User Manual for

E-bike Display

YL80C

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1. Product name and model

Intelligent LCD display for e-bike; model: YL80C.

2. Specifications

- 48V power supply
- Rated working current 15mA
- Maximum working current 30mA
- Leakage current at power-off <1uA
- Working current at the supply controller end 50mA
- Working temperature -20～60℃
- Storage temperature -30～70℃

3. Appearance and dimensions

Fig. 3-1 Picture of Display 80C

Fig. 3-2 Picture of Display 80C Buttons

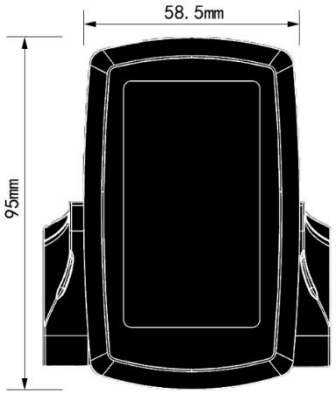


Fig. 3-3 Front View of Display 80C Dimensions

Fig. 3-4 Side View of Display 80C Dimensions

4. Function overview and functional area layout

4.1 Function overview

Display YL80C provides a variety of functions to meet your riding needs, including:

- Battery level indicator
- Assist level adjustment and indication
- Speed indicator (including real-time speed, maximum speed and average speed)
- Distance indicator (including trip distance and ODO)
- Push assistance control and indication
- Headlight control and indication
- Error code indicator
- Custom parameter setting (e.g., wheel diameter, speed limit, assist level, power-on password,controller current limit, etc.)
- Reset function

4.2 Functional area layout

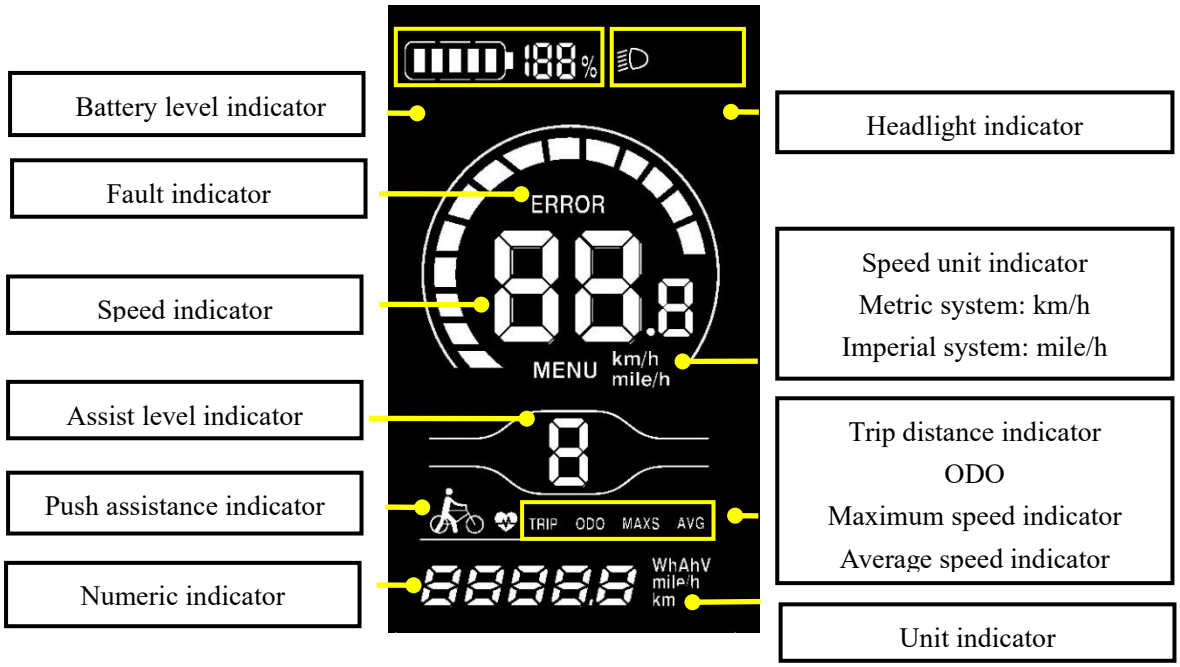


Fig. 4-1 Functional Area Layout Interface of Display YL80C

4.3 Button definitions

There are five buttons on the operating unit of display YL80C, i.e., the on/off button , plus button , minus button , headlight button and switching button .

