BAFANG LC G020 48V500W RDC + BAT DZ

BAFANG 48V 500W Rear Hub Motor Conversion Kit User Manual

Model: LC G020 48V500W RDC + BAT DZ

1. Introduction

This user manual provides comprehensive instructions for the installation, operation, and maintenance of your BAFANG 48V 500W Rear Hub Motor Conversion Kit. This kit is designed to transform a standard bicycle into an electric bicycle, offering enhanced power and efficiency for various riding conditions.

The kit includes a 48V 500W geared brushless rear hub motor, a controller, brake levers, a thumb throttle, a PAS (Pedal Assist Sensor), necessary cables, and a headlight. Optional components such as a battery and LCD display are available to customize your e-bike experience.

Please read this manual thoroughly before installation and use to ensure proper function and safety.

2. Product Overview

The BAFANG 48V 500W Rear Hub Motor Conversion Kit is engineered for robust performance and ease of integration. It is compatible with bicycles featuring disc brakes and a rear dropout width of 135-142 mm, specifically designed for cassette-type freewheels (up to 9-speed).

Figure 2.1: Complete BAFANG 48V 500W Rear Hub Motor Conversion Kit showing the motor wheel, controller, display, battery options, and various sensors and levers.

Figure 2.2: Diagram illustrating compatibility requirements (135-142mm dropout, disc brakes, cassette) and key motor specifications including 40 KM/h max speed, 65 N.m max torque, IPX5 water resistance, and 75% efficiency.

Key Features:

- **Powerful Motor:** 48V 500W geared brushless rear hub motor with a maximum torque of 65 N.m and efficiency of ≥75%.
- **High Speed:** Capable of reaching speeds up to 35 KM/h.
- **Compatibility:** Designed for bicycles with 135-142 mm rear dropout width and disc brake systems. Supports cassette freewheels up to 9 speeds.
- **Customizable Display:** Choose from various LCD display models (e.g., 500C, Bafang DPC18, EKD01) to monitor riding data.
- **Flexible Battery Options:** Compatible with different battery types (e.g., G70, Standard Downtube, Max Downtube, Rear Rack Battery) to suit installation and range needs.
- **Multiple Riding Modes:** Supports three working modes for versatile riding experiences.

3. Setup and Installation

3.1. Package Contents

Before beginning installation, verify that all components are present in your package:

- BAFANG 48V 500W Rear Hub Motor with Rim & Spokes
- Controller
- Controller Box
- Brake Levers
- Thumb Throttle
- PAS Sensor (Pedal Assist Sensor)
- Motor Extension Cable
- 1T4 Cable (main wiring harness)
- Headlight
- Stickers
- User Manual (this document)

Note: The cassette (freewheel) and battery are not included in the standard kit and must be acquired separately if not opted for during purchase. Tires of 1.5"-2.4" are recommended for this motor rim.

3.2. Compatibility Check

Ensure your bicycle meets the following requirements:

- **Rear Dropout (Fork) Width:** Your bicycle's rear dropout should measure between 135-142 mm.
- **Brake System:** The kit is designed for bicycles with disc brakes. If your bicycle uses V-brakes, please contact the seller for alternative solutions.
- **Cassette Compatibility:** The motor hub is compatible with cassette-type freewheels (not freewheel type) with up to 9 speeds.

