SCIWIL SW-Q60A E Bike Display User Guide

Contents

SCIWIL SW-Q60A E-Bike Display

Specifications

- **Product Name:** E-Bike Display
- **Product Model:** SW-Q60A
- **Working Voltage:** DC 24V/36V/48V/52V/60V/72V
- **Rated Working Current:** 12mA
- **Leakage current:** (specification missing)

Product Usage Instructions

Safety Notes

- Do not plug or unplug the display while your e-Bike is powered on.
- Avoid clashes or bumps to the display.
- Avoid using in heavy rains, snow, or long exposure to strong sunlight.
- Do not tear the waterproof film on the surface of the screen.
- Unauthorized adjustment to default settings is not recommended.
- If the display does not work properly, send it for authorized repair.

Overview

The E-Bike Display SW-Q60A is designed with a high-brightness color LCD and minimalist interface, serving as an ideal HMI solution for EN15194 electric bikes.

Display Interface

- **Riding Interface:** Describes the display when riding the E-Bike.
- **Setting Interface:** Explains how to navigate and adjust settings on the display.

- **Error Interface:** Displays error messages and troubleshooting steps.

Key Pad

- The keypad allows for user input and navigation on the display.

Key Operation

- Details key operations such as power on/off, mode selection, etc.

Settings

- Instructions on how to customize settings like brightness, language, etc.

Error Code

- Explains common error codes and their solutions for troubleshooting.

Connection

- Guidance on connecting the display to the E-Bike system.

Warranty

- Contact details and terms of warranty for the E-Bike Display.

Version

- Details about the current version of the display software.

Specifications

E-Bike Display

- **Model:** SW-Q60A
- **Protocol:** UART2.0
- **Version:** V6.01

Safety Notes

- PLEASE TAKE CAUTION WHEN USE DO NOT PLUG OR UNPLUG THE DISPLAY WHILE YOUR E-BIKE IS POWERED ON.
- AVOID CLASHES OR BUMPS TO THE DISPLAY.
- AVOID USING IN HEAVY RAINS, SNOWS OR LONG EXPOSURE TO STRONG SUNLIGHT.
- DO NOT TEAR THE WATER-PROOF FILM ON THE SURFACE OF THE SCREEN, OTHERWISE THE

WATER-TIGHT PERFORMANCE OF THE PRODUCT MAY BE DEGRADED.

- DO NOT PLUG OR UNPLUG THE DISPLAY WHILE THE SYSTEM IS POWERED ON. UNAUTHORIZED ADJUSTMENT TO DEFAULT SETTINGS IS NOT SUGGESTED; OTHERWISE, NORMAL USE OF YOUR E-BIKE CAN NOT BE GUARANTEED.
- WHEN THE DISPLAY PRODUCT DOES NOT WORK PROPERLY, PLEASE SEND IT FOR AUTHORIZED REPAIR ON TIME.

Overview

Product Name and Model

- **Product Name:** E-Bike Display
- **Product Model:** SW-Q60A

Product Introduction

- SW-Q60A features a high-brightness color LCD and minimalist interface, working as an ideal HMI solution for EN15194 electric bikes.

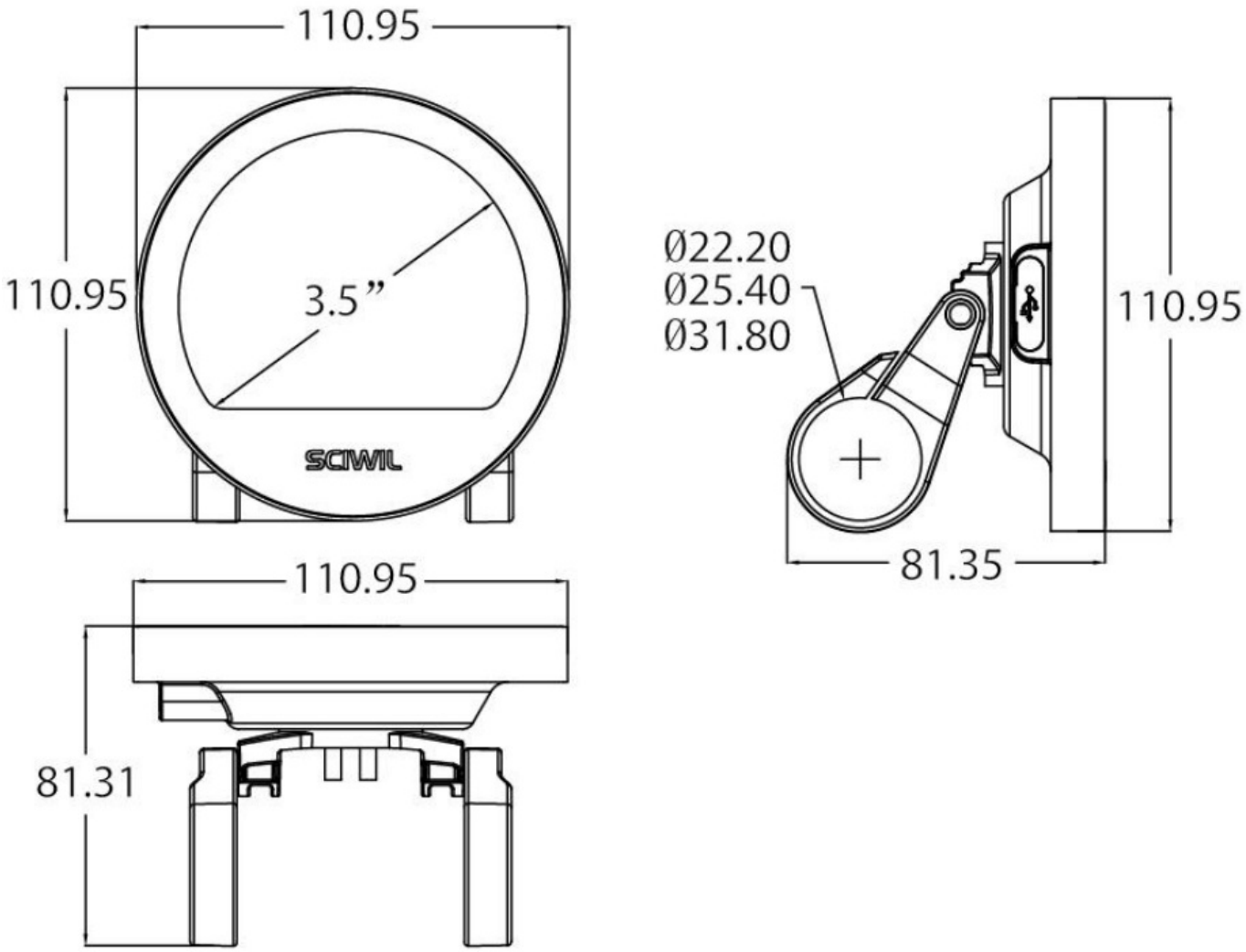
Specifications

- **Working Voltage:** DC 24V/36V/48V/52V/60V/72V
- **Rated Working Current:** 12mA
- **Leakage current:** <1uA
- **Screen Size:** 3.54” TFT
- **Communication Type:** UART (by default) / CAN (optional)
- **Optional Functions:** Bluetooth, NFC
- **Working Temperature:** -20°C ~ 60°C
- **Storage Temperature:** -30°C ~ 70°C
- **Waterproof Rating:** IP65

Function

- **Boot** password
- **System** unit switch (km/h or mph)
- **Assist Level Control** and Display
- **Battery indication:** battery level percentage, low voltage indication
- **Speed display:** (in km/h or mph) real-time speed (SPEED), max speed (MAX), average speed (AVG)
- **Distance:** single-trip distance (TRIP), total travel distance (ODO)
- **Assist Mode** Control and Display (3/5/9 levels)
- **Walk assist** mode
- **Front light indication:** front light status supported by controller.
- **Error code** indication
- **Riding Info:** Braking Status, Front Light Status, Cruise, Low Voltage.

