

# USERS GUIDE

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## K5304- LCD



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## **Introduction**

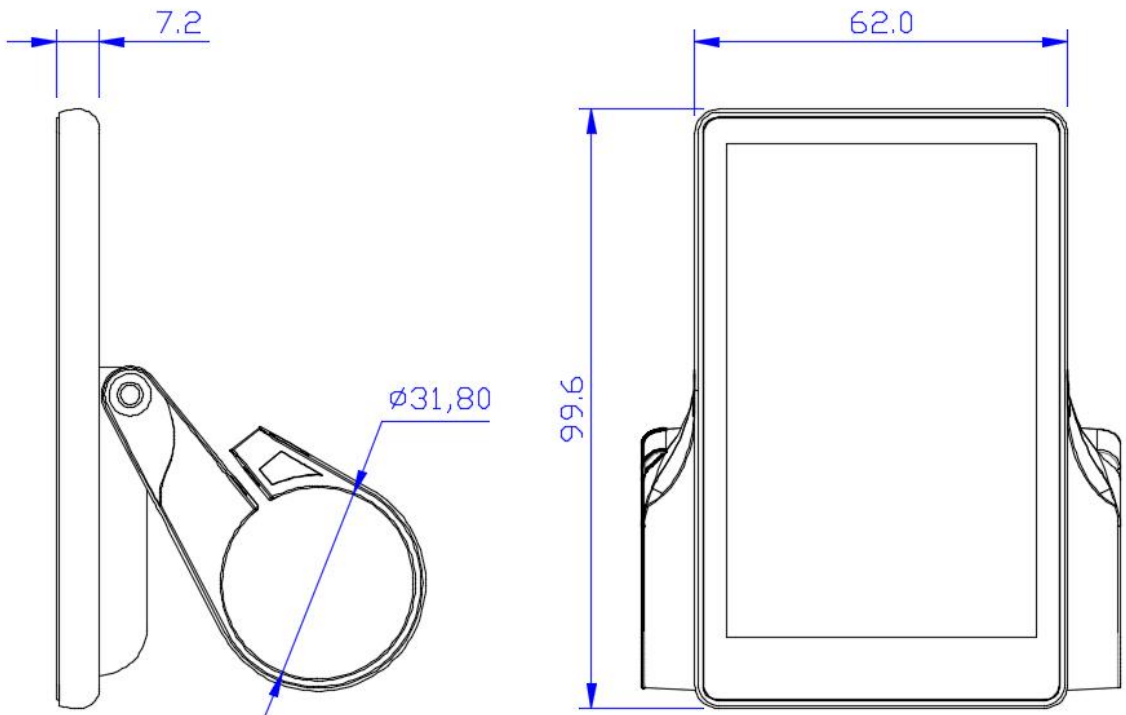
Dear users, in order to better operate your e-bike, please carefully read the manual of K5304 LCD display before use. We will tell you every detail of display in the simplest language, including the installation and setting of hardware and the normal use of the display. At the same time, it helps you solve the possible confusion and obstacles.

# 1. Dimensions

## 1.1 Material and color

K5304 product housing is made of white and black PC materials. The material of the housing is allowed to be used normally at the temperature of - 20 °C to 60 °C , and good mechanical properties can be guaranteed.

Figure and dimension drawing (unit: mm)



## 2 Function and button definition

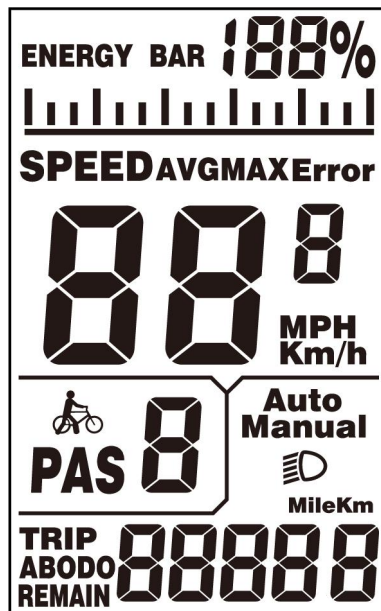
### 2.1 Function description

K5304 provides you with a variety of functions and displays to meet your riding needs.

