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USERS GUIDE

KM6S LCD

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Preface

Dear users,

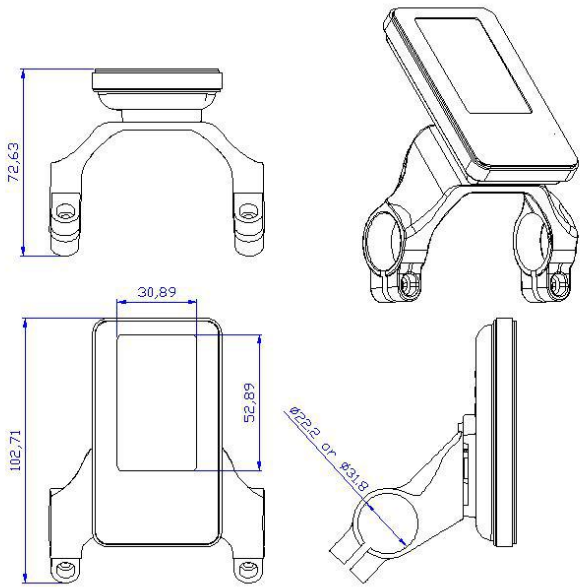
To ensure better performance of your e-bike, please read through the KM6S product introduction carefully before using it. We will use the brief words to inform you of all the details (including hardware installation, setting and normal use of the display) when using our display. Meanwhile, the introduction will also help you solve possible confusion and barriers.

1. Appearance and Size

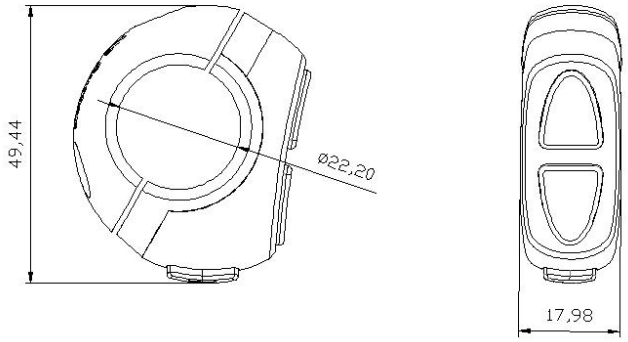
1.1 Material and Color

KM6S uses white and black PC materials. Under the temperature of -20℃ to 60℃, the housing material can ensure normal use and good mechanical performance of the product.

Display Size and Installation Size (Unit: mm)



KM6S is equipped with dedicated buttons. The N3 button can be installed on the left side of the handlebar or on the right side of the handlebar. The N3 button is connected to the bottom lead of the KM6S display. Its shape is as follows:



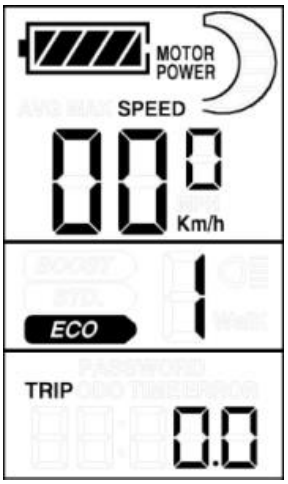
2.Function Summary and Button Definition

2.1 Function Summary

KM6S offers plenty of functions and showing to meet your requirements. The indicated contents are as following:

- ◆Battery indication
- ◆Motor power
- ◆Speed(including Real time speed, Max speed and Average speed)
- ◆Trip distance and ODO
- ◆Trip time
- ◆Walk assist
- ◆Turn on backlight
- ◆Error code
- ◆Multiple parameter setting
- ◆Default parameter recovery function
- ◆USB charging function(only when the display is with USB port）

2.2 Normal Display Area



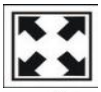
KM6S normal display area

2.3 Button Definition

The display with three buttons, in the following introduction， is named as **MODE**, is named as **UP**, is named as **DOWN.**

3.Operation Cautions

Be careful during use, do not plug in and out the connector of display when electrified.

 Avoid collision.

Please do not tear off the stickers to avoid water infusion.

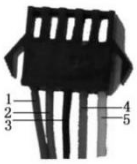
Please do not modify system parameters to avoid parameter disorder.

Make the display repaired immediately when not working properly.

4. Installation Instruction

Fix the display on the handlebar, adjust the angel. Plug the two connectors from display and controller when off power supply.

Standard Connector Wire Sequence



Connect to the controller　　Display Outlet　　Connection Interface

Table: Standard connector wire sequence

Standard Wiring	Standard Wiring Color	Function
1	Red(VCC)	Display power Wire
2	Blue(K)	Controller Power Control Wire
3	Black(GND)	Display Ground Wire
4	Green(RX)	Display Data Receiving Wire
5	Yellow(TX)	Display Data Transmission Wire

Note: Some products have waterproof connectors for the leads, and the user cannot see the color of the leads in the harness.