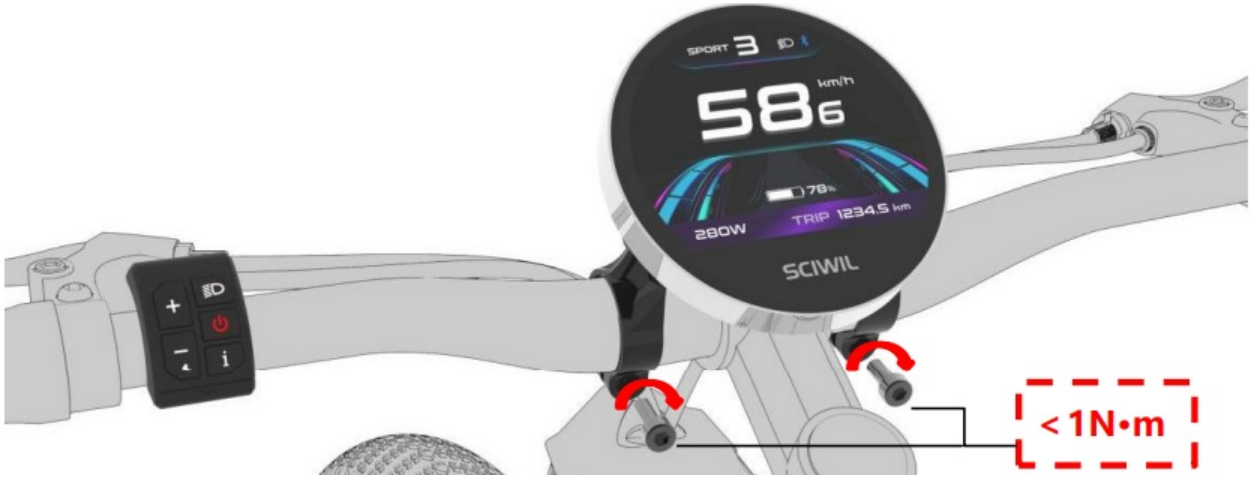
Size



Assembly

1. Open the holder ring/rubber spacer of the display and fix the display on the handlebar, adjusting it to a proper facing angle.
    - Use a M4 Hex Wrench to fix and tighten the screws.

      Standard fixing torque: 1N·m. *Damage due to excessive fixing torque is not covered by warranty.
2. Open the holder ring/rubber spacer of the keypad and fix it on the handlebar, adjusting it to a proper facing angle. Use a M3 Hex Wrench to fix and tighten the screws.
    - **Standard fixing torque:** 1N·m.



- Damage due to excessive fixing torque is not covered by warranty.

3. Plug the 5-pin connector of the display to the coupling connector of the Controller.

Serial Code

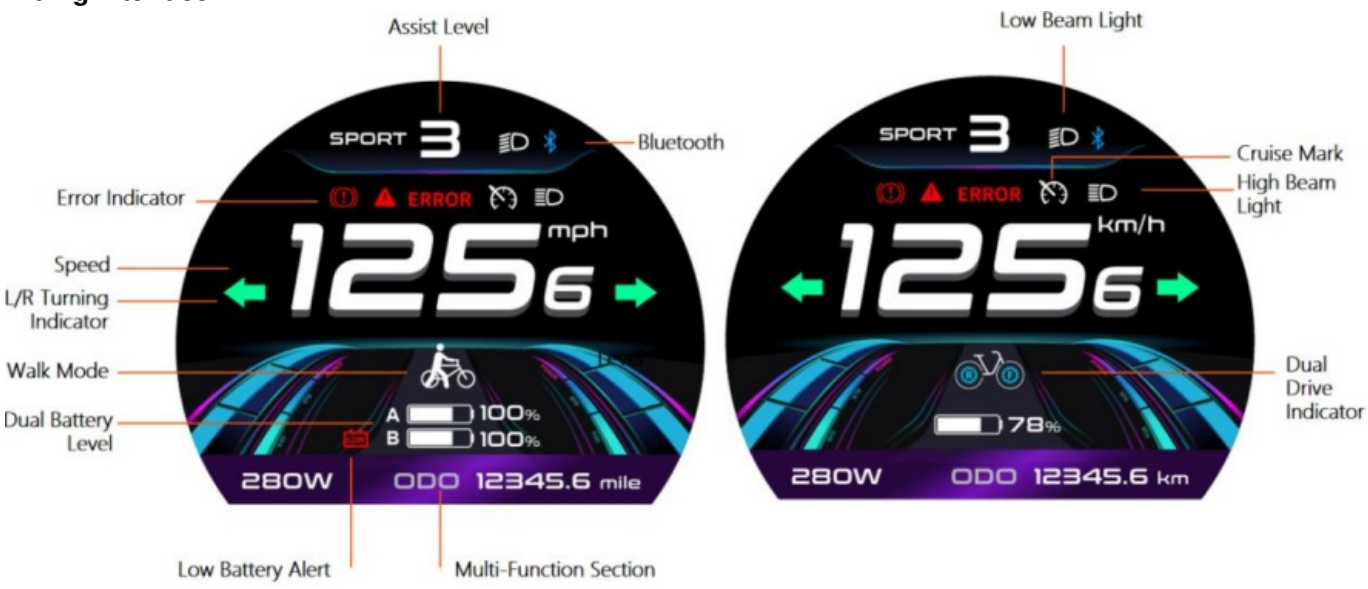
Example:

- **111:** Customer Code
- **22:** Protocol Code
- **333333:** P.O. Date YYMMDD)
- **555:** Order Receiving Number
- **6666:** Production Date YYMM)

Operation

Display Interface

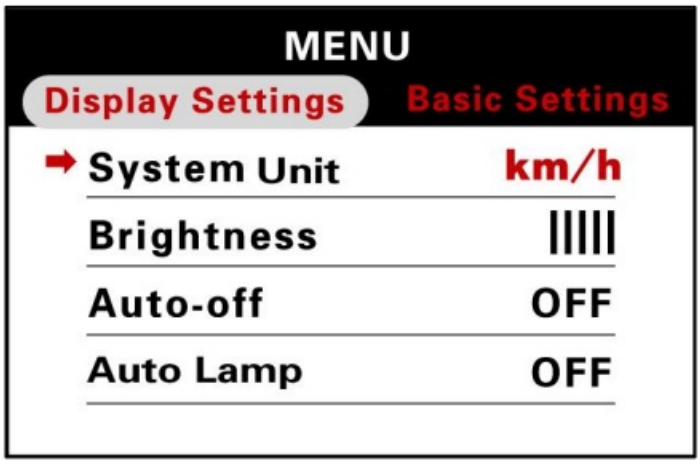
Riding Interface



- **Status: Real-time Riding Status:** Bluetooth, Front Light, Brake, Low Voltage, Turning, Cruise, Drive Status, etc.
- **Battery Status:** Residual Battery Percentage
- **Multi-Function Section:** ODO (total range), TRIP (single ride range), MAX (max. speed), AVG (average speed), TIME (riding time), VOL (battery voltage), Wh (motor power), CUR (current), etc.

