

NULKOMMA X035-AB007

NULKOMMA X035-AB007 Brushless Motor Controller User Manual

Model: X035-AB007

1. INTRODUCTION

This manual provides detailed instructions for the installation, operation, and maintenance of the NULKOMMA X035-AB007 Brushless Motor Controller. Designed for DC48V e-bike systems with an 18A current limit and 5S display meter compatibility, this controller offers stable performance and sensitive control. Please read this manual thoroughly before installation and use to ensure proper function and safety.

2. PRODUCT OVERVIEW

The NULKOMMA X035-AB007 is a high-performance brushless motor controller featuring an aluminum alloy shell for effective heat dissipation and protection of internal circuits. It is engineered to provide steady speed control and responsive handling for braking and direction changes in electric bicycles and scooters.

2.1 Key Features

- **Sensitive Control:** Provides steady speed and sensitive control for braking and direction changes.
- **Durable Construction:** Wires and interfaces are designed for long-term reliability and low malfunction rates.
- **Efficient Heat Dissipation:** Aluminum alloy shell protects internal components and prevents thermal overloading.
- **User-Friendly Installation:** Interfaces are clearly labeled for straightforward connection.

2.2 Components

The package includes the X035-AB007 controller unit. Below are images illustrating the controller and its various interfaces.



Figure 1: Front view of the NULKOMMA X035-AB007 Brushless Motor Controller with connected cables.



Figure 2: Close-up view of the controller's identification label, showing model number X035-AB007, Battery Voltage (48V), Cutoff Voltage (39V), Current Limit (18A), and Display Meter (5S).



Figure 3: Angled perspective of the NULKOMMA X035-AB007 controller, highlighting its compact design and cable routing.



Figure 4: Detailed view of the various connectors and wiring harnesses extending from the controller, including power, motor, and display connections.

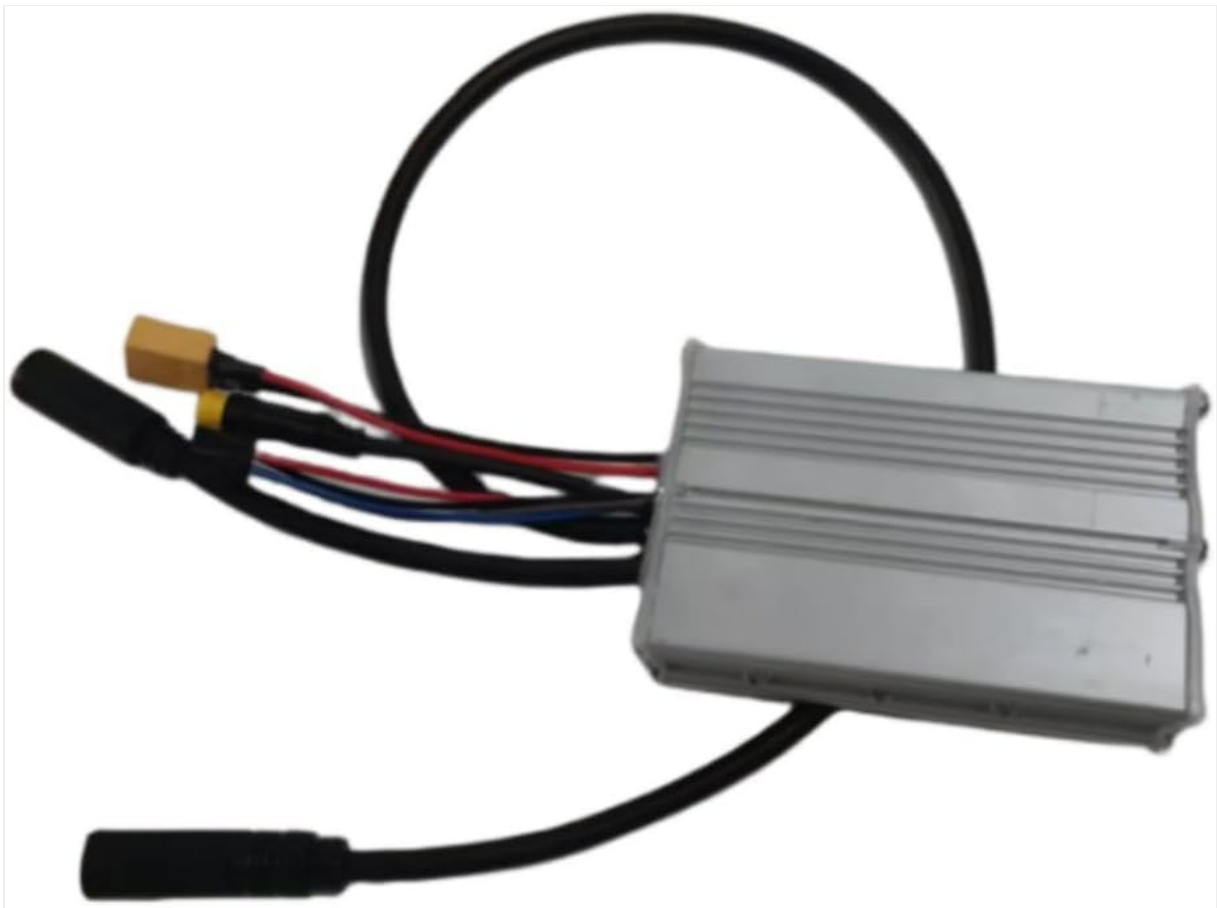


Figure 5: Top-down view of the NULKOMMA X035-AB007 controller, showing the heat sink fins on the aluminum casing.

