



KEY-DISP

The eBike Display
Users Manual

KD386

Product model

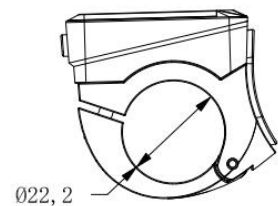
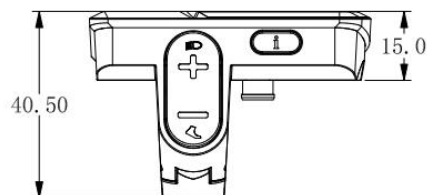
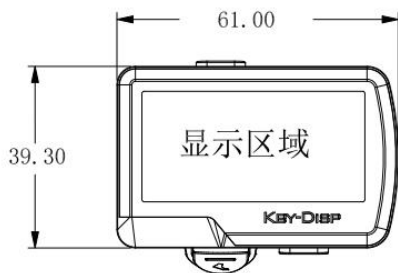
E-bike Intelligent TFT color LCD
Model: KD386

Specifications

- 36V/48V Power Supply
- Rated working current :22mA
- Off-state leakage current: <math><1\mu\text{A}</math>
- Operating temperature: $-20^{\circ}\text{C}\sim 60^{\circ}\text{C}$
- Storage temperature: $-30^{\circ}\text{C}\sim 70^{\circ}\text{C}$

Appearance and Size

Product appearance and dimensional drawing (unit: mm)



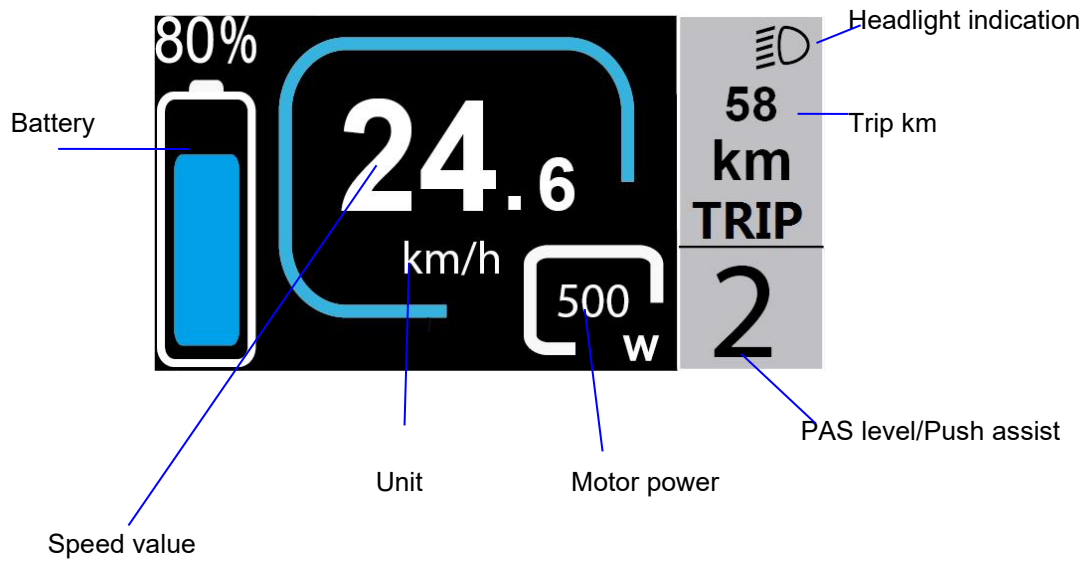


Function Summary





KD386 has many functions to meet the Users' needs. The indicating contents are as follows:

- Battery SOC indication: voltage value or battery percentage
- Intelligent indication of TRIP, ODO, Current speed, MAX. speed and AVG. Speed, Motor power and Ride/TRIP time(Min)
- assist-level selection and indication
- The push-assist control and indication
- Backlight On/Off and headlight icon indication
- Error code indication
- Various Parameters Settings (e.g., Trip clearance, Back-light, Unit toggle, wheel size, speed-limited, battery level bar, assist level, controller limited current, power-on password settings, etc.)
- Recover Default Settings

Functional Area Distribution:



◆ Button definition

4 buttons on KD386 display, on/off (), i (), +/light (), -/push-assist ()

General Operation

◆ Switching the E-bike System On/Off

Hold the **on/off** button to switch on E-bike system and provide the power supply for the controller. Likewise, hold the **on/off** button again, the E-bike system will be switched off. The E-bike system no longer uses the battery power.

