BAFANG
POWER YOUR LIFE

DP C010.CN Specification

Product category: HMI

Product line: DP C01X

Product model: DP C010.CN

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I. Product introduction:

1. Name:

   HMI

2. Model:

   DP C010.CN

3. Scope of application:
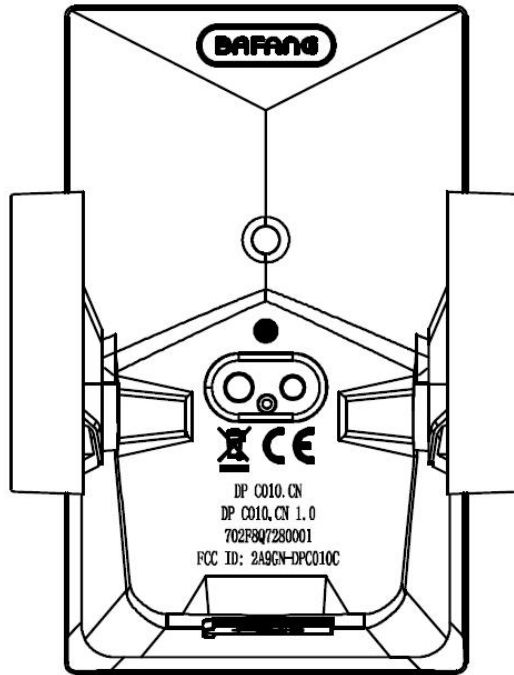
   EN 15194 EPAC

4. Appearance:

   The housing is made of PC+ABS; the LCD display window is made of tempered glass; the button is made of ABS (as shown in the figure below).

5. Numbering on the back of the product:

There are 4 lines of numbers in the middle of the back of the product (as shown in the figure):

A、 The 1st line:

DP C010.CN

① DP C010.CN: Bafang HMI model;

B、 The 2nd line:

DP C010.CN 1.0
① DP C010.CN 1.0: HMI hardware number;

C. The 3rd line:

702F8Q7280001

① 751: cable length is 300 mm

② F8: Design code;

③ Q7280001: The production date is July 28, 2016, and the serial number is 0001;

For additional marking details, refer to HMI Marking Rules, BF-TS-753-C 0 - 02II.

6. Numbering on the label on the cable:

Numbering is centered on label in two lines, and QR code is on the right side of it (as shown in the picture):

QR code content: DPC010CNF80101.0
PD051505

DP C010.CN 1.0

702F8Q7280001

The 1st line: DPC010CNF80101.0

① DPC010CN: The software is adapted to DP C010.CN.

② F8: Design code

③   01: The matching hardware version is the 1st version.

④   01.0: Software No.

The 2nd line: PD051505

①   PD: the abbreviation of "parameter, data"

②   05: 6 modes

③   1: the default startup mode is ECO

④   5: the default backlight level

⑤   05: the default sleep time (min)

The 3rd line: DP C010.CN 1.0

①   DP: the abbreviation of "Display"

②   C 010: C-LCD 01-serial number 0-version number;

③   CA: C-CAN protocol N-navigation

④   1.0: Hardware version number

The 4th line: 702F8Q7280001

①   702: HMI cable length is 230 mm; the connector is G5.4; control
      unit cablle length is 300mm.

②   F8: Bafang internal code

③   Q7280001: The production date is July 28, 2016, and the serial
      number is 0001

For additional marking details, refer to HMI Marking Rules, BF-TS-753-C
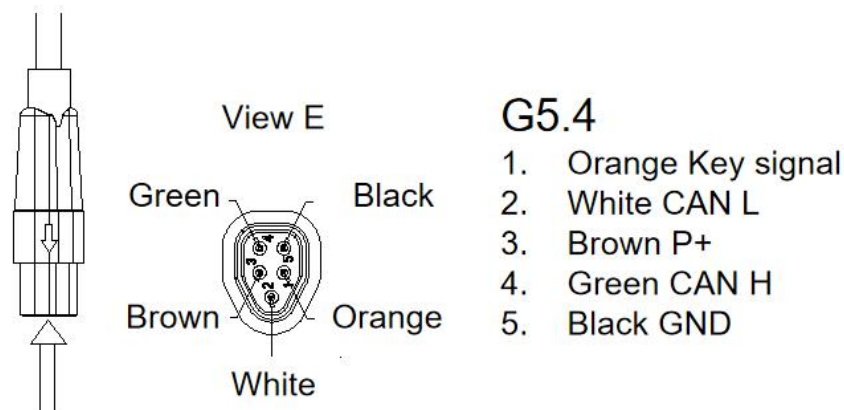0 - 02II.

II. Product Description:

1. Outline drawing:

2. Technical parameters:
   ① 4.0 Inch 480*800(RGB) TFT color screen;
   ② 36V/43V/48V/50.4V/60V/72V DC power supply;
   ③ HMI rated power consumption: 1.6W
   ④ HMI max power consumption: 8.5W (chargerd with USB)
   ⑤ Power OFF leakage current < 1uA;
   ⑥ Operating temperature: -20℃~45℃;
   ⑦ Storage temperature: -20℃~60℃;
   ⑧ Protection rating: IP66;
   ⑨ Storage Humidity: 30%-70%

3.   HMI connector definition:

View E

Green   Black

Brown   Orange

White

G5.4
1. Orange Key signal
2. White CAN L
3. Brown P+
4. Green CAN H
5. Black GND

For the communication protocol, please refer to the description in the HMI section of Bafang's CAN communication protocol.
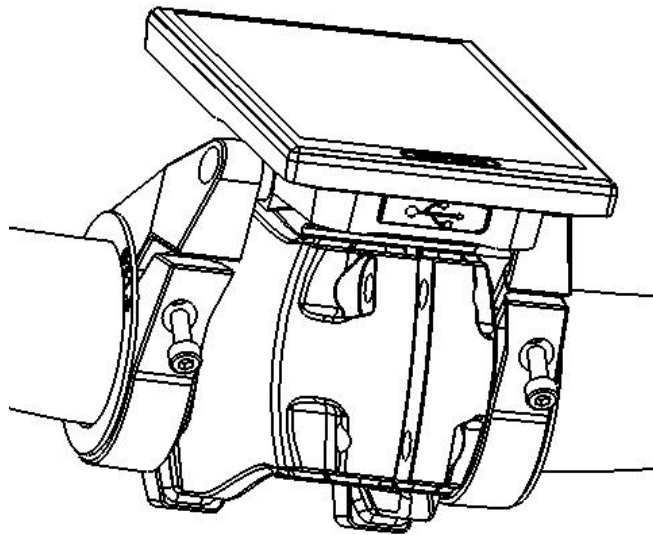
4. Functional Overview:

1) Power display;

2) Power-assisted mode adjustment and display;

3) Speed display (including max speed and average speed, metric and imperial units can be converted);

4) Motor power display;

5) TRIP/ODO/Range display;

6) Walk assistance state and display;

7) Headlight automatic on/off control and display;

8) Controller, HMI, battery information view;

9) Error and warning information memory and display;

10) Cal and cadence display; (Note: If the matching controller does not support the function, it will not appear on the display.)

11) Bluetooth;

12) USB charging function, max charging current: 1A;

13) Service tip;

14) Time display and adjustment;

15) Three themes: sports, fashion and technology theme;

16) 6 languages: English, German, Dutch, French, Italian, Czech.

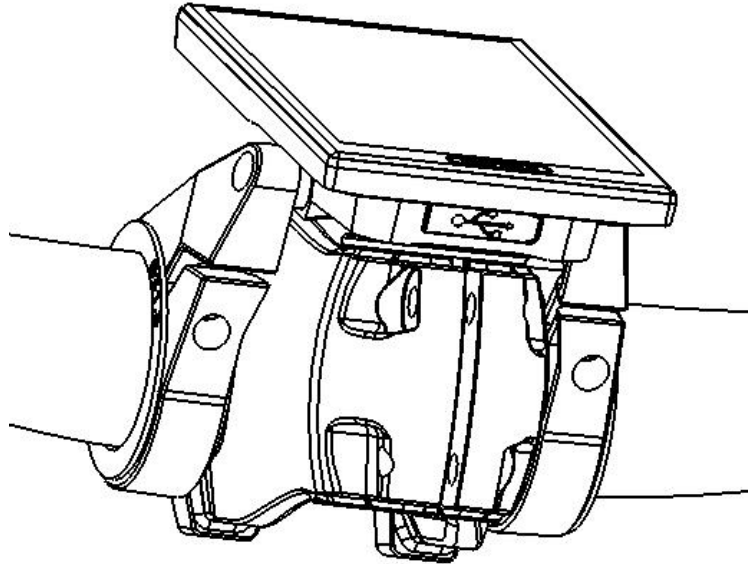17) Navigation mapping;

18) Find my;

19) Message mapping.

