Product Instruction Manual

Dear users and friends, for the safety of you and others, and to ensure the excellent and stable performance of the electric bicycle, please read the manual carefully before using this product. The daily form and maintenance knowledge provided in this manual can help you to be more familiar with the operation of your bike. Any improper operation may damage your bike. As the product is constantly improved and updated in technology, there may be no slight difference between the actual object and the manual, so please take the actual object as the standard.

Content

1.Please pay attention:

1. Before riding, please carefully read the Product Instruction Manual and carefully check whether all parts are in good condition to ensure your riding safety. If you find any problems, please contact the dealer in time.
2. Please abide by the urban traffic regulations and are not allowed to bring people; In rainy and snowy days and slippery sections, the speed should be slowed down, and the braking distance should be increased to ensure safety.
3. This bike can be exposed to rain and snow, but it can't be wading. When the water level floods the motor hub, it will cause short circuit and damage the electrical appliances of whole bike.
4. The battery used in this bicycle is a safe power supply, but the metal contact of the battery housing cannot be touched with wet hands at the same time, let alone contact with metal at the same time, otherwise a large short-circuit current will be generated and an accident will be caused.
5. Please do not disassemble and disassemble the parts by yourself. If you need to replace them, please purchase standard parts from the general agent of our electric bicycle.
6. For the safety of others, please don't lend your bicycle to someone who can't operate, so as to protect your bicycle from unnecessary damage.

2.Bicycle Size and Rider Height Matching Form :

Frame Size	Suggested Rider Height
27.5*15”	150CM-165CM
27.5*17”	165CM-175CM
27.5*19”	175CM-190
29*17”	165CM-180CM
29*19”	180CM-195CM
29*21”	195CM-215CM

3.Main Technical Parameters of Electric Vehicles

3.1. Motor Parameters

	Rear Motor	**Bafang Middle Motor**	**Shengyi Middle Motor**
Motor Model	LAX-CK250	MM G520.250.C	CMT03
Rated Power	250W	250W	250W
Rated Voltage	36V	36V	36V
Rate Efficiency	≧80％	≧80％	≧80％
No-load Current	＜0.9A	＜1.2A	＜1.5A
Rated Current	＜9.5A	＜9A	＞15A
No-load Rotation Speed	245±10RPM	105±7RPM	88±10RPM
Rated Rotation Speed	195±5RPM	94±6RPM	83±10RPM
Rated Torque	＞12N.M	＞20N.M	＞40N.M
Maximum Torque	＞40N.M	＞95N.M	＞80N.M(450W)
Sensor	Speed Sensor	Torque Sensor	Torque Sensor
Speed Limit	25KM/H	25KM/H	25KM/H

3.2.Battery Parameters

Voltage	Ampere-hour	Watt-hour	Charging Time
36V	20Ah	720Wh	6.5h-7.5h

4.Battery Charging Instructions:

1. When the input and output terminals of the charger are connected, the red indicator light of the charger will light up, and the green light will light up when fully charged.
2. Standard charging time: charge according to the time specified by the matching charger. The battery charging time is 6.5-7.5 hours under the ambient temperature 25℃.
3. When charging in summer, the battery charging time should be 6.5-7.5 hours. If the battery temperature exceeds 40℃, stop charging and continue charging after the temperature drops. When charging in winter, it should be stored indoors for 1 hour and then charged for 7.5-8.5 hours.
4. The charger has an over-current protection device, and long-time charging (generally no more than 24 hours will not affect the life of the battery and charger.

5.Battery Charging Precautions

1. When charging, please place it in a safe place where children cannot touch.
2. It should not be used without full charge.
3. Do not use other-brand chargers for charging, and this charger is not suitable for other types of batteries.
4. The charger contains high voltage circuit, so please do not disassemble it without authorization. 5. During use and storage, prevent liquid and metal scraps from penetrating into the charger, and beware of falling and impact, so as not to cause damage.
5. When charging the charger, do not cover anything.
6. This charger is for indoor use. Please use it in a dry and well-ventilated environment.
7. When smell peculiar smell or the temperature is too high during charging, please stop charging immediately and send it to the distributor for repair.

	
Please notice there is a charging hole in the frame, battery can be charged directly in the bike.	You can also take the battery out of the frame and charge the battery directly .

