SCIWIL G31 LCD Display User Guide

SCIWIL

G31
USERS GUIDE

Contents

G31 LCD Display

SCIWIL	No:	XSW-G-04-0001-2023			
	Name:	User Manual G31			
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Product Introduction

Congratulations on purchasing your e-bike smart display. Before use, please read through this manual. It is important to acknowledge all the WARNINGS, SAFETY NOTES AND INSTRUCTIONS. This manual will walk you through assembly, settings and operations of Sciwil display products in easy steps, to facilitate operations on your e-bike.

1.1 Product Name and Model

Product Name: E-Bike Display
Product Model: G31

1.2 Specifications

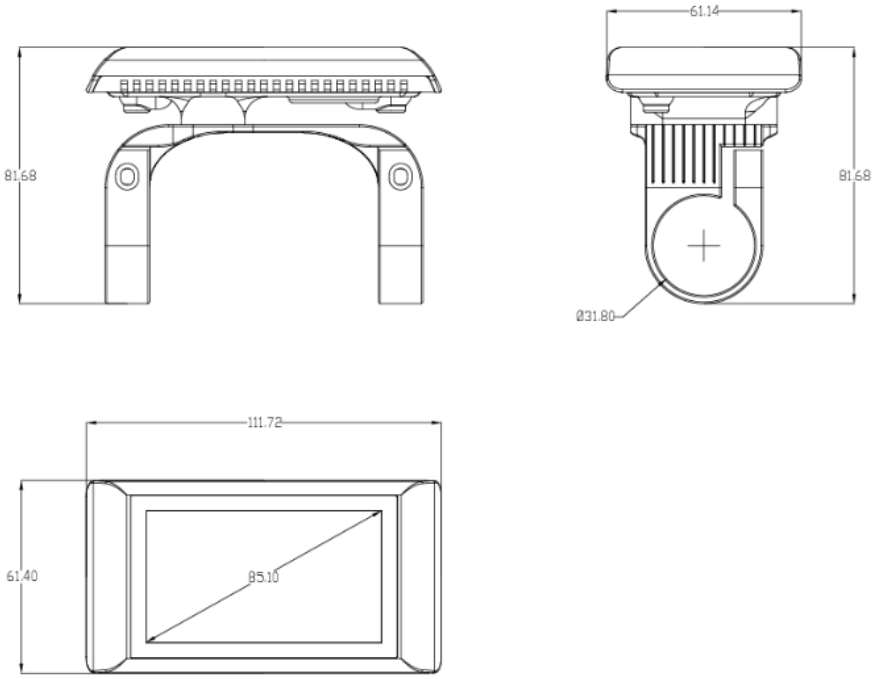
1. Working Voltage: DC 24V/36V/48V/60V/72V
2. Rated Working Current: 12mA
3. Leakage current: <1uA
4. Screen Size: 2.4 ” OLED (240*320 dots)
5. Communication Type: UART (by default) / CAN
6. Working Temperature: -20°C ~ 70°C
7. Storage Temperature: -30°C ~ 80°C
8. Waterproof Rating: IPX6

1.3 Functions

1.3.1 Boot password
1.3.2 System unit switch (km/h or mph)
1.3.3 Speed display: real-time speed (SPEED), max speed (MAX), average speed (AVG)
1.3.4 Assist Level Control
1.3.5 Battery indication: battery capacity, low voltage indication, BMS info display
1.3.6 Front light indication: front light status supported by controller
1.3.7 Distance: single-trip distance (TRIP), total travel distance (ODO)

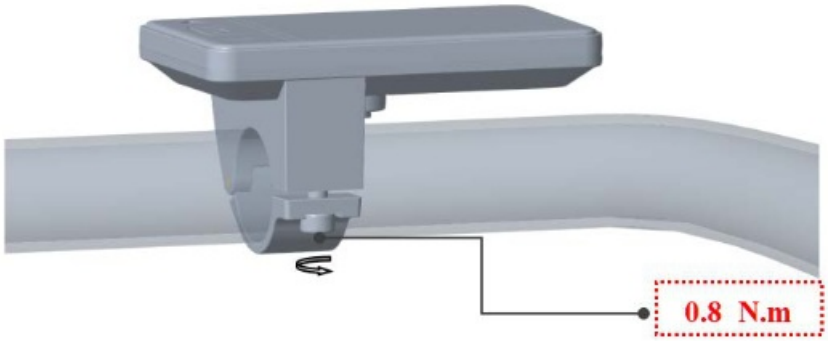
1.3.8 Riding Time: TRIP TIME
1.3.9 Communications port connection, for system maintenance and specs settings
1.3.10 Walk assist mode
1.3.11 Bluetooth communication, support OTA upgrade via mobile phone
1.3.12 Error code indication Simple key pad for easy & clear operation

1.4 Exterior Look and Size



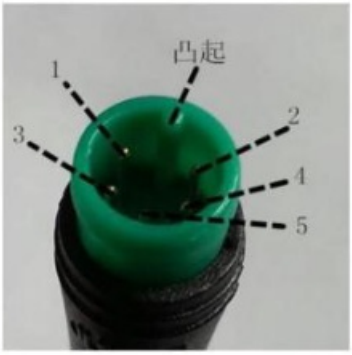
1.5 Assembly

1. Open the holder ring/rubber spacer of the display and fix the display on the handlebar, adjust it to a proper facing angle. Use a M3 Hex Wrench to fix and tighten the screws. Standard fixing torque: 0.8N·m.
   *Damage due to extra fixing torque is not covered by warranty.



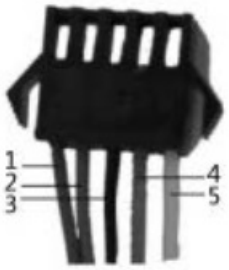
2. Make sure your e-bike is powered off, then plug the connector on the display to the connector on the controller (bus) to finish standard assembly.

