

Specification

September 2022

Product: E-Bike Display

APT Model: 750C-BLE

Client Model:

Client:

Client Check:

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Approval:

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1. Product model

Model: 750C-BLE

2. Suppliers

APT (Tianjin) Development Co., Ltd.

3. Specifications

- ✧ 3.2inch TFT screen
- ✧ 24V/36V/48V/52V battery supply
- ✧ Rated operating current : 40mA
- ✧ Off leakage current < 1uA
- ✧ Max output current to controller : 100mA
- ✧ Operating temperature : -20~70℃, Storage temperature : -30~80℃

4. Dimensions and Material

Product shell is ABS, transparent window is made with high strength Acrylic.

Dimensions: host/L110mm*W68.2mm*H68mm

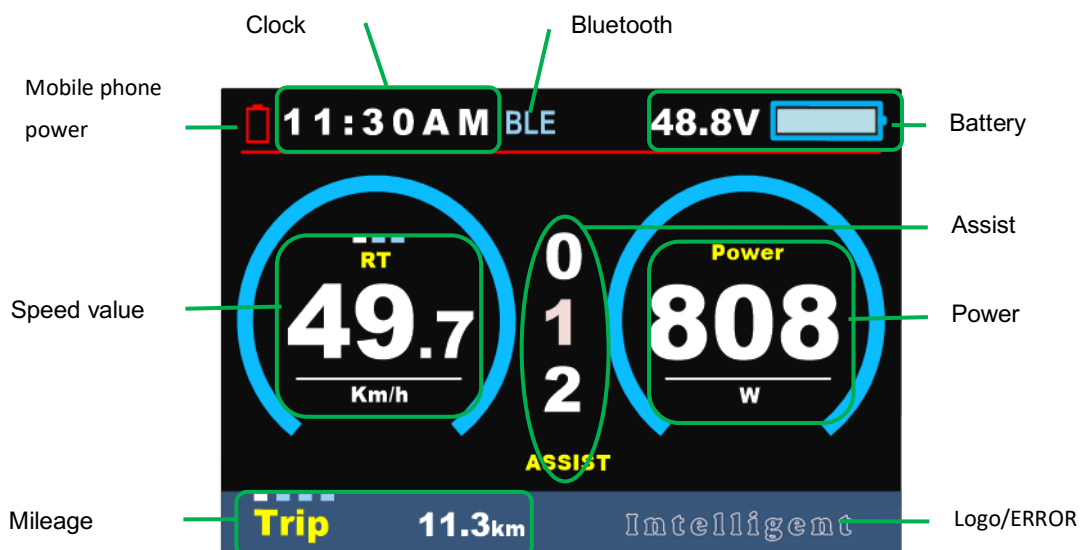


5. Features

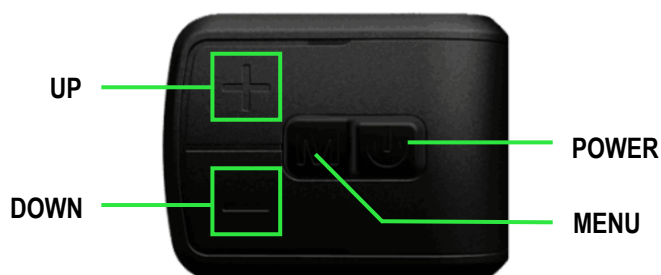
- ✧ Suitable for low temperature, Max -20℃.
- ✧ High-contrast 3.2inch IPS colorful matrix screen.
- ✧ Ergonomic external button design, easy to operate.
- ✧ **Speed display:** AVG SPEED, MAX SPEED, SPEED (Real-time).

- ✧ **Kilometer / Mile:** Can be set according to customers' habits.
- ✧ **Smart battery indicator:** Provide a reliable battery indicator.
- ✧ **9-level Assist :** 3-level/5-level/9-level /UBE (6-level) optional.
- ✧ **Mileage indicator:** Odometer/ Trip distance/ Clock/ Riding time.
- ✧ **Power indicator:** real time power indicator, digital or analog.
- ✧ **6km walking**
- ✧ **Bluetooth & Mobile navigation**
- ✧ **Phone battery indicator**
- ✧ **Error code indicator.**
- ✧ **Software upgraded:** Software can be upgraded through UART.

