DZ41 meter
Technical specifications

S L I D E R

1. Product introduction

1. Product name and model

Intelligent LCD meter, model: DZ41

2Product Introduction

✧ Simple and thin, left-mounted instrument design
✧ High brightness 1.8 inch multi-color digital tube screen
✧ Excellent outdoor design IP65 waterproof ability
✧ Serial port communication interface, convenient maintenance service

3. Scope of use
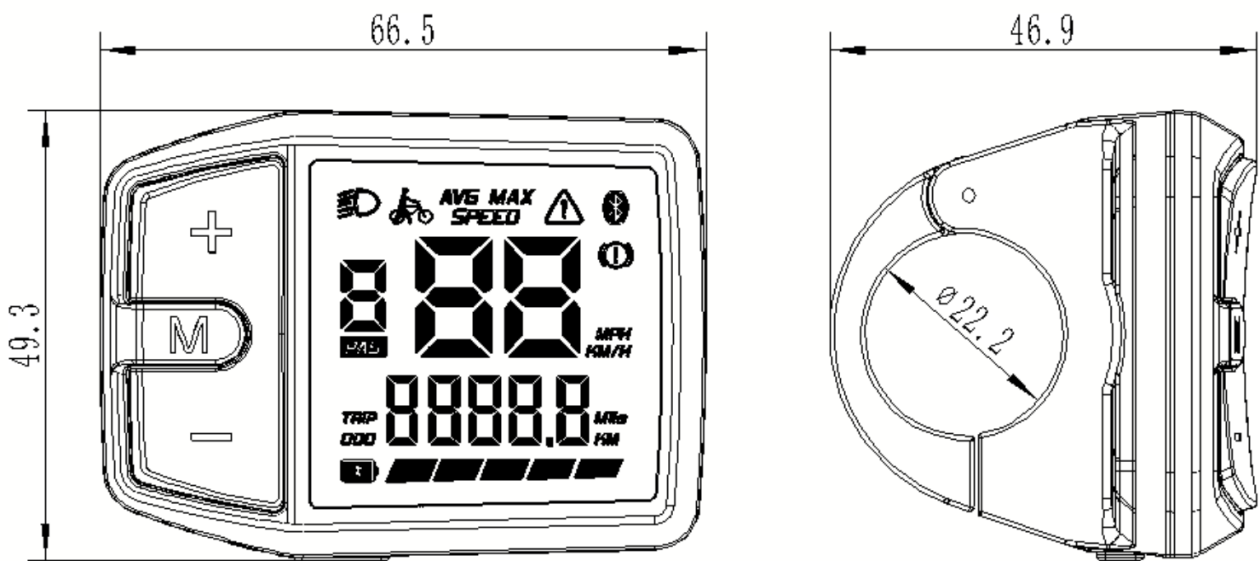
EN15194 Electric assist bicycle

4. Appearance and size

The product shell material is ABS, and the window is translucent PC.

S L I D E R

4.1 Instrument dimensions

5 Instrument coding rules

SW102 CS2C01B1010001

SW102 product model (this information is not included in the barcode information);

C   Manufacturer code or production shift code;

S2   product model code;

C01   indicates the number of weeks in the year of production;

B   indicates the hardware version;

101   indicates the firmware version number;

0001   indicates the product serial number.

2. Product description

1 Specifications

(1) Power supply: DC 24V/36V/48V

SLIDER

(2) Rated current: 25mA/36V

(3) Shutdown leakage current: <1uA;

(4) Screen specification: 1.8" LED digital tube

(5) Communication mode: support UART and CAN bus

(6) Operating temperature: -20°C ~ 60°C

(7) Storage temperature: -30°C ~ 80°C

(8) Waterproof grade: IP65

2 Features overview

(1) Four buttons, easy to operate

(2) Metric/Imperial switching selection

(3) Mileage display: subtotal mileage (TRIP), total mileage (ODO).

(4) Speed display: real-time speed (SPEED), maximum speed (MAX), average speed (AVG).

(5) Gear control: default 0-5 gears (maximum support 9 gears, the number of gears is optional).

(6) Six-level power indication: 1-5 stages of power, and undervoltage prompt

(7) Headlight indication: headlight switch status indication (controller support required).

