

User Guide



ARKONA MD

HORN MD



geobike
electric bikes

CONTENTS

● Introduction.....	3
● Specification.....	4-5
● Top 10 Tips	6
● Riding on your GEOBIKE.....	7
● Display and function.....	8-19
● Battery.....	20-21
● Warranty information.....	22
● Notes.....	23

Introduction

Dear Customer,

Congratulations on your purchase of this Geobike.

This guide is to introduce the electric bicycle to you. We therefore strongly recommend that you read this manual very carefully. This will allow you to enjoy your Geobike as long as possible.

This Manual provides basic tips about the Geobike with assistance, operation and maintenance.

If after reading this manual you have any questions and/or comments, please contact the local bicycle shop from where you purchased your Geobike.

We hope that you enjoy many miles of cycling on your new Geobike.

Geobike

Description of bike components

1. Lithium-ion battery.
2. Handlebar with Bafang C-966 display.
3. Seatpost lockout.
4. VELO saddle with cushioning.
5. Aluminum trunk integrated with backlight.
6. Rear wheel.
7. Front wheel.
8. Crankset.
9. Bafang Max Drive 250 W central motor.
10. Shimano Acera rear derailleur.
11. ZOOM front hydraulic disc brake.
12. ZOOM rear hydraulic disc brake.
13. SUNTOUR front suspension fork.
14. Headlight.



** This is an illustrative photo. GEOBIKE can change the set and location of bicycle equipment details according to your own design.*

Model	ARKONA MD / HORN MD
Type	pedelec
General	
Unladen weight as follows if equipped	about 24 kg
Allowable total weight	max. 130 kg
Allowable load for carrier	max. 25 kg
Dimensions (L x W x H) mm	1875 x 675 x 1030
Maximum speed	25 km/h as a pedelec
Bike structure	
Frame	Alloy trekking frame 20" x 50 mm
Suspension	SUNTOUR
Seat height	920 - 1145 mm
Tires (front & rear)	700CC x 40C KENDA with reflective strip
Rims (front & rear)	700 x 36 AlexRimm
Front brake	ZOOM hydraulic disc brake
Rear brake	ZOOM hydraulic disc brake
Drive system	
Cassete	SHIMANO
Chain	KMC
Pedal drive	VELO
Shifting system	rear SHIMANO Acera 9 speed
Electric system	
Lighting	Spanninga
Display	Bafang C-966 display
Operation	5 modes with speed limit (max speed at about 25 km/h), walk assistance (6 km/h)
Motor	Bafang Max Drive 250 W central
Rated voltage	36 Volt
Rated power	250 W
Power transmission	centrally from the bottom bracket
Battery	Panasonic Lithium-Ion, mounted in the frame
Voltage	36 Volt
Peak current	16 A
Rated capacity	optional 10 Ah / 13 Ah / 14,5 Ah
Weight	2,5 - 3 kg
Range	50 - 120 km
Recommended tire pressure	3.5 bar
Charging time	about 4-6 hours

10 TIPS for your GEOBIKE

To optimize your Geobike experience and to achieve the maximum range of an electric bike, we recommend that you follow these tips:

1. Make sure that the battery is fully charged before use for the first time. The battery will retain its best capacity once it has been completely charged and discharged several times. This is known as battery conditioning.
2. The Lithium battery has a long life. The battery does not have to be fully charged in order to run the bicycle. Using the battery partially charged will not affect the life of the battery.
3. The range of the Geobike can vary through many factors. The tires must be correctly inflated. When you do not have correctly inflated tires, it can significantly affect the range.
4. If the brakes are correctly adjusted since this can prevent unwanted resistance. Unwanted resistance will lower the range. The ability for the wheels to rotate freely is therefore critical to maximizing the range.
5. GEOBIKE Arkona MD / Horn MD has 5 levels of power assistance. How these levels are selected has a great influence on the range. If you need to use the highest level of power assistance, the achievable range will be considerably lower than using a lower level of power assistance.
6. When you pull away from a standing start, select a low gear. This allows you to safely pull away and also saves energy in your battery.
7. Always ensure that the bicycle is powered off (the switch on the rear rack is off) BEFORE inserting or removing the battery.
8. Please use the proper battery charger. Please don't use the charger which does not match with the battery.
9. When you are charging the battery, please ensure that the Geobike is powered off.
10. Although the Geobike is water resistant, please do not use high pressure hoses on the bike as this will cause permanent damage to it. Excessive heavy rain may also give the same result.

Riding on your Geobike

Riding on your Geobike is done in the same way as riding any other bike. You can use the Shimano gear handle to decide which gear you wish to select whilst riding. To do this you just click to the selected gear and the hub will simultaneously select this gear. The Shimano Acera 9-speed provides a high riding efficiency. Changing gear is a very smooth experience.

It is highly advised not to select a high gear when starting from a standing position. If the power assistance is selected this will adversely affect the range. The effect is similar to that of a car pulling away in 3rd gear. The engine must then work harder and use more fuel to get you started. This is exactly the same as with your Geobike. If you want to pull away in a high gear then more energy must be taken from your battery to get you started. The optimal method is to select gear 1 or 2 with the pedal assist mode in either mode low or mode medium. When you are up to speed, choose the pedal assist mode that you require.