5. General operation

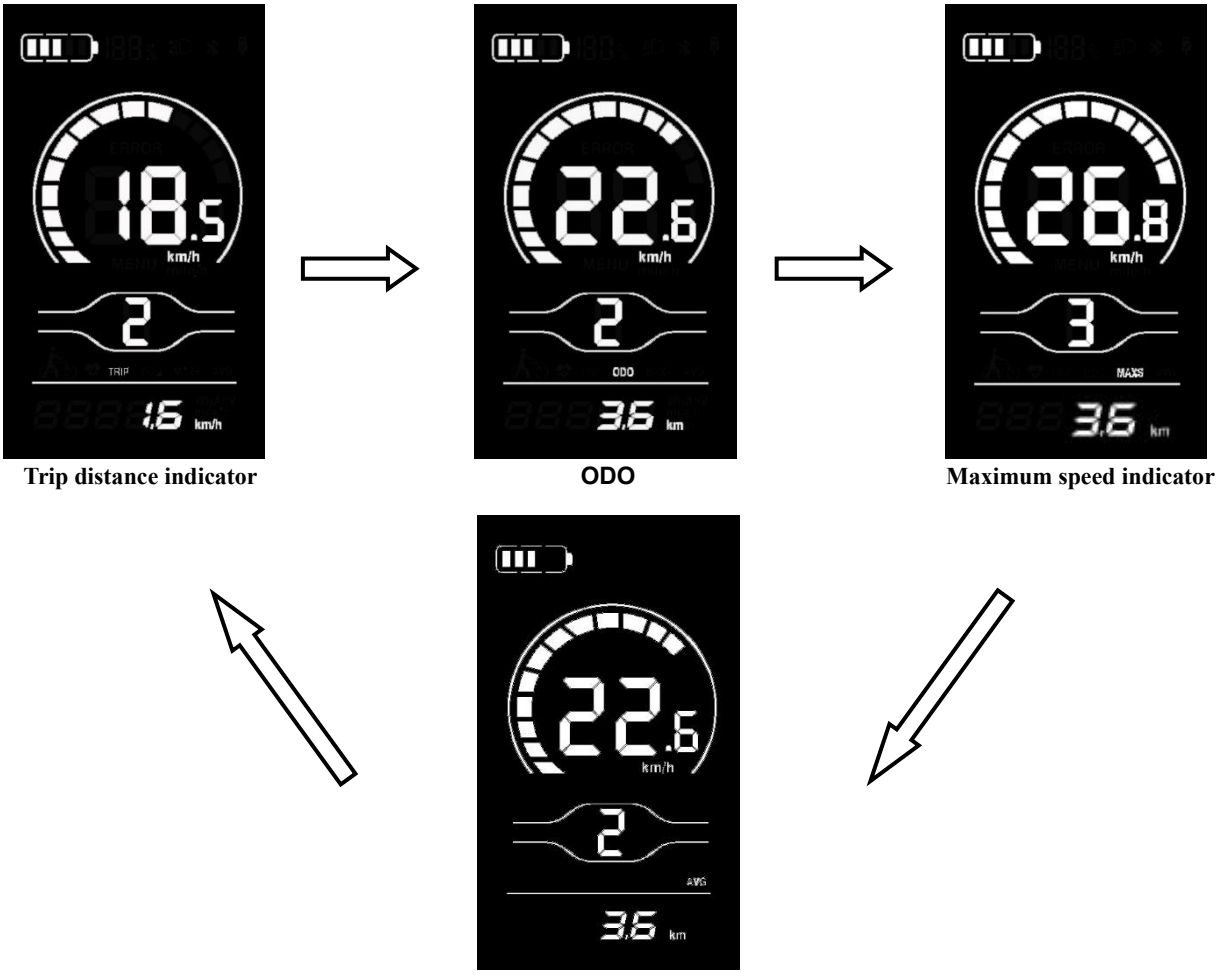
5.1 Power on/off

By pressing and holding the button , the display will start to work and the working power supply of the controller will be turned on. In the power-on state, by pressing the button , your e-bike will be powered off. In the power-off state, the display will no longer use the battery power, and its leakage current will be less than 1uA.

■ If your e-bike is not used for more than 10 minutes, the display will be automatically powered off.