6. Main page



7. Functional Description



7.1 Power On/Off

Press **POWER** button for 2 seconds, you can turn on/off the display. The Display

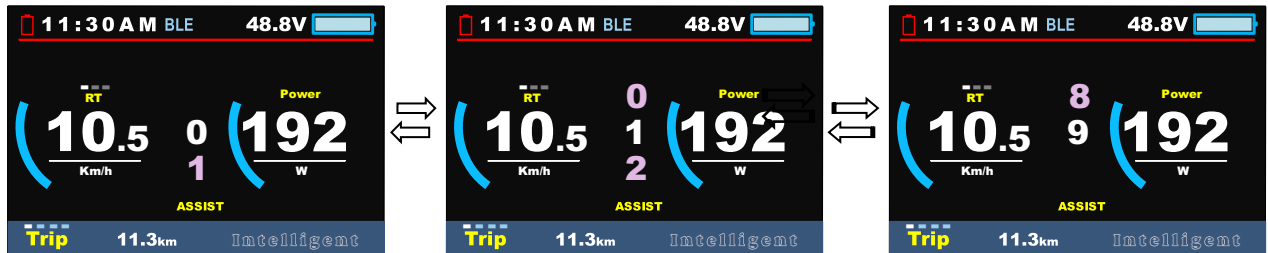
can automatically turn off when there is no operating and riding for 5 minutes.
(Length of time can be set, refer to 8.1.4 'Auto off')

*Input pattern in first if pattern unlock was activated.

*Display will be locked for 30 seconds after 3 times failed attempt.

7.2 Assist level

Press **UP/DOWN** button to change assist level, Top assist level is 9, 0 for neutral.
Level quantities can be adjusted according to the customer requirements.



7.3 Speed & Mileage mode

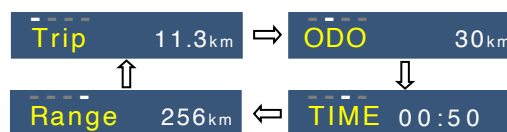
Short press **MENU** button can change the speed mode, Speed->AVG
Speed->MAX Speed.



*If there is no operation for 5 seconds, display will return Speed (Real-Time) display automatically.

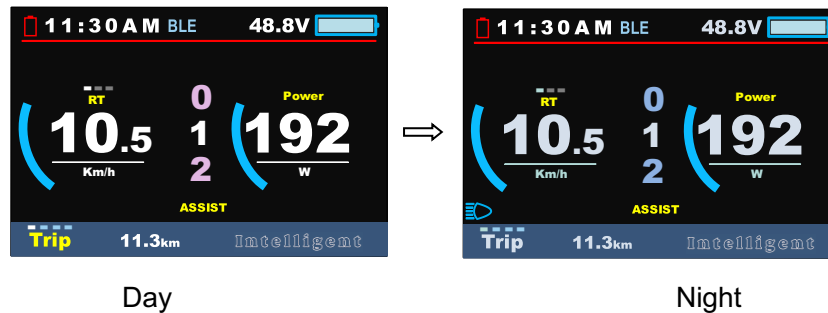
7.4 Mileage mode switch

Short press **POWER** button can change the mileage mode, Trip->ODO-> Time.



7.5 Headlight/backlight On/Off

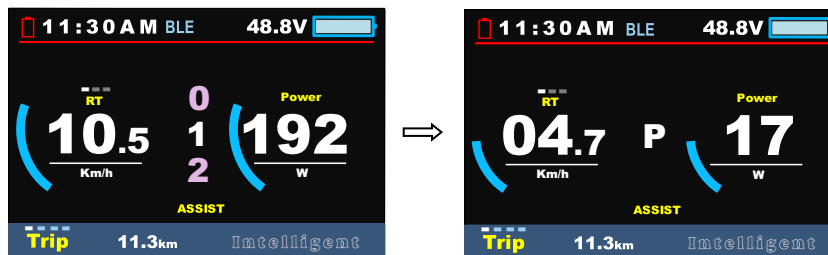
Press and hold **UP** button for 2 seconds can turn on/off headlight, display will switch to the corresponding mode (Day or Night).



- * The brightness of the Display can be set according to the user's needs, Refer 8.1.3 Brightness.
- * The motor does not work when the battery voltage is low, Display still can keep the headlight on for a while when E-bike is in riding.

7.6 Walking mode (6km)

Press and hold **DOWN** button for 2 seconds can get into walking mode, show 'P' on screen, out of walking mode when releasing button.

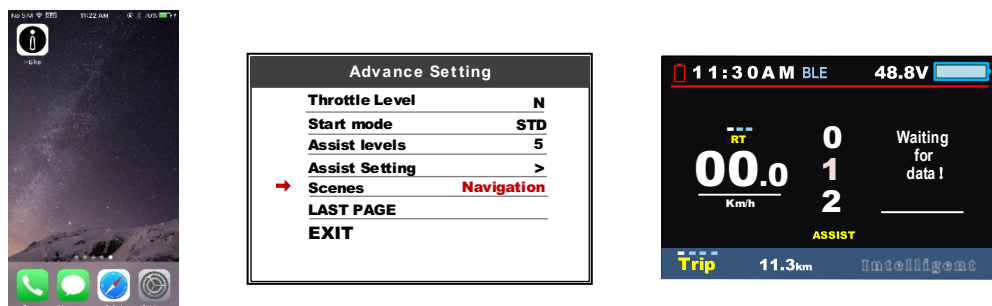


- * This feature needs to be supported by controller.

