CONTENT

1 IMPORTANT INSTRUCTIONS

Please carefully read all warnings and notes in this user manual before using the Pedelec. We recommend keeping the manual close to your Pedelec, so that it is always at hand.

This operating manual contains four different types of pointers – one providing important information about your new Pedelec and how to use it, one referring to possible damage to property and the environment, and a third type warning against potential falls and serious damage, including physical injury. The fourth one recalls that it is necessary to study the user manual and the assembly instructions carefully.

When you see these symbols, there is always a risk that the danger described may occur.

The warnings break down as follows:

Note: This symbol provides information about how to use the product or highlights specific parts of the user manual that are particularly important.

Attention: This symbol warns of misuse which could result in damaging the product or the environment.

Danger: This symbol indicates possible dangers to your health and life that could arise if specific actions are not made or corresponding care is not taken.

User Manual: Read all of the instruction manuals delivered with the bicycle. If you are unsure about any of the topics addressed in this handbook, contact a Pedelec specialist dealer and ask for help.

2 INTRODUCTION

This part of the operating manual gives you detailed information about the motor's electrical components. General information concerning e.g. the bike's technology and how to ride your Pedelec is located in the other instruction manual.

In order to use the bike lawfully, a mandatory operating manual for the bike's technology (according to the ISO standard 4210:2014) must be enclosed and passed on to you.

Before getting started, read the original user manual and the general Pedelec operating instructions carefully. The manufacturer accepts no liability for damages resulting from non-compliance with these instructions. Your Pedelec must only be used in accordance with its intended use.

Any other use may lead to technical failures and accidents. Liability for defects and warranty will be void in case of improper use.

3 SAFETY INSTRUCTIONS

3.1 General Information

When using this product, be sure to follow the instructions given in the user manual.

Please ensure you read the chapters “Before the first ride” and “Before each ride” of the general user manual before using the Pedelec for the first time.

- If you lend your Pedelec to a third party, please give them this operating manual along with the Pedelec.
- After reading the user manual carefully, keep it in a safe place for later reference.

3.2 For Your Safety

Always apply the Pedelec’s brakes before placing your foot on the pedal. The motor will drive forward as soon as you push down the pedal. This force may be unfamiliar and can lead to falls, danger or even traffic accidents, which could result in injury.

- Do not pay too much attention to the cycle display while riding, otherwise you may cause an accident.
- When riding a Pedelec, make sure that you are fully familiar with the starting characteristics of the Pedelec before riding it. If the Pedelec starts off suddenly, accidents may occur.
- Neither the bike nor the motor may be tampered with to increase the speed or performance of the bicycle. Even the application of tuning kits or modifying the gear transmission is not permitted.

3.3 Pedelec tuning is prohibited

Do not modify the Pedelec’s technology in any way. Manipulating the bike in any way to increase performance or speed can lead to legal problems and/or make the bike less safe to ride.

Possible legal implications:

- The Pedelec is required by law to be registered for approval and insured. All legal requirements regarding the bike’s configuration and as stated by the road traffic licensing authority must be adhered to.
- The manufacturer does not offer any kind of guarantee, warranty or liability.
- Criminal consequences cannot be ruled out. For instance, a negligent bodily injury may result in a legal offense.
- Termination of bicycle insurance.

Possible technological implications:

- Tampering with the bike’s technology may limit its capabilities, cause defects or break the bike parts.
- The motor and battery may become overloaded and extremely overheated. Consequences: Irreparable damages and risk of fire.

The breaks and other parts may become over-worked. Consequences: Malfunction, overheat-ing, increased wear and tear.

3.4 Installation and Maintenance

The electrical system of your Pedelec is very powerful. If you notice any damage to the electrical system, remove the battery immediately. After a fall or accident, live components may be exposed. If you have a question or problem, please contact your dealer. A lack of expertise can lead to serious accidents.

Before performing any kind of work on your Pedelec, turn off the electric unit and remove the battery. Not doing so may result in serious injury and/or electric shock.

Only perform operations described in this manual. Do not interfere with or modify the system. No modules may be disassembled or opened. If in doubt, always contact a specialist dealer.

Replace parts that are defective or worn, such as the battery, charger, cable, with original spare parts produced by the manufacturer or parts recommended by the manufacturer. Otherwise, the warranty and/or manufacturer's warranty will be voided. If non-original or incorrect spare parts are used, the Pedelec may not function correctly. In the event of a defect, contact an authorized dealer who carries out repairs with original spare parts only.

Improper operation of the drive system and changes made to the battery, charger or drive may result in injury or costly damage. In this case, the manufacturer declines any liability for the damage incurred. Changes to the electrical system may result in criminal prosecution. This may be the case if the maximum supported speed is modified.

3.5 Safety Instructions

- Follow the instructions described in the operating manual while riding your bike.
- Regularly examine the battery charger for damage, especially the cable, plug and casing. If the battery charger is damaged, it must not be used until it has been repaired.
- This product is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lacking the required experience and knowledge, unless supervised or having received instructions concerning use of the product by a person responsible for their safety.
- Do not allow children to play near the product.
- Contact a retailer if you notice any errors or problems with your bicycle.
- Do not modify the system yourself. Doing so may lead to system malfunctions.
- The product is designed to be fully waterproof so as to withstand wet weather riding conditions. However, do not deliberately immerse it in water.
- Do not clean the Pedelec using a high-pressure cleaner. If water gets into any of the components, operating problems or rusting may result.
- When transporting the product on a high-speed vehicle exposed to rain, remove the battery and store it in a safe place to stop it from getting wet.
- Handle the product carefully, and avoid subjecting it to any strong impacts.
- Important information given in the user manual may also be found in product labels.

- When using or giving out a spare key for the battery, be sure to provide the number on the battery key. Please keep the number in your mind or your notebook.
- Use a wrung-out damp cloth to clean the battery casing.
- For any questions regarding maintenance and use of the product, please contact the dealer where you bought the product.
- Natural wear and tear due to normal use and aging is not within our scope of our quality warranty.
- Please contact your dealer for software updates. The newest information on soft ware will be available on the homepage of BAFANG website: www.bafang-e.com
- Please get to know the Pedelec on a safe piece of land before setting off on your first ride!
- Wear bright protective clothing.
- You are required by law to wear a helmet while riding an S-Pedelec.

3.6 Legal Regulations

Know your country's road traffic regulations and follow them accordingly.