6.Three kinds of Display Operating Instructions:

Attention: The displays below may not be the display of your bike, please find the corresponding display of your bike among these three.

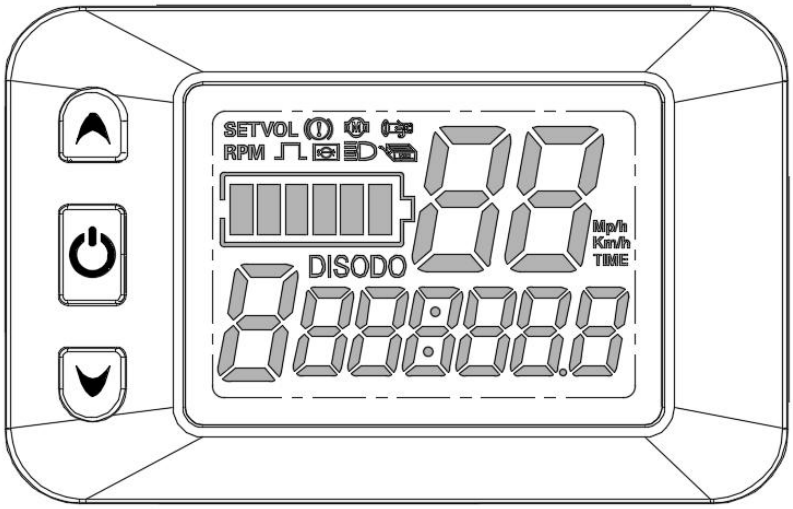
6.1.Display of Rear-motor Model :

6.1.1.Display Indication : Speed display, power indication, fault indication, total mileage and single mileage.

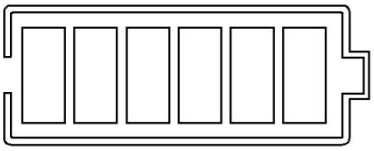
6.1.2. control and setting function: Power switch control, wheel diameter setting, idle automatic sleep time setting.Setting the backlight brightness, setting the start mode, setting the drive mode, setting the voltage level and setting the controller's current limit.

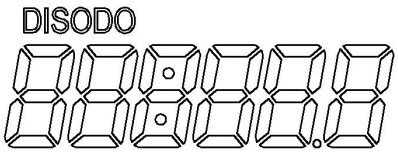
6.1.3. Communication Protocol: UART

The full content of the display (full display in the boot 1S)



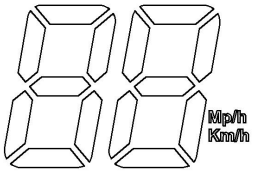
6.1.4 Display Content Introduction

Voltage state level POWER 



Multifunction display area

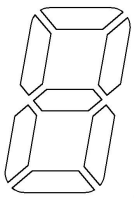
Single mileage DIS and total mileage ODO (unit: mile, KM).

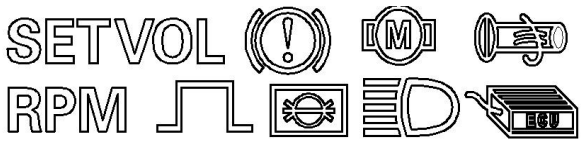


Speed display area

Unit Mp/h, km/h

The speed signal is taken from the Holzer signal in the motor and sent to the instrument by the controller. (a single Holzer cycle time, unit: 1MS) instrument will calculate the real speed according to the wheel diameter and signal data (the number of magnetic steel should be set up by the motor Holzer).

Vehicle support gear adjustment  ,there are 1, 2, 3 adjustable ；



Vehicle state display area

SET :Setup mode； VOL:Current voltage； :Brake cue ； :Motor failure ;

:Malfunction ； :Wheel diameter; :The headlamps； :Controller fault

The instrument is equipped with three, respectively with the symbol  key(Alternative text UP)、  key(Alternative text SW)and  key(Alternative text DOWN)express.

6.2.Display of Bafang Middle-motor Model

6.2.1 Display Indication

1 Headlight indication
2 USB connection indication
3 Battery capacity indication
4 Speed display in real-time
5 Assistance level indication
6 Multiple data indication

6.2.2 Switching the System ON/OFF

Press ⏻ and hold (>2S) to power on the display, the HMI begin to show the boot up LOGO. Press ⏻ and hold (>2S) again can power off the HMI.