(8) 6km/h to facilitate the implementation of the function

(9) Fault code indication

(10) Connecting line communication interface, convenient for system maintenance and parameter setting

3 Installation method

(1) Open the instrument locking clamp, put it on the left handlebar (standard handle specification: Φ22.2), adjust to an easy-to-operate position, and use M3 Allen to fix and tighten the fixing screw. Locking torque: 0.8N.m. *Instrument damage caused by excessive torque is not covered by the warranty.

(2) Connect the instrument to the 5pin plug-in and the controller docking plug-in according to the label.

SLIDER

4. Display interface
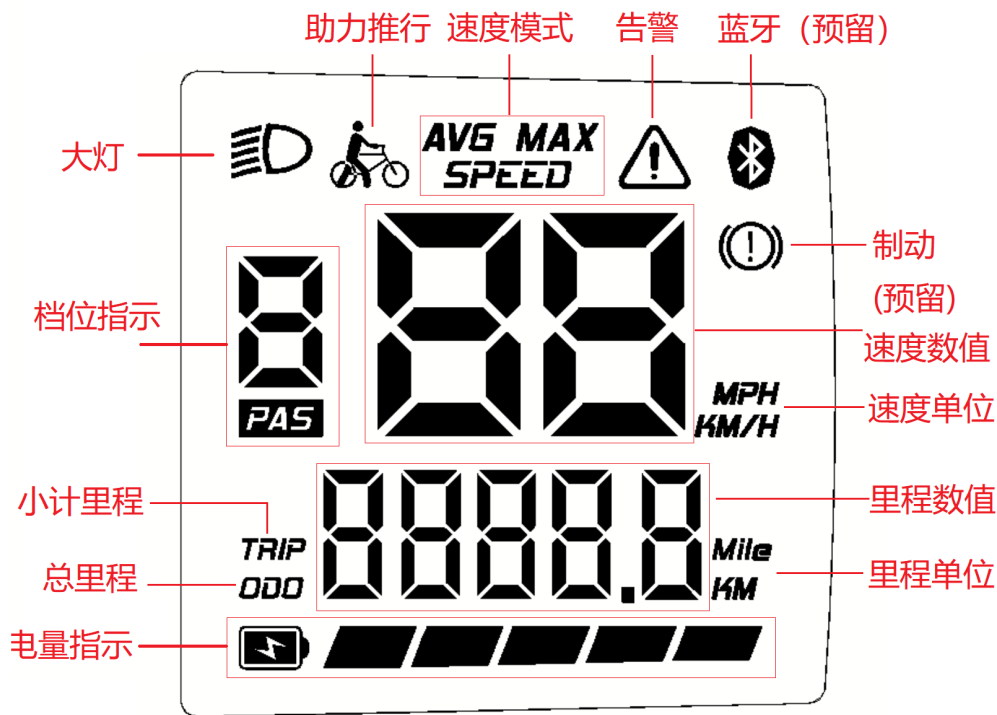
① Headlights: displayed when headlights are on; The headlights are off or without this function, the icon is not displayed;

② Assisted implementation: displayed when promoting the promotion, the rest of the status is not displayed;

③ Speed mode: SPEED indicates that the speed shows the current speed, AVG SPEED indicates that the speed shows the average speed, and MAX SPEED indicates that the speed shows the maximum speed;

④ Fault prompt: flashing display when the system fails, no fault does not display;

⑤ Bluetooth connection: display when the instrument Bluetooth is connected to the mobile phone; (Optional with Bluetooth function);

⑥ Gear indication: display the current assist gear;

⑦ Speed display: boot status, display speed value, two digits;

⑧ Speed unit: display speed unit, KM/H km/h, MPH mph;

⑨ Brake prompt: make a prompt when braking, do not brake and do not display (function reserved, only for some electrical systems);

⑩ Subtotal mileage: Displays the subtotal mileage; Unit Mile or KM;

11   Total mileage: total mileage display, unit Mile or KM; ;

12   Mileage unit: subtotal mileage, total mileage unit, Mile represents miles, KM represents kilometers;

13   Power indication: five-stage power and undervoltage indication;

14   Light sensor: automatic light on and automatic brightness adjustment (function reserved)

5 key definitions
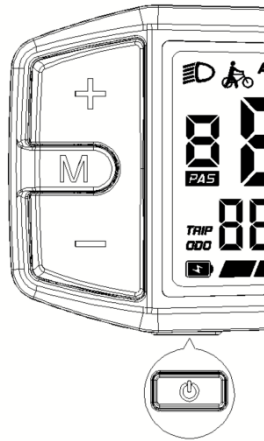
Power on key: , ⏻ mode key: , adjustment key +:M+, adjustment key -:-

