Yolin

Electric Bike Display

User's Manual

YL61F-F

Tianjin Yolin Technology Co. Ltd.

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1. Product name and model

Intelligent LCD display for e-bike; model: YL61F-F.

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

Fig. 3-1 Picture of Display YL61F-F

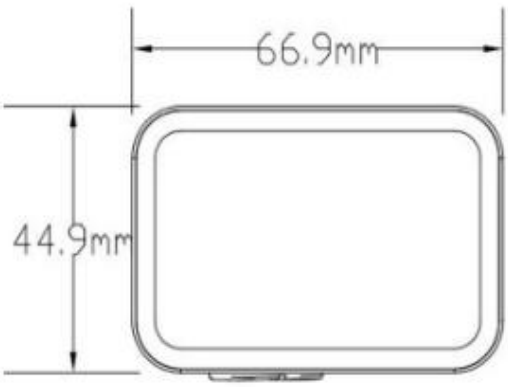


Fig. 3-2 Top View of Display YL61F-F Dimensions

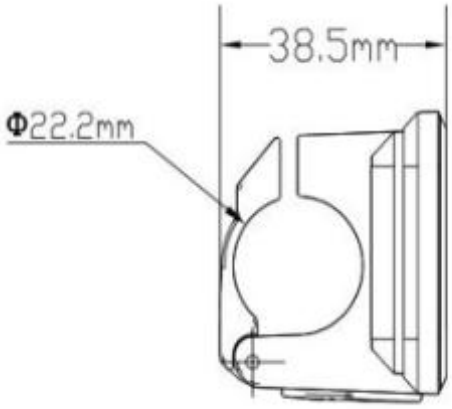


Fig.3-3 Side View of Display YL61F-F Dimensions

4. Function overview and Functional areas

4.1 Functional overview

The YL61F-F 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)
- Light ON/OFF
- Error code indicator
- Personalized parameter settings (e.g. metric and imperial units, speed limit,etc.)
- Factory default parameter recovery function