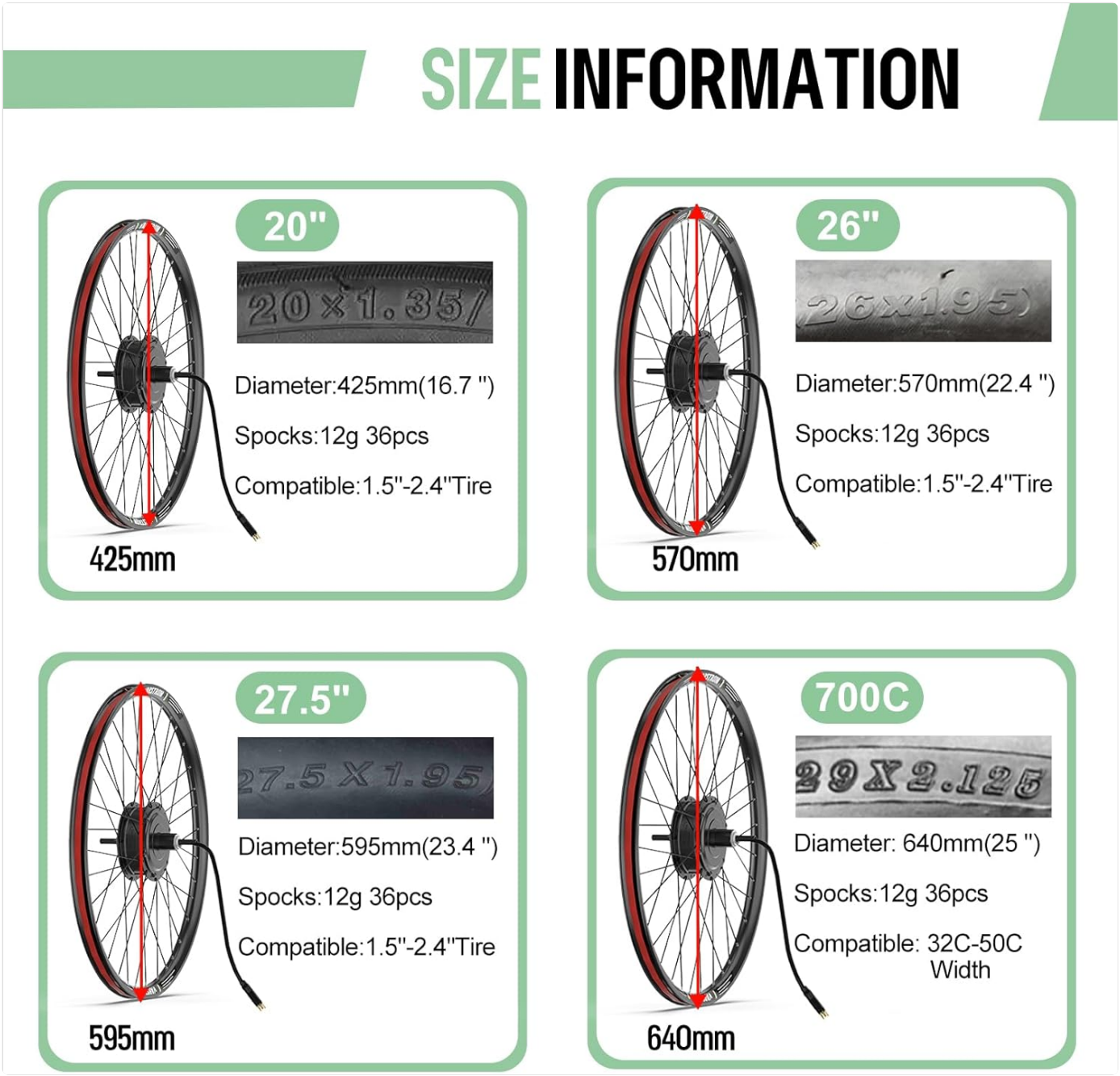


Figure 3.1: Available wheel sizes for the motor kit, including 20", 26", 27.5", and 700C, with corresponding diameters and tire compatibility.

3.3. Installation Steps

Follow these general steps for installation. Refer to the wiring diagram for specific connections.