1.6 Cable Connection



Display to Controller

Controller to Display



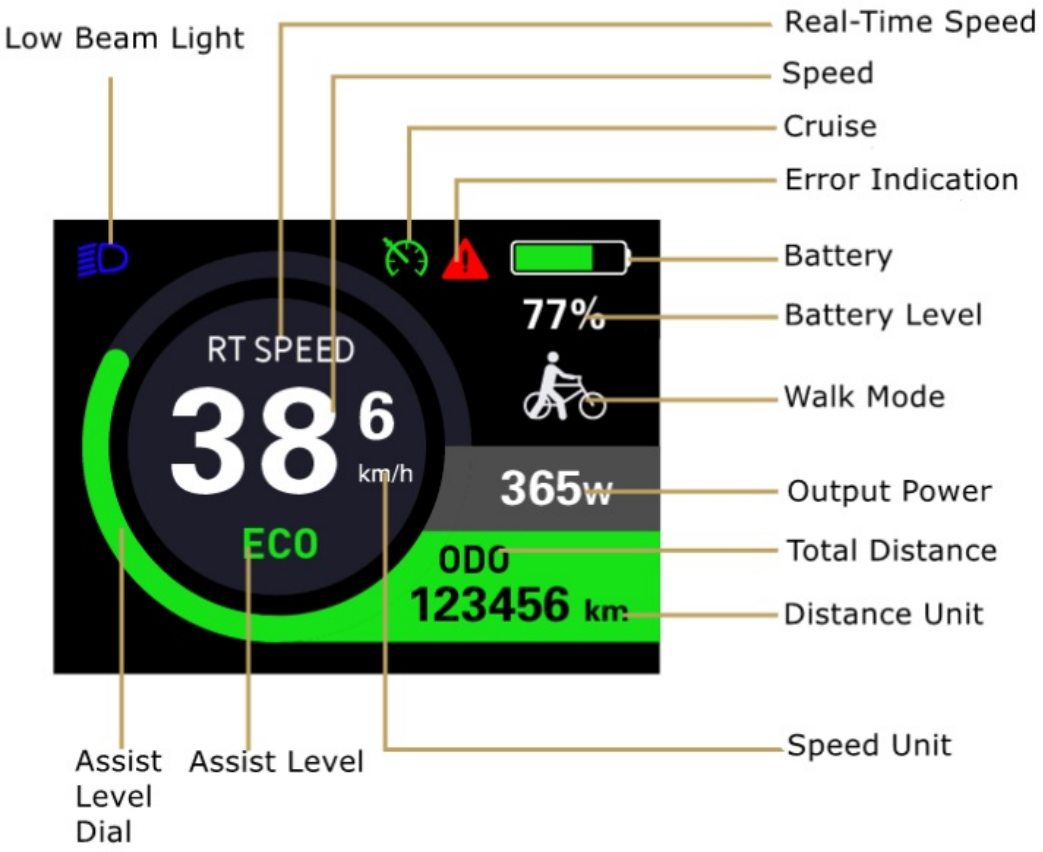
Controller Connector

Sequence No.	Wire Color	Functions
1	Red VCC	Display Power Cable
2	Blue DS	Controller Power Cable
3	Black GND	Display Ground Cable
4	Green RX	Display Data Receiving Wire
5	Yellow TX	Display Data Sending Wire

1.7 Extended Function:
Front Light: Brown Wire (Front Light Power+)
White Wire (Front Light GND)

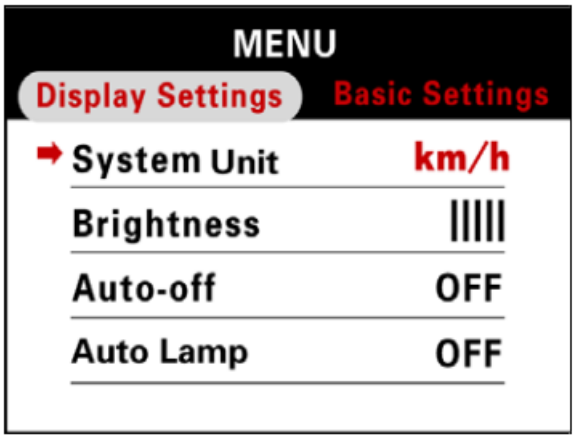
Display Guide

2.1 Interface Introduction
2.1.1 Display Interface



1. Real-Time Speed (RT SPEED) current riding speed
2. Average Speed (AVG SPEED) average riding speed
3. Maximum Speed (MAX SPEED) the max speed during ride
4. Total Travel Distance (ODO) total riding distance, max value 99999.9
5. Assist Level and Walk Mode Assist Level 3/5/9 levels, can be changed.
6. Current Speed and Unit current riding speed, unit: km/h or mph
7. Single-Trip Distance and Unit with accuracy of 0.1 max value 99999.9
8. Battery Indication the current battery level
9. Front Light Indication shows icon when the front light is turned on by display
10. Power Indication real-time motor output power

2.1.2 Setting Interface



2.2 Key Pad Operation

2.2.1 Key Pad:

Function/Mode: M, Up/Plus: ^, Down/Minus: v

General Operations

3.1 Switch On/Off

Keep the display connected with controller, press and hold Mode M for 2s to turn on the display. The display will show complete interface first before entering into riding interface.

When the display is on, press and hold Mode M for 2s to turn off the display.

The display will automatically turn off if no operation happened within 10min and speed remains 0 (the auto-off time can be set in the Settings).

3.2 Assist Level

Press Up ^ or Down v to toggle assist levels. Generally, there are 3/5 levels available. The display shows 1 as default start level, level 0 means no pedal assist output. (the selection interface of assist level see below)

Level0 Level1 Level2

Level3 Level4 Level5

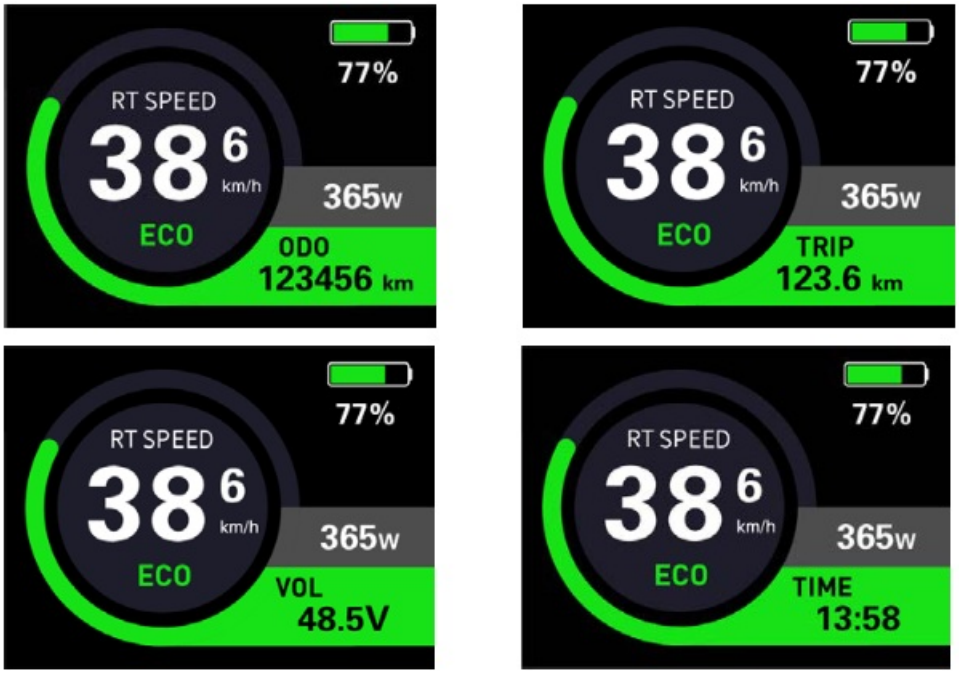
Walk Assist Mode

3.3 Interface Switching

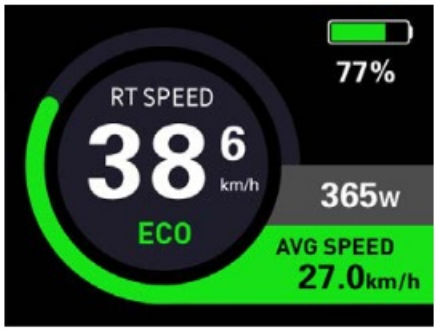
Press Mode M to toggle display info among total distance (ODO), singletree distance (TRIP), current voltage, riding time, average speed (AVG), max speed (MAX).