5. Installation:

①   Install adapters: Choose suitable adapters according to the diameter of the handlebar. (can be installed to: Ø 22.2, Ø25.4, Ø31.8, Ø35 handlebars). Open the clamp bands, and install the adapters onto the clamp bands.
(Note: Ø22.2 handlebar - Ø 31.8+ Ø 22.2 adapters, Ø25.4 handlebar - Ø 31.8+ Ø 25.4 adapters.)

②   Pre-tighten the HMI: Fit the clamp bands with the adapters and then pass them around the handlebar. Pre-tighten the handlebar fixing screw with an
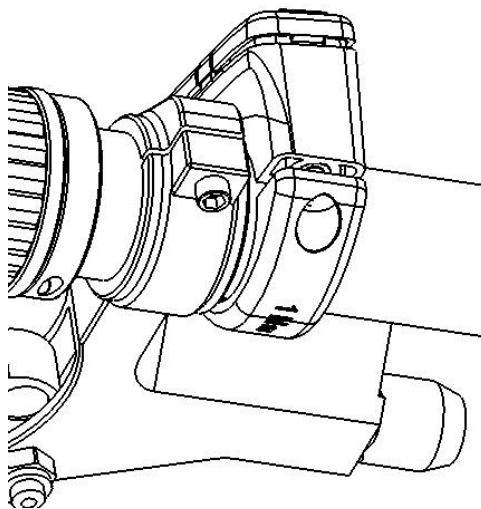

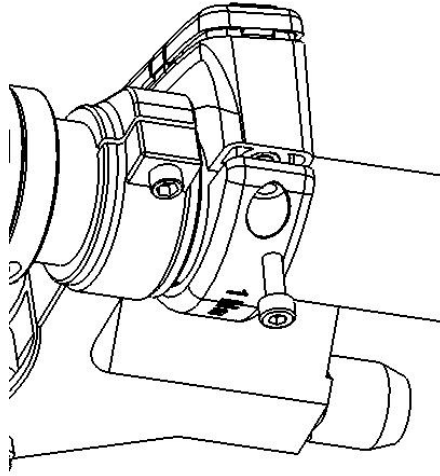M3 hexagon wrench. (Screw specification: M3*12)

③　　Fix the HMI: Adjust the installation angle, and secure the HMI to the handlebar. Tighten the fixing screw. [Tightening torque: 1 N.m]
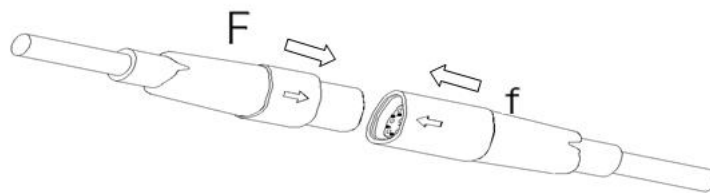
④　　Pass the control unit with adapters around the handlebar, and adjust its position and angle. (Applicable to Φ22.2mm outer diameter handlebar)
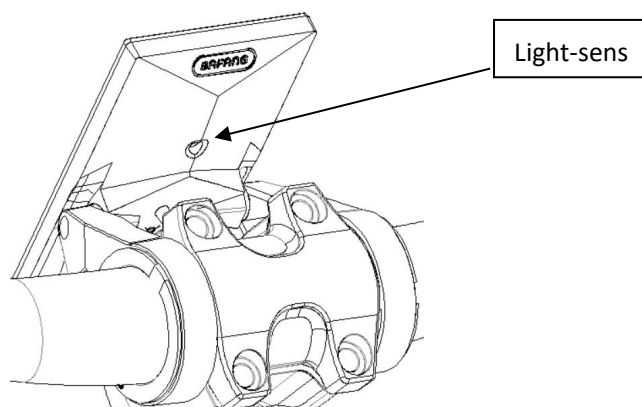
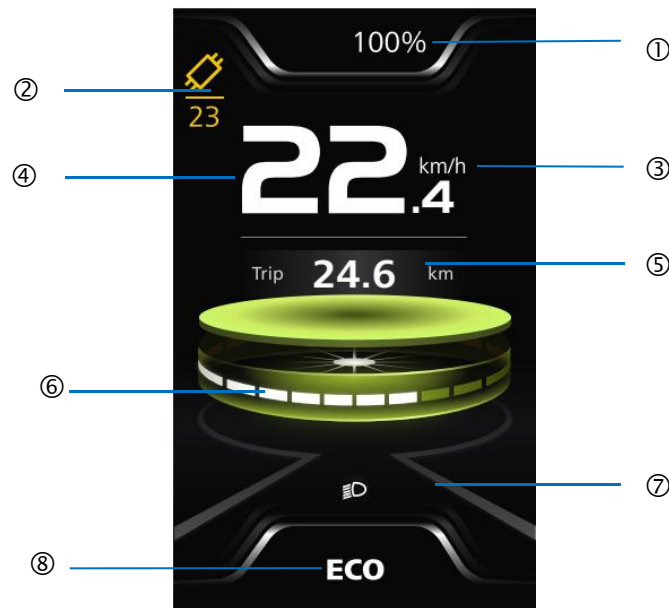⑤ Tighten the screw (M3*12) to secure the HMI by M3 hexagon wrench. (Tightening torque: 1 N.m)

⑥ Connect the HMI with EB-BUS according to the symbols: F. HMI male connector; f. EB-BUS female connector.

⑦ Do not cover or block the back of the HMI for the high light-sensitivity.
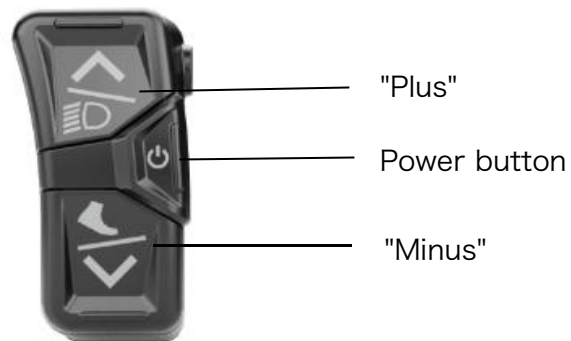

Light-sens

6. Basic interface:

① Smart SOC indication: The real-time SOC will be shown on the HMI.

② Warn display: The icon will light up when there is a warning in the system, and the user can view it on the warn code list in info module.

③ Speed unit display: Unit system can be switched, km/h or mph.

④ Speed display: Real-time speed.

⑤ Multi-function indication: Real-time clock, single mileage Trip, accumulated mileage ODO, maximum speed MAX, average speed AVG, remaining mileage RANGE, energy consumed Cal, riding cadence CADENCE and riding time TIME.

⑥ Speed bar display: The bar changes according to the real-time speed.

⑦ Icon display: Headlight, USB charging, service tip, and Bluetooth.

⑧ Power-assisted mode display: The current assist mode is displayed, and 4 Modes/6 Modes is user-settable in the setting. There is no power assistance in OFF mode; is walk assistance mode, not power-assisted mode.