When the E-bike system is switched off, the leakage current is less than 1 μ A.

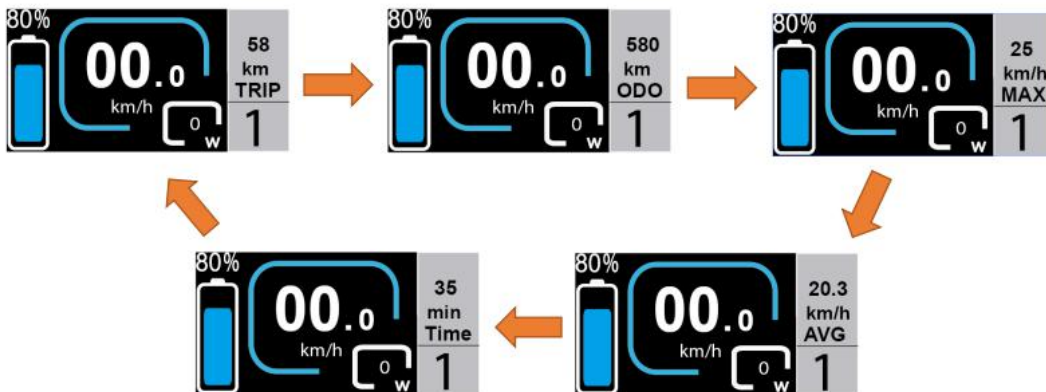
■ When E-bike is not in use for 5 minutes, the E-bike system will switch off automatically.

◆ Display Interface

After switching on the E-bike system, the display will show Current Speed and Trip Distance, power, battery SOC and assist level by default.


Press the “I” button will show more riding data shown below:

Trip (km)--> ODO (km)--> Max Speed (km/h)-->AVG speed (km/h)-->Trip time (mins)



Display interface cycle

◆ **Switching Push-assist Mode On/Off**

To activate the push-assist function, keep holding “**DOWN**” button. After 2 seconds , E-bike is activated to go at a uniform speed of 6 Km/h while the screen displays  .

The push-assist function is switched off as soon as you release the “-” button. The E-bike system stops the power output immediately.



Push-assist Mode

■ **Push-assist function may only be used when pushing the E-bike. Be aware of danger of injury when bike wheels do not have ground contact while using the push-assist function. Do not use push assist mode when you are riding the bike.**

◆ Switching the Lighting On/Off

To switch on E-bike headlight, hold the “UP” button for 2s. The backlight brightness is automatically reduced. Likewise, press the “UP” button for 2s, the bike light can be switched off and light icon disappears and display back light brightness recovers.



Switching the Lighting Mode On/Off Interface

◆ Assist Level Options

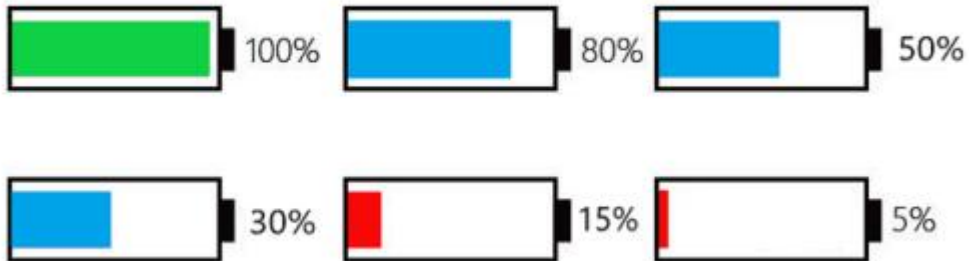
Press "+" or "-" button to switch the E-bike system assist level, change the motor output power, The default assist level ranges from level “0”to level “5”, The output power is zero on Level “0”. Level “1” is the minimum power. Level “5” is the maximum power. The default value is level “1”.