Before riding your Pedelec on public roads, read up on the national regulations applicable in your specific country. Turn to your road traffic licensing authority for information on how your Pedelec must be equipped when operated on public roads.

The following (and additional) information also applies:

- Which light systems have to be installed or carried with you?
- Which brakes must the Pedelec be equipped with?
- There may also be age restrictions that apply to riding in specific areas.
- For example, the issue of children riding on public roads is addressed here.
- If there is an obligation to wear a helmet, it is stated here.

3.7 Intended Use

The electrical components of the BAFANG M400 Drive System are designed for use with Pedelec motors only and may not be used for any other purposes.

The BAFANG M400 Drive System with a performance of 250 watts is only to be used in combination with e-bikes. Designed and approved for Pedelecs or EPACs. It is designed to be used with city and trekking bikes. It can also be used with mountain bikes. It should not be used for competitions or commercial purposes.
The Max Drive System with a performance of 350 W is designed and approved for S-Pedelecs only. It is designed to be used with city and trekking bikes. It can also be used in mountain bikes. It is not permissible to use it for competitions or commercial purposes.

3.8 Quick start

In this section, you will find important information and instructions that will enable you to safely use your Pedelec as quickly as possible.

Read the safety instructions first and inform yourself on the legal regulations which apply to you.

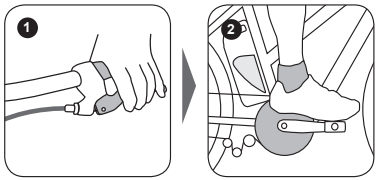
Perform all of the security checks as instructed under the section “Before each ride”.

Read the instructions on how to charge the battery in the chapter “Charging the Battery”.

- Charge the battery until it is fully charged.
- Insert the battery.
- Lock the battery.
- To start the system, push the “ ⏻ ” button on the operating unit.
- Select the desired support level via the control unit.

→ The Pedelec is now ready for operation.

Always squeeze the brakes of your Pedelec before placing a foot on the pedal! The motor starts propelling as soon as you step on a pedal. This boost is unusual and can lead to falls or cause dangerous traffic accidents and injury to occur.



3.9 Before the first ride

- Before each ride, fully inspect the bike as described in the operating manual under the section “Before each ride”.
- Charge the battery until it is fully charged.
- Make sure that the battery is sitting securely in its place and is locked into place.
- Please ensure that your Pedelec is ready for use and is adjusted to your body.

Practice operating and riding your Pedelec in a calm and safe place before you take to public roads.

Please also consult the additional user manuals, issued by the individual component manufacturers and which were supplied with your Pedelec or are available online.

3.10 Before Each Ride

Do not start riding your bike if you think your Pedelec may not be in perfect condition. Have a retailer check your bike. Be sure to have a specialist check all of the bike’s important parts on a regular basis, especially if you ride your Pedelec intensively. A component may suddenly malfunction if you use it beyond its lifespan or recommended period of use. This may lead to accidents and serious injury.

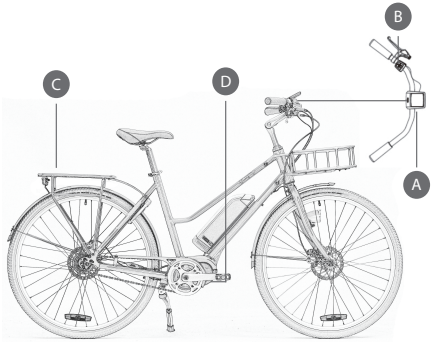
Before each ride, fully inspect the bike as described in the operating manual under the section “Before each ride”.

Please make these checks before continuing after a fall or if your Pedelec has fallen over. Aluminum parts cannot be safely bent back into shape, while carbon components can sustain damage which is not recognizable to the eye.

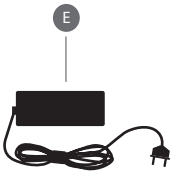
4 ELECTRICAL COMPONENTS

Modern Pedelec technology is high-tech! Working on bicycle parts therefore requires expert knowledge, experience and specialist tools! Do not work on your Pedelec by yourself. Take your Pedelec to a specialist workshop if it is in need of repair, maintenance or restoration.

4.1 Summary of the Components



A Display
B Control panel
C Battery
D Drive unit
E Charger



4.2 Important Instructions

The electrical system of your Pedelec is very powerful. If you notice any damage to the electrical system, remove the battery immediately. After a fall or accident, live components may be exposed. If you have a question or problem, please contact your dealer. A lack of expertise can lead to serious accidents.

Before performing any work on your Pedelec, disconnect the electrical system and remove the battery.

Do not clean the Pedelec with a steam jet, high-pressure cleaner or water hose. Water may seep into the electrics or drive and destroy the equipment.

The operating temperature should be between -15 °C and +60 °C. The recommended storage temperature is between -20 °C and +35 °C.

Only perform operations described in this manual. Do not change the device. No modules may be disassembled or opened. If in doubt, always contact a specialist dealer.

Replace parts that are defective or worn, such as the battery, charger, cable, with original spare parts produced by the manufacturer or parts recommended by the manufacturer. Any guarantee or liability rights may otherwise become void. If non-original or incorrect spare parts are used, the Pedelec may not function correctly. In the event of a defect, contact an authorized dealer who carries out repairs with the required spare parts only.

Improper operation of the drive system and changes made to the battery, charger or drive may result in injury or costly damage. In this case, the manufacturer declines any liability for the damage incurred. Changes to the electrical system may result in criminal prosecution. This may be the case if the maximum supported speed is modified.

4.3 Display Screen and Control Panel

The 5-button on the external control panel allows you to easily operate the power unit and the display. You can program some of your Pedelec's settings and inform yourself on e.g. your maximum and average speed, daily kilometers, total kilometers, the charge status of the battery, etc. If an error occurs in the system, it will appear on the display screen.