7.7 Bluetooth & mobile navigation

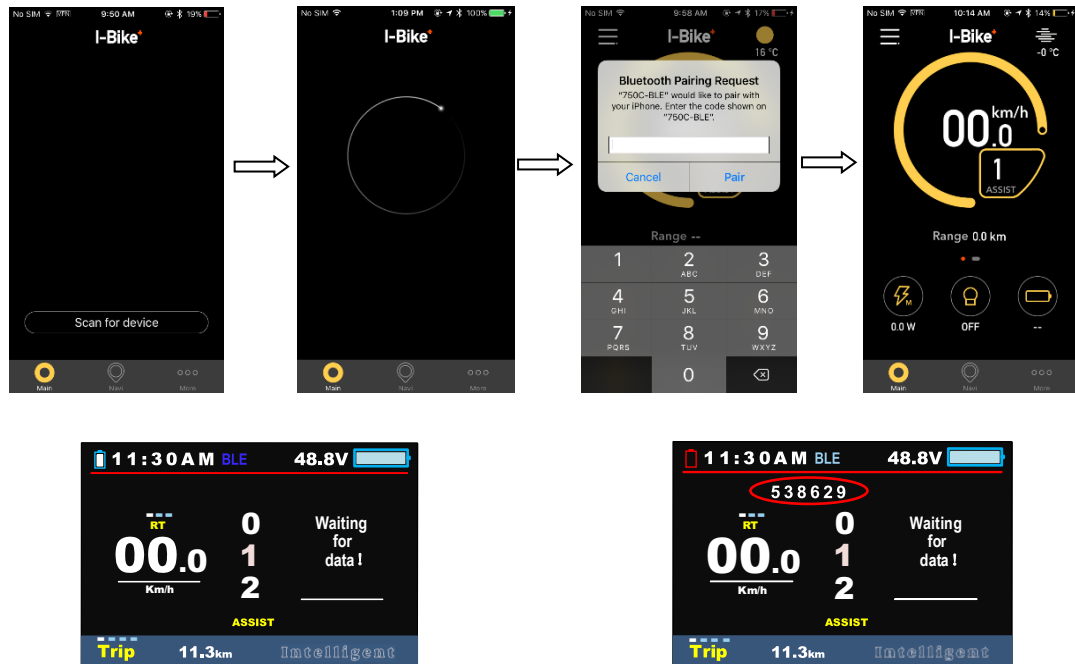
7.7.1 Connection preparation

After installing the I-bike mobile app, turn on the Bluetooth function of the mobile phone, open the I-bike app, set the Scenes item in the instrument menu settings to "Navigation", click Search for device, the Meter name defaults to APTTEST, and the icon  is red, the icon BLE is light blue (unconnected state).

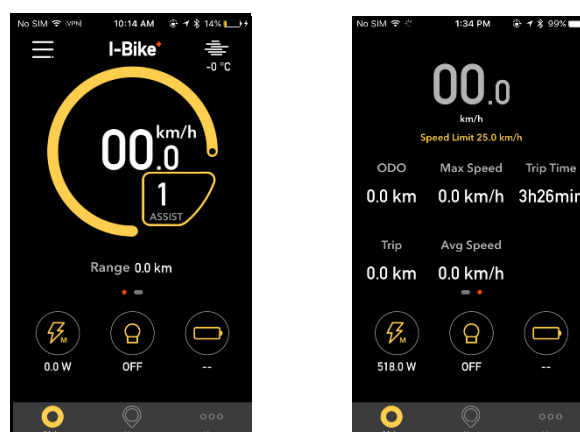


7.7.2 Connect the phone and meter:

Find the meter by mobile phone, search for the meter name “APTTEST”, click search the device, input these digits in the mobile phone when the 6 digits appear on the meter, click pair and after the successful pairing, the main interface of the mobile phone displays the I-bike information interface of the meter, and the MAIN interface, the navigation interface (Navi) and the more information interface (More). The meter displays the battery indicator of the phone, and the icon BLE is dark blue (connected).

