# CB03 LCD Screen Display
# The user manual

Gold quality + perfect experience

Wuxi Truckrun Motor CO.,Ltd reserves the right of final interpretation

# I. Introduction

## 1.1 Name

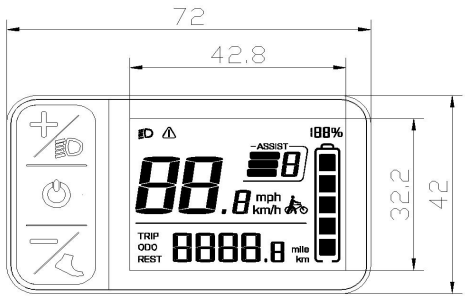
Left sit LCD display

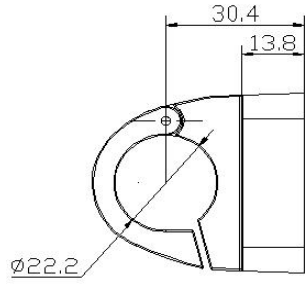
## 1.2 Model No.

CB03

## 1.3 Appearance

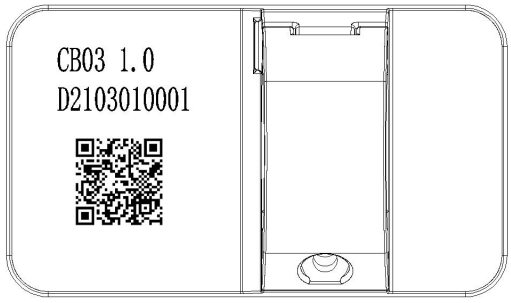
The shell material of the product is PC, the display screen is acrylic.The button is made of silica gel.(as below image).




## 1.4 QR code rules on the backside

Laser and QR code label（as below image）




**1) Laser content:**

1st row: CB03 1.0；
Definition：CB03: Display model No.(X means CANbus Protocol. Otherwise UART Protocol.

2nd row: D2103010001
Definition: D(Truckrun's track code)
210301：Production date, 21（Year）03（Month）01（Day）；
0001: Serial number

**2) QR code content:**

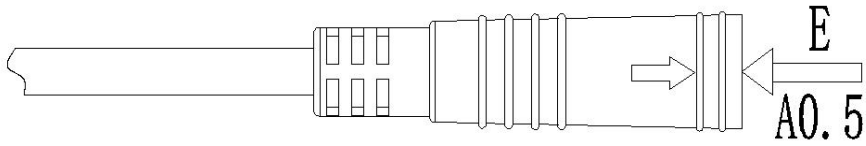
1st row: DCB031001.0
Definition: D： Short name
CB03：Model No.
10： Hardware version No. 1.0
01.0：Software version No.

2nd row: ST050527.525
Definition: ST：Setting
05： 0-5gears
0： Default gear 0
5： Display off at 5min automaticlly；
27.5：Wheel size
25： Limited speed

3rd row: CB03-01
Definition: CB03：Model No.
01： The 1st drawing No.

## 1.5 Outlet cable illustration

1) Cable model No.: A0.5（Round 5Pin Female cable）.




2) Cable definition:

| 管脚序号 Pin Numbering | 颜色 color | 功能定义 | 图片 |
|---|---|---|---|
| 1 | 橙 orange | Vcc(锁线) Wire Locking | |
| 2 | 棕 brown | P+ (电源正) Power Positive Terminal | |
| 3 | 黑 black | GND | |
| 4 | 白 white | TX | |
| 5 | 绿 green | RX | |

# II.Product description

## 2.1 Specification parameters

1） Protocol: UART;

2） Working Voltage: DC36V/48V, the highest Voltage should less than 60V；

3） Rated working current: 10mA；

4） The largest working current: 30mA

5） Shutdown leakage current<1uA；

6） Supply controller’s working current: 50mA；

7） Operation temperature: -20～45℃；

8） Storage temperature: -30～70℃；

9） Storage humidity: 30%-70%；

10) Waterproof degree: IP65；

## 2.2 Functions

1） Real time speed;

2） Speed unit select: mph、km/h；

3） Real time battery (Battery display please see attached list 1);

4） Gear options: 0-3/0-5/0-9 ;

5） Single mileage Zero clearing function;

6） Speed limited setting ;

7） Wheel size setting ;

8） Automatic off time setting

9） Mileage display: Single TRIP ;