4.2 Functional areas

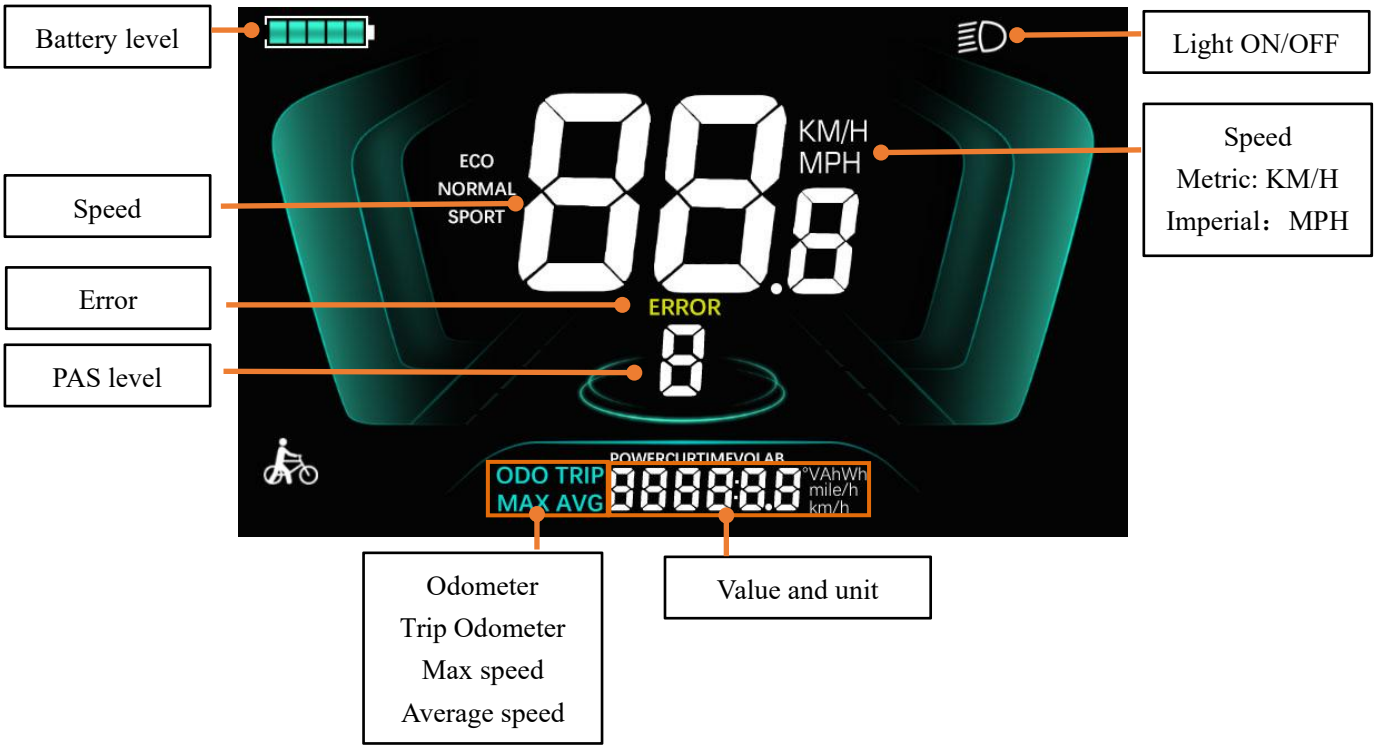


Figure 4-1 YL61F-F functional area distribution interface

4.3 Button definitions

The YL61F-F display is equipped with three buttons on the corresponding operating unit: power on/off , plus , minus .

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 to switched cyclically between Trip Odometer (mile), Odometer (mile), Maximum Speed (mile/h), Average Speed (mile/h) ,Voltage(V) , and Current(A).

