

## Bafang BBS02B

# Bafang BBS02B Mid Drive Ebike Conversion Kit User Manual

Model: BBS02B | Brand: Bafang

## 1. INTRODUCTION

This manual provides comprehensive instructions for the installation, operation, and maintenance of your Bafang 48V 750W Mid Drive Ebike Conversion Kit, model BBS02B. This kit is designed to transform standard bicycles, particularly mountain bikes, into powerful electric bikes, enhancing your riding experience with robust performance and efficiency. Please read this manual thoroughly before installation and use to ensure safe and optimal performance.

## 2. SAFETY INFORMATION

Always prioritize safety when installing and operating your ebike conversion kit. Failure to follow these guidelines may result in injury or damage to the product.

- Ensure the bicycle frame and components are in good condition and suitable for an ebike conversion.
- Disconnect the battery before performing any installation, maintenance, or repair work.
- Wear appropriate safety gear, including gloves and eye protection, during installation.
- Do not modify the motor, battery, or any electrical components. Unauthorized modifications can lead to malfunction and void the warranty.
- Keep all electrical connections dry and free from dirt or debris.
- Familiarize yourself with local regulations regarding ebike usage, speed limits, and power output.
- Perform a thorough safety check of your converted ebike before each ride, including brakes, tires, and all connections.
- Do not immerse the motor or battery in water.

### 3. PACKAGE CONTENTS

Verify that all components listed below are present in your package. If any items are missing, please contact customer support immediately.



Figure 3.1: Overview of the Bafang BBS02B Mid Drive Ebike Conversion Kit components.

- 1x Bafang Mid-Drive Motor 48V 750W (BBS02B)
- 1x SW-M58 LCD Display
- 1x Thumb Throttle
- 1x Chainring (Standard 44T, with guard)
- 1x Pair of Crank Arms
- 1x Pair of Speed Sensors and Magnet
- 1x 1T4 EB-BUS Cable
- 1x Bag of Mounting Screws
- 1x Mechanical Brake Levers (default) or Brake Sensors
- 1x Headlight

- 1x 48V 20Ah Shark Battery (if included in your specific package)
- Installation Tools (wrench, crank removal tool, bottom bracket remover)

## 4. SETUP AND INSTALLATION

Follow these steps carefully to install your Bafang mid-drive kit. Professional installation is recommended if you are unsure about any step.

### 4.1. Motor Compatibility and Preparation

The Bafang BBS02B motor is compatible with bicycles having a 68-73mm bottom bracket shell and an internal diameter between 33.5-36mm. It fits JIS standard bikes, including most mountain and city models.

## Will THE MOTOR FIT MY BIKE?

**68MM**

### Bottom Bracket

- Also suitable for 73MM bottom bracket, but 73MM screws are not included in the package, if you need the screws, please email us after ordering



Dimension A	208mm	Dimension D	159mm
Dimension B	110mm	Dimension E	88mm
Dimension C	68mm		



Bottom Bracket: 68-73MM



Inner Diameter: Between 33.5-36MM

### • 44T would be sent in default

**36T**  
(Not include the cover)  
0.5mm



**42T**  
(Not include the cover)  
18.5mm



**44T**  
6.5mm



**52T**  
6.5mm



Figure 4.1: Bottom bracket compatibility and dimensions for motor installation.

1. Remove the existing crankset and bottom bracket from your bicycle.
2. Clean the bottom bracket shell thoroughly.
3. Ensure the bottom bracket shell dimensions match the motor's requirements (68-73mm width, 33.5-36mm inner diameter).

#### 4.2. Motor Installation

Slide the motor into the bottom bracket shell. Secure it using the provided lock nuts and mounting screws. Ensure the motor is firmly seated and aligned.



Figure 4.2: Bafang 48V 750W Mid Drive Motor installed.

#### 4.3. Display (SW-M58) Installation

Mount the SW-M58 LCD display on your handlebar. It universally fits Ø22.2mm handlebars. Connect the display cable to the main wiring harness.

# SW-M58 DISPLAY

- Screen : 3.8" LCD
- PAS Level : 3, 5, 9
- Voltage : 24V/36V/48V/52V
- Language : English Version
- Holder Size :  $\phi$ 22.2mm/  
25.4mm/31.8mm



UART PROTOCOL  
5 Pin Female Round



Figure 4.3: SW-M58 LCD Display features and dimensions.

## 4.4. Battery Installation

Install the 48V 20Ah Shark Battery onto the bicycle downtube using the provided mounting bracket. Ensure it is securely locked in place. The battery features a network switch for consumption control and a USB charging port.





Figure 4.4: Battery parameters and dimensions.

## 4.5. Wiring Connections

Connect all components according to the wiring diagram. This includes the display, throttle, brake levers/sensors, speed sensor, and headlight to the main 1T4 EB-BUS cable and motor controller.

