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Ride1up Portola 02 Display Manual

DS103/2+DK552 Instrumentation Technical Specification

Product Name: Intelligent LCD Instrument

Product Model Number: DS103/2+DK552

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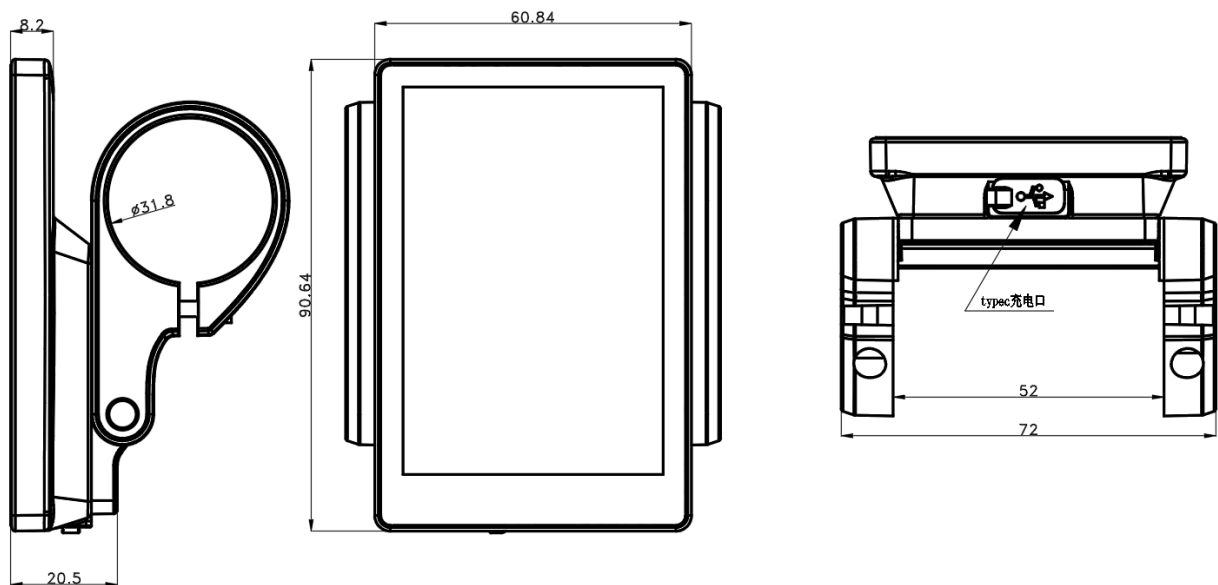
I. Product Overview

1 Appearance and Dimensions

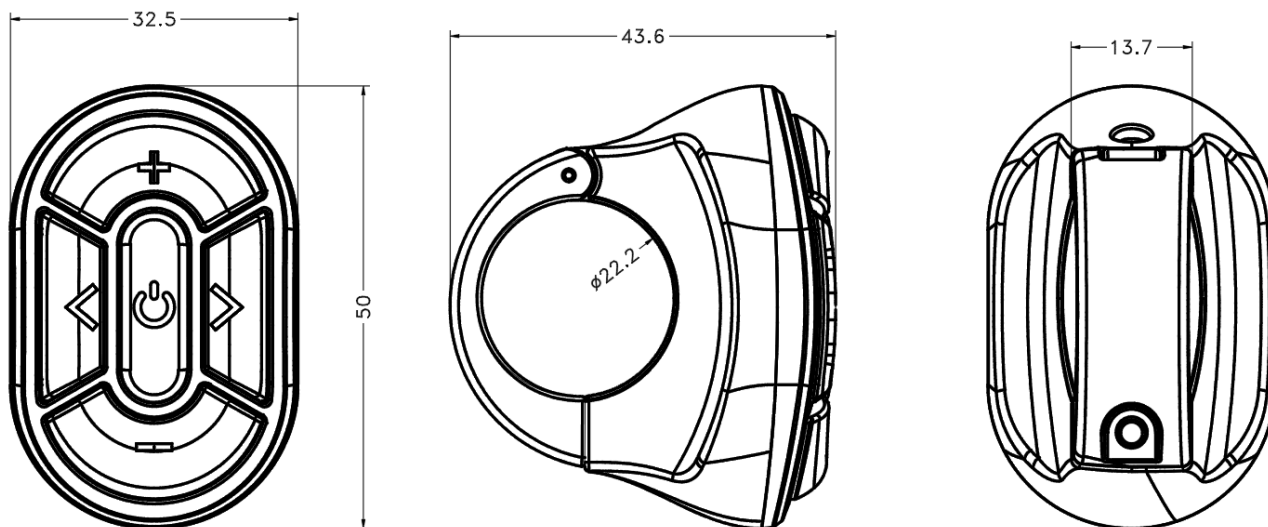
The device housing is made of ABS+PC material.