1. **Prepare the Bicycle:** Remove the existing rear wheel and any associated components (e.g., cassette, brake rotor).
2. **Install Cassette and Brake Rotor:** Attach your cassette and disc brake rotor to the new BAFANG motor wheel. You will need a cassette tool and chain whip for this step.
3. **Mount the Motor Wheel:** Install the BAFANG motor wheel into the rear dropout of your bicycle, ensuring the dropout width is within the 135-142 mm range. Secure it properly.
4. **Install Controller and Box:** Mount the controller inside the provided controller box and secure it to your bicycle frame, typically near the bottom bracket or on the downtube.
5. **Install PAS Sensor:** Attach the Pedal Assist Sensor (PAS) to the crank arm or bottom bracket area. Ensure it is correctly aligned to detect pedal rotation.
6. **Install Brake Levers and Throttle:** Replace your existing brake levers with the provided e-bike brake levers (which include motor cut-off switches). Install the thumb throttle on the handlebar.
7. **Install Display (Optional):** If using a display, mount it on the handlebar.

8. **Install Headlight:** Mount the headlight on the front of your bicycle.
9. **Connect Wiring:** Carefully connect all components using the 1T4 cable and motor extension cable. Refer to the wiring diagram below. Ensure all connections are secure and properly seated to avoid errors (e.g., Error 08 for poor motor cable contact).
10. **Install Battery (Optional):** Secure your chosen battery to the bicycle frame (downtube or rear rack, depending on battery type) and connect it to the system.
11. **Cable Management:** Route and secure all cables neatly using zip ties or cable wraps to prevent snagging and damage.