6. Normal operation

6.1 On/Off

Maintain the normal connection between the instrument and the controller, press and hold the ⏻ key (2 seconds) in the shutdown state of the instrument, the instrument fully displays the boot interface, and then enter the basic interface normally and start working; With a long press ⏻ (2 seconds) in the power-on state, the meter turns off. If the 5-minute rider does not perform any action on the meter (speed is 0), the meter will automatically turn off.
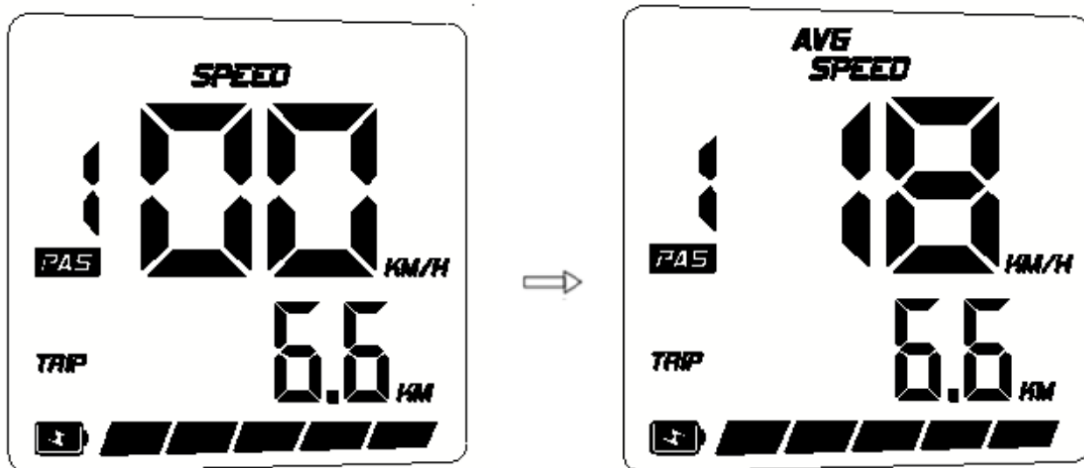
SLIDER

6.2 Assist gear switching

Press ＋ or ‐ to switch the assist gear and change the assist mode, (default) there are 6 mode states: 0/1/2 /3/4/5, (number of gears that can be opened) The default 0 gear when the instrument is turned on is 0 and displays 0 The gear is a non-assist file. (The assist gear selection interface is shown in the figure below).
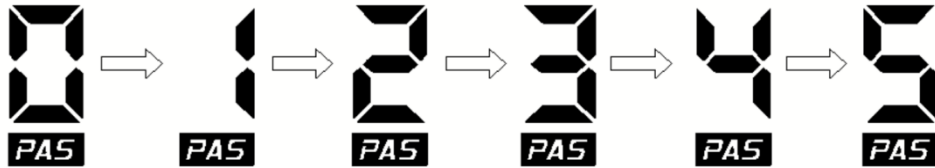

6.3 Display information switching

When the power on state, short press can switch the subtotal mileage, average speed, maximum speed, total mileage M display information, cyclic display: current speed/subtotal mileage (TRIP) - > average speed (AVG), total mileage (ODO) - > Cycling Max Speed (MAX), Subtotal Mileage (TRIP) - > Current Speed/ Subtotal mileage (TRIP).

The mode switching interface is as follows:

SPEED / SUBTOTAL MILEAGE (TRIP) AVG SPEED / SUBTOTAL MILEAGE (TRIP).