Assist Level Interface

◆ **Battery Indicator**

Battery voltage is switchable between 36 and 48 volts. The default voltage is 36V. and the voltage curve for 36v is 31.5V-34.5V-35.6V-37.4V-93.2V



Battery Indicator interface

◆ **Motor Power Indicator**

The power of the motor is shown via digital display.



Motor Power Indication Interface

◆Error Code Indication

The components of the E-bike system are continuously and automatically monitored. When an error is detected, the respective error code is indicated in text indication area.

Here is the detail message of the error code in Attached list 1.



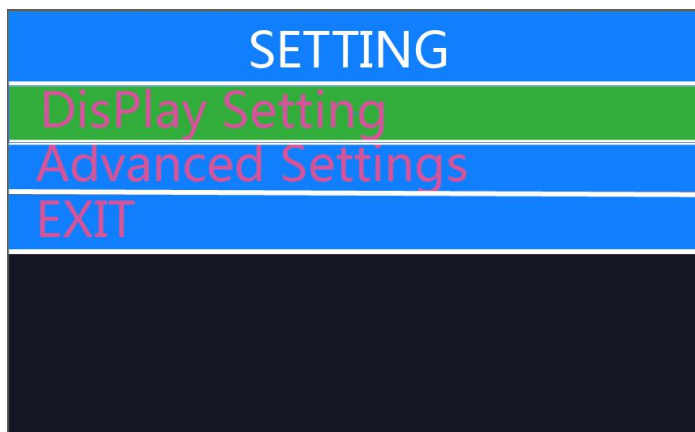
Error Code Indication

- Make the display repaired when an error code appears. You will not be able to ride the bike normally.

General Settings(Display Setting)

Press the power button to switch on the display.

To access general settings(Display Setting), hold both the "i" button for 2s.



Settings Interface.

Note: all the settings must be done to a parked bike with no speed.

●Display Setting

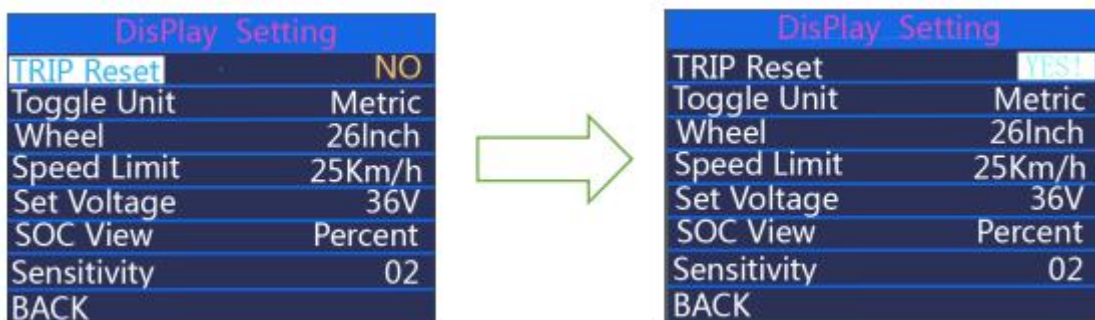
◆Trip Reset

Trip Reset represents trip distance clearance setting. *And at the same time, **Max. Speed, AVG Speed** will be cleared as well.

Press the “+” button or the “-” button to select Yes or No.

To confirm and store a changed setting, press the “i” button. Or

Hold “i” button to return to home page or press **BACK** to return home page. When display or E-bike system is off, the above data will not be cleared automatically. The default setting is “**TRIP Rest-NO**”