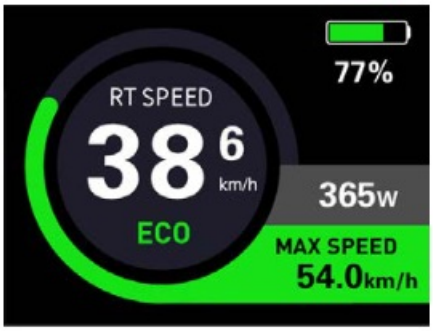
3.3.1 Item Switching (ODO/TRIP/Voltage/Riding Time)

Item switching interface as follows:



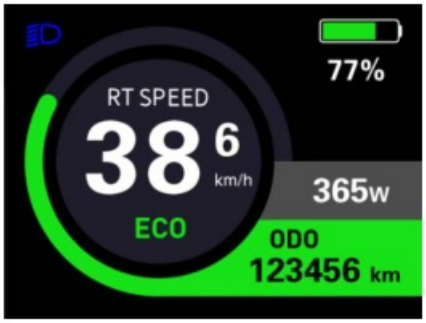
3.3.2 Speed Mode Switching (AVG/MAX) Speed mode switching Interface as follows:

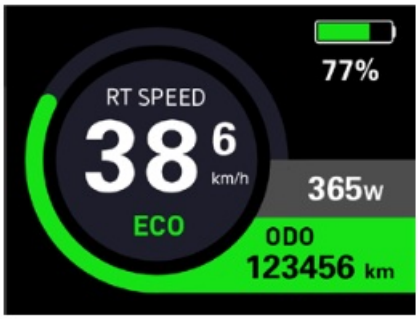




3.4 Front Light On/Off

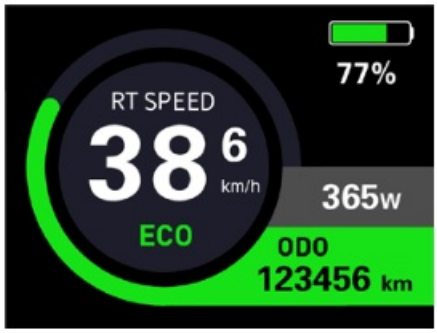
For display-controlled front light, press and hold Up ^ for 2s and the front light will be on and the dipped beam icon will be shown in the riding interface. Press and hold Up ^ for 2s the front light will be off, the dipped beam light icon is also off.





3.5 6km/h Walk Assist Mode (Walk Mode)

Press and hold Down v for 2s to enter 6km/h walk assist mode, the current speed shows in the Assist Level section. Release Down v to exit walk assist mode. Walk mode switching interface as follow (under walk mode).



*This function may not be supported by some controllers.

Settings

Introduction of Setting Operations

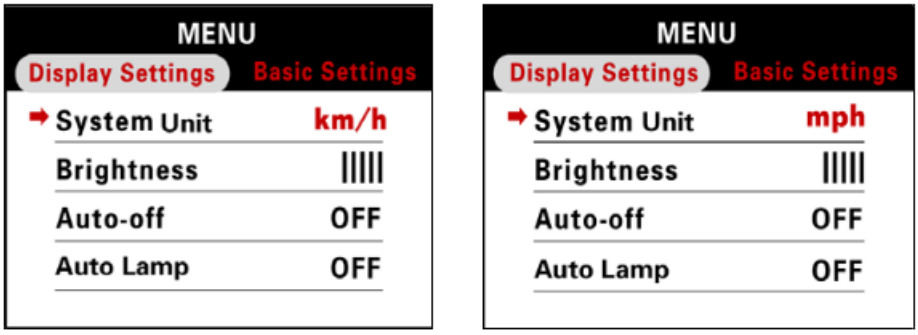
1. Press and hold Up ^ and Down v together for 2s to enter the settings interface. You may set Working Voltage, Wheel Size (inch), Magnetic Steel Number, Speed Limit ect. Please refer to Settings P01-P17 for parameters
   available.
   Under the setting interface, you may press Up ^ and Down to increase/decrease the setting value. The value will blink after being modified. Press Mode M to switch to the next item and save the previous changes

automatically

2. Press and hold Up ^ and Down v together for 2s again to save the adjusted value and exit the settings interface. Otherwise system will automatically exit and save values after 10 seconds.

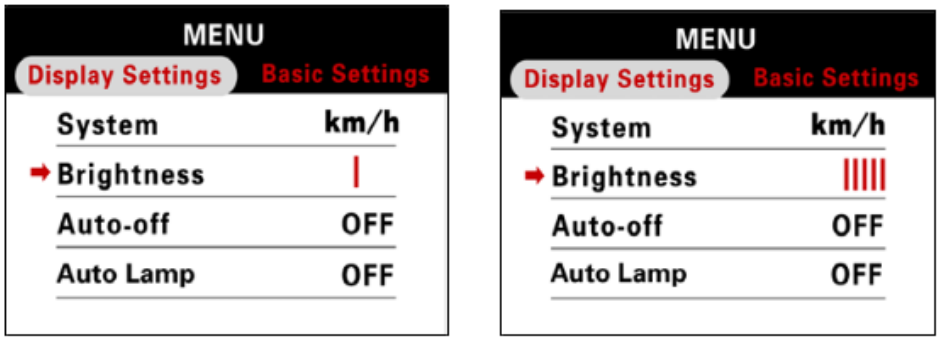
4.1 System Unit: km/h or mph

Press Up or Down to choose metric (km/h) or imperial (mph) unit.



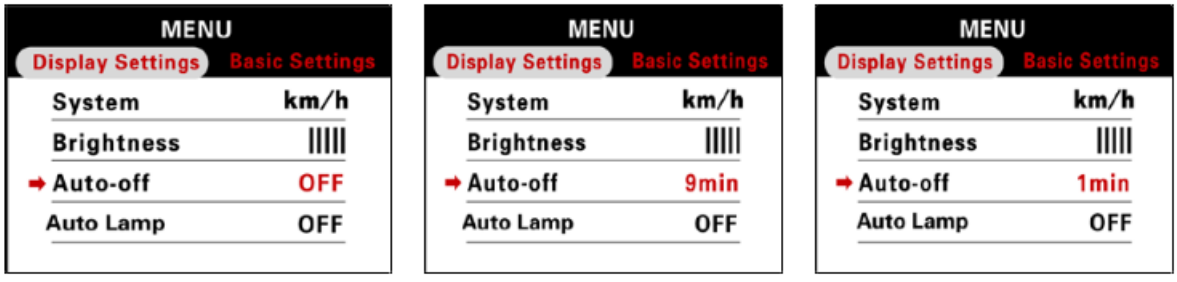
4.2 Backlight Brightness

Press Up ^ or Down v to choose among I .IIIII~I is darkest, IIIII is brightest.



