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› [BAFANG 48V 500W Front Hub Ebike Conversion Kit \(Model FM G020.500.D\) User Manual](#)

BAFANG FM G020.500.D

BAFANG 48V 500W Front Hub Ebike Conversion Kit

Model: FM G020.500.D (20-inch wheel with SW2-M58 Display)

Manufacturer: Bafang Electric (Suzhou) Co., Ltd.

1. INTRODUCTION

This manual provides essential information for the installation, operation, and maintenance of your BAFANG 48V 500W Front Hub Ebike Conversion Kit. This kit is designed to transform a standard bicycle into an electric bicycle, offering enhanced performance and versatility. The motor delivers 65N.m maximum torque and can reach speeds up to 40 KM/H (25 MPH). It features an IPX5 waterproof design and operates quietly, ensuring a smooth riding experience in various weather conditions.

The kit is compatible with bicycles featuring 100mm front dropout widths and a 10mm front fork aperture, supporting both V-brakes and disc brake systems. The integrated Smart Pedal Assist System (PAS) offers four modes: throttle, pedal assist, walk assist, and pure cycling, allowing for customizable riding experiences.

The optional SW2-M58 LCD display provides real-time data including battery level, speed, mileage, mode selection, and error diagnostics, facilitating easy monitoring and troubleshooting.

2. SAFETY INSTRUCTIONS

Please read and understand all safety instructions before installing and operating the ebike conversion kit. Failure to follow these instructions may result in injury or damage to the product.

- Always wear a helmet and appropriate safety gear when riding your ebike.
- Ensure all connections are secure and waterproof before riding, especially in wet conditions.
- Do not modify the motor or controller. Unauthorized modifications can lead to malfunctions and void the warranty.
- Regularly check brake functionality, tire pressure, and overall bicycle condition.
- Be aware of local regulations regarding ebike speed and power limits.
- Keep the battery (if purchased separately) away from heat sources and direct sunlight. Do not immerse the battery in water.
- Perform a pre-ride inspection before each use.

3. PACKAGE CONTENTS

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

PACKING LIST

PARTS INTRODUCTION



Controller Box



Controller



Optional Display



Brake Lever or Brake Sensor



1T4 Cable



Left pas Sensor



Thumb Throttle



Headlight



Plastic Straps



Sticker

BAFANG



Hub Motor With Wheel



BATTERY NOT INCLUDED.

Image: Overview of the BAFANG Ebike Conversion Kit components.

- 48V 500W Front Hub Motor with Wheel (20-inch for this variant)
- SW2-M58 Display
- Controller
- Controller Box
- 1T4 Cable
- Left PAS Sensor
- Thumb Throttle
- Brake Lever (default)
- Headlight
- Extension Cable
- Plastic Straps
- Sticker

Note: The battery is NOT included and must be purchased separately.

4. SETUP AND INSTALLATION

The installation process is designed to be user-friendly. Refer to the provided diagrams and consider watching official video guides for a smoother setup.

4.1. Choosing the Correct Wheel Size

Ensure the wheel size of the kit matches your bicycle. This kit is for a 20-inch wheel. Verify your bicycle's rim diameter and compatible tire size.

CHOOSE THE CORRECT SIZE

• 28" / 29" / 700C



• 26"



• 20"



• How to Choose?	28" / 29" / 700C	26"	20"
• Rim Size	28"/29"/700C	26"	20"
• Rim Diameter	630mm(24.8 ")	570mm(22.4 ")	425mm(16.7 ")
• Spokes	12G*36H	12G*36H	12G*36H
• Compatible Brake	V brake & Disc Brake	V brake & Disc Brake	V brake & Disc Brake
• Compatible Tire	1.5-2.4 inch		

• Installation Width / OLD 100mm



Image: Guide for selecting the appropriate wheel size.