Display Screen

Control Panel

4.3.1 Functions Overview

- Use of a two-way serial communication protocol, simple operation of the display via the external 5-key keypad.
- Speed display: displaying the real-time speed as SPEE D, the maximum speed as MAXS and the average speed as AVG.
- Km or mile: The user can choose between km and mile.
- Intelligent battery level indication: With an optimization algorithm, a stable display of the battery level is ensured, and the problem of fluctuant battery level indication common with other displays is avoided.
- Automatic light-sensitive lights: The headlight, taillight and display backlight will be automatically turned on/ off depending on lighting conditions.
- 5 levels off display backlighting: Different levels, leave 1 is most dark, level 5 is highest light.
- 6-Level-Support: setting power Levels 0 to 5.
- Trip distance indication: The maximum distance displayed is 99999. Single-trip distances TRIP or the total distance TOTAL can be displayed.
- Intelligent display: including motor output power W for riding, Remaining miles TO GO, consumption of energy (calories) C.
- Display of error messages
- Walk assistance
- Settings: Various parameters, e.g. mode, wheel diameter, speed limit etc., can be set on the computer via a communication cable. See the setting.
- With Bluetooth module: Can connect to an send message to phone, and phone can display complete information of the entire cycle.
- Maintenance warning (this function can be deactivated): Maintenance warning information is- dis played based on battery charge cycles and riding distance. The display automatically estimates the battery life and gives warnings when the number of charge cycles exceeds the set value. A warning will also be displayed when the accumulated total riding distance exceeds the set value.

→ This function can be deactivated. Contact a retailer if you have any questions.

4.4 Battery

Model numbers: SF-06S

Battery

Read the indications printed on the external label of the battery before using the battery.

Only use the original battery charger when charging the battery.

- The battery is not fully charged when delivered. Recharge the battery completely before the first use and before storing.
- Under normal operating conditions, immediately charging the battery after each use will increase the battery's lifespan. Never allow your battery to drain completely. Recharge your battery even after using it for a short time.
- Do not charge the battery for longer than the charging time listed in the Specifications table.
- If the battery is completely discharged, charge it as soon as possible. Leaving the battery uncharged for long periods of time will damage its capacity.

4.4.1 Safety Instructions

Risk of fire or explosion if battery is used with an incompatible system.Do not open, disassemble or pierce battery due to risk of short circuit, fire or explosion. In case of drop, shock or similar event, do not continue to use battery and return immediately for examination. Only use the original charger as supplied with battery due to risk of fire or explosion. Disposal of used batteries should follow locally enforced regulations. Please carefully read manual before use.

The battery should always be kept out of reach of children.
Do not allow children to remove the battery from the Pedelec or the charger, or to play with it.

Do not touch a leaking battery. Leaking electrolytes can cause skin discomfort. If battery acid comes in contact with eyes, do not rub them. Wash your eyes immediately with clean water. Contact the hospital for further treatment.

Faulty batteries will cause overheating, smoking or burning.
Distance the battery from cell phones or chargers if it is hot to the touch, leaking or odorous, and dispose of it (see chapter ("Environmental protection tips").

Do not disassemble the battery.
The battery contains protective components and will internally short-circuit to avoid danger. Mishandling, such as improper disassembly, may destroy its protective functions and cause it to overheat, smoke, distort or burn.

Do not intentionally short-circuit the battery.
Do not touch or connect the plus and minus contact with metal. Do not allow the battery to come into contact with metal elements in storage or in use. If the battery becomes short circuited, the electrical currents become higher. This can lead to the battery becoming damaged, overheating, rupture, deformation or fire.

Do not heat or burn the battery.
An overheated or ignited battery may lead to isolated parts becoming destroyed inside, loss of protection, or the electrode becoming overheated or ignited. All of these consequenc es may lead to the battery overheating, rupturing or igniting.

Avoid using the battery near a heat source.
Do not use the battery near an open flame, oven or in temperatures over 60 °C. High temperatures can cause the battery to short-circuit.

Avoid charging near exposed flames or in direct sunlight.
Doing so may cause the internal protection function to short-circuit and lead to abnormal chemical reactions or functional faults, which will lead to overheating, smoking, distortion or burning.

Do not damage the battery.
Do not allow the battery to be gouged, forged or dropped, as this may cause it to overheat, distort, smoke or burn, and result in danger for the user. Never put the battery under water.

Do not charge the battery directly off the power socket or a car cigarette lighter.
High voltage and amplified current will damage the battery and reduce its life cycle, as it will overheat, distort, smoke or burn.

4.4.2 Storing the Battery

If you do not use your Pedelec for an extended period of time, remove the battery, charge it (60-80%) and store it separately in a frost-free, dry room.

- Avoid direct sunlight. This can lead to overheating, distortion, rupturing, poorer performance and a shorter lifespan of the battery.
- To prevent deep discharge, the battery will go into sleep mode after a certain time.
- Do not expose the battery to temperatures below the permissible storage temperature of -10 °C to 35 °C. Note that temperatures of around 45 °C are common near heaters, in direct sunlight or in overheated vehicle interiors.
- When storing the battery for a long period, make sure it is charged to at least half its capacity, and charge it again three months later. Do not wrap it with conductive material, as to do so will cause damage due to direct contact between the metal and the battery.

If you notice the battery becoming hot during use, charging or storage, developing a strong odor, changing appearance, or any other abnormality, do not continue to use the battery. Immediately stop using the battery and have a dealer check it before you use it again.

4.4.3 Battery Wear

The battery can be charged approx. 500 times. The battery capacity decreases during this time, making the battery drain faster despite the use of the Pedelec's motor support. This does not constitute a defect. You should then replace the battery. If the range is still sufficient, you can continue to use it.

The battery life depends on various factors:

- The number of charging operations (about 500 charging cycles)
- The age of the battery
- Storing and Operating Conditions

Of course, your battery will lose capacity even if you do not use the battery.

The lifetime of your battery can be influenced by the following measures:

- Charging your Battery after every ride, even short trips. Lithium-ion batteries are not subject to a memory effect.
- Avoiding driving in high gears with high levels of push-assistance

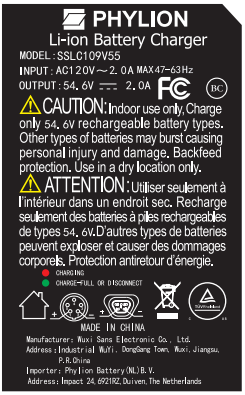
4.5 Charger

The charger is specially designed for charging lithium-ion batteries. It is equipped with an integrated fuse and protection against overcharging.

Charger

4.5.1 Operating Instructions

Read the indications on your charger's external label before using the battery.



Label

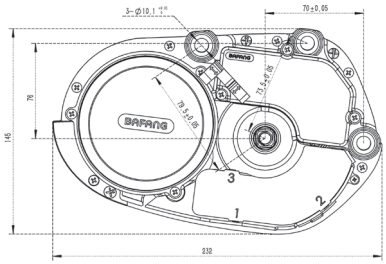
To minimize the risk of electric shock, you should never open the charging device. Maintenance work should only be done by qualified service workers. Make sure to read the information about your battery charger before ever charging your battery! Unplug the charger before attaching or removing the battery from the charger. Flammable gases can leak out. Prevent flames and sparks.

