Yolin

Electric Bike Display

User's Manual

YL81F-H

Tianjin Yolin Technology Co. Ltd.

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1. Product name and model

Intelligent LCD display for e-bike; model: YL81F-H.

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 -10～60℃
- Storage temperature -30～70℃

3. Appearance and dimensions

Figure 3-1 Picture of Display YL81F-H

Figure 3-2 Physical picture of the K6 control button

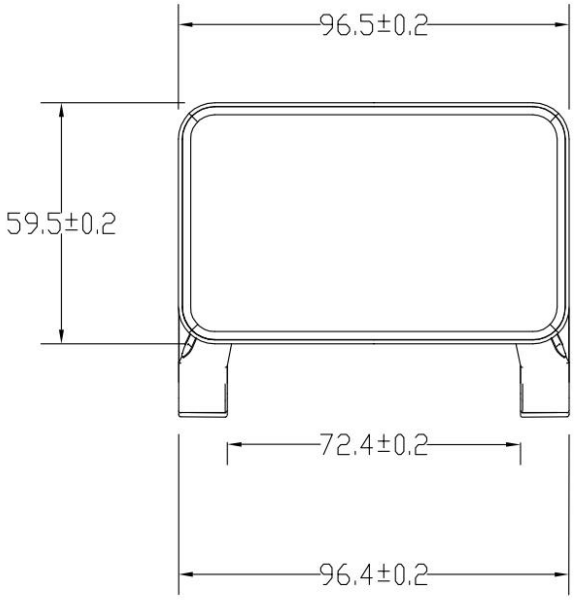


Figure 3-3 YL81F-H Front View Dimension

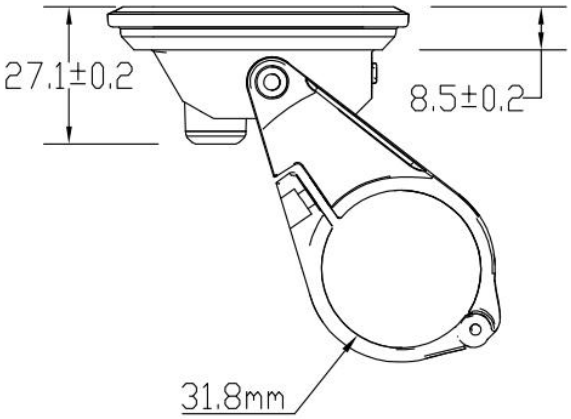


Figure 3-4 YL81F-H Side View Dimension

4. Function overview and Functional areas

4.1 Functional overview

The YL81F-H display offers a variety of features to suit your riding needs, including:

- Battery level indicator
- Pedal assist (PAS) level indicator
- Speed (current speed, maximum speed, average speed)
- Mileage display (single and total mileage)
- Walk boost mode
- Light ON/OFF
- Error code indicator
- Cruise control indicator
- Personalized parameter settings (e.g. wheel diameter, speed limit, etc.).
- Factory default parameter recovery function