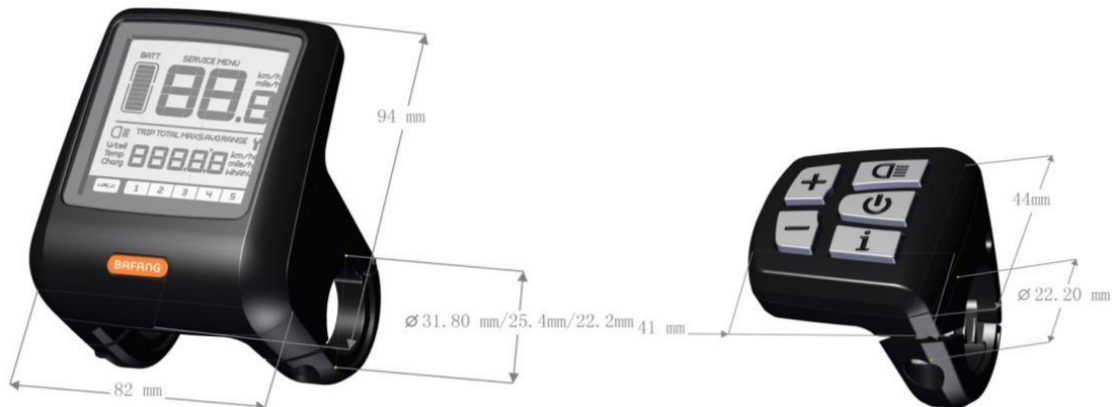
TIP!

Make sure you are in a low gear when you are stationary, at a traffic light for example!

Bafang MAX C-966 display

Specifications and parameters of the display

- ✧ 36V/48V power supply
- ✧ Operation temperature: -18 ~ 60 °C
- ✧ Storage temperature: -30 ~ 70 °C



Functions overview and key definitions

The Bafang MAX C-966 LCD display is placed centrally on handlebar. The display adopts a two-way serial communication protocol, is equipped with the external five-key keypad enables users to operate the display conveniently.

Function overview:

Speed display: displaying the real-time speed SPEED, the max speed MAXS and the average speed AVG.

Km or mile: the user can set the unit of distance as km or mile according to personal habit.

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 an average display is avoided.

Automatic light-sensitive lights: as the outside light changes, the headlight and backlight will be automatically turned on/off.

Backlight brightness: there are 5 levels of brightness for the display backlight, of which Level 1 indicates the darkest backlight while Level 5 indicates the brightest backlight.

Mode indication: it displays the current assist mode (Mode 1 to Mode 5).

Trip distance indication: there are two distance modes, single-trip distance TRIP and accumulated distance, TOTAL. The displayable max distance is 99999.

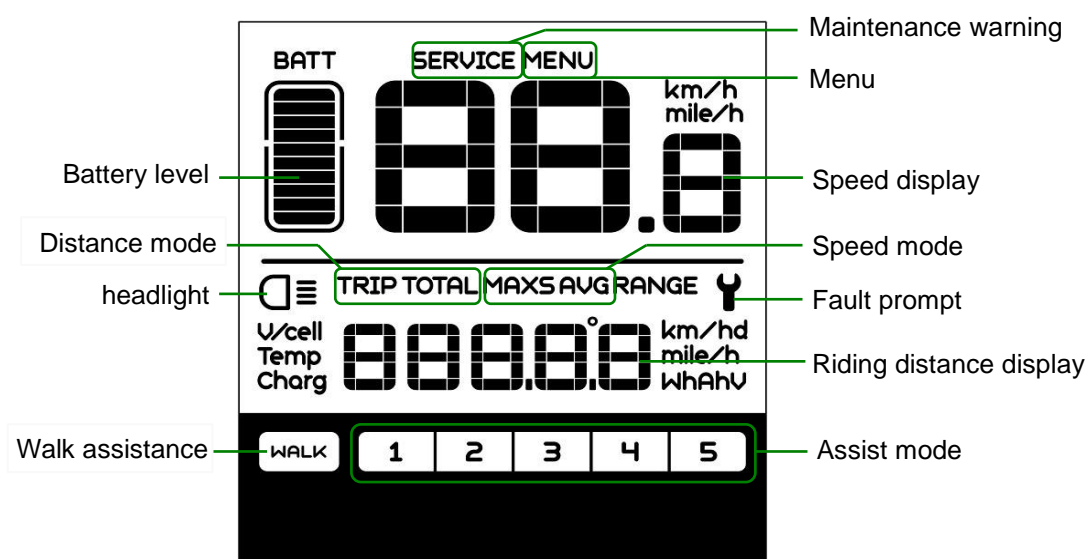
Fault code prompt.

Walk assistance: enables to walk the bike with assistance (6 km/h).

Parameter settings: various parameters, including mode, wheel diameter, speed limit, etc. can be set on the computer via a communication cable. See the parameter setting instruction document for details.

Maintenance warning (this function is inactive by default): there prompts, on the display, maintenance warning information based on battery charge/discharge cycles and riding distance. The display automatically estimates the battery life and gives battery maintenance warnings when the number of charge/discharge cycles exceeds the set value. When the accumulated riding distance exceeds the set value, the display will also prompt bicycle maintenance necessity.

Items to be Shown on the Display




Speed mode: average speed (AVG km/h), maximum speed (MAXS km/h).


Speed display: display of the speed, km/h or mile/h.

Battery level: 10-segment battery indication; the voltage that each segment represents can be customized.

Headlight indication: only active when the headlight and backlight are on.

Fault prompt: the symbol  will be displayed when a fault is detected.

Maintenance warning (inactive by default): The symbol **SERVICE** is displayed when there is a need for maintenance (the riding distance or the number of battery charge/discharge cycles exceeds the set value).