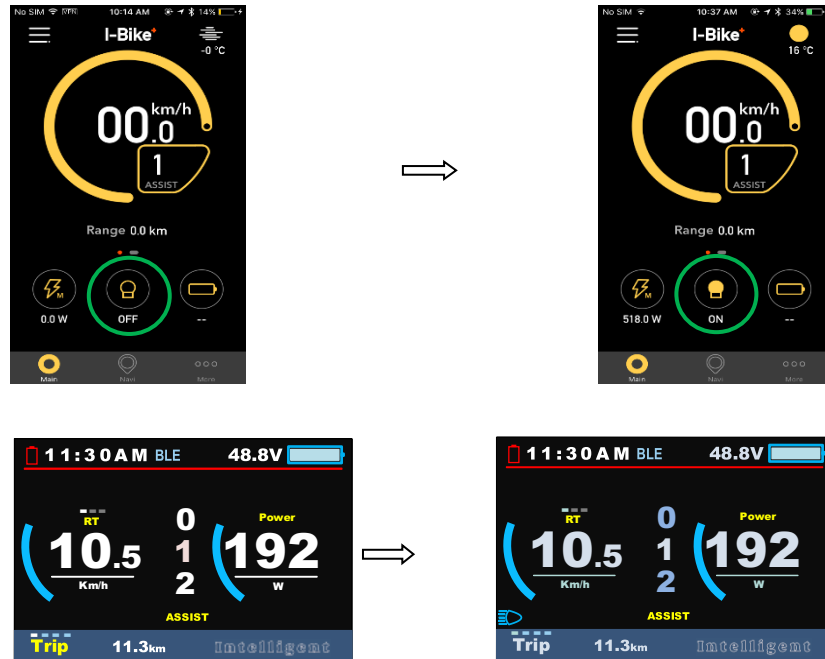


7.7.3 Mobile I-Bike main interface display



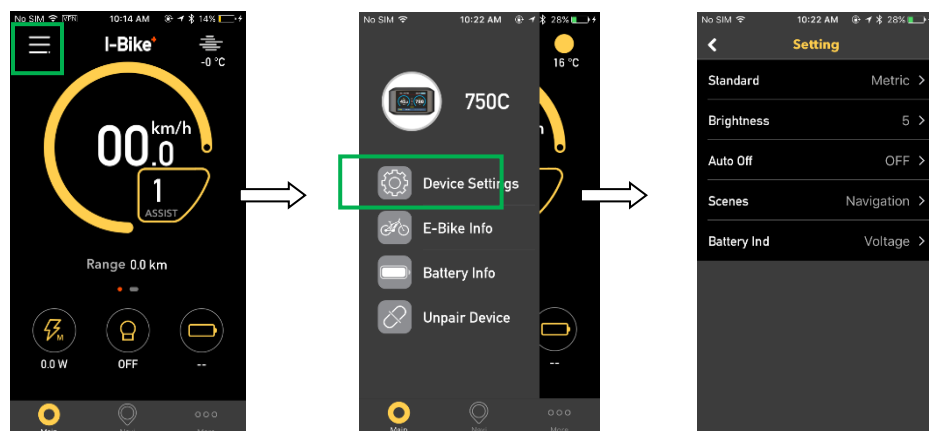
(1) Headlight/backlight On/Off

Click the main interface to switch OFF/ON can turn on/off the headlight (controller is required to support) and the screen will switch to the corresponding mode.



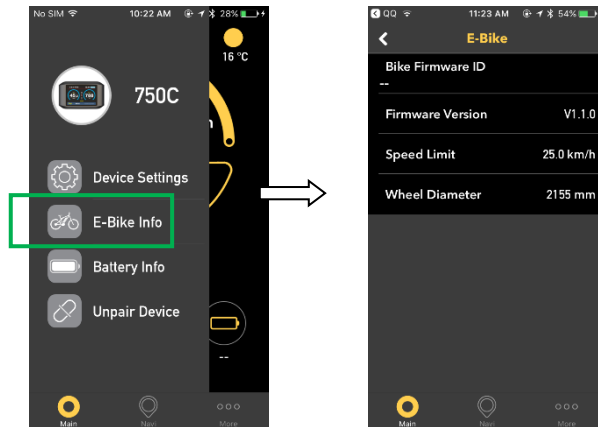
(2) Device Settings

Click on the top left corner of the mobile screen, enter Device Settings, you can set the meter parameters: Standard, Brightness, Auto Off, Scenes, Battery Ind.



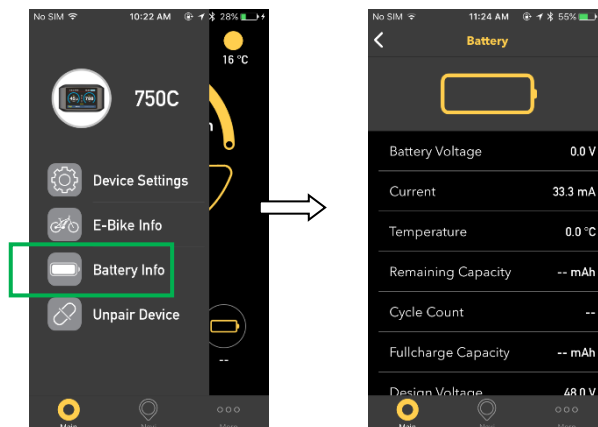
(3) E-Bike Info

Click into E-Bike Info interface, display Bike Firmware ID, Firmware Version, Speed Limit, Wheel Diameter.