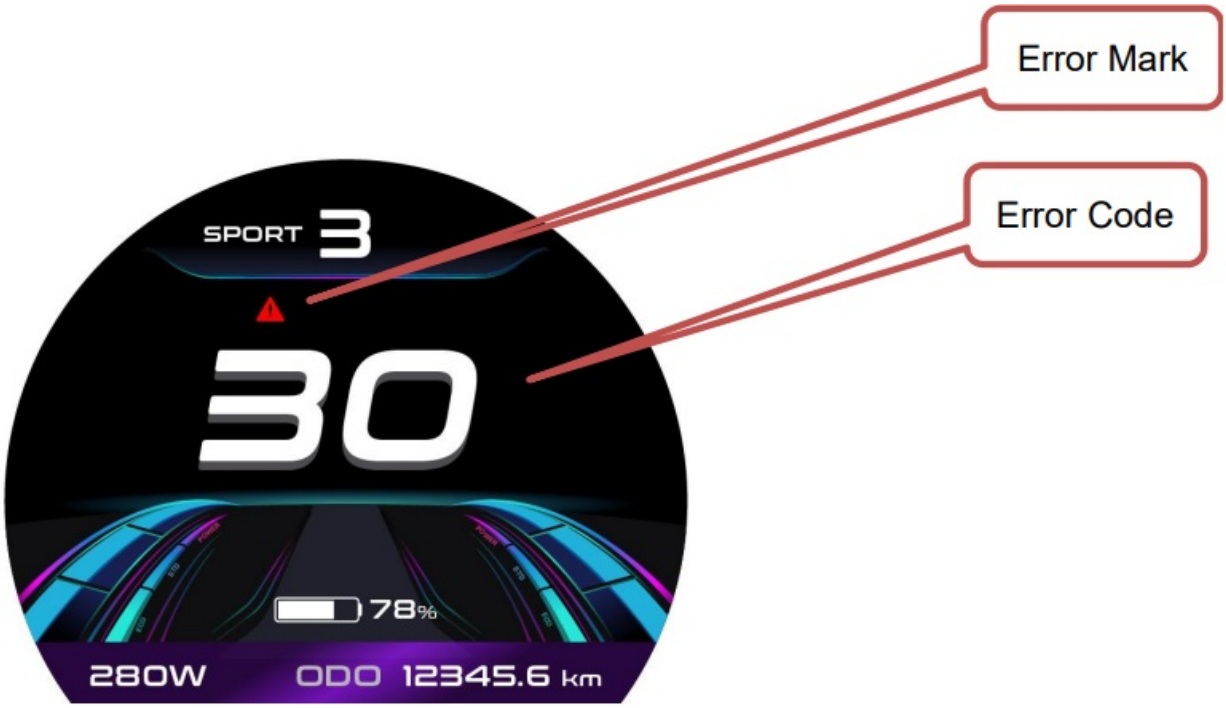
- **Assist Level Mode:** 3/5/9 Levels available.

Setting Interface



- **In the above interface:** Setting Item System Unit, Parameter Value: km/h

1. **Error Interface**



   - **In the above interface:** Error Indicator ERROR, Error.
   - **Note:** Communications Error
2. **Key Pad**
   - **SWK2 Keypad Illustration:**

- **There are 5 keys on the SWK2 keypad in the following instructions:**
- + is called Plus Key
- ⏻ is called On/Off Key
- − / is called Mthe inus/Walk Assist Key
- is called Light Key
- i is called Info Key

3. **Key Operation**
   - **The key operation guide is as follows:**
   - **Press and Hold:** means press and hold the key(s) for more than 2s.
   - **Press:** means press the key(s) for less than 0.5s.
   - **Double Tap:** means double tap the key(s) within 0.3s
   - **On/Off**
   - **Turn on the Display:** When the display is off, press and hold the On/Off Key to turn on the display.
   - It will show the boot interface and then enter the riding interface. (If the boot password is activated, enter the boot password at start.)
   - **Turn off the Display:** When the display is on, press and hold the On/Off Key, the display will be turned off. If no operation is engaged for 10min (0km/h), the display will be auto-off. Auto-off time can be set in the Settings.
   - **Assist Level**
   - Press the Plus Key or Minus/Walk Assist Key to switch assist levels. There are 5 levels by default: 0/1/2/3/4/5. 0 means no assist power.

Level0

Level1

Level2

Level3

Level4

Level5

- **Toggle Displays**
- When the display is on, press the Info Key to toggle among ODO (total range), Trip (single trip range), TIME (riding time) etc.

- **Light On/Off**
- **Turn on the Front Light:** When the front light is off, press the Light Key to turn it on, and the light icon will be shown on the riding interface (to remove this function, please reconfigure the controller).
- **Turn off the Front Light:** When the front light is on, press the Light Key to turn it off, and the light icon will be off on the riding interface.

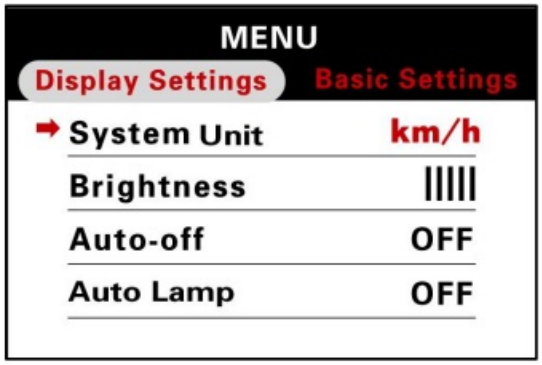
- **Walk Assist Mode**
- **Engage Walk Assist Mode:** On the riding interface, press and hold the Minus/Walk Assist Key to enter walk assist mode.
- **Hold** the Minus/Walk Assist Key to engage the walk assist mode, The walk mode icon will be shown on the riding interface, the real-time speed will be shown in the speed section.
- **Disengage Walk Assist Mode:** Release the Minus/Walk Assist Key to disengage the walk assist mode. The icon will turn off on the riding interface.

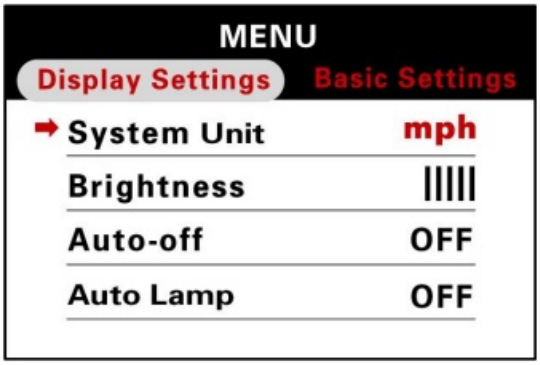
- **Dual Drive Control (enabled by controller)**
- On the riding interface, press and hold the Plus Key to switch the drive mode, which will be toggled in turn as Rear Drive -> Front Drive -> Dual Drive, and the corresponding wheel of the icon on the down right corner will blink (e.g. the rear wheel of the icon will blink in Rear Drive mode).

4. **Settings**
    - **Setting Operations**
        1. **Enter the Settings:** When the display is on, press and hold the Plus Key and the Minus/Walk Assist Key together to enter the Settings. Available setting items include: system voltage, wheel size (inch), magnetic steel number for speed gauge, speed limit etc (please refer to 4.2 Setting Items).