If the "automatic shutdown" time is set to 5 minutes (it can be set in function "Auto Off"), the HMI will be automatically turned off within this set time, When it is not operated.

6.2.3 Selection of Support Levels

When HMI power on, briefly press + or − to select the assistance level (the number of assistance level needs to be adapted to controller), The lowest level is Level 0, the highest Level is 5. On the default is Level 1, "0"means no power assistance. The interface is as following:

Note: if the controller has Boost function, can be selected this level with briefly press +.

6.2.4 Selection Mode:

Briefly press ⏻ button to view the different mode and information.

1. System with torque sensor, circularly show single trip distance (TRIP,km) → total distance (ODO,km) → maximum speed (MAX,km/h) → average speed (AVG,km/h) → remaining distance (RANGE,km) → energy consumption (CALORIES/CAL,KCal) → real-time output power (POWER,w) → riding time (TIME,min).

2. If system with a speed sensor, circularly show single trip distance (Trip,km) → total distance (ODO,km) → maximum speed (MAX,km/h) → average speed (AVG,km/h) → remaining distance (RANGE,km) → riding time (TIME,min).

6.2.5 Headlights / backlighting

Press and hold + (>2S) to turn on the backlight as well as headlight.

Press and hold + (>2S) again to turn off the backlight and the headlight. The brightness of backlight can be set in function"Brightness". (If the display is turned on in a dark environment, the display backlight/ headlight will be turned on automatically. If the display backlight/headlight are turned off manually, they also need to be turned on manually afterwards)

6.2.6 Walk Assistance

The Walk assistance can only be activated with a standing pedelec.

Activation: briefly press − button until this symbol appears. Next hold down the − button whilst the symbol is displayed. Now the Walk assistance will activate. The symbol will flashes and the pedelec moves approx. 6 km/h. After releasing the − button the motor stops automatically and if no any operations within 5s will automatically return to 0 level (as following).

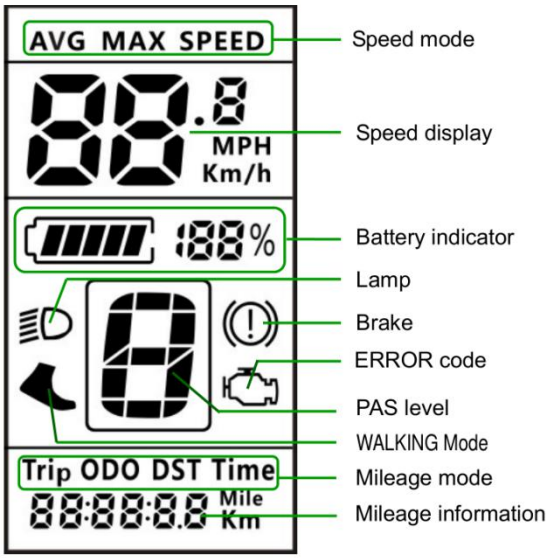
6.2.7 BOOST Function

In riding, when speed is arrived 25km/h, can select in BOOST level, at this point press button and hold (>2S), then the Pedelec enters in BOOST function. The indicator on display will flash and the motor output with max. power. (BOOST function as following). If release the button or do any other operation will stop BOOST.

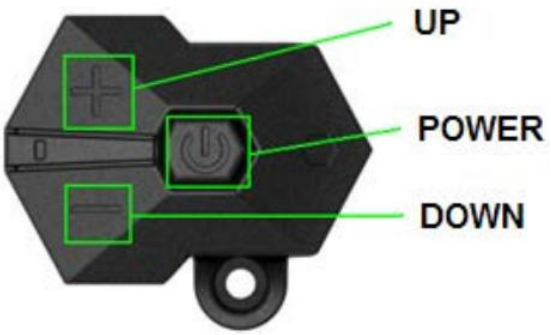
NOTE: If the speed is not arrived 25km/h, this function can not be implemented and press button and hold (>2S) the HMI can powered off.

