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› NULKOMMA X813-AA26E-12Z Electric Bicycle Controller User Manual

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Model: X813-AA26E-12Z

Brand: NULKOMMA

1. PRODUCT OVERVIEW

The NULKOMMA X813-AA26E-12Z is a 36V/48V 15A brushless motor controller designed for electric bicycles and scooters. It provides stable speed control and sensitive braking and direction change capabilities, enhancing your riding experience.

Key Features:

- **Efficient Heat Dissipation:** The controller shell is constructed from high-quality aluminum alloy with a groove design, ensuring effective heat dissipation to protect internal circuits and prevent thermal overload.
- **Sensitive and Stable Control:** Delivers consistent speed and responsive control for braking and changes in direction.
- **Durable and Waterproof Connectors:** Features fully waterproof connectors and high-performance wires for maximum durability in various weather conditions, ensuring low malfunction rates over long-term use.
- **Easy Installation:** Interfaces are clearly labeled for straightforward connection to electric bicycles and scooters.

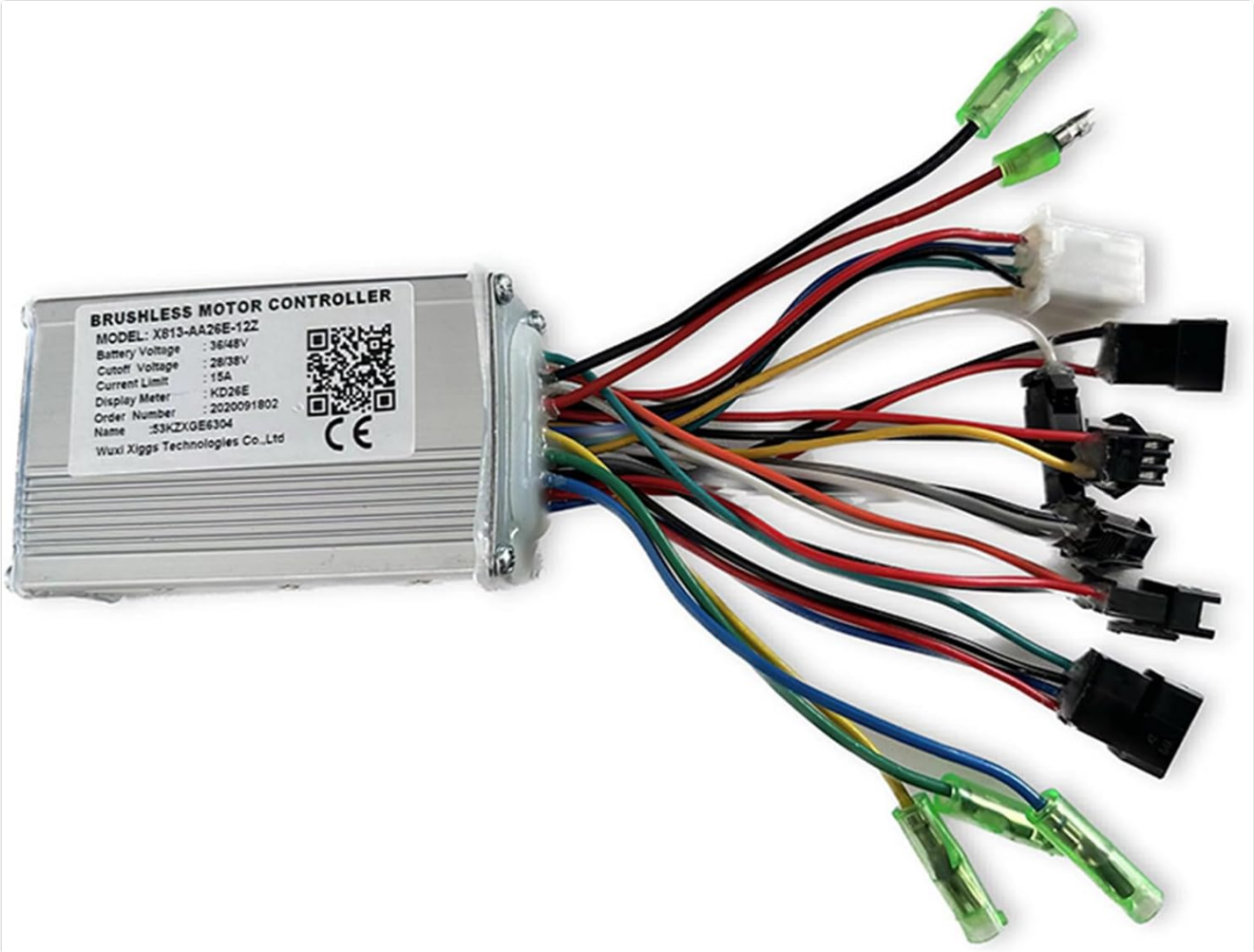


Figure 1: NULKOMMA X813-AA26E-12Z Electric Bicycle Controller with various wire connectors.