Mode indication: it displays the current assistance mode (mode 1 to mode 5); if there is no numeric display, it means that there is no assistance. If the rider is walking and pushing his/her bicycle, only the symbol  will be displayed.

Distance mode: there are two distance modes, single-trip range TRIP, and accumulated distance TOTAL.

Distance indication: it displays the information on distance according to the settings.

Key definitions



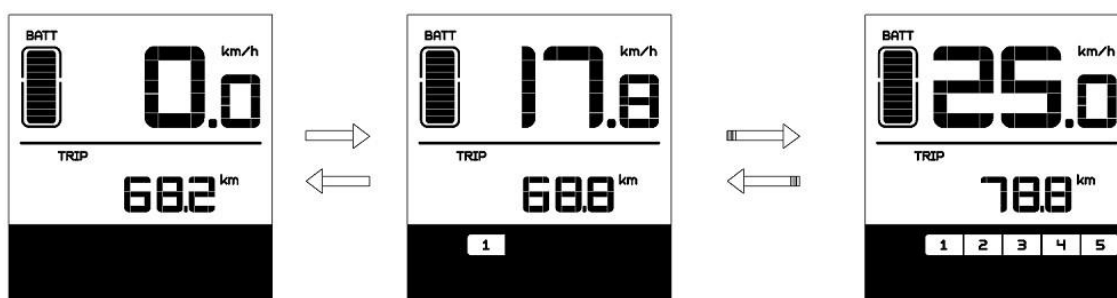
Normal operation

ON/OFF

Turn on the power. Press and hold the “on/off” key for 2 seconds to power on the display; when the display is on, pressing and holding the “on/off” key for 2 seconds will power off the display. If the bike is left unused and the display is left un-operated for 5 minutes (the time can be set by the user), the display will be automatically turned off.

Assist Mode Selection

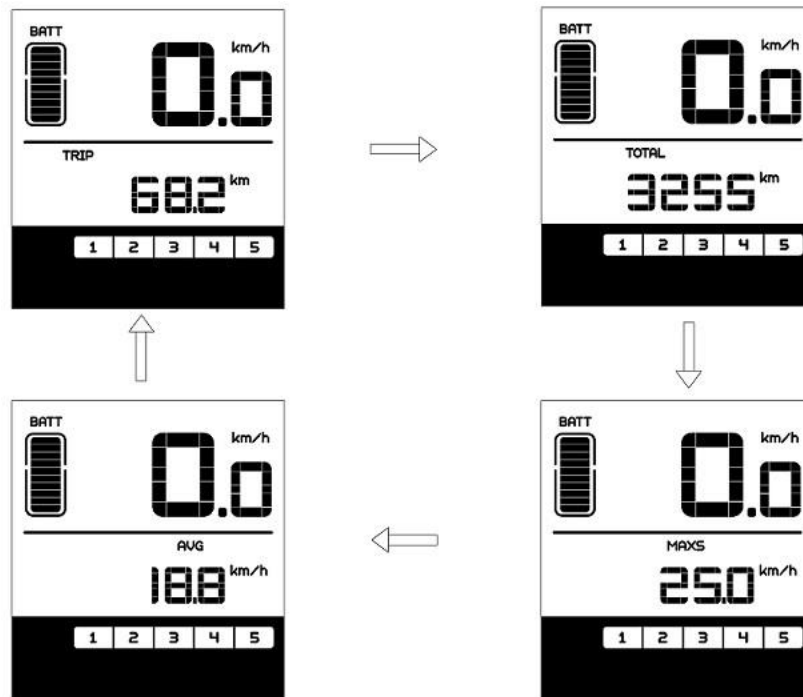
In the manual gearshift mode, press the "up" or "down" key to switch the assist mode to change the motor assist power. The lowest mode is Mode 1 and the highest mode is Mode 5. When the display is on, the default mode is Mode 1. It indicates no power assist when there is no numeric mode display.



Assist Mode Selection Interface

Assist Mode Selection Interface

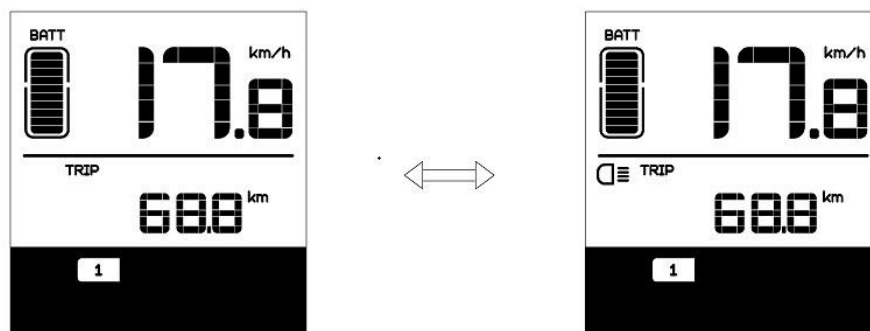
Press the "mode" key to switch distance/speed display information, giving a display of single-trip distance (TRIP km), accumulated distance (TOTAL km), maximum riding speed (MAXS km/h) and average riding speed (AVG km/h) sequentially.



Mode Switch Interface

Headlight/backlight Switch

After pressing and holding the „headlight” key for 2 seconds, both the backlight of the display, and the headlight (needing the support of the controller) will be turned on. Hold and press the headlight again for 2 seconds to power off the headlight and the display backlight (If the display is turned on in a dark environment, the backlight/ headlight will be automatically turned on. But if the backlight/ headlight is then manually turned off, they have to be manually turned on afterwards).