K5304 displays:

- ◆ Battery capacity
- ◆ Speed (including real-time speed display, maximum speed display and average speed display),
- ◆ Distance (including trip and ODO),
- ◆ 6KM/H
- ◆ Backlight turn on,
- ◆ Error code,
- ◆ Multiple setting parameters. Such as: wheel diameter, speed limit, battery capacity setting, various PAS level and power assisted parameter setting, power on password setting, controller current limit setting, etc.







### 2.2 Display area

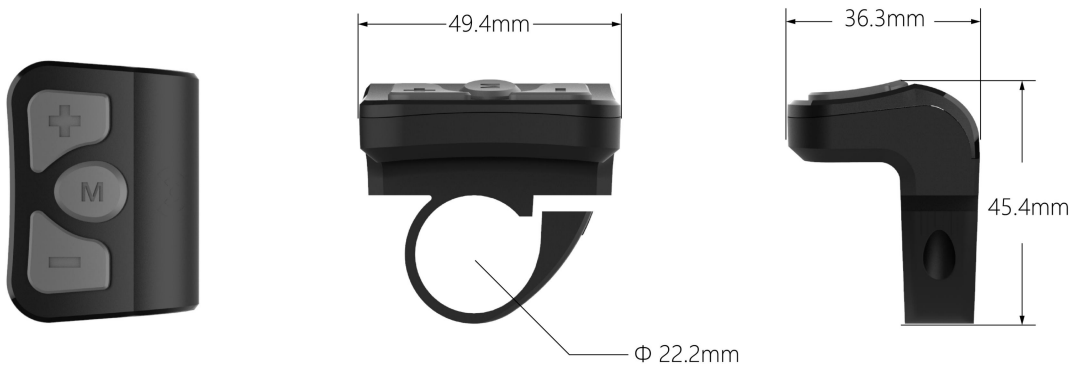


K5304 display fully

## 2.3 Button definition

The main body of the button is made of PC material, and the button part is made of soft silicone material, all in black. There are three buttons on the K5304 display. Including power on/mode button

, plus button  and minus button . In the following description,  button is replaced by the text **【MODE】**.  button is replaced by the text **【UP】**.  button is replaced by the text **【DOWN】**



## 3. User reminder

Pay attention to safety during use. Do not plug and unplug the display when it is powered on.

Avoid bumping the display as much as possible.

The film used for the display is a waterproof film. Please do not tear it off to avoid affecting the waterproof performance of the display.

Please do not change the background parameter setting of the display at will, otherwise the normal riding cannot be guaranteed.

When the display cannot be used normally, it shall be sent for repair as soon as possible.

## 4.Instalation instructions

Fix the display on the handlebar and adjust the appropriate angle of view. When the e-bike is powered off, the display can be completed by inserting the connector of the display and the connector corresponding to the controller.

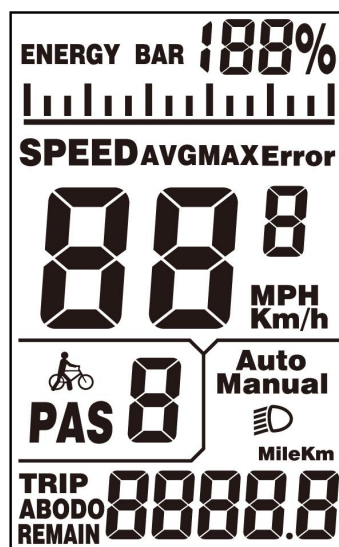
## 5. Operation introduction

### 5.1 Power on/off

After hold the 【MODE】 button, the instrument starts to work and provides the working power supply of the controller. In the power on state, hold the 【MODE】 button to turn off the power supply of the e-bike In the power off state, the display no longer uses the power supply of the battery, and the leakage current of the display is less than 1uA.