1.1 Instrument dimensions



1.2 Button dimensions



2-button operation



1、 Power button

- Hold down for 2 seconds to turn the instrument display on or off.
- After turning on the device, a short press allows you to cycle through and switch between the riding interface, mileage interface, function interface, and the three display modes.
- In the settings interface, short-press the power button to save parameters and return to the previous level.

2、 +Upshift button

- Short press to switch the power-assist modes in the following order: OFF> ECO> TOUR> SPORT> TURBO> BOOST.

- Long press to turn on the headlights, then long press again to turn them off.
- 3、Downshift button
 - Press and hold to switch between assist modes in the following order: BOOST> TURBO> SPORT> TOUR> ECO> OFF.
 - Hold down (for 2 seconds) to enter assisted pushing mode; release to exit.
- 4、Left turn button
 - Click the left turn signal to turn it on, click it again, or double-click the power button to turn it off.
- 5、Right turn button
 - Click the right turn signal to turn it on, click it again, or double-click the power button to turn it off.

II. Product Description

1. Specifications

- Power supply: DC 12V–85V
- Charging interface: USB Type-C
- Screen specifications: 3.5 TFT color display
- Communication method: UART
- Operating temperature: -20°C to 60°C
- Storage temperature: -30°C to 80°C
- Water resistance rating: IPX5

2 Installation Method

① Check whether the corresponding mounting bracket and rubber clamp ring are required based on the handle tube diameter (handle tube specifications: $\Phi 22.2$, $\Phi 25.4$, $\Phi 31.8$). Open the instrument locking clamp, then insert the rubber clamp ring into the correct position.

② After properly aligning the instrument mounting bracket with the rubber ring, fit it onto the handlebar tube. Adjust the instrument angle to ensure clear visibility of the instrument screen during cycling, then tighten the screws to secure the position. Locking torque: 0.8 N·m.

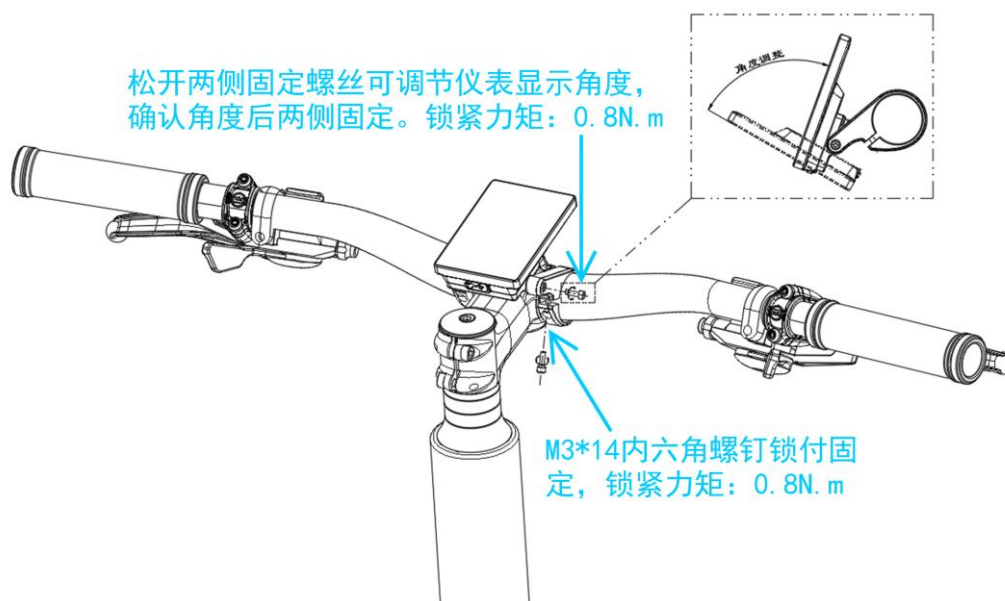
③ Open the control switch lock ring and fit it onto the appropriate operating position on the

left side of the handlebar. Adjust the switch angle to ensure easy visibility and operation while riding (suitable for handlebars with an outer diameter of $\Phi 22.2$).

