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Aramox 24V 500W Brushed Speed Controller

Aramox 24V 500W Electric Scooter E-Bike Motor Brushed Speed Controller Box with Handle Throttle Grip User Manual

Model: 24V 500W Brushed Speed Controller
Brand: Aramox

1. Introduction

This manual provides comprehensive instructions for the installation, operation, and maintenance of the Aramox 24V 500W Brushed Speed Controller and Handle Throttle Grip. Please read this manual thoroughly before installation and use to ensure proper function and safety. This product is designed for use with electric bicycles, electric tricycles, and electric scooters.

2. Product Overview

The Aramox 24V 500W Brushed Speed Controller kit includes a brushed motor speed controller box and a handle throttle grip with a power display. These components work together to provide stable speed control and responsive braking for your electric vehicle.



Image 2.1: Complete kit showing the brushed controller box, throttle grip, and keys.

2.1 Controller Box

The controller box manages the motor's speed and power output. It features internal circuit protection to prevent open circuits and short circuits, aiding in heat dissipation and preventing thermal overload.



Image 2.2: Detailed view of the controller box with dimensions (8cm x 6.5cm).

2.2 Handle Throttle Grip

The throttle grip provides speed adjustment and includes a 5-LED battery indicator for power display. It is designed for comfortable, anti-slip operation and fits standard 7/8 inch (22.2mm) handlebars.



Image 2.3: Close-up of the handle throttle grip, showing the power display and key ignition.

3. Specifications

3.1 Controller Box Specifications

- **Rated Voltage:** DC 24V
- **Current Limit:** 28A
- **Rated Power:** 500W
- **Matching Motor:** Brushed DC motor
- **Under-Voltage Protection:** 20V
- **Dimensions (L x W):** 8 cm x 6.5 cm (3.1 inches x 2.6 inches)

3.2 Accelerator (Throttle) Specifications

- **Operating Voltage:** DC 5V
- **Speed Adjustment Signal:** 0.8V - 4.3V

- **Power Display Voltage:** DC 24V
- **Power Display Indicators:**
  - **Normal:** 23V up (3 Green LEDs)
  - **Half:** 23V - 20V (Yellow LED)
  - **Low:** 20V or less (Red LED)
- **Rotation Angle:** 0° - 70°
- **Working Temperature:** -20℃ - +50℃
- **Handlebar Compatibility:** 7/8 inch (22.2mm) standard handlebars
- **Cable Length:** Approximately 1.5 meters (59 inches)

4. Setup and Installation

Proper wiring is crucial for the correct function of the controller and throttle. Refer to the diagram and instructions below carefully.

4.1 Accelerator Wiring Method

The throttle includes an instruction label on its interface to assist with installation. The wires and interfaces are designed for durability and a low failure rate.

1. **Red Wire:** Connects to the Red wire for Voltage (4.3V to 5.0V).
2. **Blue Wire:** Connects to the Black or Yellow wire for Ground.
3. **Green Wire:** Connects to the Green, Blue, or White wire for Speed Adjustment Signal (between 0.8V and 4.3V).
4. **Yellow Wire:** Connects to the Positive energy wire for Power Display.



Image 4.1: Wiring diagram for the accelerator throttle grip, showing color-coded connections.

4.2 Controller Box Wiring Diagram

The controller box has multiple ports for various connections. Ensure each connection is secure and matches the corresponding component.



Image 4.2: Controller box with labeled ports for throttle, brake, indicator, electric door lock, motor, and battery connections.

General Connection Guidelines:

- Connect the throttle grip wires to the corresponding ports on the controller as per the color code and function (voltage, ground, speed adjustment, power display).
- Connect the motor wires (usually thicker red/black) to the motor output ports on the controller.
- Connect the battery wires (usually thicker red/black) to the battery input ports on the controller.
- Connect brake levers, indicator lights, and electric door lock wires to their respective ports if applicable to your setup.

Note: If connectors do not match, professional assistance may be required to ensure correct and safe wiring.

5. Operating Instructions

5.1 Powering On/Off

Insert the key into the ignition on the throttle grip and turn it to the 'ON' position to power on the system. Turn the key to

'OFF' to power down.

5.2 Speed Control

Rotate the throttle grip to adjust the speed of your electric vehicle. The speed adjustment signal ranges from 0.8V (minimum speed) to 4.3V (maximum speed).

5.3 Battery Level Indicator

The throttle grip features a 5-LED display to indicate the battery charge level:

- **3 Green LEDs:** Battery voltage is 23V or higher (Normal charge).
- **Yellow LED:** Battery voltage is between 20V and 23V (Half charge).
- **Red LED:** Battery voltage is 20V or less (Low charge, recharge immediately).



Image 5.1: Close-up of the throttle grip showing the LED battery indicator lights.

6. Maintenance

- Regularly inspect all wiring connections for tightness and signs of wear or damage.
- Keep the controller box and throttle grip clean and free from dust, dirt, and moisture.
- Avoid exposing the components to extreme temperatures or direct sunlight for prolonged periods.
- Ensure the battery is charged when the red LED indicator appears to prevent deep discharge, which can damage the battery.

7. Troubleshooting

Problem	Possible Cause	Solution
Motor does not operate.	No power to controller; loose wiring; low battery voltage; faulty throttle.	Check battery connections and charge level. Verify all wiring connections are secure. Test throttle functionality. Ensure key is in 'ON' position.
Inconsistent speed or jerky operation.	Loose throttle connection; damaged speed adjustment wire; motor issues.	Inspect throttle wiring for damage or loose connections. Ensure throttle rotates smoothly.
Power display LEDs are off or incorrect.	Incorrect power display wiring; low battery voltage; faulty LED display.	Verify the yellow wire for power display is correctly connected. Check battery voltage with a multimeter.
Controller box gets excessively hot.	Overload; short circuit; poor ventilation.	Reduce load on the motor. Check for any short circuits in the wiring. Ensure controller has adequate airflow.

If troubleshooting steps do not resolve the issue, consult a qualified technician or contact customer support.

8. Warranty and Support

This product is manufactured by Aramox. For warranty information or technical support, please refer to the documentation provided with your purchase or visit the official Aramox website. Keep your purchase receipt for warranty claims.

For further assistance, you may contact Aramox customer service through their official channels.

9. Safety Information

- Always disconnect power before performing any installation, maintenance, or repair work.
- Ensure all connections are insulated to prevent short circuits.
- Do not modify the controller or throttle. Unauthorized modifications can lead to malfunction, injury, or void the warranty.
- Operate electric vehicles responsibly and in accordance with local laws and regulations.

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