Total trip ODO ;

REST trip;

10） Walking assist function and display :

11） Lamp switch and display;( Lamp on, screen brightness gets darker)

12） Bluetooth function( reserved): Bluetooth icon on after Connected APP；

13） Error display: Any system with error, the related icon will be bright, and show error code on mileage position;

14） View historial error report; (Error code in attahced lsit 2)

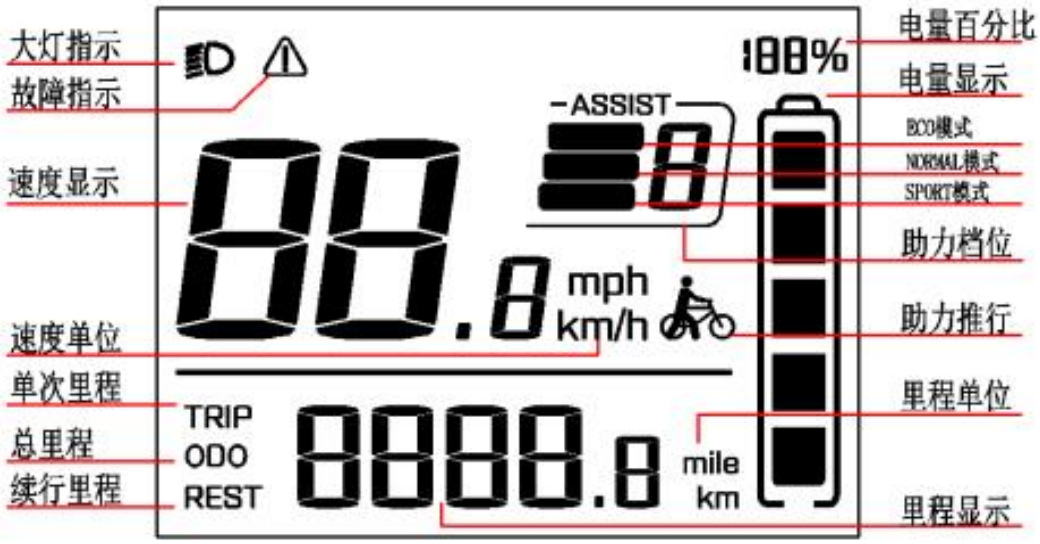
15） View display's hardware & software version No. ;

16） View controller's hardware & software version No. ;

17） View battery's hardware & software version No. ;

18） Restore factory Settings.

## 2.3 Function area




## 2.4 Buttons definition

CB03 with 3 buttons. Including Turn On&Off / Mode key 、Plus key and minus key .

In following introduction: MODE replaces ; UP replaces ; DOWN replaces ;

( Long time Press the button more than 2s; short time press button less than 0.5s)

## 2.5 Normal operation

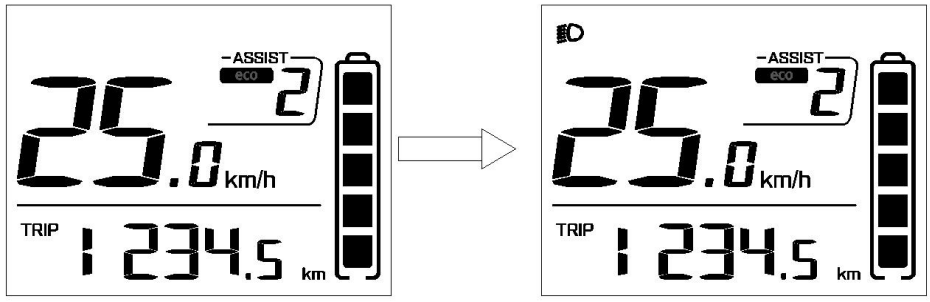
**1） Power ON/OFF**

Under power off state, The display starts working after a long time press mode key. Long time press mode key to turn off the battery power supply. (Under power off state, the leakage current of display is less than 1ua).

By default within 5 mins no operation, and no speed output, the display will be off automatically.

