



KEY-DISP

**E-Bike Display
User Manual**

KD286-U

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Product name and Model

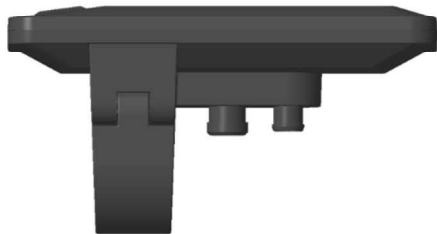
E-bike TFT LCD display; Model **KD286-U**

Specification

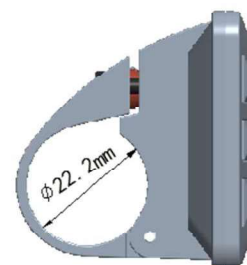
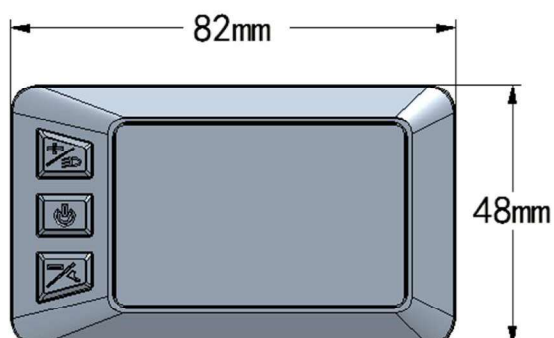
- Voltage:36V/48V
- Rated working current: 40mA
- Max working current: 200mA
- Off-state leakage current: <math><1\mu\text{A}</math>
- Operating temperature: $-20\sim 60^{\circ}\text{C}$
- Storage temperature: $-30\sim 70^{\circ}\text{C}$

Appearance and Size

Product appearance and dimensional drawing (unit: mm)



KD286U









Functions Summary

KD286-U has many functions to meet riders' needs. The indicating contents

are as follows:

- Smart battery SOC
- PAS level adjustment and indication
- Speed (including RT speed, Max. Speed, Avg Speed)
- Distance (Trip Distance and ODO)
- 6KM/h push-assist control and indication
- Riding time
- Backlight control and indication
- Error code
- USB connection
- Various Parameters Settings(e.g., wheel diameter, speed limited, battery capacity, PAS parameter, etc.)

◆ Remote Definition

There are three buttons on the KD286-U display, including power on/off () , plus/headlight button (), minus/boost button (); in the subsequent instructions, the button  is replaced by the word "ON/OFF",  Buttons are replaced with the word "UP" and buttons  are replaced with the word "DOWN". Long press button time $\geq 2s$, short press button time $< 0.5s$

◆ Power on/off

Briefly press the power button $\geq 2s$ to turn on the e-bike system and provide power to the controller. At the power on state, press and hold the power button, the e-bike system will be turned off. E-bike systems no longer use battery power.