SLIDER
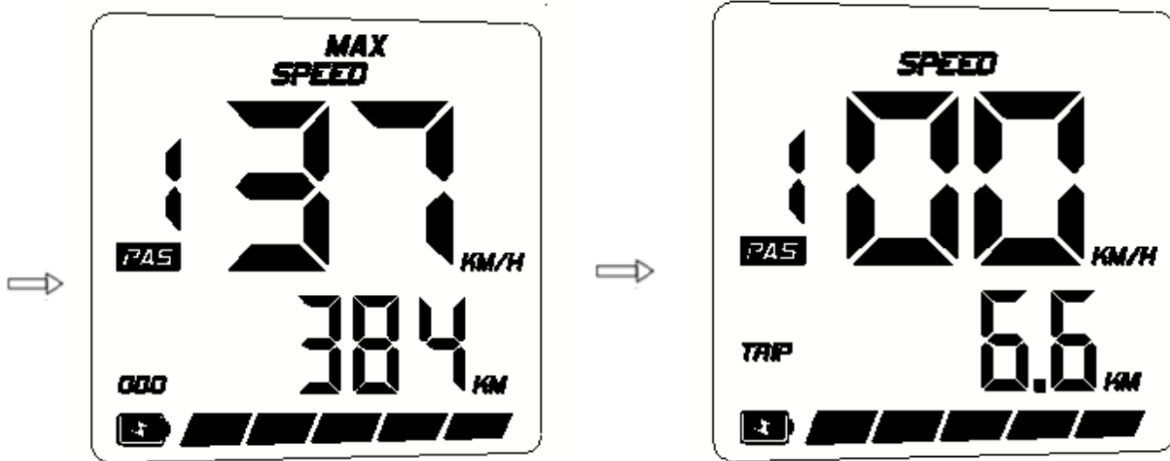
Maximum SPEED (MAX SPEED) / Total Mileage (TRIP) Speed (SPEED) / Subtotal Mileage (TRIP).

6.4 Assist in the implementation model

Long press -, after 2 seconds, enter the assist promotion state, display, release - 🚴, that is, exit the assist promotion mode, return to the normal display interface. The interface for switching the promotion mode is shown in the following figure (only in the promotion state):
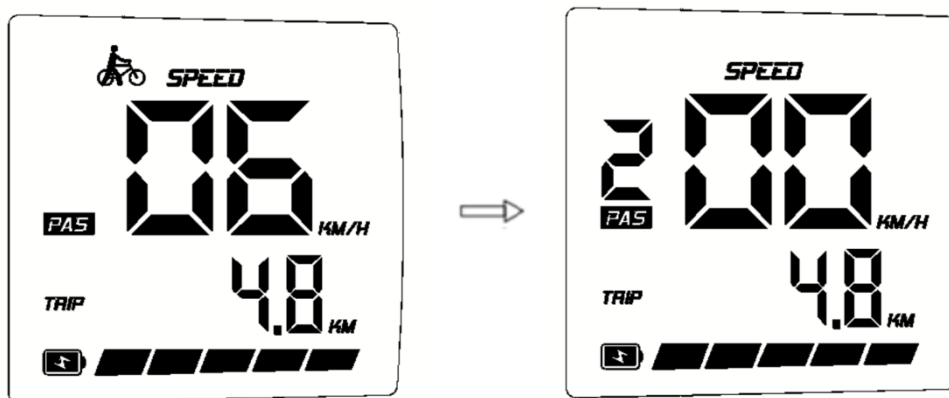
Help implement the model   Normal mode

6.5 Headlight switch (backlight low-light switch).

Long press the **+** key, after 1 second, the headlight turns on (controller support is required), the instrument display interface, the headlight indicator icon lights up, and at the same time, the instrument backlight is low; Long press and hold the **+** key again, after 1 second, the headlight turns off, the headlight indicator icon turns off, and the backlight is high.

6.5 Automatic headlight function (off by default).

In the automatic headlight mode, when the ambient light is dark, the light sensitivity is delayed by 2s, the headlight indicator icon is on, and at the same time, the instrument backlight is low;   After the ambient brightness is restored for 3 seconds, the headlights turn off, the headlight indicator icon turns off, and the backlight is high.
Note: The photosensitive sensor is in the window display area.

6.6 Battery display

When the battery power is normal, the battery 5 segments LED are displayed according to the time level and the outer frame is lit. When the battery is depleted, the battery 5 stages LED are completely off and the battery logo flashes, and it needs to be charged immediately. The battery level is displayed as shown below

Battery level (C) display corresponds to the meter (the power indicator can be adjusted according to demand).

serial number	On Meter (SOC).	Displayed on the gauge	Voltage (24V).	Voltage (36V).	Voltage (48V).
1	C≤5%	The battery outer bezel flashes	S≤23.1	S≤33	S≤42.9
2	5%<C<15%	One compartment of power	23.1<U<24.5	33<U<34.7	42.9<U<45.1
3	15%≤C<35%	Two blocks of	24.5≤U<25.1	34.7≤U<35.8	45.1≤U<46.5

		power			
4	35%≤C<55%	Three blocks of power	25.1≤U<25.6	35.8≤U<36.7	46.5≤U<47.5
5	55%≤C<75%	Four blocks of power	25.6≤U<27	36.7≤U<38.5	47.5≤U<50.1
6	C≥75%	Five blocks of power	S≥27	S≥38.5	S≥50.1

7. User settings

Setting items: unit settings, clock settings (some versions), automatic shutdown time, * wheel diameter information, * speed limit information, * battery information
(Hit * to display items, default does not provide user setting options).