3. SETUP AND INSTALLATION

Proper installation is crucial for the optimal performance and safety of your e-bike system. The controller interfaces are labeled to assist with correct connections.

1. **Preparation:** Ensure the e-bike's power is completely off and the battery is disconnected before beginning installation.
2. **Mounting:** Securely mount the X035-AB007 controller in a protected location on your e-bike, away from direct water exposure and excessive vibration. The aluminum casing is designed for heat dissipation, so ensure adequate airflow around the unit.
3. **Connecting Motor Wires:** Connect the motor phase wires (usually three thicker wires) from the controller to the corresponding wires on your brushless motor. Ensure colors or labels match.
4. **Connecting Hall Sensor Wires:** Connect the Hall sensor wires (usually five thinner wires) from the controller to the motor's Hall sensor port.
5. **Connecting Power Supply:** Connect the main power wires (red for positive, black for negative) from the controller to your 48V battery. The controller has a low voltage protection at 39V.
6. **Connecting Display Meter:** Connect the 5S display meter to the designated interface on the controller.
7. **Connecting Other Components:** Connect other e-bike components such as throttle, brake levers, and pedal assist sensor (PAS) to their respective labeled interfaces on the controller.
8. **Verification:** Double-check all connections to ensure they are secure and correctly matched according to the labels. Incorrect wiring can damage the controller or other components.
9. **Initial Power-Up:** Reconnect the battery and power on the e-bike system. Observe the display meter

for proper function and test the throttle and brakes at a low speed in a safe environment.

Note: This product is customized. After placing an order, you may be contacted to ensure compatibility with your specific bike model. Please respond to any communication promptly.

4. OPERATING INSTRUCTIONS

Once installed, the X035-AB007 controller manages the power delivery to your e-bike's brushless motor based on your input from the throttle, pedal assist system, and brake levers.

- **Power On/Off:** Use the power button on your e-bike's display meter or battery to turn the system on or off.
- **Throttle Control:** Gently twist the throttle to accelerate. The controller will provide smooth and responsive power delivery.
- **Pedal Assist System (PAS):** If your e-bike is equipped with a PAS, the controller will provide motor assistance based on your pedaling effort and the selected assist level on your display.
- **Braking:** Engaging the brake levers will cut off motor power, ensuring safe deceleration. The controller is designed for sensitive control of braking.
- **Display Meter:** Monitor your speed, battery level, assist level, and other relevant information on your 5S display meter.

5. MAINTENANCE

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

- **Keep Clean:** Periodically clean the exterior of the controller to prevent dust and dirt buildup, which can hinder heat dissipation. Use a dry, soft cloth.
- **Inspect Connections:** Regularly check all wire connections for tightness and signs of wear or corrosion. Loose connections can lead to intermittent operation or damage.
- **Avoid Water Exposure:** While the aluminum casing offers some protection, avoid submerging the controller in water or exposing it to heavy rain.
- **Temperature Management:** Ensure the controller is mounted in a location with adequate airflow to facilitate heat dissipation, especially during prolonged use or in hot weather.
- **Storage:** If storing the e-bike for an extended period, ensure the battery is disconnected from the controller.

6. TROUBLESHOOTING

This section addresses common issues you might encounter with the X035-AB007 controller.

Problem	Possible Cause	Solution
Motor not responding	Loose or incorrect wiring; low battery voltage; faulty throttle/PAS.	Check all connections (motor, Hall sensor, power, throttle). Ensure battery is charged. Test throttle/PAS if possible.
Intermittent power	Loose connections; damaged wiring; overheating.	Inspect all wires and connectors for damage or looseness. Ensure controller has adequate ventilation.

Problem	Possible Cause	Solution
Display meter not working	Loose display connection; faulty display meter.	Check the connection between the controller and the display meter.
Controller gets hot	Heavy load; insufficient airflow; internal fault.	Reduce load on the motor. Ensure controller is mounted in a well-ventilated area. If overheating persists, contact support.

If you encounter issues not listed here or if the suggested solutions do not resolve the problem, please contact customer support.

7. SPECIFICATIONS

The following are the technical specifications for the NULKOMMA X035-AB007 Brushless Motor Controller:

- Model:** X035-AB007
- Rated Voltage:** 48V
- Maximum Current:** 18A
- Low Voltage Protection:** 39V
- Display Meter Compatibility:** 5S
- Material:** Aluminum Alloy
- Color:** Silver
- Item Weight:** Approximately 286 grams (10.1 ounces)
- Package Dimensions:** 11.42 x 3.94 x 3.15 inches
- UPC:** 730763856490
- Included Components:** X035-AB007 controller

Reference Identifier: X035-AB007/EB06B/48V/39V/18A/5S/20250412002

8. WARRANTY AND SUPPORT

NULKOMMA offers a guarantee for this product. If you are not satisfied with your purchase, you may apply for an unconditional return and refund within 180 days of receipt. For any product-related issues or technical assistance, please contact NULKOMMA customer support via email. We aim to respond promptly to all inquiries.

For further assistance, please visit the [NULKOMMA Store on Amazon](#).