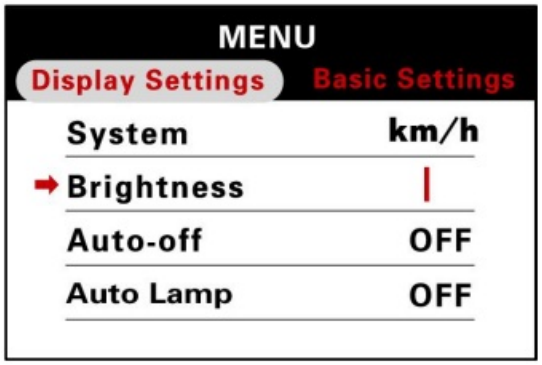
2. **Adjust Settings:** on the Settings interface, press the Plus Key or the Minus/Walk Assist Key to set values for items. The value will blink after change. Press the On/Off Key to save the set value and switch to the next item.
3. **Save and Exit Settings** Press and hold the Plus Key and the Minus/Walk Assist Key together to exit the Settings and save the set value.
4. The system will save and exit automatically if there's no operation for 10 seconds.

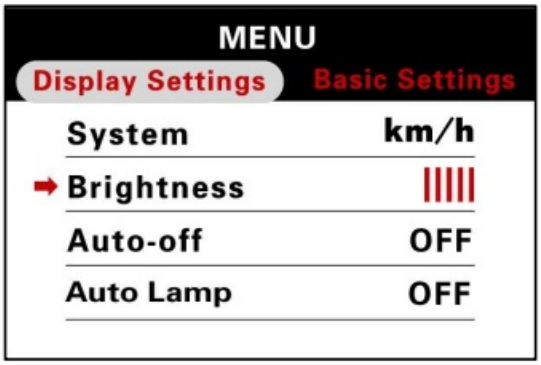
- **System Unit: km/h or mph**
- Press Plus or Minus to choose metric (km/h) or imperial (mph) unit.



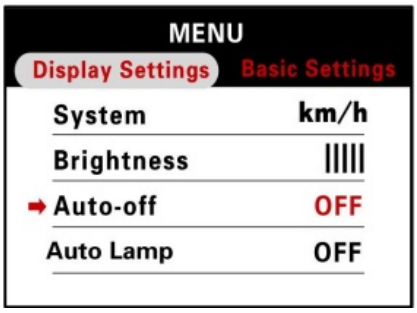


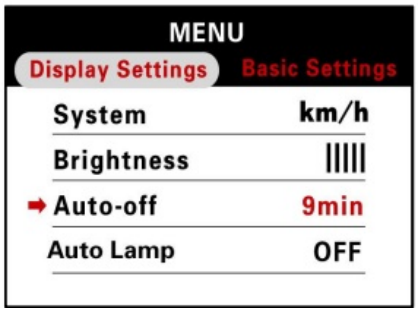
- **Backlight Brightness**
- Press Plus or Minus to choose among I~IIIII. I is darkest, IIIII is brightest

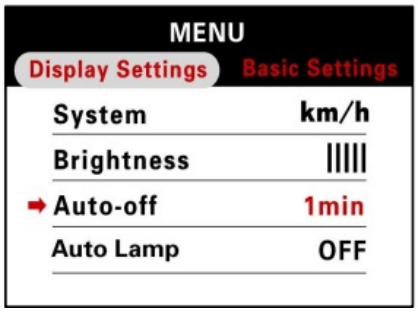




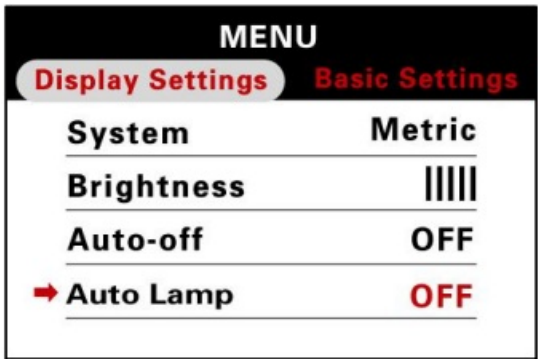
- **Auto-Off**
- **Press Plus** or Minus to select 1~60min as auto-off time, which means the display will turn off automatically if no operations are detected within this period.
- **Default Auto-Off** time: 10min

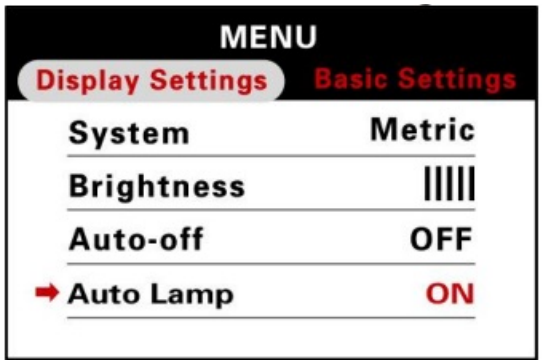




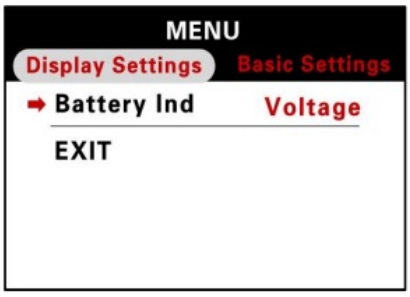


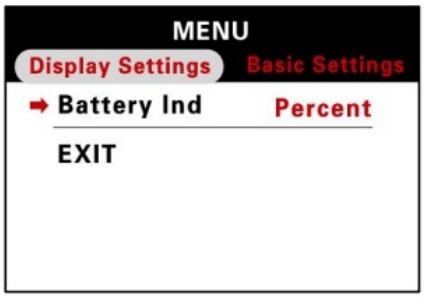
- **Auto-Lamp On/Off**
- **Press and hold the** On/Off Key to turn on or off the front light automatically.

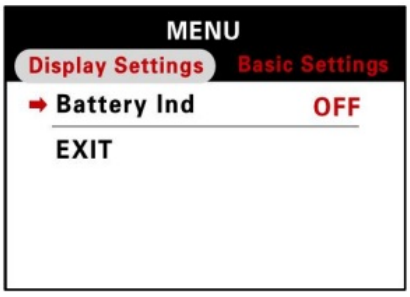




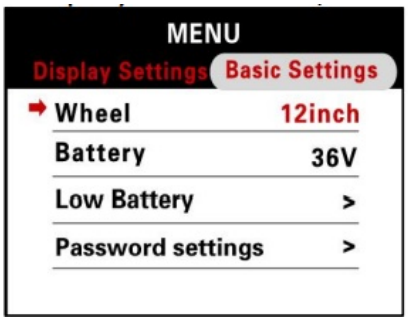
- Digital scenario or analog scenario switch.
- The current version only supports a digital scenario.
- **Battery Indication**
- Press Plus or Minus to select Voltage/Percentage/Off. The Battery Indicator on the display will toggle among voltage value, battery percentage left and none.
- Battery percentage display requires system BMS communications.

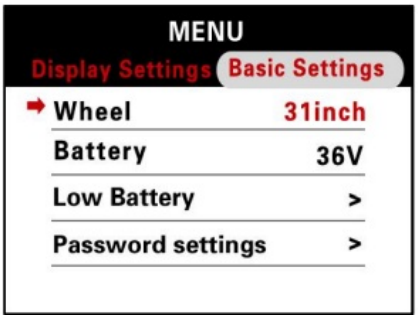


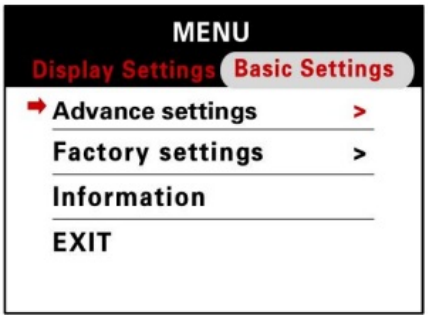




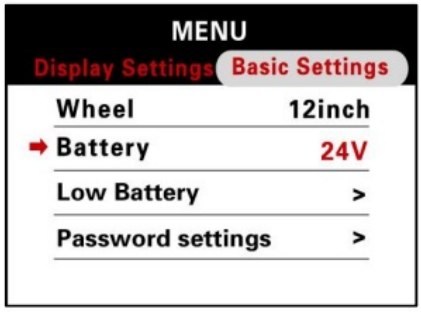
- **Wheel Size**
- Press Plus or Minus to set the correct wheel size.
- **Default wheel size:** 26inch.
- Incorrect or inaccurate wheel size may lead to an incorrect speed display.
- **Unit:** inch, increment 0.1inch.