④ Use an M3 hex wrench to secure and tighten the handlebar fixing screws. Tightening torque: 0.8 N·m

⑤ Connect the instrument connector and the controller connector according to the markings.

Note: Damage to the instrument caused by excessive torque is not covered by the warranty.



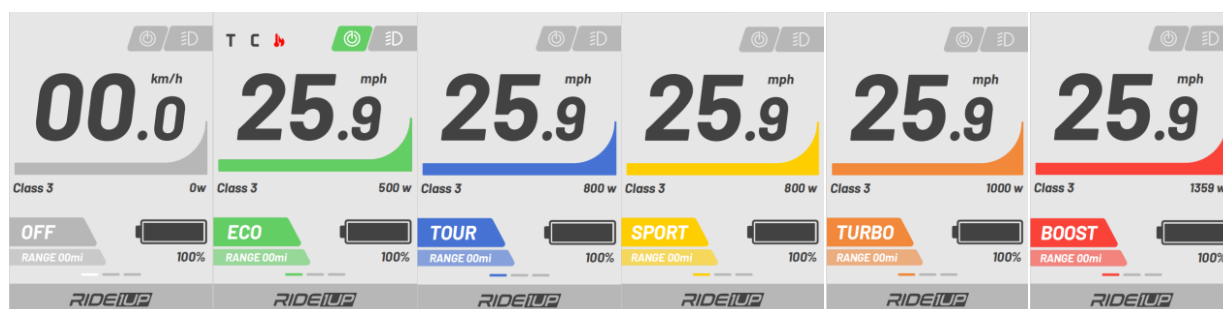
3. Display Interface

3.1 Boot Interface



- The startup interface appears during boot-up.

3.2 Basic Interface



- OFF> ECO> TOUR> SPORT> TURBO> BOOST: Six power-assist modes with real-time speed display.

3.3 Functional Interface



- OFF, ECO, TOUR, SPORT, TURBO, BOOST: Displays the mileage percentage for the current gear.
- TRIP: Shows the subtotal distance and unit.
- TOTAL TRIP: Shows the total distance and unit.
- AVG SPD: Displays the average cycling speed and its unit.
- MAX SPD: Displays the maximum riding speed and its unit.
- CAL: Displays calorie values and units.

4 Functional Operations

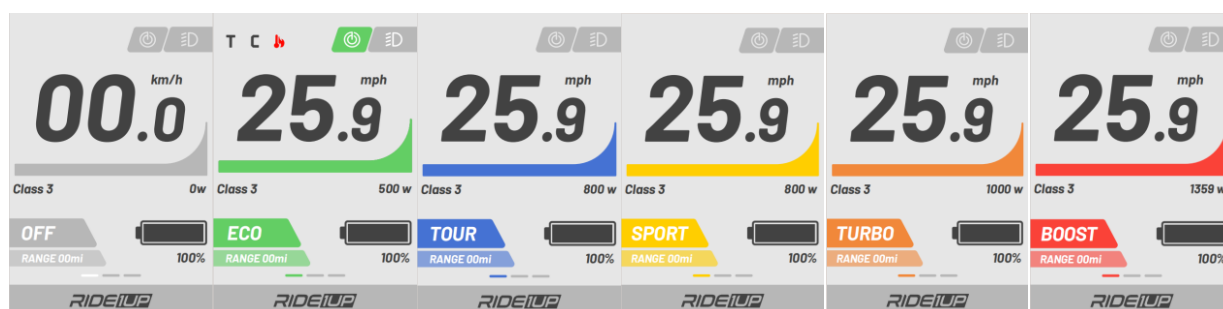
4.1 Power On/Off

Maintain normal connection between the instrument and controller. When the instrument is powered off, press and hold the power button for 2 seconds; the instrument will display the startup interface, then enter the basic interface and begin operation. When the instrument is powered on, press and hold the power button for 2 seconds to turn it off. If the automatic shutdown time is set to

10 minutes and the rider performs no operations (speed = 0), the instrument will shut down automatically after 10 minutes.