4.2 Functional areas

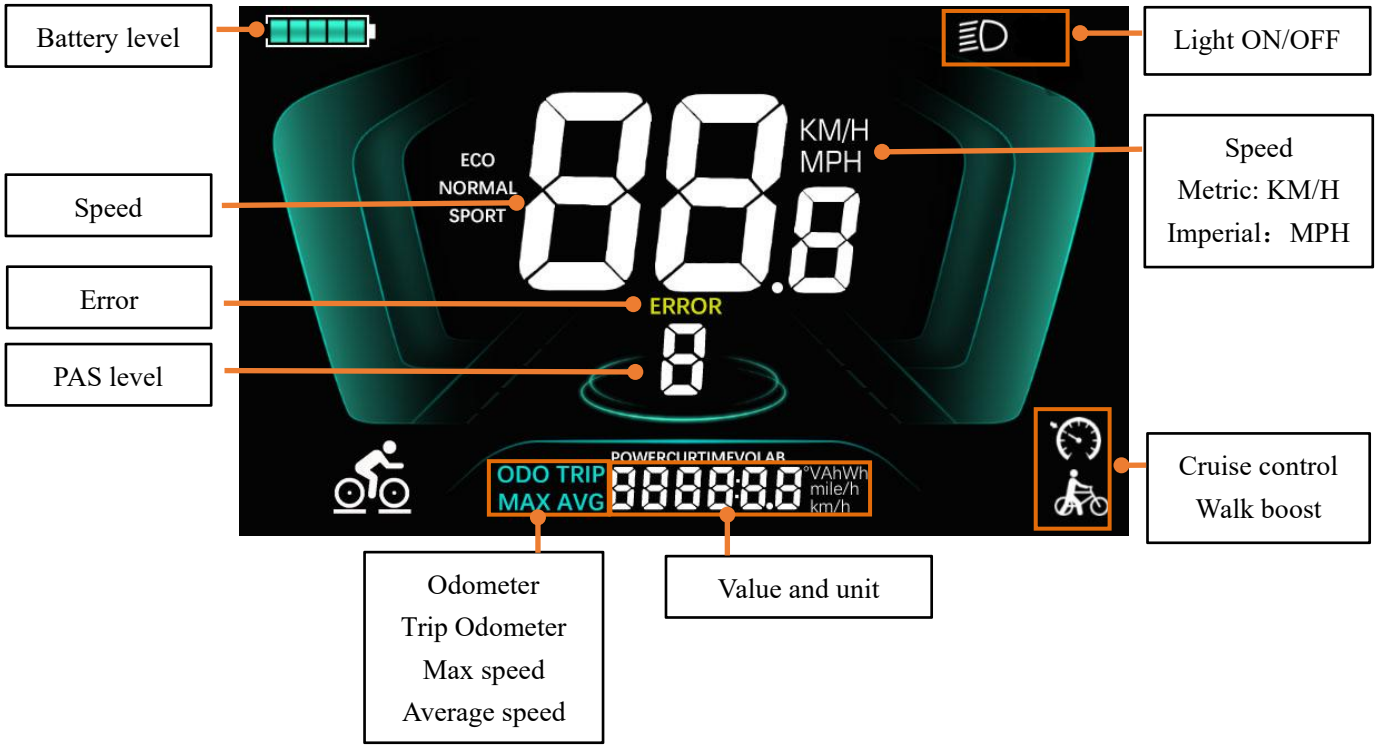


Figure 4-1 YL81F-H functional area distribution interface

4.3 Button definitions

The YL81F-H display is equipped with five buttons on the corresponding operating unit: power on/off , plus , minus , light and toggle .

5. Routine operation

5.1 Power on/off

Long press to power on / off the display. When the display is off, it will not use the battery power and the leakage current is less than 1uA.

⚠**The display will automatically shut off if it is not used for more than 10 minutes.**

5.2 Display interface switching

When the display is powered on, it will show the Current Speed (mile/h) and Trip Odometer (mile) by default. Short press i to switched cyclically between Trip Odometer (mile), Odometer (mile), Maximum Speed (mile/h), Average Speed (mile/h), Voltage(V), and Current (A).