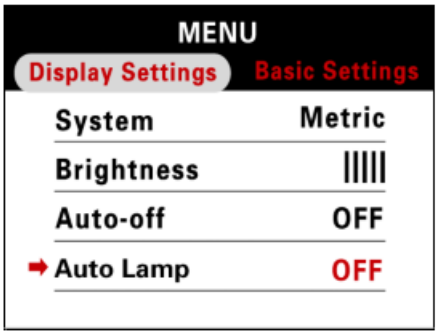
4.3 Auto-Off

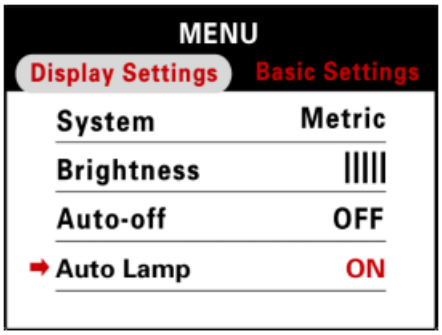
Press Up ^ or Down v to select 1~10min as auto-off time, which means the display will turn off automatically if no operations detected within this period of time. Default Auto-Off time: 5min



4.4 Auto-Lamp On/Off

Press M to turn on or off the front light automatically.



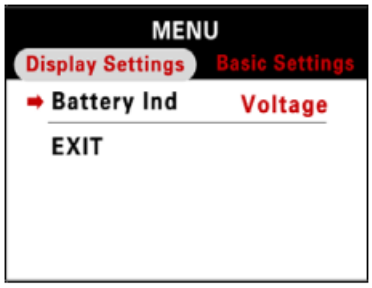


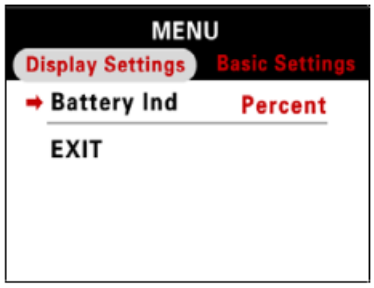
Digital scenario or analog scenario switch. * The current version only supports digital scenario

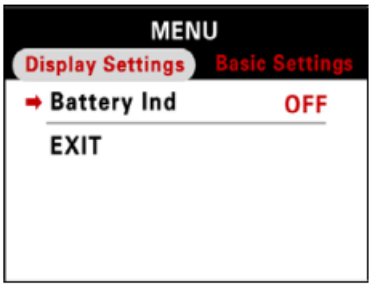
4.5 Battery Indication

Press Up or Down to select among Voltage/Percentage/Off. Battery indicator on the display will toggle among voltage value, battery percentage left and none.

* Battery percentage display requires system-BMS communications.





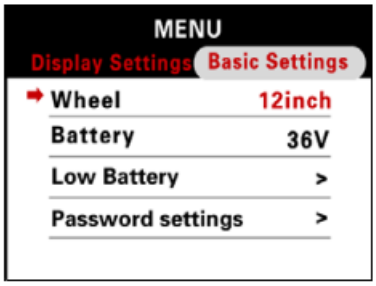


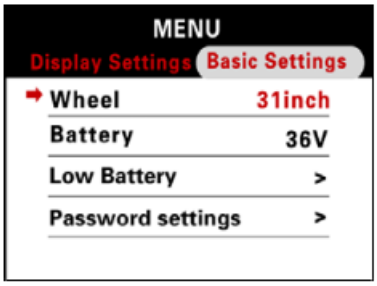
4.6 Wheel Size

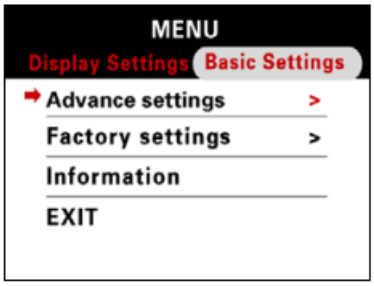
Press or Down to set the correct wheel size. Default wheel size: 26inch.

Incorrect or inaccurate wheel size may lead to incorrect speed display.

Unit: inch, increment 0.1inch.

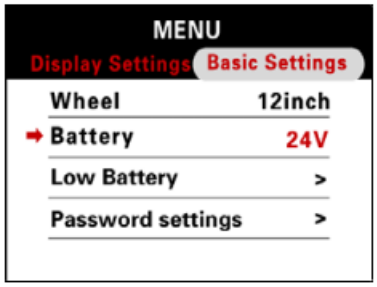


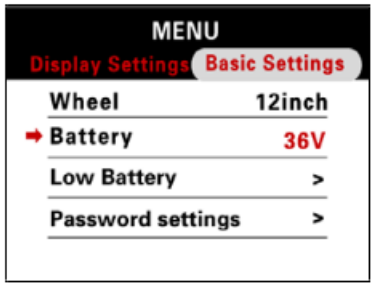


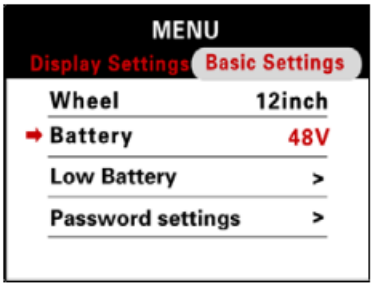


4.7 Voltage Level

Press Up or Down to select. Working voltage range: 24~72V.