Keep the charger away from children and animals. Small children and animals may damage the cable while playing. This can lead to an electric shock, a malfunction or a fire.

- The charger must not be used by children, or by persons with limited physical, sensory or mental capabilities, unless under the supervision of a qualified adult.
- Make sure the charger is clean. There is a risk of electric shock.
- Do not use your charger in humid or dusty places.
- Avoid direct sunlight.
- Disconnect the charger from the power supply when not in use.
- Only use the charger that came with your Pedelec or one which is authorized by the manufacturer.
- Don't cover the charger while it is in use. It could otherwise short circuit or cause a fire.
- When you clean the charger, unplug it from the electrical socket first.
- Stop charging the battery if the charging cycle is taking longer than the length listed in the Specifications table.
- After ending the charging cycle, remove the battery from the charger and unplug the charger.

4.6 Drive unit (mid-drive motor)

Your Pedelec is equipped with a mid-drive motor (Pedelec: 250 W). The power unit is located above the bottom bracket.



Mid-drive motor

The motor will drive forward as soon as you push down the pedal. The power assistance level varies depending on its settings. The drive unit turns off as soon as you have stopped peddling or have reached maximum speed (Pedelec: 25 km/h). The support is automatically reactivated as soon as the speed is below the maximum support speed and you reapply pressure to the pedal.

Keep in mind that the motor of your Pedelec can heat up during long uphill runs.Do not touch the motor, as you may get burned.

Note that if the road surface and the support bracket are slippery (e.g. due to rain, snow, sand), there is a risk that the drive wheel of your Pedelec may rotate and slide.

5 OPERATION

5.1 Installing the Battery

For correct insertion, the battery must be inserted and locked from the rear of the casing as far as it will go. Without contact with the battery, the electric drive of your Pedelec will not work.

1. If your battery has an on/off switch, always turn off the battery before inserting it into the holder.
2. For the battery to be inserted, the lock must be unlocked. You can lock and unlock the battery by turning the key provided.

3. Slide the battery along the rail track as far as possible into the connection device.

4. Turn the key to lock the battery. Remove the key to avoid losing or breaking. it.

5.2 Removing the Battery

1. Turn off the electrical power unit system before removing the battery.
2. Unlock the battery.

3. Remove the battery from its holder.

Hold the battery tightly as it is heavy.

5.3 Charging the Battery

You can charge your battery both while mounted on the Pedelec and removed.

Lithium-ion batteries are not subject to a memory effect. You can recharge your battery at any time, even after short trips.

Charge your battery at temperatures between 0 °C and 45 °C (ideally at room temperature or 20 °C). Give the battery sufficient time before charging to reach this temperature.

Read the instructions on the charger before charging.

1. First insert the plug of the charging cable into the charging socket on the battery, then the plug the charger into a socket.
2. As soon as the charger is connected to the power supply, a red LED will light up.

3. When charging is complete, the LED changes from red to green.

Charging time depends on various factors. It can vary greatly according to the temperature, age, usage and capacity of the battery. Information about your battery's charging time can be found in the technical information regarding your battery.

When the battery is fully charged, the charging process is automatically terminated. Unplug the plug from the battery and the power outlet.

5.3.1 Safety Instructions

Only use the charger designed for the battery.

Make sure you use the correct mains voltage. The required mains voltage is indicated on the charger. It must comply with the voltage of the current source. Chargers marked 230V can also be operated at 220V.

- Do not touch the power plug with wet hands. There is a risk of electric shock.
- Note: Sudden temp erature increase can cause condensation to form on the battery. Avoid this by storing the battery in the same place where it is charged.
- Before use, check that the charger, cable and plug are not damaged. If damage occurs, do not use the charger. There is a risk of electric shock.
- Charge the battery in well-ventilated rooms only.
- Do not cover the charger and/or battery during charging. There is a risk of overheating, fire, or explosion.
- Only charge on a dry, non-flammable surface.

The battery has to be recharged completely at least every 3 months, in order to avoid damaging or destroying the cells.

If the charging cycle is taking longer than usual, the battery may be damaged. In this case, immediately stop charging. Have a dealer check the battery and charger to avoid damage.

5.4 Battery indicator **&** button instruction

5.4.1 Indicator light

As shown in the figure, from left to right, LED1, LED2, LED3, LED4, AND LED5, the LEDS has below connection with the SOC:

Nr	Capacity (SOC)	LED1	LED2	LED3	LED4	LED5
1	0%	Flash(200ms per cycle)	Off	Off	Off	Off
2	1-9%	Flash(1S per cycle)	Off	Off	Off	Off
3	10-19%	On	Off	Off	Off	Off
4	20-39%	On	On	Off	Off	Off
5	40-59%	On	On	On	Off	Off
6	60-79%	On	On	On	On	Off
7	80-100%	On	On	On	On	On

5.4.2 Bottom instruction

Under normal state(no abnormal phenomenon happens), with a short press, the LEDS will show the SOC

Initial state	Action	Description	Indicator	Phenomenon
Standby	One press	Active ,running	1)All LEDS are off first. 2)Then turn on one by one.	All LEDs are OFF
	Long press	Power down mode	Based on the one press , after press for 1S, LED1 and LED2 flash alternatively.	Power down mode
Running	One press	No response		
	Short press	Stand by (turn on)	All LEDs are ON first, then OFF one by one, last all are off.	
Charging	Charger connect	/	Show SOC, LED5 flash when charging (1S per cycle)	
	One press	/		
	Short press	/		
	Long press	/		
Protection	Protection active	/	5 LEDS flash slowly (1S per cycle)	Normal
	One press	/		
	Short press	/		
	Long press	Power Down		Power down mode
Error	Error happens	/	5 LEDS flash fast (200ms per cycle)	Normal
	One press	/		
	Short press	/		
	Long press	Power Down		
Power Down	Enter into Power down mode	LED1 and LED 2 flash alternatively, then power off after 3S	500ms per cycle	Normal
	One press	/		
	Short press	/		
	Long press	/		

5.4.3 Battery pack status characteristics

Status	FUSE	Output	State
1-Initial Status	Normal	Off	Bootload / Just turn on electricity
2-Standby Status	Normal	Off	Battery pack at normal shutdown status
3-Operating Status	Normal	On	Battery pack at shelving or charging status
4-Charging Status	Normal	On	Responsive charging
5-Protection Status	Normal	Off	There is the voltage, current or temperature protection, can not charge or discharge.
6-Power down Status	Normal	Off	Transport or long storage mode, after over-discharging.
7-Trouble Status	May fuse	Off	Serious failure, battery disable.