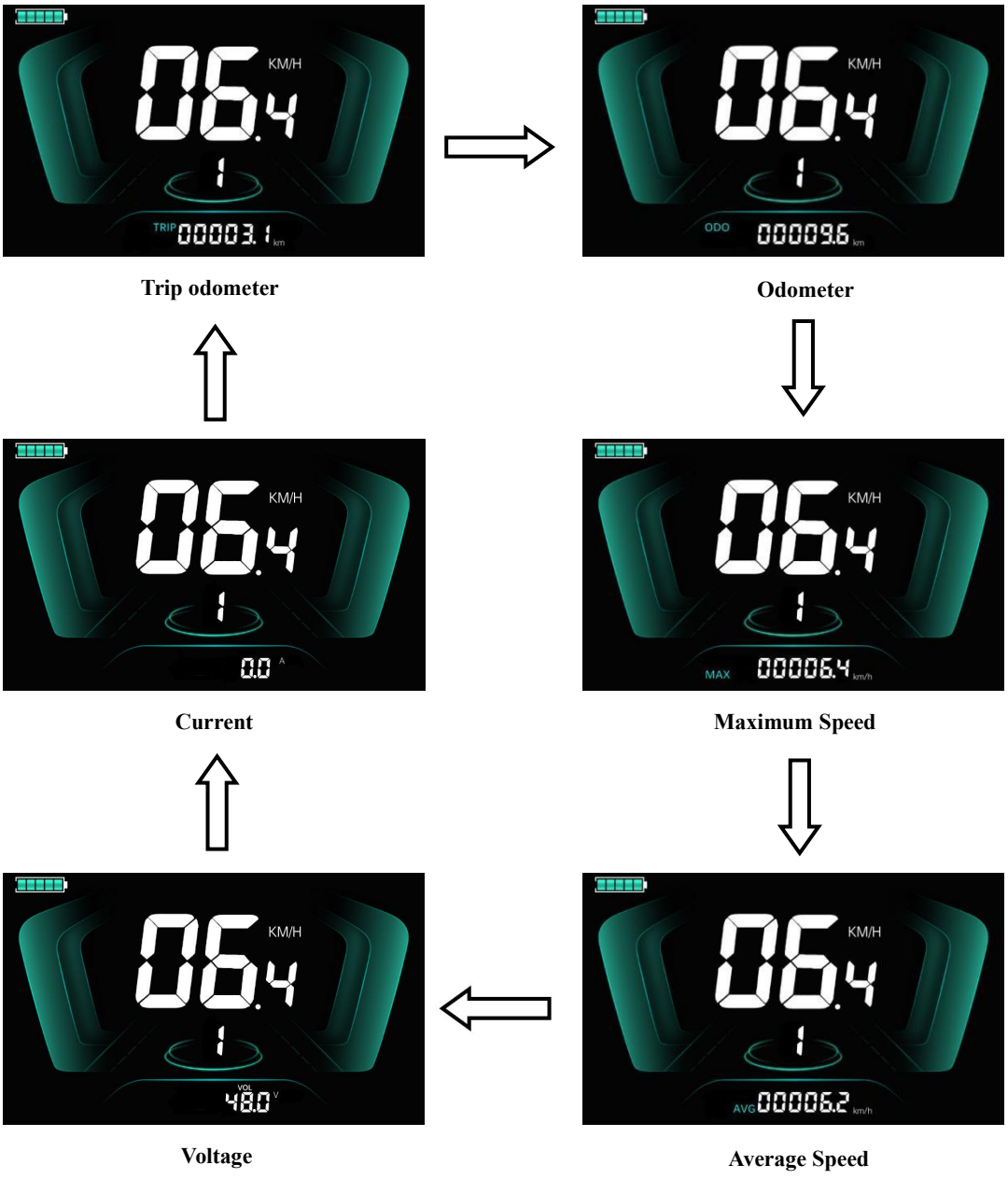


Figure 5-1 Display interface switching interface

5.3 Walk boost mode

Long press and hold  , the electric bicycle enters the walk boost mode. The electric bicycles will travel at walking speed and the display shows  . Release the button to stop the power output immediately and restore to the state before walk boost.

Figure 5-2 Walk boost mode display interface

⚠The walk boost mode can only be used when pushing the electric bicycle, please do not use it while riding.

5.4 Turning on/off lights

Press the  to make the controller turn on the lights and the display backlight becomes dim. Press  again to make the controller turn off the lights and the backlight restore brightness.