4.2 Assist Gear Shift

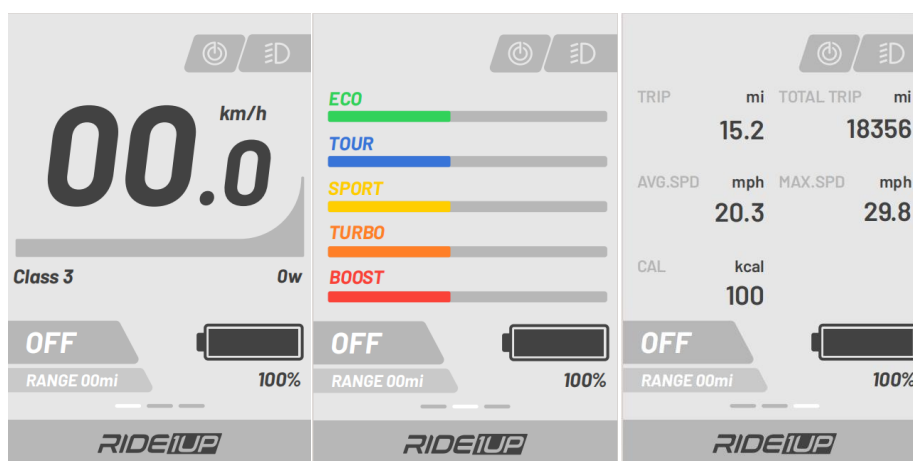
Press the $\pm$ key to switch assist modes or change assist settings. There are six modes: OFF> ECO> TOUR> SPORT> TURBO> BOOST. When the instrument panel is powered on, the default setting is OFF, indicating no assist function.



4.3 Display Information Switching

Briefly press the power button while the device is on to cycle through the riding interface, mileage interface, and function interface.

The interface switch is shown below:



4.4 Supporting Implementation Models

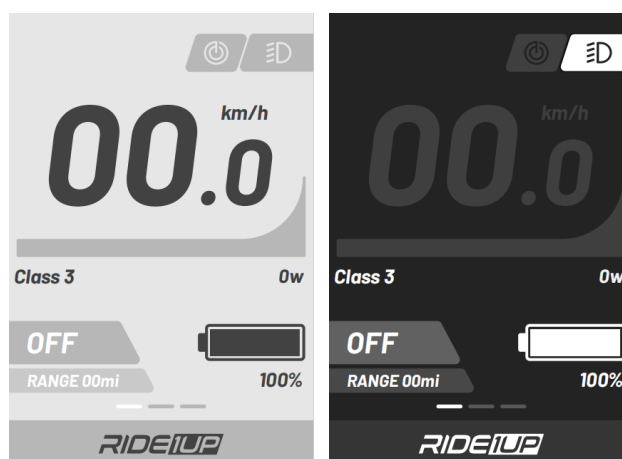
Press --- and hold the button for 2 seconds to enter assisted --- pushing mode; release the

button to exit.



4.5UI pattern

By default, the device enters day mode upon startup, with the main interface displaying a gray background. Switch between day and night modes using the headlight switch; in night mode, the main interface shows a black background.



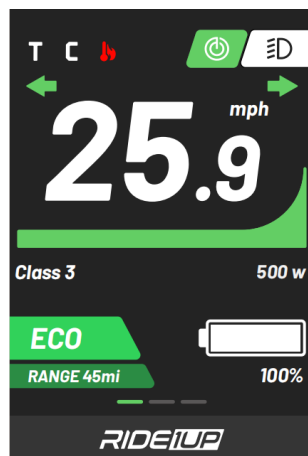
4.6 Headlight Switch

Long press  the button; after 2 seconds, the headlights turn on and the headlight indicator  icon on the instrument panel lights up. Press the button again; after 2 seconds, the headlights turn off and the headlight indicator icon turns off.

4.7 Steering Switch

Shortly press the  left turn button to activate the left turn light; the instrument display interface  appears with the left turn indicator icon flashing . Shortly press the left turn button again to

deactivate the left turn light and ➡ extinguish the left turn indicator icon. Shortly press the right turn button to activate the right turn light; the instrument display interface appears with the right turn indicator icon flashing. Shortly press the right turn button again to deactivate the right turn light and extinguish the right turn indicator icon.



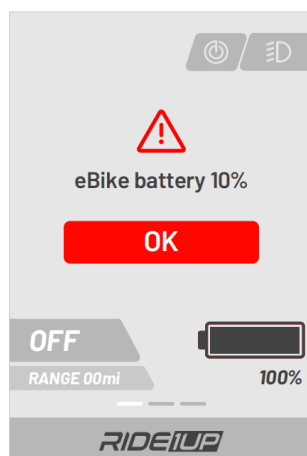
4.8 Power Display

When the battery level is normal, the percentage display changes according to the battery capacity: red for 0–10%, yellow for 10–30%, and white for >30%. When the battery reaches the under-voltage warning threshold, only a flashing battery outline icon appears, alerting the user to charge immediately.

