

# ***KING-METER***



## **USER GUIDE**

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## **SW-LCD**

中文 1-17 页

English P18-34

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## 1、前 言

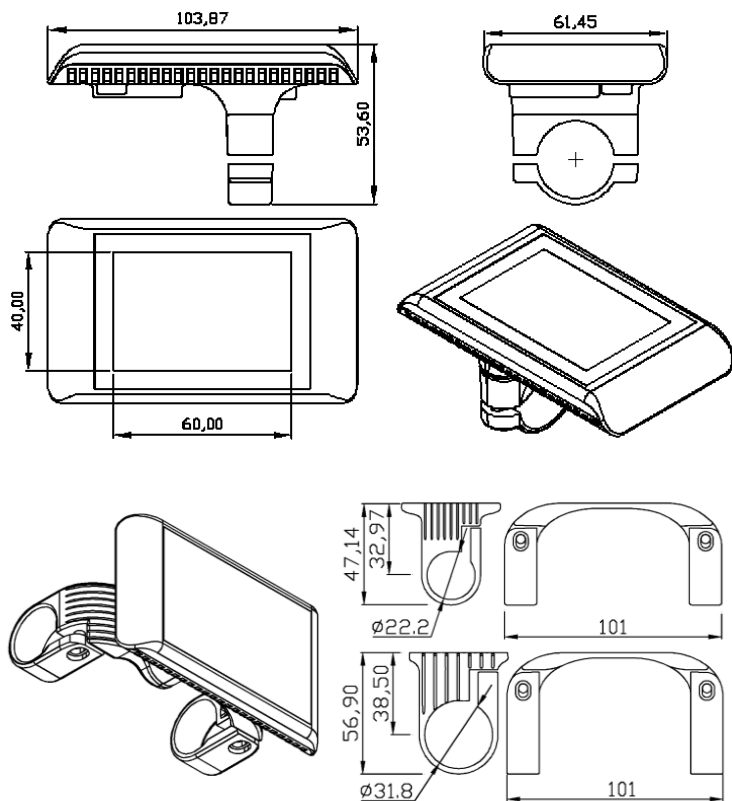
尊敬的用户，为了让您更好地操作电动车，请在使用前仔细阅读 SW-LCD 仪表的说明书。我们将以最简洁的语言告诉您仪表使用的每一个环节，包括从硬件的安装、设置到仪表的正常使用，同时帮助您解决使用过程中有可能出现的困惑与障碍。