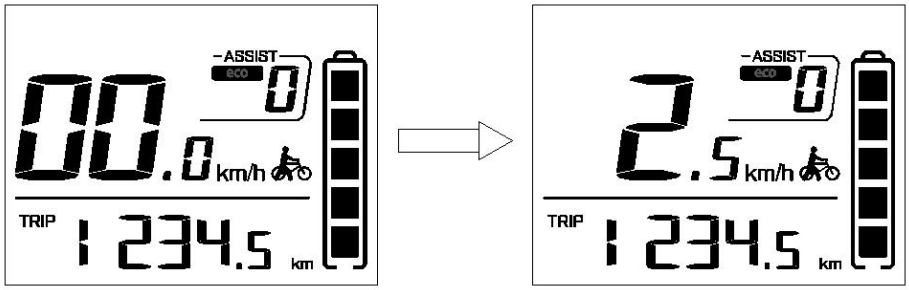
**2） ◆ Turn on / off lamp**

Press “UP key”2S, Inform controller turns on lamp, display shows lamp symbol, meanwhile the backlight gets darker. Press’UP key’2S, Inform controller turns off lamp, and recover backlight brightness..




**3） Walking assist**

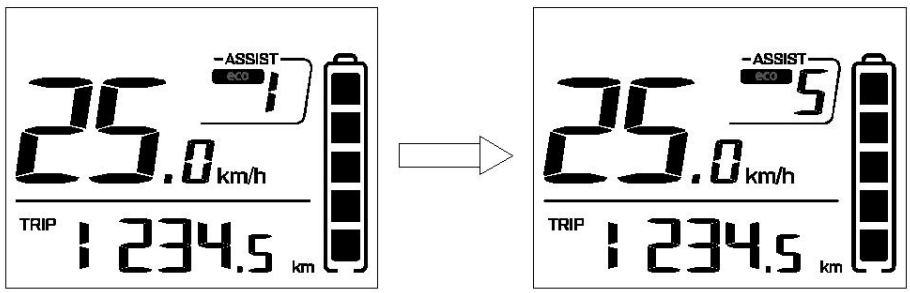
In static state of the vehicle, press more than 2S the "DOWN key" at any gear ,the vehicle enters the electric power walking assist, and screen displays walking symbol. The actual wheel speed is not detected, the speed shows 2.5KM/H (1.5MPH in miles). The actual speed is detected, it shows real time speed, the maximum speed is 6KM/H. Release "DOWN" button the electric vehicle will immediately stop output and return to pre-walking state.




**4） Gears options**

Press 0.5S “**UP/DOWN key**”， Switch assist gears, change motor’s output power, The default display is 0-5gear (or customized), gear 0 means stop output power, gear 1 means the lowest power output, gear 5 means the largest output power. No limited fastest speed at every gear, it can be customized .

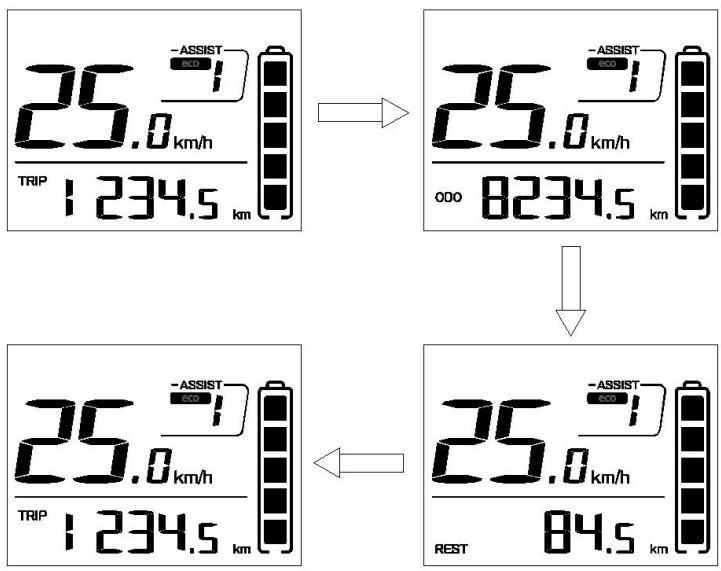
Power on , the display is 0 gear in default.




**5） Switch mileage show**

In default, single TRIP is km/h, press 0.5S “**MODE Key**” switch to ODOmeter(total trip mileage) , Press 0.5S“**MODE**” again，Switch to REST trip mileage，Loop switch show.

Gear 0 and assist walking rest trip is infinity, Trip place no signal.( If the controller without this function, no signal all the time) .



