24V Lithium Battery Charge Control Protection Board /w LED Display XH-M603

WIRING DIAGRAM



Voltage display digital tube

Start voltage setting button

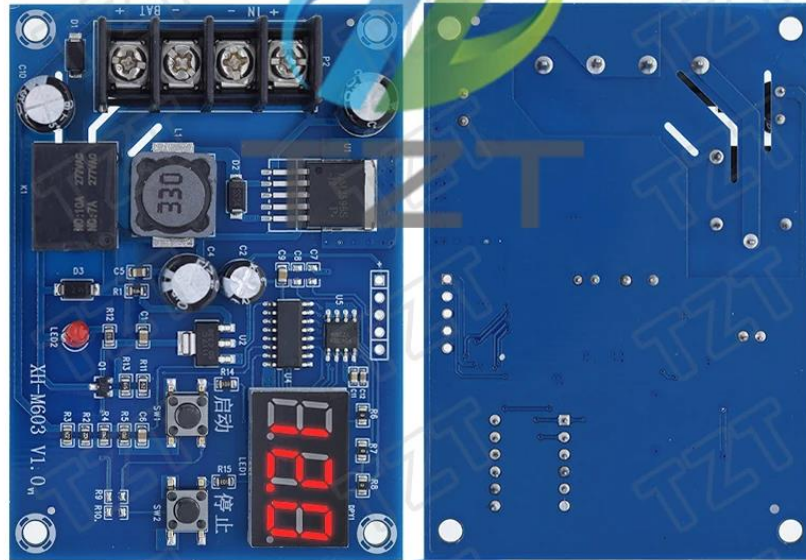
Press once to display the start voltage, long press the digital flash, and then

Figure 1: Basic Wiring Diagram

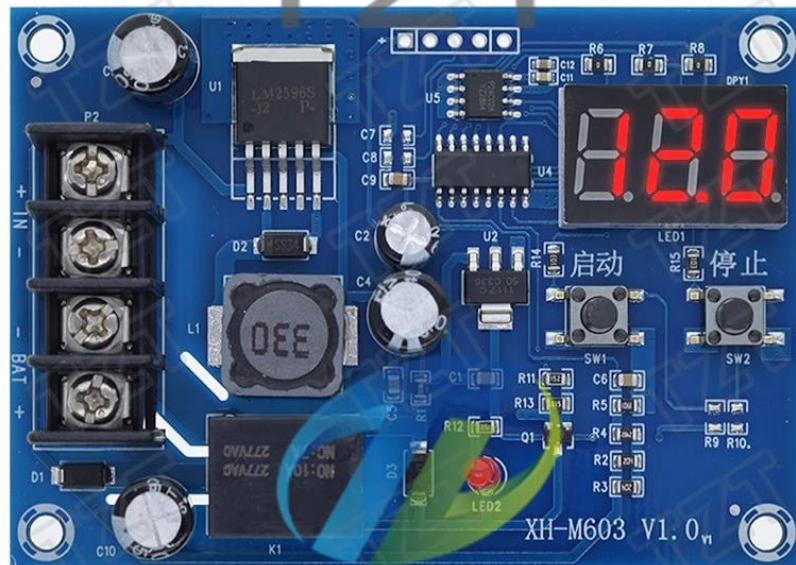
Wiring Steps:

1. **Connect the Battery (Detector):** Connect the positive (+) terminal of your 12-24V storage or lithium battery to the 'BAT +' terminal on the module. Connect the negative (-) terminal of the battery to the 'BAT -' terminal.
2. **Connect the Charger Input:** Connect the positive (+) output of your DC 10-30V charger to the 'IN +' terminal on the module. Connect the negative (-) output of the charger to the 'IN -' terminal.
3. **Control Terminal:** The module provides a direct output for controlling the charging process. When the battery voltage drops below the set start voltage, the relay will close, allowing current from the charger to flow to the battery. When the battery reaches the set stop voltage, the relay will open, disconnecting the charger.

Charging Control Module
12V~24V
With Digital Display



Charging Control Module
12V~24V
With Digital Display



Charging Control Module
12V~24V
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5. Operating Instructions

The XH-M603 module allows you to set the start and stop charging voltages to customize battery management.

5.1. Setting Start Voltage

1. In the normal voltage display state, press the 'Start' button. The digital display will show the current start voltage.
2. Long press the 'Start' button for 3 seconds. The digital tube will flash.
3. Use the 'Start' and 'Stop' buttons to adjust the desired start charging voltage value.

5.2. Setting Stop Voltage

1. In the normal voltage display state, press the 'Stop' button. The digital display will show the current stop voltage.
2. Long press the 'Stop' button for 3 seconds. The digital tube will flash.
3. Use the 'Start' and 'Stop' buttons to adjust the desired stop charging voltage value.

5.3. Factory Reset

To restore the module to its factory default settings:

1. In the power-on state, simultaneously press both the 'Start' and 'Stop' buttons.
2. The digital tube will display '888', indicating that the factory reset has been successfully performed.

6. User Tips

- This module is ideal for maintaining motorcycle batteries during off-season storage, ensuring they remain charged and ready for use.
- It can be integrated into solar power systems to manage battery charging from solar panels, preventing overcharge and extending battery life.
- The module can be used for battery 'training' or cycling, where batteries are repeatedly charged and discharged within set voltage limits to optimize performance.
- For applications requiring higher current, the onboard relay can potentially be replaced with a more powerful one, provided you have the necessary technical expertise.

7. Maintenance

The XH-M603 module is designed for durability and requires minimal maintenance. Keep the module clean and free from dust and moisture. Ensure all connections are secure and free from

corrosion. Avoid exposing the module to extreme temperatures or direct sunlight for prolonged periods.

8. Troubleshooting

- **Module not powering on:** Check the input voltage to ensure it is within the DC 10-30V range and that connections are correct and secure.
- **Incorrect voltage readings:** Verify all wiring connections. If issues persist, perform a factory reset (see section 5.3).
- **Charging not starting/stopping as expected:** Double-check the set start and stop voltages (see sections 5.1 and 5.2). Ensure the charger is providing adequate voltage and current.
- **Relay not clicking:** Confirm that the voltage thresholds are correctly set and that the battery voltage is crossing these thresholds.

9. Warranty and Support

For any technical support or warranty inquiries, please contact your retailer or the manufacturer directly. Keep your purchase receipt as proof of purchase.