## 2、外观尺寸

### 2. 1 主要材质及颜色

SW-LCD 产品外壳采用白色和黑色的 PC 材料。外壳的材料允许在-20℃到 60℃温度中正常使用，并且能保证良好的机械性能。

### 2. 2 显示尺寸及安装尺寸（单位：mm）



### 3、功能概述及按钮定义

#### 3.1 用户设置概述

SW-LCD 的用户设置项目有：车轮直径选择（16-28inch），设置最高骑行速度，公制/英制单位选择，LCD 背光亮度选择。

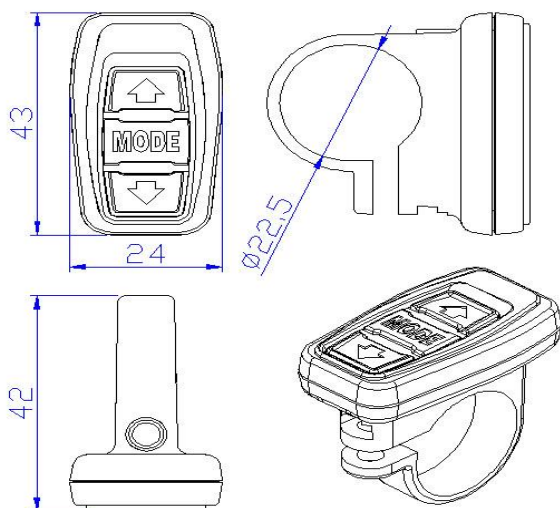
#### 3.2 正常显示区域

SW-LCD 显示的内容有：电量显示，电机功率比例显示，骑行速度显示，骑行里程显示，功率显示，电助力推行显示，电控系统故障代码显示。



#### 3.3 按钮定义


SW-LCD 匹配有专用的 30 按键，30 按键可以安装在车把的左边，也可以安装在车把的右边。其形状如下：



30 按键与 SW-LCD 仪表底部引线连接。

在后续の説明中， 按键用文字“MODE”替代。



按键用文字“UP”替代， 按键用文字“DOWN”替代。

## 4、安装说明

将仪表和 30 按键固定在车把上，调整好合适的视角。仪表的接插件与控制器对应的接插件对插即可完成安装。

## 5、设置

### 5.1 开机前准备

确保接插件对接牢靠，并打开电动车电源。

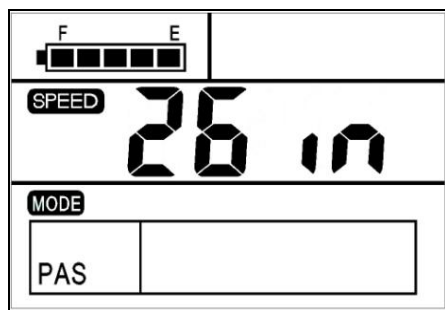
### 5.2 开机与进入设置

按 **MODE** 键 1.5 秒即可开机。

开机后，同时按住 **UP** 和 **DOWN** 后，2.5 秒钟进入 LCD 设置状态，可设置的参数将闪烁。方式为循环设置参数。

### 5.3 设置轮径

第一个可设参数是轮径设置。其界面如下：



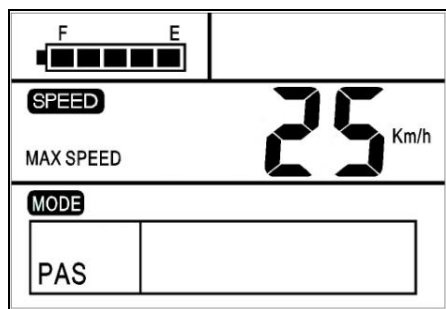
轮径设定界面



按 **UP** 轮径增大，按 **DOWN** 轮径减小，来选择车辆对应的轮径(16-28inch)，以确保仪表速度显示和里程显示的准确性。SW-LCD 的出厂默认轮径数值是 26inch。确定轮径数值后，按 **MODE** 确认轮径数值，进入 LCD 最高速度设置界面。

#### 5. 4 设置最高速度

第二个可设参数是最高速度设置。其界面如下：



#### 速度设定界面

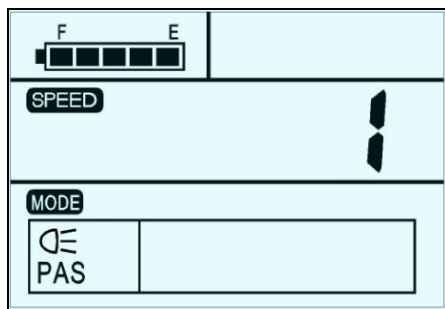
可设定电动车的最高骑行速度。当电动车超过设定值时，电动车会以设置的最高速度行驶，以保护骑行者的安全行驶。

最高速度设定值的可选择范围是 12Km/h 到 40Km/h 之间。按 **UP** 最高速度增大，按 **DOWN** 最高速度减小。仪表出厂的最高骑行速度默认值是 25Km/h。

确定最高骑行速度数值后，按 **MODE** 确认，并进入背光设置界面。

### 5. 5 设置背光亮度

第三个可设参数是背光亮度设置。其界面如下：

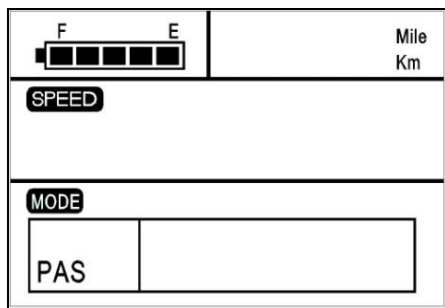


背光设定界面

通过 **UP** 和 **DOWN** 调节背光亮度。背光的亮度 1—3 档之间选择，1 档是最低亮度，3 档是最高亮度。SW-LCD 的背光亮度出厂默认数值是 1 档。确定背光亮度后，按 **MODE** 确认，并进入显示单位设置界面。