7.1 Go to Settings

✧ Within 10 seconds of the instrument being turned on, long press M(3 seconds), the system enters the user setting state, in which the relevant parameters can be set and viewed;

✧ Long press M(3 seconds) to exit and save the setting state;

✧ In the user setting state, if the operation is not performed for 10 seconds, the instrument does not save the setting and returns to the normal riding state;

✧ In the user setting state, press +/- to switch the setting content;

✧ Short press M to cycle through the setting items.

7.2 Unit settings

Under the unit setting interface, press +/- to select the setting unit KM/H and MPH, and briefly press M to switch the setting interface.
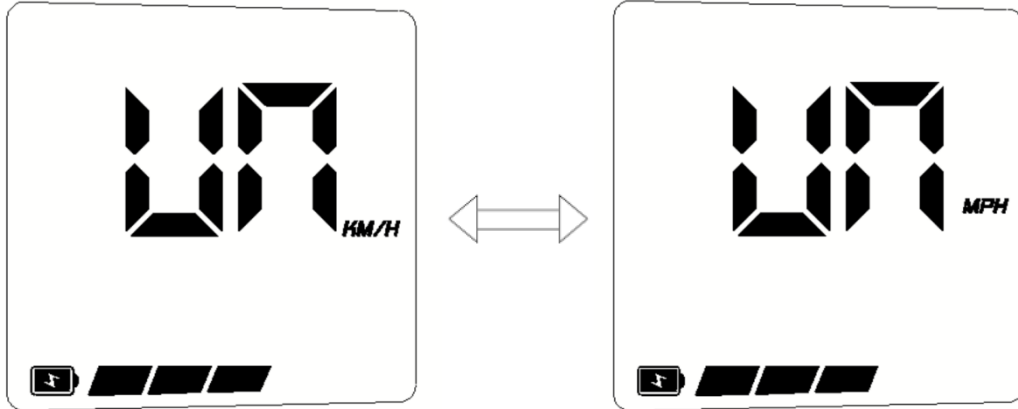
UN: Represents the unit setting
KM/H: indicates that the subtotal mileage, the total mileage unit is KM, and the current speed, average speed, and maximum speed unit is KM/H
MPH: Indicates the subtotal mileage, the total mileage unit is Mile, and the current speed, average speed, and maximum speed unit is MPH.
The display interface is as follows:

S L I D E R

Unit setting (KM/H) Unit setting (MPH).

7.3 Automatic Shutdown Time

Under the automatic shutdown setting interface, press +/- to select the shutdown time, and

briefly press to M switch the setting interface.

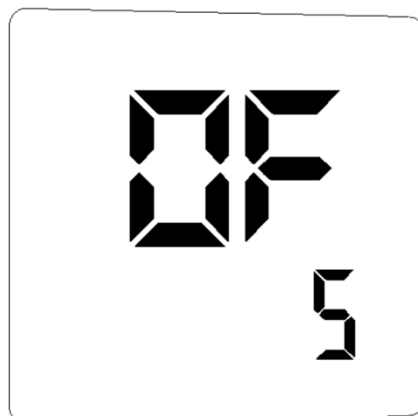OFF: Represents the unit setting

1:1 minute automatic shutdown time;

2: 2 minutes automatic shutdown time;

3: 3 minutes automatic shutdown time;

5: 5 minutes automatic shutdown time;

8:8 minutes automatic shutdown time;

10:10 minutes automatic shutdown time;

7.4 Wheel Beits Information

Wheel diameter information interface, short press M, switch to speed limit interface
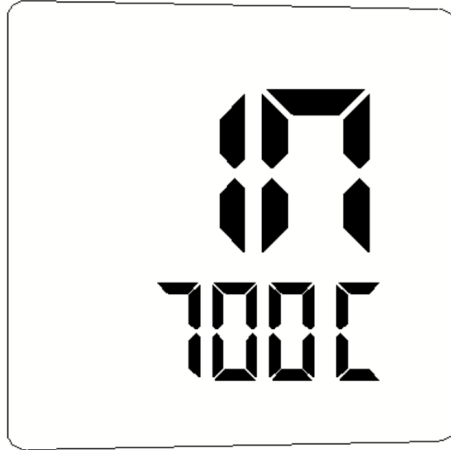
SLIDER

IN: stands for wheel diameter information.