## 2.6 Function setting and View

### 1) Setting function

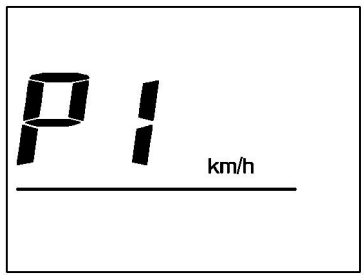
Enter/Exit setting: When the vehicle is powered on and at resting state, hold “DOWN” and “UP” to enter the setting screen. The speed position with characters blinking. Press MODE to enter the setting or viewing screen. Press the UP/DOWN key to adjust the parameter Settings, and press the MODE key to save the Settings and exit. Press the UP/DOWN key to enter the next function screen, hold DOWN and UP to save the Settings and exit.

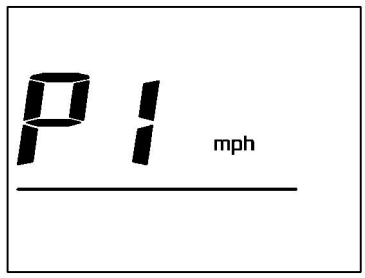
During setting state, no any operation within 30S, Display saves current setting and back to main UI, Gear 0 in default.

### 2) Select Metric and imperial system

The speed position P1 is displayed on the setting screen. Press MODE to enter the setting option. Press UP/DOWN to switch mph or km/h . Press the MODE key to exit the setting option, press the UP key to enter the speed limiting setting screen. Hold DOWN and UP keys at the same time to return to Main UI.

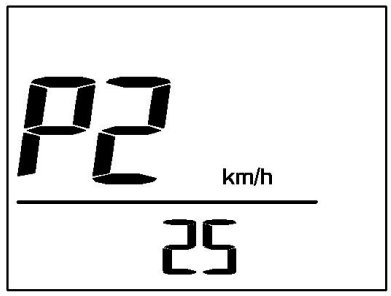
The default unit is KM/H.

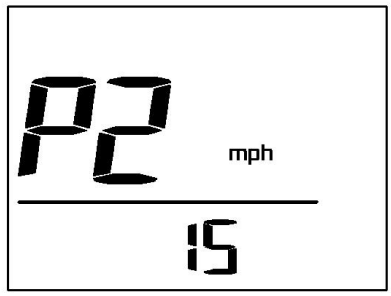



### 3) Speed limited

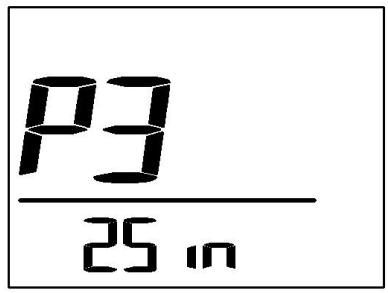
Enter the setting menu, "P2" is displayed in the speed position, Speed unit is metric, the speed limit number is displayed in the mileage position. Press 0.5S "MODE" to enter the speed limit setting interface, and press "UP/DOWN" to set speed limit. Press 0.5S "MODE" to exit setting , press 0.5S "UP" to enter the wheel size setting , or hold DOWN "UP" and "Down" to return to the main screen.



**4) Wheel size setting**

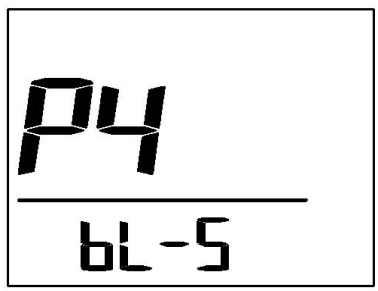
Enter setting menu, P3 is displayed in the speed position and wheel size in the trip position. The unit is inch, which is represented by the character "IN". Press 0.5S "MODE" to enter the wheel size setting , press 0.5S "UP/DOWN" to set wheel size of vehicle. Press 0.5S the MODE key to exit the setting, press 0.5S UP key to enter the screen for setting the backlight brightness, or hold DOWN and UP key to return to the home screen.




**5) Backlight brightness setting**

Enter setting menu, P4 is displayed in the speed position and bL-5 in the TRIP position. bL is the short name of backlight, 5 is the brightness level . Press 0.5S MODE key to enter the setting menu. Press 0.5S UP/DOWN key to select the backlight level. "1" is the darkest backlight and "5"is the brightest backlight. After completed setting, press 0.5S MODE key to exit the setting , press 0.5S UP key to enter setting the automatic shutdown time, or hold DOWN and UP key areturn to the main menu.

In default, the backlight brightness level is 5.