If the e-bike is not used for more than 10 minutes, the display will power off automatically.

### 5.2 User interface

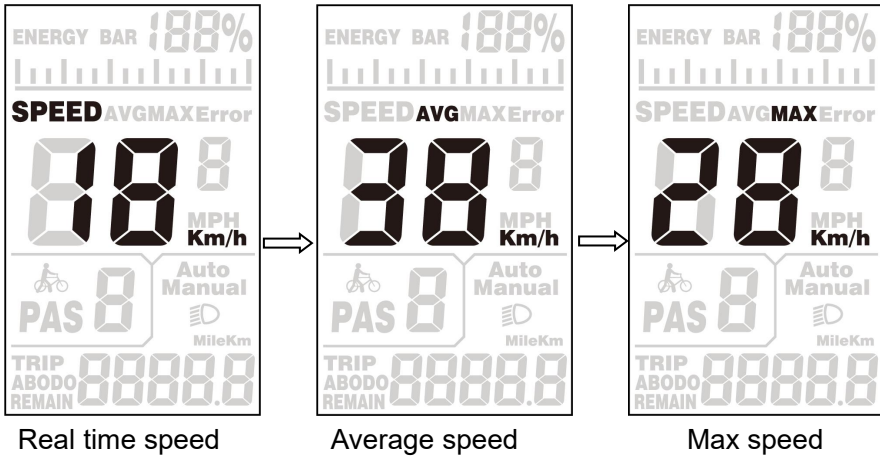


K5304 User interface



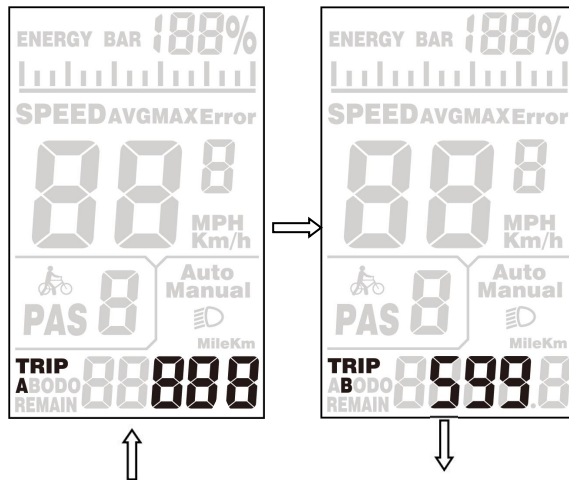
### 5.3 Speed

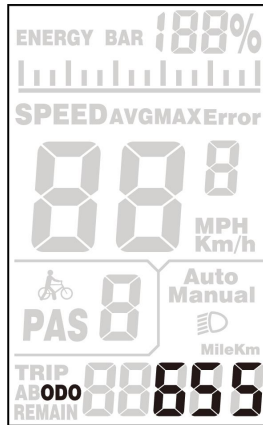
Long press the [mode] button and the [UP] button to enter the speed switching interface, and speed (real-time speed), AVG (average speed) and max (maximum speed) are displayed respectively, as shown in the figure:



### 5.4 Trip/ODO

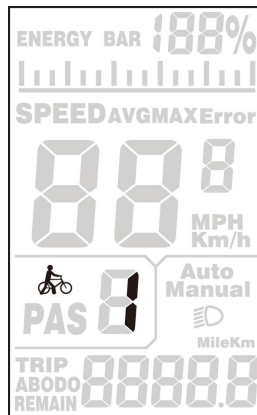
Press the [mode] key to switch the mileage information, and the indicate is: TRIP A(single trip) → TRIP B (single trip)→ ODO (cumulative mileage),as shown in the figure:





## 5.5 Walk Assist Mode

When the display is turn on, hold the [DOWN] button for 3 seconds, the e-bike will enter the state of walk assist mode. The e-bike travels at a constant speed of 6km/h. The screen will flash “WALK”.




