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› BAFANG BBSHD 1000W Mid Drive Ebike Conversion Kit User Manual

BAFANG M615 MM G320.1000.C

BAFANG BBSHD 1000W Mid Drive Ebike Conversion Kit

User Manual - Model M615 MM G320.1000.C

1. INTRODUCTION

This manual provides essential information for the installation, operation, and maintenance of your BAFANG BBSHD 1000W Mid Drive Ebike Conversion Kit. This kit is designed to convert standard bicycles into electric bicycles, offering enhanced power and versatility for various terrains and riding styles. Please read this manual thoroughly before installation and use to ensure safe and optimal performance.

2. SAFETY INFORMATION

Always prioritize safety when operating an electric bicycle. Failure to follow safety guidelines can result in serious injury or damage to the product.

- **Wear a Helmet:** Always wear an approved bicycle helmet when riding.
- **Pre-Ride Check:** Before each ride, inspect brakes, tires, battery charge, and all connections.
- **Traffic Laws:** Obey all local traffic laws and regulations.
- **Weather Conditions:** Exercise caution when riding in wet or adverse weather conditions. The kit features IP65 waterproof wiring, but avoid submerging components.
- **Battery Handling:** Handle the battery with care. Do not puncture, expose to extreme temperatures, or short-circuit. Use only the provided charger.
- **Professional Installation:** If you are unsure about any installation steps, seek assistance from a qualified bicycle mechanic.

3. PACKAGE CONTENTS

Verify that all components are present in your kit. The standard kit includes the following items:

- BAFANG 1000W Mid-drive motor (48V or 52V)
- Brake levers or brake sensors (for hydraulic brakes)
- Thumb throttle
- BAFANG chainring (e.g., 42T, 40T, 46T options)
- Crank arms
- LCD display (various optional models available)
- Speed sensor and magnets
- 1T4 wire harness
- Mounting nuts and bolts
- Battery (optional, if purchased with the kit)
- Ebike headlight (1 pc)
- Installation tools (2 pcs)
- 250W stickers (4 pcs)
- Installation accessories set