5.2 Display interface

After the display is turned on, the display will show the real-time speed (km/h) and the trip distance (km) by default. By pressing the button , the information displayed will be switched between the trip distance (km), ODO (km), maximum speed (km/h), average speed (km/h) and riding power.



Trip distance indicator **ODO** **Maximum speed indicator**

Average speed indicator

Fig. 5-1 Display Interface Switching

5.3 Push assistance

By pressing and holding the button , the electric push assistance mode will be enabled. Your e-bike will run at the constant speed at the promoted speed. The display will show . By releasing the button, your e-bike will immediately stop power output and return to the state before push assistance.

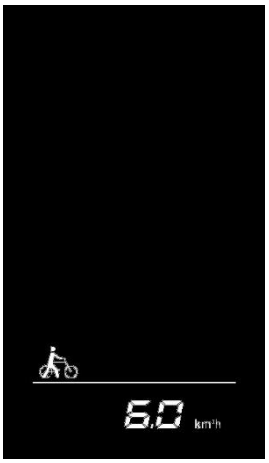


Fig. 5-2 Push Assistance Indicator Interface

■ The push assistance function can only be used when you are pushing your e-bike. Please do not use it during riding.

5.4 Headlight on/off

By pressing the button, the controller will turn on the headlights and the display backlight will turn dark; by pressing the button again, the controller will turn off the headlights and the display backlight will resumes the luminance.

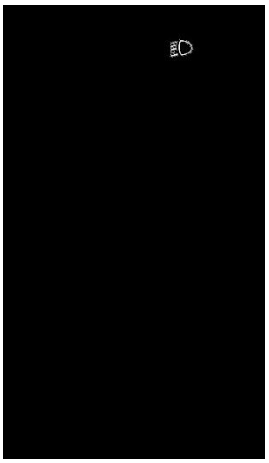


Fig. 5-3 Backlight-on Indication Interface

5.5 Assist level selection

By pressing the button +/−, the e-bike assist level will be switched to change the motor output power.

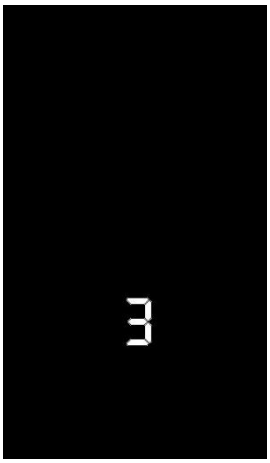


Fig. 5-4 Assist Level Switching Interface

5.6 Battery level indicator

The battery level indicator consists of five segments. When the battery is fully charged, the five segments will be all on. In case of undervoltage, the outline of the battery indicator will flash, which means the battery has to be charged immediately.

Full battery level indication **4-segment indication** **3-segment indication** **2-segment indication** **1-segment indication**

Undervoltage flashing

Fig. 5-5 Battery Level Indicator Interface

5.7 Error code indicator

When a fault occurs in the electronic control system of your e-bike, the display will automatically indicate the error code. Detailed definitions of error codes are shown in **Schedule 1**.

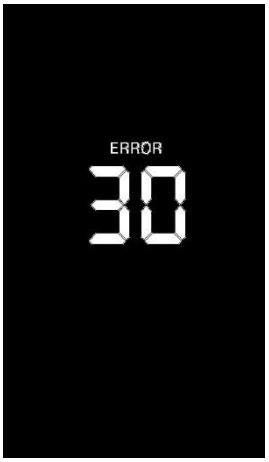


Fig. 5-6 Error Code Indicator Interface

■ When an error code appears on the display interface, please conduct troubleshooting in time. Otherwise, your e-bike will not work normally.

6. Personalized parameter settings

■ All parameters can only be set when your e-bike stops.

The steps for general setting are as follows:

In the power-on state, when the display shows the speed of 0,

(1) (1) Press and hold the buttons + **and** − at the same time for more than 2 seconds to enter the personalized parameter setting interface;

(2) Press the button +/− to switch the selection interface of general setting options, and press the button i to enter the parameter modification interface;

(3) Press the button + / − for parameter selection;

(4) Press the button i to save the parameter and return to the selection interface of general setting options;

(5) Press and hold the button i to save the parameter and exit the selection interface of general setting options.