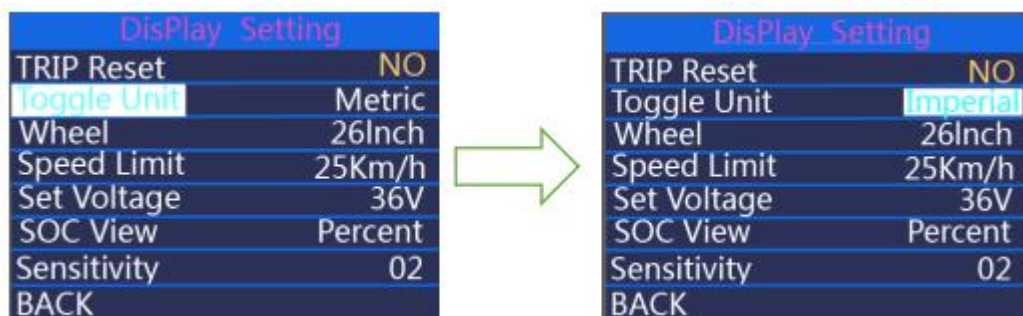


Trip reset interface

◆Toggle unit

Toggle Unit represents change unit between **Metric** and **Imperial**. The default is “Metric”.

To toggle unit, press the “+” button or the “-” button to choose the desired setting item, and then press the “i” button to confirm and store a changed setting. Or Hold “i” button to return to home page or press **BACK** to return home page.



Toggle unit interface

◆Wheel

Wheel represents wheel diameter settings.

Press the “+” or the “-” button to increase or decrease until the desired value is displayed. The optional wheel diameter is 16”/18”/20”/22”/24”/26”/700C”/28”. The default is customizable.

To store a changed setting, press the “i” button to confirm. Or hold “i” button to return to home page or press **BACK** to return to home page.



Wheel setting interface

◆Speed limit

Speed limit range is 12Km/h to 40Km/h.

To change basic settings, press the “+” or the “-” button to increase or decrease until the desired value is displayed.

To store a changed setting, press the “i” button to confirm. Or hold “i” button to return to home page or press **BACK** to return to home page.



Speed limit interface

◆Set voltage

Set Voltage represents voltage settings.

Press +/- button to switch between voltages 36V and 48V and choose your desired voltage value. The default is 48V.

Press i button to enter the voltage segment value setting. 5 segment values are to be set one by one. For example (48V mode), the first segment voltage value by default is 41.5V and press +/- button to change this value and press i to confirm and access the next segment value setting. After 5 values are set, press i to confirm. Or hold "i" button to return to home page or press **BACK** to return to home page.



Voltage switching 36V/48V

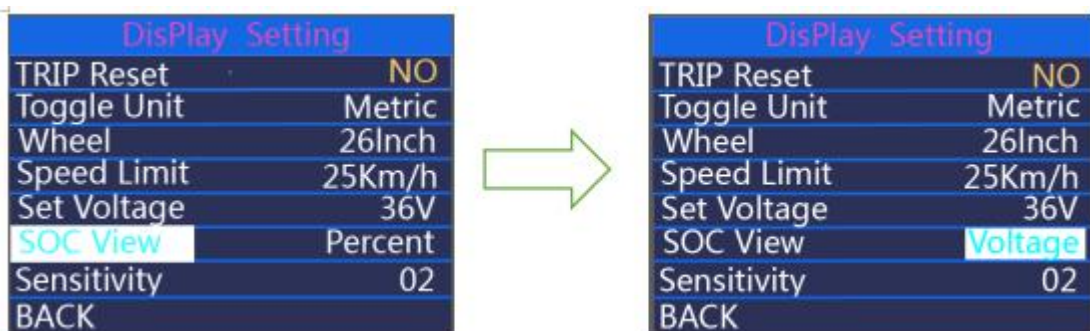


Segmented voltage values

◆SOC view

Press UP or Down to select SOC View and press **i** button to enter the setting. Press UP or Down to switch between Voltage values and percentage of Battery. The default view method is percentage. Press **i** to store the data and exit SOC view settings.

Hold “**i**” button to return to home page or press **BACK** to return to home page.