7. Button definition:

There are 3 buttons, "power⏻", "plus🔆", and "minus⌄". As shown below.
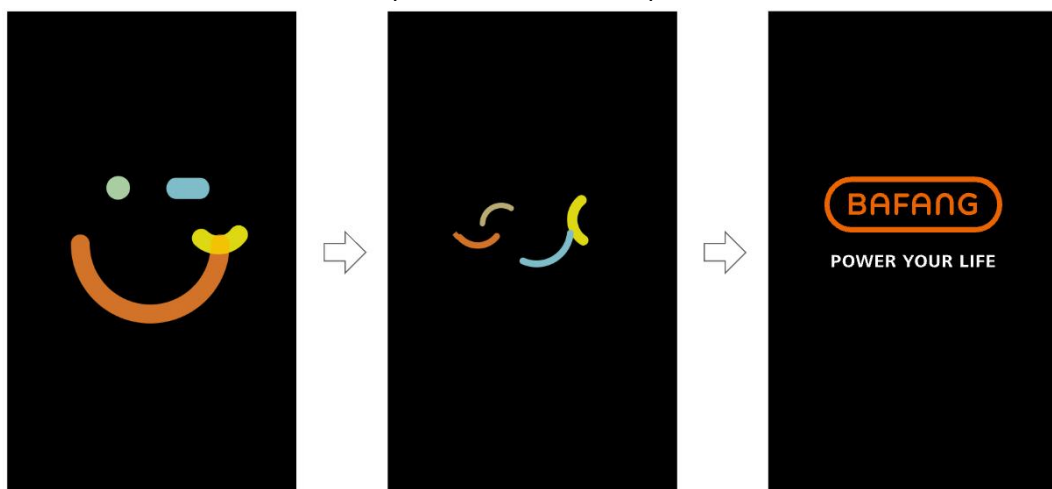

"Plus"

Power button

"Minus"

8. **Normal operation**:

"Press and hold" means that the user press the button for more than 2s, then release it; "press" means that user press the button for less than 0.5s, then release it; "Double press" means that the user press the button for less than 0.3s twice.

① Power ON/OFF

To turn on/off the HMI, press and hold the power button.

Startup animation

② Power-assisted mode selection:

To switch the power-assisted mode, press "plus" or "minus". The default number of power-assisted modes is 6. The lowest is ECO, and the highest is BOOST; there is no power-assisted output in OFF mode. The default mode when the HMI on is ECO. (As shown below)

6 Modes selection

4 Modes selection

③ Turn the headlight on/off

To turn on/off the headlight manually or automatically that is user-settable. The default is automatically.

Press and hold "plus" to turn on the headlight, the backlight luminance of the HMI will decrease, and the light icon appears. Press and hold "plus" to turn off the headlight, the backlight luminance of the HMI will increase, and the light icon appears. The headlight can be automatically turned on/off according to the ambient light. However, the automatic light sensing will fail after the headlight is turned on/off manually. To reset the function, restart the HMI.

Headlight on/off

④ Walk assistance

Press the "minus" to switch the mode to OFF, then press the "minus" again, and the symbol " 🚲 " appears. Press and hold "minus", and the walk assistance icon " 🚲 " flashes. The ebike has been in walk assistance mode. Release the walk assistance button to exit the walk assistance mode, and the icon " 🚲 " will stop flashing. If no operation within 5s, the mode will be automatically adjusted to OFF. In walk assistance mode, when the speed is no more than 2.5 km/h, the HMI will display a speed of 2.5 km/h; when the speed is more than 2.5 km/h, the HMI will display the real speed.
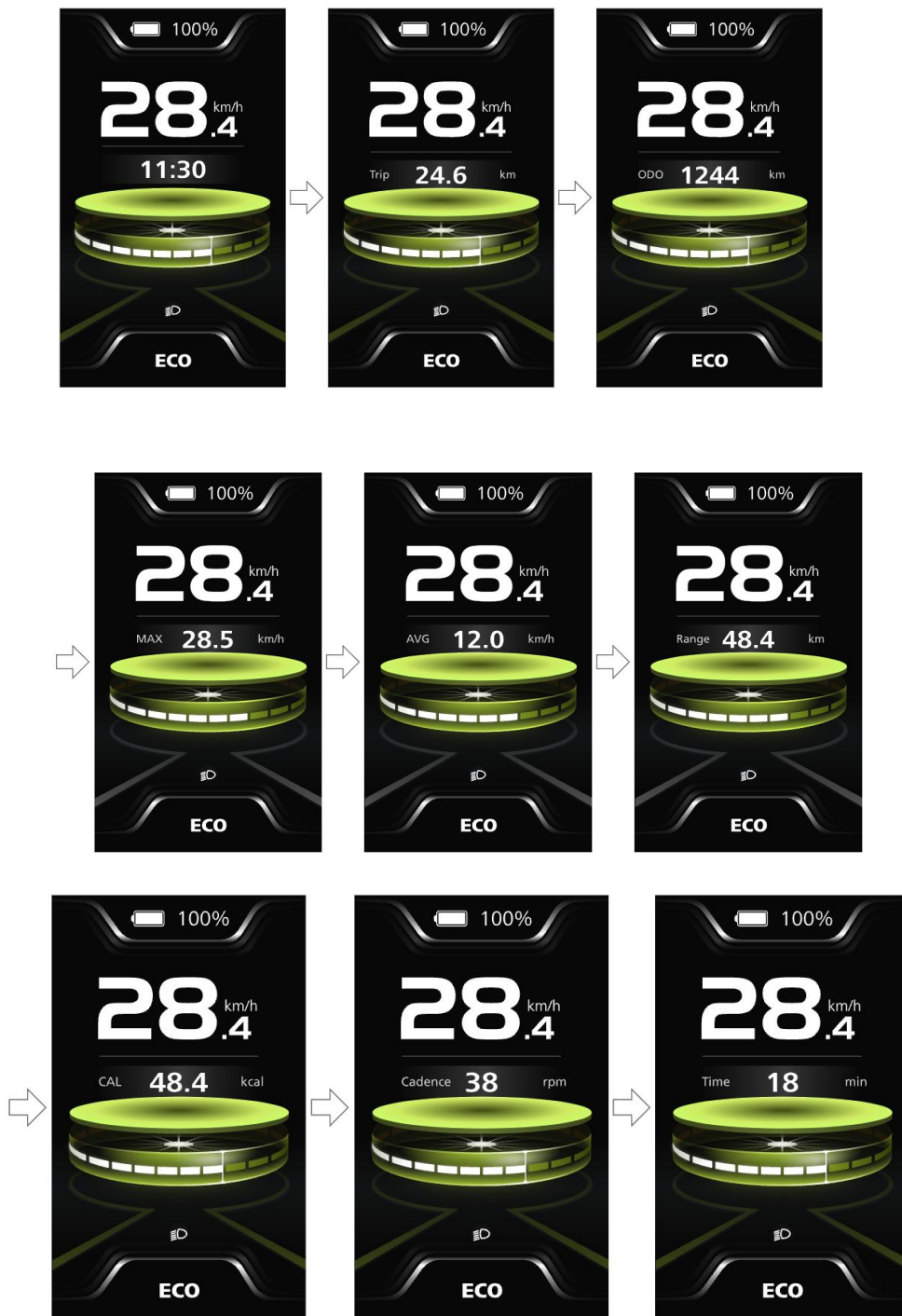

Walk assistance

⑤ Switch the function indication

In the main interface, press the power button to switch difference interfaces. The functions are as shown below:

Defaulted "Clock"(real-time clock) → "Trip"(single mileage km) → "ODO"(accumulated mileage km) → "MAX"(maximum riding speed km/h) → "AVG"(average riding speed km/h) → "Range"(remaining mileage km) → "CAL"(energy consumed KCal) →"Cadence" (pedaling cadence rpm) → "Time"(riding time min) → loop.