6.3 Display of Shengyi middle-motor Model:

6.3.1Display Indication



6.3.2Functional Description

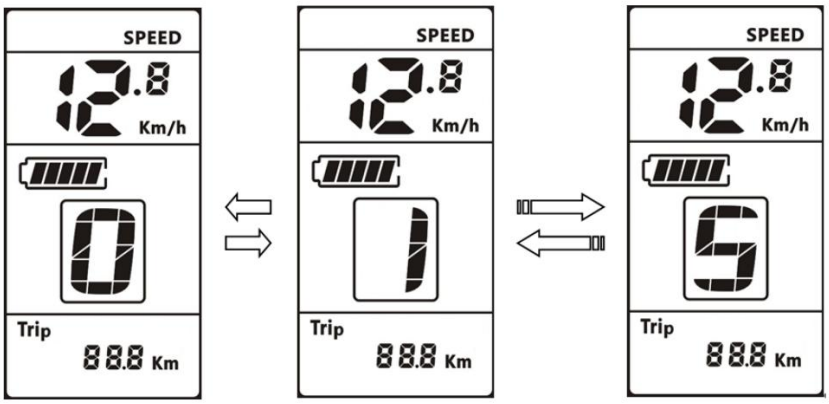


6.3.3 Power On/Off

Press and hold Power button for 1 second can turn on/off the display. The Display can automatically shut down when there is no operate & ride for X minutes（X could be 0~15）.

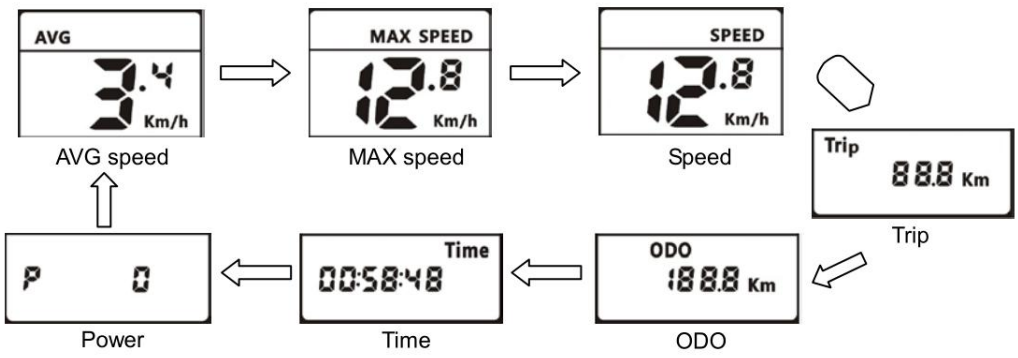
6.3.4 Assist level operating

Short press UP/DOWN button can change the assist level. Top assist level is 5, 0 for neutral. Level quantities can be adjusted according to the customer requirements.



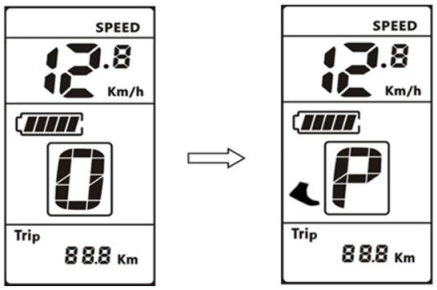
6.3.5 Speed mode switch& Mileage mode switch

Short press POWER button can change the speed mode& the mileage mode, **Speed**->**AVG Speed**->**MAX Speed**->Trip->ODO-> Time->P（Power）.



Walking mode （6km)

Short press DOWN button ⇨

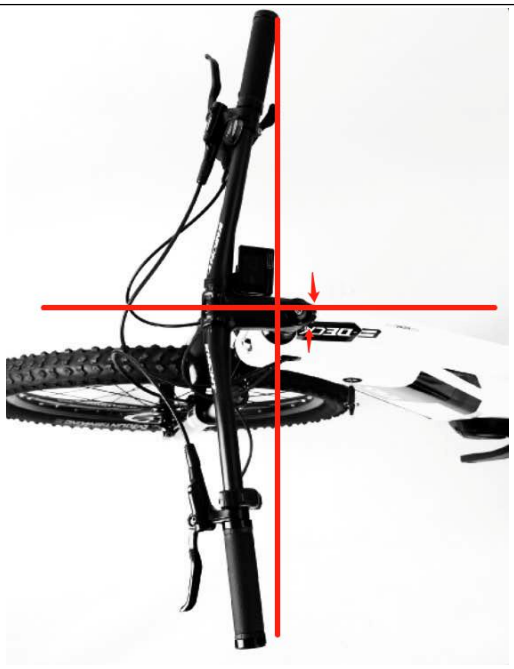


In this interface, press and hold DOWN button for 2 second can get into walking mode, the icon flashes; out of the mode when release DOWN button. Out of this interface when short press UP button.