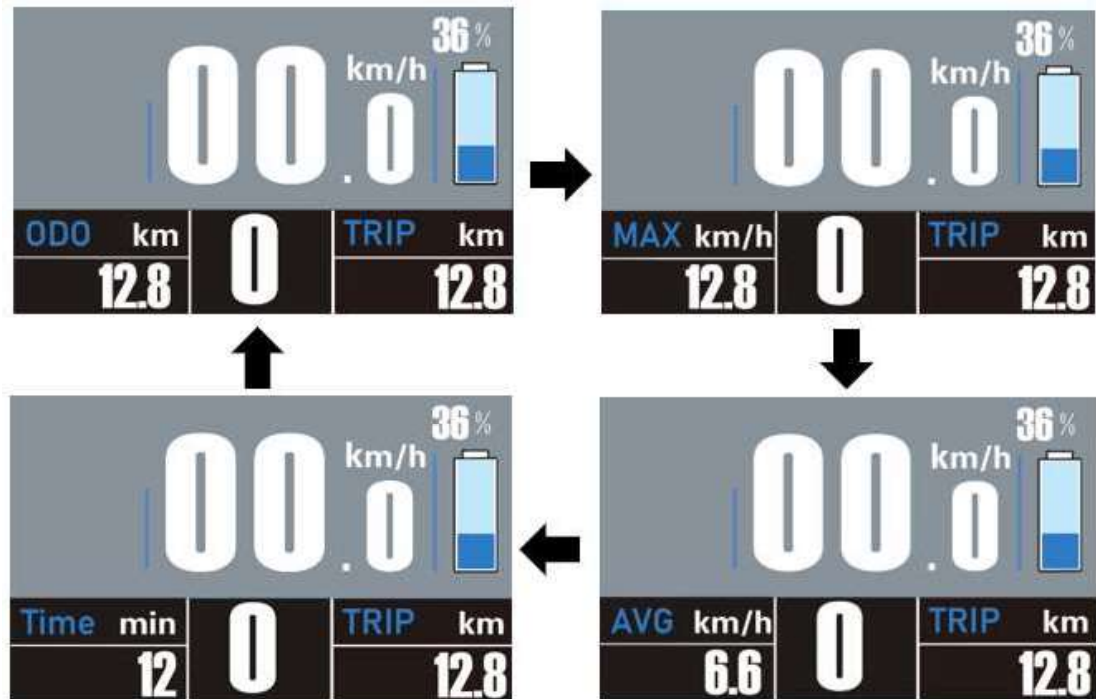
Leakage current is less than 1 μA when the e-bike system is turned off.

■ When the E-bike is parked for approx. 5 minutes, the E-bike system switches off automatically

◆ Display Interface

After the display is turned on, the display defaults to real-time speed (km/h), trip (km), ODO (km), and battery capacity.

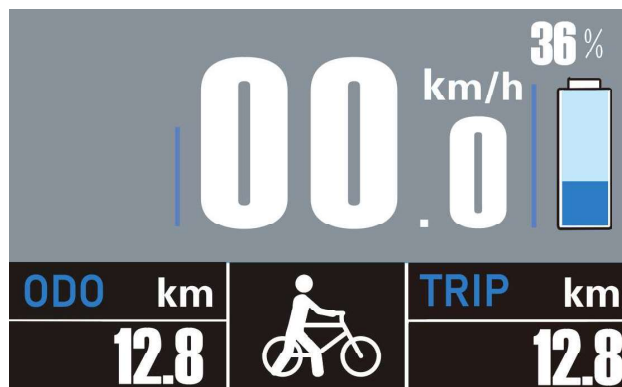
Short press the "ON/OFF" button to switch between ODO (km), MAX speed (km/h), average speed (km/h), and time (min).



Display information interface

◆ **6KM/h Push assistance**


Press and hold the "Down" button $\geq 2S$, the e-bike enters the state of electric power-assisted state. E-bike travel at a speed of less than 6 km/h. At the same time, the screen displays "🚲". Release the "DOWN" button, the e-bike will immediately stop the power output and return to the state before the push assistance.



6KM/h push assistance interface

■ The 6KM/h Push assistance function, please do not use it in the riding state

◆ USB Connection

When the display is plugged into a USB external device, the display will show  the interface in the figure below.

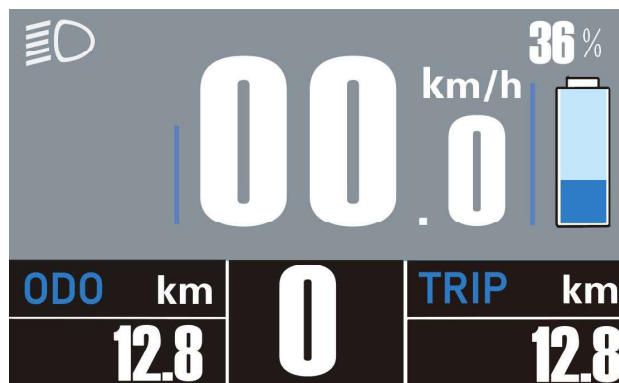


USB connection interface

◆ Headlight control

Press the "UP" button ≥ 2 seconds to turn on the headlights, the headlight icon will be displayed, and the brightness of the backlight will decrease. Press the "UP" button again for 2 seconds to turn off the headlights, the headlight icon disappears, and the backlight brightness resumes.