Functions display

⑥ Battery SOC indication:

SOC is displayed as per actual percentage. When the battery is fully

charged, 100% is displayed. When SOC is less than 5%, the battery box flashes at 1HZ frequency to prompt the user that charging is required immediately (refer to Bafang communication protocol or order requirements for the definition of battery capacity percentage).
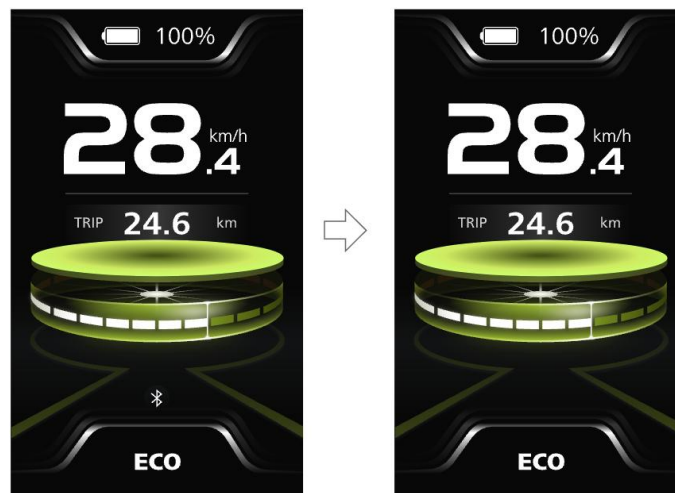
Battery SOC:

⑦ Bluetooth connection

① The HMI can be connected to Bafang Go developed by our company through Bluetooth, or customer's self-developed app according to SDK provided by our company. For specific app functions, please refer to Bafang app specification.

② The HMI is Bluetooth OTA compatible. The user can update firmwares of components,like HMI, controller, sensor, and battery, by HMI Bluetooth. (See the figure below to download the app.)

③ See the table below for the functions of the HMI that can be uploaded to the app.

Serial Number	Function
1	Speed
2	SOC
3	Power-assisted modes
4	Battery info
5	Remaining mileage
6	Energy consumed
7	System component information
8	Power-assisted

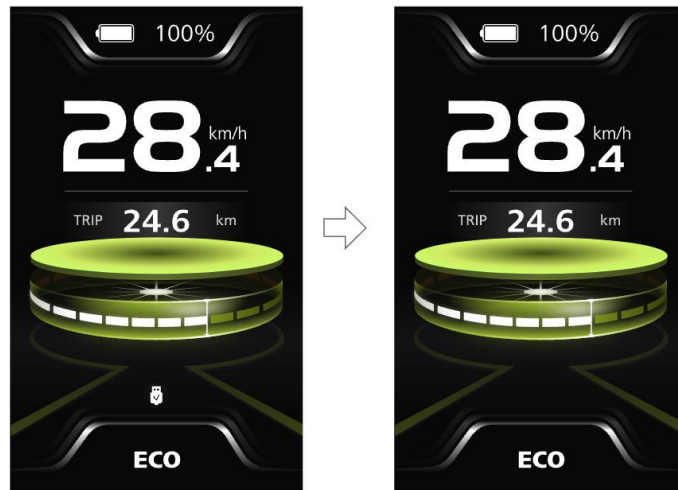|	modes
9	Heartbeat (custom)
10	One-way mileage
11	ODO
12	Headlight state
13	Error Code

Bluetooth connect/disconnect

Download BAFANG GO+ (Android)   Download BAFANG GO+ (iOS)

⑧ USB charging

To charge the HMI, connect the USB cable with the HMI. If the HMI is OFF, connect the USB cable with the HMI and power ON the HMI. Maximum charging voltage is 5V; maximum charging current is 1 A. Charging port USB Type-C.

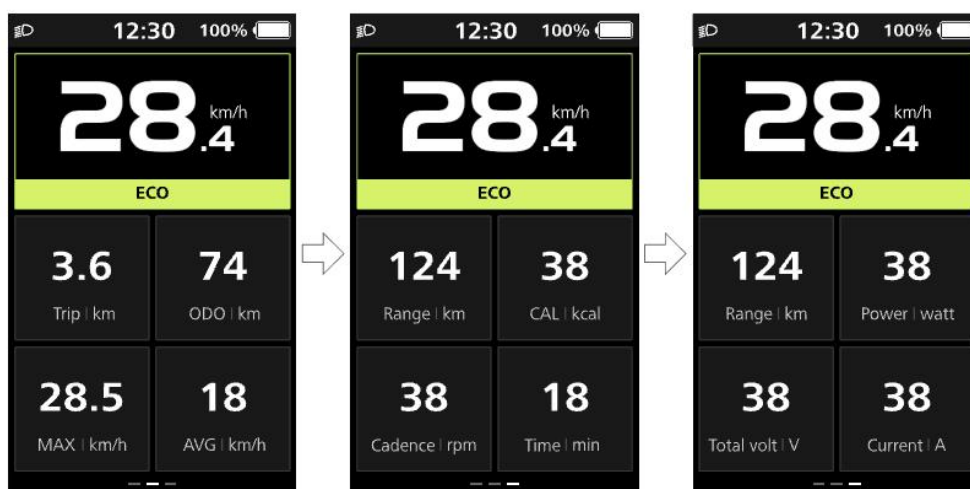USB charge/not charging

⑨ Service tip

When ODO is more than 5,000 km, the service tip icon will appear on the

HMI ⚲ to remind the user that he/she should go to the after-sales store for

maintenance. In general the function is turned off by default.

Service tip

⑩ Data aggregation interface

In the main interface, double press the power button to enter the interface. In the interface, the riding data is shown, and the user can press the power button to switch the data. To quickly clear Trip, MAX, AVG and Time on the interface, press and hold the "minus" button, when the speed is less than 5km/h and the ebike not in walk assistance mode. To return to the main interface, double press the power button to enter the interface.
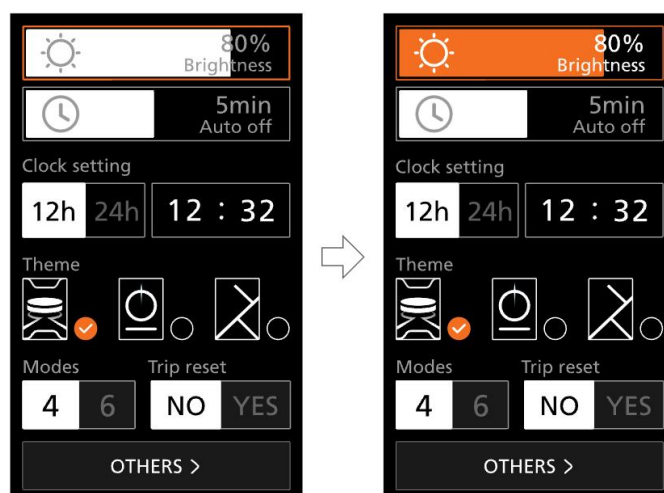
Data aggregation interface shift

9. **Information setting and viewing**:

1) Quick setting:
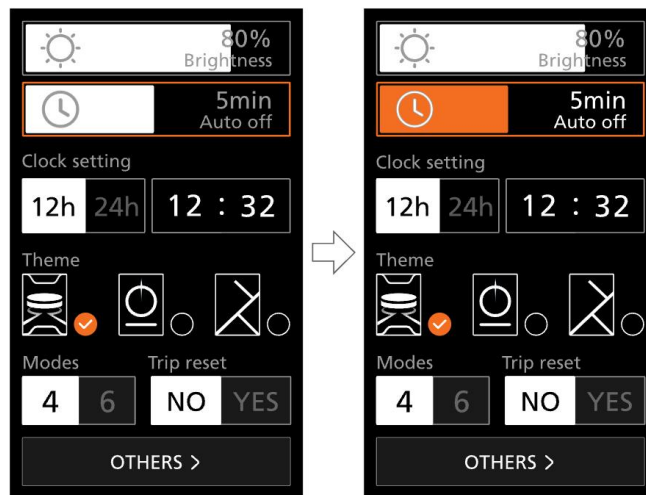
   ① Backlight luminance setting

   Press and hold "plus" and "minus" buttons at the same time to go to the quick setting menu. Press "plus" or "minus" to select "Brightness". Press the power button to enter the setting, press and hold of press "plus" or "minus" to select "10%~100%", and press the power button to save and return to the quick setting menu. Or press and hold "Plus" and "Minus" at the same time to exit back to the main interface.