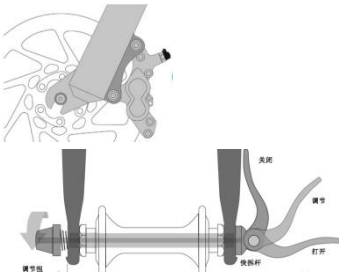
6.3.6 Data cleanup

Press and hold UP & DOWN buttons together for 1 second can reset several temporary data, temporary data include **AVG Speed / MAX Speed / Trip / Time**.

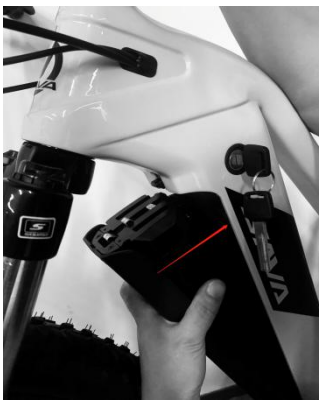
7.Handlebar Installation

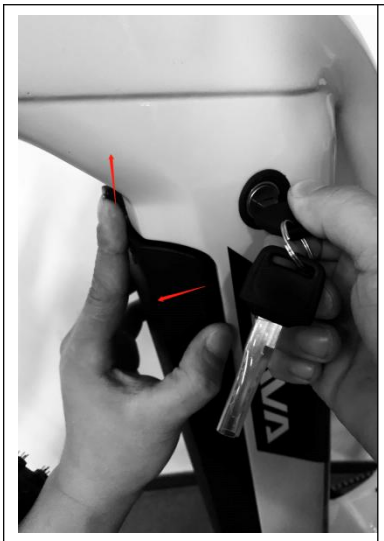
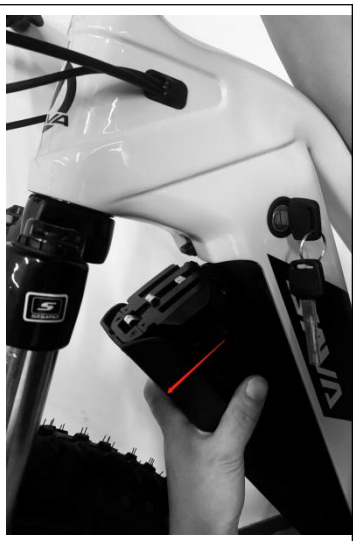
	
First remove the four screws of the stem, as shown in the figure, install the handlebar at the center point and lock the screws (5.1 Nm)	Adjust the angle of the stem to the position perpendicular to the frame, first lock the screw of the stem cover, and then lock the two screws of the arrow.

8.Front Wheel Installation:

		
Take out the front wheel set and align it with the clearance of the front brake before installing it, then install .	A hollow wheel center shaft is penetrated by a quick release rod, one end of which can adjust the pressure with a nut, and the other end is locked with a quick release wrench.	Check whether there is a gap on both sides of the disc rotor after locking.

9.How to Install and take down battery :

		
The lower end of the battery is placed against the bump	Press hard on the upper end to lock the battery	Make sure to lock the battery and pull out the key

		
Open the lock, push up the handle with index finger, and pull down the battery for a while	Pull the button handle up with your right hand and pull it down with your left hand	Remove the battery

10.Before the first ride:

Please fully charge the battery. During charging, the diode on the charger is red. When the battery is fully charged, the diode on the charger will turn green. At this time, the battery can be used.

Please make sure that your bike can be used and adjusted to your angle. Adjust the position of saddle and handlebar.