6.1 Backlight luminance setting

01P refers to the backlight luminance setting option. Settable range is 0-3, which represent the backlight luminance, 1 for the minimum luminance, 2 for the standard luminance and 3 for the maximum luminance.

Press the button i to enter the parameter modification interface. Press the button +/− for parameter selection. Press the button i to save the parameter and return to the selection interface of general setting options.

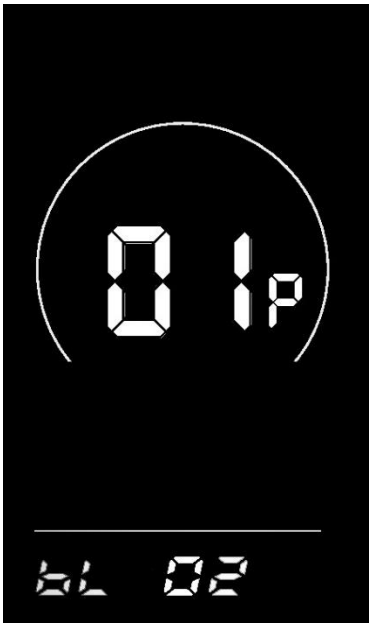


Fig. 6-1 Backlight Luminance Setting Interface

6.2 Metric/imperial system setting

02P refers to the metric/imperial system setting option. 01 represents the imperial system, and 00 represents the metric system.

Press the button i to enter the parameter modification interface. Press the button + / − for parameter selection. Press the button i to save the parameter and return to the selection interface of general setting options.

Fig. 6-2 Imperial System Setting Interface

Fig. 6-3 Metric System Setting Interface

6.3 Rated voltage setting

03P is the rated voltage setting. The available rated voltage range is: 24V、36V、48V、60V.

Press i to enter the parameter changing state. Press the + / − to select the parameter and press i to save the parameter setting and return to the personalized parameter setting interface.

Figure 6-4 Rated voltage setting interface

6.4 Auto Sleep Time Setting

04P is the auto sleep time setting. To save the battery power and reach higher range, this display will be turned off after it has not been used for a time. The adjustable range is: 1~60min, 00 means no auto shutdown. The factory default setting is 10 minutes.

Press i to enter the parameter changing state. Press the + / − to select the parameter and press i to save the parameter setting and return to the personalized parameter setting interface.

Figure 6-5 Auto Power Off Time Setting Interface

6.5 PAS level setting

05P is the Pedal assist level setting. The available PAS level settings are: 0~3, 1~3, 0~5, 1~5.

Press i to enter the parameter changing state. Press the + / − to select the parameter and press i to save the parameter setting and return to the personalized parameter setting interface.

Figure 6-6 PAS level setting interface

6.6 Wheel diameter setting

06P is the wheel diameter setting. The adjustable wheel diameter range is: 1~32inch.

Press i to enter the parameter changing state. Press the +/ - to select the parameter and press i to save the parameter setting and return to the personalized parameter setting interface.

Figure 6-7 Wheel diameter setting interface

6.7 Number of speed sensor magnets setting

07P is the speed sensor magnet number setting. The adjustable speed sensor magnet number range is: 1 ~ 255 pcs.

Press i to enter the parameter changing state. Press the +/ - to select the parameter and press i to save the parameter setting and return to the personalized parameter setting interface.

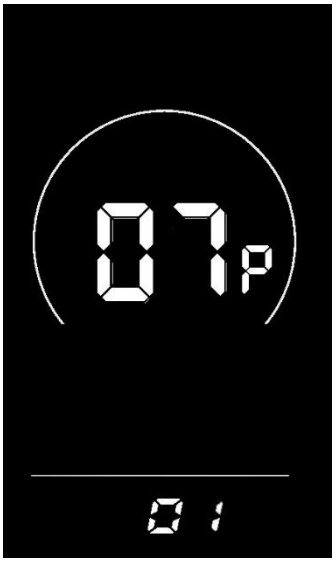


Figure 6-8 Number of speed sensor magnets setting interface

6.8 Speed Limit Setting

08P is the speed limit setting. The adjustable speed limit range is: 1~100km/h. (The maximum adjustable speed limit varies by different protocols).

Press i to enter the parameter changing state. Press the +/ -to select the parameter and press i to save the parameter setting and return to the personalized parameter setting interface.