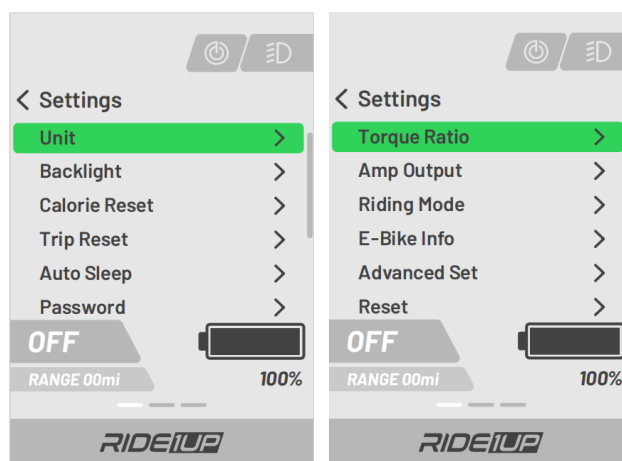
The battery level is shown below:



When the battery level drops to $\leq 10\%$, the main riding interface displays a low battery warning message. This warning does not interfere with riding operations, and the warning can be dismissed by pressing the corresponding button.



5 User Settings

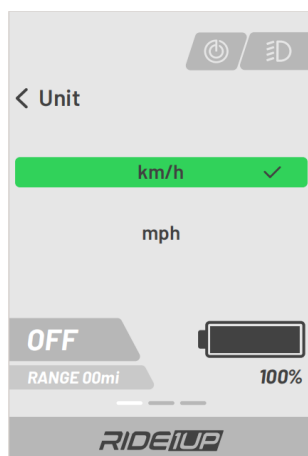


- Check the instrument's power status. Press the $+/ -$ key simultaneously to access the settings menu, and hold down the $+/ -$ key to select specific settings. Shortly press the power button to enter the corresponding settings interface for parameter adjustments.
- Press the $+/ -$ key again to exit the settings and return to the cycling interface.

5.1 Unit Setup

In the Unit interface, press $+/ -$ select the setting item; hold the power button to save parameters and return to the previous level.

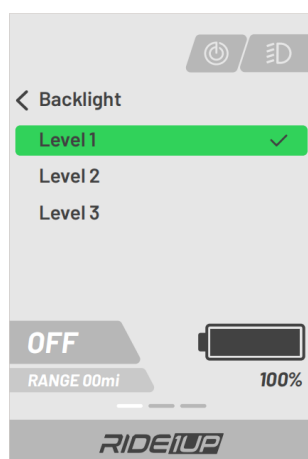
The display interface is as follows:



5.2 Backlight Settings

In the Backlight settings interface, press $+/ -$ to select a setting option; hold the power button to save parameters and return to the previous level.

The display interface is as follows:



5.3 Calorie Reset

In the Calorie Reset settings interface, press $+/ -$ or select YES/NO to switch modes. Select YES to clear calorie data; short-press the power button to clear data and return to the previous level.

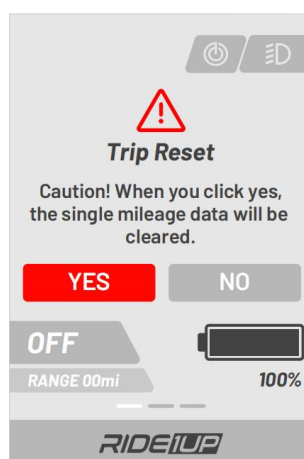
The display interface is as follows:



5.4 Mileage Reset

In the Trip Reset settings interface, press $\pm$ and hold the power button to switch between YES and NO options. Select YES to clear the subtotal distance, maximum speed, and average speed; a short press clears the data and returns to the previous level.

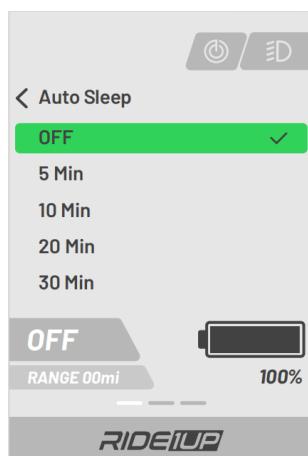
The display interface is as follows:



5.5 Automatic shutdown settings

In the Auto Sleep settings interface, press $\pm$ to select a setting option; hold the power button to save parameters and return to the previous level.