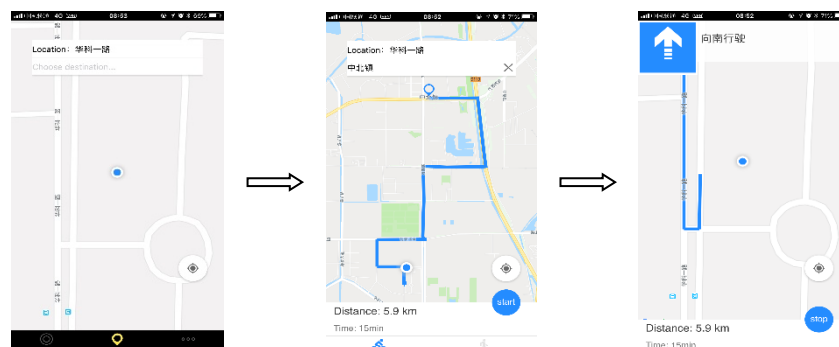
(4) Battery Info

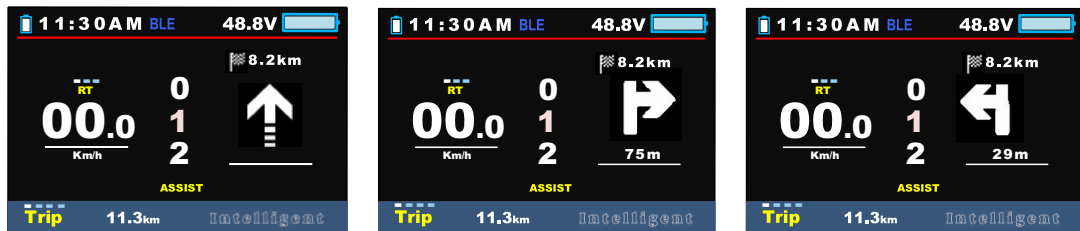
Click into the Battery Info interface, can show information of battery, including Voltage, Current, Temperature, Remaining Capacity, Cycle Count, Fullcharge Capacity, and Design Voltage.



7.7.4 Navi

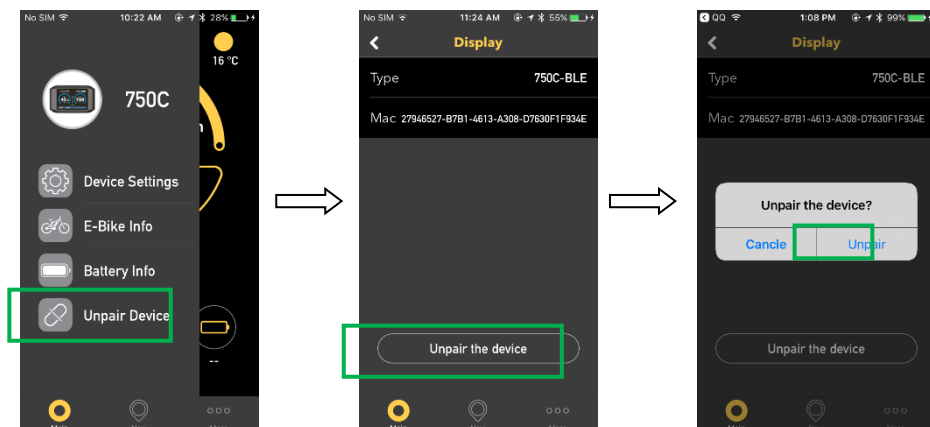
In the mobile navigation interface, enter Location and choose destination, then the mobile phone displays the map navigation path, distance and usage time information. After clicking start, the meter displays the navigation icon, direction and distance information.





7.7.5 Unpair Device

Back to the main interface, enter the Unpair Device interface, click "Unpair the Device", and click Unpair to remove the Bluetooth binding between the meter and the phone.



7.8 Data cleanup

Press and hold **UP** & **DOWN** buttons together for 1 second can reset several temporary data, temporary data include AVG Speed / MAX Speed / Trip / Time.

* These temporary data can't be erased by power off.

8. Parameter setting

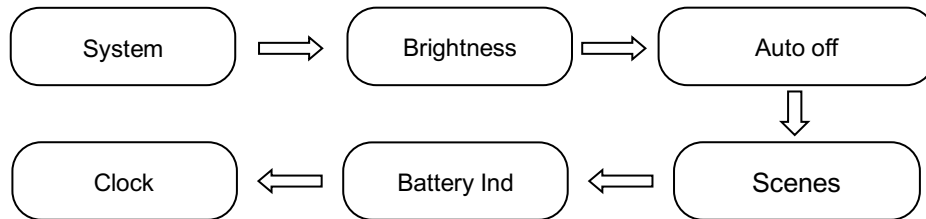
Double press **MENU** button (press interval less than 0.3 second) can get into setting menus, press **POWER** button to change Display Setting / Basic setting, press **UP/DOWN** buttons to change the parameter setting, press **MENU** button can switch to next item. Double press **MENU** button will exit from menu.

* Display will automatically quit menu when there is no operation for 30 seconds.