Figure 5-3 Backlight display interface

5.5 PAS level selection

Press ⊞ / ⊟ to switch PAS level of electric bicycle, thus changing the motor output power. (The following pictures are only for illustration of different speeds in different gears. The specific speed is subject to the actual product)

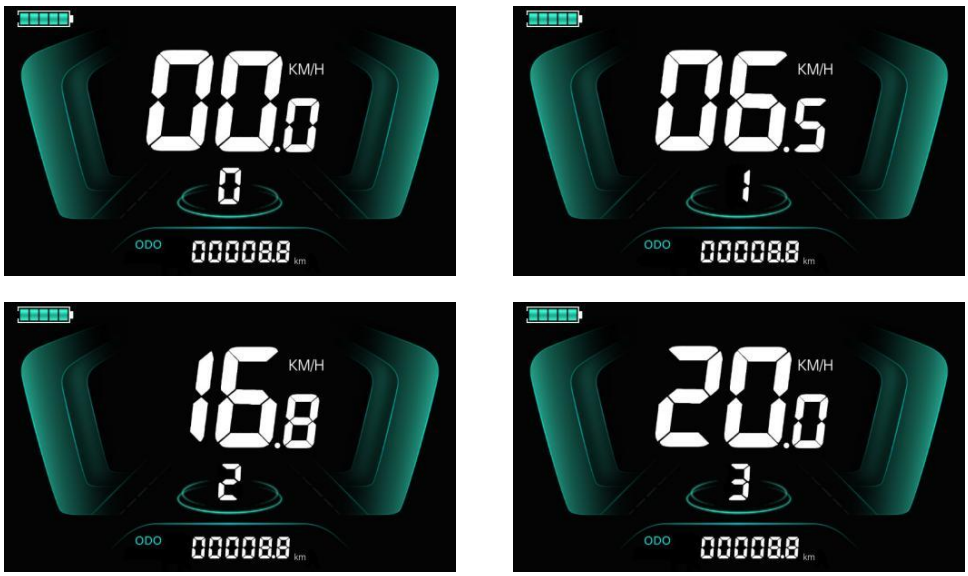
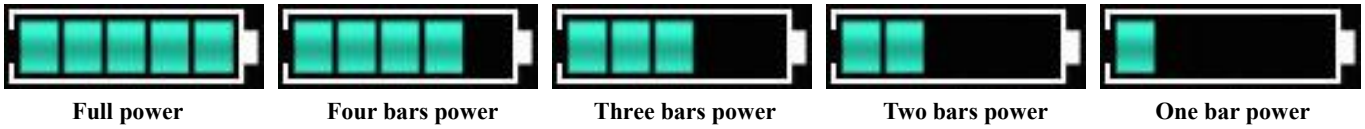


Figure 5-4 PAS level display interface

5.6 Battery level display

The Battery level is shown as 5 bars. When the battery is full charged, all of the 5 bars lighten up. When the battery is fully depleted, the bar begin to flash, warning the user to charge the battery as soon as possible.



Full power **Four bars power** **Three bars power** **Two bars power** **One bar power**

Empty power flashing

Figure 5-5 Battery level display interface

5.7 Error code display

If there is a fault occurs in the electronic system of the electric bicycle, the display will automatically show an error Code, see **Schedule 1** for a detailed definition of the error code.

Figure 5-6 Error code display

6. Personalized parameter settings

⚠Each setting needs to be done with the bicycle stationary.

The personalized parameter setting procedure is as follows:

When the display is ON and the speed shows 0,

(1) Press and hold ⊞ ⊟ simultaneously for more than 2 seconds to enter the personalized parameter setting interface.

(2) Press ⊞ / ⊟ to toggle between the personalized parameter setting interface, and press i to enter the parameter changing state.

(3) Press ⊞ / ⊟ to select the parameter. Long press ⊞ for addition operation, long press ⊟ for subtraction operation.

(4) Press i to save the parameter settings and return to the personalized parameter setting interface.

(5) Long press i to save the parameter setting and exit the personalized parameter setting interface。

The following options are available on the personalized parameter setting interface:

6.1 Backlight luminance setting

01P refers to the backlight luminance setting option, The adjustable range is : 1~3, 01 for the minimum luminance, 02 for the standard luminance, 03 for the maximum luminance.

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 6-1 Backlight luminance setting interface

6.2 Metric and Imperial setting

02P is the metric and imperial setting option, 00 for metric and 01 for imperial.

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.