### 5. 6 选择显示单位（公制/英制）

第四个可设参数是显示单位。其界面如下：



显示单位界面

用户可以按 **UP** 和 **DOWN**，选择显示单位。单位可以是 MPH 和 Km/H。在选择速度显示单位的同时，里程单位 Mile 和 Km 也跟随一起改变。

## 5. 7 退出设置

在设定状态下，长按（3 秒）**MODE** 确认输入，保存当前设置，并退出设置状态。

# 6、正常操作

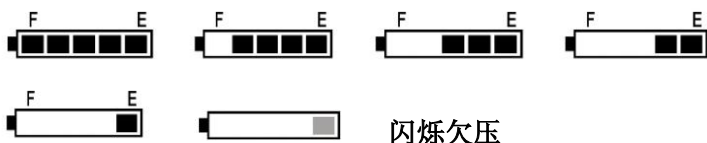
## 6. 1 开机/关机

按 **MODE**，仪表开始工作，并提供控制器工作电源。

在待机状态下，长按（3 秒）**MODE** 键，可以关闭电动车电源。在关机状态下，仪表和控制器不再使用电池的电源，仪表和控制器的耗电为零。

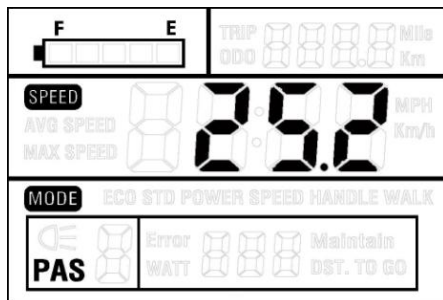
## 6. 2 电量显示

待机状态下，用户可以看到当前电池电量，当电池电压高时五段 LCD 均亮，当电池欠压时最后一段 LCD 以 1HZ 的频率闪烁，表示电池已严重欠压，需要马上充电。

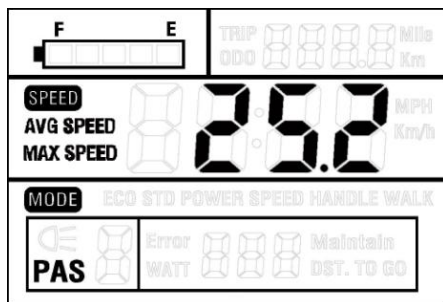


### 6. 3 切换显示 “当前速度/平均速度/最大速度”

电动车开机后，仪表默认显示当前速度。



长按 **UP** 显示本次骑行的最高速度 (MAX)，再长按 **UP**，显示本次骑行的平均速度 (AVG)，再次长按 **UP** 回到当前速度显示，如此循环。

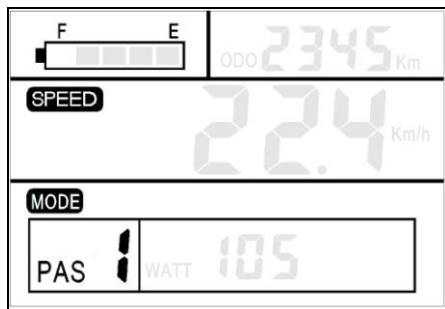


切换速度界面

### 6. 4 切换助力或转把档位

单独按 **UP** 或者单独按 **DOWN**，改变电机输出功率，功率范围是 1—5 档，1 档是最低功率，5 档是最高功率。

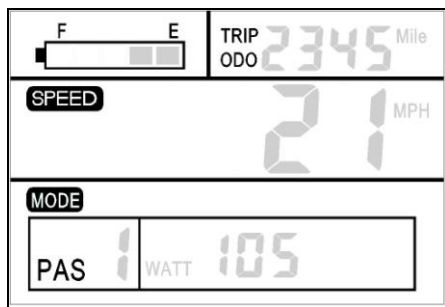
开机默认档位是 1 档。



电机功率比例选择

#### 6. 5 切换显示“骑行里程/累计总里程”

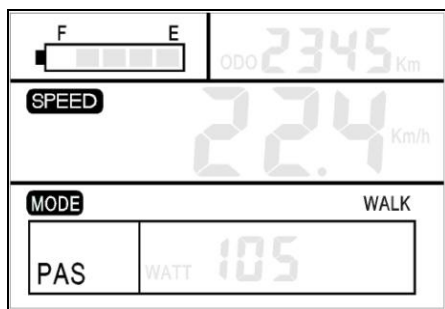
按 **MODE** 切换骑行里程和累计总里程。此功能方便使用者查看当次的骑行里程（TRIP）和累计总里程（ODO）。