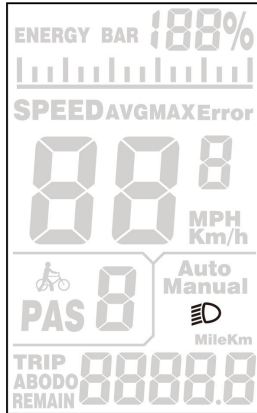
Walk interface



The walk assist mode function can only be used when the user pushes the e-bike. Do not use it when riding.

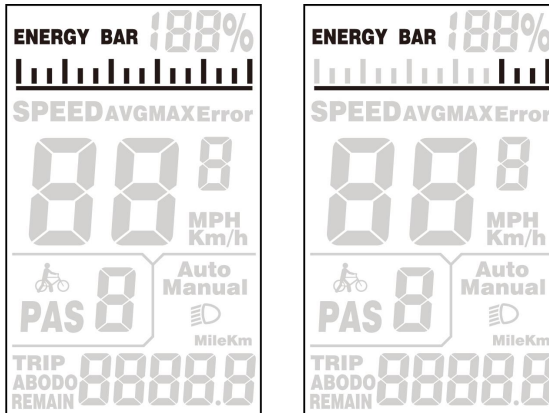
## 5.6 Headlight On/Off

Hold the [UP] button to display the interface as shown, and the icon  appears, indicating that the lights have been turned on. Long press the [UP] button again to turn off the lights.



Headlight on interface

## 5.7 Battery indicator



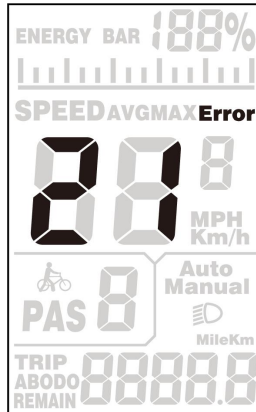
**When the battery power is displayed as shown in the picture on the right, it indicates that the battery is under voltage. Please charge it in time!**

## 5.8 Trip resetting

When the display is turned on and e-bike is not running, hold the [mode] and [down] buttons for 2 seconds at the same time, and the Trip(single mileage) of the display will be cleared.

## 6 Error code

When the e-bike electronic control system fails, the display will automatically display ERROR code. For the definition of the detailed error code, see Schedule 1.



Error code interface

**Only when the fault is eliminated, can exit the fault display interface, the e-bike will not continue to run after the fault occurs.**

## 7. User setting

### 7.1 Preparation before startup

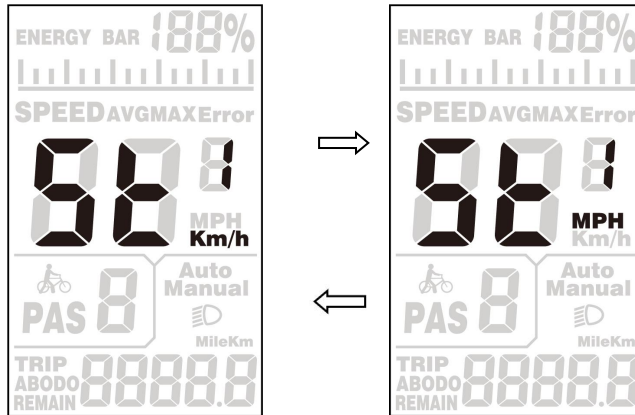
Ensure that the connectors are firmly connected and turn on the power supply of the e-bike.

### 7.2 General setting

Press and hold the [mode] button to power on display. In the power on state, press and hold the [up] and [down] buttons for 2 seconds at the same time, and the display enters the setting state.