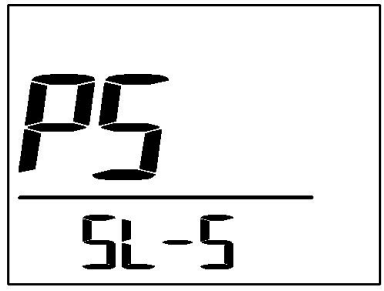



**6) Turn off time Automaticly**

Enter setting menu, P5 is displayed in the speed position and SL-5 in the TRIP position. "SL" is short for sleep, "5" is off time automaticly. Press 0.5S MODE key to enter the setting menu, press 0.5S UP/DOWN key to select the automatic off time. The time range is 0-9 minute. 0 is awake, and 9 is automatic off after 9 minutes. After the setting is complete, press "MODE" to exit the setting screen, press "UP" to enter the single mileage clearing screen, or long press "UP" and

"DOWN" to return to the main menu.

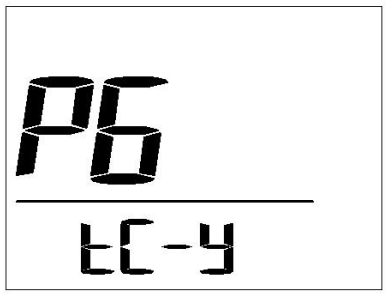
The default off time is 5 minutes.

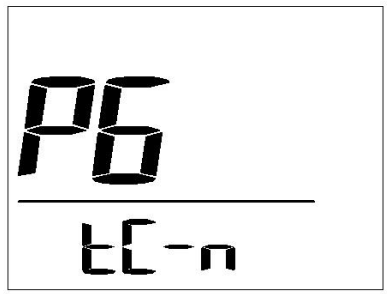



**7) Single TRIP clearance**

Enter setting menu, P6 is displayed in the speed position and tC-n in the TRIP position."tC" is short for Single Trip clearance, “n” is short for ‘NO’, means no clearance. ‘y’ is short for ‘YES’, means clearance. Press 0.5S MODE key to enter the setting menu, press 0.5S UP/DOWN key to select setting. After the setting is completed, press 0.5S "MODE" to exit the setting , press 0.5s "UP" to enter the gear setting, or press "UP" and "DOWN" at same time return to main menu.

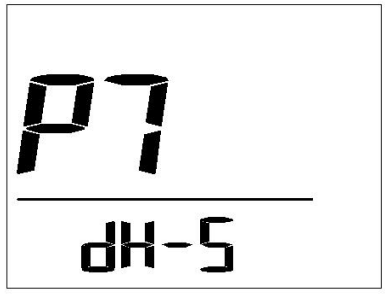
The default single trip is not clearance.

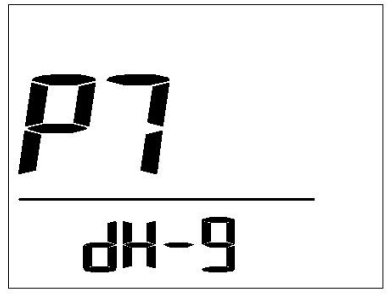



**8) Gear setting**

Enter setting UI, it shows “P7” at speed position and trip position with “dH-5”. “dH” is short for “Gears”, “5” is gears “0-5”. Short press”MODE key”get into setting operation, Short press”UP/DOWN” to select “3/5/9”, The line of the "0-3", “0-5 ", "0-9" . Select done, short press “MODE Key” to exit setting UI. Short press”UP key”, enter the software UI to check device version, or Press "up key" and “ down key" at the same time to get back main UI .

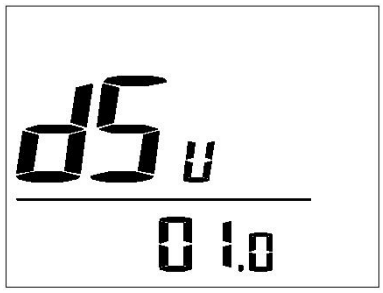


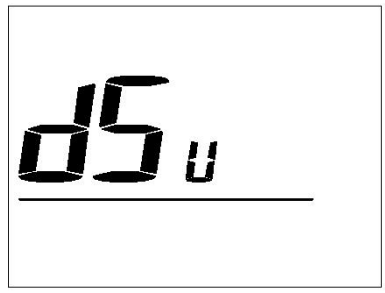




**9) Check software version No.**

Enter setting UI, it shows “dSU” at speed position and trip position with “01.0”. dSU is short for software version , 01.0 is the last 4 digits (including the decimal point) of the software version NO.. Press 0.5s UP to enter UI viewing the hardware version, or hold DOWN and UP at the same time return to main menu.