After the display is turned on, the headlight is in the flashing state, the backlight of the display is turned on, and the headlight symbol flashes. Press and hold the "UP" button for 2 seconds and the headlight is always on, and then press and hold the "UP" button for 2 seconds. The headlight is off. Strobe-steady light-off cycle repeats.



Headlight interface

◆ PAS level

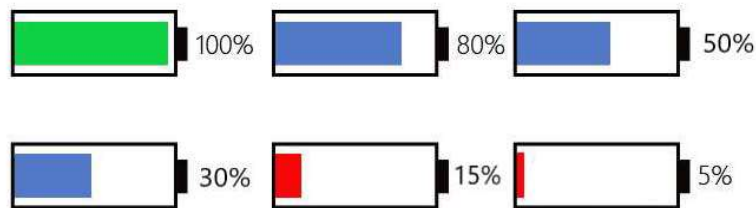
Short press the "UP" or "DOWN" button to switch the power assist level of the e-bike and change the output power of the motor. The default output power range of the display is 0-5 level. Level 0 is stop power output, level 1 is the lowest power, Level 5 is the highest power.



PAS level interface

◆ Battery capacity

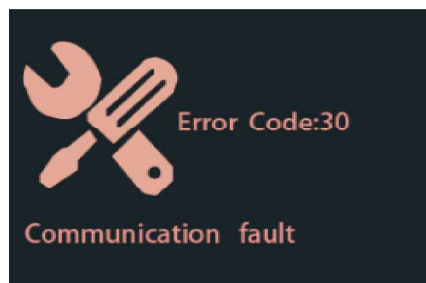
The display battery voltage 36V/48V switchable. The default is 36V, and the default voltage segment is 31.5V-34.5V-35.6V-37.4V-39.2V



Battery capacity interface

◆ Error code

When the electronic control system of the e-bike fails, the display will show an error code. For the definition of the detailed error code, see Attached Table 1

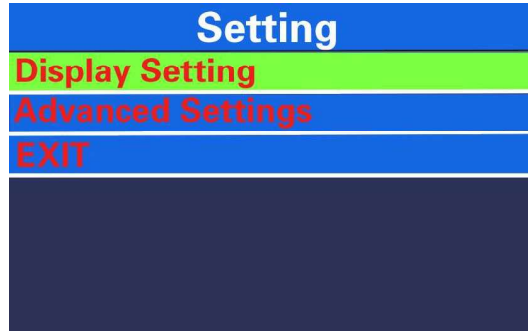


Error code interface

■ When an error code is displayed, please remove the fault in time, the e-bike will not be able to run normally after a fault occurs.

Display Parameter Setting

Long press the "ON/OFF" button to power on. In the power-on state, when the e-bike is stationary, press and hold the "UP" and "DOWN" buttons for more than 2 seconds at the same time, and the display enters the setting state. Including Display Setting (display settings) and Advanced Settings (advanced settings).



