

NB POWER KT36/48ZWSRL-NBP03

NB POWER Ebike Controller Instruction Manual

MODEL: KT36/48ZWSRL-NBP03

1. Introduction

This manual provides detailed instructions for the installation, operation, and maintenance of your NB POWER KT36/48ZWSRL-NBP03 Brushless DC Sine Wave Controller. This controller is designed for electric bicycles and scooters, offering universal compatibility with 36V or 48V systems and a maximum current of 25A. It features a regenerative function, which requires a compatible LCD display for activation.

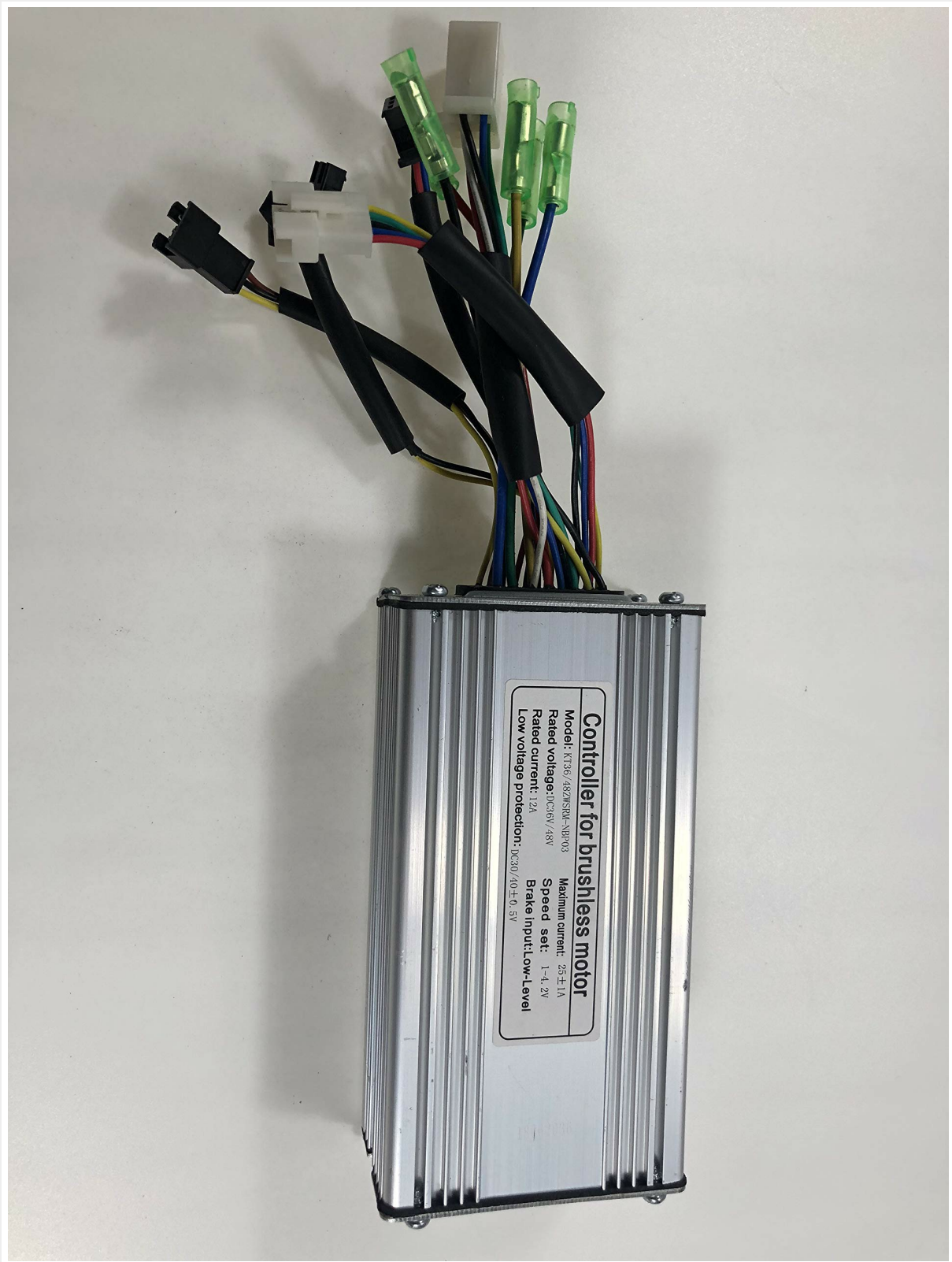


Figure 1: NB POWER Ebike Controller (Model KT36/48ZWSRL-NBP03).

2. Safety Information

Please read all safety instructions carefully before installation and operation. Failure to follow these instructions may result in electric shock, fire, serious injury, or property damage.