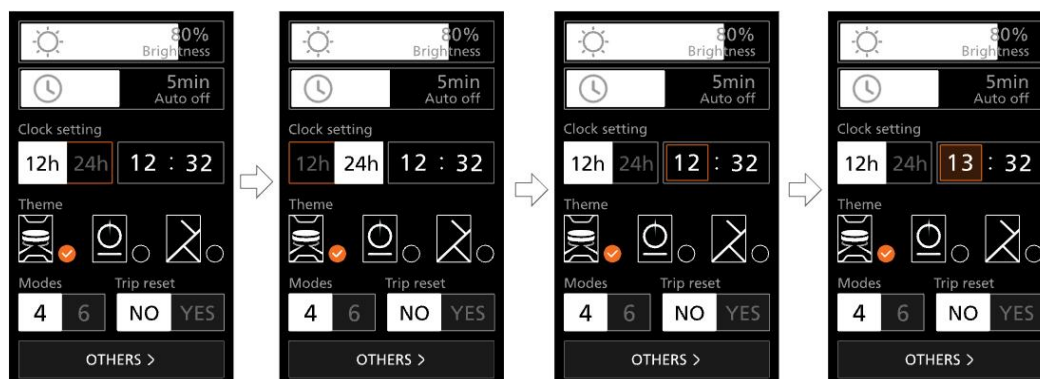Backlight luminance setting

② Automatic off time setting interface

Go to the quick setting menu, press "plus" or "minus" to select "Auto Off". Press the power button to enter the setting, press "plus" or "minus" to select "OFF" / "1" / "2" / "3" / "4" / "5" / "6" / "7" / "8" / "9" min ("OFF" means never to turn off), and press the power button to save and return to the quick setting menu. Press and hold "Plus" and "Minus" at the same time to exit back to the main interface.

Automatic shutdown time setting interface

③ Clock setting

Go to the quick setting menu, press "plus" or "minus" to select "Clock setting", and press the power button to set "12h"/"24h". Press "plus" or "minus" to select "Time", press the power button to go to setting. press and hold or press "plus" or "minus" to set time, press the power button to save and exit back to the quick setting menu. Press and hold "Plus" and "Minus" at the same time to exit back to the main interface.

Clock setting

④ Set the theme

Go to the quick setting menu, press "plus" or "minus" to select "Theme", press the power button to confirm. Press and hold "Plus" and "Minus" at the same time to exit back to the main interface.

3 themes are as shown below:

⑤ Set the modes

Go to the quick setting menu, press "plus" or "minus" to select "Modes", press the power button to set "4 Modes"/"6 Modes". Press and hold "Plus" and "Minus" at the same time to exit back to the main interface.
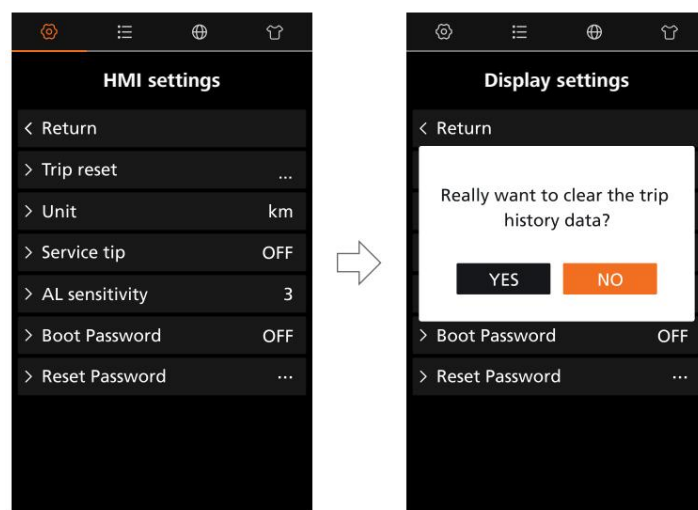
⑥ Clear Trip

Go to the quick setting menu, press "plus" or "minus" to select "Trip reset", press the power button to set "YES". Press and hold "Plus" and "Minus" at the same time to exit back to the main interface.

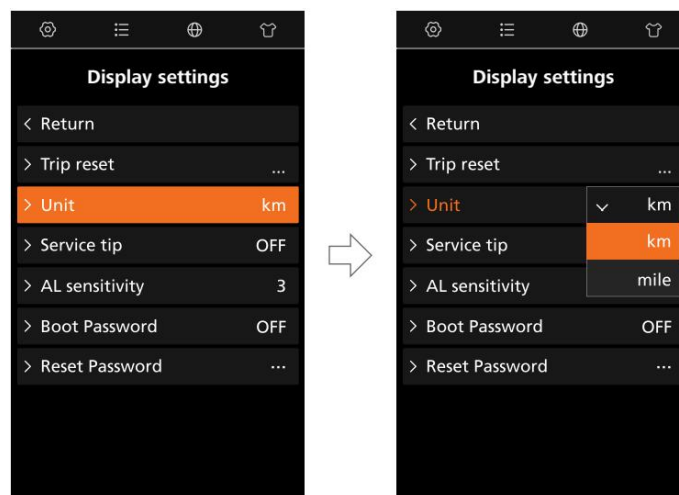2) HMI basic parameters setting

① Clear Trip

Go to the quick setting menu, press "plus" or "minus" to select "OTHERS" to go to "Display settings" interface. On the "Display setting" menu, press "plus" or "minus" to select "Trip reset", press the power button to enter, and press "plus" or "minus" to select "YES" to reset Trip. Press and hold "Plus" and "Minus" at the same time to exit back to the main interface.
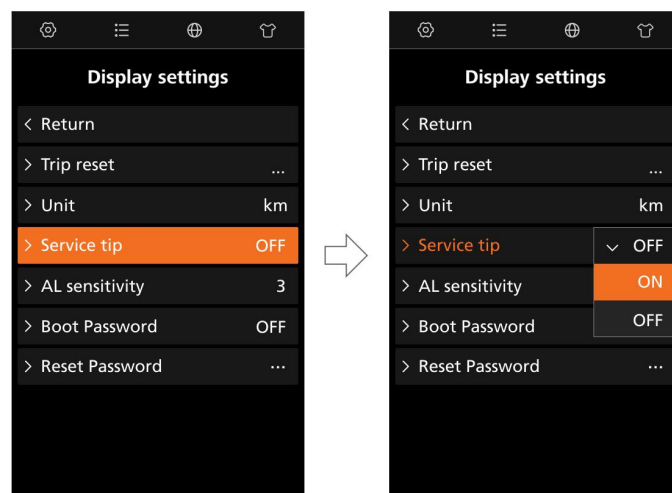

Clear Trip interface

② Unit switch

On the "Display setting" menu, press "plus" or "minus" to select "Unit", press the power button to enter, press "plus" or "minus" to select "km" or "mile", and press the power button to confirm. Press and hold "plus" and "minus" at the same time to exit back to the main interface.
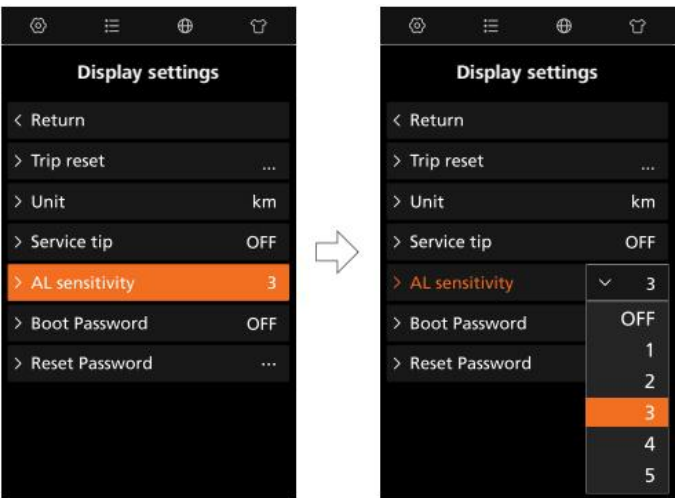
Unit setting

③ Service tip

On the "Display setting" menu, press "plus" or "minus" to select "Service tip", press the power button to enter, press "plus" or "minus" to select "ON" or "OFF", and press the power button to confirm. Press and hold "plus" and "minus" at the same time to exit back to the main interface.