# WIRING DIAGRAM

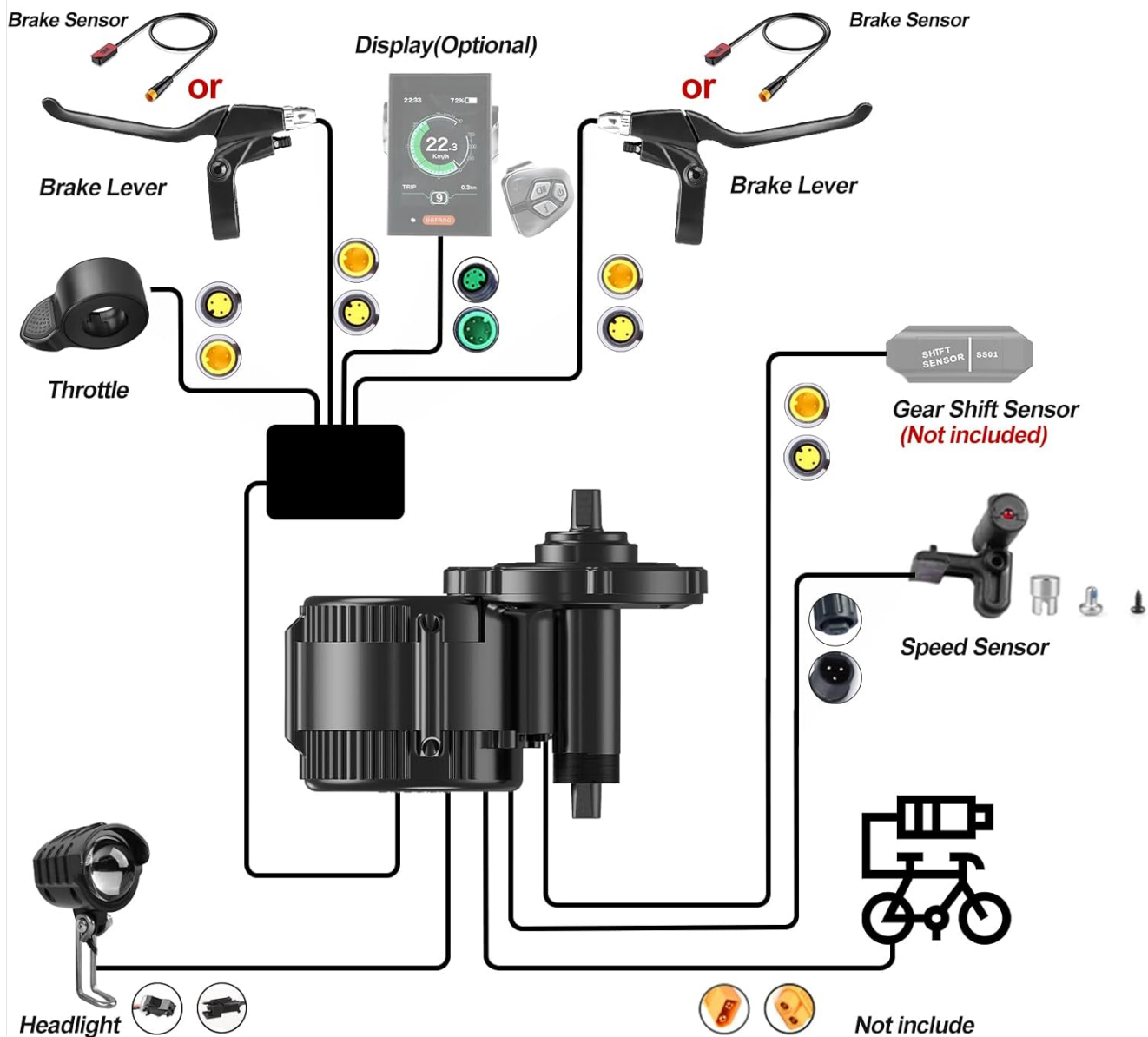


Figure 4.5: Comprehensive wiring diagram for the kit.

- Connect the main motor cable to the battery.
- Connect the 1T4 EB-BUS cable to the motor.
- Connect the display, throttle, and brake levers/sensors to the 1T4 cable.
- Install the speed sensor on the chainstay and attach the magnet to a spoke. Ensure proper alignment for accurate readings.
- Connect the headlight if applicable.
- Secure all cables with zip ties to prevent snagging and damage.

## 5. OPERATING INSTRUCTIONS

Understand the various modes and functions of your Bafang ebike kit for an optimal riding experience.