5.5 Switching the electrical system on and off

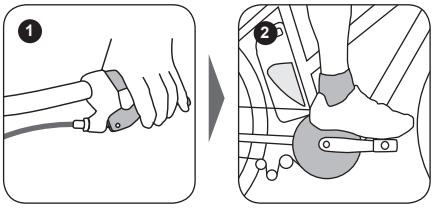
Push the "⏻" -button to turn on the electrical system. To turn it off, push and hold down the same button until the system turns off.

Conditions:

In order to activate and use your Pedelec, the following prerequisites must be fulfilled:

- A sufficiently charged battery must be used.
- The battery must be inserted correctly into the battery holder.
- The motor, control unit, battery, etc. must all be connected correctly.

Always squeeze the brakes of your Pedelec before placing a foot on the pedal! The motor starts propelling as soon as you step on a pedal. This boost is unusual and can lead to falls or cause dangerous traffic accidents and injury to occur.



The motor support is dependent on how fast or slowly you pedal. The faster you pedal, the higher the motor support level becomes. The motor stops supporting your ride once you stop pedaling. Motor support is reactivated as soon as you begin pedaling again.

If the battery of your Pedelec is equipped with an on/off switch, you can also press the switch on the battery.

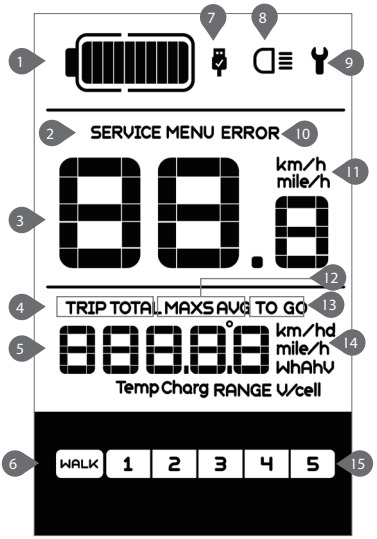
On/Off Operating Switch

6 DISPLAYS AND SETTINGS

6.1 Buttons on the control panel

- A „+"-button:Switches to a higher motor support level.
- B „–"-button:Switches to a lower support level.
- C On/off button for the lights: Pushing this button once turns on the bicycle lighting. Pushing it twice turns the lighting back off.
- D On/Off button: Turns the electrical system on and then off again.
- E Display mode: Switch between the differing displays and functions.

6.2 Indications on the Display Screen



1. Battery capacity indication
2. Maintenace warning
3. Main data indication
4. Trip data
5. Indication for history and battery data
6. Push asisstance
7. USB connection
8. Headlight indication
9. Malfunction warning
10. Error warning
11. Selection of speed unit
12. History of riding speed
13. Remaining range
14. Unit indication
15. Level indication

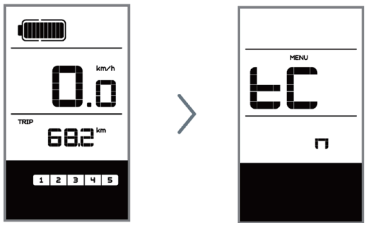
- Battery capacity indication: 10-segment battery indication; the voltage that each segment represents can be customized.
- Maintenance warning: When there is a need for maintenance the symbol SERVICE will be displayed (riding distance or the number of battery charge cycles exceed the set value, function can be deactivated).
- Main data indication: indicate the real-time speed and error code
- Trip data: the single-trip distance TRIP, the total distance TOTAL.
- Indication for history and battery data: indicate the history of riding and battery real-time data
- Push asisstance: Push and walk assistance at 6km/h
- USB connection: connect to USB charging port
- Headlight indication: only shows when headlight or backlight are on.
- Malfunction warning: When a fault is detected the symbol will be displayed.
- Error warning
- Selection of speed unit: display of the speed, km/h or mph.
- History of riding speed: average speed (AVG km/h), maximum speed (MAXS km/h).
- Remaining range:remaining distance TO GO.
- Unit indication: display of the distance depending on the setting.
- Level indication: The chosen level 1–5 will be displayed; if there is no numeric display, it means that there is no assistance (by the motor). If the rider is walking and pushing the e-bike, WALK will be displayed.

6.3 Basic Setting

Do NOT change the settings while riding your Pedelec.

6.3.1 General Rules for Handing Your Pedelec

- To access the mode for entering parameter setting, turn on the display and push the "i" button TWICE for longer than 0.3 seconds.
- You are now in the MENU for entering parameter settings. Your settings can be changed.
- To confirm the setting, briefly push the "i" button. By doing so, you will be directly shown the next setting and will be able to flip through your settings.
- To change between the various settings, briefly push the 'i" button.
- As soon as your preferred setting blinks, push the "+" button to increase the parameter value or the '−" to decrease the parameter value.
- After finally selecting your setting, you can go back to the main menu by pushing the "i" button TWICE for longer than 0.3 seconds again.
- If the changes to your settings have not been made after 10 seconds, the display re turns back to its normal operational settings



6.3.2 Resetting the Single-Trip Data

For this setting mode, “tC” will appear on the display.

- To delete the data referring to your last single trip (TRIP), the maximum speed (MAXS) and the average speed (AVG), push the “ + ” button (“y” will appear on the display screen).
- If you don’t manually reset your single-trip data, it will reset automatically after travelling longer than 99 hours and 59 minutes.

6.3.3 Distance Display in Kilometers/Miles

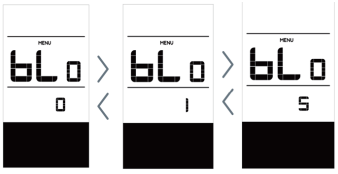
In this setting mode, “S7” will appear on the display screen.

- Push either the “ + ” button or the “ − ” button to change between km/h and mile/h.

6.3.4 Bicycle Lighting Sensor, Setting the Light Sensitivity

In this setting mode, “bL0” will appear on the display screen.

- Select a parameter value from 0-5 using either “ + ” or “ − ”. If you choose “0”, the sensor function turns off.
- The smaller the number, the darker it must be until the sensor for the bicycle lighting automatically turns on.