Parameter Setting interface

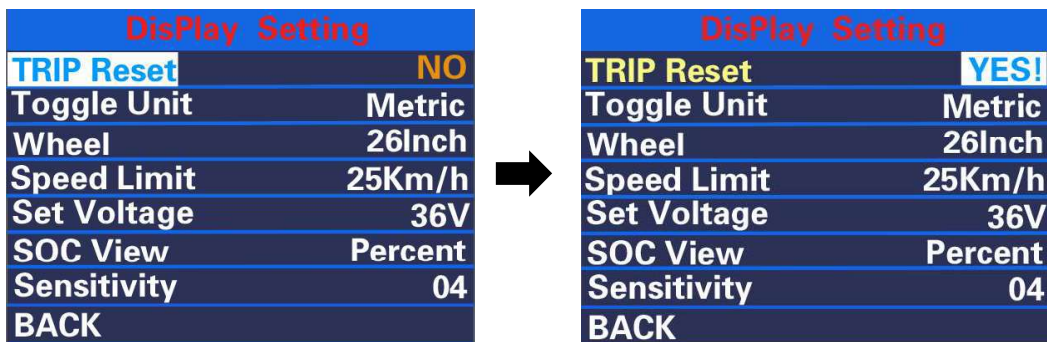
■ All settings are operated with the bike is stationary

Display Setting

◆ Trip reset

Short press the "UP" or "DOWN" button to select "TRIP Reset", short press the "ON/OFF" button to confirm, short press the "UP" or "DOWN" button to switch between "NO (do not reset) / YES (reset) ", the meter defaults to "NO (do not reset)". After confirmation, short press the "ON/OFF" button again, save and exit to "TRIP Reset",

Long press the "ON/OFF" button to exit to the main interface or press "BACK" to exit to the setting interface, short press the "ON/OFF" button, select EXIT to return to the main interface. The above data will not be automatically cleared when the display is turned off or the e-bike is powered off.



Trip reset setting interface

◆ Toggle unit

Short press the "UP" or "DOWN" button to select "Toggle Unit", short

press the "ON/OFF" button to enter the setting, and short press the "UP" or "DOWN" button to select "Metric (km)/Imperial (miles)", the display defaults to Metric (km). Short press "ON/OFF" key to save and exit to "Toggle Unit" button to enter the setting, and short press the "UP" or "DOWN" button to select the wheel diameter "16Inch, 18 Inch, 20 Inch, 22 Inch, 24 Inch, 26 Inch, 700C, 28 Inch", the default wheel diameter is 26Inch. Short press the "ON/OFF" button to save and exit to "Wheel"

DisPlay Setting		DisPlay Setting	
TRIP Reset	NO	TRIP Reset	NO
Toggle Unit	Metric	Toggle Unit	Imperial
Wheel	26Inch	Wheel	26Inch
Speed Limit	25Km/h	Speed Limit	25Km/h
Set Voltage	36V	Set Voltage	36V
SOC View	Percent	SOC View	Percent
Sensitivity	04	Sensitivity	04
BACK		BACK	

Toggle unit setting interface

◆ Wheel Diameter

Short press the "UP" or "DOWN" button to select "Wheel", short press the "ON/OFF".

DisPlay Setting		DisPlay Setting	
TRIP Reset	NO	TRIP Reset	NO
Toggle Unit	Metric	Toggle Unit	Metric
Wheel	26Inch	Wheel	28Inch
Speed Limit	25Km/h	Speed Limit	25Km/h
Set Voltage	36V	Set Voltage	36V
SOC View	Percent	SOC View	Percent
Sensitivity	04	Sensitivity	04
BACK		BACK	

Wheel diameter setting interface

◆ Speed limit

Short press the "UP" or "DOWN" button to select "Speed Limit", short press the "ON/OFF" button to enter the setting, and short press the "UP" or "DOWN" button to select the speed limit "12-40Km/h", The default speed limit is 25Km/h. Short press the "ON/OFF" button to save and exit to "Speed Limit".

DisPlay Setting		DisPlay Setting	
TRIP Reset	NO	TRIP Reset	NO
Toggle Unit	Metric	Toggle Unit	Metric
Wheel	26Inch	Wheel	26Inch
Speed Limit	25Km/h	Speed Limit	32Km/h
Set Voltage	36V	Set Voltage	36V
SOC View	Percent	SOC View	Percent
Sensitivity	04	Sensitivity	04
BACK		BACK	

Speed limit setting interface

◆ Battery voltage setting

Short press the "UP" or "DOWN" button to select "Set Voltage", short press the "ON/OFF" button to enter the setting, short press the "UP" or "DOWN" button to select the voltage as "36V/48V" two modes.