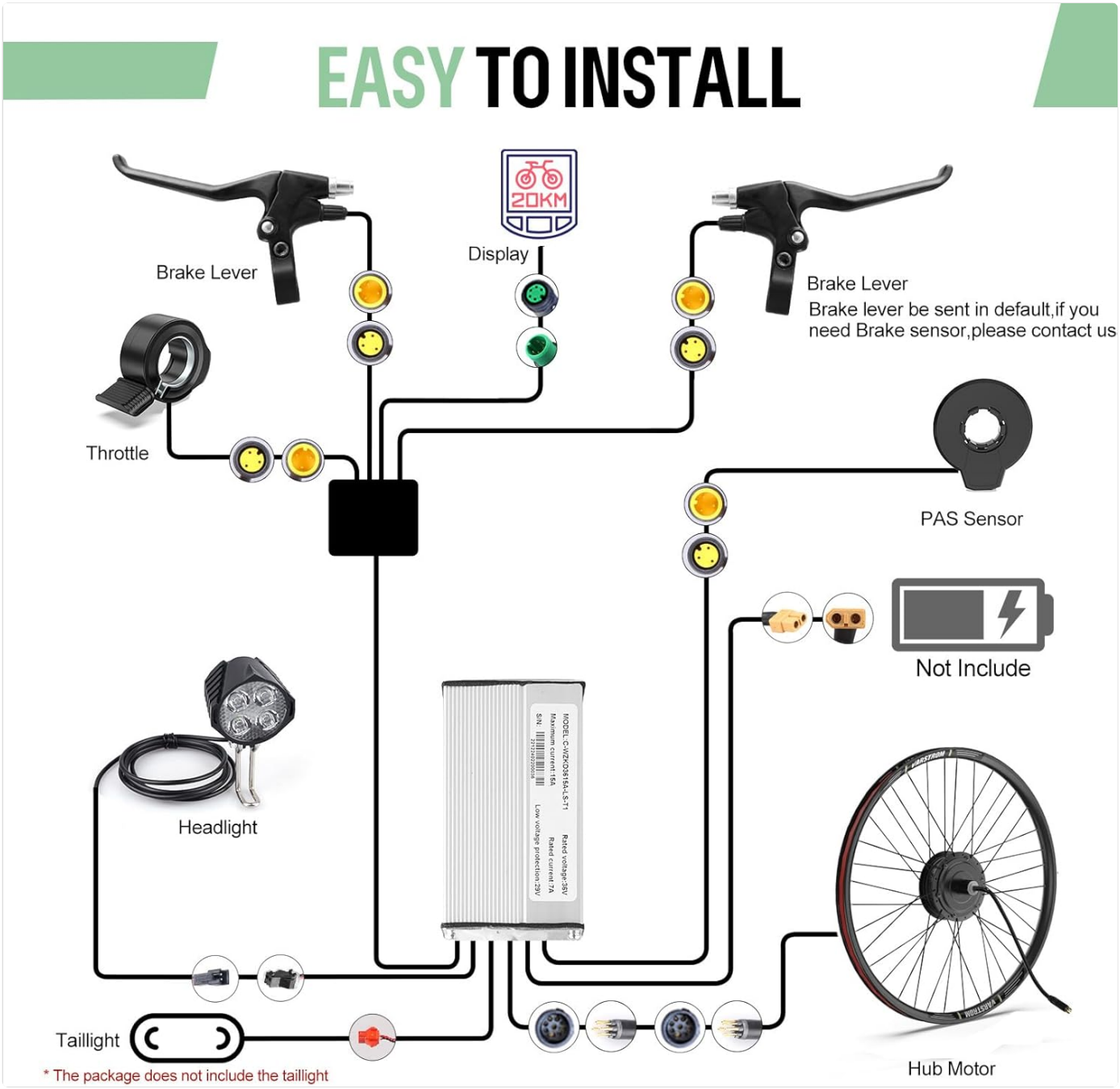


Figure 3.2: Simplified wiring diagram showing connections between the hub motor, controller, display, brake levers, throttle, PAS sensor, headlight, and optional taillight.

Figure 3.3: Diagram illustrating the placement of various kit components on a bicycle, including the rear cassette hub motor, pedal sensor, controller box, headlight, 1T4 cable, brake lever, thumb throttle, and optional display.

4. Operating Your E-Bike Kit

4.1. Powering On/Off

To power on the system, ensure the battery is connected and fully charged. Press and hold the power button on your display unit (if applicable) or controller. To power off, press and hold the same button until the system shuts down.

4.2. Display Functions (Optional)

If you have an LCD display, it provides crucial riding information and allows for system configuration. Common display models include 500C, Bafang DPC18, and EKD01, each offering unique features.