5.User Setting

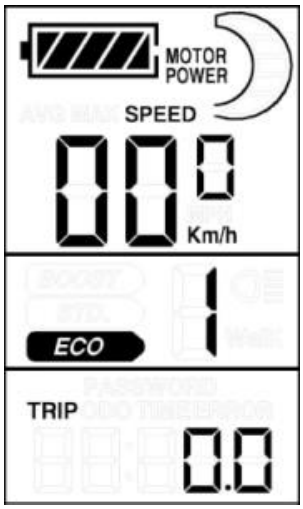
5.1 Power On/Off

Hold **MODE** button to start display and supply power to the controller. When at working state, press and hold **MODE** to shut off E-bike power. In the off state, the display no longer uses the battery's power supply; leakage current is less than 1uA.

If you do not use the E-bike for more than 10 minutes, the display will turn off automatically.

5.2 Display Interface

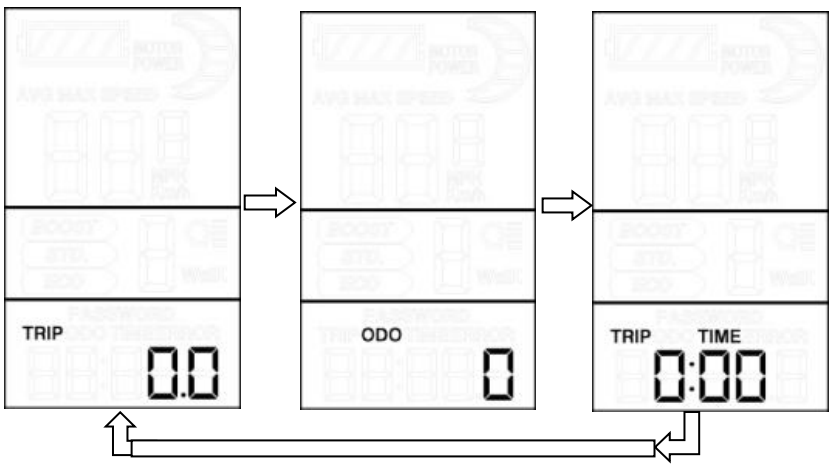
After the indicator is turned on, it shows the following interface.



Display interface

5.3 Trip/ODO/Trip Time

Press **MODE** to switch between Trip, ODO and Trip time.This function is convenient for users to check the current trip mileage (TRIP), accumulated total mileage (ODO) and current trip time (TRIP TIME).

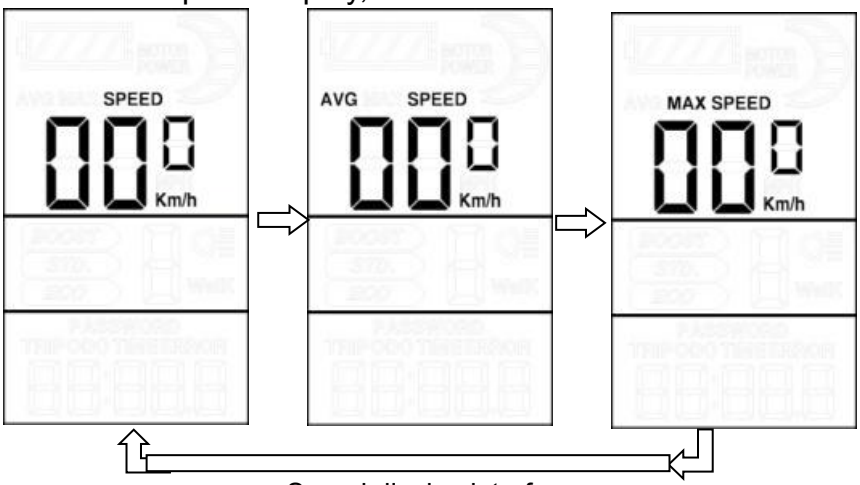


Mileage data display interface

5.4 Real Time Speed/Average Speed/Max Speed

After turning on display, it shows real time speed.

Hold **MODE** and **DOWN** buttons simultaneously for 2 seconds, the average speed (AVG) of this ride will be displayed, and then hold **MODE** and **DOWN** buttons simultaneously for 2 seconds, the maximum speed of this ride will be displayed (MAX), hold **MODE** and **DOWN** at the same time again for 2 seconds to return to the real time speed display, and so on.



Speed display interface

5.5 Walk Assist

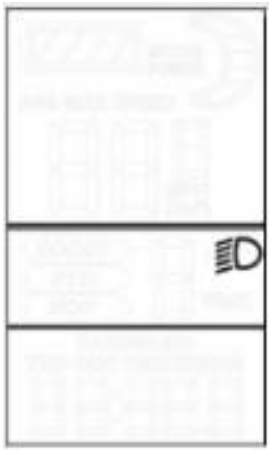
Hold **DOWN** for 2 seconds to start walk assist status. The bike will keep at an even speed output 6km/h,the screen shows Walk mode flashing symbol. Release the button to exit walk assist status.

Walk Assist

⚠ The walk assist function can only be used when the user pushes the electric vehicle, please do not use it in the riding state.