#### 7.2.1 Metric and imperial setting

Enter the setting state, ST<sup>1</sup> means imperial system selection, short press the [UP]/[DOWN] button to switch between metric units (Km) and imperial units (Mph). Short press [MODE] button to confirm the setting, and then enter the ST<sup>2</sup> setting interface.



Metric/Imperial conversion setting interface

### 7.2.2 Speed limit setting

Short press **[UP]** / **[DOWN]** button to set the maximum speed limit, the setting range is 20-40Km/h. Short press **[MODE]** to confirm and enter the wheel diameter setting interface. The default maximum speed of the meter is 25Km/h.

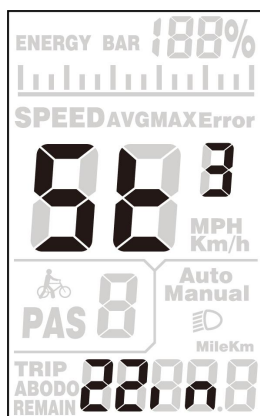
The maximum speed limit can be customized according to customer requirements



Speed limit setting interface

### 7.2.3 Wheel size setting

Short press **[UP]** / **[DOWN]** button to select the wheel diameter corresponding to the bike wheel to ensure the accuracy of the speed display and distance display. The settable values are: 16, 18, 20, 22, 24, 26, 28, 700C, 28. The factory default wheel diameter value is 28inch. Short press **[MODE]** button to confirm and enter the real-time speed display.



Wheel size setting interface

### 7.2.4 Exit settings

In the setting state, long press **【MODE】** button (more than 2 seconds) to confirm to save the current setting and exit the current setting state.



**If no operation is performed within one minute, the display will automatically exit the setting state.**

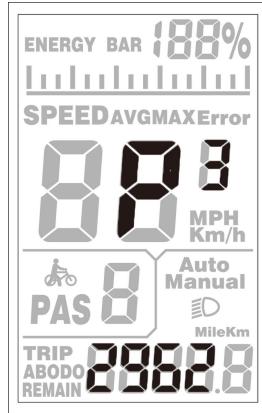
### 7.3 Personalized Parameter settings

In order to improve the personalized use of this product, we specially added this setting. It can be set according to different requirements of users. This setting includes the setting of battery power, PAS level, current limit, PAS sensor, speed sensor and system settings. There are six major settings.

#### 7.3.1 Personalize Settings Password Input

Press and hold **【UP】 + 【DOWN】** buttons for 2 seconds to enter the normal setting interface. Press and hold **【UP】 + 【DOWN】** buttons again to enter the personalization setting interface.

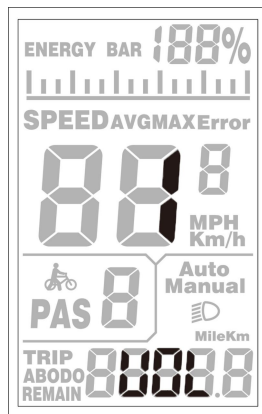
The character “P3” on the bottom of the screen means the password of setting. Short press **【MODE】** button to shift and input the value by pressing **【UP】/【DOWN】** button. After the 4-digit password is input, short press **【MODE】** button to confirm. If the password is correct, then enter the setting item selection interface, otherwise it will stay in the password input state. The password of personalize settings is 2962.



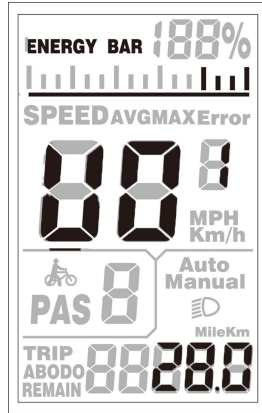
Password input interface

Press “UP/DOWN” button to select, and press “MODE” button to enter the corresponding setting page.