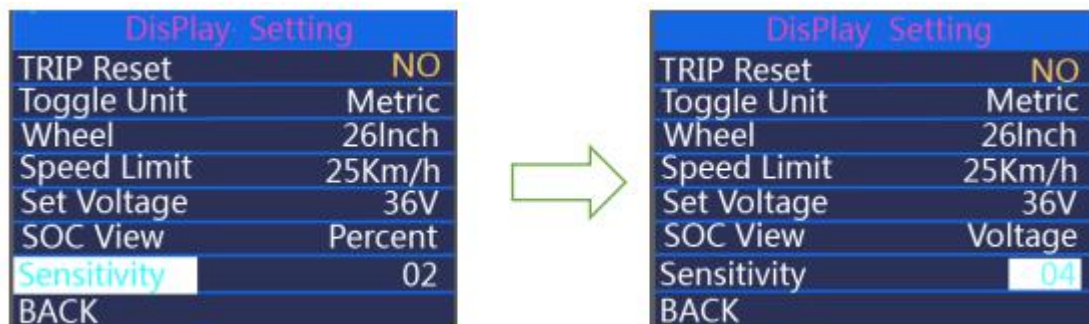
SOC view interface

◆Sensitivity

Sensitivity means PAS sensor sensitivity.

Press **+/-** button to change the sensitivity value, the optional value is 01 to 05. press **i** button to confirm and store a changed setting. Or

Hold “**i**” button to return to home page or press **BACK** to return to home page.



Sensitivity interface

● **Advanced Setting**

When **DisPlay Setting** is done, choose **BACK** and press **ON/OFF** button to return to home page. And press **+/-** button to move to Advanced Settings

◆ **Assist Level Settings**

Power Set represents assist level settings.

Assist Level Modes

8 assist level modes for your choice: 0-3, 1-3, 0-5, 1-5, 0-7, 1-7, 0-9, 1-9. The default mode is 0-5.

To change the mode of assist level, press the "+" or the "-" button to choose the desired mode and press the "i" button to confirm&access PAS ratio settings automatically.



Assist level mode interface

Assist level Ratio Settings

To change the assist level ratio, press the "+" button or "-" button to choose the desired percent value, and press the "i" button to confirm and move to the next assist level ratio settings.

After all assist level ratios were input, press i button to confirm and store the settings.

*Please refer to assist level ratio defaults in **Attached list 2**.



Assist level ratio settings

◆Current limit

Current Limit represents controller current limit settings. The setting range is 07 to 22A. The default is customizable.

To change basic settings, press the “+” or the “-” button to increase or decrease the value.

To store a changed setting, press the “i” button. Or

Hold i button to return to the home page or press **BACK** to return to home page.



Current limit interface

◆Assistant Num

Assistant Num represents numbers of magnets in the PAS sensor. The settable numbers is 04 to 09, 12, 24, 32. The default is 12 numbers.

To change the numbers of magnets in the PAS sensor, press the “+” or the “-” button to increase or decrease the values.

To confirm and store a changed setting, press i button. Or

Hold i button to return to the home page or press **BACK** to return to home page.



Assistant Num interface

◆Speed Sensor

Speed Sensor represents speed sensor settings. The default value is 01.

To change speed sensor settings, press the “+” or the “-” button to select the numbers of magnets in the speed sensor (the settable range is 01 to 12).

To confirm and store a changed setting, hold the “i” button. Or

Hold **i** button to return to the home page or press **BACK** to return to home page.



Advanced Settings	
Power Set	0-5
Current Limit	15A
Assistant Num	12
Speed sensor	01
Slow Start	0
LCD Luminance	100%
Password	>
BACK	

Advanced Settings	
Power Set	0-5
Current Limit	15A
Assistant Num	12
Speed sensor	06
Slow Start	0
LCD Luminance	100%
Password	>
BACK	

Speed Sensor interface

◆Slow Start

Slow start represents slow start up settings. The range is “0-3”, “3” is the slowest. The default is “1”.

To change slow start up settings, press the +/- button to choose the desired value.

To confirm and store a changed setting, press the **i** button. Or

Hold **i** button to return to the home page or press **BACK** to return to home page.