5.6Turn On Backlight

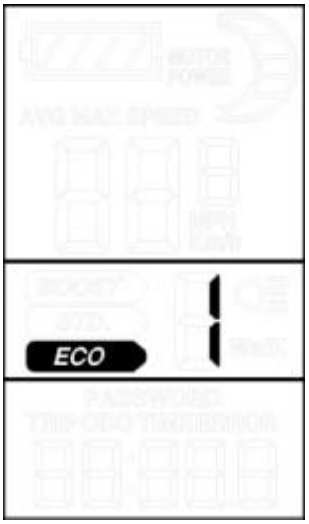
Hold **UP** for 2 seconds to turn on the backlight of display, and at the same time notify the controller to turn on the front light. When the external light is insufficient or when driving at night, the rider can turn on LCD backlight. Hold **UP** button again for 2 seconds, the LCD backlight turns off.



Backlight and light display

5.7 PAS Level Selection

Press **UP** or **DOWN** to adjust the PAS levels and change output power of the motor. The default level range is 1-5, and default level when the display is turned on is 1.



PAS level selection interface

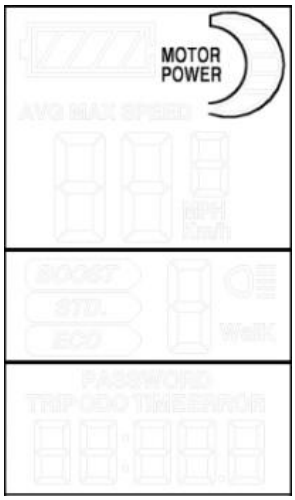
5.8 Battery Indicator

When the battery voltage is high, the five-segment LCD is on. When the battery is under voltage, the battery frame flashes, indicating that the battery is seriously under voltage and needs to be charged immediately.

Battery indicator

5.9 Power Display

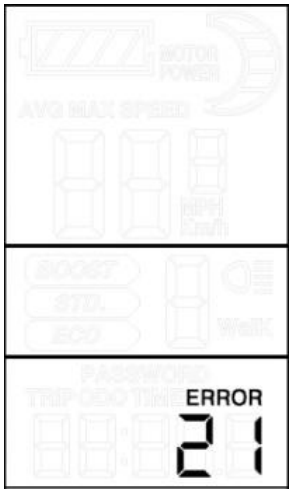
The display can show the current output power of the motor. The display mode is shown in the figure below.



Power display interface

5.10 Error Code

When the electric vehicle electronic control system fails, the display will automatically display an error code. For the definition of the detailed error code, see Appendix 1.



Error code display

The error display interface can only be exited when the fault is eliminated, and the electric vehicle cannot continue to drive after a fault occurs.

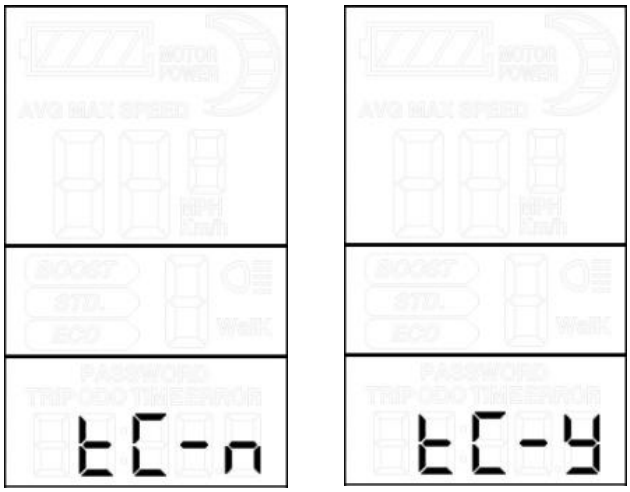
5.11 General settings

In the power-on state, hold **UP** and **DOWN** at the same time for 2 seconds, the

display enters the setting state.In the setting interface, shortly press **MODE** to switch setting items.

5.11.1 Trip Clearance Setting

TC stands for Trip Clearance, setting parameters can be N/Y. The default N means that the mileage of a single ride is not cleared. Y/N can be selected through **UP/DOWN**, Y means that the mileage of a single ride needs to be cleared.

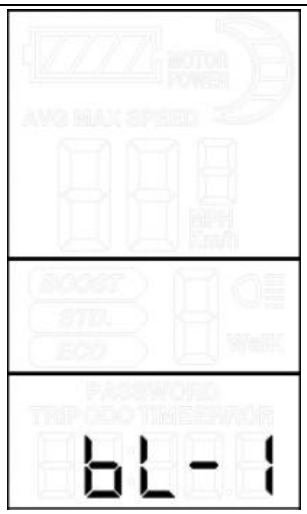


Trip clearance interface

Trip distance and Trip time will be cleared at the same time.