里程界面

#### 6. 6 电助力推行

长按（3 秒）**DOWN** 进入电助力推行模式，电动车以大约每小时 6 公里的速度匀速行驶。



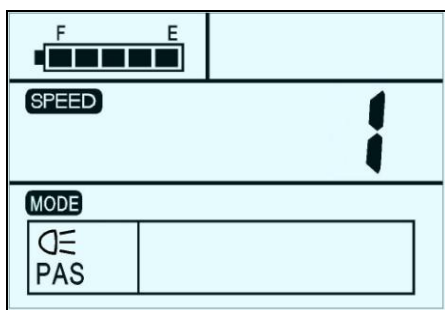
电助力推行界面

**警告：**电助力推行功能只能在使用者推行电动车时使用，请勿在骑行状态使用。

## 6. 7 背光的开启和关闭

同时按 **UP** 和 **MODE** 延时 3 秒钟开启 SW-LCD 背光。当外部光线不足或者夜晚行车的时候，可以开启 LCD 背光。再次同时按 **UP** 和 **MODE** 延时 3 秒钟，可以关闭 LCD 背光。

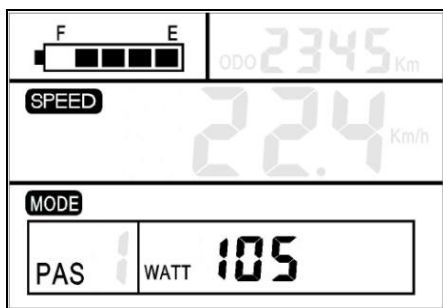
背光打开的同时，前灯也同时开启(如果车有前灯)。此功能根据客户要求增加。



背光界面

## 6. 8 功率显示

实时显示电动车骑行的功耗。其界面如下：

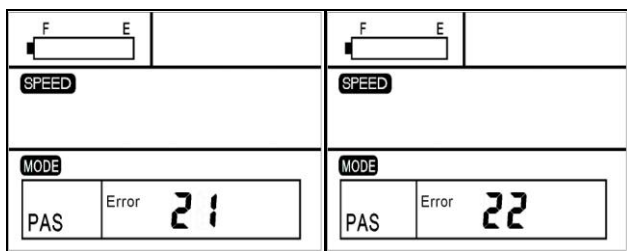


## 6. 9 骑行故障代码显示

当电动车电控系统出现故障时，仪表将自动显示错误代码，以下是错误代码的定义：

显示值	定义
21	电流异常
22	转把异常
23	电机缺相
24	电机霍尔信号异常
25	刹车异常
30	通讯异常

骑行错误代码定义表



### 错误代码显示

只有故障被排除时才能退出故障显示界面，出现故障后电动车将不能继续行驶。

该功能依客户要求订制，以实际使用仪表功能为准。

## 7、使用注意

使用中注意安全行驶，避免仪表磕碰。

尽量避免在恶劣环境中使用，如大雨、大雪、暴晒。

尽量避免在欠压时使用，以免损害电动车电池。

在温度低于 $-10^{\circ}\text{C}$ 时，屏幕会随温度的降低变暗，当温度回升时，会恢复正常。

## 8、常见问题及解答

问：为什么不能开机？

解决办法：检查仪表线束与控制器的接插件接触是否可靠。

问：仪表显示故障代码应如何处理？

解决办法：及时到维修电动车的维修点修理。



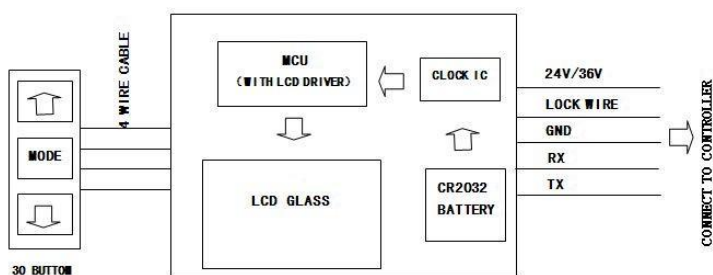
## 9、质量承诺与包修范围

仪表出厂后，外壳划伤或外壳破损不包修。

引线划伤或断裂不包修。

电路功能丢失，质保期：自仪表出厂之日起 24 个月以内。

## 10、电路框图与引线



红色：电源正极；蓝色：控制器锁线；黑色：电源负极；  
绿色：RX 通信接收信号线；黄色：TX 通信发送信号线。

注：部分产品的引线采用防水接插件，用户无法看到线束内部的引线颜色。

## 11、版本变更

本仪表的使用说明书是天津嘉特机电技术有限公司通用软件版本（V2.0 版本）的操作说明书。部分整车上使用的仪表软件版本有可能与本说明书略有差异,均以实际使用版本为准。

