HS02 Smart Display Instrument Manual

Version history

version	Reviser	Date of revision	Modifications	remark
V1.0	Wei Yahui	2024.08.15	first edition	

DIRECTORY

Note: 1. Due to the upgrade of the company's products, the display content of the product you get may be different from that in the manual, but it will not affect your normal use.
2. Do not plug and unplug with electricity, plugging and unplugging with live power may damage the electronic control accessories.

Product Introduction

1. Name

Smart display meters

2. Product model

HS02

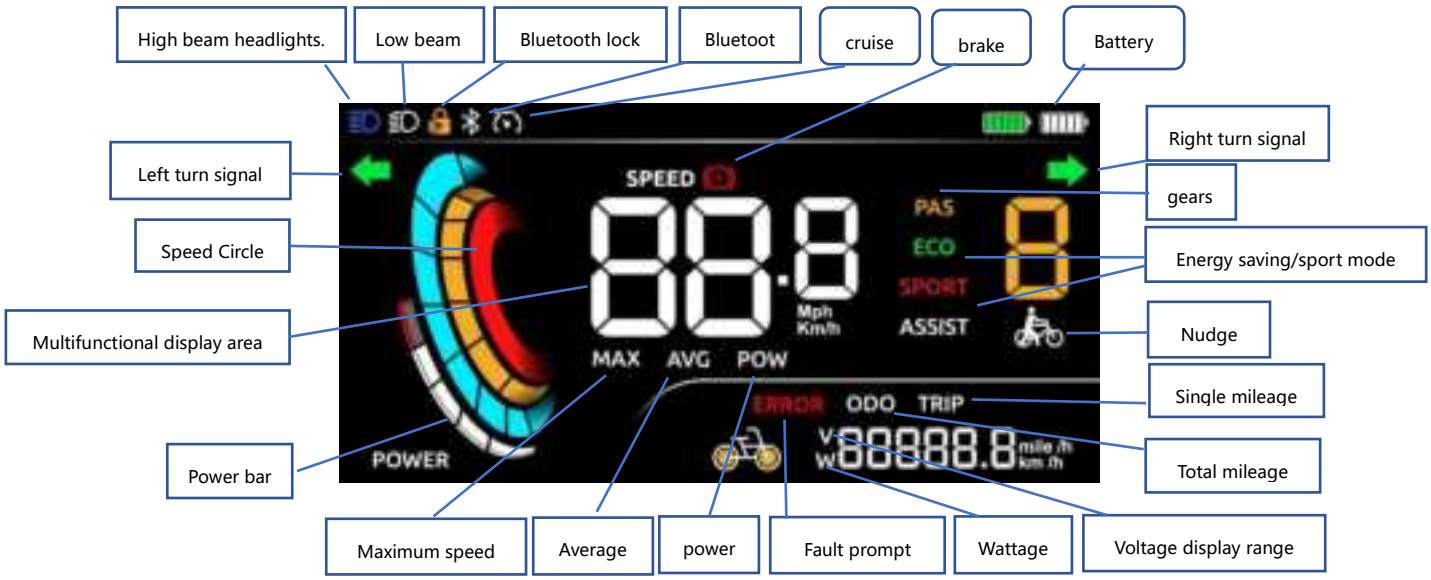
3. Product appearance

4. Product Specifications

General Parameters		
Dimensions	Length*width*height	124*76*16.45（mm）
	Screen Size	4''
	Holder Diameter	22.2/25.4/31.8（mm）
Screen	Type	LCD
	Color	Red/Yellow/Green/White/Blue
Connector	Type	M5 Waterproof Connector
	Length	22 cm
General Feature	Operating Voltage	12V~60V
	Operating Temperature	-20℃ - +70℃

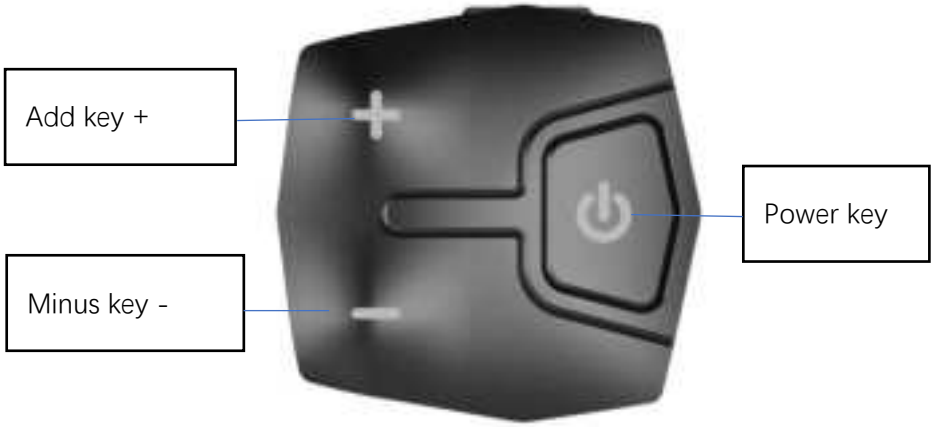
	Ingress Protection Rating	IP67
	Weight	TBD
	Communication Protocol	UART/CAN/SIF
Other Feature	Bluetooth	5.2 + BLE（Optional）
Certification	RoHS/CE/FCC/ISO13849	Support Customization

5. Main interface



6. Button definition

The HS02 meter has 3 buttons, including "Power key", "plus key +", "minus key -". As shown in the figure below:



7. Routine operations

(1) Power on/off

After long press the button, the instrument will work on power, and in the power-on

state, long press the button to power off the system.