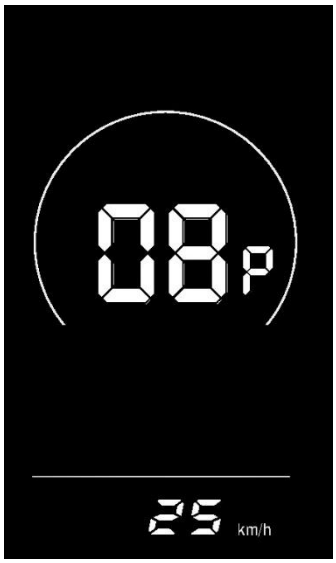


Figure 6-9 Speed limit setting interface

6.9 Start-up setting

09P is the start-up setting. The display can choose the following start modes: 00→zero start, 01→non-zero start.

Press i to enter the parameter changing state. Press the +/ -to select the parameter and press i to save the parameter setting and return to the personalized parameter setting interface.

Figure 6-10 Start-up setting interface

6.10 Drive mode setting

10P is the drive mode setting. The available drive modes are: 00→Pedal assist only, 01→Electric only, 02→Both Pedal assist and electric.

Press i to enter the parameter changing state. Press the +/ -to select the parameter and press i to save the parameter setting and return to the personalized parameter setting interface.

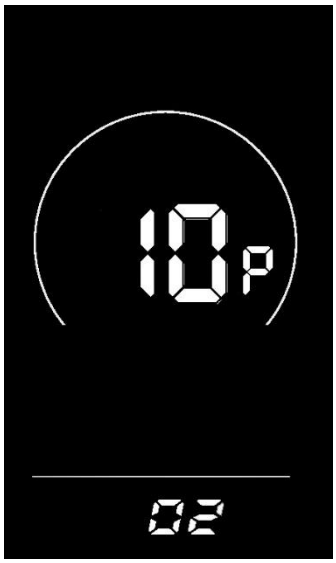


Figure 6-11 Drive mode setting interface

6.11 Pedal assist sensitivity setting

11P is the pedal assist sensitivity setting. When set to higher numbers, it will take more crank rotations to activate the motor. On lower numbers, it will take little crank rotation to activate the motor. The adjustable range is: 1~24.

Press i to enter the parameter changing state. Press the +/ -to select the parameter and press i to save the parameter setting and return to the personalized parameter setting interface.

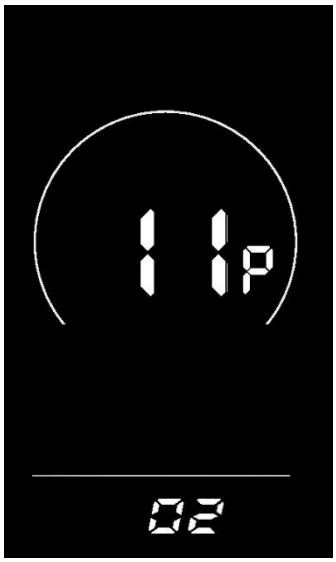


Figure 6-12 Pedal assist sensitivity setting interface

6.12 Pedal assist strength setting

12P is the Pedal assist strength setting. The Pedal assist strength is the relative strength of the PWM signal from the controller when start to activate pedal assist. The adjustable range is 0 ~ 5. 0 is the weakest strength and 5 is the strongest.

Press i to enter the parameter changing state. Press the + / − to select the parameter and press i to save the parameter setting and return to the personalized parameter setting interface.

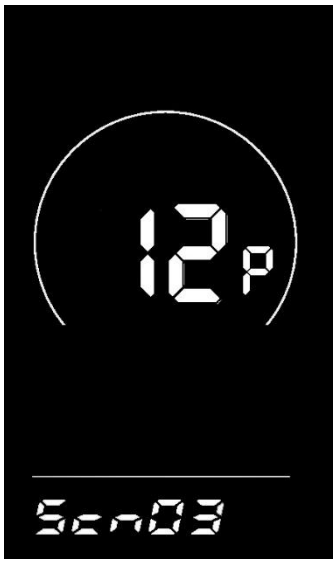


Figure 6-13 Pedal assist Start-up intensity setting interface

6.13 Number of pedal assist sensor magnets setting

13P is the number of pedal assist sensor magnets setting. The adjustable range: 5-12 pcs.

Press i to enter the parameter changing state. Press the + / − to select the parameter and press i to save the parameter setting and return to the personalized parameter setting interface.