Failed to read the version number. By default, the trip location is empty.

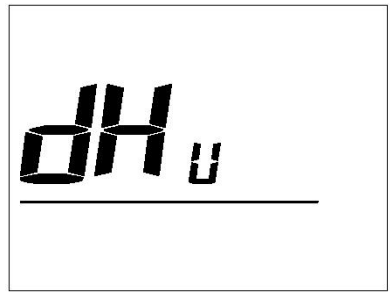



**10) Check hardware version No.**

Enter setting UI, it shows “dHU” at speed position and trip position with “1.0”. dHU is short for hardware version , 1.0 is the last 3 digits (including the decimal point) of the hardware version NO.. Press 0.5s UP to enter UI viewing the software version, or hold DOWN and UP at the same time return to main menu.

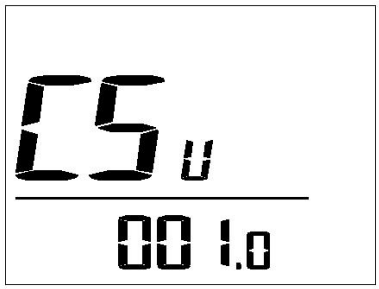
Failed to read the version number. By default, the trip location is empty.

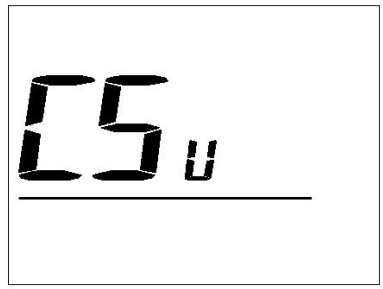


**11) Check Controller's software version No.**

Enter setting UI, it shows "CSU" at speed position and trip position with "001.0". CSU is short for controller's software version , 001.0 is the last 5 digits (including the decimal point) of the software version NO.. Press 0.5s UP to enter UI viewing the controller hardware version, or hold DOWN and UP at the same time return to main menu.

Failed to read the version number. By default, the trip location is empty.

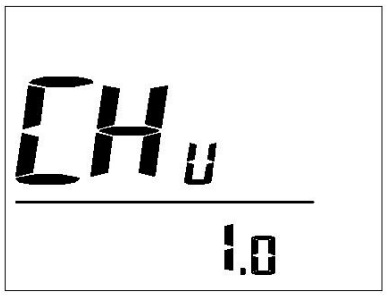


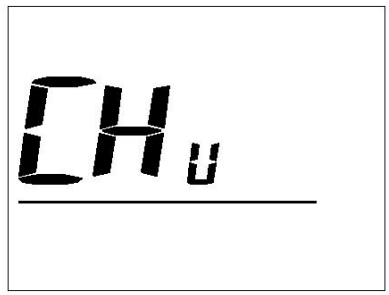




**12) Check Controller's hardware version No.**

Enter setting UI, it shows "CHU" at speed position and trip position with "1.0". CHU is short for controller hardware version , 1.0 is the last 3 digits (including the decimal point) of the hardware version NO.. Press 0.5s UP to enter UI viewing the software version No., or hold DOWN and UP at the same time return to main menu.

Failed to read the version number. By default, the trip location is empty.

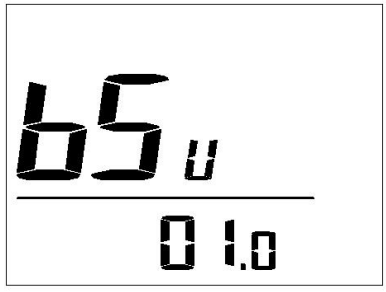


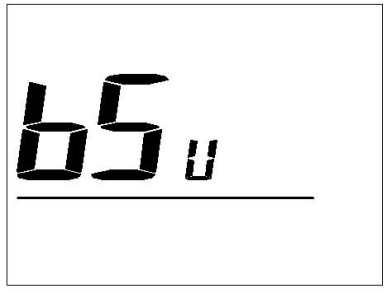




**13) Check battery's software No.**

Enter setting UI, it shows "bSU" at speed position and trip position with "01.0". bSU is short for battery software version , 01.0 is the last 4 digits (including the decimal point) of the hardware version NO.. Press 0.5s UP to enter UI viewing the hardware version No., or hold DOWN and UP at the same time return to main menu.