700C: Indicates that the current instrument is suitable for 700C wheel track vehicles.

Wheel diameters can be set to 16inch, 18inch, 20inch, 22inch, 24inch, 26i nch , 700Cinch, 28inch,

29inch (specific differences according to different communication protocols).

The display interface is as follows:
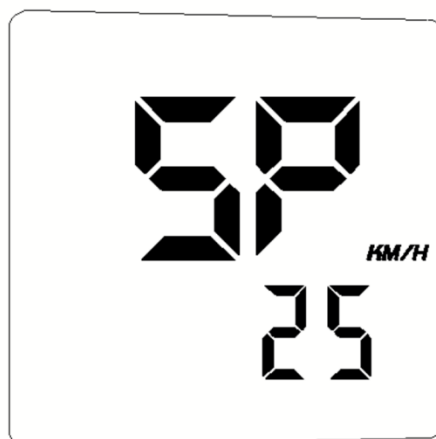

Wheel diameter information (700C).

7.5 Speed Limit Information

Speed limit information interface, short press to Mreturn to the unit setting interface.

SP: Speed limit information

25KM: The maximum speed is 25KM/H;

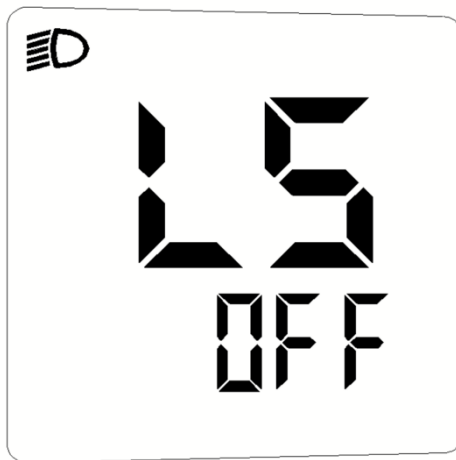The display interface is as follows:

7.6 Automatic headlight settings

Automatic headlight setting interface, press +/- to select setting on (on) or off (off), short press to

Mreturn to the unit setting interface.

On: Automatic headlights on;
Off: automatic headlight off;
The display interface is as follows:

8. Data zeroing

After 10 seconds of booting, press and hold M(3 seconds) to enter the data clearing interface, and the interface displays: average speed, maximum speed alternate display, display subtotal mileage and its units;

Short press to Mclear the subtotal mileage (TRIP), average speed (AVG) and maximum speed (MAX), and return to the running interface; If the operation is not performed within 5 seconds, the operation screen is returned to the operation interface, but the data is not cleared.

Normal shutdown and power off do not automatically clear the above data.
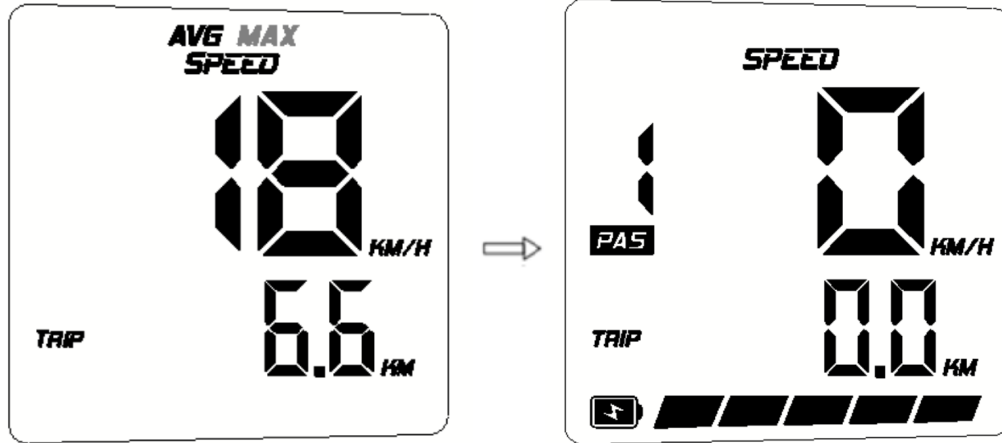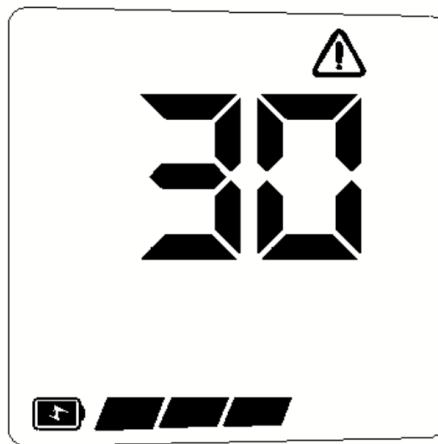
Data Zero Interface Normal interface after zeroing