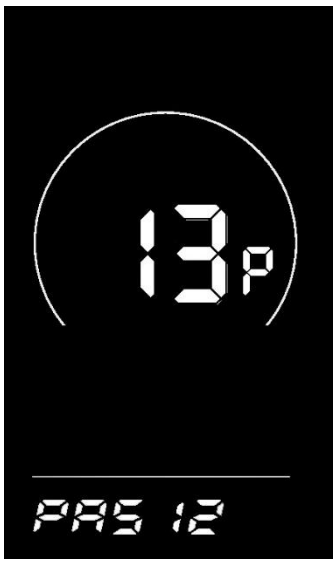


Figure 6-14 Number of pedal assist sensor magnets setting interface

6.14 Controller Current Limit Setting

14P is the controller current limit setting. The adjustable range is: 1~50A.

Press i to enter the parameter changing state. Press the + / − to select the parameter and press i to save the parameter setting and return to the personalized parameter setting interface.

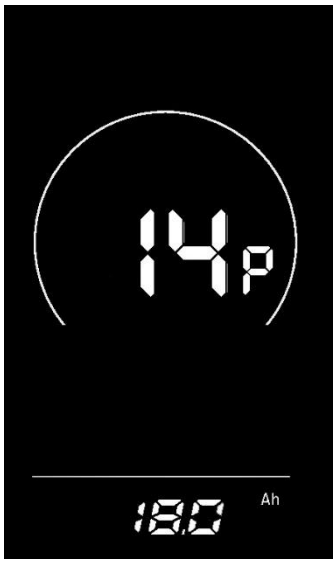


Figure 6-15 Controller current limit setting interface

6.15 Battery under voltage value setting

15P is the battery under voltage setting. The value can be adjusted based on the current rated voltage.

Press i to enter the parameter changing state. Press the + / − to select the parameter and press i to save the parameter setting and return to the personalized parameter setting interface.

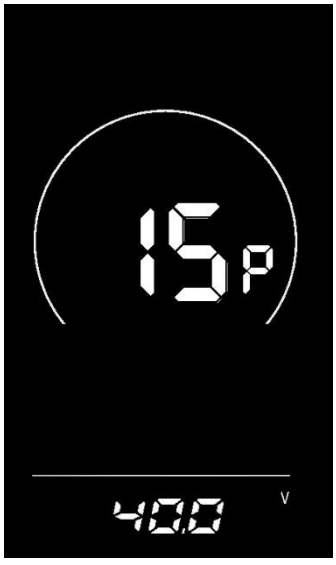


Figure 6-16 Battery under voltage value setting interface

6.16 ODO resets setting

16P is the ODO resets setting. The display can choose the following: 00→non reset, 01→reset.

Press i to enter the parameter changing state. Press the + / − to select the parameter and press i to save the parameter setting and return to the personalized parameter setting interface.

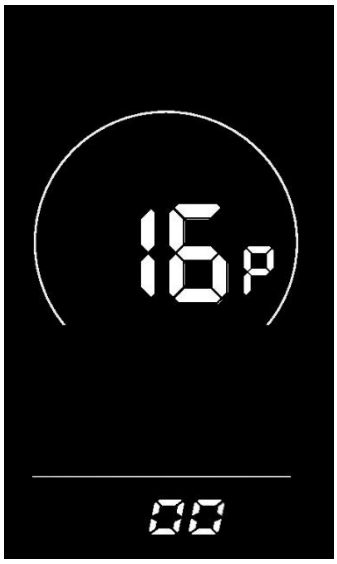


Figure 6-17 ODO resets setting interface

6.18 6km/h walk boost setting

18P is the 6km/h walk boost setting. The display can choose the following: 00→turn off walk boost function, 01→turn on walk boost function.

Press i to enter the parameter changing state. Press the + / − to select the parameter and press i to save the parameter setting and return to the personalized parameter setting interface.

