NULKOMMA LSW1234-10-1E

NULKOMMA LSW1234-10-1E Electric Bicycle Controller User Manual

This manual provides detailed instructions for the installation, operation, and maintenance of your NULKOMMA LSW1234-10-1E 48V 22A Brushless Motor Controller.

1. Product Overview

The NULKOMMA LSW1234-10-1E is a 48V 22A brushless motor controller designed for electric bicycles and scooters. It features a durable 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 response for braking and direction changes, ensuring a reliable riding experience. Its waterproof connectors are designed for maximum durability in various weather conditions, contributing to a low failure rate for long-term use.



Figure 1: Front view of the NULKOMMA LSW1234-10-1E Electric Bicycle Controller, showing the main unit and various colored wires extending from it.

2. Key Features

- **Efficient Heat Dissipation:** Constructed with a high-quality aluminum alloy shell featuring a groove design to prevent thermal overload and protect internal components.
- **Stable Speed Control:** Provides consistent speed and sensitive control for braking and direction changes, enhancing the riding experience.
- **Durable Waterproof Connectors:** Equipped with fully waterproof connectors and high-performance wires to ensure reliability and a low failure rate in diverse weather conditions.
- **User-Friendly Installation:** Interfaces are clearly labeled for straightforward connection, making it suitable for various electric bicycles and scooters.