6.3.5 Brightness Display Lighting

In this setting mode, “bL1” will appear on the display screen.

- Select a parameter value from 1-5 using either “ + ” or “ − ”. 1 is the darkest background lighting, 5 is the brightest.

6.3.6 Turn Off Automatically

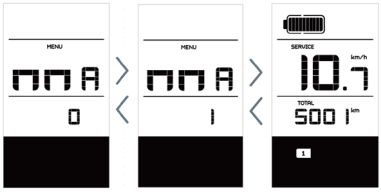
In this setting mode, “OFF” will appear on the display screen.

- Select a parameter value from 1-9 using either “ + ” or “ − ”. The numbers represent the minutes remaining until the electrical system automatically turns off.

6.3.7 Maintenance Indicator

In this setting mode, "nnA" will appear on the display screen.

- Press either the "+" button or the "−" button to choose the numbers "0" or "1". "0" deactivates the function. "1" activates the function and you'll receive a maintenance warning for your Pedelec.
- The maintenance indicator appears when you have reached a certain number of bat tery charge cycles (100 charges) and/or have travelled a certain distance (5,000 kilome ters). Whenever you turn on the display, the word "**SERVICE**" appears and then blinks for 4 seconds. The intervals can be adjusted individually by a manufacturer. They can also be adjusted at a later time by a retailer or manufacturer with an USB connection on a computer.



6.3.8 Information about the Battery Status

In this setting mode, "b01" appears on the display screen.

- In this mode, you can see all relevant data referring to your battery. To do this, push the "i" button for less than 3 seconds. The following information will be retrieved in this order:

Display	Information
b01	Current temperature
b02	Highest temperature
b03	Lowest temperature
b04	Total voltage
b05	Current
b06	Average current
b07	Remaining capacity
b08	Total capacity
b09	Relative charge status
b10	Absolute charge status
b11	Charge/discharge status
b12	Longest time period with out charging
b13	Period since the last charge
d01	Voltage cell 1
d02	Voltage cell 2
dn	Voltage cell n

6.3.9 Error Messages

Do not work on your bike by yourself. Working on bicycle parts therefore requires expert knowledge, experience and specialist tools! Bring your Pedelec to a bicycle repair shop to have the error fixed.

The display screen will indicate when an error with your Pedelec is detected. If a malfunction is detected, will appear on the display. One of the following errors will be displayed in the field where speed is indicated:

Error	Explanation	Troubleshooting
03	Brakes enabled	Check whether a brake cable is stuck.
07	High voltage protection	Bring your Pedelec to your dealer or to a specialist to have the error fixed.
08	Fault with motor hall sensor inside	Bring your Pedelec to your dealer or to a specialist to have the error fixed.
10	The motor temperature reaches to the max protection value	Stop the e-bike for a rest.
12	Fault with current sensor inside controller	Bring your Pedelec to your dealer or to a specialist to have the error fixed.
13	Fault with temperature sensor inside battery	Bring your Pedelec to your dealer or to a specialist to have the error fixed.
21	Fault with wheel speed detecting sensor	Bring your Pedelec to your dealer or to a specialist to have the error fixed.
22	BMS communication fault	Bring your Pedelec to your dealer or to a specialist to have the error fixed.
25	Torque sensor torque signal fault	Bring your Pedelec to your dealer or to a specialist to have the error fixed.
26	Torque sensor speed signal fault	Bring your Pedelec to your dealer or to a specialist to have the error fixed.
30	Communication fault	Bring your Pedelec to your dealer or to a specialist to have the error fixed.

Error display

Note: Error Code 10 will probably appear on the dispaly when the e-bike is climbling for a long time. This indicates that the motor temperature has reached the protection value, in which case the user needs to stop the e-bike for a rest. If the user continues to run the e-bike, the motor will automatically cut off the power.

6.4 Usual Operation

6.4.1 POWER ON / OFF

Press the " " button for 2 seconds: The display and the system will turn on.

Press the " " button again for 2 seconds: The display and the system will turn off.

After 5 minutes of zero activity, the system automatically turns off.

6.4.2 Selecting the Levels of Motor Support

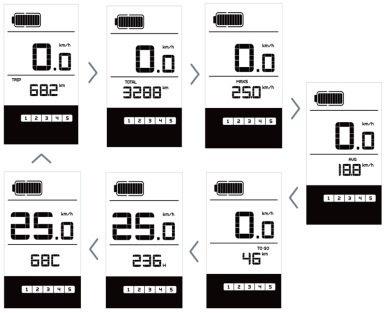
Push the " " or " " button to change between the different support levels. The lowest level is level 1; the highest is level 5. The default level when turning it on level 1. If no number is displayed, the motor is not being given any support.

Appearance of the Display When Selecting One of the Many Support Levels

No support Assistance Level 1 Assistance Level 5

6.4.3 Changing between the Distance Mode and the Speed Mode

Briefly press i to switch between distance and speed. Single-trip distance (TRIP km) Total distance (TOTAL km) Maximum speed (MAXS km/h) Average riding speed (AVG km/h) Remaining distance(TO GO) Real-time output power (W) Energy consumption (C) are displayed in successive order.(Switch mode interface as below)



6.4.4 Turning ON or OFF the Bicycle Lighting and Display Lighting

Press the " " button for 2 seconds: The display lighting and the lighting to your Pedelec are turned on. Press the " " button again for 2 seconds: Both the bicycle lights and the display lights will turn off. As soon as you use the display in the dark, the lighting for your Pedelec turns on automatically, as well. Exception: If you turned off the light manually, you will have to turn it off manually, too. The display offers five levels of brightness.

Turned off Turned on

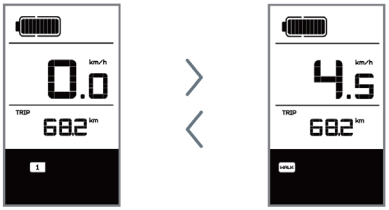
6.4.5 Push Assistance

Your Pedelec has a push assistance mode that moves the bicycle at 6 km/h without you needing to peddle. This will help push the Pedelec up steep inclines.

The push assistance models are not to help you ride or begin riding your bike! It puts the motor at risk of overheating. Only use the push assistance mode when you are actually pushing your Pedelec. The wheels must be in contact with the ground. Failing to follow these directions puts you at risk of injury.

Press and hold the "−" button on the control panel for 2 seconds. Push assistance is enabled. "WALK" will appear on the display screen . As soon as you let go of the button, the push assistance mode is deactivated.