2. SPECIFICATIONS

Specification	Value
Model Name	NKM-X813-AA26E-12Z
Part Number	X813-AA26E-12Z
Battery Voltage	36V/48V
Cutoff Voltage	28V/38V
Current Limit	15A
Display Meter Compatibility	KD26E
Material	Aluminum, Plastic
Item Weight	6.28 Ounces
Item Dimensions (LxWxH)	3.35 x 2.01 x 1.14 inches
Included Components	1 x Controller



Figure 2: Close-up view of the controller's label, showing model and specifications.

3. INSTALLATION GUIDE

Carefully follow these steps to install your NULKOMMA X813-AA26E-12Z Electric Bicycle Controller. Ensure the power is disconnected from your e-bike or scooter before beginning installation.

- 1. Identify Connectors:** The controller features various color-coded and uniquely shaped connectors. Each connector is labeled to indicate its function (e.g., motor, battery, display, brakes).
- 2. Connect Motor Wires:** Connect the three thick motor phase wires (typically green, yellow, blue) from the controller to the corresponding motor wires.
- 3. Connect Hall Sensor Wires:** Connect the smaller Hall sensor wires (typically five wires in a single connector) from the controller to the motor's Hall sensor port.
- 4. Connect Battery:** Connect the main power wires (red for positive, black for negative) from the controller to your e-bike's battery. Ensure correct polarity.
- 5. Connect Display Meter:** Connect the display meter wire to the designated port on the controller. The controller is compatible with KD26E display meters.
- 6. Connect Other Components:** Connect other components such as brake levers, throttle, and pedal assist sensor (PAS) to their respective labeled ports on the controller.
- 7. Secure Connections:** Ensure all connections are firm and properly seated. Use zip ties or cable wraps to manage wires and prevent them from interfering with moving parts.
- 8. Mount Controller:** Securely mount the controller in a protected location on your e-bike or scooter, ensuring good airflow for heat dissipation.

For a visual demonstration of the connection process, please refer to the videos below:

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Video 1: Detailed demonstration of connecting the 36V/48V Motor Speed Brushless Controller wires.

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Video 2: Visual guide to the NULKOMMA X813-AA26E-12Z Electric Bicycle Controller connections.