Short press the "ON/OFF" button to enter the voltage segment setting, 31.5V is the first voltage value, short press the "UP" or "DOWN" button to change the voltage value of each segment, short press the "ON/OFF" button to enter the next segment Voltage, after setting the 5-segment voltage value, short press the "ON/OFF" button to save and exit to "Set Voltage"

DisPlay Setting		DisPlay Setting	
TRIP Reset	NO	TRIP Reset	NO
Toggle Unit	Metric	Toggle Unit	Metric
Wheel	26Inch	Wheel	26Inch
Speed Limit	25Km/h	Speed Limit	25Km/h
Set Voltage	36V	Set Voltage	48V
SOC View	Percent	SOC View	Percent
Sensitivity	04	Sensitivity	04
BACK		BACK	

Battery voltage setting interface

DisPlay Setting	
TRIP Reset	NO
Toggle Unit	Metric
1 - 31.5V	26Inch
2 - 34.5V	25Km/h
3 - 35.6V	36V
4 - 37.4V	Percent
5 - 39.2V	04
BACK	

Voltage segment setting interface

◆ Voltage Display Settings

Short press the "UP" or "DOWN" button to select "SOC View", short press

the "ON/OFF" button to enter the setting, short press the "UP" or "DOWN" button to select "Voltage (voltage)/Percent (percentage)" Two modes, the default is Percent (percentage). Short press the "ON/OFF" button to save and exit to "SOC View".

DisPlay Setting	
TRIP Reset	NO
Toggle Unit	Metric
Wheel	26Inch
Speed Limit	25Km/h
Set Voltage	36V
SOC View	Percent
Sensitivity	04
BACK	



DisPlay Setting	
TRIP Reset	NO
Toggle Unit	Metric
Wheel	26Inch
Speed Limit	25Km/h
Set Voltage	36V
SOC View	Voltage
Sensitivity	04
BACK	

Voltage display setting interface

◆ Push Assistance Sensitivity

Short press the "UP" or "DOWN" button to select "Sensitivity", short press the "ON/OFF" button to enter the setting, short press the "UP" or "DOWN" button to select the sensitivity value, the range is "1-5", the default for 4. Short press the "ON/OFF" button to save and exit to "Sensitivity"

DisPlay Setting	
TRIP Reset	NO
Toggle Unit	Metric
Wheel	26Inch
Speed Limit	25Km/h
Set Voltage	36V
SOC View	Percent
Sensitivity	04
BACK	



DisPlay Setting	
TRIP Reset	NO
Toggle Unit	Metric
Wheel	26Inch
Speed Limit	25Km/h
Set Voltage	36V
SOC View	Percent
Sensitivity	05
BACK	

Push assistance sensitivity setting interface

Advanced Setting

◆ PAS level range selection

Short press the "UP" or "DOWN" button to select "Power Set", short press the "ON/OFF" button to enter the setting, short press the "UP" or "DOWN" button to switch PAS level range "0-3, 1-3, 0-5, 1-5, 0-7, 1-7, 0-9, 1-9" 8 modes, the default is 0-9.

Short press the "ON/OFF" button again to enter the assist ratio setting, short press the "UP" or "DOWN" button to change the level assist ratio

parameters, short press the "ON/OFF" button to enter the next gear assist ratio, 9 level After the assist ratio is set, short press the "ON/OFF" button to save and exit to "Power Set".

Press and hold the "ON/OFF" button to exit to the main interface or select "Next_Page" to enter the next page, and press "BACK" to exit to the setting interface.