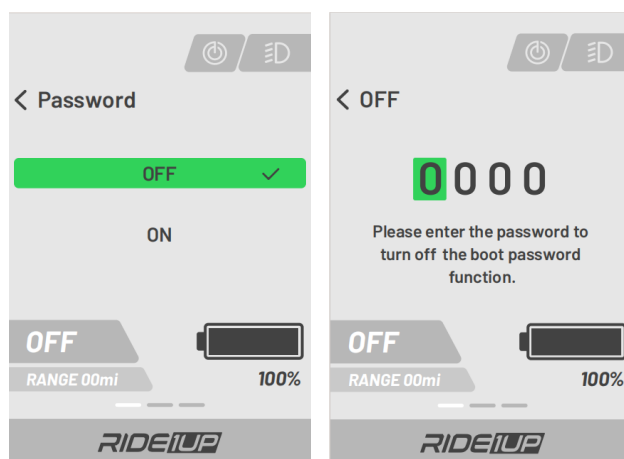
The display interface is as follows:



5.6 Password Setting

In the Password Settings interface, press $+/ -$ to select the setting option and switch to the ON item. If a startup password is required, briefly press the power button to set the password value. Briefly press the power button to cycle through the password digits from left to right, then press $+/ -$ to adjust the password value. After completing the settings, briefly press the power button to save the parameters and return to the previous level.

The display interface is as follows:



5.7 Find My Settings

In the Find My settings interface, press $+/ -$ or select the setting item, then hold the power button to save parameters and return to the previous level.

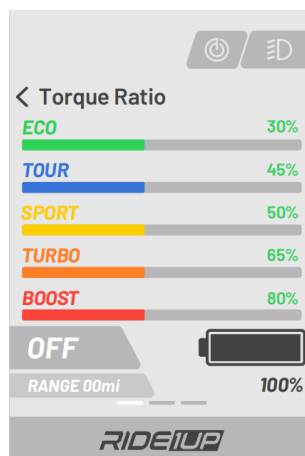
The display interface is as follows:



5.8 Torque Ratio Setting

In the Torque Ratio settings interface, press $+$ / $-$ select the setting option, use the left $+$ / $-$ right arrow keys to adjust values, or hold down the key to save parameters and return to the previous level.

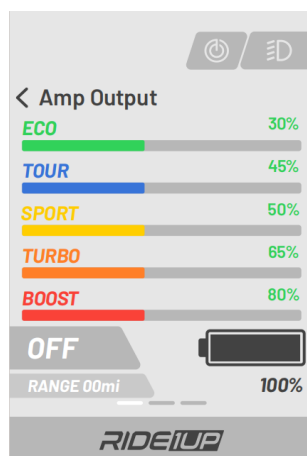
The display interface is as follows:



5.9 Amp Output Setting

In the Amp Output settings interface, press $+$ / $-$ to select a setting, use the left/right arrow keys to adjust values, or hold down $+$ / $-$ to save parameters and return to the previous level.

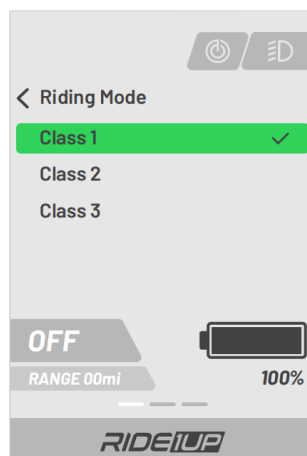
The display interface is as follows:



5.10 Riding Mode Settings

In the Riding Mode settings interface, press $\pm$ to select a setting option; hold the power button to save parameters and return to the previous level.