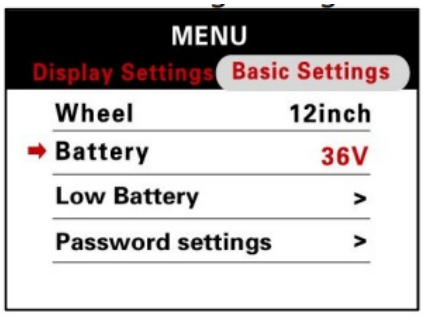


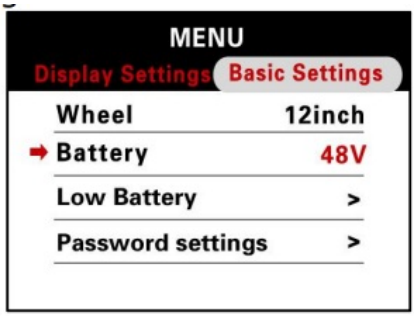




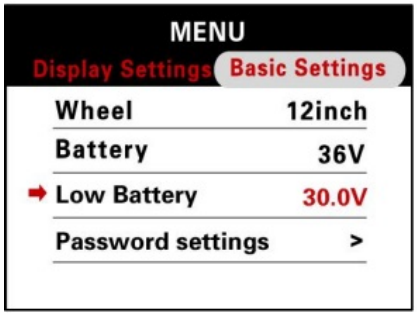
- **Voltage Level**
- Press Plus or Minus to select.
- **Working voltage range:** 24~72V.

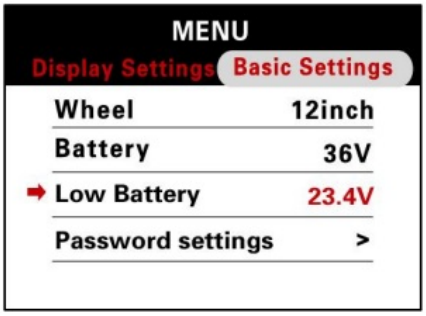


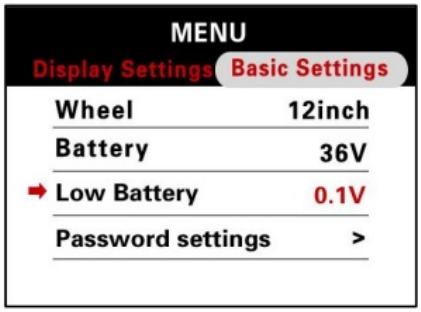




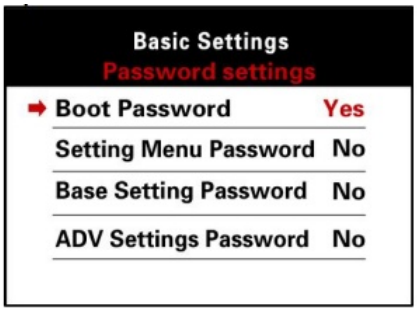
- **Low Battery Level**
- In light of the low battery protection voltage level, press Plus or Minus to set the low battery protection level for the vehicle.

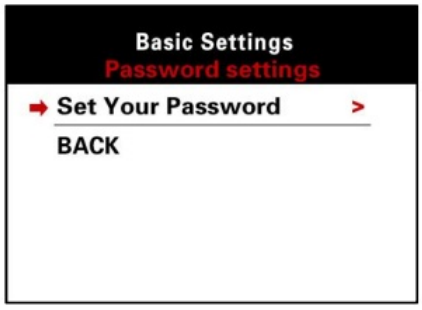


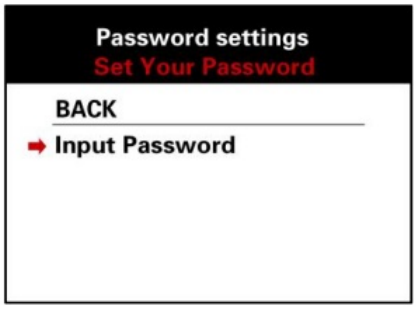


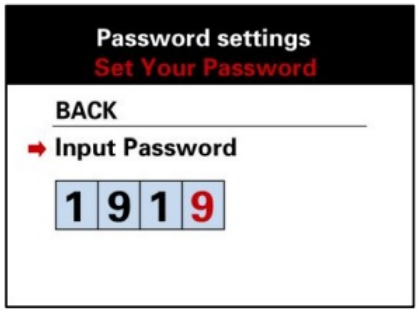


- **Boot Password**
- Press the Info Key to enter Password Settings. First, set the 4-digit boot password (as shown in the pictures below).
- Then you can set in turn passwords for setting menu, basic settings, advanced settings and change password.