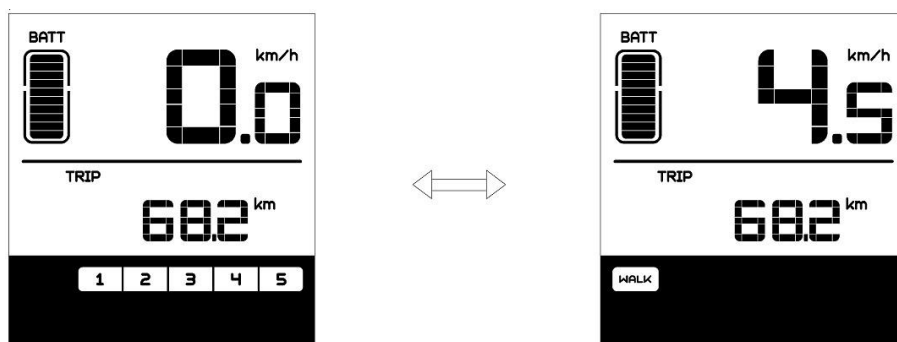


Headlight/Backlight On/off Interface

* there are 5 levels of backlight brightness for selection and the user can set the value as needed.

Walk Assistance Mode

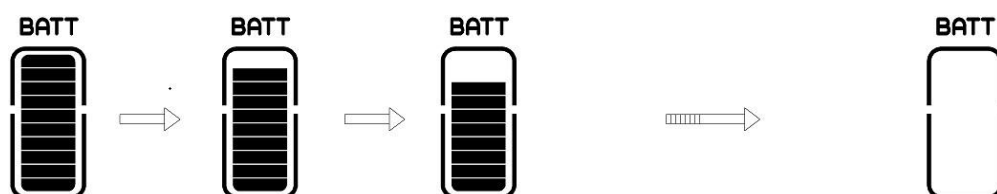
After pressing and holding the “down” key for 2 seconds, the electric bicycle enters the state of walk assistance, and the symbol **WALK** is displayed in the field of assistance mode. Once the “down” key is released, the electric bicycle will exit the mode of walk assistance.



Walk Assistance Mode Switch Interface

Battery Level Indication

When the battery voltage is normal, the battery is indicated by a certain number of segments with the border lighted according to the actual quantity of electricity. If the battery is under-voltage, all of the 10 segments will black out with the border blinking, indicating that the battery needs to be charged immediately.



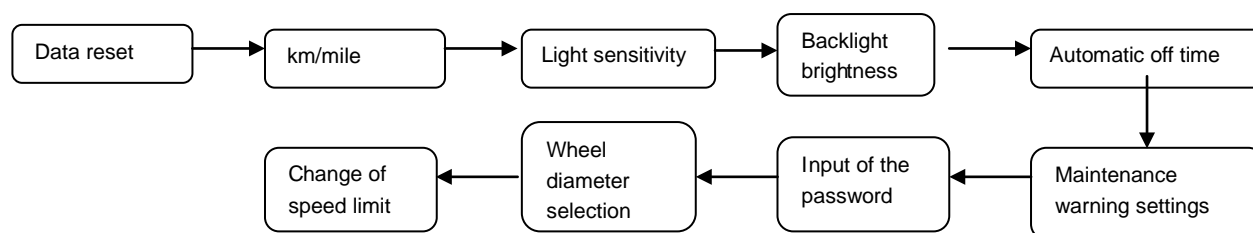
Battery Level Indication

TABLE FOR BATTERY LEVEL CHECK:

Number of segments	Electric Quantity in Percentage	Number of segments	Electric Quantity in Percentage	Number of segments	Electric Quantity in Percentage
10	$\geq 90\%$	6	$50\% \leq C < 60\%$	2	$15\% \leq C < 25\%$
9	$80\% \leq C < 90\%$	5	$45\% \leq C < 50\%$	1	$5\% \leq C < 15\%$
8	$70\% \leq C < 80\%$	4	$35\% \leq C < 45\%$	border blinking	$C < 5\%$
7	$60\% \leq C < 70\%$	3	$25\% \leq C < 35\%$		

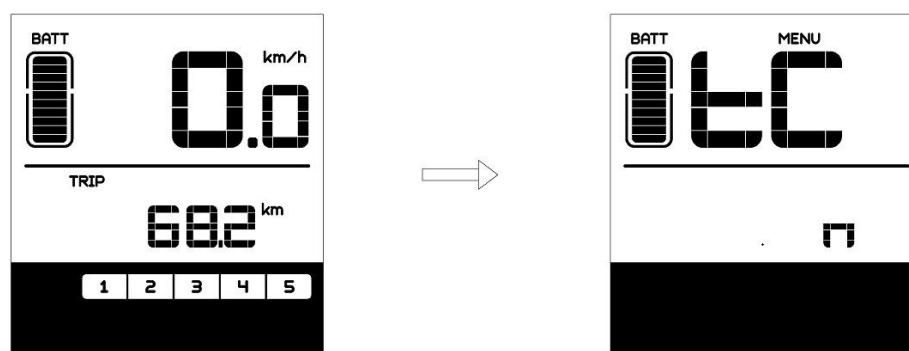
Parameter setting

Items to be set:



Setting Preparation

When the display is active, pressing the “mode” key two times (the interval between the two pressing actions should be shorter than 0.3 seconds), the system will enter the MENU parameter setting state, in which the display parameters can be set. Press the “mode” key two times (the interval between the two pressing actions should be shorter than 0.3 seconds) once again to exit the parameter setting state.