Service tip setting interface

④ Light sensitivity:

On the "Display setting" menu, press "plus" or "minus" to select "Service tip", press the power button to enter, press "plus" or "minus" to select "OFF"/"1"/"2"/"3"/"4"/"5", and press the power button to confirm. Press and hold "plus" and "minus" at the same time to exit
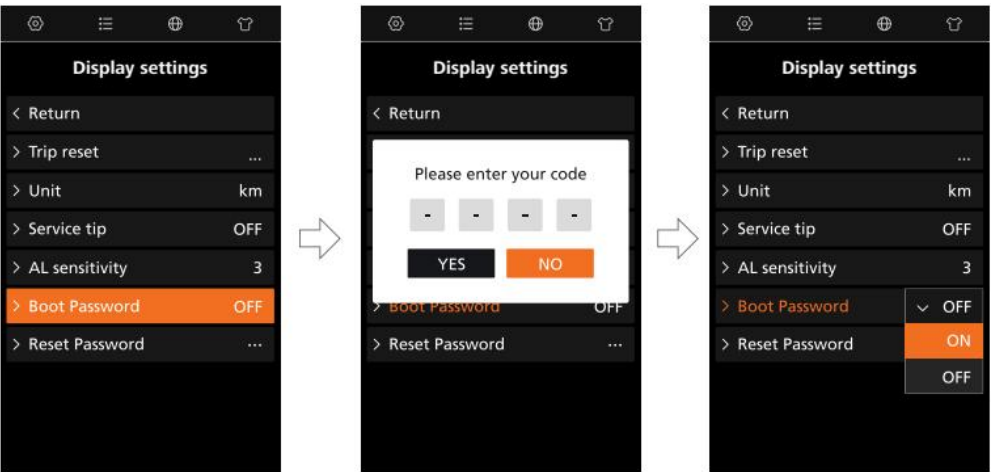
back to the main interface.

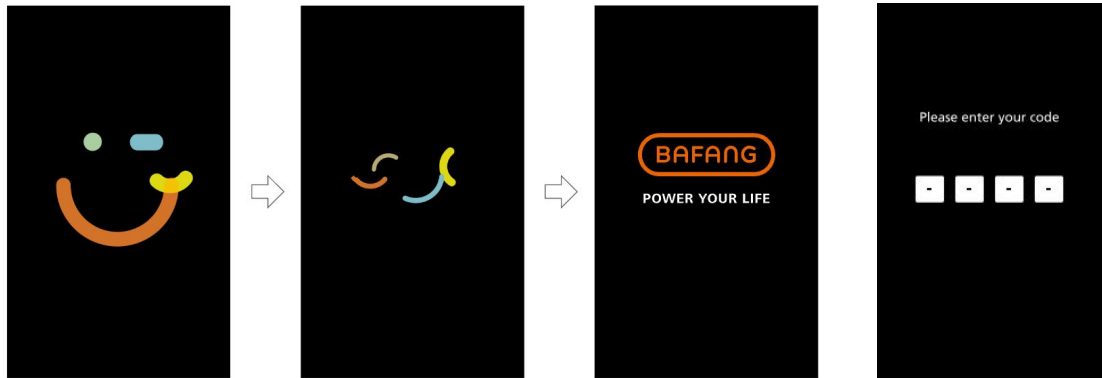Light sensitivity setting interface

⑤ Password ON/OFF

On the "Display setting" menu, press "plus" or "minus" to select "Boot Password", press the power button to enter, press "plus" or "minus" to select "0" ~ "9", and press the power button to confirm. Enter the 4-digit password in sequence, select ''YES", and select "ON"/"OFF" to turn on/off the function. Press and hold "plus" and "minus" at the same time to exit back to the main interface. (The default password is 0000; the function is OFF by default.)
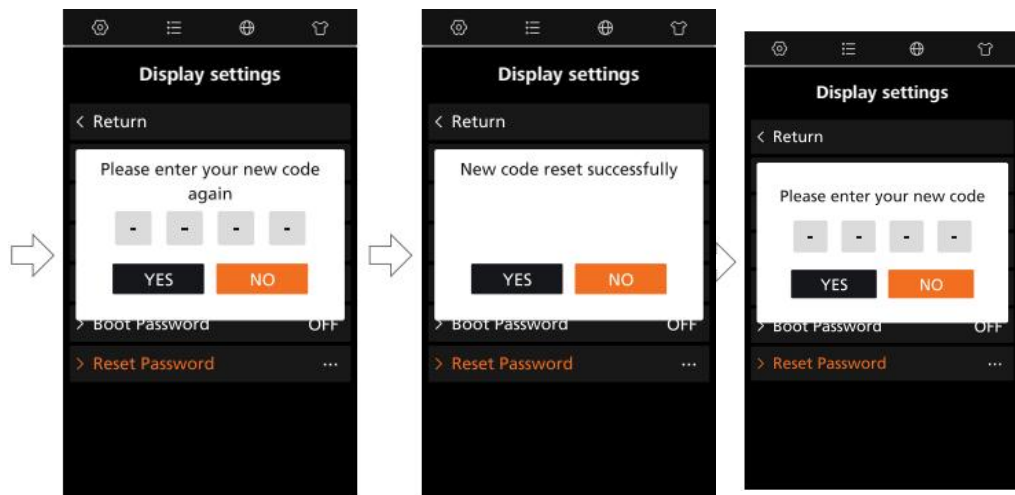

Password ON/OFF

After setting, enter the password after the startup animation. Press "plus" or "minus" to select "0"~"9", and press the power button to confirm. Enter the 4-digit password in sequence to go to the main

interface.

⑥ Reset Password

On the "Display setting" menu, press "plus" or "minus" to select "Reset Password", press the power button to enter, press "plus" or "minus" to select "0" ~ "9", and press the power button to confirm. Enter your old 4-digit password in sequence, select ''YES". Enter the new 4-digit password in sequence, select "YES" to save the password. Press and hold "plus" and "minus" at the same time to exit back to the main interface. (The default password is 0000.)
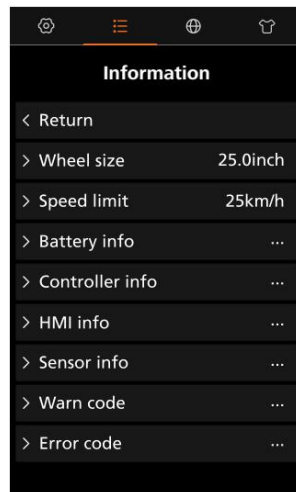
Reset Password

3) Information view:

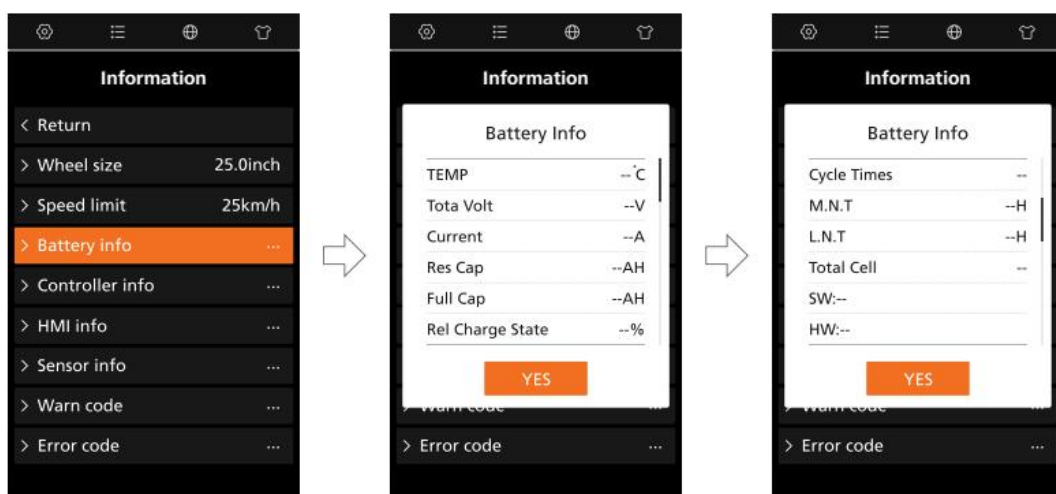① View the wheel size and speed limit

Go to the "Information" menu, press "plus" or "minus" to select "Wheel size"/"Speed limit". The item selected will be highlighted. Press and hold "plus" and "minus" at the same time to exit back to the main interface.