* For safety reasons, display can't get into MENU when riding.

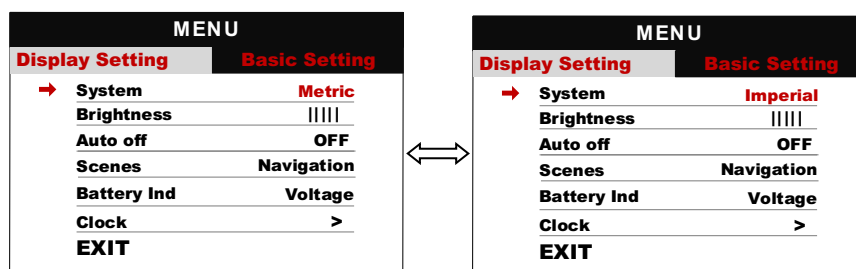
* Display will quit MENU when start riding.

8.1 Display settings



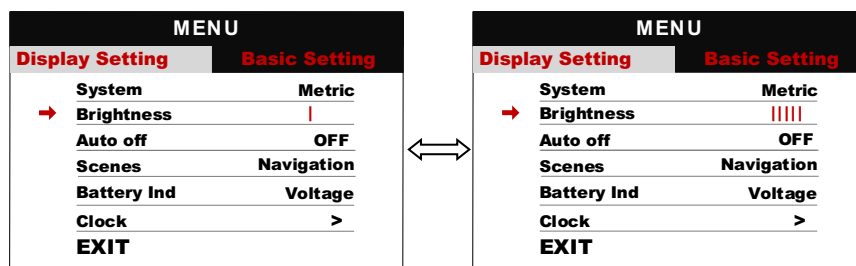
8.1.1 System

Press **Up / Down** button to switch between Metric / Imperial.



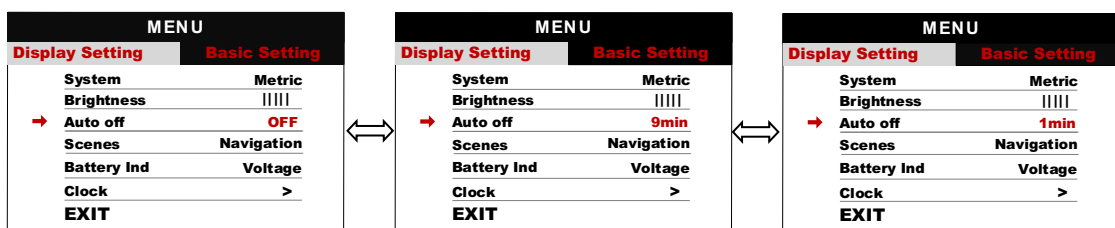
8.1.2 Brightness

Press **Up / Down** button to change the brightness of the backlight, I is darkness, ||||| is brightness. The daytime mode defaults to |||||, and the night mode defaults to II.



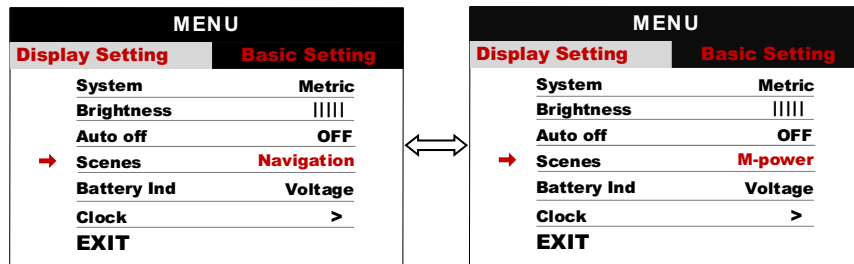
8.1.3 Auto off

Press **UP/DOWN** button to change the auto power off time, from 1 to 9 or OFF, the number represent time (minutes) to shutdown, default value is 5 minutes.



8.1.4 Scenes

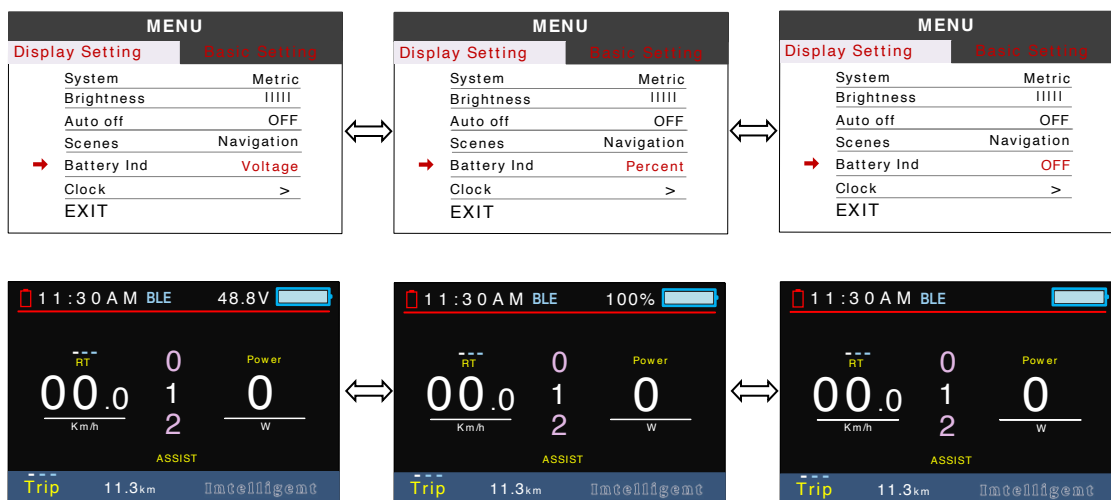
Press **UP/DOWN** button to change the scenes, Navigation / M-power.