Enter the Parameter Setting Interface

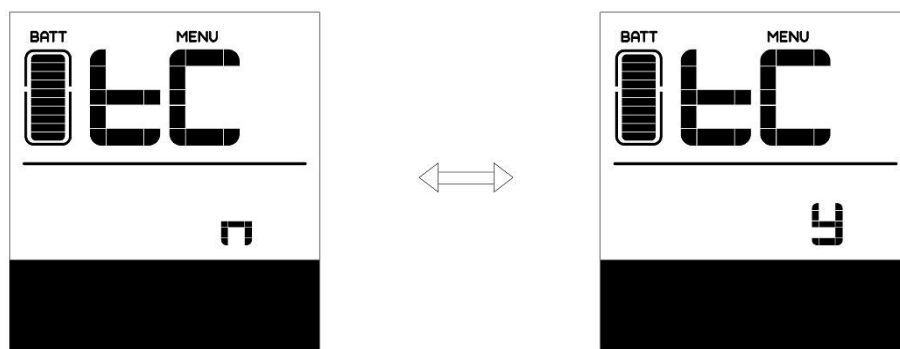
In the parameter setting state, when the parameter to be set begins to flash, press the "**up**" or "**down**" key to adjust the parameter value. Press the "mode" key to switch among the to-be-set parameters. Press the "**mode**" key two times (the interval between the two pressing actions should be shorter than 0.3 seconds) to exit the parameter setting state.

** In the parameter setting state, if no operation is performed to the display for 10 seconds, the display will return to the normal riding state.*

Data Reset

After pressing the "**mode**" key 2 times (the interval between the two pressing actions should be shorter than 0.3 seconds), the display enters the MENU state. In this state, the speed field displays tC and then also displays y after pressing the "**up**" key. At this moment, the temporary data, including maximum speed (MAXS), average speed (AVG) and single-trip distance (TRIP) can be cleared. After this setting, press the "**mode**" key for shorter than 0.3 seconds to enter the km/mile setting interface.

If the user has never made any reset operation, the single trip distance and the accumulated riding time will be automatically cleared when the accumulated riding time exceeds 99 hours and 59 minutes.

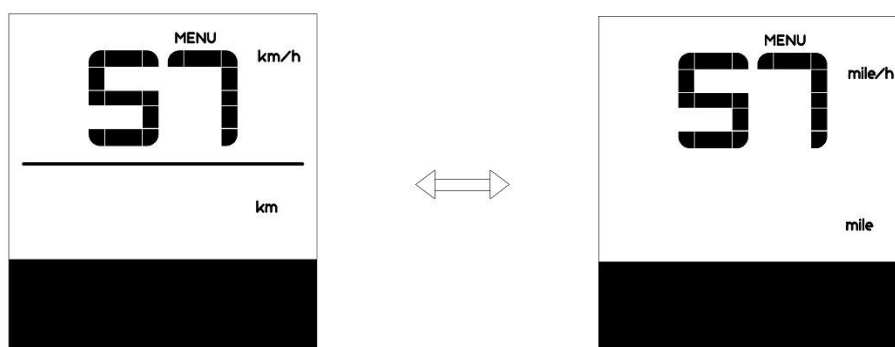


* When the display or the bicycle powers off, the above-mentioned data won't be cleared!

Km/mile

When the speed field displays S7, press the “up” or “down” key to switch between km/h and mile/h or km and mile.

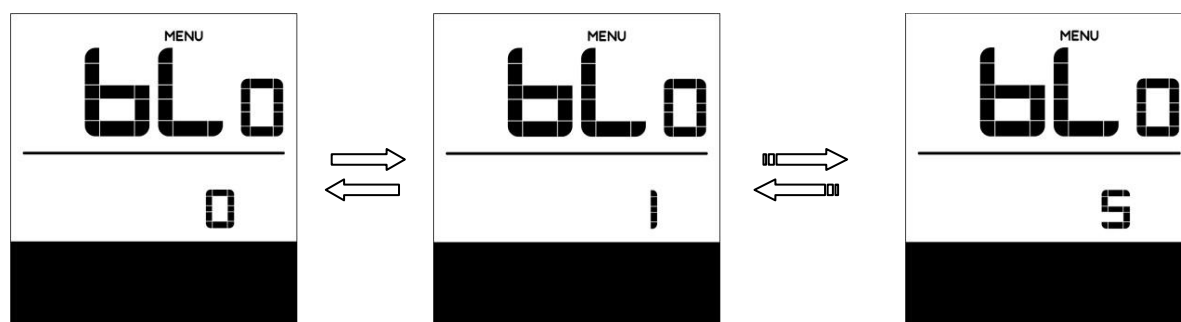
After this setting, press the "mode" key for shorter than 0.3 seconds to enter the setting interface of light sensitivity.



Light Sensitivity

When the speed field displays bL0, press the “up” or “down” key to display a figure between 0 to 5. 0 represents the shutdown of light-sensing function. As the figure increases, light sensitivity gradually increases.