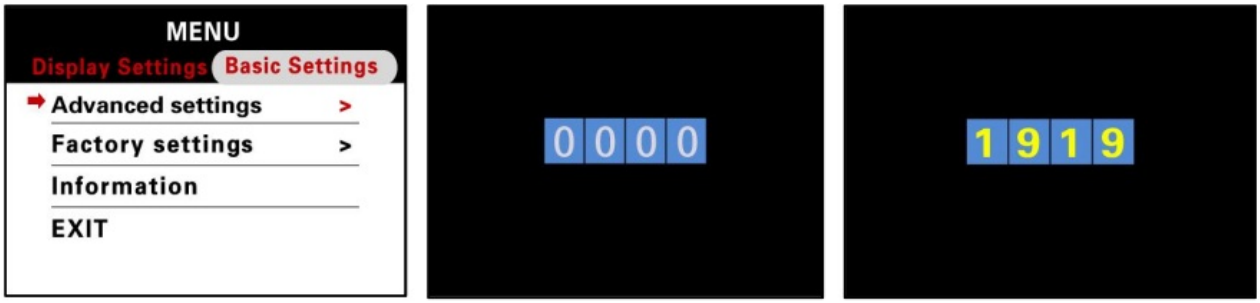




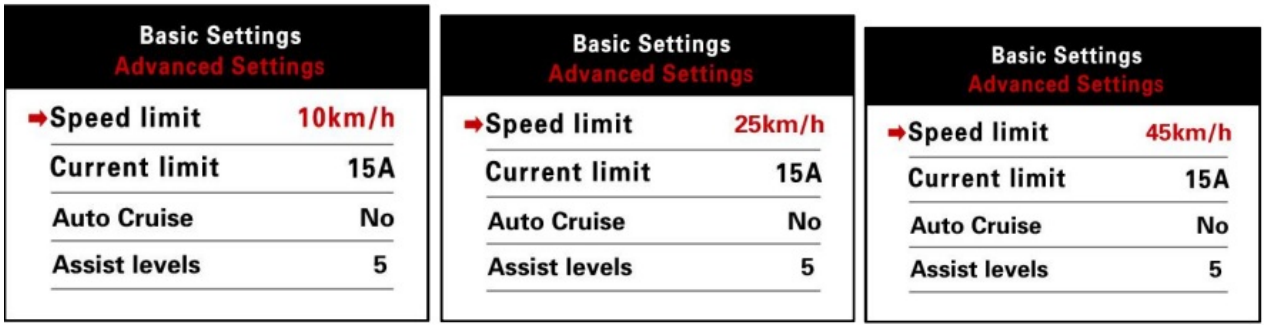




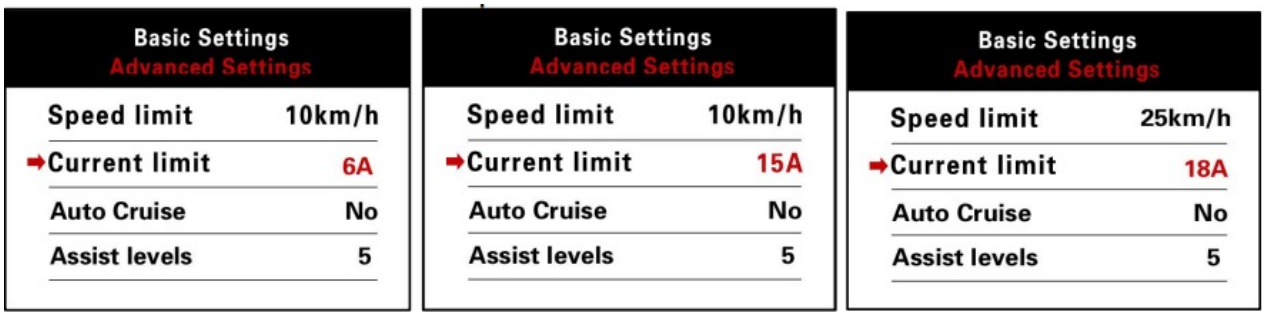
- **Advanced Settings**
- Press the On/Off Key to enter Advanced Settings. For password-protected products, enter the correct password and press the.
- On/Off Key to enter Advanced Setting. Press Plus or Minus to set values, then press On/Off Key to save and switch to the next item.



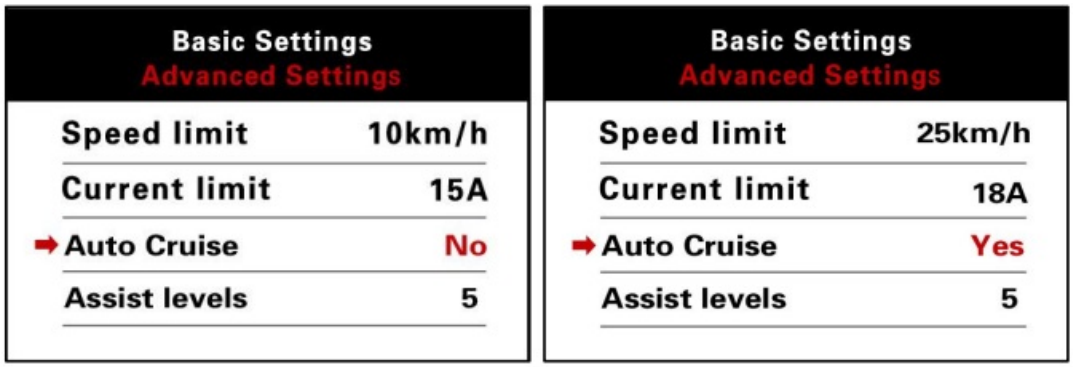
- **Speed Limit**
- Press Plus or Minus to set values for speed limit. Min.
- **Value:** 10km/h, Max.
- **Value:** 100km/h, increment: 1km/h. The default speed limit is 100km/h.



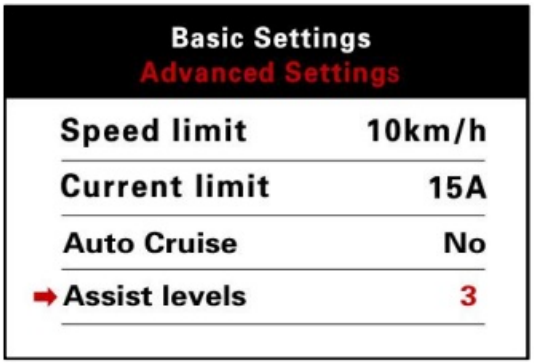
- **Current Limit**
- Press Plus or Minus to set values for the current limit. Min.
- **Value:** 6A, Max. Value: 50A.
- **Default speed limit:** 15A.

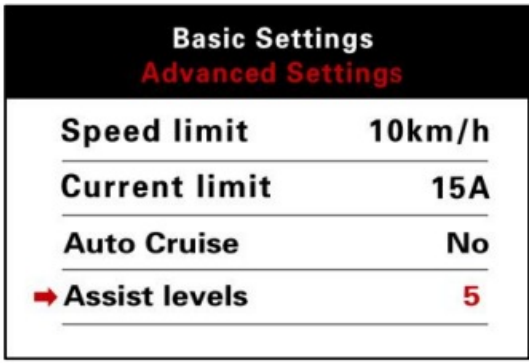


- **Auto-Cruise**
- Press Plus or Minus to turn on or off the auto-cruise function.

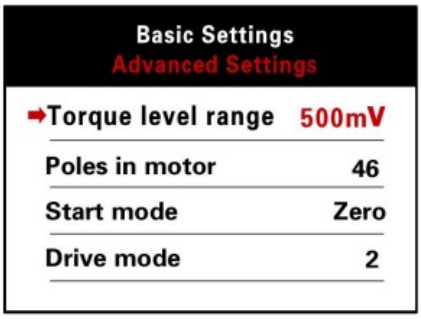


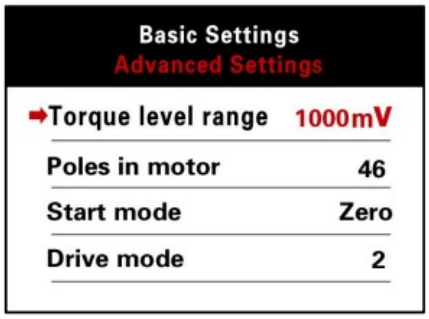
- **Assist Levels**
- **Press Plus or Minus to select assist level mode:** 3 levels / 5 levels.

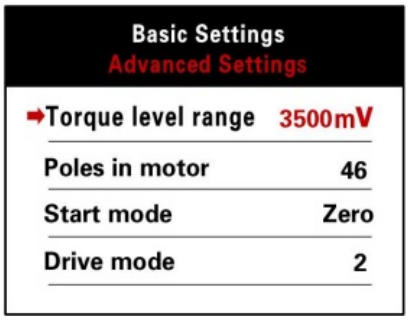




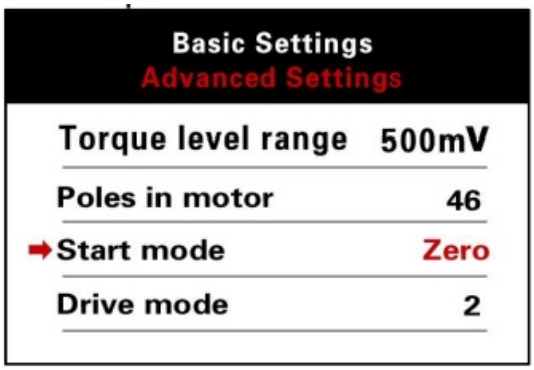
- **Torque Level Range**
- **Press Plus or Minus to select the signal voltage level for the torque sensor:** 500mV / 3500mV.