8.1.5 Battery Ind

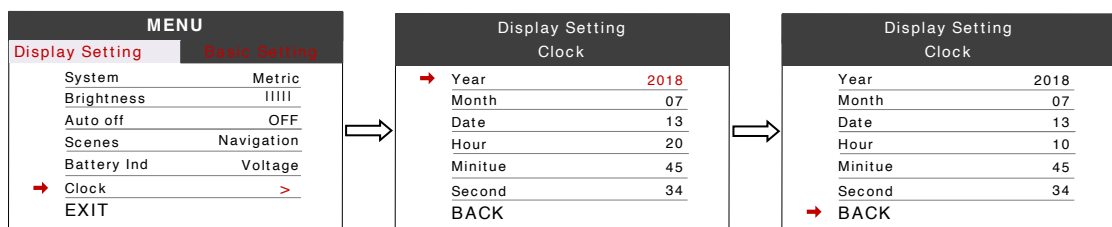
Press **UP/DOWN** button to change the battery indicator, Voltage / Percentage / OFF.

*Accurate percentage needs communication with battery.

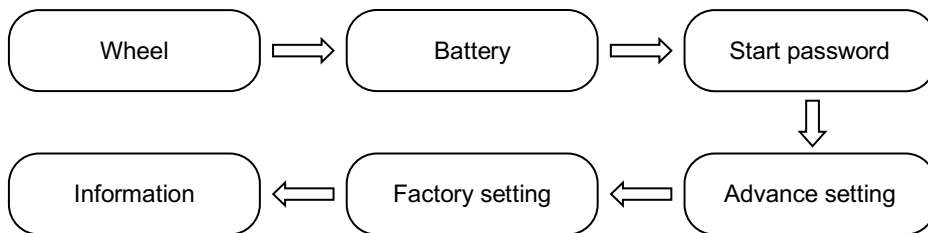


8.1.6 Clock

Clock setting, press **MENU** button get into the clock setting menu, press UP/DOWN button to set Year/Month/Day/Hour/Min/Sec.