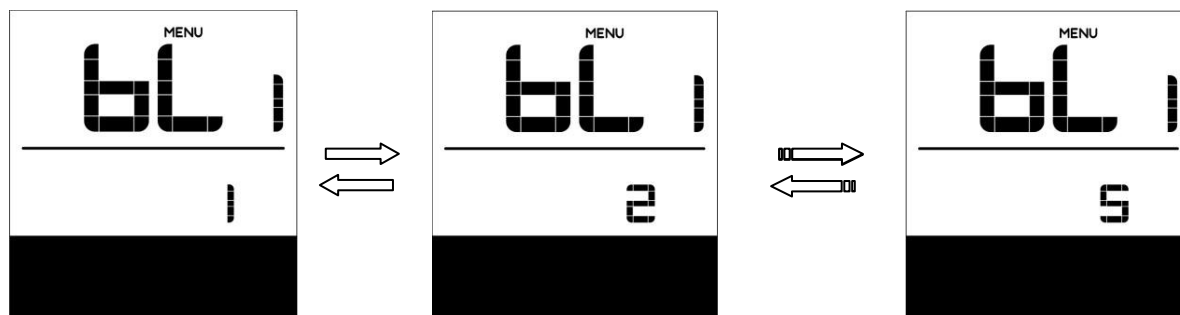
After this setting, press the "mode" key for shorter than 0.3 seconds to enter the setting interface of backlight brightness.



Backlight Brightness

When the speed field displays bL1, press the “up” or “down” key to display a figure between 1 to 5. The figure 1 represents the lowest backlight brightness while 5 indicates the highest backlight brightness.

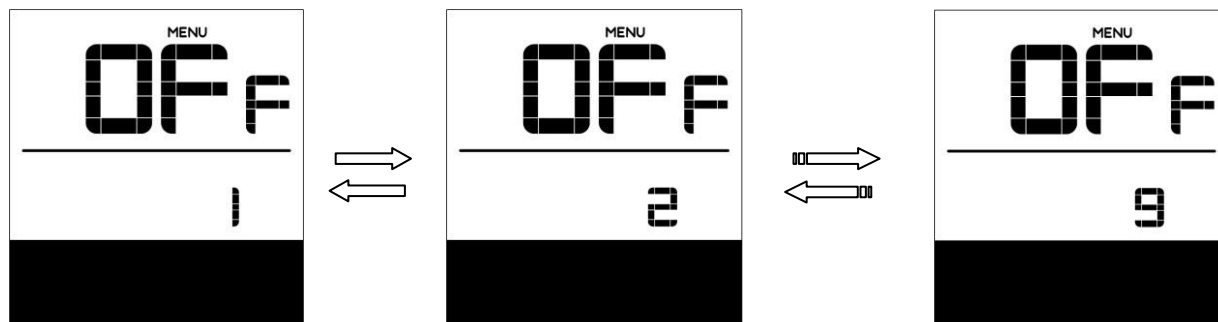
After this setting, press the "mode" key for shorter than 0.3 seconds to enter the setting interface of automatic off time.



Automatic Off Time

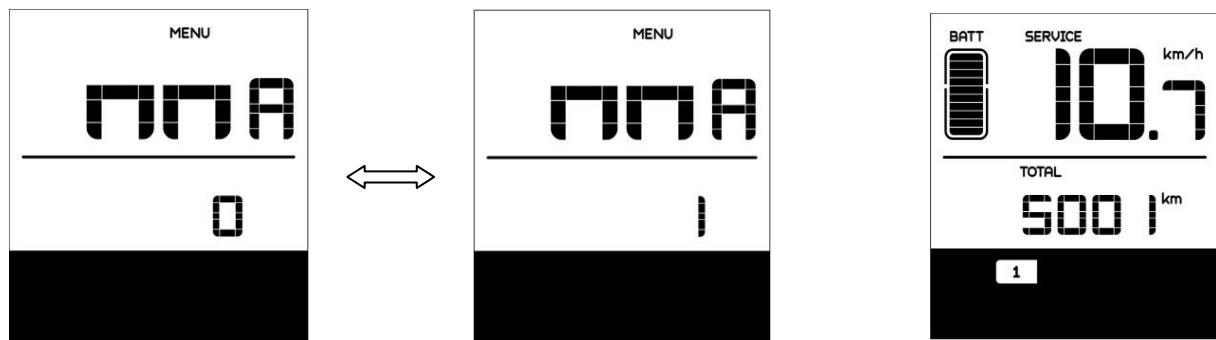
When the speed field displays OFF, press the “up” or “down” key to display a figure between 1 to 9. This figure indicates the minute that it takes to automatically shut down the display.

After this setting, press the "mode" key for shorter than 0.3 seconds to enter the setting interface of maintenance warning.



Maintenance Warning (inactive by default)

When the speed field displays nnA, press the up or down to display 0 or 1. 0 disables the maintenance warning function while 1 enables the maintenance warning function. After this setting, press the "mode" key for shorter than 0.3 seconds to enter the setting interface of password input.



Maintenance Warning Interface

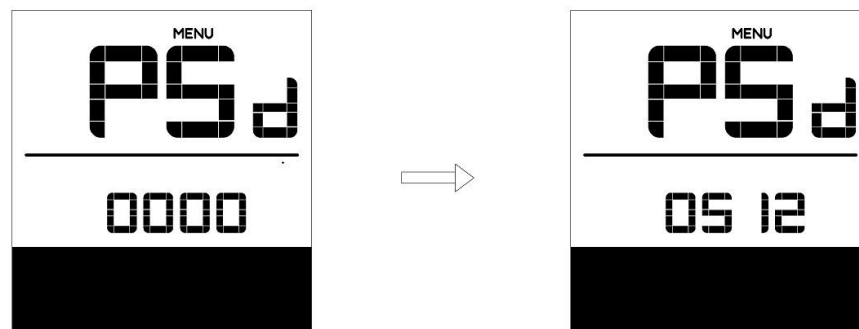
The display will prompt maintenance necessity based on such information as the accumulated riding distance and the battery charge/discharge cycles.