Advanced Settings-1		Advanced Settings-1	
Power Set	0-9	Power Set	0-5
Current Limit	22A	Current Limit	22A
Assistant Num	12	Assistant Num	12
Speed Sensor	01	Speed Sensor	01
Slow Start	-0-	Slow Start	-0-
LCD Luminance	100%	LCD Luminance	100%
Password	>	Password	>
Next_Page	>	Next_Page	>

PAS level range setting interface

Settings-1	
1 - 22%	0-9
2 - 33%	22A
3 - 38%	12
4 - 45%	01
5 - 50%	-0-
6 - 58%	100%
7 - 64%	>
8 - 73%	>
9 - 96%	>

Assist ratio setting interface

Advanced Settings-1		Advanced Settings-2	
Power Set	0-9	Last_Page	<
Current Limit	22A	Throttle speed	6km/h
Assistant Num	12	BACK	
Speed Sensor	01		
Slow Start	-0-		
LCD Luminance	100%		
Password	>		
Next_Page	>		

Exit setting interface

◆ Current limit

Short press the "UP" or "DOWN" button to select "Current Limit", short press the "ON/OFF" button to enter the setting, short press the "UP" or "DOWN" button to select the current limit value, the range is "7-22A", the default is 22A. Short press the "ON/OFF" button to save and exit to "Current Limit".

Advanced Settings-1		Advanced Settings-1	
Power Set	0-9	Power Set	0-9
Current Limit	22A	Current Limit	15A
Assistant Num	12	Assistant Num	12
Speed Sensor	01	Speed Sensor	01
Slow Start	-0-	Slow Start	-0-
LCD Luminance	100%	LCD Luminance	100%
Password	>	Password	>
Next_Page	>	Next_Page	>

Current limit setting interface

◆ Number of magnets for the PAS sensor

Short press the "UP" or "DOWN" button to select "Assistant Num", short press the "ON/OFF" button to enter the setting, and short press the "UP" or "DOWN" button to select the magnet number of the power sensor, the range is "04- 09, 12, 24, 32", the default is 12. Short press the "ON/OFF" button to save and exit to "Assistant Num".

Advanced Settings-1		Advanced Settings-1	
Power Set	0-9	Power Set	0-9
Current Limit	22A	Current Limit	22A
Assistant Num	12	Assistant Num	24
Speed Sensor	01	Speed Sensor	01
Slow Start	-0-	Slow Start	-0-
LCD Luminance	100%	LCD Luminance	100%
Password	>	Password	>
Next_Page	>	Next_Page	>

PAS sensor magnets setting interface

◆ Number of magnets for the Speed sensor

Short press the "UP" or "DOWN" button to select "Speed Sensor", short press the "ON/OFF" button to enter the setting, and short press the "UP" or "DOWN" button to select the number of speed sensor magnets, the range is "01- 12", the default is 01. Short press the "ON/OFF" button to save and exit to "Speed Sensor".

Advanced Settings-1	
Power Set	0-9
Current Limit	22A
Assistant Num	12
Speed Sensor	01
Slow Start	-0-
LCD Luminance	100%
Password	>
Next_Page	>



Advanced Settings-1	
Power Set	0-9
Current Limit	22A
Assistant Num	12
Speed Sensor	06
Slow Start	-0-
LCD Luminance	100%
Password	>
Next_Page	>

Speed sensor magnets setting interface

◆ Slow start

Short press the "UP" or "DOWN" button to select "Slow Start", short press the "ON/OFF" button to enter the setting, and short press the "UP" or "DOWN" button to select the slow start value, the range is "0-3", the default is 0. Short press the "ON/OFF" button to save and exit to "Slow Start".