5.11.2 Backlight Brightness

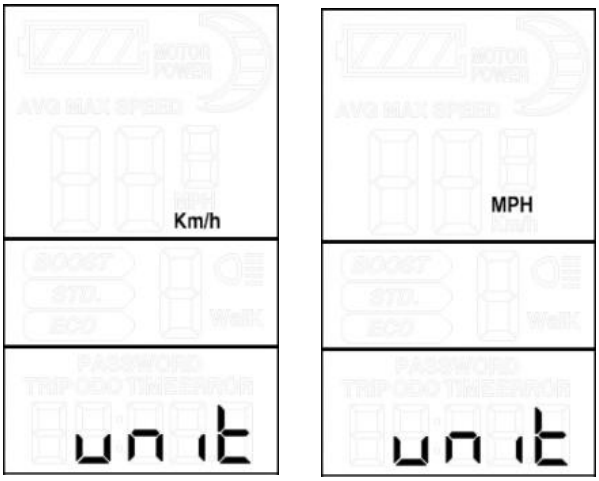
BL stands for backlight. Parameters 1, 2, and 3 can be set to indicate the brightness of the backlight. The factory default value is 1. The backlight brightness parameter can be changed by **UP/DOWN**. 1 is the darkest and 3 is the brightest.



Backlight brightness setting interface

5.11.3 Display Unit (Metric/Imperial)

Unit represents the display unit. The parameter Metric/Imperial can be set. The factory default is metric. The parameters can be changed by **UP/DOWN**.



Unit setting interface

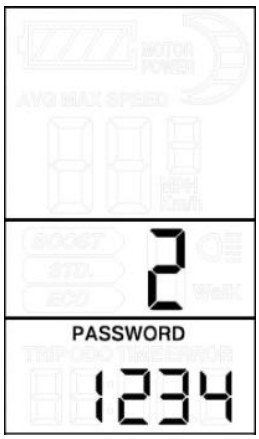
5.11.4 Exit setting

In the setting state, shortly press **MODE** button to confirm the input and enter the next setting; and hold **MODE** button to save and exit the setting state.

5.12 Password Setting

Hold **UP** and **DOWN** buttons simultaneously for 2 seconds to enter the general setting state; then hold **UP** and **MODE** buttons simultaneously for 2 seconds to enter the power-on password setting state.

The display prompts “PASSWORD 2”, indicating that you need to enter the power-on password. Press the **MODE** button to shift, and increase/decrease the input value by **UP/DOWN**. After the 4-digit password is entered, press the **MODE** button to confirm. If the password is correct, enter the power-on password user setting interface, otherwise it will stay in the password input state. Hold **MODE** button to exit. The factory default is: 1234.



Password input

5.12.1 Password Enable

Select Y/N through **UP/DOWN**, Y means power-on password is required, and N means power-on password is not required. Shortly press **MODE** to confirm and enter the display password modification interface.

No password required

Password enabled

5.12.2 Password Modification

Press **MODE** to shift and increase/decrease the value by **UP/DOWN**. After the modification is completed, hold **MODE** button to save the confirmation and exit the setting state.

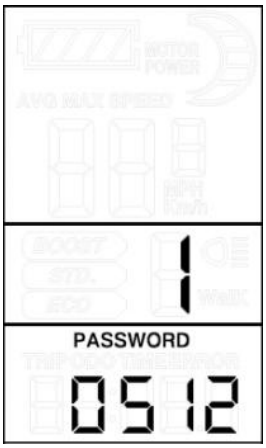
Password input

5.13 Operation Parameter Setting

Hold **UP** and **DOWN** buttons simultaneously for 2 seconds to enter the general setting state; then hold **MODE** and **DOWN** buttons simultaneously for 2 seconds to enter the operation parameter setting state.

The display prompts “PASSWORD 1”, indicating that you need to enter the permission password. press **MODE** button to shift, and increase/decrease the

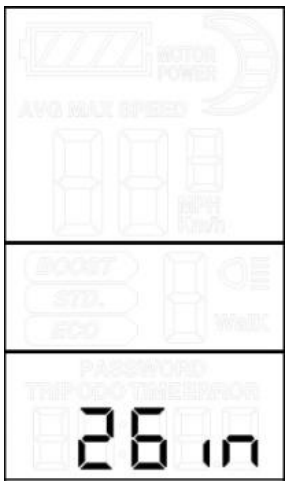
input value by **UP/DOWN**. After the 4-digit password is entered, press **MODE** button to confirm. If the password is correct, enter the power-on password setting interface, otherwise it will stay in the password input state. Hold **MODE** to exit. The permission password is: 0512.



Password input

5.13.1 Wheel Size Setting

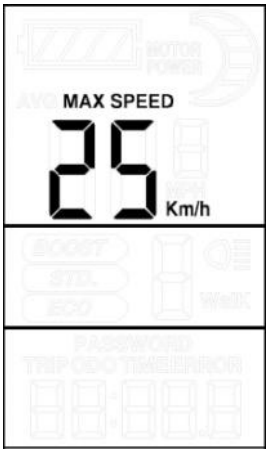
Available values are: 16inch, 18 inch, 20 inch, 22 inch, 24 inch, 26 inch, 700C, 28 inch. Use **UP/DOWN** to select the wheel size corresponding to the e-bike to ensure the accuracy of the speed display and mileage display. Press **MODE** to confirm and enter the speed limit setting interface. The factory default wheel size value is 26inch.