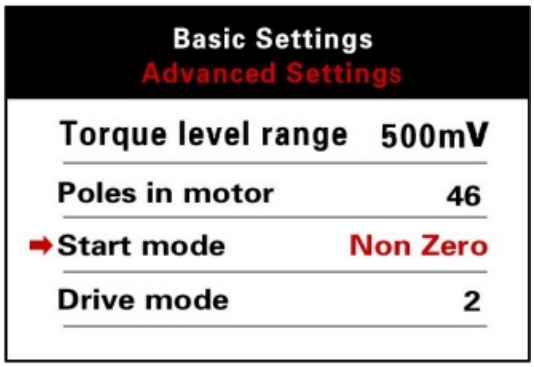




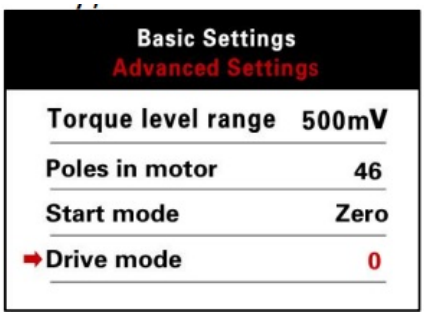


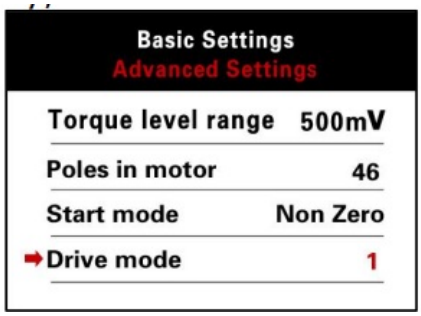
- **Poles in Motor**
- Press Plus or Minus to set the number of magnetic poles for the speed gauge. Min.
- **Value:** 1, Max. Value: 255.
- **Default pole number:** 1.

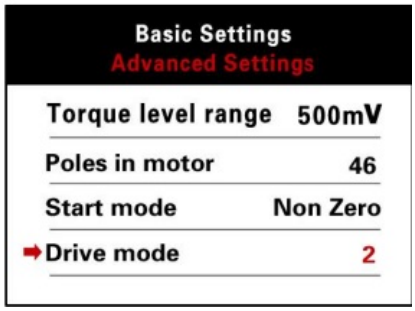




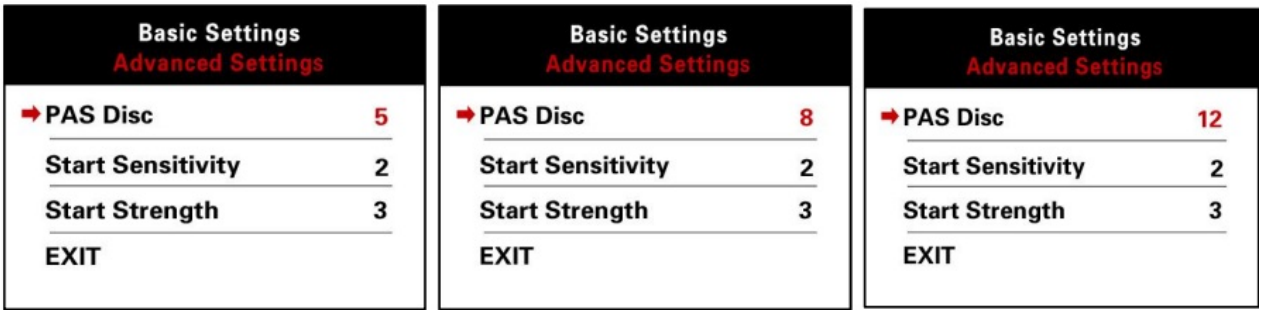
- **Start Mode**
- **Press Plus or Minus to select start mode:** Throttle on demand and Throttle after pedal. “Zero” means Throttle on demand, “Non-Zero” means Throttle after pedal.



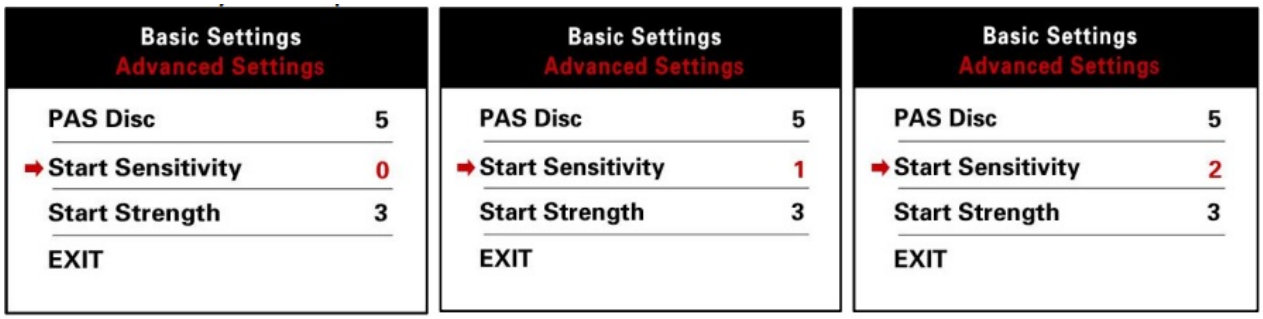




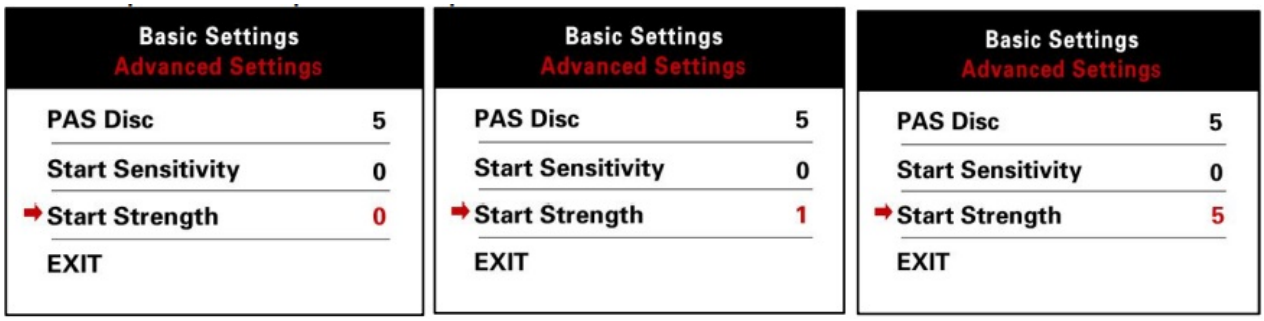
- **Drive Mode**
- Press Plus or Minus to select drive mode: 0 / 1 / 2. 0 means pedal assist only, 1 means throttle only, and 2 means both modes available.



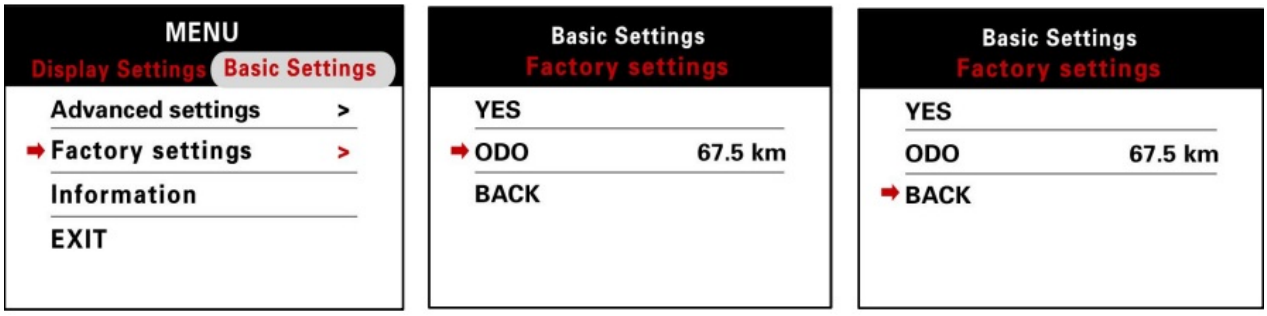
- **PAS Sensor Type**
- **Press Plus or Minus to select PAS Sensor Type:** 5 / 8 / 12. This value is the number of magnetic steels on the PAS disc.
- **Start Sensitivity**
- **Press Plus or Minus to select start sensitivity range**: 1~24. This value is the start latency after the pedal.