Changing between the Motor Support and the Push Assistance Mode



Indicator for the motor support

Indicator for the push assistance mode

6.4.6 Charge Status indication.

To ensure optimal performance for your Pedelec, check the charge status of your battery before each ride. When the display is on, then the 10 LEDs will provide an indication.

PLEASE NOTE THE TABLE PROVIDING RATIOS OF BARS REMAINING TO BATTERY LIFE. WHILE 10 BARS = >90% CHARGE REMAINING, 5 BARS = 30% CHARGE, AND 1 BAR = 5% CHARGE. FOR EXAMPLE, AT A 30% CHARGE (5 BARS) OR LOWER, THE BATTERY MAY NOT BE ABLE TO OPERATE ON THE HIGHEST LEVELS OF ASSIST. PLEASE MAKE SURE THAT THE BATTERY IS ALWAYS FULLY CHARGED.

The Charge Status Display

Number of bars	Charge status
10	≥90 %
9	75 % ≤ C <90 %
8	60 % ≤ C <75%
7	50 % ≤ C <60 %
6	40 % ≤ C <50 %
5	30 % ≤ C <40 %
4	20 % ≤ C <30 %
3	10 % ≤ C <20%
2	8 % ≤ C <10%
1	5 % < C <8%
Digital screen blinks	≤5 %

6.5 Bluetooth Function

- Can use "Bafang GO"APP which developed by BAFANG, and also can develop APP by the S DK which provided by BAFANG. BAFANG APP as figure below:

- This display is compatible with SIGMA heart-beat strap,so the display can catch the data from the strap and transmit to smart phone to indicate.

- All the data which can be indicated on the APP as the list below:

ITEM	Function
1	SPEED
2	CAPACITY
3	SUPPRT MODE
4	BATTERY DATA
5	SENSOR DATA
6	REMAINING RANGE
7	CALORY
8	COMPONENTS DATA
9	CURRENT
10	HEATBEAT RATE
11	TRIP
12	ODO
13	HEAD LIGHT STATUS
14	ERROR CODE

7 MAINTENANCE

Before performing any kind of work on your Pedelec, turn off the electric unit and remove the battery. Not doing so may result in serious injury and/or electric shock.

Keep the all components of the electrical system clean. Clean gently with a damp, soft cloth. The components must not be immersed in water or cleaned with a water jet or steam jet. If the components are no longer functional, contact your dealer.

Do not clean the Pedelec with a steam jet, high-pressure cleaner or water hose. Water may seep into the electrics or drive and destroy the equipment.

The frequency of maintenance will vary depending on riding conditions. Periodically clean the chain using an appropriate chain cleaner. Do not use alkaline or acidic cleaning agents to remove rust under any circumstances. If such cleaning agents are used, they may damage the chain and serious injury may result.

Only have maintenance, repairs and repair work carried out by qualified personnel and only with original spare parts. In case of a flat tire or other technical problem, let your dealer carry out the repairs.

8 RANGE OF YOUR PEDELEC

It is best to charge your battery while it is warm and set it just before you start driving.

The battery's drain cycle may be effected by:

- Support level: The higher the assistance level used, the higher the power consumption and the lower the range.
- Driving style: With the optimal use of gear shifting, you can save energy. In lower gears, you need less power, less support, and the drive of your Pedelec consumes less energy.
- Ambient temperature: Batteries discharge faster at cold outside temperatures and have a shorter range.
- Terrain: In hilly terrain, more energy is need ed so the range goes down.
- Weather and vehicle weight: In addition to the ambient temperature, wind conditions also influence the range. A strong headwind requires more power when driving. Baggage, etc. will increase the weight and therefore more force is required.
- Technical condition of your Pedelec: Air pressure that is too low in the tires increases driving resistance, especially when riding over a smooth surface, such as asphalt. The range of your Pedelec can be reduced by a grinding brake or a poorly maintained chain.
- Charging status of the battery: The charge status indicates the amount of electrical en ergy that is stored in the battery at any given time. More energy means more range.

9 TRANSPORTING THE BIKE

Remove the battery of the Pedelec before transportation and transport it separately.

The battery is not considered a hazardous ma terial when transported to operate the Pedelec. The battery becomes a hazardous material when it is transported any other way. In this case, you must follow the appropriate guidelines.

Never send the battery yourself. Batteries are considered hazardous materials. Only send the battery of your Pedelec via your specialist dealer. The battery can ignite or explode under certain conditions.

By Car

You can transport your Pedelec by car as you would a normal Pedelec. Before transporting your Pedelec, remove the battery and transport it separately. The weight of the Pedelec will call for a heavier-duty rack. Always adjust your riding behavior to the load you are pulling in the carrier.

On the Train

The same regulations apply as when transporting a bicycle. Know which busses and trains you can take before using public transportation. It is best to remove the battery from the bike before and while using public transportation.

10 PARTS ALLOWED TO BE CHANGED ON S-PEDELEC/PEDELEC

10.1 These S-Pedelec parts may be changed

During the bike's approval procedure, it is de termined which parts may be used for this bike. In other words, the Pedelec is only permitted if your vehicle uses these parts or replacement parts which have been approved for use with your model.

If parts are subsequently changed, please replace these with original parts or replacements which are approved for used on your Pedelec, other wise you must seek individual permission from the TÜV or your local regulatory authority.

10.2 These Pedelec parts are allowed to be changed

Guide for parts which may be changed on CE-approved Pedelecs with assisted pedalling up to 25 km/h

Category 1
Components allowed to be changed only with permission from the bike's manufacturer/system provider:

- Motor
- Sensors
- Electrical steering
- Electrical cables
- Control panel on the handlebars
- Display
- Battery pack
- Charger

Category 2
Components allowed to be changed only with permission from the bike's manufacturer:

- Frame
- Suspension strut
- Bike fork and suspension fork
- Wheel for the hub motor
- Brake system
- Brake linings (rim brakes)
- Luggage racks (luggage racks determine how much weight the wheel can carry). Both positive and negative changes made to the bike can potentially impact the bike's drivability as compared to that implied by the manufacturer.)

Category 3*
Components allowed to be changed according to the bike or bike part's manufacturer:

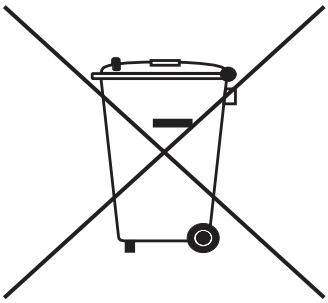
- Foot pedal (only if the distance between the pedal attachment points and crank arms, i.e. the q factor, are adhered to.)