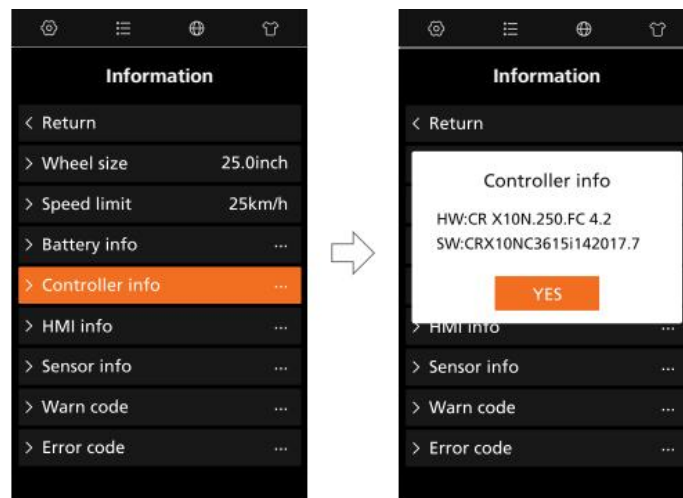Wheel size and speed limit viewing

② View the battery information

Go to the "Information" menu, press "plus" or "minus" to select "Battery Info". Press the power button to enter. Press and hold or press "plus" or "minus" to view the information of the battery. Press and hold "plus" and "minus" at the same time to exit back to the main interface.

Battery Info viewing
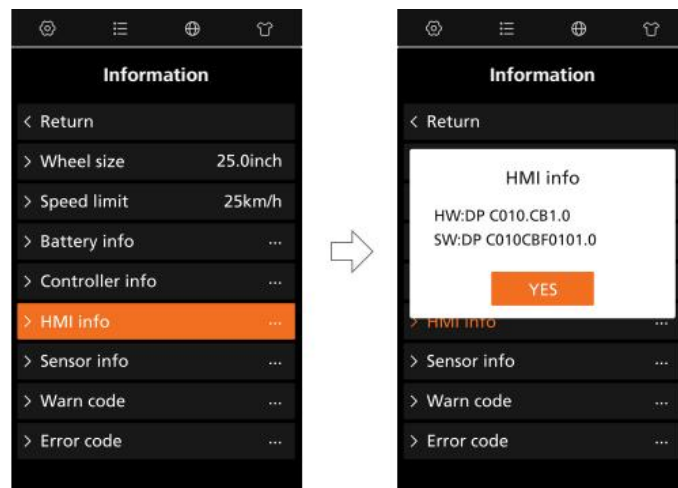
29

③ View the controller information

Go to the "Information" menu, press "plus" or "minus" to select "Controller info". Press the power button to enter. Press the power button to view the information of the controller. Press the power button to exit back to the menu interface. Press and hold "plus" and "minus" at the same time to exit back to the main interface.

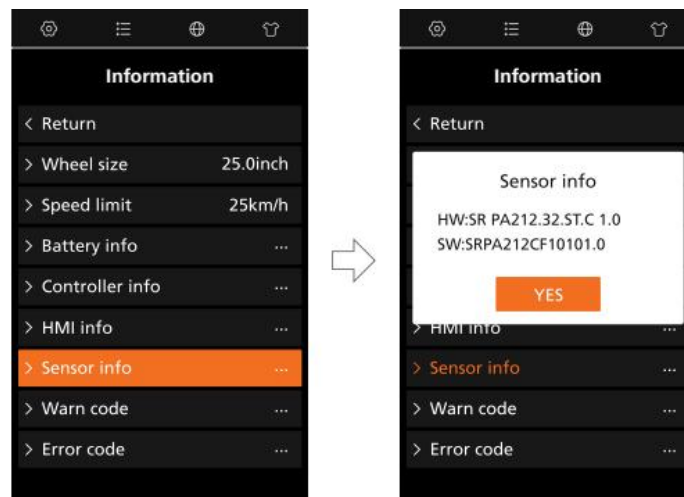Controller information view interface

④ View the HMI information

Go to the "Information" menu, press "plus" or "minus" to select "HMI info". Press the power button to enter. Press the power button to view the information of the HMI. Press the power button to exit back to the menu interface. Press and hold "plus" and "minus" at the same time to exit back to the main interface.

HMI Info view interface

⑤ View the sensor information

Go to the "Information" menu, press "plus" or "minus" to select "Sensor info". Press the power button to enter. Press the power button to view the information of the sensor. Press the power button to exit back to the menu interface. Press and hold "plus" and "minus" at the same time to exit back to the main interface.
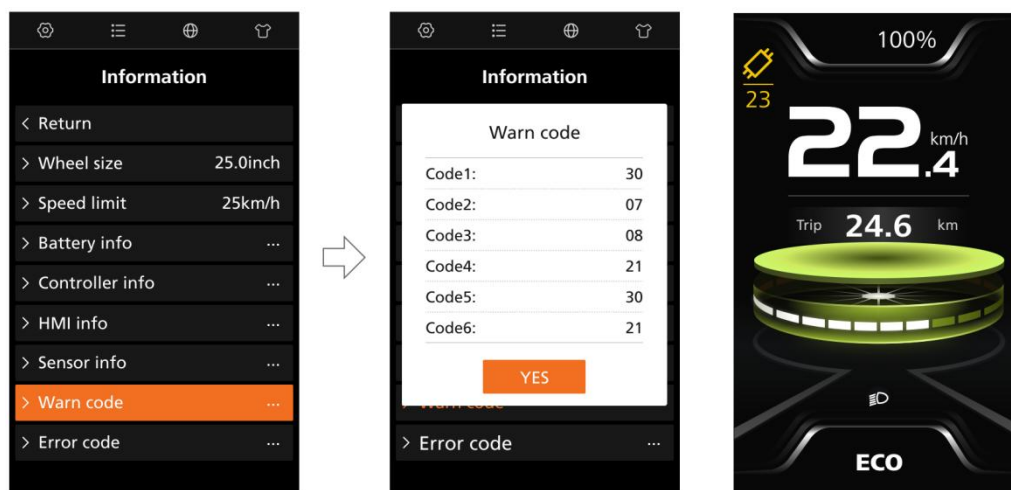

Sensor information viewing

⑥ View the warn code information

Go to the "Information" menu, press "plus" or "minus" to select "Warn code". Press the power button to enter. Press the power button to view the warn code information. Press the power button to exit back to the
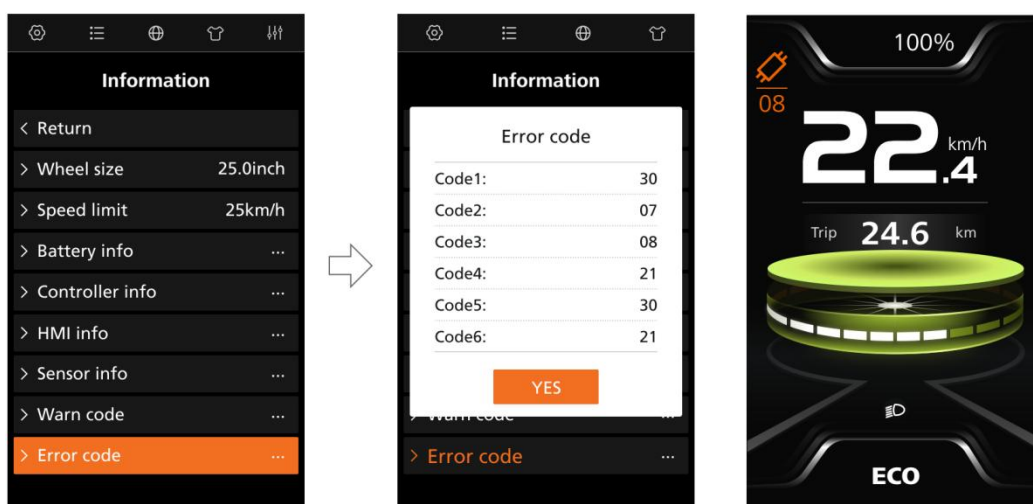
menu interface. Press and hold "plus" and "minus" at the same time to exit back to the main interface. (Note: For detailed information, see the error code list.)