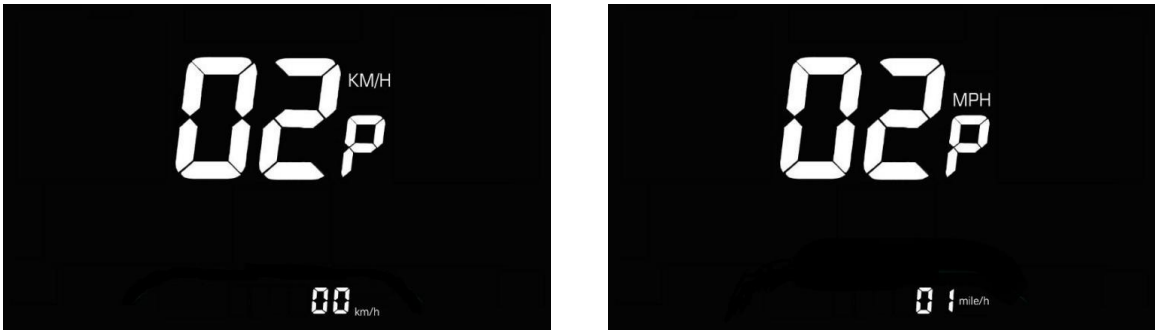


Figure 6-2 Metric and Imperial setting interface

6.3 Rated voltage setting

03P is the rated voltage setting option. (Can only be viewed but not adjusted)

Press i to enter the parameter viewing state. Press i to return to the personalized parameter setting interface.

Figure 6-3 Rated voltage setting interface

6.4 Auto sleep time setting

04P is the auto sleep time setting option. 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 : 00~60min, 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 6-4 Auto sleep time interface

6.5 PAS level setting

05P is the PAS level setting option. (Can only be viewed but not adjusted)

Press i to enter the parameter viewing state. Press i to return to the personalized parameter setting interface.

Figure 6-5 PAS level setting interface

6.6 Wheel diameter setting

06P is the wheel diameter setting option. (Can only be viewed but not adjusted)

Press i to enter the parameter viewing state. Press i to return to the personalized parameter setting interface.

Figure 6-6 Wheel diameter setting interface

6.7 Number of speed sensor magnets setting

07P is the number of speed sensor magnets setting option. (Can only be viewed but not adjusted)

Press i to enter the parameter viewing state. Press i to return to the personalized parameter setting interface.

Figure 6-7 Number of speed sensor magnets setting interface

6.8 Speed limit setting

08P is the speed limit setting. The adjustable speed limit range is: 20mile/h,62mile/h (32km/h,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 6-8 Speed limit setting interface

6.9 Start-up setting

09P is the start-up setting option. 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 6-9 Start-up setting interface

6.10 Drive mode setting

10P is the drive mode setting option. 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.

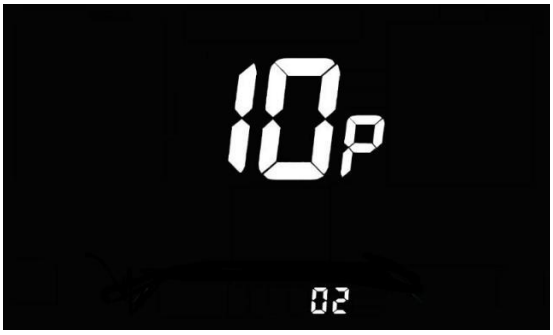


Figure 6-10 Drive mode setting interface

6.11 Pedal assist sensitivity setting

11P is the Pedal assist sensitivity setting option.When set to higher number, 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 6-11 Pedal assist sensitivity setting interface

6.12 Pedal assist strength setting

12P is the Pedal assist strength setting option. 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 6-12 Pedal assist strength setting interface

6.13 Number of pedal assist sensor magnets setting

13P is the number of pedal assist sensor magnets setting.(Can only be viewed but not adjusted)

Press i to enter the parameter viewing state. Press i to return to the personalized parameter setting interface.