Advanced Settings	
Power Set	0-5
Current Limit	15A
Assistant Num	12
Speed sensor	01
Slow Start	0
LCD Luminance	100%
Password	>
BACK	

Advanced Settings	
Power Set	0-5
Current Limit	15A
Assistant Num	12
Speed sensor	01
Slow Start	2
LCD Luminance	100%
Password	>
BACK	

Slow start interface

◆LCD luminance

LCD Luminance represents display backlight brightness. 100% is the highest brightness. 10% is the lowest brightness. 5 settable levels: 100%-75%-50%-30%-10%. The default is 100%.

To change the backlight brightness, press the “+” button or the “-” button to choose the desired percentage.

To confirm and store a changed setting, press the “i” button. Or

Hold i button to return to the home page or press **BACK** to return to home page.



LCD Luminance interface

◆Password (Password refers to the display power-on password.)

Press +/- button to choose ‘**Password**’ and press i to confirm. Meanwhile press +/- button to choose ‘**Start Password**’ and press i to confirm. Press +/- to shift from ‘**OFF**’ to ‘**ON**’.

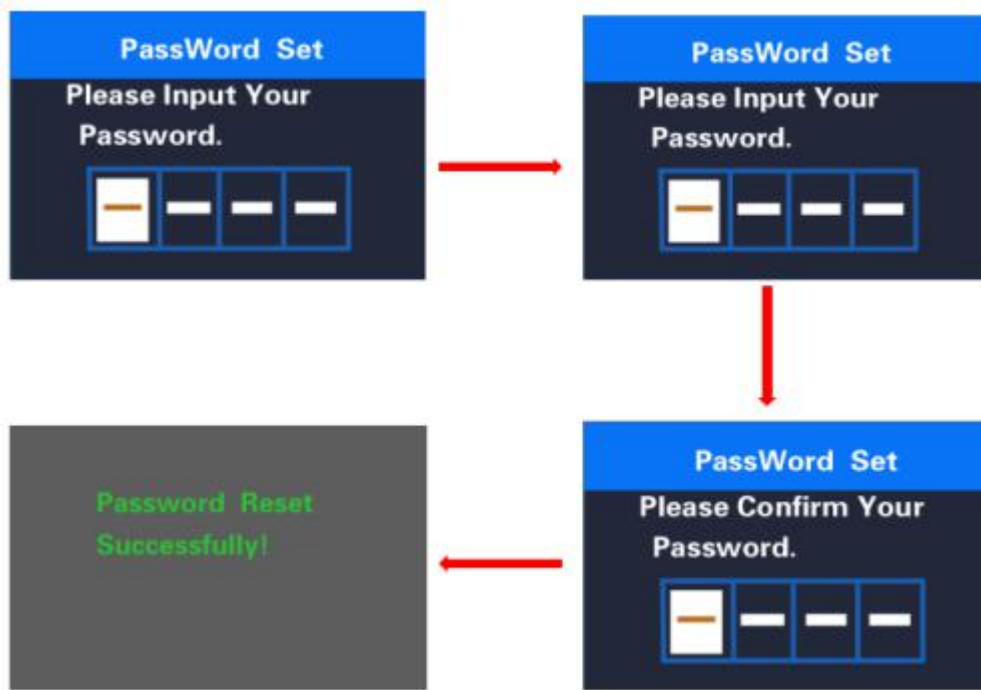


Power-on password input settings interface

◆Power-on password enable

In “**Start PassWord**” interface, choose ‘**ON**’ and press i to confirm. Meanwhile, display interface asks for a password. Press +/- button to increase or decrease numbers and press i to confirm the first digit and move to the next digit. After 4 digits of a password are input, press i to confirm and the interface will prompt for re-entering the password. If two inputs are consistent, the