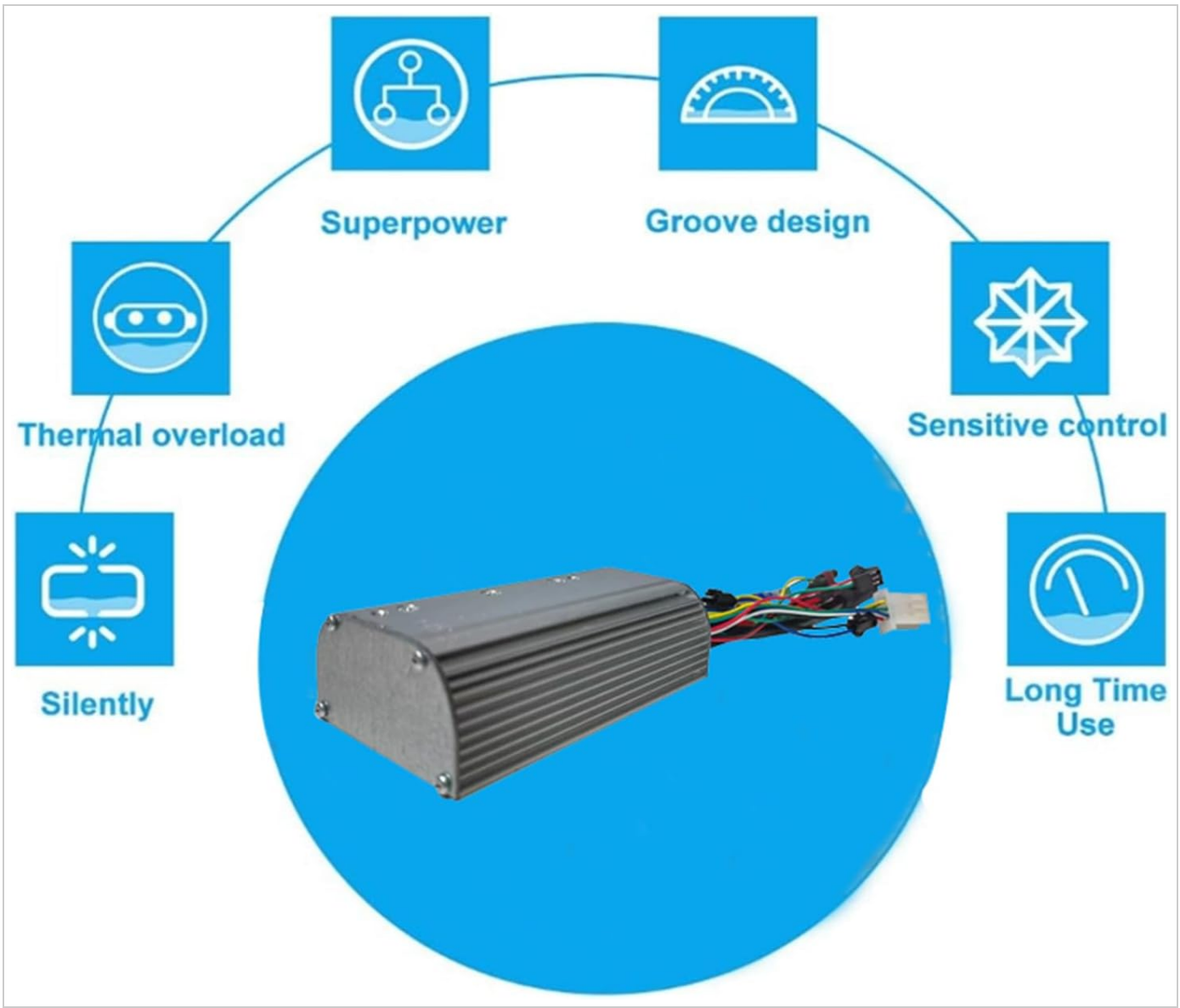


Figure 2: Diagram highlighting the controller's features, including superpower, groove design, sensitive control, long-time use, thermal overload protection, and silent operation.

3. Setup and Installation

Before installation, ensure your electric bicycle or scooter is powered off. The controller's interfaces are labeled to guide correct connections. Carefully match each connector to its corresponding component (e.g., motor, battery, throttle, brakes).

1. **Identify Connectors:** Refer to the diagram below to identify the various connectors on the controller.
2. **Connect Motor Wires:** Connect the main motor phase wires (typically thicker, often green, blue, yellow) from the controller to the motor.
3. **Connect Battery:** Connect the battery power wires (red for positive, black for negative) to the controller. Ensure polarity is

correct.

4. **Connect Throttle:** Attach the throttle connector.
5. **Connect Brakes:** Connect the brake lever wires.
6. **Connect Other Components:** Connect any other accessories such as display, pedal assist sensor (PAS), or lights, following the labels.
7. **Secure Connections:** Ensure all connections are firm and secure to prevent disconnections during operation.

