

## NULKOMMA X008-AB014

# NULKOMMA X008-AB014 48V 18A Electric Bicycle Brushless Motor Controller User Manual

Model: X008-AB014 | Brand: NULKOMMA

## 1. INTRODUCTION

This manual provides essential information for the safe and efficient installation, operation, and maintenance of your NULKOMMA X008-AB014 48V 18A Electric Bicycle Brushless Motor Controller. Please read this manual thoroughly before use and retain it for future reference.

The NULKOMMA X008-AB014 controller is designed to provide stable speed control and sensitive braking for electric bicycles, scooters, and tricycles. Its aluminum alloy shell ensures good heat dissipation, protecting internal circuits from thermal overload. The high-performance wires and waterproof interfaces contribute to durability and a low malfunction rate for long-term use.

## 2. SAFETY INFORMATION

- Always disconnect power before installing or performing maintenance on the controller.
- Ensure all connections are secure and correctly matched according to the labels to prevent damage to the controller or other components.
- Avoid exposing the controller to extreme temperatures or direct sunlight for prolonged periods.
- Do not attempt to open or modify the controller casing, as this may void the warranty and cause malfunction.
- Consult a qualified technician if you are unsure about any installation or troubleshooting steps.

## 3. PACKAGE CONTENTS

Upon opening the package, verify that all items are present and undamaged:

- 1 x NULKOMMA X008-AB014 Electric Bicycle Brushless Motor Controller



Image: The NULKOMMA X008-AB014 Electric Bicycle Brushless Motor Controller with its various wiring harnesses.

## 4. PRODUCT FEATURES

- **Model:** X008-AB014
- **Voltage:** 48V
- **Current Limit:** 18A
- **Cutoff Voltage:** 39V
- **Display Meter Compatibility:** 5S
- **Heat Dissipation:** Grooved aluminum alloy shell for effective heat management.
- **Stable Speed Control:** Provides consistent motor speed.
- **Sensitive Braking:** Responsive control for braking and direction changes.
- **Waterproof Connectors:** Ensures durability in various weather conditions.
- **Durable Wires:** High-performance wiring for long-term reliability.



Image: Close-up of the controller's label, detailing model number, battery voltage, cutoff voltage, current limit, and display meter compatibility.

## 5. SPECIFICATIONS

Specification	Value
Model Name	X008-AB014
Battery Voltage	48V
Cutoff Voltage	39V
Current Limit	18A
Display Meter	5S
Material	Aluminum, Plastic
Item Package Dimensions (L x W x H)	6.3 x 5.12 x 1.57 inches
Package Weight	0.58 Pounds



H:34mm/1.34in

Image: The controller's length measured at approximately 12cm (4.72 inches) using calipers.



Image: The controller's width measured at approximately 65mm (2.56 inches) and height at 34mm (1.34 inches) using calipers.

## 6. INSTALLATION GUIDE

The NULKOMMA X008-AB014 controller is designed for straightforward installation. Each interface is labeled to assist with correct connections. Please follow these general steps:

1. **Preparation:** Ensure your electric bicycle, scooter, or tricycle is powered off and the battery is disconnected before beginning installation.
2. **Mounting:** Securely mount the controller in a suitable location on your vehicle, ensuring it is protected from direct impact and excessive moisture. The aluminum casing is designed for heat dissipation, so ensure adequate airflow if possible.
3. **Wiring:** Carefully connect the controller's wires to the corresponding components (motor, battery, display, throttle, brake levers, etc.). Refer to the wiring diagram and the labels on each connector.
4. **Double-Check Connections:** Before powering on, meticulously verify that all connections are firm and correctly matched. Incorrect wiring can cause damage.
5. **Initial Power-Up:** Reconnect the battery and power on your vehicle. Observe for any unusual behavior or error codes on your display.

L: 12cm / 4.72in



Image: A comprehensive view of the controller's wiring harness, showing the different types of connectors for various e-bike components.

