NULKOMMA TJBSC12-A

DMHC Electric Bicycle Controller User Manual

Model: TJBSC12-A

Introduction

This manual provides essential information for the safe and effective use of your NULKOMMA DMHC Electric Bicycle Controller, Model TJBSC12-A. This brushless motor controller is designed to provide stable speed and sensitive control for electric bicycles, e-bikes, scooters, and tricycles.

Key Features:

- **Heat Dissipation:** The controller shell is made of high-quality aluminum alloy with a groove design, ensuring excellent heat dissipation to protect internal circuits and prevent thermal overload.
- **Stable Speed Control:** Provides stable speed and sensitive control of braking and direction changes for a smooth riding experience.
- **Waterproof Connectors:** Features fully waterproof connectors for maximum durability in various weather conditions, ensuring low failure rates for long-term use.
- **Easy Installation:** Interfaces are clearly labeled for straightforward installation, suitable for various electric vehicles.

Safety Information

Please read all safety instructions carefully before installation and operation. Failure to follow these instructions may result in damage to the product, property, or personal injury.

- Ensure the power supply is disconnected before any installation or maintenance.
- Verify all connections are correct and secure to prevent short circuits or malfunction.
- Do not expose the controller to extreme temperatures or direct sunlight for prolonged periods.
- Keep the controller away from water and moisture, despite its waterproof connectors, to ensure longevity.
- If you are unsure about any installation steps, consult a qualified technician.

Product Overview

The DMHC Electric Bicycle Controller (TJBSC12-A) is a compact and robust unit designed for efficient motor control. It features a durable aluminum alloy casing and multiple labeled wire interfaces for various connections.

Figure 1: Overview of the DMHC Electric Bicycle Controller (Model TJBSC12-A).

Dimensions and Interface Pinout:

Understanding the dimensions and the function of each interface is crucial for proper installation. The controller measures approximately 88mm in length and 51mm in width. Each wire interface is labeled for easy identification.

Figure 2: Controller dimensions and detailed interface pinout diagram.

Model Identification:

The model number TJBSC12-A is clearly indicated on the controller's label. Please verify this model number matches your requirements before installation.

