Yolin

User Manual for

E-bike Display

YL70E

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Table of Contents

1. Product name and model

Intelligent digital display for e-bike; model: YL70E.

2. Specifications

- 36V/48V power supply
- Rated working current 18mA
- 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 70E

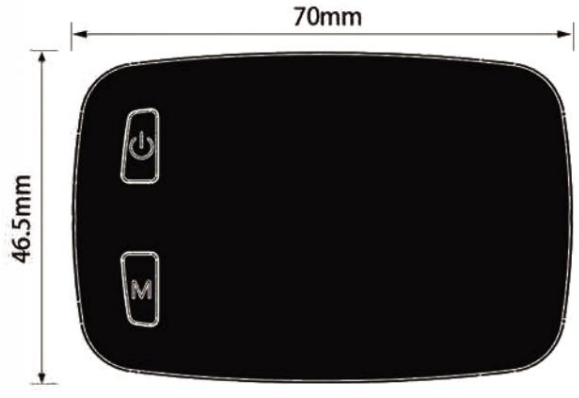


Fig. 3-2 Front View of Display 70E Dimensions

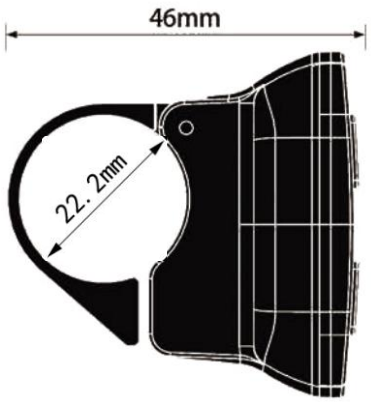


Fig. 3-3 Side View of Display 70E Dimensions

4. Function overview and functional area layout

4.1 Function overview

Display YL70E provides a variety of functions to meet the riding needs of users, including:

- Battery level indicator
- Assist level adjustment and indication
- Speed indicator
- Distance indicator (including trip distance and ODO)
- Headlight indicator
- Error code indicator
- Custom parameter setting

4.2 Functional area layout

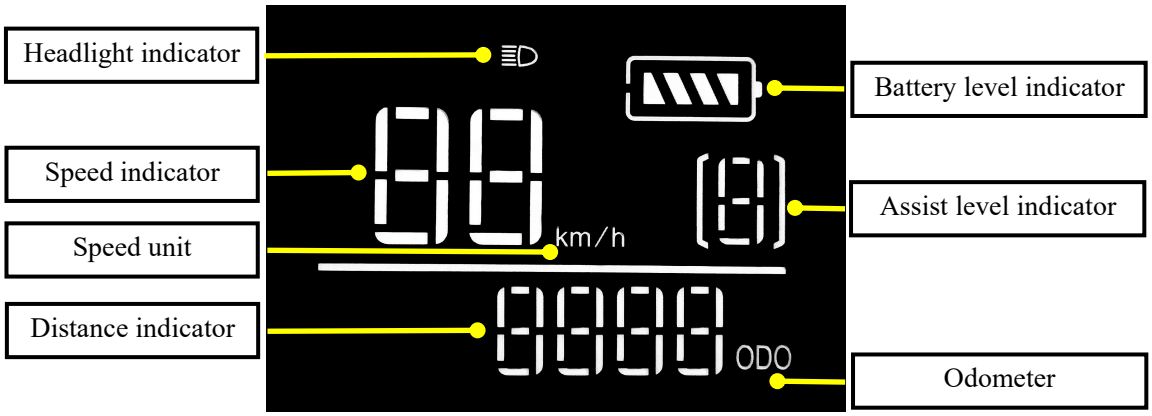


Fig. 4-1 Functional Area Layout Interface of Display YL70E

4.3 Button definitions

There are two buttons on the operating unit of display YL70E, i.e., the on/off button ⏻ and the level button M.