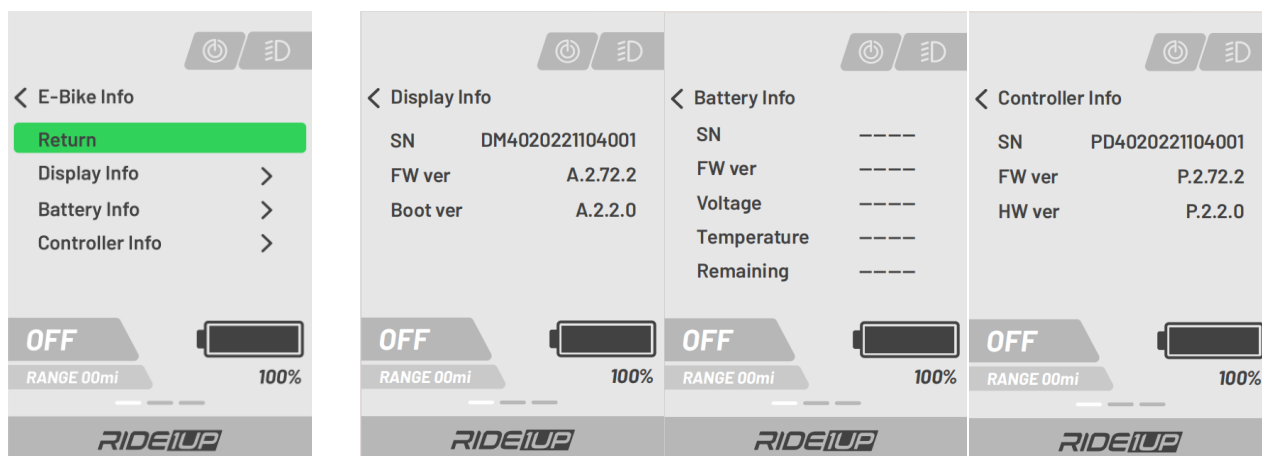
The display interface is as follows:



5.11 System Information

In the E-Bike Info settings interface, press $\pm$ or select a setting option. Short-press the power button to view the corresponding option details, and select Return to press the power button again to return to the previous level.

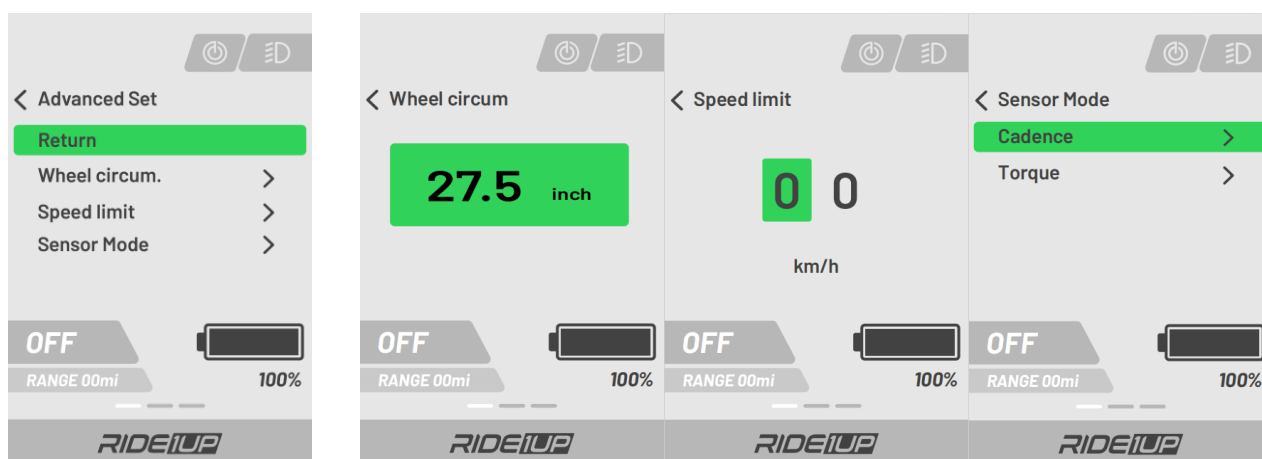
The display interface is as follows:



5.12 Advanced Settings

In the Advanced Settings interface, press $+$ / $-$ select a setting item; hold the power button to access the corresponding setting; press $+$ / $-$ adjust the setting parameters; select Return and hold the power button to return to the previous level.