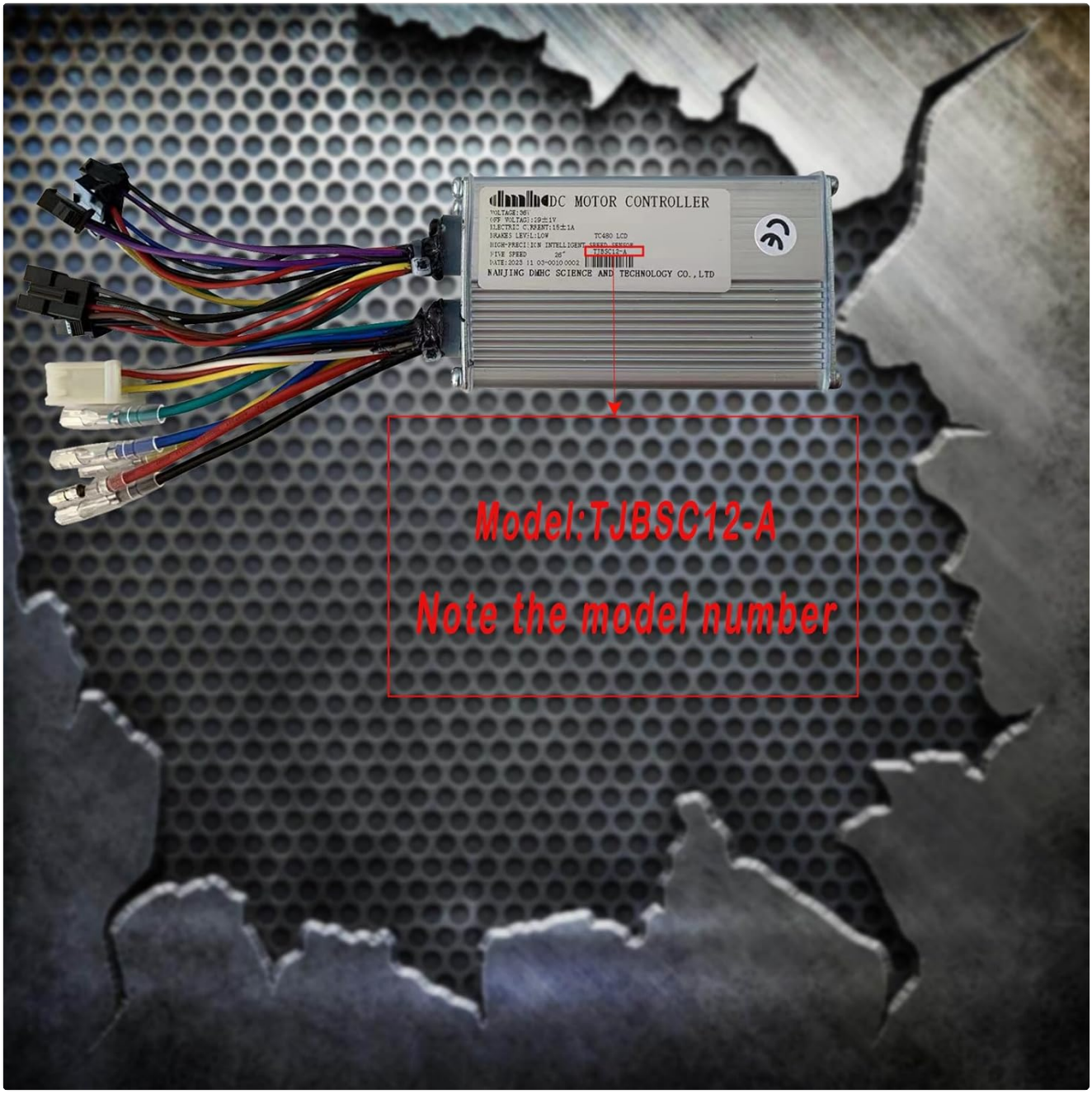

Figure 3: Controller label highlighting the model number TJBSC12-A.

Setup and Installation

Proper installation is critical for the controller's performance and safety. Refer to Figure 2 for the interface pinout when making connections.

1. **Preparation:** Ensure the power source of your electric bicycle/scooter is completely disconnected before beginning installation.
2. **Mounting:** Securely mount the controller in a location that is protected from direct impact and excessive moisture, allowing for adequate airflow for heat dissipation.
3. **Wiring Connections:** Connect the controller to your electric vehicle's components according to the labels on each interface. Common connections include:
    - Motor Phase Wires (usually thicker wires, often green, yellow, blue)
    - Hall Sensor Wires (smaller wires, often with a 5-pin connector)
    - Power Supply (Battery) Wires (red for positive, black for negative)
    - Throttle/Accelerator Input

- Brake Levers (often with a 2-pin connector)
- Display/Meter Connection (if applicable)
- Speed Sensor

Note: The specific number and type of connectors may vary slightly based on your vehicle's configuration. Always match the labels on the controller's wires to the corresponding functions on your vehicle.

4. **Secure Connections:** Ensure all connectors are firmly seated and, if applicable, secured with any provided locking mechanisms.
5. **Cable Management:** Route cables neatly and secure them to prevent snagging or damage during operation.
6. **Final Check:** Before restoring power, double-check all connections to ensure they are correct and no wires are pinched or exposed.

Operating Instructions

Once the controller is correctly installed and all connections are verified, you can power on your electric vehicle.

1. **Power On:** Turn on the main power switch of your electric bicycle/scooter. The controller will initialize.
2. **Throttle Control:** Gently apply the throttle to initiate motor movement. The controller will provide stable speed control based on your throttle input.
3. **Braking:** Engage the brake levers to activate the braking function. The controller is designed for sensitive braking control.
4. **Direction Change:** The controller facilitates sensitive control for direction changes, responding to your vehicle's steering input.

Always operate your electric vehicle responsibly and in accordance with local traffic laws and regulations.

Maintenance

Regular maintenance helps ensure the longevity and optimal performance of your DMHC Electric Bicycle Controller.

- **Cleaning:** Periodically wipe the exterior of the controller with a dry or slightly damp cloth to remove dust and dirt. Do not use harsh chemicals or abrasive cleaners.
- **Connection Check:** Regularly inspect all wire connections for looseness, corrosion, or damage. Re-secure or replace as necessary.
- **Environmental Protection:** While the connectors are waterproof, avoid submerging the controller in water. Store your vehicle in a dry environment when not in use.
- **Heat Dissipation:** Ensure the controller's fins are not obstructed by debris or other components to maintain proper heat dissipation.

Troubleshooting

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

Problem	Possible Cause	Solution
Motor not responding / No power	Loose power connection; Battery low; Controller fault.	Check battery charge and connections. Ensure main power switch is on. If problem persists, consult support.

Problem	Possible Cause	Solution
Erratic motor behavior	Loose motor phase wires or Hall sensor wires; Damaged wires.	Inspect all motor and sensor connections. Ensure they are secure and undamaged.
Controller overheating	Poor ventilation; Overload; Internal fault.	Ensure controller is in a well-ventilated area. Avoid exceeding vehicle's weight/load capacity. If persistent, contact support.
Brakes not engaging	Brake lever sensor connection loose or faulty.	Check brake lever wire connections to the controller.

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

Specifications

Attribute	Detail
Model Name	TJBSC12-A (NKM-TJBSC12-A)
Brand	NULKOMMA
Voltage	36V
Current	15A
Material	Aluminum, Plastic
Color	Silver White
Item Weight	204 Grams
Included Components	1 x Controller
Date First Available	January 25, 2024

Warranty and Support

This NULKOMMA DMHC Electric Bicycle Controller comes with a **180-day warranty** from the date of purchase.
If you are not satisfied with the product received, you may apply for an unconditional return and refund within 180 days. For any product-related issues or technical support, please contact NULKOMMA customer service. We are committed to replying to your inquiries promptly.
Please retain your proof of purchase for warranty claims.