5. General operation

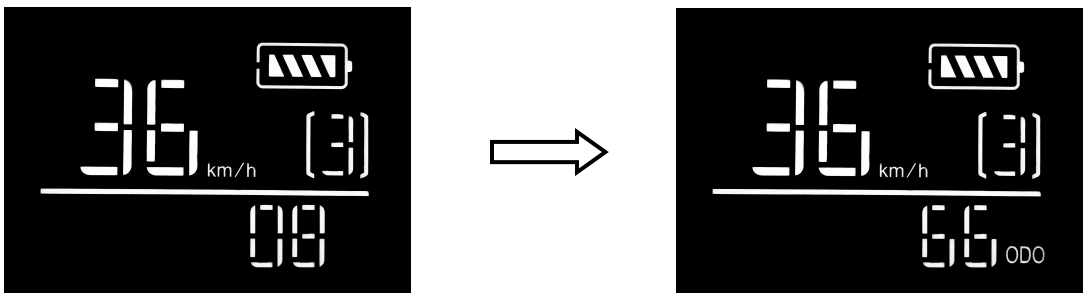
5.1 Power on/off

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 and holding 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 and holding the button M, the information displayed will be switched between the trip distance (km) and the ODO (km). When the ODO light is off, the trip distance is displayed; when the ODO light is on, the ODO is displayed.



Trip distance indicator **ODO**

Fig. 5-1 Display Interface Switching

5.3 Headlight on/off

When the ambient environment is dark or when driving at night, you may turn on the headlights.

By pressing the button , the controller will turn on the headlights; by pressing the button again, the controller will turn off the headlights.

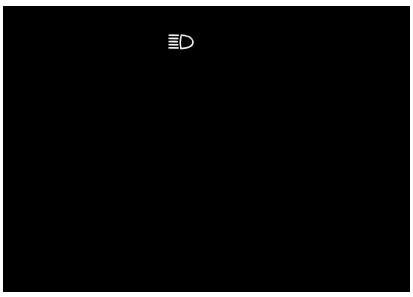


Fig. 5-2 Headlight-on Indicator Interface

5.4 Assist level selection

By pressing the button M , the e-bike assist level will be switched cyclically to change the motor output power. The assist levels available for the display include: levels 0-3, levels 1-3, levels 0-5, levels 1-5, levels 0-7, levels 1-7, levels 0-9 and levels 1-9.

Fig. 5-3 Assist Level Switching Interface

5.5 Battery level indicator

The battery level indicator consists of four segments. When the battery is fully charged, the four 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.

Fig. 5-4 Battery Level Indicator Interface

5.6 Error code indicator

When a fault occurs in the electronic control system of your e-bike, the display will automatically indicate the error code in the distance area in the format of E0**. Detailed definitions of error codes are shown in **Schedule 1**.

Fig. 5-5 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. Custom setting

In order to meet the users' needs, there are currently three versions of custom settings available:

Table 6-1 Functions of each Custom Setting Version

Version	Setting function	Remarks
A1	N/A	/
A2	6.1 Metric/imperial system setting + 6.2 Setting of number of steel magnets for speed measurement	Settings 1
A3	6.3 Rated voltage setting + 6.4 Wheel diameter setting + 6.5 Speed limit setting	Settings 2

The steps for custom setting are as follows:

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

(1) Simultaneously press and hold buttons ⏻ and M for more than 2 seconds, the custom setting interface will pop up;

(2) Press the button ⏻ to switch the function, and press the button M to enter the parameter modification interface;

(3) Press the button ⏻ for parameter selection;

(4) Press and hold the button ⏻ to confirm and save the parameter. When "---" is displayed, it will automatically return to the custom setting interface. Alternatively, press the button M to return to the custom setting interface without saving the parameter;

(5) Press and hold the button ⏻ or M to exit the custom setting interface.

■ If no operations are performed within one minute, the display will automatically exit the setting interface.

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

A2 version custom setting:

6.1 Metric/imperial system setting

P1 refers to the metric/imperial system setting option. 00 represents the metric system (unit: "km/h"), and 01 represents the imperial system (no unit display). In the parameter modification interface, press the button ⏻ to select a parameter, and press and hold the button ⏻ to confirm and save the parameter. When "---" is displayed, it will automatically return to the custom setting interface.

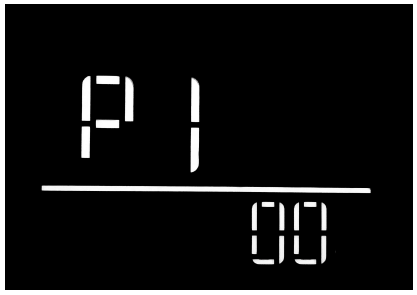


Fig. 6-1 Metric/imperial System Switching Interface

6.2 Setting of number of steel magnets for speed measurement

P2 represents the setting option of number of steel magnets for speed measurement. The adjustable range of the number is: 1~64. In the parameter modification interface, press the button to select a parameter, and press and hold the button to confirm and save the parameter. When "---" is displayed, it will automatically return to the custom setting interface.