## 5.1. Riding Modes

The Bafang BBS02B motor supports three primary riding modes:

- **Pure Electric Mode:** Engaged via the thumb throttle, providing power without pedaling.
- **Pedal-Assisted Mode (PAS):** The motor provides assistance as you pedal. The level of assistance can be adjusted via the display.
- **Physical Riding Mode:** The motor is off, and the bike operates as a standard bicycle, relying solely on pedal power.

## 5.2. SW-M58 LCD Display Functions

The 3.8" SW-M58 LCD display provides essential information and control over your ebike system. Its bright, glare-resistant screen ensures clear visibility.

- **Power On/Off:** Press and hold the power button to turn the system on or off.
- **PAS Level Adjustment:** Use the up/down buttons to cycle through pedal assist levels (e.g., 3, 5, or 9 levels depending on configuration).
- **Information Display:** View current speed, battery level, trip distance, total odometer, and error codes.
- **Headlight Control:** The display may have a button to turn the connected headlight on/off.
- **Error Codes:** If an error occurs, an error code will be displayed. Refer to the troubleshooting section for common codes.

## 6. MAINTENANCE

Regular maintenance ensures the longevity and reliable performance of your Bafang ebike conversion kit.

- **Cleaning:** Clean the motor, battery, and display regularly with a damp cloth. Avoid high-pressure washing directly on electrical components.
- **Battery Care:**
  - Charge the battery fully after each ride, especially if it will be stored for an extended period.
  - Store the battery in a cool, dry place, away from direct sunlight and extreme temperatures.
  - Do not fully discharge the battery frequently.
- **Connections:** Periodically check all electrical connections for tightness and corrosion. Ensure cables are not pinched or damaged.
- **Mechanical Components:** Regularly inspect the chainring, crank arms, and bottom bracket for wear and tear. Lubricate the chain as needed.
- **Brakes:** Ensure your brakes are functioning correctly and adjust them as necessary.
- **Tires:** Maintain proper tire pressure for safety and efficiency.

## 7. TROUBLESHOOTING



This section addresses common issues you might encounter. For problems not listed here, please contact technical support.

Problem/Error Code	Possible Cause	Solution
Motor not providing power	Battery low or disconnected; loose electrical connections; system not turned on.	Check battery charge and connection; ensure all cables are securely plugged in; turn on the display.
Error Code 21 (Speed Sensor)	Speed sensor misaligned or damaged; magnet missing or improperly placed; faulty wiring.	Check speed sensor alignment and distance from magnet (typically 3-5mm); ensure magnet is securely attached to a spoke; inspect sensor wiring for damage. If the issue persists, the sensor or controller may need replacement.
Display not turning on	Battery not connected or discharged; loose display cable; faulty display.	Verify battery connection and charge; check display cable connection to the 1T4 cable; contact support if display remains unresponsive.
Throttle not working	Throttle cable disconnected or damaged; throttle malfunction.	Check throttle cable connection; test throttle functionality.

## 8. SPECIFICATIONS

Detailed technical specifications for the Bafang 48V 750W Mid Drive Kit BBS02B.

Component/Feature	Specification
Motor Type	Bafang BBS02B Brushless Gear Motor
Motor Voltage	48V
Motor Power	750W
Max Torque	120 N.m
Controller	Integrated in the motor
Bottom Bracket Compatibility	68-73mm (JIS standard)
Bottom Bracket Inner Diameter	33.5-36mm
Chainring	44T (standard, optional 36T/42T/52T)

Component/Feature	Specification
Display	SW-M58 LCD (3.8" screen, Ø22.2mm handlebar fit)
Battery (Optional)	48V 20Ah Shark Battery (960Wh, 367x127x90mm, 4.8kg)
Max Speed (Assisted)	Up to 45 KM/H
Material	Aluminium
Manufacturer	Bafang Electric (Suzhou) Co., Ltd.

BAFANG

MID DRIVE KIT

48V 750W

68MM

 Electrical Throttle mode

 Pedal assist mode

 Walk assist mode





50KM/H  
Max Speed



120 N.m  
Max Torque



68MM  
Bottom Bracket Size



24A  
Controller Current

Figure 8.1: Key specifications of the Bafang Mid Drive Kit.

9. WARRANTY AND SUPPORT

Bafang is committed to providing reliable products and excellent customer service.

### **9.1. Technical Support**

Our experienced technical support team, based in the UK and Poland, is available to assist you with any installation issues or technical assistance you may require. Please do not hesitate to contact us via email for prompt attention. For support, please refer to the contact information provided with your purchase documentation or visit the official Bafang website.

### **9.2. Warranty Information**

This product comes with a manufacturer's warranty covering defects in materials and workmanship under normal use. The warranty period and terms may vary. Please retain your proof of purchase for warranty claims. The warranty does not cover damage resulting from improper installation, unauthorized modifications, misuse, neglect, accidents, or normal wear and tear.