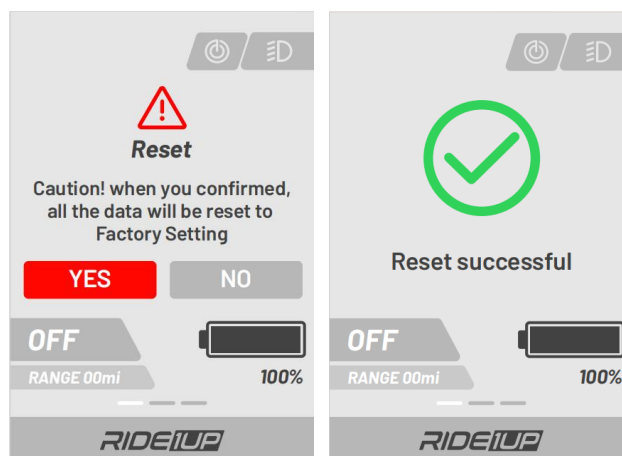
The display interface is as follows:



5.13 Reset Settings

In the Reset settings interface, press the $+$ / $-$ key or select YES/NO to switch modes. Select YES to restore default settings and display a reset success confirmation message. Shortly press the power button to return to the previous level.

The display interface is as follows:

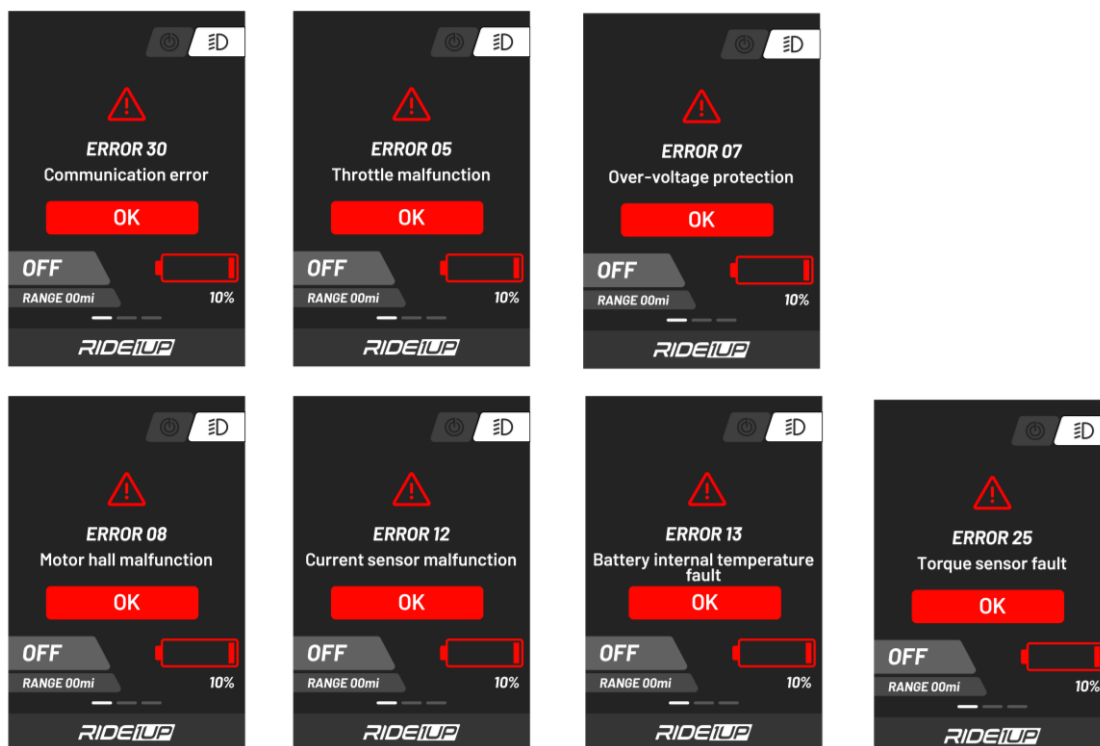


6 Fault Information

6.1 Fault Display

When fault information appears on the main screen, the bubble will remain filled. Click the power button and select the OK option to return to the main interface.

The interface appears as follows:



7 Connection Definition

Table 1: Standard Connector Cable Sequence Table

Standard cable sequence	Standard line color	function
1	Red (VCC)	Instrument power cord
2	Blue (KP)	The power control cable for the controller
3	Black (GND)	Instrument ground wire
4	Green (RX)	Instrument data receiving cable
5	Yellow (TX)	Instrument data transmission line

Note: The actual line sequence definition is determined based on customer requirements.

III. Precautions

- ✧ During use, ensure operational safety and do not insert or remove the instrument while it is powered on.
- ✧ Avoid use in harsh environments such as heavy rain, heavy snow, or direct sunlight.
- ✧ If the instrument fails to function properly, it should be repaired as soon as possible.