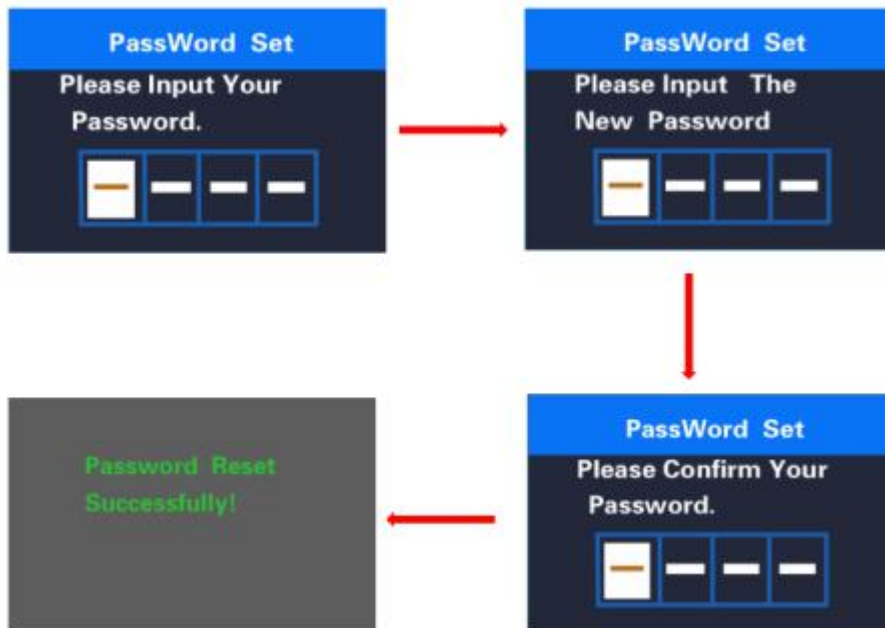
system prompts that the password is set successfully. If two inputs are inconsistent, the first input needs to be repeated correctly and confirm the new password again. The interface will be redirected to original settings page in 2 seconds after the password is set successfully. Hold **i** to **return** to the home page or by route' **BACK**' → 'home page'.



Password enable confirmation interface

◆ Password Change.

When password is enabled. '**Reset password**' will add to Password interface. Press +/- button to select '**Reset Password**' and press **i** to confirm. Meanwhile, the interface asks for current password. When the correct password is input, the interface prompts you for a new password. Then follow the operations of setting a new password. The interface will be redirected to original settings page in 2 seconds after the password is reset successfully. Hold **i** to return to the home page or by route' **BACK**' → 'home page'.

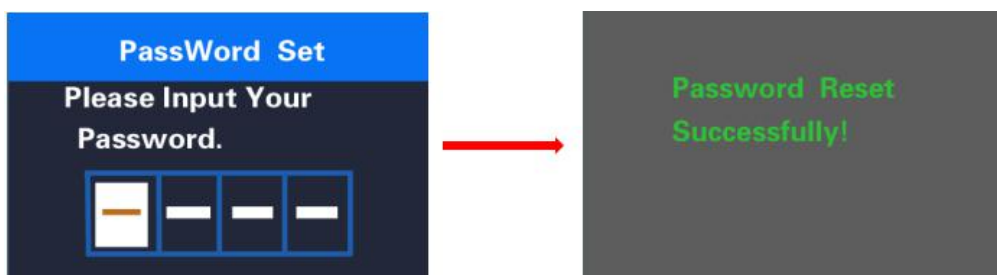


Password change interface

◆ Password Disable

In “**Start PassWord**” interface, choose **OFF** and short press **i** to confirm. Meanwhile, display interface asks for a password. When the correct password is input, the display prompts ‘password function disabled’. After 2 seconds, the interface will be redirected to original settings page. Or

Hold **i** to return to home page or by route’ **BACK**’→’home page’.



Password disable interface

◆Factory settings

Hold **UP** and **i** button for over 2 seconds to enter the factory settings page. Short press **UP** or **Down** to switch between NO and YES. Choose YES and hold **i** button for over 2s and the display will be reset to factory settings. When it is done, display returns to home screen. The default value is **Restore set: NO**