Failed to read the version number. By default, the trip location is empty.

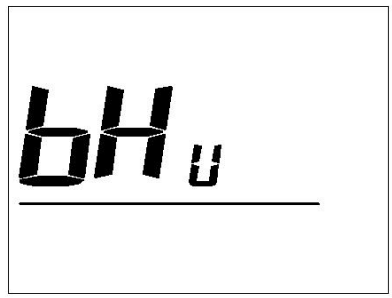



**14) Check battery's hardware No.**

Enter setting UI, it shows "bHU" at speed position and trip position with "1.0". bHU is short for battery hardware version , 1.0 is the last 3 digits (including the decimal point) of the hardware version NO.. Press 0.5s UP to enter UI viewing historical errors, or hold DOWN and UP at the same time return to main menu.

Failed to read the version number. By default, the trip location is empty.




**15) Check historical errors**

Enter setting UI, it shows "Err" at speed position and trip position with "error code". Without error, trip position with '00'. Err is short for error, 00 is error number. Press 0.5S MODE key to view the historical error information. Press 0.5S UP/DOWN key to view the historical error record, total 5 rows. If no error information is reported, 00 is displayed. The newest error is on the top. Press 0.5s MODE key to exit the viewing of historical errors. Press 0.5s UP key to enter the factory Settings restoration UI, or hold DOWN and UP keys at the same time to return to the main menu.

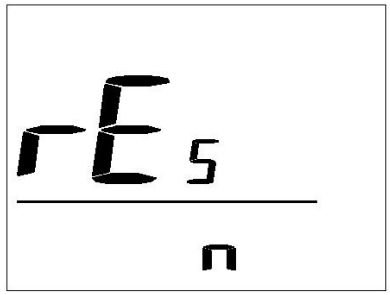
Clearing historical errors: viewing historical errors in the menu, hold down the UP and MODE keys to clear error code.

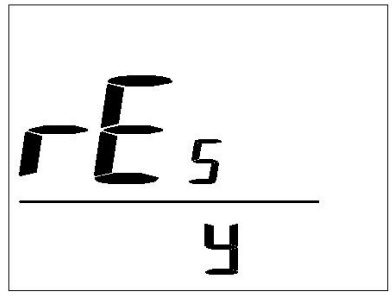
**16) Restore factory setting**

Enter setting , it shows ‘’eEs’’ at speed position and trip position displays "n", "rEs" is short for restoring factory Settings, "n" is for "NO",factory Settings are not restored, and "y" is for "YES", factory Settings are restored. Press 0.5s MODE key to enter the setting option, press 0.5s UP/DOWN key to select the setting.

If not select factory Settings, press MODE key to exit factory Settings, press UP key to enter the unit selection menu, or hold DOWN the UP and Down keys to return to the home screen.

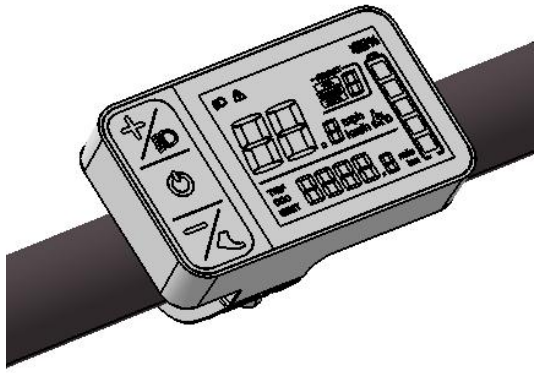
Choose to restore factory Settings, the system automatically exits and returns to the main menu after the Settings are complete.