- **Professional Installation Recommended:** Installation of this controller involves electrical connections. If you are not experienced with electrical systems, seek assistance from a qualified technician.
- **Power Disconnection:** Always disconnect the battery power before performing any installation, maintenance, or troubleshooting.

- **Voltage Compatibility:** Ensure your battery and motor are compatible with the controller's voltage (36V or 48V).
- **Water and Moisture:** Protect the controller from water, moisture, and extreme temperatures. Operating conditions are -40°C to 80°C.
- **Secure Connections:** Ensure all electrical connections are secure and properly insulated to prevent short circuits.

3. Package Contents

Verify that all items are present and undamaged upon opening the package.

- 1 x NB POWER KT36/48ZWSRL-NBP03 Brushless Motor Controller

4. Product Features

- **Model:** KT36/48ZWSRL-NBP03
- **Application:** Suitable for electric bicycles, scooters, mechanical or electric forklifts.
- **Voltage:** 36V or 48V (Universal)
- **Maximum Current:** 25 ± 1A
- **Rated Current:** 12A
- **Rated Power:** 1000W
- **Speed Set:** 1-4.2V
- **Brake Input:** LOW-LEVEL
- **Low Voltage Protection:** DC30/40 ± 0.5V
- **Operating Conditions:** -40°C to 80°C
- **MOSFETs:** 9
- **Regenerative Function:** Supported (requires compatible NB POWER LCD Display for activation).



Figure 2: Controller label detailing technical specifications.

5. Setup and Installation

Before beginning installation, ensure the ebike battery is disconnected. Refer to the wiring diagrams and connector labels for proper connection.