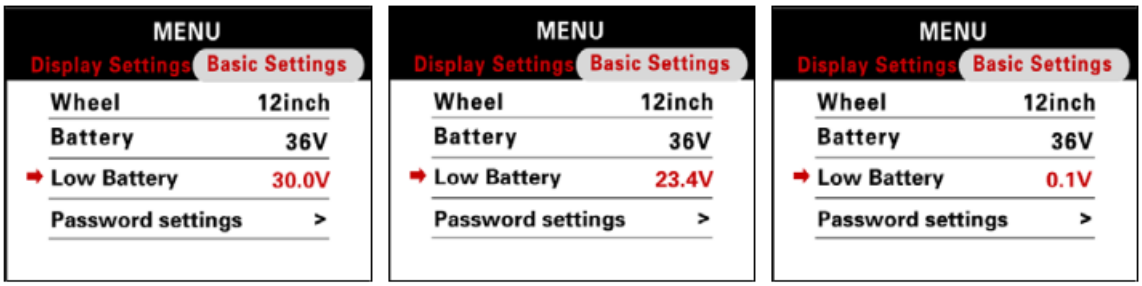






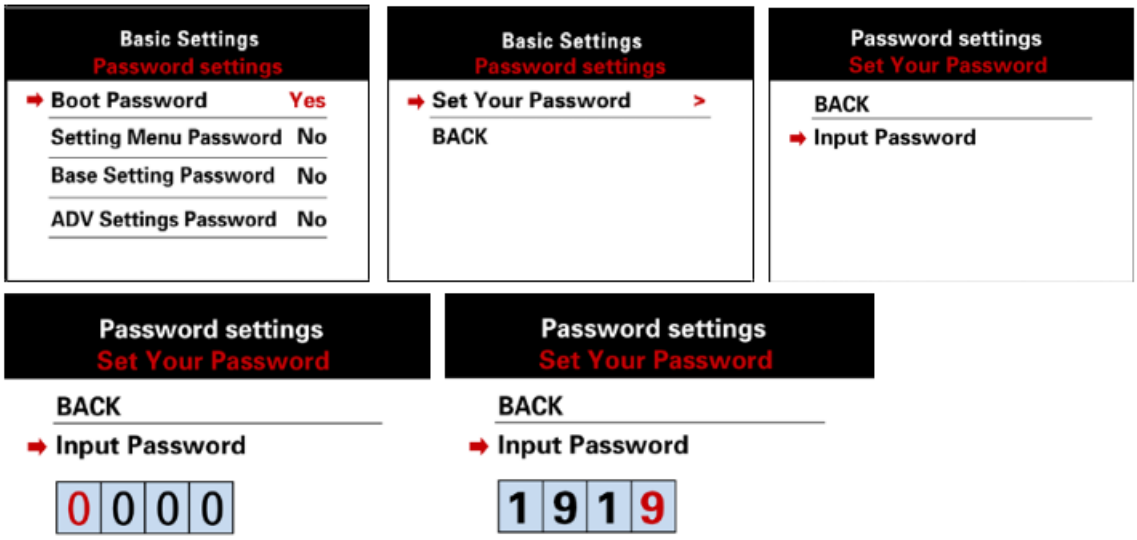
4.8 Low Battery Level

Press Up or Down to set low-battery protection level for the vehicle.



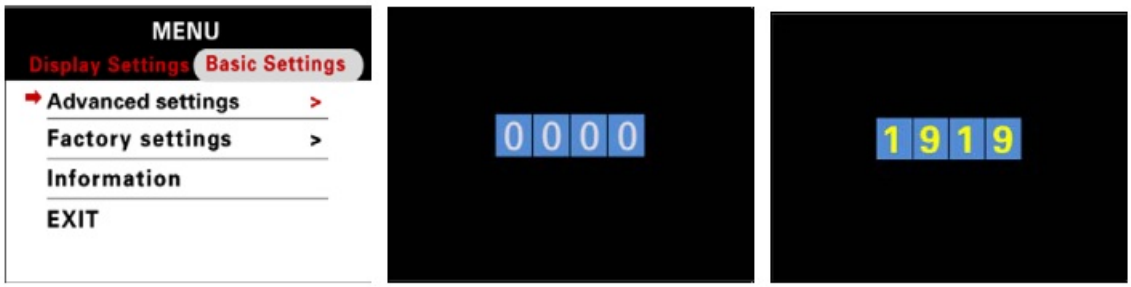
4.9 Boot Password

Press M to enter Passwords Settings. First to set is 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.



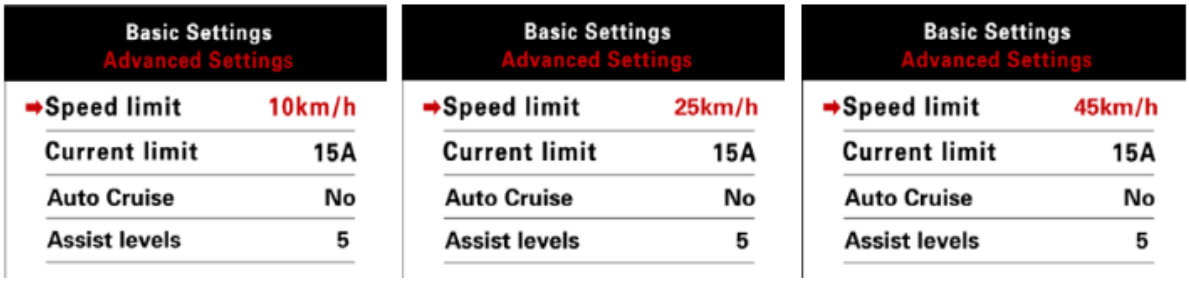
4.10 Advanced Settings

Press M to enter Advanced Settings. For passwords protected product, enter the current passport and press M to enter Advanced Setting. Press Up ^ or Down v to set values, then press M to save and switch to the next item.



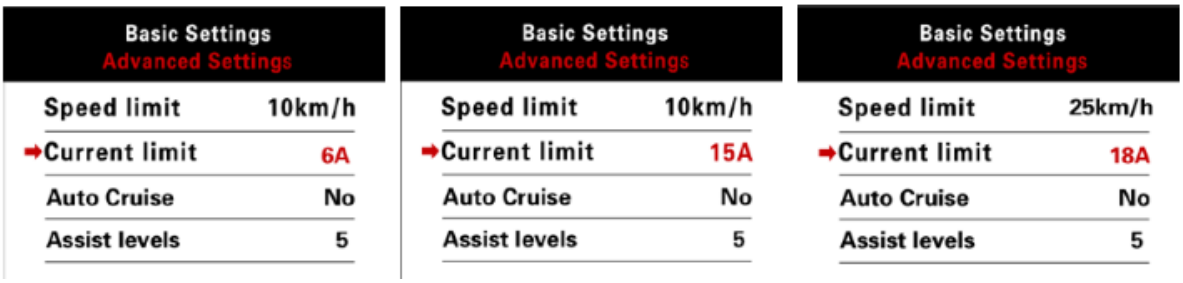
4.11 Speed Limit

Press Up ^ or Down v to set values for speed limit. Min. Value: 10km/h, Max. Value: 100km/h, increment: 1km/h. Default speed limit: 100km/h.



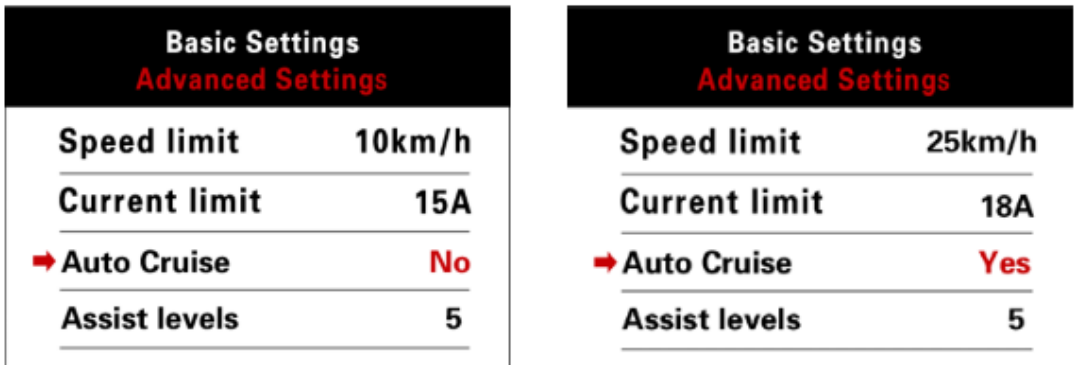
4.12 Current Limit

Press Up ^ or Down v to set values for current limit. Min. Value: 6A, Max. Value: 50A. Default speed limit: 15A.