Advanced Settings-1	
Power Set	0-9
Current Limit	22A
Assistant Num	12
Speed Sensor	01
Slow Start	-0-
LCD Luminance	100%
Password	>
Next_Page	>



Advanced Settings-1	
Power Set	0-9
Current Limit	22A
Assistant Num	12
Speed Sensor	01
Slow Start	-3-
LCD Luminance	100%
Password	>
Next_Page	>

Slow start setting interface

◆ Backlight brightness

Short press the "UP" or "DOWN" button to select "LCD Luminance", short press the "ON/OFF" button to enter the setting, and short press the "UP" or "DOWN" button to select the backlight brightness, the range is "100%-75%-50%-30%-10%" 5 levels of brightness, 100% corresponds to the highest brightness, 10% corresponds to the lowest brightness. The meter backlight brightness defaults to 100%. Short press the "ON/OFF" button to save and exit to "LCD Luminance".

Advanced Settings-1	
Power Set	0-9
Current Limit	22A
Assistant Num	12
Speed Sensor	01
Slow Start	-0-
LCD Luminance	100%
Password	>
Next_Page	>



Advanced Settings-1	
Power Set	0-9
Current Limit	22A
Assistant Num	12
Speed Sensor	01
Slow Start	-0-
LCD Luminance	75%
Password	>
Next_Page	>

Backlight brightness setting interface

◆ Password

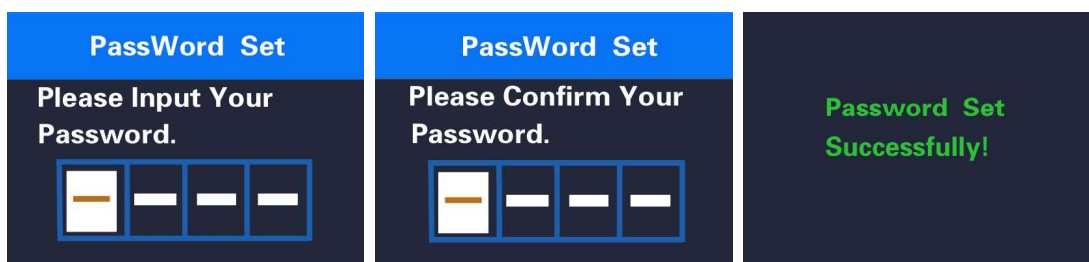
Short press "UP" or "DOWN" to select "Password", short press "ON/OFF" to enter the setting, short press "UP" or "DOWN" to select Start PassWord; short press "ON/OFF" to switch "ON (enable)/OFF (disable)", the following is the specific switching method. The display has no power-on password by default.



Password setting interface

Password enable

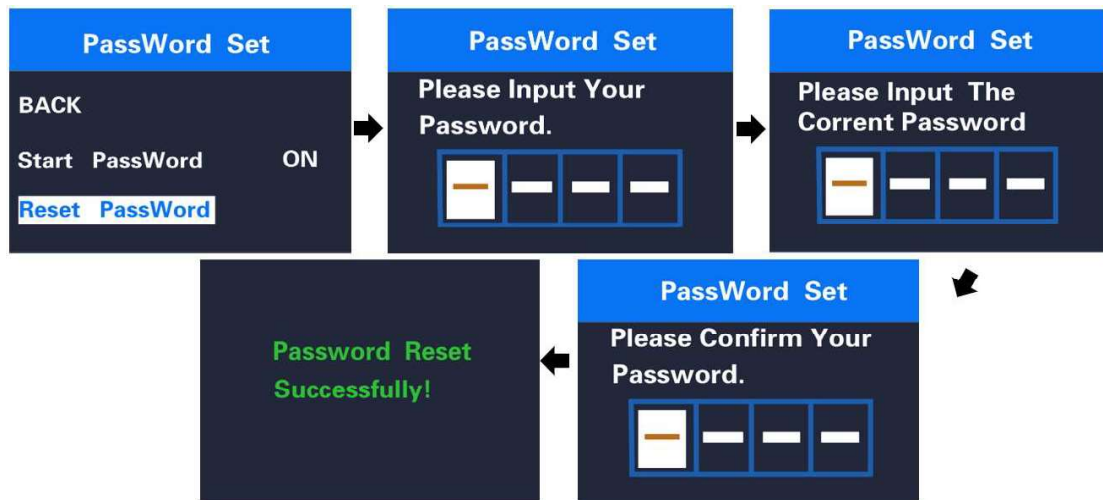
After selecting "ON" in the "Start PassWord" interface, short press the "ON/OFF" button to confirm, the interface prompts to enter the password, short press the "UP" or "DOWN" button to add/subtract the input value, short press "ON/OFF" " " key to shift, after the 4-digit password is entered, short press the "ON/OFF" key to confirm; the interface prompts to enter the password again, and the system prompts that the password is set successfully after the two inputs are consistent, if the two inputs are inconsistent, you need to repeat the first step Enter the new password and confirm again. After the password is set successfully, the 2S interface will automatically back to the original setting interface.