### 7.3.2 Battery Power Volt Setting

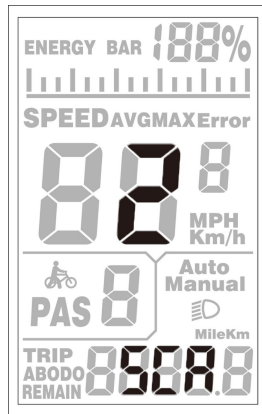


“VOL” means battery power volt setting. Each number represents a voltage value. 5 voltage values MUST BE entered one by one. Press **【UP】** / **【DOWN】** button to change the value. Short press **【MODE】** button to confirm and enter the setting of the next power volt value. After the five power volt values are set, press and hold **【MODE】** button to confirm, and return to the personalized parameter setting interface.



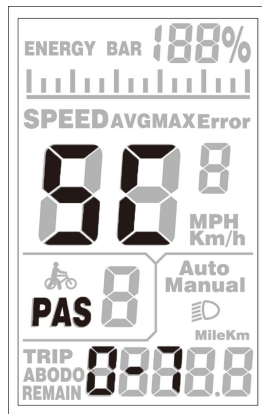
Battery power voltage setting interface

### 7.3.3 PAS level setting



PAS level select interface

In Pedal Assistant Level Settings, there are 8 modes selectable: 0-3, 1-3, 0-5, 1-5, 0-7, 1-7, 0-9, 1-9. Press “UP/DOWN” button to select the mode, and press “MODE” button to confirm, then enter to the ratio of each PAS level settings.

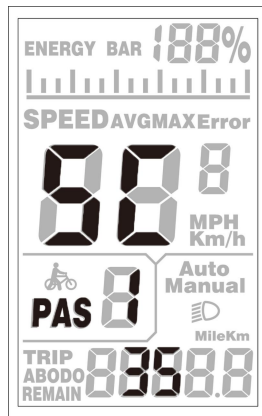


PAS level select interface



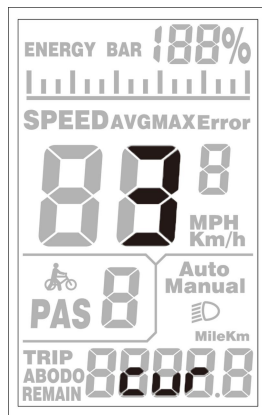
The speed of each level can be adjusted by setting the assist proportion value to meet the different requirements for riders.

Take the 1 level for example, “30-50%” is the range value, and "40%" is the default value of the first level, which can be set. Pressing **【UP】/【DOWN】** button to modify, short press **【MODE】** button to confirm and enter the next assist level ratio setting. Up to 9 can be set. After setting, long press “MODE” button to confirm and return to setting selection interface. Short press “MODE” button to confirm and return to assist level selection.



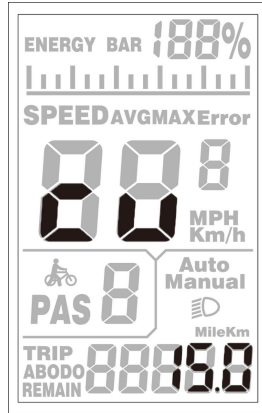
PAS level ratio setting interface

### 7.3.4 Current limit setting



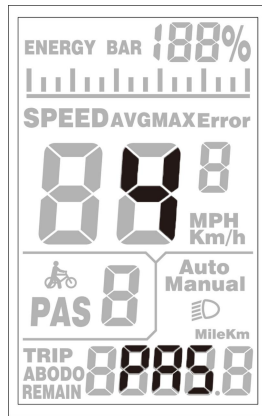
“CUR” means current limit. The current limit can be set in the range of 7.0-22.0A. Press **【UP】/【DOWN】** button to change the maximum current value of the controller. Long press **【MODE】** button to confirm and return to the setting selection interface. The default value of the current limit is 15A.

Due to different hardware of controller, the controller may not be able to reach the set 15A.