- When the accumulated riding distance exceeds 5,000 km (can be customized by the bicycle manufacturer) , there will prompt, on the display, the symbol **SERVICE** and the sign of accumulated riding distance will flash for 4 seconds when the display is started up, indicating the bicycle needs maintenance.
- When the number of battery charge/discharge cycles exceeds 100 (can be customized by the bicycle manufacturer), there will prompt, on the display, the symbol **SERVICE** and the sign of battery will flash for 4 seconds when the display is started up, indicating the battery needs maintenance.
- Proceed in order parameter setting -> maintenance alert (MA) -> 0 to disable the maintenance alert function. (With a USB communication module, maintenance alert can be programmed by a computer. See the parameter setting instruction document).

Items for Secondary Setting

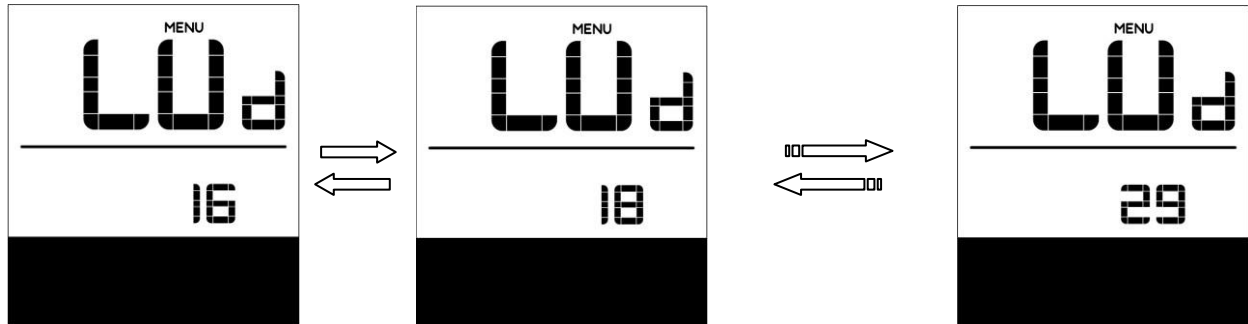
Password Input

When the speed field displays PSd, it's a prompt to enter a password. Press the “**up**” or “**down**” key to set the value (0 to 9) of each password entry. Press the “**mode**” key to switch among password entries. The password is in four digits and the default password is "0512". Press the “**mode**” key to confirm the setting. If the set password is wrong, the system automatically returns to the previous interface. If the set password is correct, the system will enter <wheel diameter selection>.



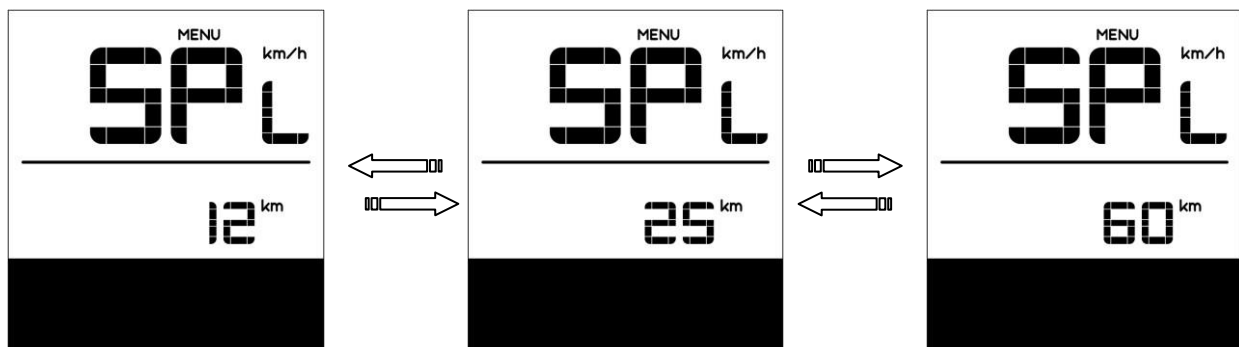
Wheel Diameter Selection

When the speed position displays Wd, press the “up” or “down” key to switch among 16, 18, 20, 22, 24, 26, 700c, 28 and 29. These figures represent different wheel diameters in inch. A wrong wheel diameter can lead to speed anomalies. After this setting, press the “mode” key for shorter than 0.3 seconds to enter the setting interface of speed limit change.



Speed Limit Change

When the speed field displays SPL, the distance field displays the value of speed limit whose default is 25km/h. Press the “up” or “down” key to adjust the speed limit. The minimum speed limit is 12 km/h and the maximum speed limit is 60 km/h. After the adjustment, press the “mode” button for shorter than 0.3 seconds to enter the interface of battery communication.



Battery Communication

At this moment, the speed field displays b01 and the distance field displays the speed limit. Press the “mode” key for shorter than 0.3 seconds to set the other communication items in sequence. After all these settings, double press the “mode” key for shorter than 0.3 seconds to exit the interface of battery communication settings.


The following information will not be displayed unless communication has been established between the battery and the controller. If there is no communication between the battery and the controller, the display will only show “- - -” when entering the battery communication interface.