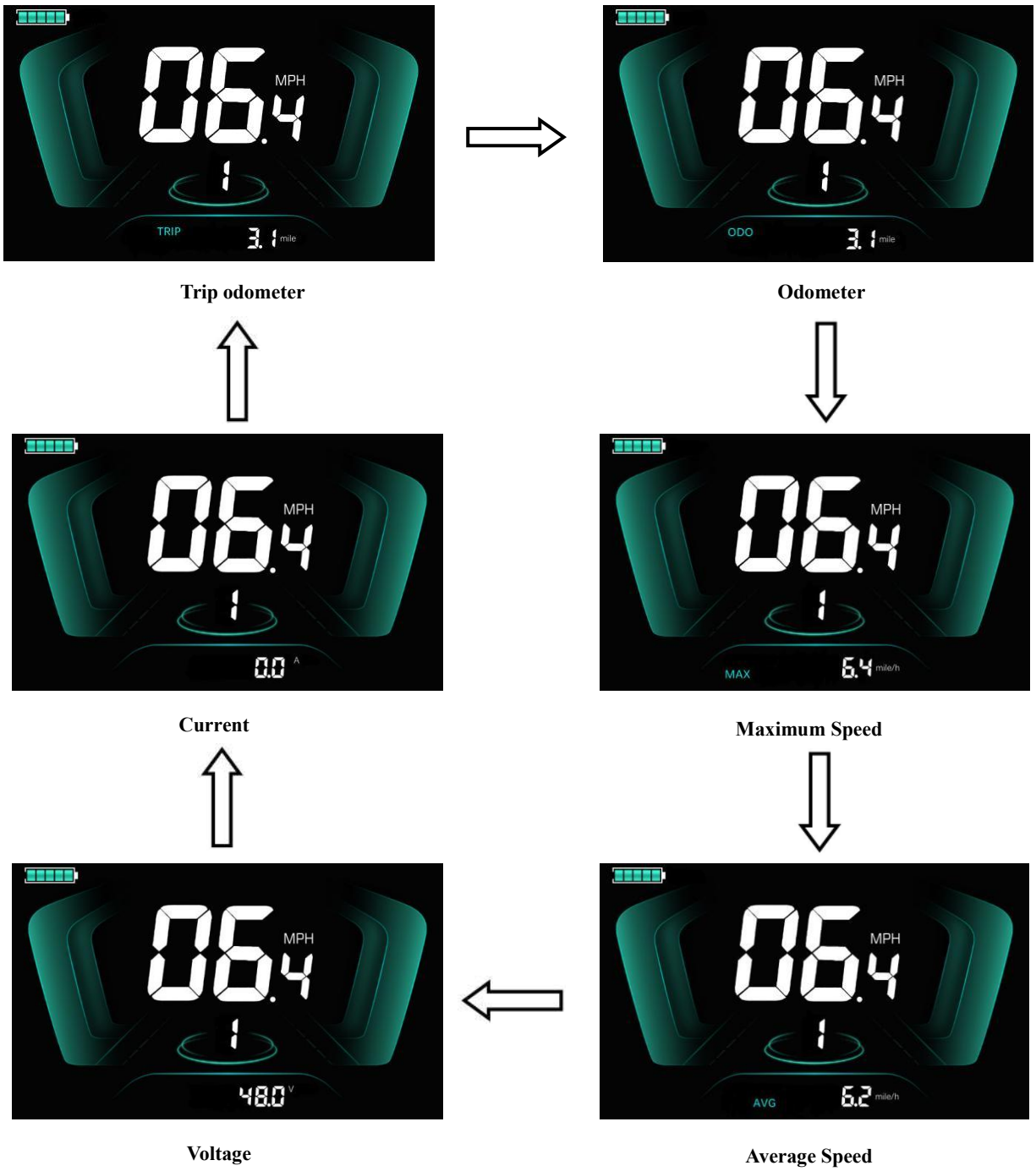


Figure 5-1 Display interface switching interface

5.3 Reverse mode

When the assist gear is in 0 gear,long press and hold , the electric bicycle enters the reverse mode and the display shows . Release the button to stop the power output immediately and restore to the state before reverse.

Figure 5-2 reverse mode display interface

5.4 Turning on/off lights

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

Figure 5-3 Backlight display interface

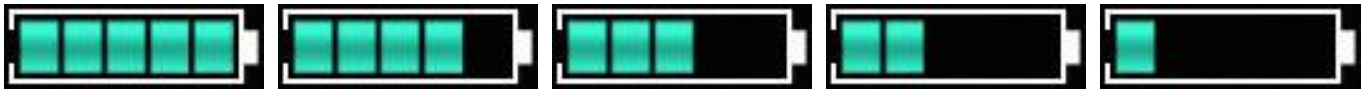
5.5 PAS level selection

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

⚠**The 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 ⏻ to enter the parameter changing state.

(3) Press + / − to select the parameter, long press + for addition operation, long press − for subtraction operation.

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

(5) Long press ⏻ to save the parameter settings and exit the personalized parameter setting interface.

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

6.1 Metric and Imperial setting

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

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

Figure 6-1 Metric and Imperial units setting interface

6.2 PAS level setting

02P is the Pedal assist (PAS) level setting. The available Pedal assist level settings are: 0~3, 1~3, 0~5, 1~5, 0~7, 1~7, 0~9, 1~9.

Press ⏻ to enter the parameter changing state. Press the ＋/ －to select the parameter and press ⏻ to save the parameter setting and enter the 6.2.1 PAS level ratio value setting interface, or press and hold the ⏻ to confirm and return to the main interface.

Figure 6-2 PAS level setting interface

6.2.1 PAS level ratio value setting

To meet different requirements for users, the speed of every level can be adjusted by setting the PAS level ratio value. Please see the details from **Schedule 2**.

For example, “10~50%” is the ratio range of PAS 1. The default ratio value of PAS 1 is 25% which is adjustable.

Press the ＋/ －to select the parameter and press ⏻ to save the parameter and enter into the next level setting. Press ⏻ again to save the settings and return to the personalized parameter setting interface.

Figure 6-3 PAS level ratio value setting interface

6.3 Pedal assist sensitivity setting

03P 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: 2~9, 2 is the highest level sensitivity while 9 is the lowest.

Press ⏻ to enter the parameter changing state. Press the ➕/ ➖ to select the parameter and press ⏻ to save the parameter setting and return to the personalized parameter setting interface.