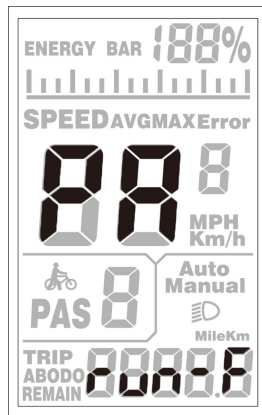
Current limit setting interface

### 7.3.5 PAS sensor setting



#### The Direction Setting of PAS Sensor

“PAS” means Pedal Assistant System sensor. “run-F” means forward direction, while “run-b” means backward direction. Press “UP/DOWN” button to select F or b, and press “MODE” button to confirm and turn to PAS sensitivity setting. The default direction is forward.

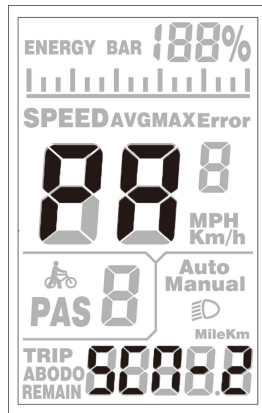


Direction of PAS sensor setting interface

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## PAS sensor sensitivity setting

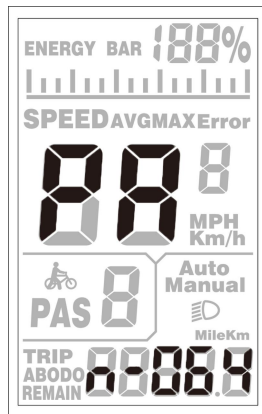
The display shows SCN, indicating the sensitivity of the PAS sensor. The setting range is 2-9. 2 indicate the highest sensitivity and 9 indicate the lowest sensitivity. Increase/decrease setting values by UP/DOWN. Press MODE to confirm and enter the PAS sensor proportion parameter setting interface.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



PAS sensor sensitivity setting

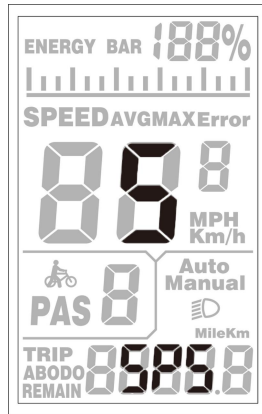
## PAS Sensor Proportion Parameter Setting

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.

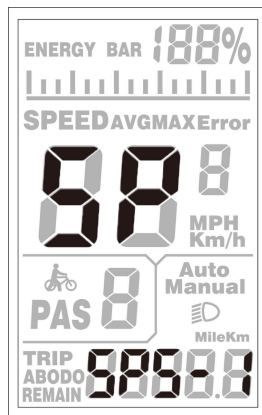


PAS sensor proportion parameter setting

### 7.3.6 Speed Sensor Setting

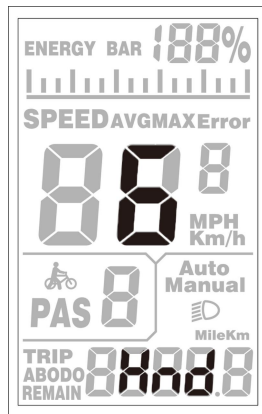


SPS indicates the speed sensor setting. It can be set according to the number of magnet heads mounted on the wheel of the e-bike, and the setting range is 1-9. Modify it by pressing UP/DOWN. Hold MODE to confirm and return to the personalized parameter setting interface. The factory default value is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



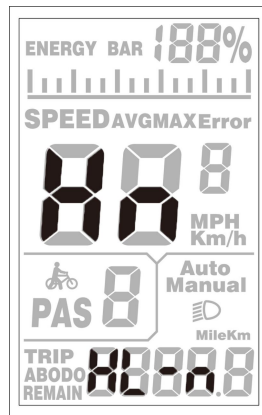
Speed sensor magnet stone selection interface