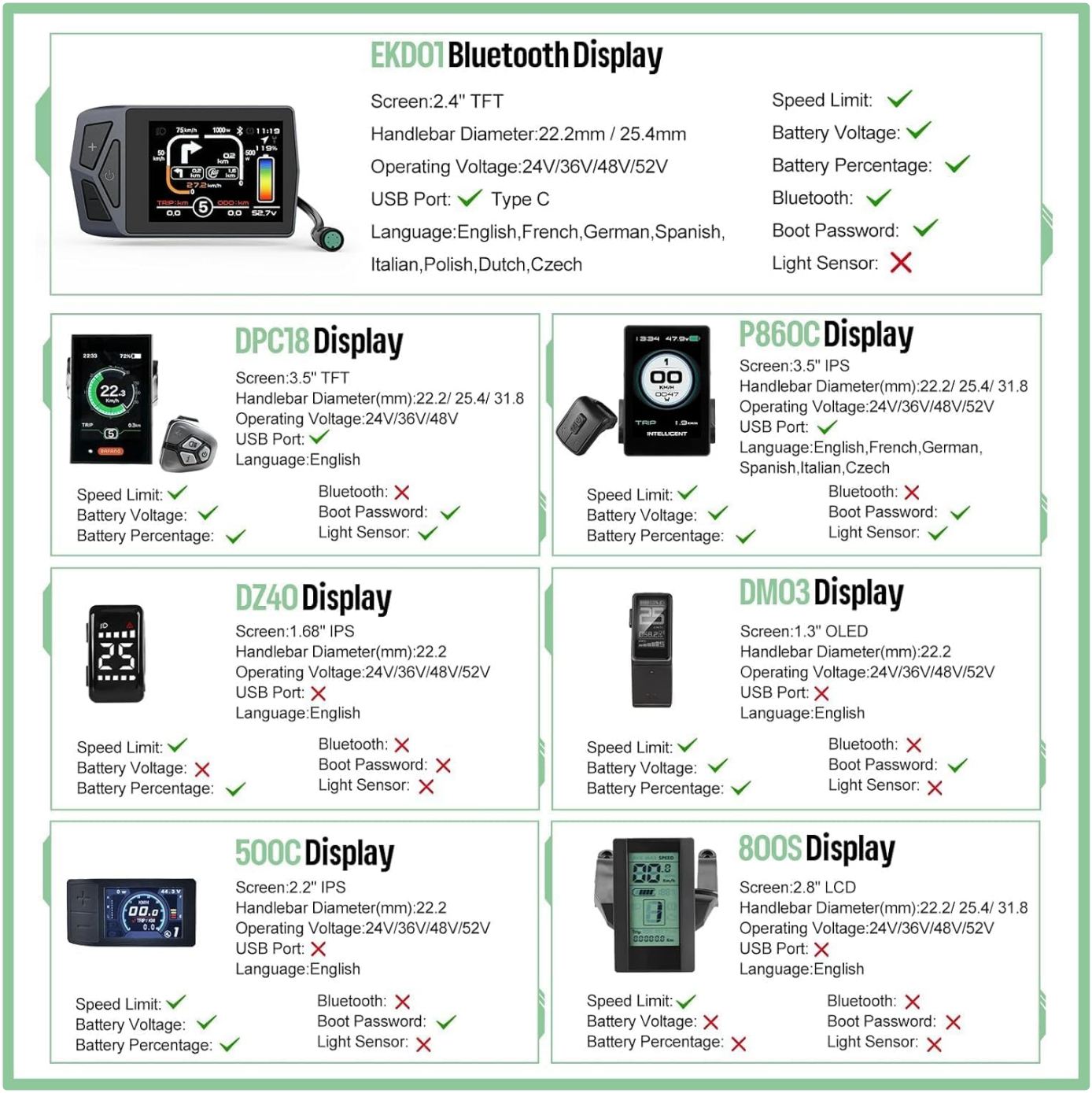


Figure 4.1: Overview of different BAFANG display options (EKD01, DPC18, P860C, DZ40, DM03, 500C, 800S), highlighting their screen size, handlebar diameter compatibility, operating voltage, USB port availability, language options, Bluetooth, boot password, and light sensor features.

Typical display functions include:

- Current Speed, Average Speed, Max Speed
- Trip Distance, Odometer
- Battery Level Indicator
- Pedal Assist Level (PAS) Selection
- Error Codes (if any)
- Headlight Control

Consult your specific display's manual for detailed operation and settings.

4.3. Riding Modes

The kit supports three primary working modes:

- **Pedal Assist Mode (PAS):** The motor provides assistance based on your pedaling input. The level of assistance can usually be adjusted via the display.
- **Full Electric Mode (Throttle):** The motor provides power directly via the thumb throttle, without requiring pedaling.
- **Normal Bicycle Mode:** The motor is off, and the bicycle functions as a standard pedal-powered bike.

4.4. Battery Usage (Optional)

If you have purchased a battery with your kit, ensure it is fully charged before your first ride. Different battery capacities and form factors are available to suit various needs.

Type	48V 13Ah	48V 17.5Ah	48V 19.2Ah	48V 20Ah
Watt Hour	624Wh	840Wh	921.6Wh	960Wh
Battery Cell	18650 2600mAh	L-G 18650 3500mAh	LG 21700 4800mAh	Sam-sung 21700 5000mAh
BMS	30A	30A	30A	30A
Charge voltage	54.6V	54.6V	54.6V	54.6V
Size（L*W*H）	365*90*110mm	365*90*110mm	365*90*127mm	365*90*127mm
Weight	4.25kg	4.25kg	5.0kg	5.0kg
USB Port	✓	✓	✓	✓
Cycle Life	1000 times			
Protection Function	Over charge, Over discharge,Over current, Short circuit, Balance			