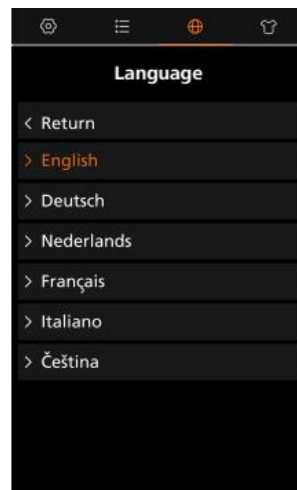Warn code viewing / HMI warn

⑦ View the error code information

Go to the "Information" menu, press "plus" or "minus" to select "Error code". Press the power button to enter. Press the power button to view the error code information. Press the power button to exit back to the menu interface. Press and hold "plus" and "minus" at the same time to exit back to the main interface. (Note: For detailed information, see the error code list.)

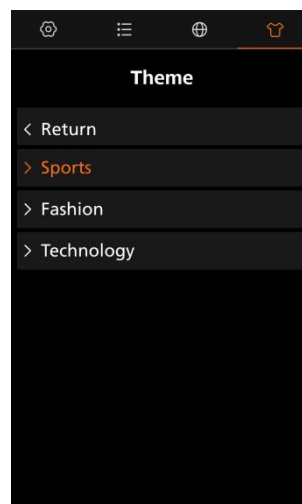Error code viewing / Error reported

4) Set the system Language

Go to the "language" menu, press "plus" or "minus" to select "English"/"Deutsch"/"Nederlands"/"Français"/"Italiano"/"Čeština", and press the power button to confirm. Press and hold "plus" and "minus" at the same time to save and exit back to the main interface.

System language setting

5) Set the system theme

Go to the theme menu, press "plus" or "minus" to select "Sports"/"Fashion/"Technology", press the power button to confirm. Press and hold "Plus" and "Minus" at the same time to exit back to the main interface.
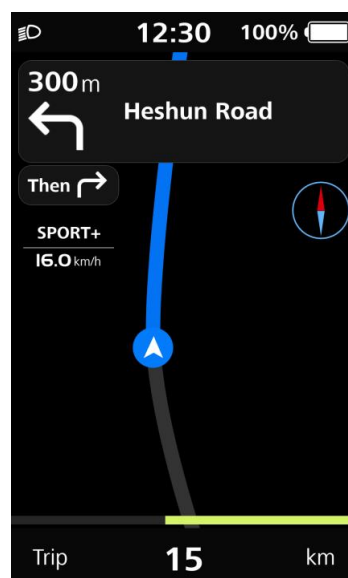

System theme setting

Sports   Technology   Fashion
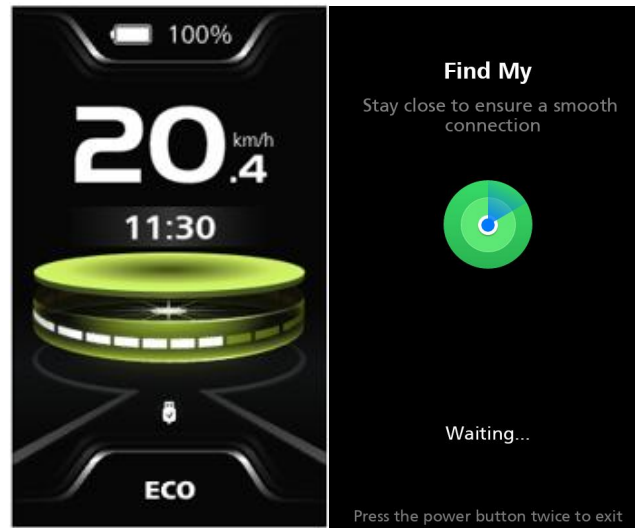
10. Navigation Mapping

The function is enabled when the user uses the HMI with BAFANG GO+. When the user starts navigation with the app, the navigation route will map to the HMI synchronously. For detailed operation, see BAFANG GO+ App Operation Manual.
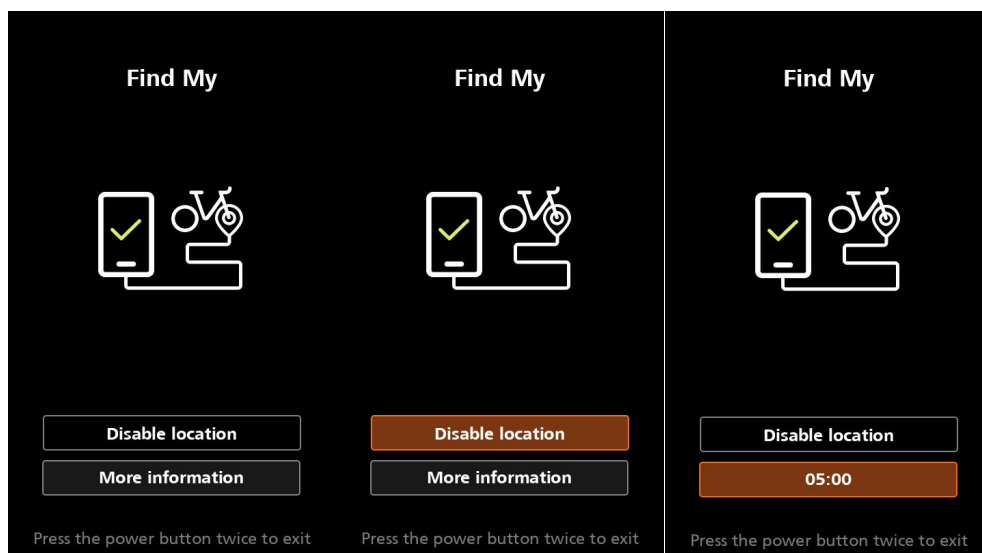

Navigation Mapping

11. Find my

To go to Find my function interface, press and hold "+", "-" and the power button under the main interface.

After successful pairing, it will go to the pairing success interface, where there are two options:

1."Disable location": Select it to disable the Find my function;

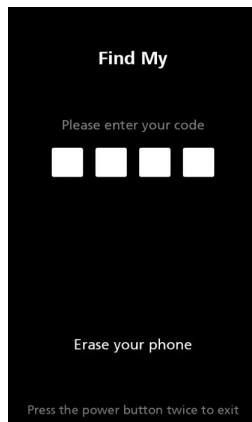2."More information": Go to the interface to allow other iPhones to view the information about the HMI for 5 minutes.
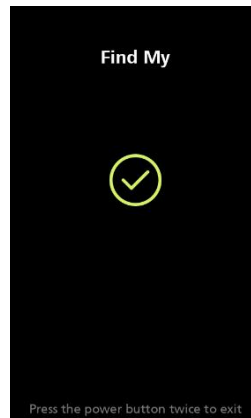

Successful pairing   Select "Disable location" Select "More information"

Additionally, press and hold "+", "-" and "power button" (≥ 3s) to go to the

Find my force deleting interface, and enter the power-on password to complete the deletion.
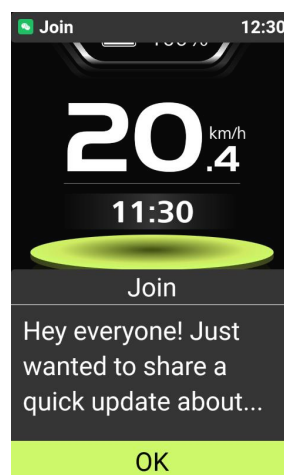

Password confirmation   Deleted successfully

Note: You cannot find the HMI via iPhone after deletion. To restore the setting, delete the HMI from you iPhone, and pair them again.

12. Message Mapping

Make relevant settings through BAFANG GO+ app, and the messages received by the mobile phone can appear on the HMI synchronously. For the specific operation process, see the BAFANG GO+ app Operation Manual.

Ⅲ. Copyright Statement

For EPAC questions, contact your dealer first, unless you are the EPAC manufacturer.

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This product specification complies with the regulations of the machinery directive ISO 4210:2014 and EN 15194.

If this product is delivered or used outside of the European Union, the manufacturer of the EPAC must provide the user manual required in that country.

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