Wheel size setting

5.13.2 Speed Limit Setting

The default maximum riding speed is 25Km/h. Change this value to set the maximum riding speed of the e-bike. When the electric motor exceeds the set value, the controller will stop supplying power to the motor to protect the rider's safety.
The maximum speed setting can be selected from 12Km/h to 40Km/h. It can be set by **UP/DOWN**. After the modification is completed, hold **MODE** button to save the confirmation and exit the setting.



Speed limit setting

5.14 Personalized Setting

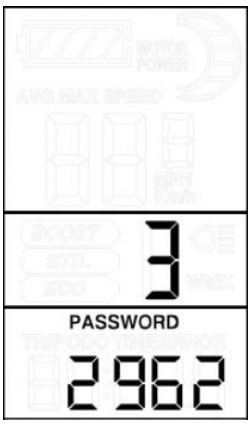
In order to enhance the personalized use of this product, we have specifically added this setting. It can be set for different requirements of users. In this setting, the display's battery indicator setting, PAS level setting, current limit setting, PAS sensor setting, speed sensor setting, throttle function setting and system setting are included. A total of seven items, detailed settings are shown in table 3.

5.14.1 Personalized Password Input

Hold **UP** and **DOWN** buttons simultaneously for 2 seconds to enter the general setting state; then hold **UP** and **DOWN** buttons simultaneously again for 2

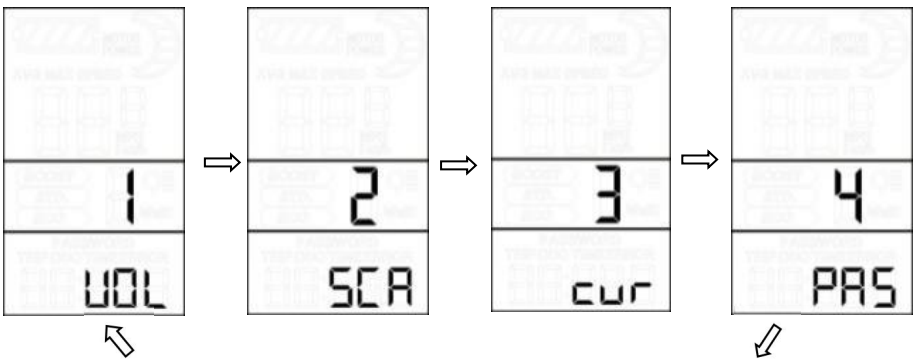
seconds to enter the personalized parameter setting state.

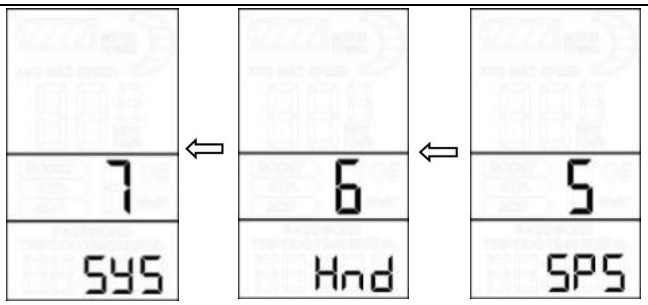
The display prompts “PASSWORD 3”, indicating that you need to enter the permission password. Press **MODE** button to shift, and increase/decrease the input value by **UP/DOWN**. After the 4-digit password is entered, press **MODE** button to confirm. If the password is correct, enter the power-on password setting interface, otherwise it will stay in the password input state. Hold **MODE** to exit. The permission password is: 2962.



Password input

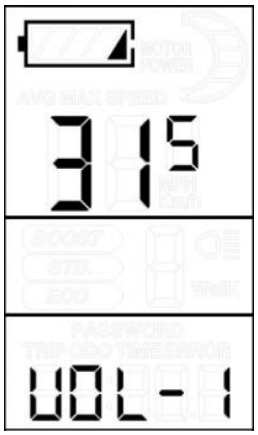
Use **UP/DOWN** to select the content to be set, and press **MODE** to enter the corresponding setting interface.





5.14.2 Battery Indicator Setting

VOL indicates the battery indicator setting. It is required to input the voltage values of 1 to 5 one by one. Take the first battery value as an example: “1” on the display indicates the first voltage and “31.5” is the first battery value. Change the value by increasing/decreasing with **UP/DOWN**. Press **MODE** to confirm and enter the next battery value setting. After the 5 power values are set, press **MODE** to confirm and return to the personalized parameter setting interface.

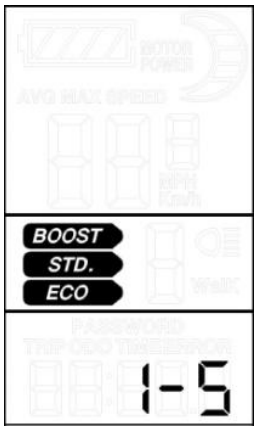


Battery indicator setting

5.14.3 PAS Parameter Setting

5.14.3.1PAS Level Selection

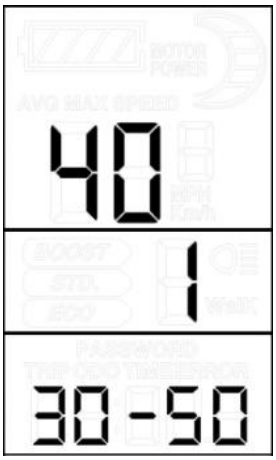
SCA indicates the PAS parameter setting. Eight modes are provided for selection: 0-3, 1-3, 0-5, 1-5, 0-7, 1-7, 0-9, 1-9. Switch by **UP/DOWN**, press **MODE** to confirm, and enter the corresponding PAS ratio value setting interface.