Check the brakes and adjustment
Check the fixing of wheels Check tire pressure
Check whether the battery is installed correctly Modern brake system will be very sensitive, and it will have different performance than the brakes on your bicycle in the past.
Please try to ride in an open field in advance to familiarize yourself with the braking performance.
Please note that the braking effect will decrease and the braking distance will become longer when used on wet roads.
Practice operation and cycling in an open and safe place before riding on public roads.
Make sure that the wheels are firmly connected to the frame and front fork.
Check the wheel and shaft core, and all important bolts Under the condition of braking, push the bicycle forward, and the rear brake should completely lock the movement of the rear wheel, while the rear wheel will fall off the ground under the braking force of the front brake, and the front position of the bicycle should not shake or make abnormal noise.

Check the air pressure in the tire. The correct tire pressure will be marked on the side of the tire. Please ensure that the tire pressure is between the minimum and maximum required pressure. If you can't find any recommended pressure value, 45psi is a suitable pressure for most tires. If the tire is relatively narrow, 60psi is suitable. As a common rule , you can simply judge with your

thumb. For example, when sitting in the bike, you can check the tire pressure as follows: If you press your thumb against the tire, the tire will not be easily pressed down by your thumb and change its shape.

Check tires and rims for damage, cracks or deformation, and embedded particles such as glass or sharp Stone fragments. If you find any cuts, tears or holes, please don't ride.

11.Before each ride, please check:

- The lamps (if any) can work and be properly fixed
- The brake can work normally and be properly fixed There is no oil leakage in the housing and accessories of the brake .
- There are no foreign bodies and damages in tires and no deformation in wheels
- The battery is installed correctly and securely
- The tire has enough tread depth
- Tighten all bolts and nuts, and check that all quick-release wrenches are in the correct fixed position. When not riding, check that all bolts and nuts are stable before use.
- The frame and front fork are not damaged
- Handlebar and stem are connected correctly and fixed properly. And the position is correct.
- Seatpost and saddle are stable and positioned correctly. Try to rotate or toggle up or down, and the seat cushion should not move at all.
- The frame, front fork and other parts related to safety, such as brakes and wheels, if seriously worn, will affect the use safety.
- If the service time of spare parts exceeds the expected service life, it may break down unexpectedly, resulting in falling down and serious injury.

12.Torque Parameters:

Stem 45 in-lbf (5.1 Nm)
Rear derailleur 70-88 in-lbf (8-10 Nm)
Handlebar 45 in-lbf (5.1 Nm)
Rear axle core is 133 in-lbf (15 Nm)
Seatpost clamp 55 in-lbf (6.2 Nm)
Shifter 25-30 in-lbf (2.8-3.4 Nm)
Seat tube/seat cushion guide rail 120 in-lbf (13.5 Nm)
Headlamps 26-45 in-lbf (3-5 Nm)
Axis 355-445 in-lbf (40-50 Nm)
Crankshaft bolt 336-363 in-lbf (38-41 Nm)
Screw of water bottle cage 35 in-lbf (4 Nm)
Disc bolt 104 in-lbf (12 Nm)
Kickstand bolt 89 in-lbf (10 Nm)
Screw of disc brake caliper 80 in-lbf (9 Nm)
Screw of disc brake pad 40 in-lbf (4.5 Nm)
Brake lever 22 in-lbf (2.5 Nm)

13.Self-inspection Contents of Regular Maintenance:

1. Whether the front and rear wheel screws are locked.
2. Whether the tread of the outer tire is worn and cracked.
3. Whether the front and rear tire pressures are appropriate.
4. Whether the drive system is smooth.
5. Whether the joints of all parts are normal: whether the brake line zipper is used under lubrication.
6. If you don't use this bike for a long time, please pay attention to charging it regularly (usually about two months apart) to maintain your battery.

14.Maintenance and Cleaning Instructions

1. It is forbidden to wash with water to avoid potential accidents caused by soaking of internal electronic components and circuits.
2. Please use a neutral cleaner, gently wipe the dirt on the surface of paint or plastic parts with a rag, and then try to clean it with a dry cloth.
3. Please wipe the metal parts of the bike body with lubricating oil for maintenance.
4. It is strictly forbidden to oil the front and rear brakes, wheel steels and tires.

The final interpretation right of all terms and conditions in this manual belongs to SAVA company.