9 Fault information

9.1 Fault display

Display fault code, fault icon prompt


9.2 Fault Code Definition

The fault code comparison table is as follows: (for reference only, please consult the protocol definition or controller side for details).

Fault Code (Decimal)	Failure status	remark
00	Normal state	
01	retain	
02	brake	

03	Malfunctioning assist sensor (ride markings)	Not shown here
04	6KM/H cruise	Not shown here
05	Implement cruising	Not shown here
06	Battery undervoltage	
07	Motor failure	
08	Turnaround failure	
09	Controller failure	
10	Communication reception failure	
11	Communication transmission and receipt failure	
12	BMS communication failure	
13	Headlight failure	
14	Hall failure	

10 wiring definitions
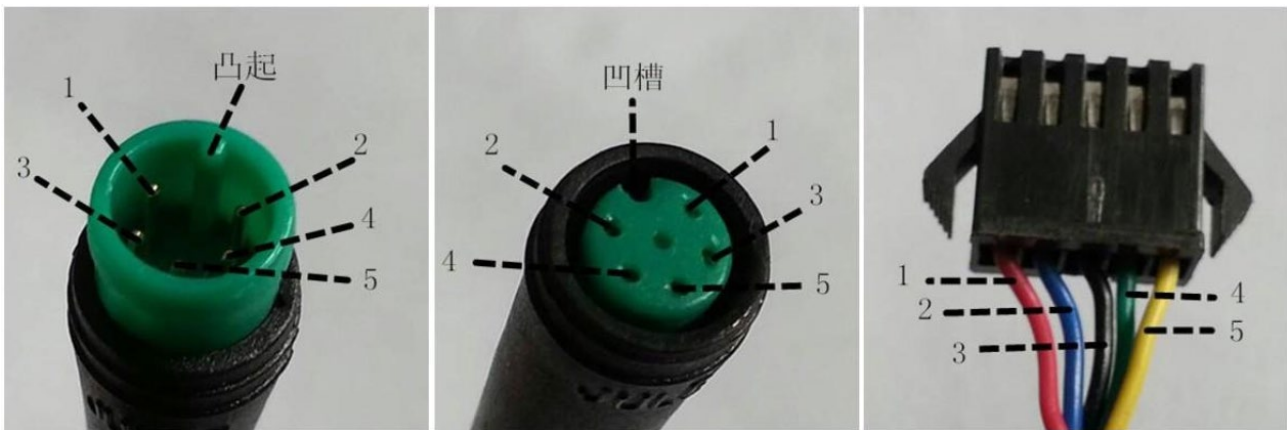
The instrument outlet end is connected to the terminal and the controller

Table 1　Standard connector line sequence table

Standard wiring sequence	Standard cable color	function
1	Red (VCC).	Meter power cord
2	Blue (Kp).	The power control line of the

S L I D E R

		controller
3	Black (GND).	Gauge ground
4	Green (RX).	The data receiving line of the meter
5	Yellow (TX).	The data transmission line of the meter

Note: Some products have waterproof pair inserts for leads, and users cannot see the color of the leads in the harness.

III. Precautions

✧ During use, pay attention to the safety of use, and do not plug and unplug the instrument when the power is on;

✧ Try to avoid use in harsh environments, heavy rain, snow, sun exposure.

✧ When the instrument cannot be used normally, it should be sent for repair as soon as possible.