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## **1、Preface**

Dear users,

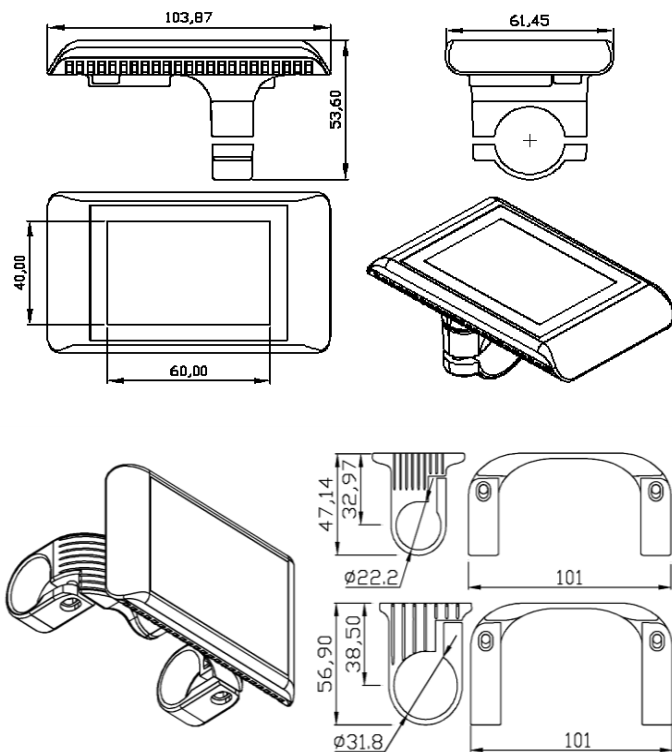
To ensure better performance of your e-bike, please read through the SW-LCD product introduction carefully before using it. We will use the brief words to inform you of all the details (including hardware installation, setting and normal use of the display) when using our display. Meanwhile, the introduction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

## 2、Appearance and Size

### 2.1 Material and Color

SW-LCD housing material: PC. And the color of housing is white or black. Working temperature scope:  $-20^{\circ}\text{C}$ — $+60^{\circ}\text{C}$ , the shell material can ensure normal use and good mechanical performance of the products.

### 2.2 Display Size and Installation Size (Unit: mm)



### 3、Function Summary and Button Definition

#### 3.1 Preset and Default Items

SW-LCD user settings include: wheel diameter (18-28inch) ; max speed; LCD backlight contrast; choice of display unit.

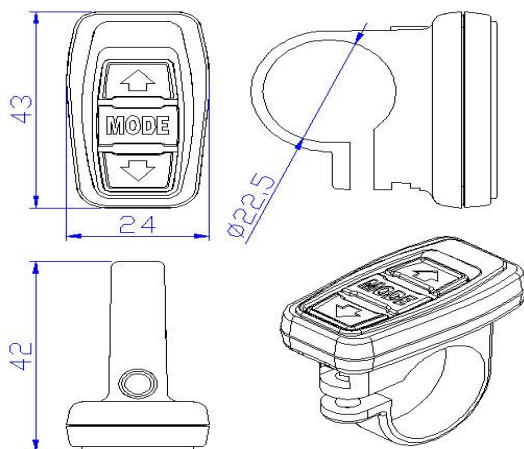
#### 3.2 Display Figures:

Display content: battery capacity, motor power ratio, riding speed, riding distance, power, PUSH cruise control, and error code display of the electronic control system.