Pas level selection

5.14.3.2 PAS Proportion Setting

By setting the PAS proportion, you can adjust the speed of each assist level to meet the needs of different riders. Taking the first level as an example, “30 - 50” is the recommended range of the PAS proportion, and “40” is the current value of the first level (i.e. the output is 40%). By increase/decrease settings with **UP/ DOWN.** Press **MODE** to confirm and enter the next PAS proportion setting. After the setting finished, press **MODE** to confirm and return to the personalized parameter setting interface. Refer to table 4 for details.

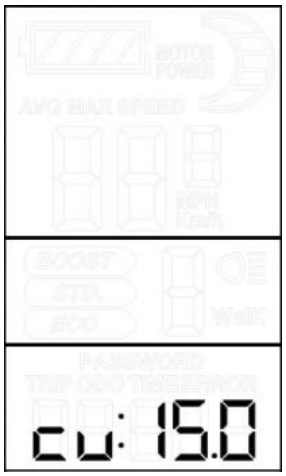


PAS proportion setting

5.14.4 Current Limit Setting

CU indicates the current limit setting. The current limit can be set from 7.0-18.0A.

Change the maximum current value of the controller by **UP/DOWN**. Hold **MODE** to confirm and return to the personalized parameter setting interface. The factory default value of the display is 15A.



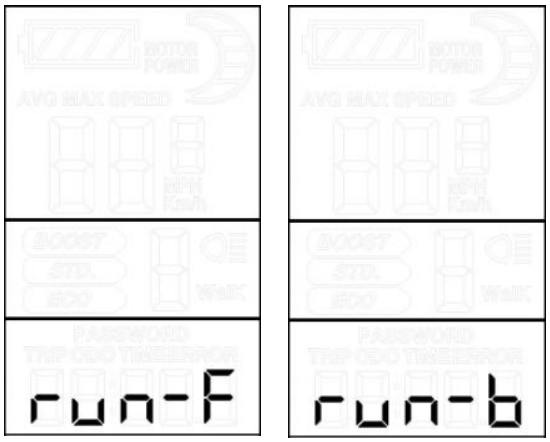
Current limit setting

Depending on the hardware of the controller, the controller may not be able to reach the set 18A.

5.14.5 PAS Sensor Setting

5.14.5.1PAS Sensor Direction Setting

run indicates the PAS sensor direction setting. The display shows run.F/b. run.F stands for forward and run.b stands for reverse. Switch by **UP/DOWN.** Press **MODE** to confirm and enter the PAS sensor sensitivity setting. The factory default value of the sensor direction is positive.



PAS sensor direction setting

5.14.5.2 PAS sensor sensitivity setting

The display shows SCN, indicating the sensitivity of the PAS sensor. The setting range is 2-9. 2 indicate the highest sensitivity and 9 indicate the lowest sensitivity. Increase/decrease setting values by **UP/DOWN**. Press **MODE** to confirm and enter the PAS sensor proportion parameter setting interface. The factory default value is 2.

PAS sensor sensitivity setting

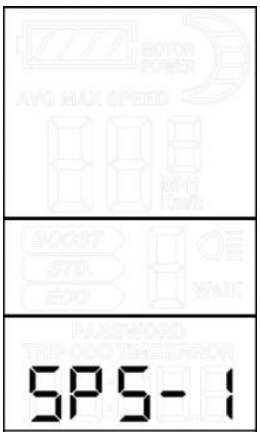
5.14.5.3 PAS Sensor Proportion Parameter Setting

n- represents the PAS sensor proportional parameter. The PAS sensor parameter values can be selected by **UP/DOWN**. The larger the value, the more obvious the PAS feeling. Hold **MODE** to confirm and return to the personalized parameter setting interface.

PAS sensor proportion parameter setting

5.14.6 Speed Sensor Setting

SPS indicates the speed sensor setting. It can be set according to the number of magnet heads mounted on the wheel of the e-bike, and the setting range is 1-9. Modify it by pressing **UP/DOWN**. Hold **MODE** to confirm and return to the personalized parameter setting interface. The factory default value is 1.