## 7. WIRING DIAGRAM AND CONNECTOR IDENTIFICATION

The controller features multiple connectors for integration with your e-bike system. Below is a general guide to identifying common connectors. Always match the labels on your specific controller and components.

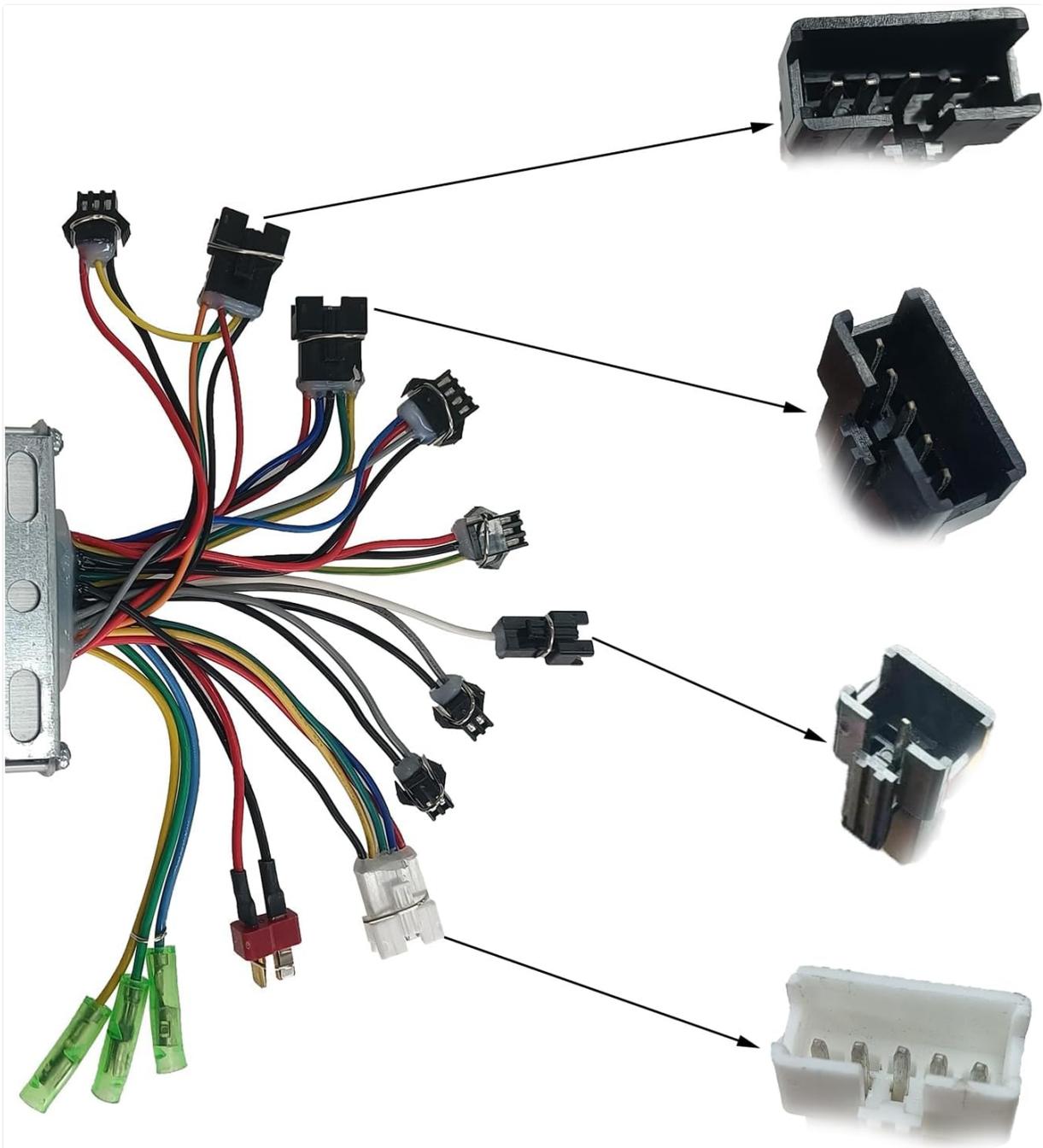


Image: The NULKOMMA X008-AB014 controller with its wiring harness, illustrating the various connectors. Specific connector types are highlighted for identification.