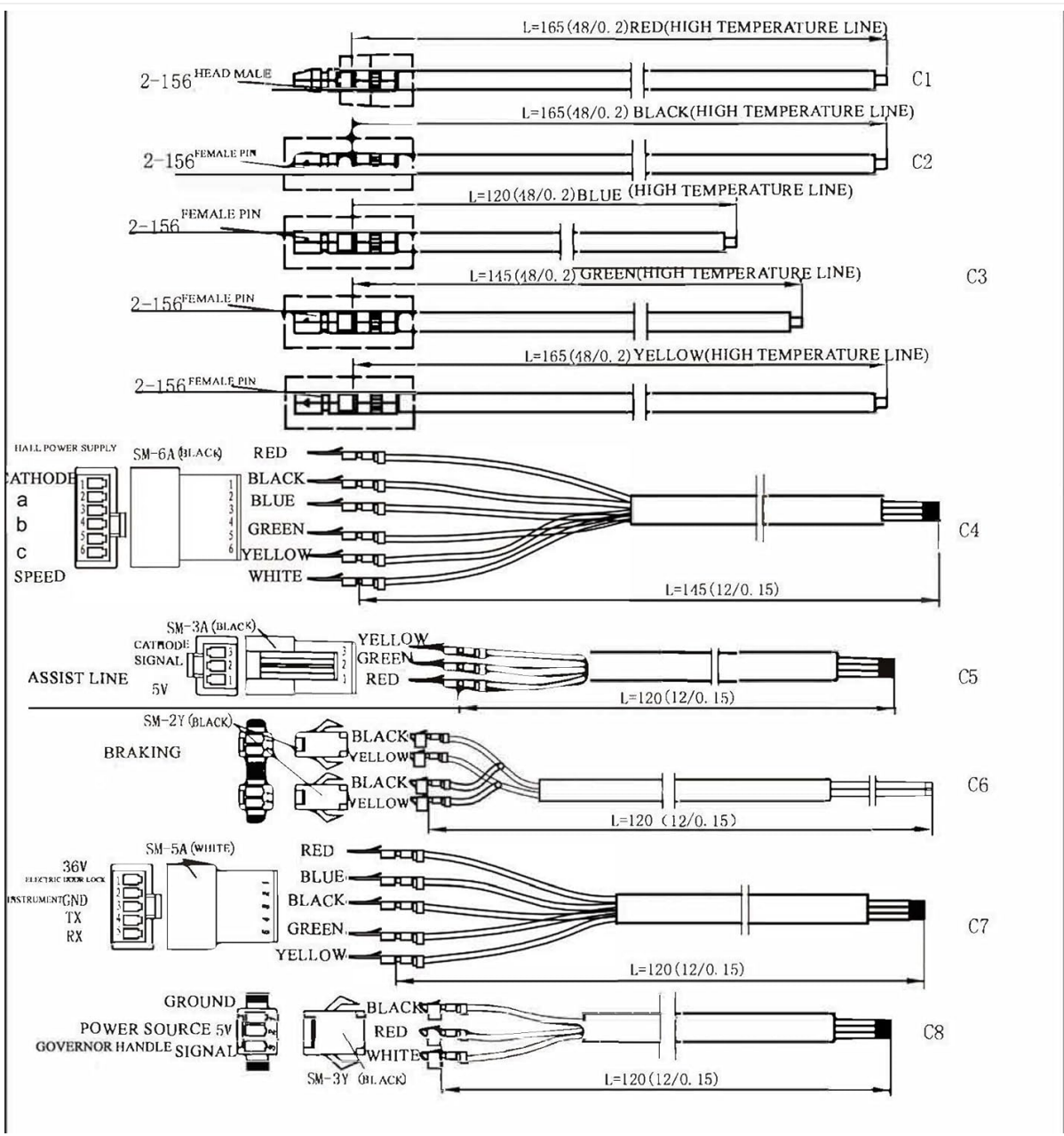


Figure 3: Comprehensive wiring diagram for the controller connections.

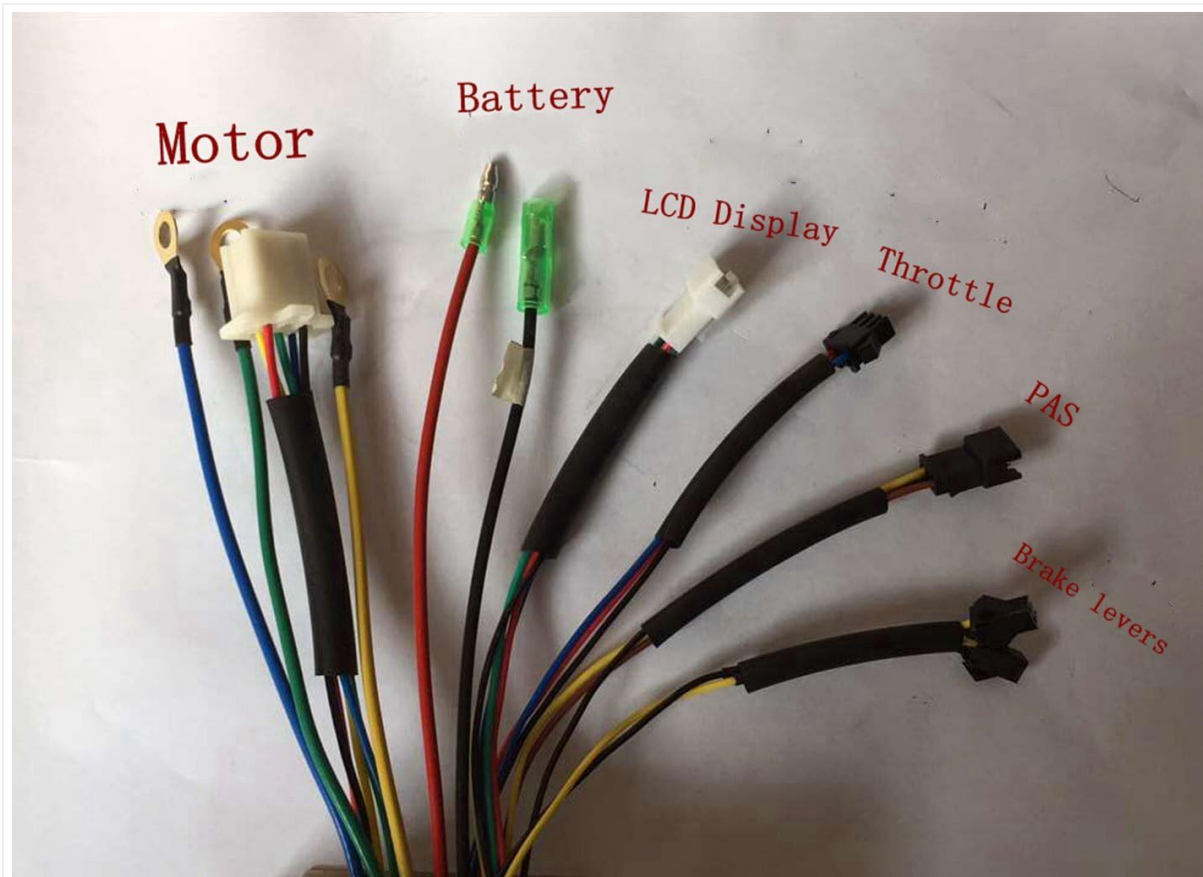


Figure 4: Labeled connectors for easy identification.