Password enable setting interface

Password reset

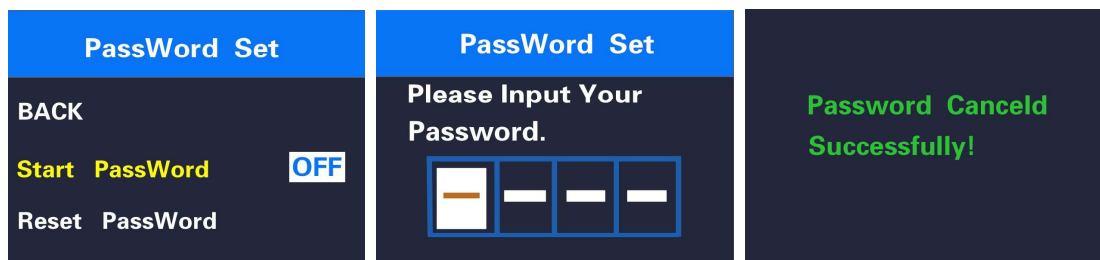
After enabling the password, the "Pass word" interface will add a "Reset Password" option, short press "UP" or "DOWN" to select "Reset Password", short press "ON/OFF" again to confirm, and the interface will prompt you to enter the current password , after the password is entered correctly, the interface prompts to enter a new password, and the following operations are consistent with the new password. After the password is successfully modified, the 2S interface automatically back to the original setting interface.



Password reset setting interface

Cancel password

After selecting "OFF" in the "Start PassWord" interface, short press the "ON/OFF" button to confirm. At this time, the interface prompts to enter the password. After the password is entered correctly, the interface prompts that the password function is closed successfully. After 2 seconds, the interface automatically back to the original setting interface.



Cancel password setting interface

■ If no operation is performed within 1 minute, the display will automatically exit the setting state.

◆ Throttle speed limit

Short press the "UP" or "DOWN" button to select Next_Page" to enter the next page, short press the "UP" or "DOWN" button to select "Throttle Speed", the speed limit "6km/h" cannot be adjusted.

Short press the "ON/OFF" button to enter "Throttle Speed", short press the "UP" or "DOWN" button to select "6km/h (enabled)/OFF (disabled)", the meter defaults to 6km/h (enabled able). Short press the "ON/OFF" button to save and exit to "Throttle Speed".

Long press "ON/OFF" to exit to the main interface or press "BACK" to exit to the setting interface.



Enter into the next page



Throttle speed limit setting interface

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.

Display Wire

Juliet 5 pins male socket



Wire Sequence table

Item code	Definition
1	VCC
2	KP
3	GND
4	RX
5	TX

Warnings:

1. Use the display with caution. Don't attempt to release or link the connector when battery is on power.
2. Try to avoid hitting the display.
3. Don't modify system parameters to avoid parameter disorder. Or else, you will not be able to ride the bike normally.
4. Make the display repaired when error code appears.

◆Table 1: Error code definition

Error code	Definition
21	Abnormal current
22	Abnormal throttle
23	Abnormal motor
24	Abnormal Motor Hall signal
25	Abnormal brake
30	Abnormal communication