### Video: DC48V Motor Speed Brushless Controller Overview

Your browser does not support the video tag.

Video: An official product video from NULKOMMA US demonstrating the DC48V Motor Speed Brushless Controller, showcasing its physical appearance and various connectors.

Common connector types include:

- **Motor Phase Wires:** Typically three thick wires (often green, blue, yellow) connecting to the motor.
- **Hall Sensor Wires:** A smaller connector with five wires (red, black, yellow, green, blue) for motor hall sensors.
- **Battery Power:** Two thick wires (red for positive, black for negative) connecting to the battery.
- **Display/Meter:** A multi-pin connector (e.g., 5S compatible) for connecting the display unit.
- **Throttle:** A three-wire connector (red, black, signal) for the throttle input.
- **Brake Levers:** Connectors for brake levers, often with a signal wire that cuts motor power when brakes are applied.

- **PAS (Pedal Assist Sensor):** A connector for the pedal assist sensor.
- **Self-Learning Wires:** (If present) Two wires that, when connected, allow the controller to learn motor parameters. Disconnect after learning.

## 8. OPERATION

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Once the controller is correctly installed and all connections are secure:

1. **Power On:** Turn on your e-bike's battery and then the display/power switch.
2. **Throttle/PAS:** Use the throttle or pedal assist system to engage the motor. The controller will regulate the motor speed based on your input.
3. **Braking:** Applying the brake levers should cut power to the motor, ensuring safe stopping.
4. **Display Functions:** Utilize your compatible 5S display meter to monitor speed, battery level, and other relevant parameters.

## 9. TROUBLESHOOTING

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

- **No Power:**
  - Check battery charge level.
  - Verify battery connections to the controller are secure.
  - Ensure the main power switch (if applicable) is on.
- **Motor Not Responding:**
  - Check throttle connection and function.
  - Verify motor phase wires and Hall sensor connections.
  - Ensure brake cut-off switches are not engaged.
  - If applicable, perform the self-learning procedure for the controller.
- **Intermittent Power/Erratic Behavior:**
  - Inspect all wiring for loose connections or damage.
  - Check for signs of water ingress or corrosion on connectors.
  - Ensure the controller is not overheating (though the aluminum casing helps prevent this).
- **Display Errors:**
  - Refer to your display meter's specific manual for error code interpretations.
  - Verify the display's connection to the controller.

If problems persist after troubleshooting, contact NULKOMMA customer support for assistance.

## 10. MAINTENANCE

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The NULKOMMA X008-AB014 controller requires minimal maintenance:

- **Regular Inspection:** Periodically check all wiring and connectors for signs of wear, damage, or corrosion.

- **Cleaning:** Keep the controller casing clean and free of dirt or debris to ensure optimal heat dissipation. Use a dry or slightly damp cloth; avoid harsh chemicals.
- **Storage:** If storing your e-bike for an extended period, ensure the battery is disconnected and the controller is kept in a dry, temperate environment.

## 11. WARRANTY AND SUPPORT

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This NULKOMMA X008-AB014 Electric Bicycle Brushless Motor Controller comes with a **180-day warranty** from the date of purchase. This warranty covers manufacturing defects under normal use.

The warranty does not cover damage resulting from:

- Improper installation or wiring.
- Unauthorized modifications or repairs.
- Accidental damage, misuse, abuse, or neglect.
- Exposure to extreme environmental conditions beyond product specifications.

For warranty claims, technical support, or any questions regarding your product, please contact NULKOMMA customer service. Provide your purchase details and a description of the issue for prompt assistance.

You can visit the official NULKOMMA store for more information and products: [NULKOMMA Store](#)