What's in the box

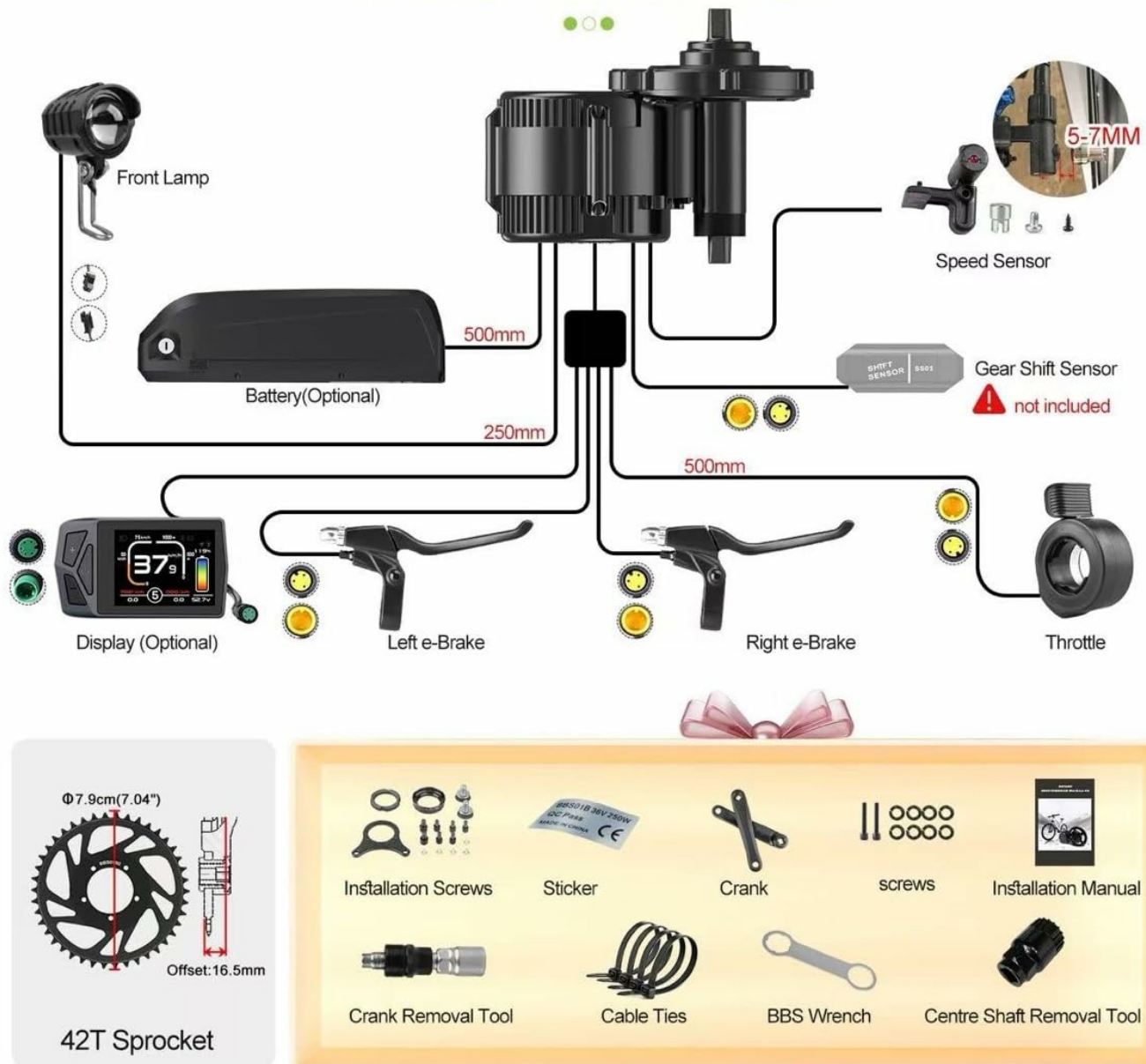


Figure 3.1: Overview of included components in the BAFANG BBSHD 1000W Mid Drive Ebike Conversion Kit. This diagram illustrates the motor, optional battery, display, throttle, brake levers, chainring, cranks, speed sensor, and various wiring and installation accessories.

4. COMPATIBILITY GUIDE

The BAFANG BBSHD Mid Drive motor kit is compatible with most bicycles featuring a bottom bracket length of 68-73mm, 100mm, or 120mm, and an internal diameter of 34-36mm. This includes commuter bikes, fat bikes, mountain bikes, road bikes, and tricycles.

4.1. Confirming Bottom Bracket Fit

To ensure compatibility, measure your bike's bottom bracket shell width and internal diameter. The kit offers different motor shaft lengths (68-73mm, 100mm, 120mm) to match your bike's specifications.

WILL THE BAFANG MID DRIVE MOTOR FIT YOUR BIKE?

Fit the bike with standard 68-73mm bottom bracket length and 34-36mm internal diameter

Easy Simple Way:

Use calipers or Ruler to Measure Bottom Bracket Shell Width and Diameter



More Accurate Way:

Download the Product guide and documents on the product page, print it scale 100% and follow the instruction

Product guides and documents

Compatibility Guide (PDF)

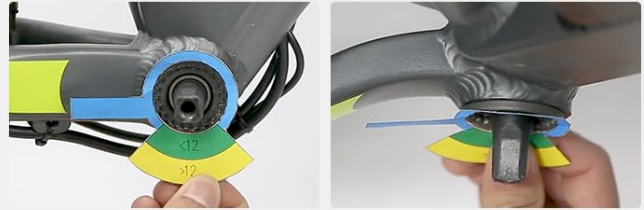
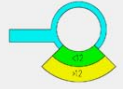
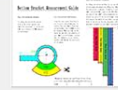


Figure 4.1: Guide for measuring your bike's bottom bracket to ensure compatibility with the BAFANG mid-drive motor. This image details the required length (68-73mm, 100mm, or 120mm) and internal diameter (33.5-36mm) for proper fitment.