Category 4
Components not requiring any special kind of approval to be changed:

- Chain rings/pulley/sprocket (only if the number of teeth and the diameter are the same as described in the bike's original description.)

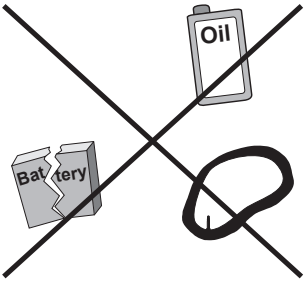
11 ENVIRONMENT PROTECTION TIPS / DISPOSAL

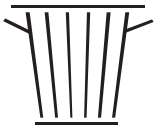
General cleaning and maintenance: Please take the environment into account when caring for and cleaning your Pedelec. You should use care and cleaning products which are biodegradable wherever possible. Please make sure that no cleaning agents are disposed of in the sewage.



Pedelec batteries

Batteries belonging to Pedelecs and e-bikes should be treated as hazardous and are therefore subject to compulsory special labelling. They have to be disposed of by specialist retailers or manufacturers.





12 SPECIFICATIONS

12.1 Basic Parameter of battery pack SF-06s

Item	Parameter		Remark
Basic Para	Cell specification	11.6Ah	
	Nominal Voltage	48V	
	AC resistance	≤ 150mΩ	
	Working Voltage	36.4V~54.6V	
	BMS Model	Smart BMS	
	Capacity indication	Yes	
Protection Capability	Over-charge protection voltage	4195mv±30mv	
	Over-charge recovery voltage	4100mv±30mv	
	Over-Discharge protection voltage	2800mv±50mv	
	Over-Discharge recovery voltage	3400mv±50mv	
	Over-Discharge Protection current	25A±3A	
	Delay of over discharge protection current	1.28S±0.5S	
	Discharge of high temp. protection	60°C±3°C	
	Discharge of low temp. protection	-20°C±3°C	
	Charge of overflow protection	5A±0.5A	
	Charge of high temp. protection	45°C±3°C	
	Charge of low temp. protection	0°C±3°C	
Communication	Interface	CAN	
Discharging Characteristic	Discharge Continue current	15A	Normal temp. 25°C
Charging Characteristic	Charge voltage limit	54.6V	
	Charge current limit	< 5A	
	Charge method	CC/CV	Special charger
Dimension and Weight	Battery pack size	316.5*84.8*93±0.5mm	
	Battery pack weight	< 4.2Kg	Without controller box
Environment	Temp. for storage	1M: -10 ~ 40°C	
		3M: -10 ~ 35°C	
		6M: -10 ~ 30°C	
	Humidity for storage	5% to 95%	
	Temp. for charge	0 ~ 45°C	
	Temp. for discharge	-20 ~60°C	
	Working Humidity	RH5% to 85%	
Certification	Certification	ISO13849/IEC62133	
	CE	EMC/ROHS	
	Shipment/Machinery	UN 38.3	
	Water Proof Level	IPX5	Origin statue when battery pack leaving factory

12.2 Charger

- Operating voltage: 108Vac-132Vac,47-63Hz
- Rated output voltage: 54.27V
- Output current: 2A±0.2A
- Minimum battery charge voltage: 27±2V
- Timing Protection: 14±0.5h
- Temperature protection: NTC＜0℃ or NTC＞65℃
- AC Connector: 3芯 PIN American-Standard
- Certificate: CTUVUS（UL1012）\ DOE \ BC \ FCC

12.3 Drive unit (mid-drive motor)

Operating voltage (DCV)	36 / 43 / 48
Rated power (W)	250 350 / 250 350 / 250 350
Rated efficiency (%)	≥80%
Rated rotational speed (rpm)	100±5
Maximum torque	≥80
Chain wheel	36 teeth (recommended), 38 teeth (optional), 42 teeth (optional)
Optional chain cover	Complete coverage/p-formed cover
Weight (kg)	3.9
Sensors	Pedal assist speed sensor, pedal assist torque sensor, bicycle wheel speed sensor, temperature sensor
Noise (dB)	<55
Temperature necessary for use	-20°C~55°C
Protection level (protection against dust, protection against water)	IP66
Certification	CE ROHS/ EN14766/ EN14764/ REACH
Optional functions	Optional Bluetooth module, gear sensor module DC 500mA/6V headlight and rear light module, programming function

13 GUARANTEE AND WARRANTY

The conditions for guarantee/liability for faults are (partially) harmonized in countries that are subject to EU law. Find out about the relevant national stipulations that apply to you.

Within the scope of EU law, the seller is liable for material faults for at least the first two years from the date of purchase. This includes defects that were present at the time of purchase or handing over. Moreover, during the first six months it is assumed that the fault already existed at the time of purchase.

A buyer can make a warranty claim if the bike was used and maintained as instructed by the manufacturer. These are outlined in the pages of this operating manual and in the supplied instructions from the component manufacturers.

In most cases, the customer can first request subsequent fulfilment. If repair fails conclusively, which is the assumption after two attempts, the customer is entitled to abatement or cancellation of the contract.

Liability for material faults does not cover normal wear and tear within the framework of use as intended. Overtime, operating a Pedelec or e-bike will cause wear to the motor's components and deceleration devices as well as the tires, the lights, the rider's contact points and the battery.

Contact your specialist dealer if your bike's or Pedelec's manufacturer entitles you to additional warranty services. Read the relevant guarantee conditions for further details about the guarantee cover and on how to exercise claims under it.

In the case of a defect/possible liability claim, please contact your specialist retailer. We recommend filin all purchase receipts and inspection reports as proof for your records.

Legal disclosure

For questions concerning your Pedelec please always contact your dealer first, only then in case the manufacturer of the Pedelec.

Responsible for content and images:

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Legal inspection by a lawyer's office specializing in intellectual property.

This user's manual observes the requirements and regulations stated in the machinery directive, ISO 4210:2014 and EN 15194.

If this product is delivered or used outside of the EU territory, the Pedelec manufacturer must provide you with the user manual required in that country.

BF-CM-S-M06-EN-PRINT A/1, March 2018

Bluejay
ELECTRIC BICYCLES

Drive Unit User Manual

Bafang M400 Motor
for Bluejay Premiere Edition

BAFANG