Speed sensor setting

5.14.7 Throttle Function Setting

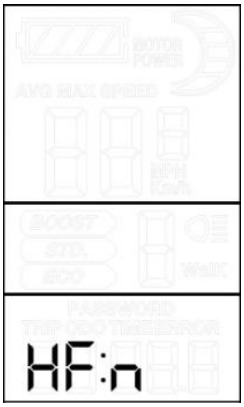
5.14.7.1 Throttle Walk Assist Enable Setting

HL indicates the throttle's walk assist function. HL: N means that the throttle does not has this function, and HL: Y means that throttle has this function, that is, when turning the throttle, the display enters the walk assist mode. Y/N can be switched by **UP/DOWN**. If you select N, press **MODE** shortly to confirm and enter the throttle level enable setting interface, otherwise there is no response. Hold **MODE** to confirm and return to the display's personalized parameter setting interface. The factory default value of the display is N.

Throttle walk assist enable setting

5.14.7.2 Throttle Level Enable Setting

HF indicates the throttle level setting. HF: N means that the throttle doesn't split levels according to the PAS ratio. If the throttle level splitting is enabled, the maximum output of the motor can only reach the speed of the corresponding PAS level shown on the display when turning the throttle; if no level splitting, it means that when the throttle is turned, the speed will not limited to the PAS level shown on the display, it can reach to the rated maximum speed. Y/N can be set by **UP/DOWN.** Hold **MODE** to confirm and return to the display's personalized parameter setting interface. The factory default value of the display is N.



Throttle level enable setting

5.14.8 System Setting

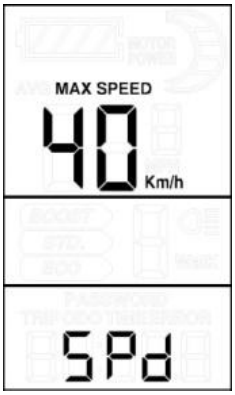
5.14.8.1Battery Delay Time Setting

DLY represents the battery delay time. The battery delay time 3/6/12s can be selected by **UP/DOWN**. Press **MODE** to confirm and enter the maximum speed limit setting interface. The default value is 3s.

Battery delay time setting

5.14.8.2 Max Speed Limit Setting

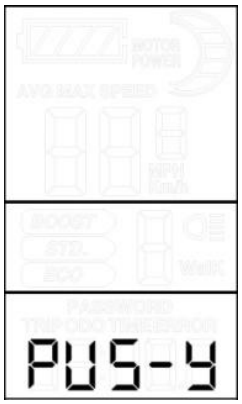
MAX SPEED indicates the maximum speed limit. The value can be set by **UP/DOWN**, and the setting range is 25-40 Km/h. Press **MODE** to confirm, and enter the push walk assist enable setting interface. The factory default is 40Km/h.



Max speed limit setting

5.14.8.3 Button Walk Assist Enable Setting

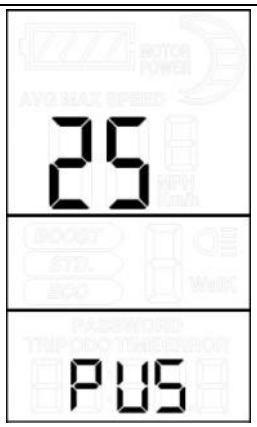
PUS indicates the button walk assist function enable setting. Switch Y/N by **UP/DOWN**. Y means enable, that is when hold **DOWN**, the walk assist function realizes; N means disable, that is, there is no walk assist function. Shortly press **MODE** to confirm, and enter the walk assist speed setting. The factory default value is Y.



Button walk assist enable setting

5.14.8.4 Walk Assist Speed Setting

PUS indicates the button walk assist speed setting. By setting the walk assist speed value, you can adjust the pushing speed to meet the needs of different riders. Adjusted by **UP/DOWN,** the adjustable range is “20-35”. Press **MODE** to confirm and enter the slow start setting interface. The display defaults to 25 (ie, 25% output).



Walk assist speed setting

5.14.8.5 Slow Start up Setting

SSP indicates the slow start up setting. The adjustable range is 1-4. 4 is the slowest. Select with **UP/DOWN**. Hold **MODE** to confirm and return to the display's personalized parameter setting interface. The factory default is 1.

Slow start up setting

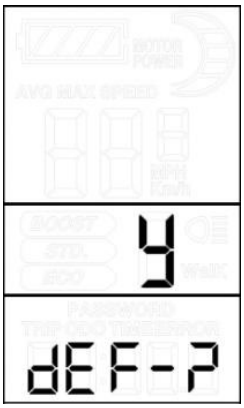
5.14.9 Exit Setting

In the personalized parameter setting state: press **MODE** to confirm the input to enter the next setting; hold **MODE** to confirm the current setting and exit the current setting state; hold **DOWN** to cancel the current operation, exit without saving the current set data.

The display automatically exits the setting state without any operation for 1 minute.

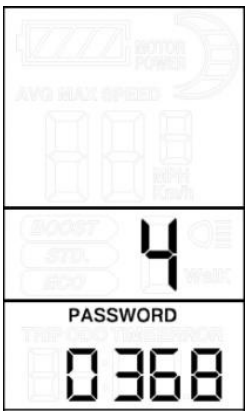
5.15 Restore Default Setting

DEF means to restore the default parameters. Hold **UP** and **MODE** buttons simultaneously for 2 seconds to enter the Restore Default Parameters interface. Switch Y/N with **UP/DOWN**. Y indicates that the default parameters need to be restored. Hold **MODE** to confirm. If you select Y, you need to enter the permission password to restore the default parameters.