### 3.3 Button Definition

SW-LCD is equipped with special 30-button unit. This operating button is suit for both L/R hand, button instruction figures as follows:



30-button unit is connected to the bottom of the SW-LCD display via lead cable.

In the following introduction,  is named as

“**MODE**”.  is named as “**UP**” and  is named as “**DOWN**”.



## 4、Installation Instruction

Fix the display and 30-button unit on the handlebar and adjust to an appropriate visual angle. Match display connector with controller connector.

## 5、Set up

### 5.1 Preparation for Starting the Display

Make sure connector linked properly to the motor controller on the bike.

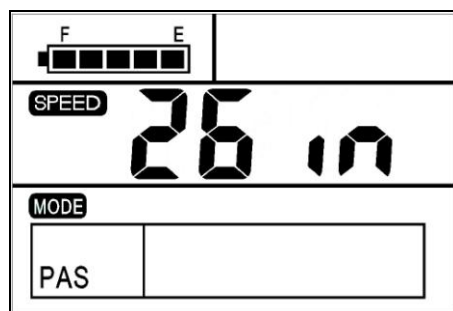
### 5.2 Start and Entry Setting State

Press the **MODE** button for 1.5 seconds and start the display.

After start-up, please hold both **UP** and **DOWN** for 2.5 seconds at the same time, LCD will enter into the setting state, and the settable parameter will flash. The parameter can be set circularly.

### 5.3 Wheel Diameter

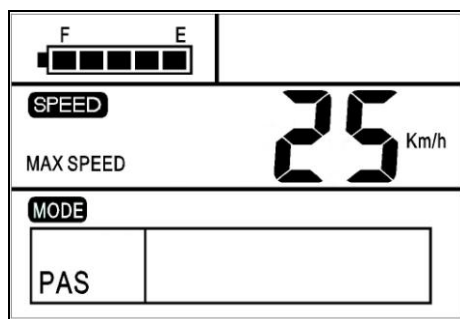
The first setting parameter is wheel diameter. The interface is as follows:



Press **UP** or **DOWN** to choose a right diameter (18-28inch) for the bike. Default set is 26 inch. After confirmation of wheel size, press **MODE** to reserve it and enter into the max speed set.

#### 5.4 Max Speed

The second setting parameter is Max Speed. The interface is as below:



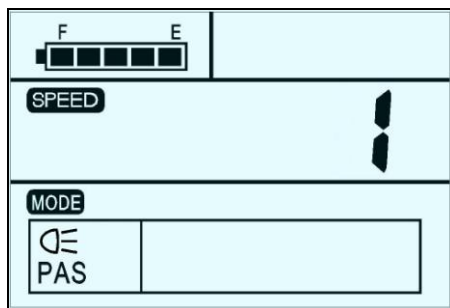
Re-set speed should be in accordance with the local regulation speed. If exceed your re-set figure, the bike will travel at the max speed of reset. Default max speed in

factory is 25 Km/h.

Speed option: 12-40Km/h, use **UP** or **DOWN** then confirm by **MODE**. Then enter into the interface of backlight brightness.

### 5.5 Backlight Brightness

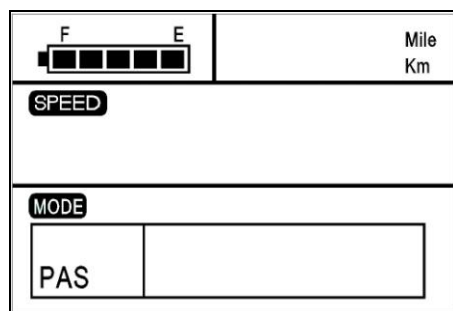
The third setting parameter is backlight brightness. The interface is as below:



Press **UP** or **DOWN** to modify the backlight brightness. You can choose from level 1 to level 3. Level 1 is the minimum brightness. Level 3 is the maximum brightness. The default value of the backlight brightness is level 1. Press the **MODE** to confirm the backlight brightness, then entry into the interface of Choice of Display Unit.