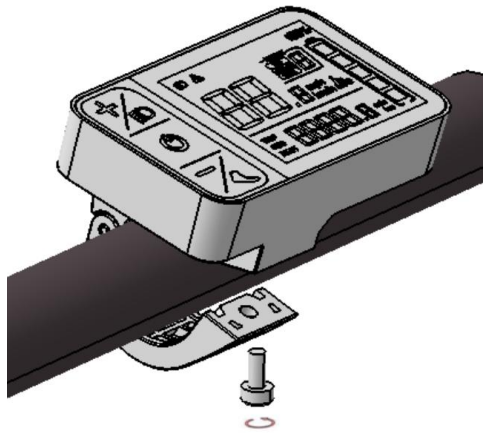

## III.Installation

1） Open display’s handle wrist, cover the handlebar in the proper operation position, adjust the Angle of switch, make sure it is easy to controll the switch operate during cycling (Fit for handle tube with an outer diameter of φ22.2mm);



Display's installation type

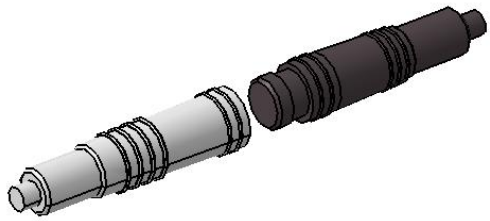
2） Fix and tighten head screws with the matching handlebars by an inner hexagon wrench (locking torque: 0.4N.m);



Screw Tightening

* Screw locking torque, excessive torque damage display is not covered by the warranty.

3） Plug displays' connectors in integrated wiring harness according to the mark.



Wire Harness Connection

# IV.Attached List

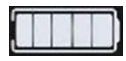
### 1) Attached list 1：（Battery display）

Battery power displays in 5 bars.

When the battery power is more than 80% (or according to the order), it shows 5 bars;

When the battery undervoltage, the outer frame of the battery blinks at 1HZ, indicating it needs to be charged.

Undervoltage or capacity range can be customized by order.

| 格数<br>Bars | 容量范围<br>Capacity Range | 图示<br>Example |
|---|---|---|
| 5 bars | 80%≤SOC≤100% |  |
| 4 bars | 60%≤SOC＜80% | |
| 3 bars | 40%≤SOC ＜60% | |
| 2 bars | 20%≤SOC ＜40% | |
| 1 bar | 5%≤SOC＜20% | |
| LOW | 0%≤SOC ＜5% | |

### 2) Attach list 2：（Error code）

| Error code | Reason | Error code | Reason |
|---|---|---|---|
| 0x03 | Braking | 0x06 | Undervoltage (do not display error) |
| 0x04 | Throttle fault | 0x07 | Over Voltage |
| 0x08 | Motor hall fault | 0x09 | Motor Phase lines fault |
| 0x10 | Temperature gets protection point | 0x11 | Motor temperature sensor fault |
| 0x12 | Current sensor fault | 0x15 | Controller temperature sensor fault |
| 0x21 | Speed sensor fault | 0x30 | communication fault |

# V. Warranty

Wuxi Truckrun Intelligent Motor Co., Ltd. guarantees: During the warranty period, for the vehicle manufacturers and dealers buying products from our company, if the product parts, materials and process quality problems, we will follow warranty service provided by our company.

**Warranty period and range**

According to Wuxi Truckrun intelligent motor Co., Ltd. products ship out date, motor, display and other electronic components of 18 months warranty, battery warranty of 12 months.

**Products that conform to the above warranty statement, but are not covered by the warranty if the damage is caused by one of the following conditions:**

① Damage caused by modification, improper maintenance, for competition or commercial purposes, or due to misuse or abuse, or due to traffic accidents;

② Damage occurring in the process of customer transportation;

③ Product damage caused by installation, commissioning or maintenance not carried out according to the product installation manual (maintenance manual);

④ Damage caused by improper use of consumers, non-material or technological reasons;

⑤ Damage caused by changes in the appearance of the product, and the damage does not affect the function of the product;

⑥ Damage not caused by repair points or dealers designated by our company;

Wuxi Truckrun Intelligent Motor Co., Ltd. has the right to choose repair or replacement, and the sole responsibility of Chuanke Intelligent Motor is limited to product repair or replacement.

When a vehicle manufacturer or dealer encounters quality problems in using or selling Truckrun Motor products, it can report the order number and product serial number of purchase order to Truckrun Motor After-sales Service Department. After the after-sales service department of Truckrun Motor confirms that the products meet the warranty scope, Truckrun Motor will provide free repair or replacement.

If you require repair service outside the warranty period, Truckrun will charge the corresponding cost of parts, labor and transportation.

Any of the Truckrun systems installed on the vehicle need to be repaired, please contact the manufacturer or dealer directly.

If this warranty statement is in conflict with the laws in force at the place of sale, the laws shall prevail.

Truckrun Motor reserves the right to modify the above terms and conditions without prior notice.

More immediate information , please visit Truckrun official website: www.truckrun-e.com