(2) Boost mode

Press and hold the "-" button when th vehicle body is stationary, and the dynamic booster logo will be displayed, indicating that it will enter the booster, release the "-" button, and exit the booster mode. In booster mode, the booster logo is displayed dynamically, and the vehicle speed is less than 6km/h, and the booster state stops when the button "-" is released. As shown below:

(3) The main interface display is switched

When you boot on, ODO will be displayed on the main interface by default, and MAX-AVG-ODO-TRIP-POW will be displayed by clicking the power button as shown below:

(4) 5-grid display of battery level: when the battery is full, the 5-grid lights are all on, and the battery flashes when the battery is under-voltage, indicating that it needs to be charged immediately. As shown below:

Power format display: 0-20 (1 grid) 20-40 (2 grids) 40-60 (3 grids) 60-80 (4 grids) 80-100 (5 grids)

(5) Fault display

When the electronic control system of the electric vehicle fails, the instrument will automatically display an error code, and the definition of the detailed error code is shown in Schedule 1. As shown below:

Note: When the error code appears on the display interface, please troubleshoot the fault in time, and the car will not be able to drive normally after the failure

8. Personalization settings:

Each setting item needs to be carried out when the vehicle is turned on, stationary and the speed is 0:

（1）Double-click the key to enter the personalized parameter setting interface

（2）Short press the +/- button to switch between the personalized parameter setting item selection interface; Click the key to save the parameter settings and return to the personalized parameter settings selection interface

（3）Double-tap the key to return from the personalization screen to the standby screen

9. Menu settings

Unit settings

P1 sets options for metric imperial units: 00 for metric (km) and 01 for imperial (mile)

Short button to enter the change parameter state, short press the +/- key to select the parameters, short button to save the parameter settings and return to the personalized parameter settings item selection interface

Rated voltage setting

P2 is the rated voltage setting option: the configurable voltage range: 24V -36V - 43V -48V - 52V - 60V

Short button to enter the change parameter state, short press the +/- key to select the parameters, short button to save the parameter settings and return to the personalized parameter settings item selection interface

Zero-start setting

P3 is a zero-start setting option: Y/N can be set

Short button to enter the change parameter state, short press the +/- key to select the parameters, short button to save the parameter settings and return to the personalized parameter settings item selection interface

Wheel diameter setting

P4 is the wheel diameter setting option: Gauge adjustable wheel diameter range: 8-30inch

Short button to enter the change parameter state, short press the +/- key to select the parameters, short button to save the parameter settings and return to the personalized parameter settings item selection interface

Speed limit settings

P5 is the speed limit setting option: instrument adjustable speed limit range: 10-99km/h

Short button to enter the change parameter state, short press the +/- key to select the parameters, short button to save the parameter settings and return to the personalized parameter settings item selection interface

Boot passcode settings

P6 is the boot password setting option: the instrument boot password defaults to N off state. Options to choose from: N (off) and Y (on)

Short button to enter the change parameter state, short press the +/- key to select the parameters, short button to save the parameter settings and return to the personalized parameter settings item selection interface

Auto-shutdown settings

P7 is the automatic shutdown setting option: the automatic shutdown range can be set: 1-10, 360min, 00 represents no automatic shutdown. The factory defaults to 5min automatic shutdown (if you don't operate for a long time, it will automatically shut down

according to the default time).

Short button to enter the change parameter state, short press the +/- key to select the parameters, short button to save the parameter settings and return to the personalized parameter settings item selection interface

ABS intensity setting

P8 is ABS strength setting option: the options available for the meter are: L/S/N

Short button to enter the change parameter state, short press the +/- key to select the parameters, short button to save the parameter settings and return to the personalized parameter settings item selection interface

Drive mode settings

P9 is the option to set the drive mode: the options available for the instrument are: E-P/E (power assist)/P (electric drive)

Short button to enter the change parameter state, short press the +/- key to select the parameters, short button to save the parameter settings and return to the personalized parameter settings item selection interface

Assist intensity setting

PA is the power assist strength setting option: 0-5 can be set

Short button to enter the change parameter state, short press the +/- key to select the parameters, short button to save the parameter settings and return to the personalized parameter settings item selection interface