### 5.6 Choice of Display Unit (Metric system / British system)

The fourth setting parameter is Choice of Display Unit. The interface is as below:



Press **UP** or **DOWN** to choose a display unit.

The unit could be MPH or Km/H. The range unit will change accordingly with the speed unit.

## 5.7 Quit from set up

In the setting state, press **MODE** for 3 seconds to confirm the input, save current setting and exit.

# 6、 Standard Operation

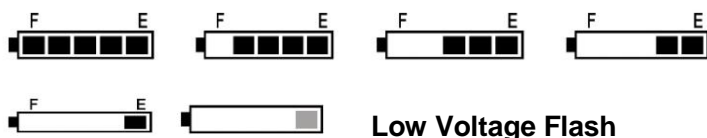
## 6.1 ON / OFF

Press **MODE**, then the display starts to work and supply power to controller, long press **MODE** then switch off power. In the status of OFF, display and controller no longer consume battery power.

## 6.2 Capacity Display

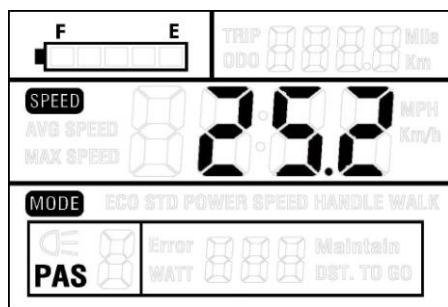
When the battery capacity is high, the five battery segments are all light. When the battery is in low voltage, the last

battery segment will flash at 1 Hz. It indicates that the battery is severely low in voltage condition and needs to be recharged immediately.

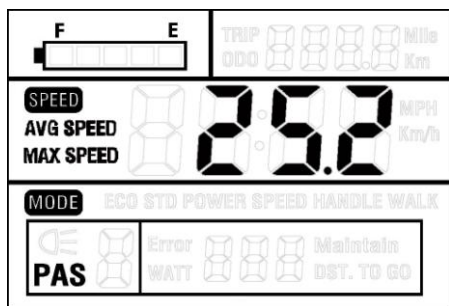


### 6.3 Speed Display (Current Speed/Average Speed/Max Speed)

When the e-bike starts, the display will automatically show the current speed.



Hold **UP** and the display will show the MAX speed during this ride. Hold **UP** again and the display will show the AVG speed during this ride. Hold **UP** again and the display will turn to the current speed display.



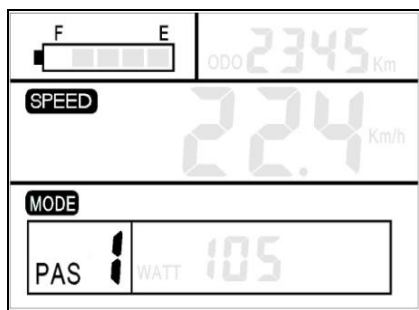
The interface of switching speeds

#### 6.4 Assisted Power Select or Throttle Level Select

Press **UP** or **DOWN** to change the output power of the motor.

The power ranges from Level 1 to Level 5. Level 1 is the minimum power. Level 5 is the maximum power.

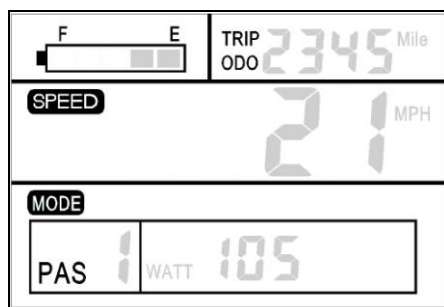
The default level is Level 1.



The choice of motor power rate

### 6.5 Distance Display (Riding Distance / Total Distance)

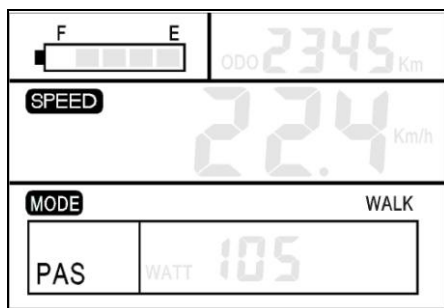
Press **MODE** to switch between riding distance and total distance. This function is convenient for users to check the riding distance (TRIP) and the total distance (ODO).