4.2. Front Fork Compatibility

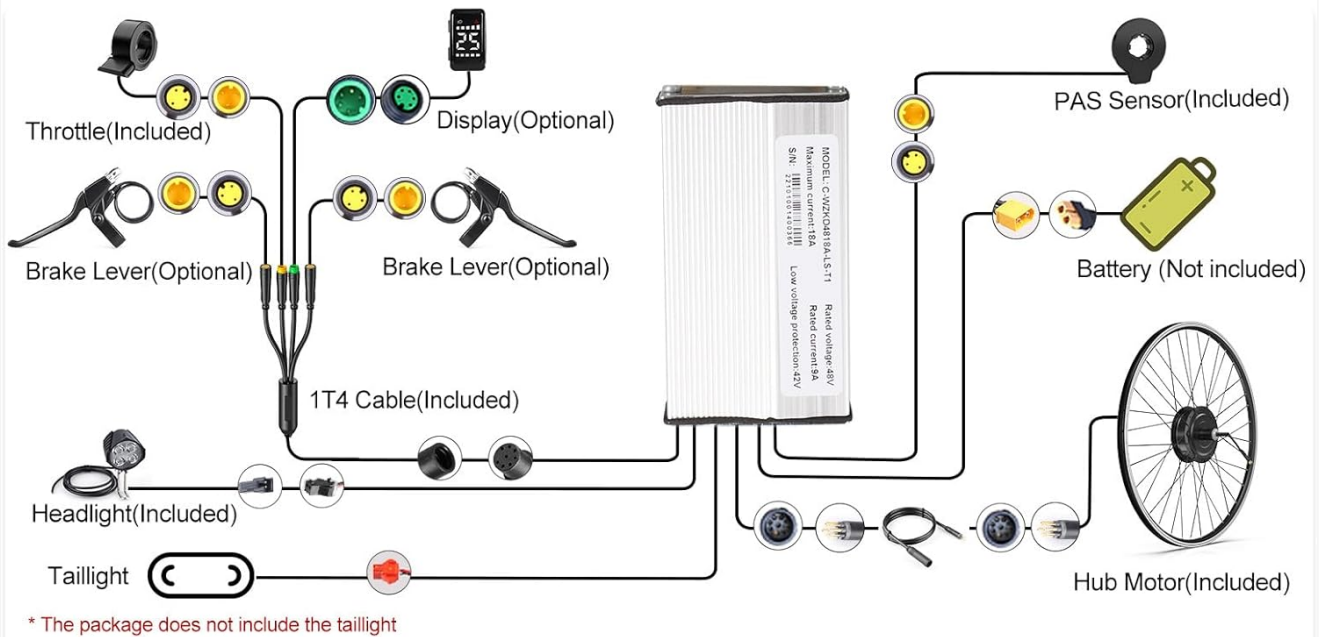
Your bicycle's front fork must have a 100mm dropout width and a 10mm aperture to accommodate the front hub motor. The kit is compatible with both V-brake and disc brake systems.

4.3. Component Connection Diagram

Follow the connection diagram carefully to ensure all components are correctly wired. Incorrect wiring can damage

the system.

KIT CONNECTION DIAGRAM



PAS Sensor - Left

- Double Hall 12 Magnets
- 3PIN Male Connector
- IP65 Waterproof
- Easy to Install



Image: Kit Connection Diagram.

1. Install the front hub motor into your bicycle's front fork.
2. Mount the controller box and controller securely on the bicycle frame.
3. Attach the SW2-M58 display to the handlebar.
4. Install the thumb throttle and brake levers on the handlebar.
5. Mount the left PAS sensor near the pedal crank.
6. Connect all components using the 1T4 cable and extension cables as shown in the diagram. Ensure connectors are fully seated and secured.
7. Connect your separately purchased 48V battery to the system.
8. Install the headlight.

5. OPERATING INSTRUCTIONS

Once installed, your BAFANG ebike kit offers multiple riding modes and a clear display for monitoring your ride.

5.1. SW2-M58 Display Overview

The SW2-M58 display provides critical information and control over your ebike system.

SW2-M58



3.8" LCD screen



POWER
INDICATOR



SPEED
DISPLAY



MILEAGE
INDICATOR



BATTERY
INDICATOR



PAS 0-9



ERROR



HEADLIGHT
POWER ON



BRAKE
INDICATOR



Holder: 22.2/25.4/31.8mi



Password: 1919

Image: SW2-M58 Display Interface.

- **Power Indicator:** Shows system power status.
- **Speed Display:** Current riding speed.
- **Mileage Indicator:** Displays trip distance and total mileage.
- **Battery Indicator:** Shows remaining battery charge.
- **PAS (Pedal Assist System) Level:** Indicates the current assist level (0-9).
- **Error Display:** Shows error codes if a system issue occurs.
- **Headlight Power On:** Indicates if the headlight is active.