Connection Guide:

1. **Motor Connection:** Connect the three thick phase wires (typically Green, Blue, Yellow) from the controller to the corresponding motor phase wires. Connect the smaller Hall sensor wires (Red, Black, Green, Blue, Yellow, White) to the motor's Hall sensor connector (C4 in Figure 3).
2. **Battery Connection:** Connect the thick Red wire from the controller to the positive (+) terminal of your 36V or 48V battery, and the thick Black wire to the negative (-) terminal.
3. **LCD Display (Optional):** If using an NB POWER LCD display, connect it to the designated connector (C7 in Figure 3). This connection is required to activate the regenerative function.
4. **Throttle Connection:** Connect the throttle unit to the throttle connector (C8 in Figure 3). This typically has Red (5V), Black (Ground), and White (Signal) wires.
5. **PAS (Pedal Assist System) Connection:** Connect the PAS sensor to its dedicated connector (C5 in Figure 3). This usually includes Red (5V), Yellow (Signal), and Green (Ground) wires.
6. **Brake Levers Connection:** Connect the brake levers to the brake input connectors (C6 in Figure 3). These are typically LOW-LEVEL brake inputs.
7. **Other Connections (C1, C2, C3):** These may include wires for specific functions like ignition lock, cruise control, or other accessories depending on your ebike system. Refer to your ebike's specific wiring diagram if these are present.

After all connections are made, double-check for correctness and secure fitment before reconnecting the battery power.

6. Operating Instructions

Once the controller is correctly installed and the battery is connected, your ebike system should be ready for operation.

- **Power On:** Turn on your ebike's power switch (if applicable) or the LCD display.
- **Throttle Control:** Gently twist the throttle to engage the motor. The speed is regulated by the throttle input voltage (1-4.2V).
- **Pedal Assist:** If a PAS sensor is installed, pedaling will activate motor assistance. The level of assistance may be adjustable via your LCD display.
- **Braking:** Engaging the brake levers will cut off motor power, ensuring safe stopping.
- **Regenerative Function:** If using a compatible NB POWER LCD display, the regenerative braking function can be activated through the display settings. This function allows the motor to act as a generator during braking or downhill riding, returning a small amount of energy to the battery.

7. Maintenance

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

- **Keep Dry:** Ensure the controller remains dry and protected from water ingress.
- **Cleanliness:** Periodically clean the exterior of the controller with a dry cloth to remove dust and debris.
- **Inspect Connections:** Regularly check all electrical connections for tightness and signs of corrosion or damage.
- **Temperature:** Avoid operating or storing the controller in environments outside its specified operating temperature range (-40°C to 80°C).

8. Troubleshooting

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

Problem	Possible Cause	Solution
Motor does not operate (no throttle or PAS function).	<ul style="list-style-type: none"> • Loose or incorrect wiring connections. • Insufficient battery voltage. • Faulty throttle or PAS sensor. • Incompatible LCD display (if used). • Controller malfunction. 	<ul style="list-style-type: none"> • Verify all connections (motor, battery, throttle, PAS, brake levers, LCD) are secure and correctly wired according to Figure 3 and 4. • Check battery voltage to ensure it is within the 36V/48V range and above the low voltage protection threshold. • Test throttle and PAS sensors if possible, or try replacing them. • Ensure the LCD display is compatible with NB POWER controllers, especially for regenerative function. • If all other checks fail, the controller may be faulty. Contact customer support.
Motor operates intermittently or with reduced power.	<ul style="list-style-type: none"> • Loose connections. • Overheating. • Partial short circuit. • Battery degradation. 	<ul style="list-style-type: none"> • Inspect all wiring for secure connections. • Allow the controller to cool down. Ensure it has adequate ventilation. • Check for any exposed wires or damaged insulation. • Test battery capacity and voltage under load.

Problem	Possible Cause	Solution
Regenerative function not working.	<ul style="list-style-type: none"> Incompatible LCD display. Function not activated in LCD settings. 	<ul style="list-style-type: none"> Ensure you are using an NB POWER LCD display that supports the regenerative function. Check the settings on your LCD display to ensure the regenerative function is enabled.

If troubleshooting steps do not resolve the issue, please contact NB POWER customer support for further assistance.

9. Specifications

Feature	Detail
Model	KT36/48ZWSRL-NBP03
Brand	NB POWER
Bike Type Compatibility	Electric Bike, Scooter, Mechanical/Electric Forklift
Rated Voltage	36V or 48V (Universal)
Maximum Current	25 ± 1A
Rated Current	12A
Rated Power	1000W
Speed Set	1-4.2V
Brake Input	LOW-LEVEL
Low Voltage Protection	DC30/40 ± 0.5V
Operating Conditions	-40°C to 80°C
MOSFETs	9
Color	Silver
Certification	CE
Regenerative Function	Yes (requires compatible NB POWER LCD Display)
Included Components	Controller
Part Number	NBP-KT-25KZ
UPC	606413460792

10. Warranty and Support

This NB POWER controller comes with a **Limited Warranty**. Please refer to the warranty documentation provided with your purchase for specific terms and conditions.

For technical support, warranty claims, or any questions regarding your NB POWER Ebike Controller, please contact your retailer or the manufacturer directly. Ensure you have your model number (KT36/48ZWSRL-NBP03) and proof of purchase available when seeking support.