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FACULX 36/48KSRL-FF01

FACULX 36/48V 35A 1500W Ebike Brushless Motor Controller User Manual

Model: 36/48KSRL-FF01

1. Introduction

This manual provides essential information for the installation, operation, and maintenance of your FACULX 36/48V 35A 1500W Ebike Brushless Motor Controller. This controller is designed for electric bicycles, offering efficient power management for brushless motors and compatibility with various LCD displays (LCD3, LCD4, LCD5, LCD7). Please read this manual thoroughly before installation and use to ensure proper function and safety.

2. Safety Information

- Always disconnect the battery before performing any installation, maintenance, or repair work on the ebike electrical system.
- Ensure all connections are secure and correctly polarized to prevent damage to the controller or other components.
- Avoid exposing the controller to water, excessive moisture, or extreme temperatures.
- Do not attempt to open or modify the controller casing. This may void the warranty and pose a safety risk.
- Consult a qualified technician if you are unsure about any installation steps or encounter persistent issues.

3. Package Contents

Verify that all items are present in your package:

- FACULX 36/48V 35A 1500W Ebike Brushless Motor Controller (Model: 36/48KSRL-FF01) with integrated wiring harness.

Image 3.1: Overview of the FACULX Ebike Brushless Motor Controller with its integrated wiring harness.

4. Setup and Installation

Follow these steps to correctly install your ebike controller. Ensure the battery is disconnected before starting.

4.1. Controller Mounting

Mount the controller securely to your ebike frame in a location protected from physical impact and moisture. Use appropriate fasteners (not included) to ensure it is stable during operation.

4.2. Wiring Connections

Identify each connector on the controller's wiring harness and connect them to the corresponding components on your ebike. Refer to the images below for visual guidance.

1. **Battery Connection:** Connect the main power cables (typically red for positive, black for negative) to your ebike battery. Ensure correct polarity. This controller uses a common XT60 or similar high-current connector for the battery.
2. **Motor Phase Wires:** Connect the three thick phase wires (usually green, blue, yellow) from the controller to the corresponding phase wires of your brushless motor.
3. **Hall Sensor Wires:** Connect the smaller Hall sensor wire bundle (typically 5 or 6 wires) from the controller to

the motor's Hall sensor connector.

4. **Display Connection:** Connect the display cable to your compatible LCD3, LCD4, LCD5, or LCD7 display unit. This is often a multi-pin waterproof connector.
5. **Throttle Connection:** Connect the throttle cable to your ebike's throttle unit.
6. **Brake Lever Connections:** Connect the brake lever cables. This controller supports low-level brake input.
7. **Pedal Assist Sensor (PAS) Connection:** If your ebike has a PAS, connect its cable to the controller.
8. **Other Connections:** Connect any other auxiliary cables such as lights or speed sensors if applicable and supported by your controller model.

Image 4.1: Detailed view of the controller's wiring harness, showing different connector types for various ebike components.

Image 4.2: Example of a multi-pin connector, often used for display or throttle connections.

Image 4.3: Example of ring terminal connectors, typically used for motor phase wires.

5. Operating Instructions

Once the controller is correctly installed and all connections are secure, you can begin operating your ebike.

1. **Power On:** Turn on your ebike battery and then power on your LCD display unit. The display should illuminate and show relevant information.
2. **Throttle Control:** Gently twist the throttle to engage the motor. The motor speed will correspond to the throttle input.
3. **Pedal Assist (PAS):** If equipped, begin pedaling, and the PAS system will provide motor assistance based on your pedaling effort and the selected assist level on your display.
4. **Braking:** Activating the brake levers will cut off power to the motor, ensuring safe stopping.
5. **Display Functions:** Use your LCD display to monitor speed, battery level, assist level, and other parameters. Refer to your specific LCD display manual for detailed instructions on its functions.

6. Maintenance

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

- **Regular Inspection:** Periodically check all wiring connections for tightness and signs of wear or damage.
- **Cleanliness:** Keep the controller clean and free from dust, dirt, and debris. Use a dry cloth for cleaning. Do not use water or harsh chemicals.
- **Environmental Protection:** Store and operate your ebike in conditions that protect the controller from extreme weather, direct sunlight, and high humidity.
- **Cable Management:** Ensure cables are neatly routed and secured to prevent snagging or damage during riding.

7. Troubleshooting

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

Problem	Possible Cause	Solution
Motor not working	Loose battery connection, low battery, motor/Hall sensor wires disconnected, faulty throttle/display.	Check battery charge and connections. Verify all motor, Hall sensor, throttle, and display cables are securely connected.
Display not turning on	Battery off, display cable loose/damaged, faulty display.	Ensure battery is on. Check display cable connection. Test with a known good display if possible.
Motor cuts out intermittently	Loose connections, overheating, low battery voltage.	Inspect all connections. Allow controller to cool down. Check battery voltage.
Incorrect speed reading on display	Speed sensor issue, incorrect display settings.	Check speed sensor connection. Verify wheel size and other parameters are correctly set in the display.

If the problem persists after attempting these solutions, please consult a professional ebike technician.

8. Specifications

The following are the technical specifications for the FACULX Ebike Brushless Motor Controller (Model: 36/48KSRL-FF01):

Image 8.1: Controller label displaying key specifications.

- **Model:** 36/48KSRL-FF01
- **Rated Voltage:** DC36V/48V
- **Rated Current:** 17A
- **Maximum Current:** 35±1A
- **Speed Set:** 1-4.2V
- **Brake Input:** Low-Level
- **Low Voltage Protection:** DC30/40±0.5V