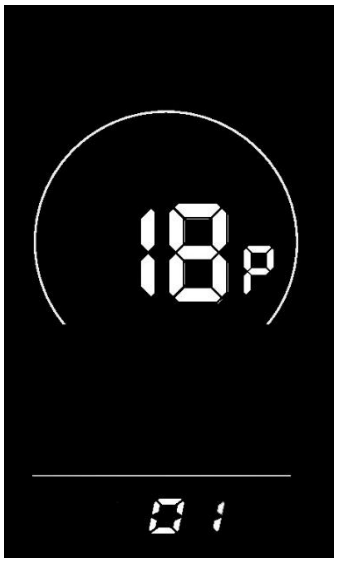


Figure 6-19 6km/h walk boost setting interface

6.19 Power-on password setting (option)

19P is the power-on password setting. The power-on password is not activated by default but users can activate it from setting PSd-y. The factory default password is 1212. Users can set other four-digit password. Please keep the password in mind after changing it, otherwise you will not be able to use the display.

Press i to enter the parameter changing state. Press the + / − to select the parameter. PSd-y means the power-on password is activated while PSd-n is off. Press i to confirm the mode and enter the state of setting the four digits power-on password or exit to the personalized parameter setting interface.

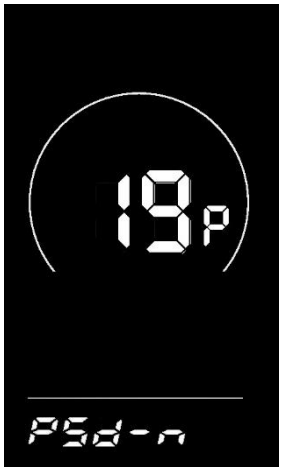


Figure 6-20 Power-on Password Activated interface **Figure 6-21 Power-on Password OFF interface**

In the password setting mode, the adjustable digit will flash. Press the / to select the parameter and press to save the numbers and go to the next digit setting. Long press to save the parameter setting and return to the personalized parameter setting interface after finish setting the four digits in turn.

Figure 6-22 Power-on password setting interface

7. Shortcut operation

7.1 Restore factory settings operation

dEF is the restore factory default parameter settings. dEF-Y is to restore default settings, and dEF-N is not to restore.

Enter into the main setting interface and keep the speed at 0, press and hold and simultaneously for 2s to enter the restore factory default setting interface. Pressing / to toggle to dEF-Y. Then after pressing to confirm, the display will show dEF-0 for a few seconds and then automatically start to restore the factory default settings. The display will automatically exit to setting interface after the restoration.

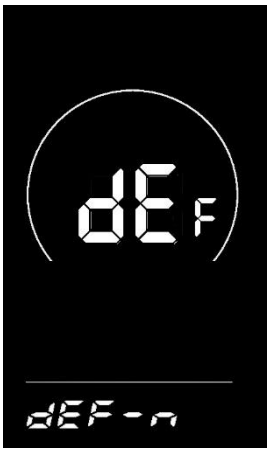


Figure 7-1 Restore Factory Default Settings Interface

7.2 Trip odometer reset operation

The display can record trip odometer and odometer. Trip odometer is not automatically reset after turning off. The trip odometer needs to be reset manually.

Enter into the main setting interface and keep the speed at 0, press and hold − and i simultaneously for 2s to reset the trip odometer. The main interface will flash during the reset process.

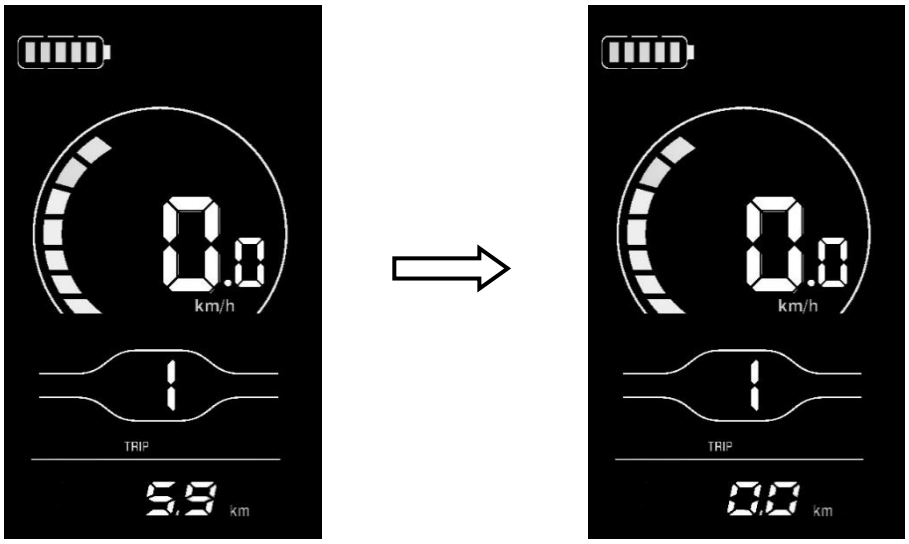


Figure 7-2 Trip Odometer Reset Interface

8. Quality commitments and warranty scope

8.1 Warranty information:

● For the faults caused by the quality of the product under normal use, the Company will be responsible for providing limited warranty during the warranty period.