Range Interface

### 6.6 Push Cruise Control

Press **DOWN** for a while to get into power assist mode, and the bike will travel at fixed speed 6Km/h.

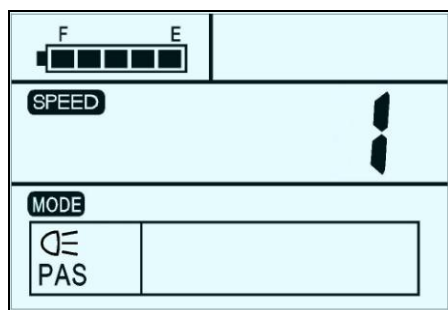


Interface of power assist walk

**Warning: Push cruise control mode is recommended under push state, not for riding mode.**

### 6.7 Turn On and Turn Off the Backlight

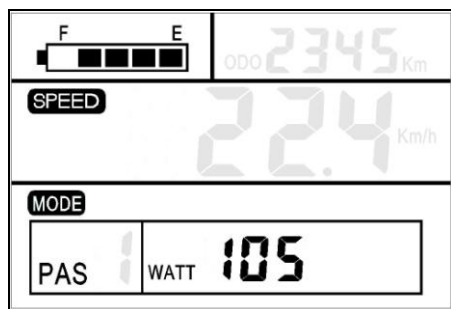
Hold both **UP** and **MODE** for 3 seconds and turn on the SW-LCD backlight, when the surrounding light is not enough or it is in the evening. Hold both **UP** and **MODE** for 3 seconds again and you can turn off the SW-LCD backlight. When the backlight power ON, the headlight also power on (if the bike assembles with a headlight). And the function could be customized.



### 6.8 Power of the Display

Display the real time power consumption of the riding for electric bike. The interface below:





## 6.9 Error Code Display

If there is something wrong with the electronic control system, the display will show the error code automatically. The following is the definition of the error code.

Code number	Definition
21	Abnormal current
22	Throttle fault
23	Motor phase problem
24	Motor Hall defect
25	Brake Failed
30	Abnormal Communication

Definition Diagram of Error Codes

F	E		F	E	
SPEED			SPEED		
MODE			MODE		
PAS	Error	21	PAS	Error	22

Error Code Display

Display return to normal only after problem being fixed and bike will not run before fixing the problem.

## 7、Attention for Using

Ride your bike in a safe way. Don't hit or knock the display. Keep away from the bad environments when use, such as downpour, large snowflakes and solarization.

Try not to use in under-voltage condition. The screen will get dark along with the temperature reduction when temperature below  $-10^{\circ}\text{C}$ . The screen will return to normal when the temperature rises again.

## 8、FAQ Answers

Q: Why can't turn on the display?

A: Please check if the cable is well connected with the controller.

Q: How to deal with the error code display?

A: Contact the e-bike maintenance station in time.

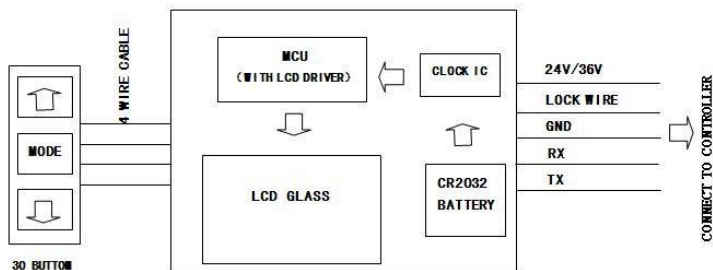
## 9、 Quality Warranty and Coverage

We are not responsible for the scratched or broken shell after the products are delivered out of the factory.

We don't repair scratched or broken lead wires.

The LCD display function warranty: 24 months from the delivery time of the display out of the factory.

## 10、 Circuit Block Diagram



Red: 24V/36V; Blue: lock wire; Black: GND; Green/ Yellow: RX / TX wire.

Due to the use of the waterproof connector of part products, users cannot see the leads color of the internal wiring.

## 11、 Software Version

This operating instruction is a general-purpose software (version V2.0). Some of the version of the e-bike LCD may have slightly difference, all with actual use version.