4.2. Confirming Battery Fit (Downtube Shark Battery)

If you opt for a downtube shark battery, it is crucial to verify it fits your bike frame. A size guide document is typically available for download to create cutouts for physical testing.



Figure 4.2: Method for checking downtube shark battery compatibility with your bike frame. This involves using a downloadable size guide to create a cutout and physically test the fit on your bicycle.

4.3. Confirming Battery Fit (Rear Rack Battery)

For rear rack batteries, check for existing installation screw holes on your rear fork and measure the size of your rear fork to ensure the rack can be securely mounted.



Figure 4.3: Guide for verifying rear rack battery compatibility. This image highlights checking for existing screw holes on the rear fork and measuring the fork width (150-160mm) for proper rack installation.

4.4. Brake System Compatibility

The kit supports mechanical disc brakes and rim V-brakes. If your bike uses shift-integrated brake handles or hydraulic disc brakes, you may need to use brake sensors instead of the default brake levers. Contact support if you require brake sensors.



Figure 4.4: Brake system compatibility guide. This image illustrates which brake types (mechanical disc, rim V-brake, shift-integrated, hydraulic disc) are compatible and when brake sensors might be necessary.

5. SETUP AND INSTALLATION

Converting your pedal bike into an electric bike with the BAFANG BBSHD kit involves several steps. A detailed installation video is typically available to guide you through the process. Ensure you have the necessary tools and follow all instructions carefully.

5.1. General Installation Steps

1. Remove existing bottom bracket and crankset.
2. Install the BAFANG mid-drive motor into the bottom bracket shell.
3. Secure the motor with the provided nuts and bolts.
4. Install the chainring and crank arms.
5. Mount the display, throttle, and brake levers/sensors on the handlebars.
6. Install the speed sensor on the rear wheel.
7. Connect all components using the 1T4 wire harness.
8. Mount the battery securely (if included).
9. Perform a functional test before riding.



Figure 5.1: Illustration of a bicycle being worked on, representing the installation or maintenance process of the ebike conversion kit.

5.2. Waterproof Wiring

The entire ebike kit is designed with IP65 waterproof wiring to ensure safety and extend the service life of the components. All joints are waterproof, fitting tightly to effectively achieve waterproofing. Seal interfaces to prevent water droplets from entering.



Figure 5.2: Wiring diagram illustrating the IP65 waterproof connections for the BAFANG ebike kit components, including the motor, battery, display, and various sensors.

6. OPERATING INSTRUCTIONS

The BAFANG BBSHD kit offers multiple riding modes and an intelligent display for a customizable experience.

6.1. Riding Modes

Choose from three primary riding modes:

- **E-bike Mode:** Full electric power, no pedaling required.
- **Pedal Assisted Bicycle Mode:** Motor provides assistance as you pedal.
- **Push Assisted Bike Mode:** Provides low-speed assistance for walking the bike.



Figure 6.1: Visual representation of the different riding modes available with the BAFANG ebike kit, suitable for various terrains and preferences.

6.2. Digital Display

The intelligent T1 Touch display (and other optional displays) allows you to monitor and adjust various parameters. Features include:

- Real-time speed display (KM/H or MPH)
- Battery power indicator
- Ride time and trip distance
- PAS (Pedal Assist System) level setting (0-9 levels)
- Headlight indicator and brake indicator
- Error code display for diagnostics
- Adjustable speed limits
- USB charging port for mobile devices (on some models)
- Automatic light sensor for headlight activation (on some models)



Figure 6.2: Examples of optional digital displays available for the BAFANG ebike kit, showcasing their features and interface.