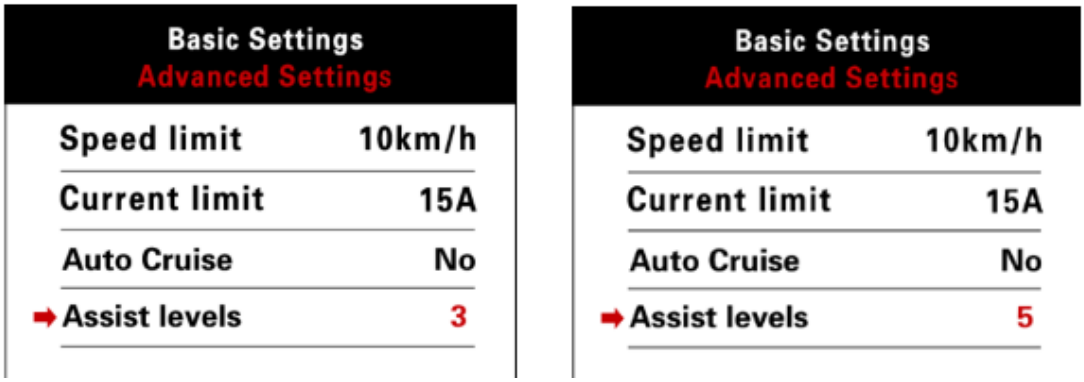
4.13 Auto-Cruise

Press Up or Down to turn on or off the auto-cruise function.



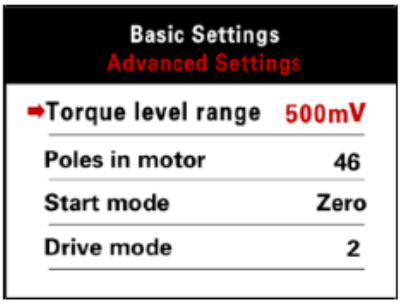
4.14 Assist Levels

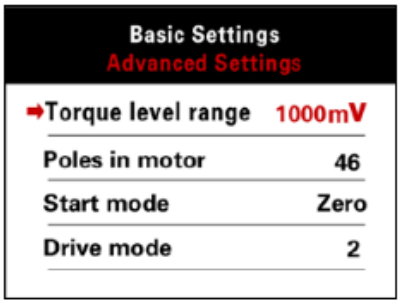
Press Up ^ or Down v to select assist level mode: 3 levels / 5 levels.

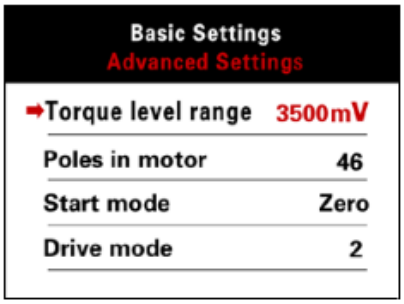


4.15 Torque Level Range

Press Up ^ or Down v to select signal voltage level for torque sensor: 500mV / 1000mV / 3500mV.

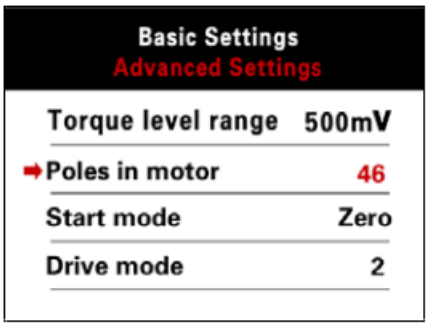


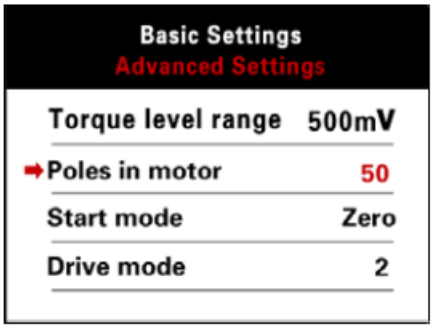


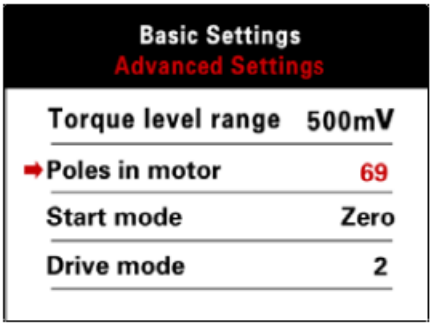


4.16 Poles in Motor

Press Up ^ or Down v to set number of magnetic poles for speed gauge.
Min. Value: 1, Max. Value: 255. Default poles number: 1.

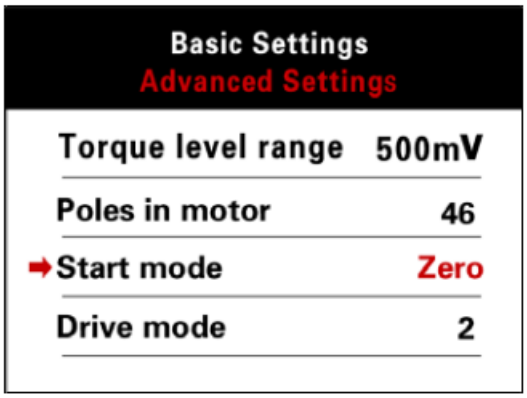


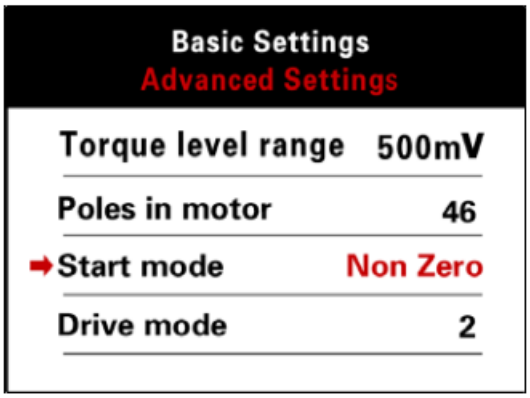




4.17 Start Mode

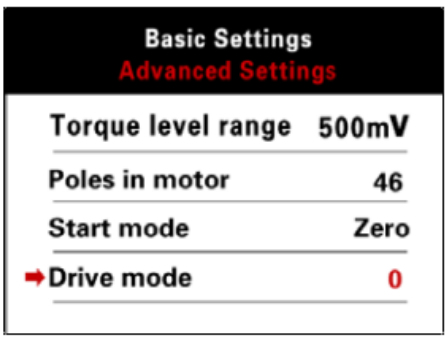
Press Up ^ or Down v to select start mode : Throttle on demand and Throttle after pedal. “Zero” means Throttle on demand, “Non-Zero” means Throttle after pedal.