Fig. 6-2 Setting Interface of Number of Steel Magnets for Speed Measurement

A3 version custom setting:

6.3 Rated voltage setting

P1 represents the rated voltage setting option. There are two options for the rated voltage: 36 means the rated voltage is 36V and 48 means the rated voltage is 48V. In the parameter modification interface, press the button to select a parameter, and press and hold the button to confirm and save the parameter. When "---" is displayed, it will automatically return to the custom setting interface.

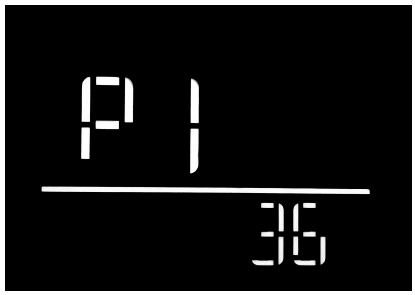


Fig. 6-3 Rated Voltage Setting Interface

6.4 Wheel diameter setting

P2 represents the wheel diameter setting option. The adjustable range is 8~28 inches. Select the corresponding wheel diameter of your e-bike to ensure the accuracy of the speed and distance indication. In the parameter modification interface, press the button to select a parameter, and press and hold the button to confirm and save the parameter. When "---" is displayed, it will automatically return to the custom setting interface.

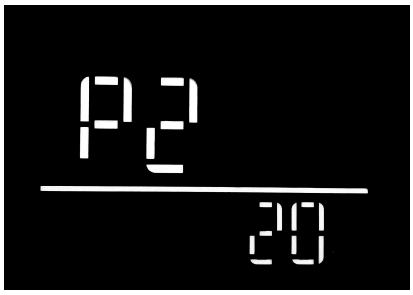


Fig. 6-4 Wheel Diameter Setting Interface

6.5 Speed limit setting

P3 represents the speed limit setting option. The adjustable range is 12~40Km/h. In the parameter modification interface, press the button to select a parameter, and press and hold the button to confirm and save the parameter. When "---" is displayed, it will automatically return to the custom setting interface.

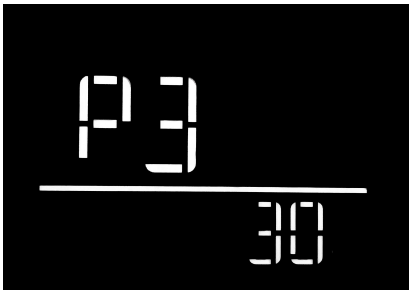


Fig. 6-5 Speed Limit Setting Interface

7. Quality commitments and warranty scope

7.1 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.

7.2 Non-warranty scope

● The enclosure is opened

● The connector is damaged

● The enclosure is scratched or damaged after delivery

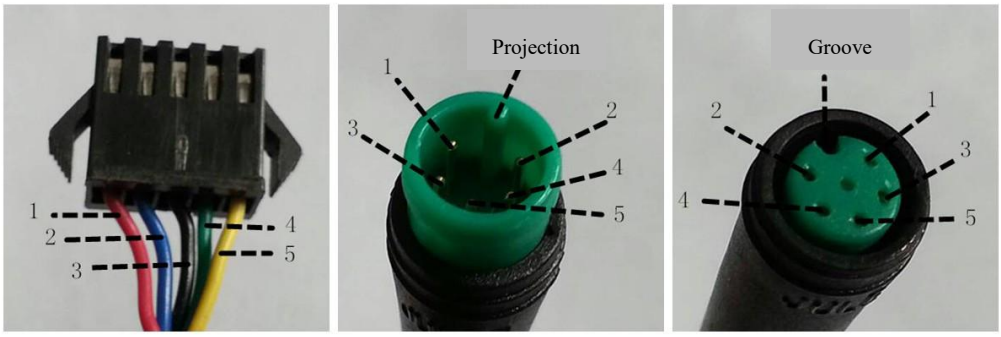
● The outgoing line of the display is scratched or broken

● 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

8. Outgoing line connection diagram

8.1 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.

9. 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-01 and 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
Error codes for protocols YL-05, KDS and YL-J:				
Error codes	Definition		Error codes	Definition
E021	Current Abnormality		E024	Motor Hall Signal Abnormality
E022	Throttle Abnormality		E025	Brake Abnormality
E023	Motor Phase Abnormality		E030	Communication Abnormality

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