

NULKOMMA X055-AXC001B

NULKOMMA X055-AXC001B Electric Bicycle Brushless Motor Controller User Manual

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1. PRODUCT OVERVIEW

The NULKOMMA X055-AXC001B is a 48V 23A brushless motor controller designed for electric bicycles and scooters. It features a high-quality aluminum alloy shell with a groove design for efficient heat dissipation, protecting internal circuits from thermal overload. This controller provides stable speed control and sensitive braking and direction change capabilities. Its fully waterproof connectors and durable wiring ensure reliable performance in various weather conditions and contribute to a low failure rate over long-term use.

Important Note: This is a customized model. To ensure compatibility with your specific bike, NULKOMMA may contact you after your order is placed. Please respond promptly to any messages to facilitate a smooth purchase and delivery process.



Figure 1: NULKOMMA X055-AXC001B Brushless Motor Controller. This image shows the main unit of the controller with its aluminum alloy casing.

2. PACKAGE CONTENTS

Verify that all items are present in your package:

- 1 x X055-AXC001B Electric Bicycle Brushless Motor Controller

3. SPECIFICATIONS

Model Name	NKM-X055-AXC001B
Part Number	X055-AXC001B
Battery Voltage	48V
Current Limit	23A

Cutoff Voltage	39V
Display Meter Compatibility	5S
Material	Aluminum, Plastic
Color	Silver White
Item Dimensions (LxWxH)	4.72 x 2.05 x 1.26 inches (11.8 cm x 5.1 cm x 3.2 cm)
Item Weight	9.07 Ounces (approx. 257 grams)



Figure 2: Controller dimensions. The image displays the controller with its length and width measurements.



Figure 3: Close-up of the controller's label. The label shows the model number X055-AXC001B, battery voltage 48V, cutoff voltage 39V, current limit 23A, and display meter 5S.

4. INSTALLATION GUIDE

This controller is designed for easy installation. Please follow these steps carefully to ensure proper connection and functionality. It is crucial to read the instruction labels on each interface and connect them correctly to their matching components.

4.1 Safety Precautions

- Ensure the electric bicycle or scooter is powered off and the battery is disconnected before beginning installation.
- Wear appropriate safety gear, including gloves and eye protection.
- Avoid touching exposed wires or terminals when power is connected.
- If you are unsure about any step, consult a qualified technician.

4.2 Connecting the Controller

The controller features various labeled interfaces for connection to different components of your electric bicycle or scooter. Refer to the labels on the wires and the corresponding components for accurate connection.



Figure 4: Overview of controller wires and connectors. This image shows the various colored wires extending from the controller, each terminating in a specific connector type.



Figure 5: Detailed view of controller connectors. This image provides a closer look at the different types of connectors, highlighting their shapes and pin configurations for identification.

General Connection Points:

- **Motor Phase Wires:** Typically thicker wires (often green, blue, yellow) connecting to the motor.
- **Hall Sensor Wires:** Smaller wires (often with a 5-pin connector) for motor hall sensors.
- **Battery Power:** Main power input from the battery (often red/black, with a T-connector or similar).
- **Display Meter:** Connection for the display unit (e.g., 5S display).
- **Throttle:** Connection for the accelerator.
- **Brake Levers:** Connections for brake cut-off sensors.
- **PAS (Pedal Assist System) Sensor:** Connection for pedal assist.
- **Headlight/Taillight (if applicable):** Power output for lights.

Ensure all connections are secure and waterproof where applicable. The fully waterproof connectors are designed for

maximum durability in various weather conditions.

Your browser does not support the video tag.

Video 1: NULKOMMA X055-AXC001B 48V Motor Speed Brushless Controller overview. This video demonstrates the physical appearance of the controller and its various wire connections, providing a visual guide to its components.

5. OPERATING INSTRUCTIONS

Once the controller is correctly installed and all connections are secure, you can begin operating your electric bicycle or scooter.

5.1 Powering On/Off

- To power on, ensure the battery is connected and turn on your e-bike's main power switch or display unit.
- To power off, turn off your e-bike's main power switch or display unit, then disconnect the battery if storing for extended periods.

5.2 Speed Control

The controller provides stable speed control. Use your e-bike's throttle or pedal-assist system (PAS) to regulate speed. The controller will ensure a smooth and consistent power delivery to the motor.

5.3 Braking

The controller offers sensitive control for braking. When the brake levers are engaged (if connected to brake cut-off sensors), the controller will immediately cut power to the motor, ensuring safe and responsive stopping.

5.4 Direction Changes

The controller facilitates sensitive direction change control, working in conjunction with your e-bike's motor and display system to provide a responsive riding experience.

6. MAINTENANCE

Regular maintenance helps ensure the longevity and optimal performance of your NULKOMMA X055-AXC001B controller.

- **Keep Clean:** Periodically clean the exterior of the controller with a dry or slightly damp cloth. Avoid using harsh chemicals or excessive moisture.
- **Inspect Connections:** Regularly check all wire connections to ensure they are secure and free from corrosion or damage.
- **Heat Dissipation:** Ensure the controller's aluminum alloy shell is not obstructed, allowing for proper airflow and heat dissipation. Avoid covering the controller during operation.
- **Water Exposure:** While the connectors are waterproof, avoid submerging the controller in water. If it gets wet, ensure it is completely dry before operating.
- **Storage:** When not in use for extended periods, store the controller in a dry, cool place, away from direct sunlight and extreme temperatures.

7. TROUBLESHOOTING

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

Problem	Possible Cause	Solution
Motor not responding or intermittent power.	Loose or incorrect wiring connections. Low battery voltage. Faulty motor or throttle.	Check all connections, especially motor phase wires and hall sensor wires. Ensure battery is charged. Test motor and throttle if possible.
Controller overheating.	Insufficient airflow. Excessive load on the motor. Internal fault.	Ensure the controller is mounted in a location with good airflow. Reduce load if possible. If overheating persists, discontinue use and contact support.
Display meter not working.	Loose display connection. Incompatible display. Faulty display.	Check the display meter connection. Ensure your display is compatible with 5S controllers.
Brakes not cutting motor power.	Brake sensor wires disconnected or faulty.	Verify brake sensor wire connections. Test brake sensors for functionality.

For issues not listed here or if troubleshooting steps do not resolve the problem, please contact NULKOMMA customer support.

8. WARRANTY AND SUPPORT

8.1 Warranty Information

The NULKOMMA X055-AXC001B Electric Bicycle Brushless Motor Controller comes with a **180-day warranty** from the date of purchase. This warranty covers manufacturing defects and material faults under normal use. It does not cover damage resulting from misuse, accidents, unauthorized modifications, or improper installation. If you are not satisfied with your product, you may be eligible for an unconditional return and refund within 180 days of receipt. Please refer to your purchase platform's return policy for details.

8.2 Customer Support

For any questions, technical assistance, or warranty claims, please contact NULKOMMA customer support. You can typically reach us via email or through the messaging system of the platform where you made your purchase. We aim to reply promptly to all inquiries.

Seller: Nulkomma US

For more information about NULKOMMA products and services, visit the official [NULKOMMA Store](#).

ASK A QUESTION ABOUT THIS MANUAL

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page's manual context to help answer it.

Name

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Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question