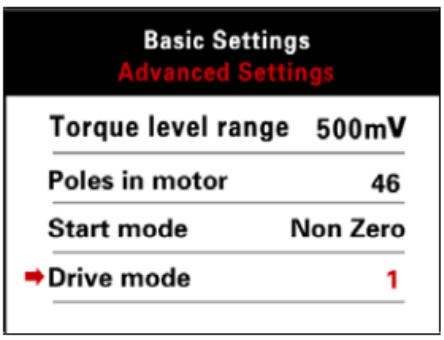


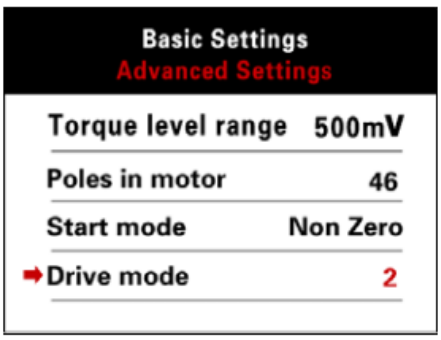


4.18 Drive Mode

Press Up ^ or Down v to select drive mode: 0 / 1 / 2. 0 means pedal assist only, 1 means throttle only, 2 means both modes available.

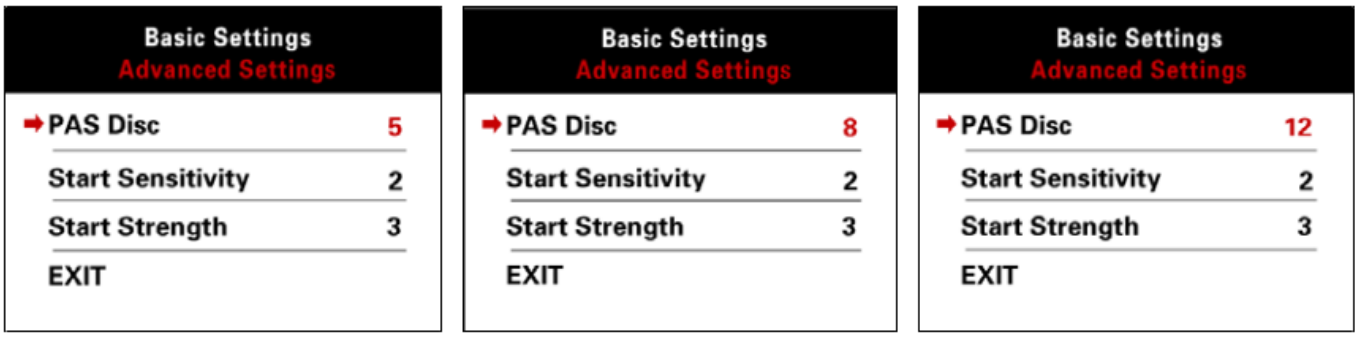






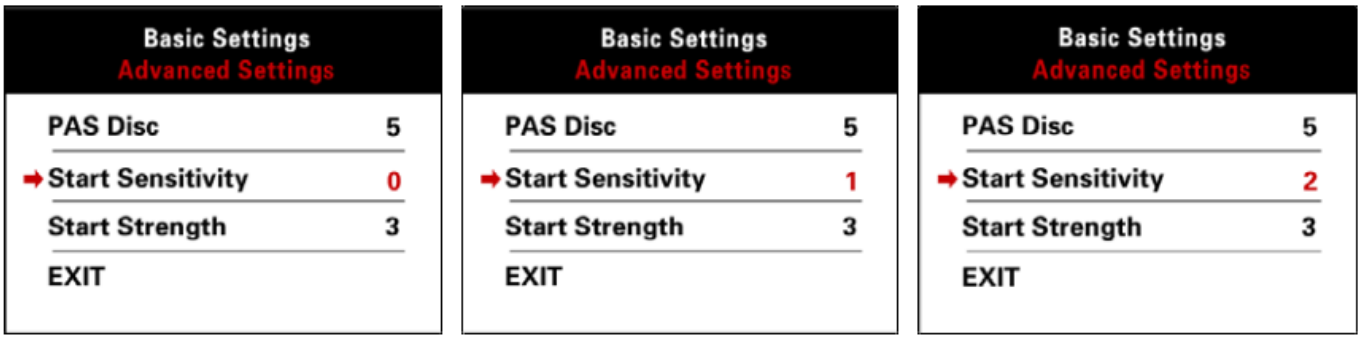
4.19 PAS Sensor Type

Press Up ^ or Down v to select PAS Sensor Type: 5 / 8 / 12. This value is the number of magnetic steels on the PAS disc.



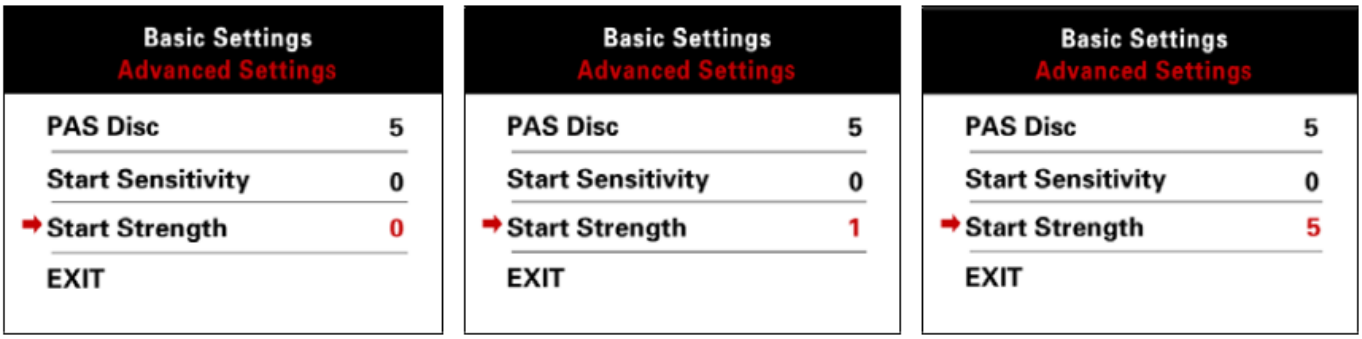
4.20 Start Sensitivity

Press Up ^ or Down v to select start sensitivity range: 1~24. This value is the start latency after pedal.



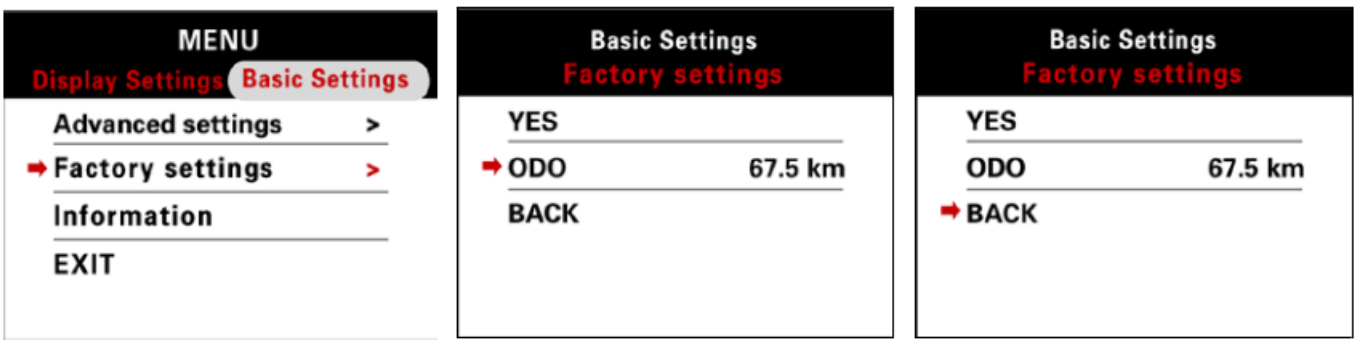
4.21 Start Strength

Press Up ^ or Down v to select start sensitivity range: 0~5. This value is the start power output after pedal.