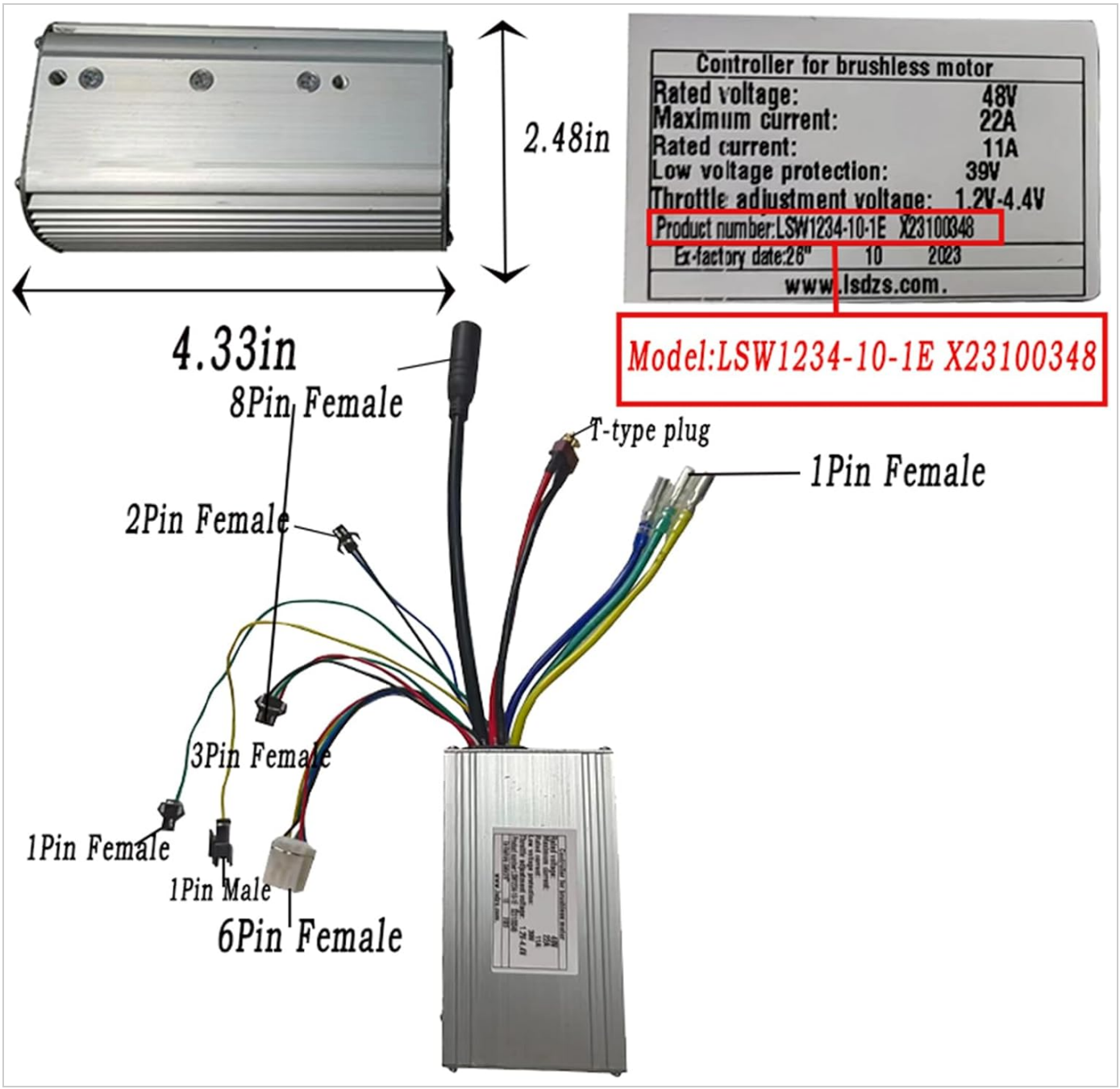


Figure 3: Detailed view of the controller, illustrating its dimensions (4.33in x 2.48in) and various connector types, including 8-pin female, 2-pin female, 3-pin female, 1-pin male, 6-pin female, and T-type plug.

Video 1: Demonstration of the NULKOMMA Brushless Motor Controller, showcasing its various wires and connectors for installation. This video provides a visual guide to identifying and handling the different connection points.

4. Operating Instructions

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

The controller is designed to provide a stable and responsive riding experience.

- **Power On:** Turn on the main power switch of your e-bike/scooter. The controller will initialize.
- **Throttle Control:** Use the throttle to control the motor speed. The controller ensures sensitive and smooth acceleration.
- **Braking:** The controller is designed for sensitive braking response. Engaging the brake levers will cut power to the motor and activate braking.
- **Direction Changes:** The controller facilitates sensitive control for direction changes, contributing to overall maneuverability.

5. Maintenance

Proper maintenance ensures the longevity and optimal performance of your controller.

- **Keep Dry:** Although equipped with waterproof connectors, it is recommended to keep the controller as dry as possible to prevent moisture ingress into other components.
- **Clean Regularly:** Periodically clean the exterior of the controller to remove dust and dirt, which can impede heat dissipation. Use a soft, dry cloth.
- **Inspect Connections:** Regularly check all wire connections to ensure they remain secure and free from corrosion or damage.
- **Avoid Physical Damage:** Protect the controller from impacts or physical damage, as this can compromise its internal circuitry and heat dissipation capabilities.



Figure 4: Image showcasing the aluminum shell of the controller, designed for easy heat dissipation, which is crucial for maintaining performance and longevity.

6. Troubleshooting

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

- **No Power:**
  - Check battery connections and ensure the battery is charged.
  - Verify the main power switch is on.
- **Motor Not Responding:**
  - Inspect all motor phase wire connections.
  - Check throttle connection and functionality.
  - Ensure brake levers are not engaged, as they can cut motor power.
- **Intermittent Operation:**
  - Examine all connectors for loose or corroded contacts.

- Ensure the controller is not overheating (check for proper ventilation).

- **Unusual Noises or Smells:**
  - Immediately power off the system.
  - Disconnect the battery and inspect the controller for visible damage or burnt components.
  - Contact customer support if the issue persists.

For complex issues, it is recommended to consult a qualified technician or contact customer support.

7. Specifications

Specification	Value
Model Number	LSW1234-10-1E
Rated Voltage	48V
Maximum Current	22A
Rated Current	11A
Low Voltage Protection	39V
Throttle Adjustment Voltage	1.2V-4.4V
Material	Plastic, Aluminum
Item Weight	506 Grams
Color	Silver White



Figure 5: Close-up view of the controller's label, displaying key specifications such as rated voltage, maximum current, rated current, low voltage protection, and throttle adjustment voltage.

8. Warranty and Support

Warranty: If you are not satisfied with the product received, you may apply for an unconditional return and refund within 180 days of purchase.
Customer Support: For any product-related issues or inquiries, please contact the seller directly. We are committed to providing timely assistance and will reply to your emails as soon as possible.

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