Figure 6-13 Number of pedal assist sensor magnets setting interface

6.14 Controller current limit setting

14P is the controller current limit setting. (Can only be viewed but not adjusted)

Press i to enter the parameter viewing state. Press i to return to the personalized parameter setting interface.

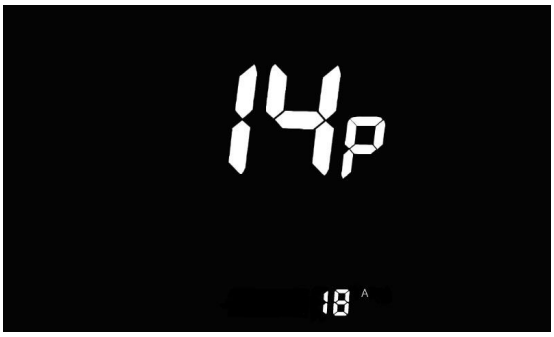


Figure 6-14 Controller current limit setting interface

6.15 Battery under voltage value setting

15P is the battery under voltage setting option. (Can only be viewed but not adjusted)

Press i to enter the parameter viewing state. Press i to return to the personalized parameter setting interface.

Figure 6-15 Battery under voltage value setting interface

6.16 ODO reset setting

16P is the ODO reset setting option. The adjustable range is : 00 represents the ODO not reset, 01 represents the ODO of 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 6-16 ODO reset setting interface

6.17 Controller automatic cruise setting

17P is the controller automatic cruise setting option. 00 means disable cruise, 01 means enable cruise.

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.

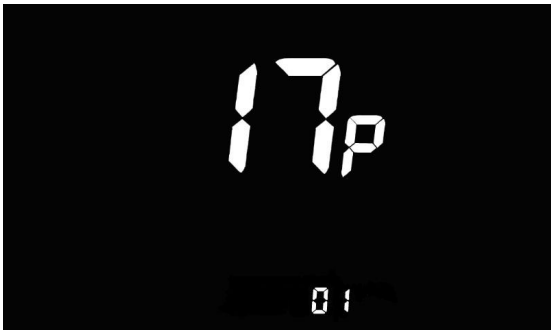


Figure 6-17 Controller automatic cruise setting interface

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.

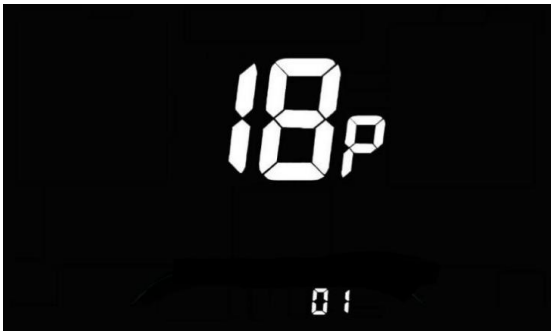


Figure 6-18 6km/h walk boost setting interface

6.19 Speed ratio setting

19P is the speed ratio setting. The adjustable range of display speed ratio is: 100~150%.

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 Speed ratio setting interface

7. Shortcut operation

7.1 Restore factory default parameter settings operation

dEF is the restore factory default parameter settings. dEF-Y is the restore the factory 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 default settings. The display will automatically exit to setting interface after the restoration.

Figure 7-1 Restore factory default parameter setting 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. The odometer can not be reset.