Cruise settings

Pb is the cruise setting option: the options available for the gauge are: Y/N

Short button to enter the change parameter state, short press the +/- key to select the parameters, short button to save the parameter settings and return to the personalized parameter settings item selection interface

Total mileage reset setting

PC to set options for power lifting: the options available for the instrument are: Y (clear total mileage) / N (do not clear)

Short button to enter the change parameter state, short press the +/- key to select the parameters, short button to save the parameter settings and return to the personalized parameter settings item selection interface

Change your password settings

Pd is the option to change the password setting: enter the old password first (the

password will prompt PASS if the password is entered normally, and the ERROR will be prompted if the password is entered incorrectly)

After the old password is successfully entered, the new password can be entered, and the instrument can be restarted to verify the new password

If you don't want to change the password, after entering the menu, double-click the key bin to return to the personalized parameter setting item selection interface:

Bluetooth lock settings

bt is the Bluetooth unlock function setting options: the options available for the meter are: N (Bluetooth lock function is not turned on) Y (Bluetooth lock is turned on)

Short button to enter the change parameter state, short press the +/- key to select the parameters, short button to save the parameter settings and return to the personalized parameter settings item selection interface

Note: When verifying the Bluetooth lock, you need to turn on the screen lock synchronously (P7 setup menu)

Bluetooth unlock distance level setting

BU is the Bluetooth unlocking distance level setting option: instrument debugging level: 1-5; 1 is the closest distance and 5 is the farthest distance

Different mobile phones, the current test environment, the strength of the Bluetooth coverage signal will affect the test distance

Bluetooth version information display

BV is to display the Bluetooth version information menu: e.g. 001

Factory reset

dF is a factory reset option: the options available for the meter are: N (no factory reset) Y (factory reset required)

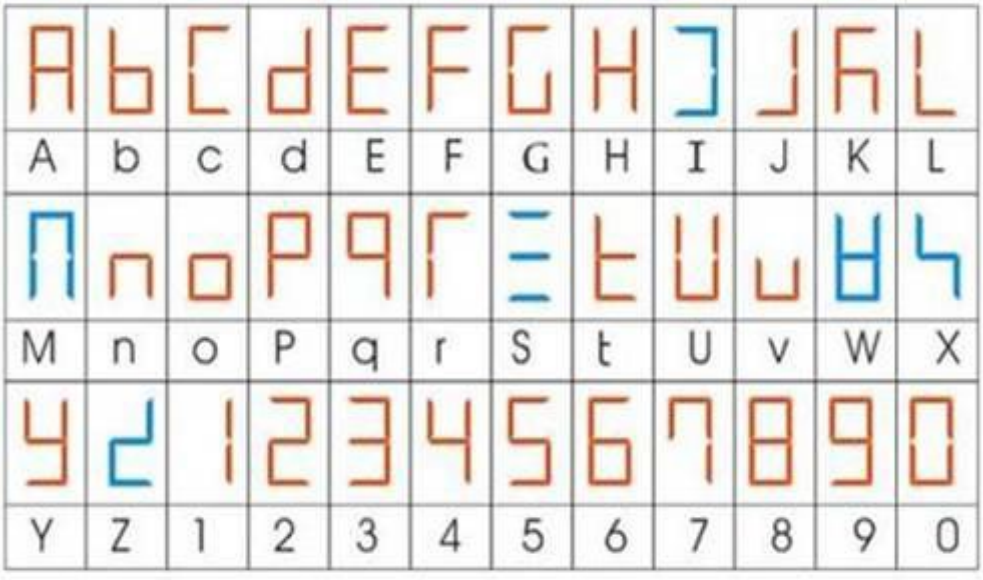
Short button to enter the change parameter state, short press the +/- key to select the parameters, short button to save the parameter settings and return to the personalized parameter settings item selection interface

Software version information is displayed

VR is to display the current instrument software version information menu, display mode:

Example: Customer Code: Letter + Agreement + Number; Version number: 00-5-99

Character comparison table



Fault code explanation

Lithium battery No. 2 protocol fault code			
serial number	Fault information	Display the code	remark
1	Hall failure status	8	
2	Turnaround failure status	5	
3	Controller fault status	16	Octagon Protocol does not have this fault (custom)
4	Undervoltage protection status	6	
5	The motor is out of phase	9	

6	Faulty brake handlebar	2	Octagon Protocol does not have this fault (custom)
7	The controller communication is faulty	29	Unable to receive the data of the meter "Octagon Protocol does not have this fault"
8	Instrument communication failure	30	Unable to receive data from the controller

FCC Caution.
This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:
(1) This device may not cause harmful interference, and
(2) this device must accept any interference received, including interference that may cause undesired operation.
Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.
Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
-Reorient or relocate the receiving antenna.
-Increase the separation between the equipment and receiver.
-Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
-Consult the dealer or an experienced radio/TV technician for help.

FCC Radiation Exposure Statement:
The device has been evaluated to meet general RF exposure requirement. The device can be used in portable exposure condition without restriction.