6.3. CAN Protocol Advantage

The kit utilizes a CAN (Controller Area Network) protocol, offering advantages over older UART systems:

- Tune via Display/App (no extra programming cable needed)
- Car-Grade Stability (anti-interference)
- See Battery Health (real data & cycles when using BAFANG battery)
- 30W Lights + Protection
- Protected Display Circuit (prevents burn-out)
- 60V Tough Circuit (handles surges)

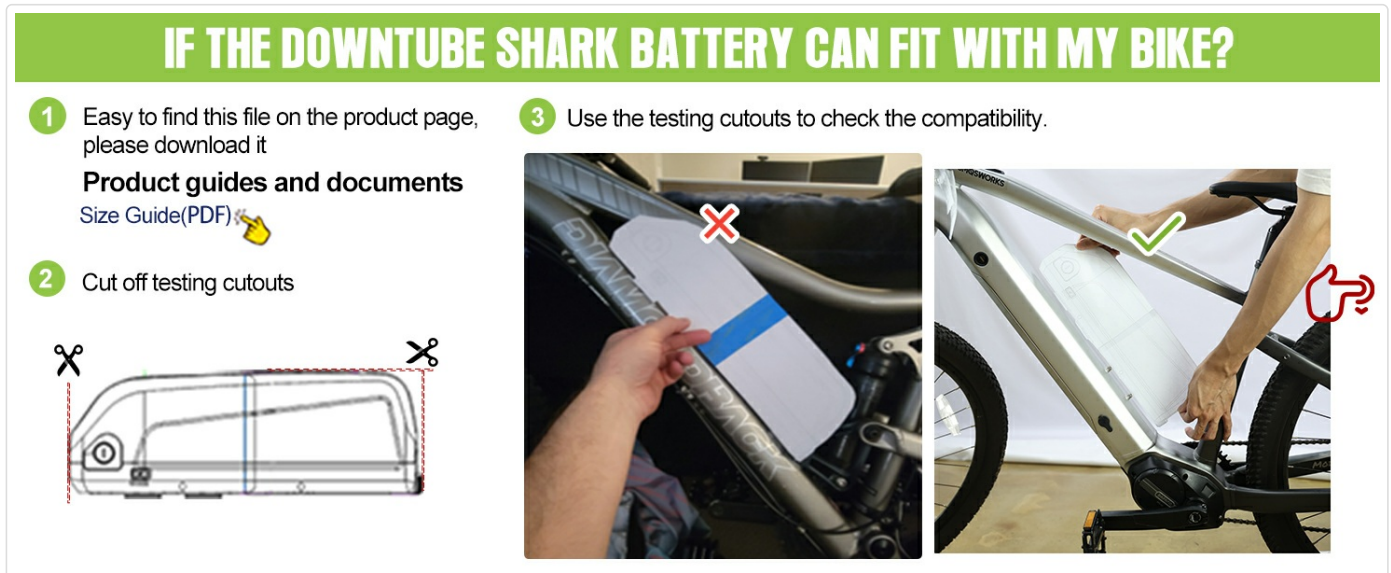


Figure 6.3: Comparison illustrating the benefits of the CAN protocol used in the BAFANG BBSHD kit compared to older UART systems.

6.4. Official Product Video

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Video 6.1: This video provides an overview of the BAFANG BBS HD motor, demonstrating its integration with a bicycle, the functionality of the T1 Touch display, and its performance across various terrains. It highlights the motor's power transfer and versatility for different riding environments.

7. MAINTENANCE

Regular maintenance ensures the longevity and safe operation of your BAFANG ebike conversion kit.

- **Cleaning:** Clean the motor and battery regularly with a damp cloth. Avoid high-pressure washing directly on electrical components.
- **Battery Care:** Store the battery in a cool, dry place. Charge it regularly, even when not in use, to maintain battery health. Avoid fully discharging the battery.
- **Connections:** Periodically check all electrical connections for tightness and corrosion.
- **Mechanical Components:** Maintain your bicycle's mechanical components (chain, gears, brakes) as you would a regular bike. Lubricate the chain regularly.
- **Professional Inspection:** Consider annual professional inspection of the motor and electrical system.

8. TROUBLESHOOTING

This section addresses common issues you might encounter with your BAFANG ebike kit.

- **Motor Not Engaging:** Check battery connection, ensure the display is on, and verify PAS level settings. Inspect for any error codes on the display.
- **Loss of Power:** Check battery charge level. Ensure all motor and battery connections are secure.
- **Display Not Working:** Check power cable connection to the display and battery.
- **Unusual Noises:** Stop riding immediately and inspect the motor and drivetrain for any obstructions or loose parts.
- **Error Codes:** Refer to your display's specific manual for a list of error codes and their meanings.