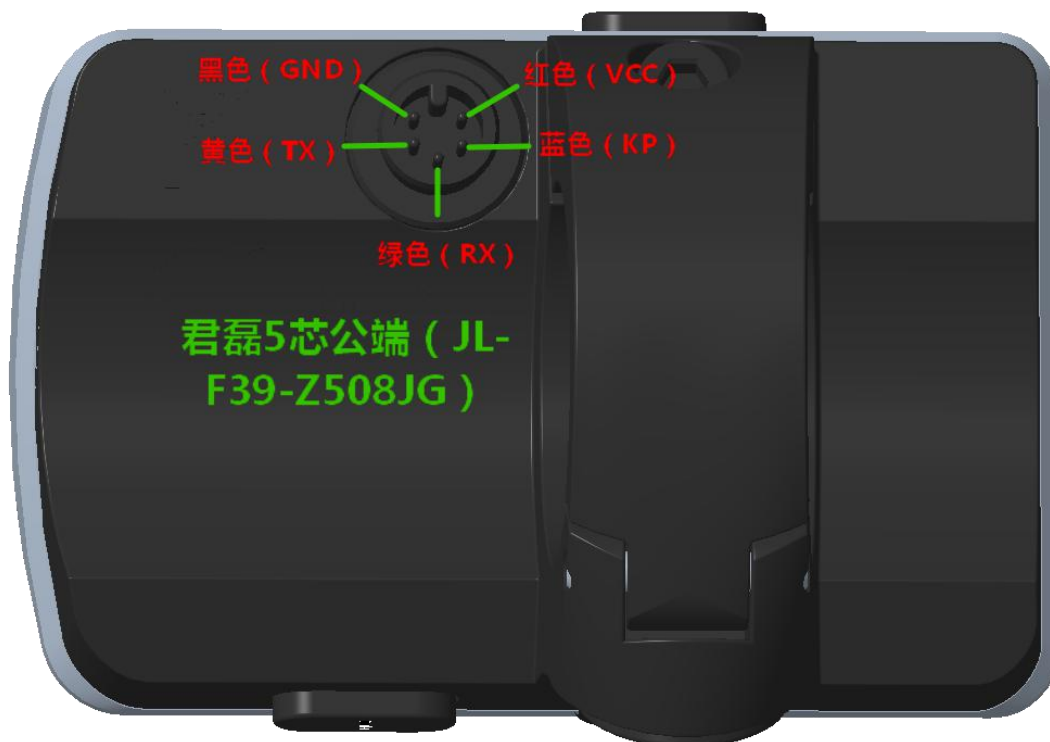
Restore default settings interface

■If there is not any operations in one minute, the display will exit the settings state.

◆Display connection layout:

Note: display side is cable free. The **connection socket** is on the back of the display.

Connection socket: Julet 5 pins male connector. Type: JL-F39-Z508JG



Display male end connection socket function

Wire no.	Code	function
1	VCC	Display power supply
2	KP	Controller power supply wire
3	GND	Display GND
4	RX	Display -communication RX
5	TX	Display-communication-TX

Attached list 1: error code definition

Error code	Definition
21	Current fault
22	Throttle fault
23	Motor phase absence
24	Motor hall signal fault
25	Brake fault
30	Communication fault
31 (New EN standard)	Display MOSFET short circuited
32 (New EN standard)	On/off button is sticky
33 (New EN standard)	- button is sticky
34 (New EN standard)	Over voltage

Attached list 2: PAS ratio default value table

level PAS level options	1	2	3	4	5	6	7	8	9
0-3/1-3	50%	74%	92%	—	—	—	—	—	—
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%

Quality Assurance and Warranty Scope

I Warranty

- (1) The warranty will be valid only for products used in normal usage conditions.
- (2) The warranty is valid for 24 months after the shipment or delivery to customers

II The following cases do not belong to our warranty scope.

1. The display is demolished.
2. The damage of the display is caused by wrong installation or operation.
3. Shell of the display is broken when the display is out of the factory.
4. Wire of the display is broken.
5. The fault or damage of the display is caused by the force majeure (e.g., fire, earthquake, etc.).
6. Beyond Warranty period.

Warnings:

- ◆ Use the display with caution. Don't attempt to release or link the connector when battery is on power.
- ◆ Try to avoid hitting the display.
- ◆ Don't modify system parameters to avoid parameter disorder.
- ◆ Make the display repaired when error code appears.

Special note: KD386 manual is a general version, and the parameter values are for reference only.

New EN regulations: setting of wheel diameter and speed limit is not supported.