5.2. Riding Modes

The Smart PAS system offers four distinct riding modes:

- **Throttle Mode:** Provides power on demand via the thumb throttle, without pedaling.
- **Pedal Assist Mode:** The motor provides assistance as you pedal. The level of assistance can be adjusted via the display.

- **Walk Assist Mode:** Provides low-speed assistance to help push the bike when walking alongside it.
- **Pure Cycling Mode:** The motor is off, and the bicycle operates as a traditional pedal bike.

Switch between modes and adjust pedal assist levels using the buttons on the SW2-M58 display.

6. MAINTENANCE

Regular maintenance ensures the longevity and optimal performance of your BAFANG ebike conversion kit.

- **Cleaning:** Clean the motor, controller, and display with a damp cloth. Avoid high-pressure washing directly on electrical components. The motor has an IPX5 waterproof rating, but excessive water exposure should be avoided.
- **Connections:** Periodically check all electrical connections for tightness and corrosion. Ensure waterproof connectors are properly sealed.
- **Cables:** Inspect cables for any signs of wear, cuts, or damage. Replace damaged cables immediately.
- **Motor:** The brushless geared motor is designed for low maintenance. No internal user-serviceable parts.
- **Battery Care (if applicable):** If you purchased a BAFANG compatible battery, follow its specific charging and storage instructions. To maximize battery life, avoid fully discharging it and store it in a cool, dry place when not in use.
- **General Bicycle Maintenance:** Continue to perform regular maintenance on your bicycle's mechanical components, including brakes, tires, chain, and gears.

7. TROUBLESHOOTING

If you encounter issues with your ebike kit, refer to the display for error codes or consult the common troubleshooting tips below.

Problem	Possible Cause	Solution
Motor not assisting	Low battery, PAS sensor issue, loose connection, error code on display.	Check battery charge. Inspect PAS sensor for proper alignment. Verify all cable connections. Consult display for error codes and refer to the display manual for specific error meanings.
Display not turning on	Loose power cable, battery not connected, faulty display.	Ensure battery is connected and charged. Check the main power cable connection to the display and controller.
Inconsistent power delivery	PAS sensor misalignment, throttle issue, controller problem.	Realign PAS sensor. Check throttle cable. If problem persists, contact support.
Unusual noises from motor	Foreign object, internal motor issue.	Stop riding immediately. Inspect the motor for any obstructions. If no external cause is found, contact technical support.

For persistent issues or specific error codes not listed, please contact BAFANG customer support.

8. SPECIFICATIONS

Key technical specifications for the BAFANG 48V 500W Front Hub Ebike Conversion Kit (Model FM G020.500.D).

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48V500W FRONT MOTOR



FM GO20.500.D



Motor
48V500W



Max Torque
65Nm



Max Speed
40KM/H(25MPH)



weight
7.7KG/17LB



Efficiency
≥80%



Pure Electric
Mode



Pedal Assisted
Mode



Walking Assisted
Mode



Physical Riding
Mode

Image: BAFANG 48V 500W Front Motor Specifications.

Feature	Specification
Product Name	Front Hub Motor
Motor Option	48V500W
Rated Voltage	48V
Rated Power	500W
Max Torque	65 N.m
Max Speed	40 KM/H (25 MPH)
Wheel Diameter (for this variant)	20 inches
Spoke Specification	36H*12G
Weight	7.100 KG (15.65 lbs)

Feature	Specification
Efficiency	>75%
Noise Grade	< 55 dB
Waterproof Grade	IPX5
Installation Widths (OLD)	100 ± 1 mm
Display Model	SW2-M58
Brake Style Compatibility	V-brake, Disc brake

9. WARRANTY AND SUPPORT

BAFANG provides comprehensive support for its products.

- **Warranty:** 30 days return policy, 365 days repair or replacement service.
- **Technical Guidance:** Lifetime technical guidance service is available.
- **Manufacturer:** Bafang Electric (Suzhou) Co., Ltd.
- **Service Points:** BAFANG has cooperative service points in various countries.

For warranty claims, technical assistance, or any questions, please contact your retailer or visit the official BAFANG website for support information.