If you encounter persistent issues, contact customer support for assistance.

9. SPECIFICATIONS

Key technical specifications for the BAFANG BBSHD 1000W Mid Drive Motor Kit:

Feature	Specification
Brand	BAFANG
Model Name	M615 MM G320.1000.C
Power	1000 Watts
Voltage	48 Volts (or 52 Volts with optional battery)

Feature	Specification
Controller Current	30A
Efficiency	>80%
Max Torque	160 N.m
Maximum Speed	50-60 km/h
Net Motor Weight	Approx. 5.80kg (68mm), 5.93kg (100mm), 5.99kg (120mm)
Bottom Bracket Length Compatibility	68-73mm, 100mm, 120mm
Bottom Bracket Internal Diameter	34-36mm
Material	Aluminum
Item Weight (Kit)	17.64 pounds (approx. 8 kg)
UPC	053742479405

BBS-HD MOTOR PARAMETERS

CAN Version



Motor model	M615 MM 1000 68mm	M615 MM 1000 100mm	M615 MM 1000 120mm
Power	1000W	1000W	1000W
Voltage	48V	48V	48V
Controller current	30A	30A	30A
Efficiency	>80%	>80%	>80%
Max torque	160N.M	160N.M	160N.M
Maximum speed	50-60km/h	50-60km/h	50-60km/h
Net motor weight	About 5.80kg	About 5.93kg	About 5.99kg
Bracket bottom length	68mm	100mm	120mm

Figure 9.1: Detailed motor parameters for the BAFANG BBS-HD CAN Version, outlining specifications for different bottom bracket lengths.

9.1. Battery Specifications (Optional)

Various battery options are available, each with specific characteristics:

Type	Parameter	Watt-hour	Battery Cell	BMS	Weight	Cycle Life
Shark Battery	48V 13Ah	624Wh	18650 2600mAh	30A	4.25KG	1000 times
Shark Battery	48V 17.5Ah	840Wh	Sam*sung 21700 5000mAh	30A	4KG	1000 times
Max Shark Battery	48V 19.2 / 20Ah	921.6 / 960Wh	L*G, Sam*sung 21700 4800mAh	30A	4.95 / 4.7KG	1000 times

Type	Parameter	Watt-hour	Battery Cell	BMS	Weight	Cycle Life
Downtube Yingwu	52V 20Ah	1040Wh	Sam*sung 21700 5000mAh	30A	5KG	1000 times
Rear Rack Battery	48V 17.5Ah	840Wh	18650 2600mAh	30A	6KG	1000 times
VoltzX Battery	48V 20Ah	960Wh		30A	5.2KG	1000 times

WHY CHOOSE BAFANG MID DRIVE MOTOR?



 **Balanced Weight**
mid drive motor lowers bike's center of gravity, enhancing stability and control.

 **Easy Maintenance**
Wheel-independent design simplifies tire changes and maintenance routines.

 **Higher Torque**
Superior torque conquers steep slopes and heavy loads, ideal for off-road/cargo.

 **Natural Aesthetics**
Discreet integration preserves classic bike aesthetics for seamless retrofitting.

 Low efficiency, wasting energy.

 High noise during operation.

 Short lifespan compared to mid drive motor.

 Heavy design, reduces mobility.

 Requires frequent maintenance.

Figure 9.2: Overview of various optional ebike battery specifications, including their type, capacity, and physical dimensions.

10. WARRANTY AND SUPPORT

BAFANG is committed to providing quality products and support. As an officially authorized shop, Greenergia ensures genuine products and offers cooperative service points in various countries.

- **Genuine Products:** All motors are genuine BAFANG products.
- **Service Points:** Cooperative service points are available globally.
- **Contact Support:** For any questions, technical assistance, or warranty claims, please contact the seller or an authorized BAFANG service center.

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and use this page's manual context to help answer it.

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Details

Model number, symptoms, what you tried, or the section of the manual you are using.

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