Figure 6-4 Pedal assist sensitivity setting interface

6.4 Throttle level setting

04P is the throttle level setting. 00 is to disable the throttle level. 01 is to enable the throttle level. If you select 01, it means that when the steering angle is turned to the maximum, the bicycle speed can only reach the maximum speed that can be reached by the current display of the throttle level; If 00 is selected, it means that when turning the throttle, it is not limited by the throttle level displayed on the display and can reach the rated maximum speed.

Press ⏻ to enter the parameter changing state. Press the ➕/ ➖ to select the parameter and press ⏻ to save the parameter setting and return to the personalized parameter setting interface.

Figure 6-5 Throttle level setting interface

6.5 Power-on password setting

05P 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 ⏻ 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 ⏻ 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 6-6 Power-on password off interface

Figure 6-7 Power-on password activated 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. Press ⏻ to save the parameter setting and return to the personalized parameter setting interface after finish setting the four digits in turn.

Figure 6-8 Power-on password setting interface

6.6 Auto sleep time setting

06P 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: 00~60min, 00 means no auto shutdown. The factory default setting is 10 minutes.

Press ⏻ to enter the parameter changing state. Press the ⊞/⊟ to select the parameter and press ⏻ to save the parameter setting and return to the personalized parameter setting interface.

Figure 6-9 Auto sleep time setting interface

6.7 Assist in slow start parameter setting

07P is the assist in slow start parameter setting. The assist in slow start is the relative strength of the PWM signal from the controller when start to activate pedal assist. The adjustable range is 0~3. 0 is the weakest strength and 3 is the strongest.

Press ⏻ to enter the parameter changing state. Press the ⊞/⊟ to select the parameter and press ⏻ to save the parameter setting and return to the personalized parameter setting interface.

Figure 6-10 Assist in slow start parameter setting interface

6.8 Speed limit setting

In the personalized parameter setting interface, press and hold simultaneously for more than 2 seconds to enter speed limit adjustment mode. The adjustable range is: SP-N and SP-S (25km/h and 51km/h). (The maximum adjustable speed limit varies by different protocols).

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

Figure 6-11 Speed limit 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

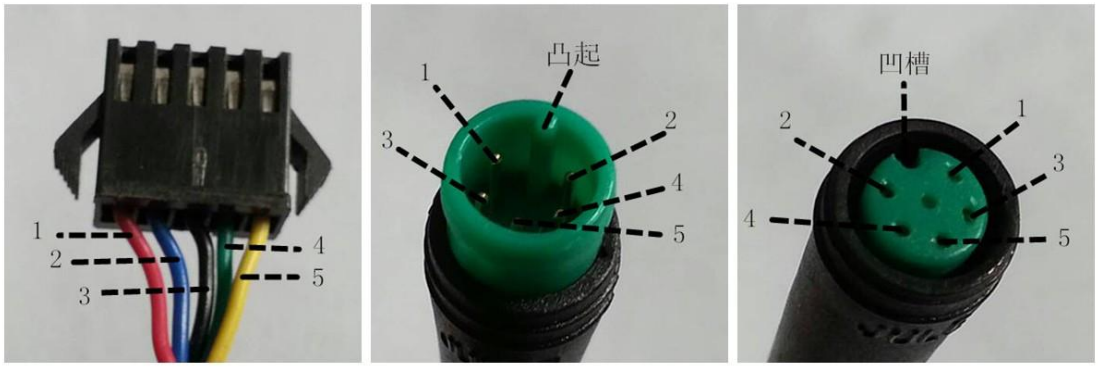
- Yolin will offer a limited warranty for any failure caused by the product defects under normal use during the warranty period.
- The product is warranted for 12 months from the date out of factory.

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-05B Error codes:				
Error code	Definition		Error code	Definition
E021	Current failure		E024	Hall failure
E022	Throttle failure		E025	Brake failure
E023	Motor phase failure		E030	Communication failure

Schedule 2: Pedal Assist Level Default Ratio Value

Level / Level selection	1	2	3	4	5	6	7	8	9
0-3/1-3	25%	50%	100%	-	-	-	-	-	-
0-5/ 1-5	50%	61%	73%	85%	96%	-	-	-	-
0-7/ 1-7	40%	50%	60%	70%	80%	90%	96%	-	-
0-9/ 1-9	25%	34%	43%	52%	61%	70%	79%	88%	96%

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