INFORMATION TO BE DISPLAYED ON THE INTERFACE OF BATTERY COMUNICATION:

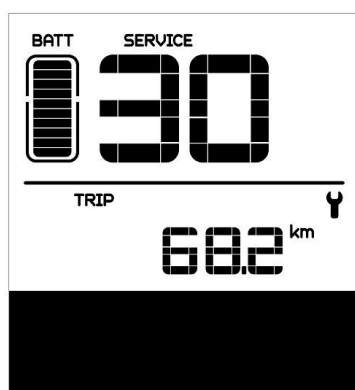
INFORMATION DISPLAYED IN THE SPEED FIELD	DEFINITION
b01	current temperature
b02	maximum temperature
b03	lowest temperature
b04	total voltage
b05	current
b06	average current
b07	remaining capacity
b08	full capacity
b09	relative state of charge
b10	absolute state of charge
b11	charge/discharge cycles
b12	the longest time that the battery was left uncharged after a charge in the past
b13	the time that the battery has been left uncharged since last charge
d01	1 st cell voltage
d02	2 nd cell voltage
.....
dn	voltage of the nth cell

Error Code Definitions

The MAX-C966 display can give warnings on bicycle faults. When a fault is detected, the icon  will be displayed on the LCD screen, and there will be an error code "n" in the speed display field.

DEFINITIONS OF ERROR CODES ARE LISTED IN THE TABLE BELOW:

ERROR CODE	ERROR DESCRIPTION	ERROR-SHOTING METHOD
"03" is displayed in the field for speed display.	The braking system has been applied.	Check whether a brake cable is stuck.
"04" is displayed in the field for speed display.	The throttle has not returned home.	Check whether the throttle has returned home.
"05" is displayed in the field for speed display.	Throttle fault.	Check the throttle.
"06" is displayed in the field for speed display.	Low voltage protection.	Check the battery voltage.
"07" is displayed in the field for speed display.	Overvoltage protection.	Check the battery voltage.
"08" is displayed in the field for speed display.	Motor hall signal cable fault.	Check the motor module.
"09" is displayed in the field for speed display.	Motor phase cable fault.	Check the motor module.
"11" is displayed in the field for speed display.	Controller temperature sensor failure.	Check the controller.
"12" is displayed in the field for speed display.	Current sensor failure.	Check the controller.
"13" is displayed in the field for speed display.	Battery temperature fault.	Check the battery.
"21" is displayed in the field for speed display.	External speed-detecting sensor fault.	Check the installation position of the external speed-detecting sensor.
"22" is displayed in the field for speed display.	BMS communication failure.	Replace the battery.
"30" is displayed in the field for speed display.	Communication failure.	Check the controller connectors.



Fault Allert Interface

YOUR BATTERY AND THE CORRECT WAY TO USE IT.**Charging the battery**

The batteries can be charged whilst they sit in the carrier on the bike, or when removed from the bike using the charger. Make sure it is inserted back in once charging is complete.

The average charging time of completely uncharged battery is about **4-6 hours**.

Charging should be completed when the green light lights up.

Battery charger

charger LED indicator	
LED	MODE
Red	charging
Green	charging completed, full battery

ALWAYS MAKE SURE THE BIKE IS POWERED OFF BEFORE INSERTING/REMOVING A BATTERY.

TO START CHARGING, FIRST SHOULD CONNECT POWER CABLE WITH 220V ELECTRIC SOCKET, NEXT CONNECT JACK TYPE CABLE WITH THE BATTERY.



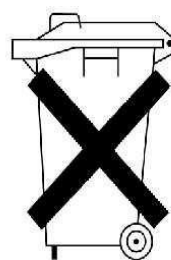
ATTENTION !

If the bicycle is unused, the battery should be stored in a charged state. Especially in the winter when we do not ride a bike remember to recharge the battery to its full no less than once every 3 months. Storing the battery in a discharged condition for a long time may cause its permanent damage !!!

Tips for taking good care of your battery:

- * Keep the battery stored in a cool dry place (5°C - 20°C)
- * Use only the charger supplied with the Geobike or a Geobike authorised charger.
- * Keep the charger and the battery out of reach of small children.
- * Do not cover the charger whilst in use.
- * Make sure no dirt or moisture is on the charger or the charger plug.
- * Do not handle the power plug or charger plug with wet hands.
- * Do not drop the charger or the battery.
- * Do not leave the battery pack or charge it in direct sunlight.

Once the battery had reached the end of its life please have it disposed by the professional technician or your dealer.



Destruction of the bike and the used battery should be performed in an environmentally sound manner. Please try to recycle wherever possible.



For more information, please contact GEOBIKE or the shop where you bought the bike.

WARRANTY INFORMATION

1. A bike that is correctly maintained and periodically inspected by your **GEOBIKE** dealer is the safest bike. In the case of an accident **Geobike** are only liable for accidents resulting from defects in material and/or workmanship. Accidents resulting from alterations, modifications and/or repairs performed by third parties are excluded from the liability. This also applies to accidents resulting from transports of persons and goods.
2. Under normal usage conditions and maintenances, your **Geobike** frame is covered by a 5 year warranty.
3. The **Geobike** electric components are covered by warranty subject to normal usage.
The warranty period: 2 years.
The warranty date commences on the date of purchasing.
4. During the warranty period, all components covered for which Geobike has established that there is a material and/or construction defect, Geobike has the right to repair/replace or compensate. Cost of disassembling and transportation of the bike are the responsibility of the owner unless the product is dead on arrival. Geobike will if certain items are eligible for warranty cover as far as possible replace by the same new parts or new parts of at least the same quality. Geobike cannot guarantee that certain components, frame types and/or parts will always be available.
5. Geobike reserves the right to decide whether an item is eligible for warranty cover.
6. The warranty applies only to the first owner of the bicycle.

NOTES :

[illegible]



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