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› CHAOZHU /

› CHAOZHU 1500W-3000W 45A 3-Mode Sine Wave Controller for Ebike: User Manual

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Model: 45A 3-mode Sine Wave Controller

1. INTRODUCTION

This manual provides comprehensive instructions for the installation, operation, and maintenance of your CHAOZHU 1500W-3000W 45A 3-Mode Sine Wave Controller. Designed for electric bicycles, this controller offers versatile power management across multiple voltage systems (48V, 52V, 60V, 72V). Please read this manual thoroughly before installation and use to ensure proper function and safety.

2. PRODUCT OVERVIEW

The CHAOZHU Sine Wave Controller is engineered to enhance ebike performance with its high power output and advanced control features. It supports a wide range of battery voltages and includes three customizable riding modes for various riding conditions. The controller is designed for quiet operation, improved motor efficiency, and enhanced torque.

Key Features:

- **Power Output:** Delivers 1500W-3000W power with a 45A current capacity.
- **Voltage Compatibility:** Works with 48V, 52V, 60V, and 72V ebike systems.
- **Operating Modes:** Three distinct riding modes (Eco, Normal, Sport) for customized performance.
- **Sine Wave Technology:** Provides smoother motor operation and improved energy efficiency.
- **Display Integration:** Compatible with an integrated LCD screen for real-time monitoring of operating parameters (display sold separately or as an option).



Image 1: The CHAOZHU 45A Sine Wave Ebike Controller, showcasing its robust casing and numerous wiring connections for various ebike components.

3. SAFETY INFORMATION

Always prioritize safety when working with electrical components. Improper installation or handling can lead to serious injury or damage to the product and ebike.

- Ensure the ebike battery is disconnected before performing any installation or maintenance.
- Wear appropriate personal protective equipment, including safety glasses and insulated gloves.
- Verify all connections are secure and correctly polarized to prevent short circuits.
- Avoid exposing the controller to water or extreme temperatures beyond its specified operating range.
- If you are unsure about any installation steps, consult a qualified ebike technician.

4. PACKAGE CONTENTS

The standard package for the CHAOZHU 45A 3-Mode Sine Wave Controller includes:

- 1x 15 MOSFET 45A 48V 52V 60V 72V Universal Voltage 1500W-3000W Intelligent 3-mode Sine Wave Controller
- Optional: 36V, 48V, 52V, 60V, 72V UKC1 Colorful Display or SW 900 Display (if purchased as a bundle)



Image 2: The CHAOZHU 45A Sine Wave Ebike Controller shown with included accessories such as battery connectors and wiring terminals.

5. SETUP AND INSTALLATION

Installation of the ebike controller requires careful attention to wiring and component compatibility. It is highly recommended that installation be performed by an experienced ebike technician.

General Installation Steps:

1. **Disconnect Power:** Ensure the ebike battery is completely disconnected before starting any work.
2. **Mount the Controller:** Securely mount the controller in a protected location on your ebike, away from direct moisture and excessive heat. Ensure adequate airflow for cooling.
3. **Connect Motor Wires:** Connect the three phase wires (typically green, blue, yellow) from the controller to the corresponding motor phase wires.
4. **Connect Hall Sensor Wires:** Connect the Hall sensor wires (typically a small connector with five wires) from the controller to the motor's Hall sensor port.
5. **Connect Battery Power:** Connect the main power wires (red for positive, black for negative) from the controller to the ebike battery. Double-check polarity.
6. **Connect Display/Throttle/Brakes:** Connect the display unit (if applicable), throttle, brake levers (for cut-off switches), and any other accessories according to their respective wiring diagrams.
7. **Initial Test:** Once all connections are made and secured, reconnect the battery and perform a low-power test to ensure all components are functioning correctly before full operation.

Refer to your ebike's specific wiring diagram and the controller's detailed wiring instructions (if provided separately) for precise connections. Incorrect wiring can damage the controller, motor, or battery.

6. OPERATING INSTRUCTIONS

Once installed and powered on, the controller manages the ebike's motor functions. If equipped with an LCD display (sold separately or as an option), you can monitor and adjust settings.

Riding Modes:

The controller features three customizable riding modes:

- **Eco Mode:** Optimized for energy efficiency and extended range.
- **Normal Mode:** Balanced performance for everyday riding.
- **Sport Mode:** Provides maximum power and acceleration.

Mode selection and real-time information such as speed and battery level are typically managed through the connected LCD display. Consult your display's manual for specific instructions on navigating menus and changing settings.

7. MAINTENANCE

Regular maintenance helps ensure the longevity and optimal performance of your controller.

- **Keep Clean:** Periodically clean the exterior of the controller to prevent dust and dirt buildup, which can affect heat dissipation.
- **Inspect Connections:** Regularly check all wiring connections for tightness and signs of wear or corrosion. Loose connections can lead to intermittent power or component damage.
- **Avoid Moisture:** While the controller has an IP65 waterproof grade, avoid prolonged exposure to heavy rain or submersion in water.
- **Temperature Management:** Ensure the controller is not operating in excessively hot environments, which can lead to overheating.

8. TROUBLESHOOTING

If you encounter issues with your ebike controller, consider the following basic troubleshooting steps:

- **No Power:** Check battery connections, battery charge level, and main power switch.
- **Motor Not Responding:** Verify all motor phase wires and Hall sensor wires are securely connected. Check throttle connection.
- **Intermittent Operation:** Inspect all wiring for loose connections or damaged insulation.
- **Error Codes on Display:** If an LCD display is connected and shows an error code, consult the display's manual for the meaning of the code and recommended solutions.
- **Overheating:** Ensure the controller has adequate ventilation and is not overloaded. Reduce power demand if necessary.

For persistent issues or complex problems, it is advisable to seek assistance from a professional ebike repair service.

9. SPECIFICATIONS

Feature	Specification
Rated Power	48V 1056W / 52V 1144W / 60V 1320W / 72V 1584W
Peak Power	48V 2160W / 52V 2340W / 60V 2700W / 72V 3240W
Current Capacity	45A
Voltage Compatibility	48V, 52V, 60V, 72V
Brake Type	Low Voltage Brake
Alarm	Low Voltage Alarm
Rotor Position Detecting Method	Hall sensor
Dimensions	212 x 86.5 x 48.5 mm
Net Weight	610g (approx. 1.34 lbs)
Waterproof Grade	IP65
Operating Temperature	-20~70°C
Material	Metal

10. 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. Typically, warranty coverage addresses manufacturing defects under normal use.

If you require technical support or have questions not covered in this manual, please contact the seller or CHAOZHU customer service through the contact information provided with your purchase or on the official product website.