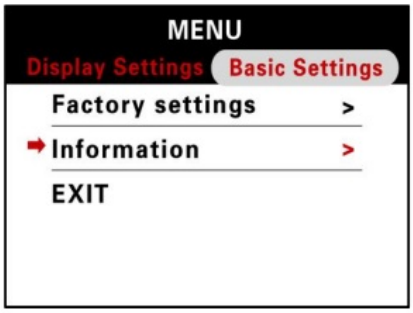
- **Start Strength**
- **Press Plus or Minus to select start sensitivity range:** 0~5. This value is the start power output after the pedal.

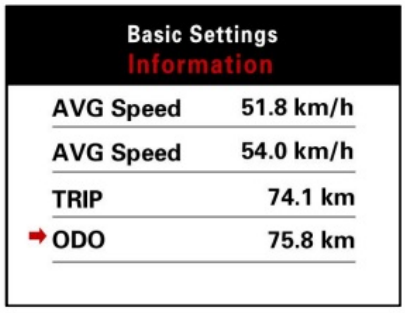


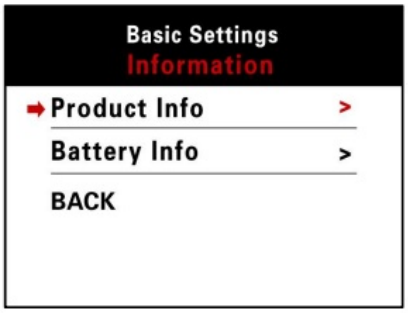
- **Factory Reset**
- Press the On/Off key to enter the Factory Reset Interface. Select YES to reset to factory setting, and select Exit to return to the previous menu.

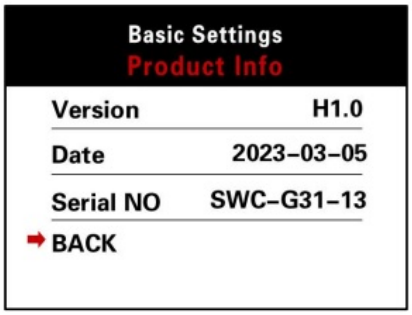


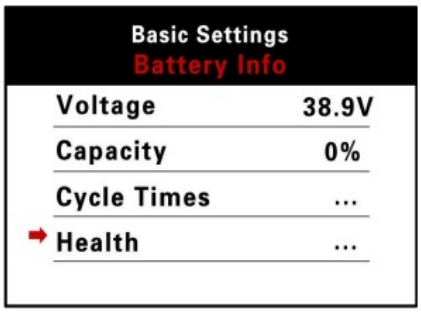
- **Information**
- Press the On/Off key to enter the information interface and check info like speed record, distance record and serial numbers, etc.

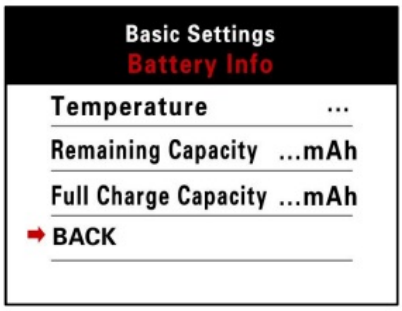








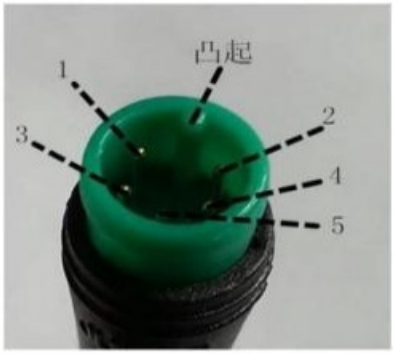




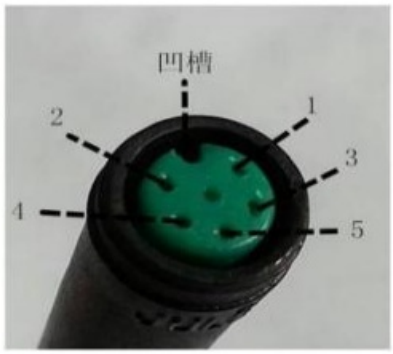
5. **Error Code**

Error Code (decimal)	Status	Note
E00	Normal	
E01	Reserved	
E02	Brake Error	
E03	PAS Sensor Error (Riding Mark)	Not Realized
E04	Walk Assist Mode	
E05	Real-Time Cruise	
E06	Low Voltage Protection	
E07	Motor Error	
E08	Throttle Error	
E09	Controller Error	
E10	Communications Error	
E12	BMS Communications Error	
E13	Front Light Error	

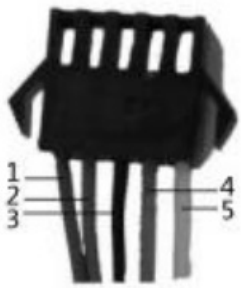
Connection



Display to Controller



Controller to Display



Controller Connector

Pin No.	Wire Color	Functions
1	Red VCC	Display Power Wire
2	Blue K	Electric Lock Wire
3	Black GND	Display Ground Wire
4	Green RX	Display Data Receiving Wire
5	Yellow TX	Display Data Sending Wire

Extended Functions- Front Light:

- **Brown (DD)**: The power wire (+) of the light
- **White (GND):** The ground wire ( ) of the light.
- **Note:** For waterproof connectors, wire sequences are concealed.

Warranty

- In compliance with local laws, Sciwil provides a limited warranty period covering 24 months after the date of manufacturing (as indicated by the serial number), applies to quality issues during normal operations.
- The limited warranty shall not be transferred to a third party other than as specified in the agreement with Sciwil.

Warranty Exclusions:

- Sciwil products that have been opened, modified or repaired without authorization.
- Damage on the connectors.
- Damage to the surface after leaving the factory, including the shell, screen, buttons, or other appearance parts.
- Damage to wiring and cables after leaving factory, including breaks and exterior scratches.
- Damage or loss due to force majeure (e.g. fire or earthquake) or natural disaster (e.g. lightning).
- Out of the warranty period.

Version

- This display user manual complies with the general software version (A/0) of Changzhou Sciwil E-Mobility Technology Co., Ltd.

- A chance display of products on some e-bikes may have a different software version, which is subject to the actual version in use.
- **Changzhou Sciwil E-Mobility Technology Co., Ltd.**
- **Scan QR Code to Download PDF**

- **Wechat Website**

Wechat

Website

Frequently Asked Questions

- **Q: Can I adjust the brightness of the display?**
  - **A:** Yes, you can adjust the brightness in the settings menu of the E-Bike Display.
- **Q: What should I do if I encounter an error message on the display?**
  - **A:** Refer to the Error Interface section in the user manual for troubleshooting steps related to error messages.

Documents / Resources

	SCIWIL SW-Q60A E Bike Display [pdf] User Guide SW-Q60A, SW-Q60A E Bike Display, SW-Q60A, E Bike Display, Display

References

- User Manual