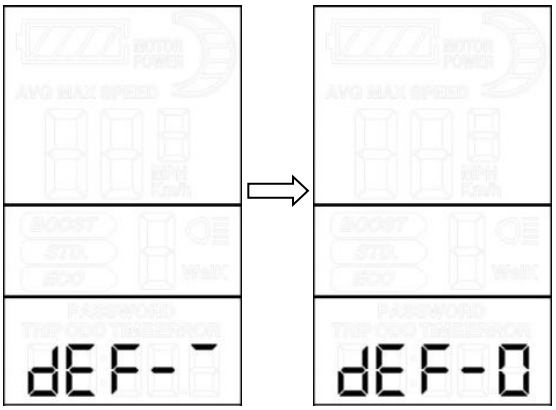
Restore default setting

The permission password is 0368. Press MODE to shift and increase/decrease the value by **UP/DOWN**. After the 4-digit password is entered, press **MODE** to confirm. The display will automatically exit after successful recovery.



Password input

In the recovery default, the battery indicator, ODO and TRIP are unrecoverable, but the power-on password is in recovery.



Data recovery process

6.Error Code

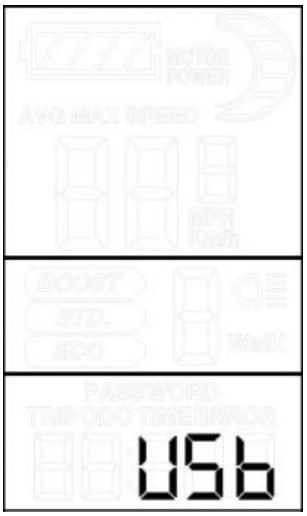
Error Code	Definition
21	Abnormal Current
22	Abnormal Handlebar
23	Motor Phase Loss
24	Abnormal Motor Hall Signal
25	Abnormal brake
30	Abnormal Communication

Error Code Definition

7.USB Charging Function

The display with USB interface will be able to provide charging power for mobile phones, output 5VDC/500mA. When the display is off, connect the mobile phone data cable between the display and the mobile phone. And then turn on the display, it shows 'USB' every 3S, indicating that the mobile phone is being charged; if the display is turned off at this time, the USB interface still provides the mobile

phone charging function. In any state, disconnect the phone and the charging will automatically terminate.



USB charging

8.Preparation before Power On

Please read the instruction manual carefully before using the display.

9. FAQ Answers

Q: Why can't turn on the display?
A: Check if the battery power is turned on, the outer leakage cable is broken or not.

Q: What should I do if the display shows error code?
A: Timely repair at the e-bike repair shop.

10.Quality Warranty And Coverage

I. Warranty:
1. In the case of normal use, due to the quality problems caused by the product itself, the company will be responsible for the warranty during the warranty period.

2. The warranty: 24 months since the display out of the factory.

II. The following conditions are not covered by the warranty:
1. The casing is opened
2. Connector is broken
3. The display leaves the factory, the casing is scratched or the casing is damaged.
4. Scratch or break of the display lead wire
5. Failure or damage caused by force majeure (such as fire, earthquake, etc.) or natural disasters (such as lightning strikes)
6. Product is out of warranty.

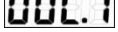
11.Version

This user manual is for a general-purpose UART-5S protocol software (version V1.0). Some version of the e-bike LCD may have slightly difference, which should depend on the actual use version.

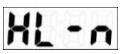
Appendix1: Password Checklist

S/N	Screen Display	Password	Description
1		0512	Operation parameter setting password (Fixed)
2		Default Password 1234	Power-on password (Can be modified)
3		2962	Password for personalized parameter setting (Fixed)
4		0368	Restore setup password (Fixed)

Appendix 2: Personalized Setting List

S/N	Setting Item	Screen Display	Setting Content
1	Battery Indicator Setting		5 Battery Value Setting 
2	PAS Level Setting		PAS Level Selection
			PAS Ratio
3	Current Limit setting		Limit Current Value
4	PAS Sensor Setting		PAS Sensor Direction
			PAS Sensor Sensitivity
5	Speed Sensor Setting		Speed Sensor Magnet Steel Number

Continued Appendix 2:

S/N	Setting Item	Screen Display	Setting Content
6	Throttle Function		Throttle walk assist enable setting 
			Throttle level enable setting

7	System Setting		Battery Delay Time
			Max Speed Setting
			Button walk assist enable setting
			Walk assist speed setting
			Slow Start Setting

Appendix 3: PAS Proportion Default Value

Level / Level option	1	2	3	4	5	6	7	8	9
0-3/ 1-3	47%	72%	92%	—	—	—	—	—	—
0-5/ 1-5	40%	55%	70%	85%	95%	—	—	—	—
0-7/ 1-7	35%	46%	57%	68%	79%	90%	97%	—	—
0-9/ 1-9	25%	34%	43%	52%	61%	70%	79%	88%	96%

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