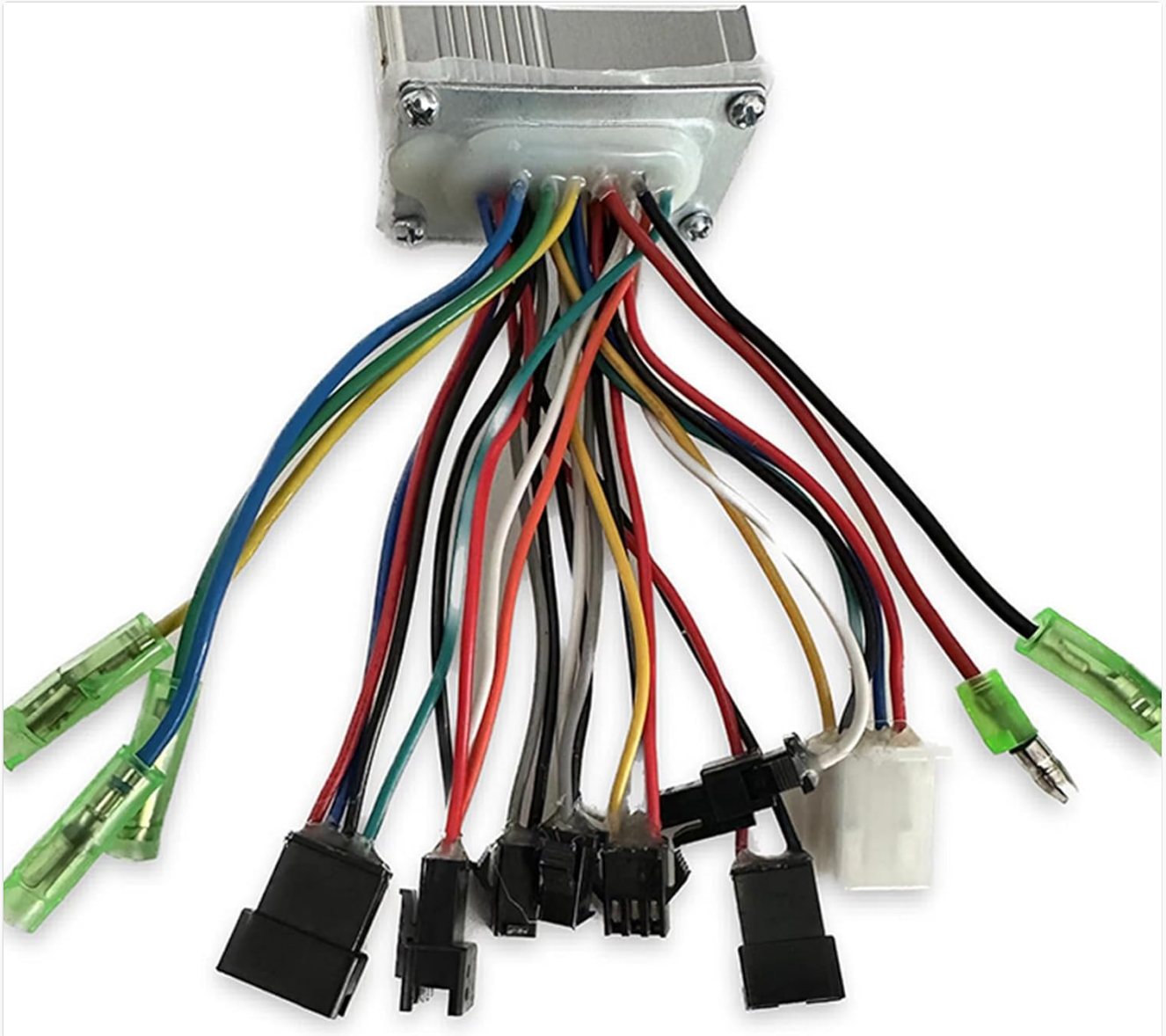


Figure 3: Close-up view of the various wire connectors on the controller, showing their distinct colors and shapes for easy identification.

4. OPERATING INSTRUCTIONS

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

1. **Power On:** Turn on your e-bike's battery and then activate the display meter (if applicable). The controller will initialize, and the display should show relevant information.
2. **Speed Control:** Use the throttle or pedal assist system (PAS) to control the motor's speed. The controller provides smooth and responsive power delivery.
3. **Braking:** Engaging the brake levers will cut power to the motor, allowing for safe and effective stopping.
4. **Display Meter (KD26E):** The KD26E display meter provides real-time information such as speed, battery level, and assist level. Refer to your display meter's specific manual for detailed operation.



Figure 4: Example of an e-bike display meter, providing essential riding information.

5. MAINTENANCE

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

- **Keep Clean and Dry:** Regularly wipe down the controller with a dry cloth to remove dust and dirt. Avoid exposing the controller to excessive moisture or direct water spray.
- **Inspect Connections:** Periodically check all wire connections to ensure they are secure and free from corrosion or damage. Loose connections can lead to intermittent operation or component failure.
- **Avoid Physical Damage:** Protect the controller from impacts and physical damage. While the aluminum casing offers protection, severe impacts can still affect internal components.
- **Temperature Management:** Ensure the controller is mounted in a location that allows for adequate airflow to facilitate heat dissipation, especially during prolonged use.

6. TROUBLESHOOTING

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

- **No Power to Controller/Display:**
 - Check battery charge level.
 - Verify all power connections from the battery to the controller are secure.
 - Ensure the e-bike's main power switch (if present) is in the ON position.
- **Motor Not Responding:**
 - Check motor phase wire connections and Hall sensor connections.
 - Ensure the throttle or PAS is correctly connected and functioning.
 - Verify brake levers are not engaged, as they typically cut motor power.
- **Erratic Speed or Intermittent Operation:**

- Inspect all wire connections for looseness or damage.
- Check for any signs of water ingress or corrosion on connectors.
- Ensure the controller is not overheating.

If the issue persists after performing these checks, please contact customer support.

7. WARRANTY AND SUPPORT

This NULKOMMA controller comes with a **180-day warranty** from the date of purchase, covering manufacturing defects.

For any questions, technical assistance, or warranty claims, please contact NULKOMMA customer support. We are committed to providing prompt assistance.

Contact Support: support@nulkomma.com