4.22 Factory Reset

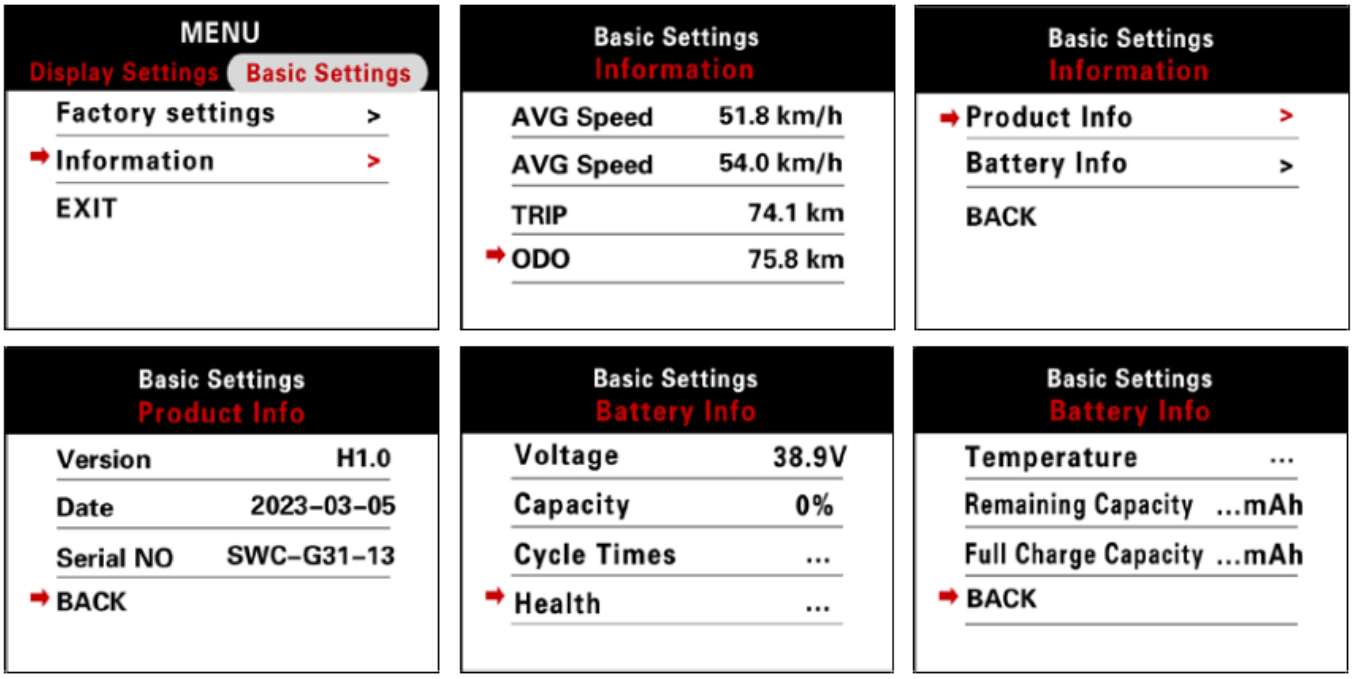
Press M to enter the Factory Reset Interface. Select YES to reset to factory setting, Select Exit to return to the previous menu.



4.23 Information

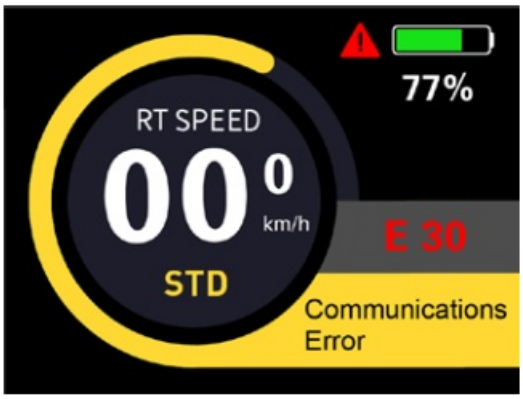
Press M to enter the information interface and check info like speed record, distance record and serial numbers,

etc.



Error Code

The display can report error codes of the electric vehicle. Error codes will be shown when the display detects corresponding error/failure. The interface is as follows:



Error Code Table

Error Code (decimal)	Status	Note
E00	Normal	
E03	Brake Engaged	
E05	Throttle Failure	
E06	Low Voltage Protection	
E07	Over Voltage Protection	
E08	Motor Hall Signal Error	
E09	Motor Phase Error	
E16	Controller Error	
E23	Front Light Error	
E27	Controller Over Current Error	
E30	Communications Error	

Serial Code

Each Scowl display product bears a unique Serial Code on the back shell

(as shown in the photo below) 192 2 1 210603011

Explanation to the above Serial Code:
192 Customer Code
2 Protocol Code
1 Program can be overridden 0 means can not be overridden 210603011 P.O. (purchase order number)

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.

DISPLAY WATER-PROOF RATE: IP6

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 THE IT FOR AUTHORIZED REPAIR IN TIME.

Quality and Warranty

In compliance with local laws and normal usage, the limited warranty period covers 24 months after the date of manufacturing (as indicated by the serial number).
The limited warranty shall not be transferred to a third party other than as specified in the agreement with Sciwil.
Other situations may be covered, depending on the agreement between Scowl and the buyer.
Warranty Exclusions:

1. Scowl products that have been opened, modified or repaired without authorization.
2. Damage on the connectors.
3. Damage to the surface after leaving factory, including shell, screen, buttons, or other appearance parts.
4. Damage to wiring and cables after leaving factory, including breaks and exterior scratch.
5. Damage or loss due to force majeure (e.g. fire or earthquake) or natural disaster (e.g. lightening).
6. Out of the warranty period.

Version

This display user manual is in compliance with the general software version (V1.0) of Changzhou Scowl E-Mobility Technology Co., Ltd. There are chances that display products on some e-bikes may have a different software version, which should be subject to the actual version in use.

SCIWIL

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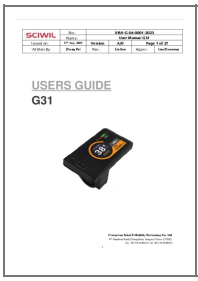
Documents / Resources

	SCIWIL G31 LCD Display [pdf] User Guide G31 LCD Display, G31, LCD Display, Display