● The warranty period of the product is within 12 months from delivery.

8.2 Non-warranty scope

● The enclosure is opened

● The connector is damaged

● The enclosure is scratched or damaged after delivery

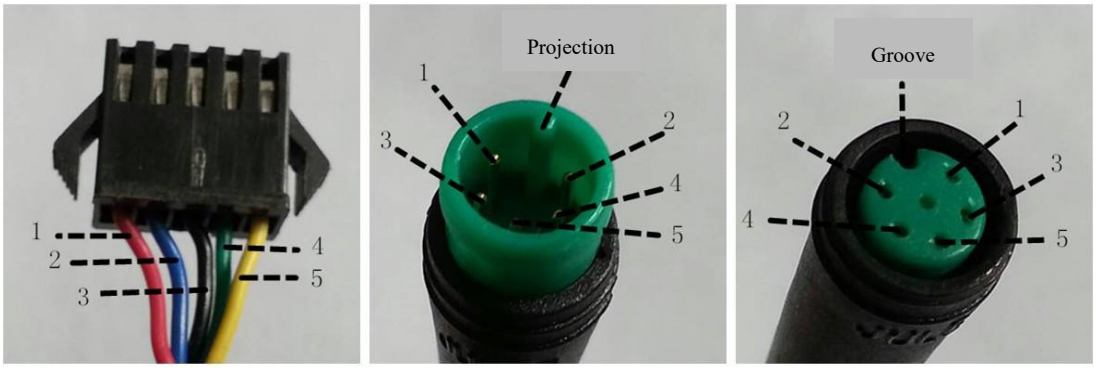
● The outgoing line of the display is scratched or broken

● Faults or damage caused by force majeure (such as fires, earthquakes, etc.) or natural disasters (such as lightning strikes, etc.)

● The warranty period has expired

9. Outgoing line connection diagram

9.1 Wiring sequence of standard connector



Connecting terminal to the controller **Leading-out terminal of display** **Connecting terminal**

Fig. 8-1 Outgoing Line Connection Diagram

Table 8-1 Wiring Sequence of Standard Connector

Standard wiring sequence	Standard wire color	Function
1	Red (VCC)	Power cord of display
2	Blue (Kp)	Power control line of controller
3	Black (GND)	Ground wire of display
4	Green (RX)	Data receiving line of display
5	Yellow (TX)	Data transmission line of display

■ The outgoing lines of some products adopt waterproof connectors, and users cannot see the outgoing line color inside the wire harnesses.

10. Considerations

Please use safely, and do not plug or unplug the display when it is powered on.

◆Please avoid bumping as far as possible.

◆ Please do not alter the background parameter settings of the display at will, otherwise normal riding cannot be guaranteed.

◆ If the display fails to work normally, it should be repaired as soon as possible.

◆ Due to product upgrades of the Company, part of the displayed contents or functions of the product you bought may be different from the manual, depending on the actual model.

Schedule 1 Error Code Definitions

Error codes for protocols YL-02:				
Error codes	Definition		Error codes	Definition
E001	Controller Abnormality		E004	Throttle Abnormality
E002	Communication Abnormality		E005	Brake Abnormality
E003	Motor Hall Signal Abnormality		E006	Motor Phase Abnormality

Schedule 2: Error Code Definition

Customize YL-02 (LKLS) Error codes:		
Error code	Definition	Handling method
Error05	Brake failure	Check whether the brakes are in position; Replace the brake handle.
Error06	Low-battery	Check whether the battery needs recharging
Error07	Motor phase failure	Check whether the hall wire of the motor is loose
Error08	Throttle failure	Whether to return the handle; Check the connection of the handle, if normal, need to replace the handle
Error09	Controller failure	Check the cable harness connection of the controller or replace the controller with a new controller
Error10	Communication reception failure	Check that the display cable is properly connected
Error11	Communication transmission failure	Check that the display cable is properly connected