### 7.3.7 Throttle Function Setting



Throttle walk assist enable setting

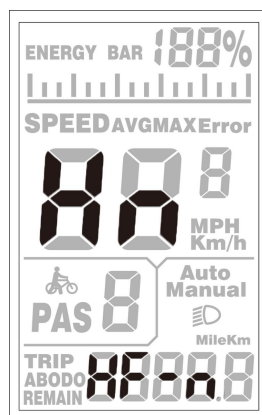
HL indicates the throttle's walk assist function. HL: N means that the throttle does not have this function, and HL: Y means that the throttle has this function, that is, when turning the throttle, the display enters the walk assist mode. Y/N can be switched by UP/DOWN. If you select N, press MODE shortly 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 setting

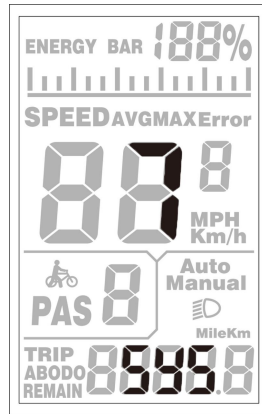
### Throttle walk assist enable setting

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 be 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.



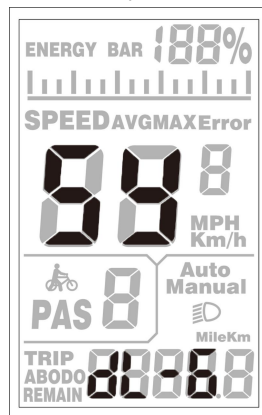
Throttle level enable setting

### 7.3.8 System Setting



#### 7.3.8.1 Battery Delay Time Setting

DL 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.



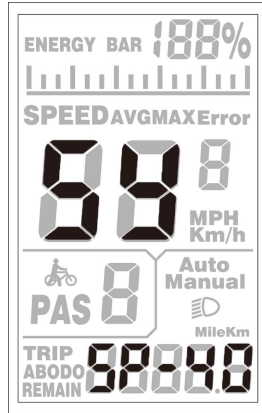
Battery delay time setting

#### 7.3.8.2 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.

#### 7.3.8.3 Button Walk Assist Enable Setting

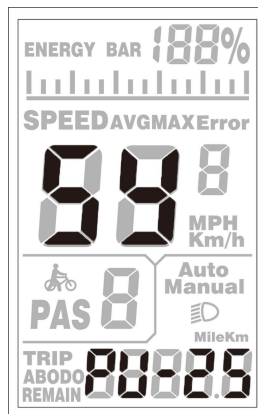
PUS indicates the button walk assist function enable setting. Switch Y/N by UP/DOWN. Y means enable, that is when hold DOWN, the walk assist function realizes; N means disable, that is, there is no walk assist function. Shortly press MODE to confirm, and enter the walk assist speed setting. The factory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



Button walk assist enable setting

#### 7.3.8.4 Walk Assist Speed Setting

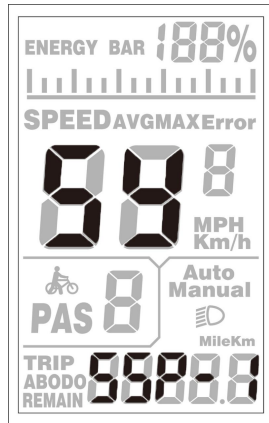
PU indicates the button walk assist speed setting. By setting the walk assist speed value, you can adjust the pushing speed to meet the needs of different riders. Adjusted by UP/DOWN, the adjustable range is “20-35” . Press MODE to confirm and enter the slow start setting interface. The display defaults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



Walk assist speed setting

#### 7.3.8.5 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

### 7.3.9 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.

## 8.FAQ and 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.

## 9.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.

## 10.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.

Appendix 1: Error Code

Error code	Description
21	Current abnormal
22	Throttle bnormal
23	Motor phase failure
24	Motor hall abnormal
25	Brake abnormal
30	Communication abnormal
31	Power on/off button adhesion
34	6km function button adhesion

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**varunebike.com**