Type	52V 20Ah	48V 20Ah	48V 17.5Ah
Watt Hour	1040Wh	960Wh	840Wh
Battery Cell	Sam-sung 21700 5000mAh	Sam-sung 21700 5000mAh	18650 2500mAh
BMS	30A	35A	30A
Charge voltage	58.8V	54.6V	54.6V
Size（L*W*H）	368*95*125mm	365*105*140mm	476*162*89mm
Weight	5.15kg	5.2kg	7.23kg
USB Port	✗	✓ USB & Type-C Fast Charge	✓
Cycle Life	1000 times		
Protection Function	Over charge, Over discharge,Over current, Short circuit, Balance		

Figure 4.2: Detailed specifications for various 48V and 52V battery options, including Watt-hours, battery cell type, BMS, charge voltage, size, weight, USB port availability, and cycle life. Options include Shark Battery (downtube) and Rear Rack Battery.

Always use the charger provided or recommended by BAFANG for your battery. Avoid overcharging or completely draining the battery to prolong its lifespan. Store the battery in a cool, dry place when not in use.

5. Maintenance

Regular maintenance is crucial for the longevity and optimal performance of your e-bike conversion kit.

- **Cleanliness:** Keep the motor, controller, and electrical connections clean and free from dirt, dust, and moisture. Use a damp cloth for cleaning; avoid high-pressure washing.
- **Cable Inspection:** Periodically inspect all cables and connectors for signs of wear, fraying, or damage. Ensure all connections are secure.
- **Brake System:** Regularly check the brake levers and disc brakes for proper function and wear. Ensure the motor cut-off switches on the brake levers are working correctly.
- **Tire Pressure:** Maintain correct tire pressure as recommended for your bicycle and riding conditions.
- **Battery Care:** Follow the battery manufacturer's guidelines for charging, storage, and discharge. Avoid extreme temperatures.
- **General Bicycle Maintenance:** Continue with regular maintenance of your bicycle's mechanical components, including chain lubrication, gear adjustments, and bearing checks.

6. Troubleshooting

This section addresses common issues you might encounter with your BAFANG e-bike conversion kit.

Problem	Possible Cause	Solution
Motor not assisting / No power	Battery not charged or connected Loose electrical connections Brake levers engaged (motor cut-off) PAS sensor misalignment or damage Display error code	Check battery charge and connection. Inspect all cables, especially the motor extension cable and 1T4 cable, for secure connections. Ensure brake levers are fully released. Verify PAS sensor alignment and cleanliness. Check display for error codes and consult display manual.
Error Code 08 on Display	Poor contact or issue with the motor cable connection.	Check the motor cable connection to the controller. Ensure it is fully seated and not under strain. Disconnect and reconnect to ensure good contact.
Inconsistent or jerky assistance	PAS sensor issues Loose connections	Check PAS sensor for proper installation and alignment. Inspect all wiring connections for looseness.
Display not turning on	Battery low or disconnected Loose display cable	Charge battery and ensure it's connected. Check the display cable connection to the 1T4 cable.

If you encounter persistent issues not covered here, please contact BAFANG customer support or your seller for assistance.

7. Specifications

Motor Specifications:

- **Nominal Voltage:** 48V
- **Nominal Power:** 500W

- **Maximum Torque:** 65 N.m
- **Position:** Rear Cassette Wheel
- **Construction:** Geared Brushless Motor
- **Efficiency:** ≥80%
- **Noise Grade:** <55 dB
- **Operating Temperature:** -20 to 45 ℃
- **Max Speed:** Approximately 35 KM/h

General Kit Specifications:

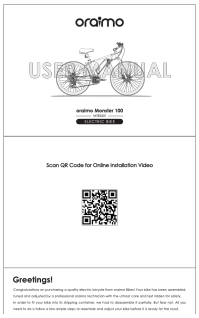
- **Model Number:** LC G020 48V500W RDC + BAT DZ
- **Bicycle Type Compatibility:** Aluminum Alloy Bicycle
- **Brake Type Compatibility:** Disc Brake
- **Color:** Black
- **Material:** Aluminum
- **Number of Speeds (Cassette):** Up to 9 speeds
- **Wheel Sizes:** 20, 26, 27.5, 28, 700C Inches (depending on variant)
- **Installation Width (OLD):** 135-142 MM

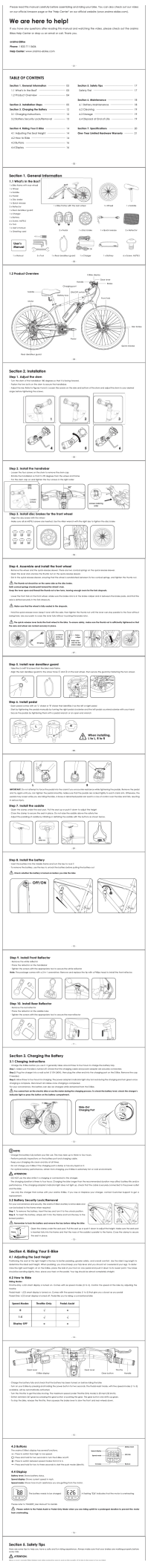
8. Warranty and Support

For warranty information and technical support, please refer to the terms provided by your original point of purchase or contact the seller directly. Keep your purchase receipt as proof of purchase.

For general inquiries or further assistance, you may also visit the official BAFANG website or contact their customer service channels.

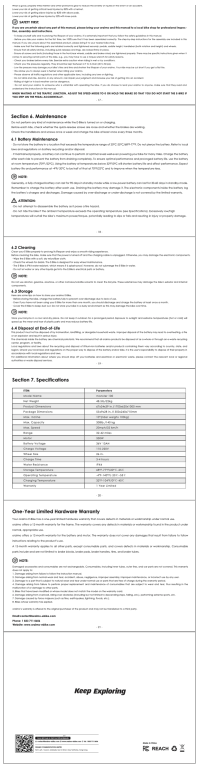
Related Documents - LC G020 48V500W RDC + BAT DZ

MANUALE D'USO BICI ELETTRICHE A PEDALATA ASSISTITA C019	Manuale d'Uso Bici Elettriche C019: Guida Completa e Specifiche Tecniche Guida completa per la bicicletta elettrica a pedalata assistita C019 di SKILLEDBIKE. Include istruzioni d'uso, manutenzione, ricarica batteria, garanzia e specifiche tecniche dettagliate.
	



[Oraimo Electric Bike for Adults User Manual - Flat Iron Bike]

Comprehensive user manual for the Oraimo Electric Bike for Adults, featuring a 350W BAFANG motor, 4A 3H fast charge, UL certified battery, 26" mountain ebike design with Shimano 21-speed gears, and an air saddle. Includes specifications, operation, safety, and maintenance guidelines.

	
	[Bafang Go APP: User Instructions and Guide] Comprehensive instructions for using the Bafang Go APP, covering features like eBike connection, ride tracking, settings customization, and technical support. Designed for optimal user experience and SEO.
	[Party Tent Assembly Instructions] Comprehensive assembly instructions for the 6x9 M (20x30 FT) Party Tent, detailing parts in four boxes with item numbers, references, and quantities. Includes contact information for assistance.
	[GECI Red Diamond Hybrid Charge System - Technical Specifications and Features] Detailed information on the GECI Red Diamond Hybrid Charge System, including features, technical specifications for various models (RDC-12KW-C3 to RDC-36KW-C5), and the GECI BMOD-T Multi-Functional Module. Learn about its capabilities for lead-acid and lithium batteries.
	[Bafang Go+ App Manual for Lekker eBikes] User manual for the Bafang Go+ app, detailing how to download, connect, and use features like homescreen information, navigation, and troubleshooting for Lekker eBikes.