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

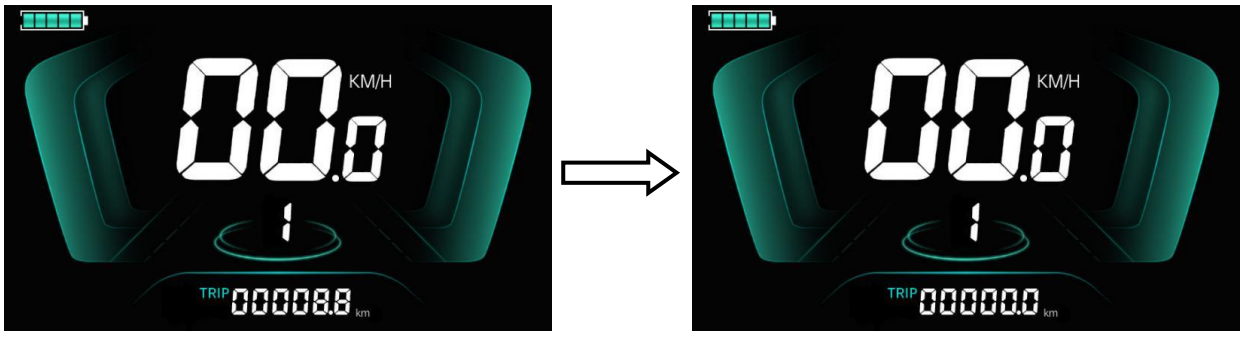


Figure 7-2 Trip odometer reset interface

8. Quality Assurance and Warranty

8.1 Warranty info

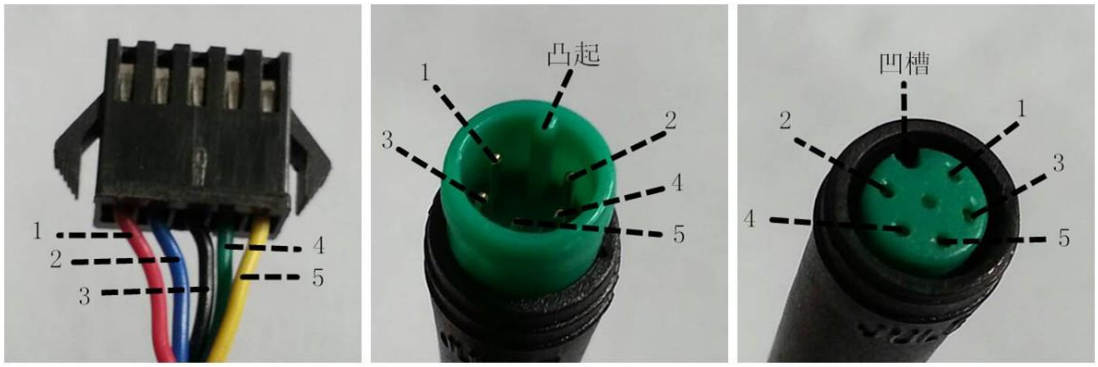
- Yolin will offer a limited warranty for any failure caused by the product defects under normal use during the warranty period.
- The product is warranted for 12 months from the date out of factory.

8.2 Warranty does not cover

- The shell is opened.
- The connector is damaged.
- Scratches on the appearance after the product is out of factory.
- Scratched or broken wires
- Failure or damage caused by force majeure (e.g. fire, earthquake, etc.) or natural disaster (e.g. lightning strike, etc.)
- Out of warranty period.

9. Wire connection diagram

9.1 Standard wire connection sequence



Controller connector **Display connector (Female terminal)** **Display connector (Male terminal)**

Figure 9-1 Wire Connection Diagram

Table 9-1 Standard connector wire sequence table

Standard Wire Sequence	Standard wire color	Function
1	Red (VCC)	Display power wire
2	Blue (Kp)	Controller power wire
3	Black (GND)	Display ground wire
4	Green (RX)	Display data reception wire
5	Yellow (TX)	Display data transmit wire

⚠**Some models are equipped with waterproof connectors and the color inside wires can not be seen.**

10. Precautions

Pay attention to all the general operating when using the products and do not plug and unplug the display while it is powered on.

- ◆ Avoid bumping the display as much as possible.
- ◆ Please do not change the parameter settings at will, otherwise normal riding cannot be guaranteed.
- ◆ If display does not work properly, please send it to the repair center as soon as possible.
- ◆ There may be differences between the physical products and this manual due to normal upgrade. Please refer to the physical products.

Schedule 1: Error Code Definition

YL-02 Error codes				
Error code	Definition		Error code	Definition
E001	Controller failure		E004	Throttle failure
E002	Communication failure		E005	Brake failure
E003	Hall failure		E006	Motor phase failure

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