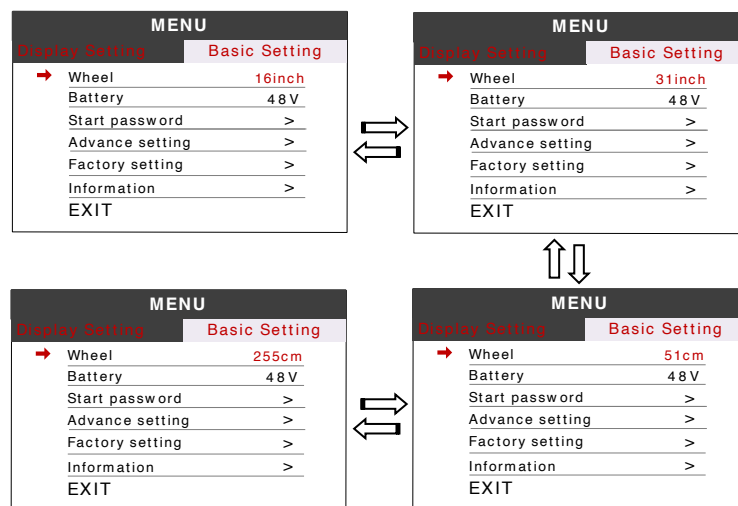


8.2 Basic Setting



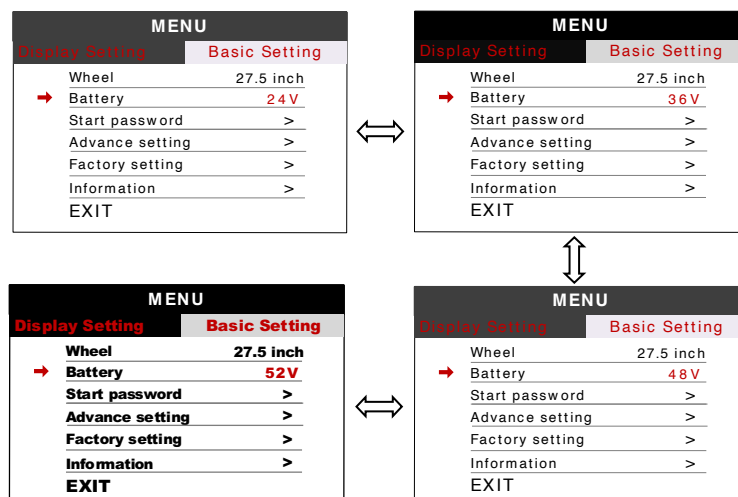
8.2.1 Wheel

Press **UP/DOWN** can change the wheel setting, optional wheel diameter is 16/18/20/22/24/26/27/27.5/28/29/30/31 inch, 51cm~255cm represent wheel circumference (this needs controller support).



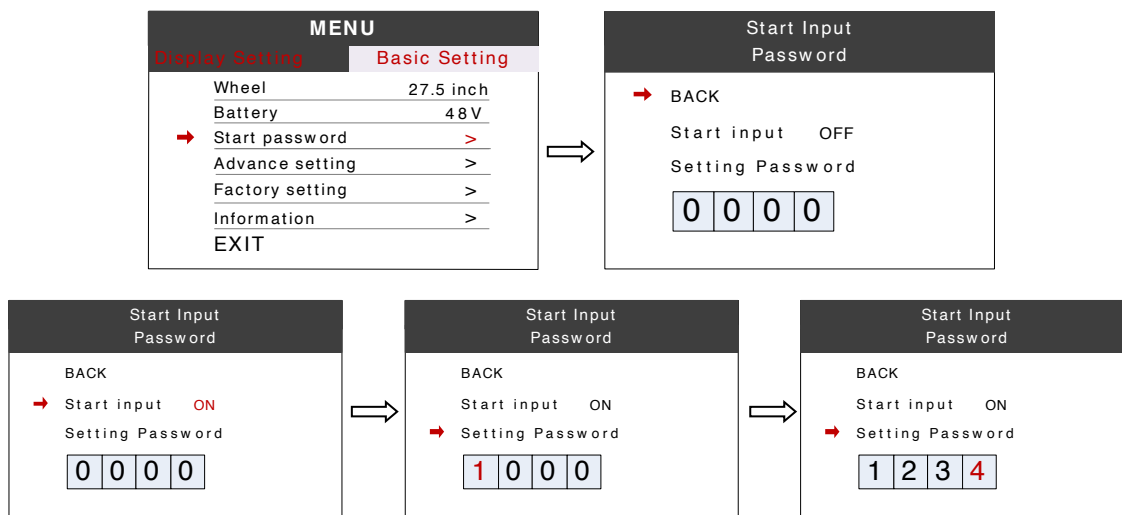
8.2.2 Battery

Press **UP/DOWN** will change battery voltage setting, optional value is 24V/36V/48V/52V.



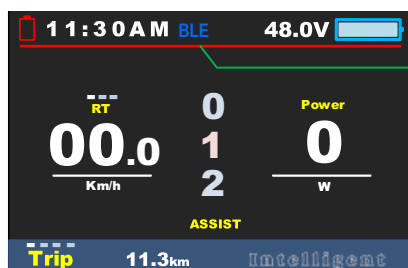
8.2.3 Start password

This item can protect e-bike system from unauthorized use. Press **MENU** button get into the password setting menu. If you had set Start input ON, you must input right password before power on, password is accorded to your setting.



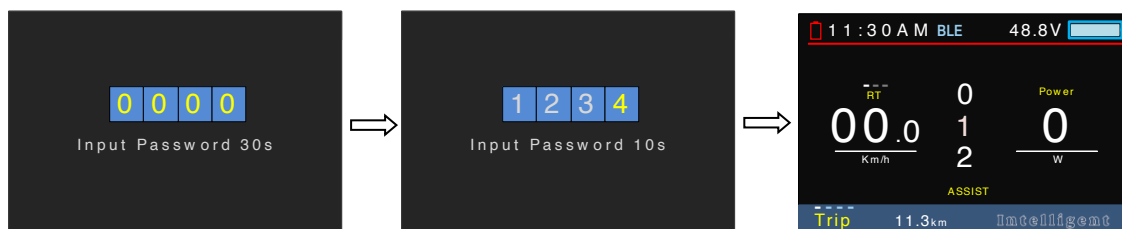
There are two ways to unlock display when Start Password had been activated.

- (1) **Bluetooth unlock:** If you had paired smartphone with 750C already, 750C will skip the start password by Bluetooth connection.



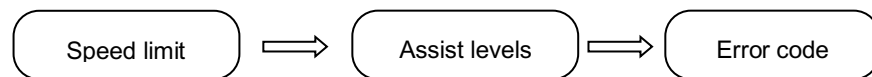
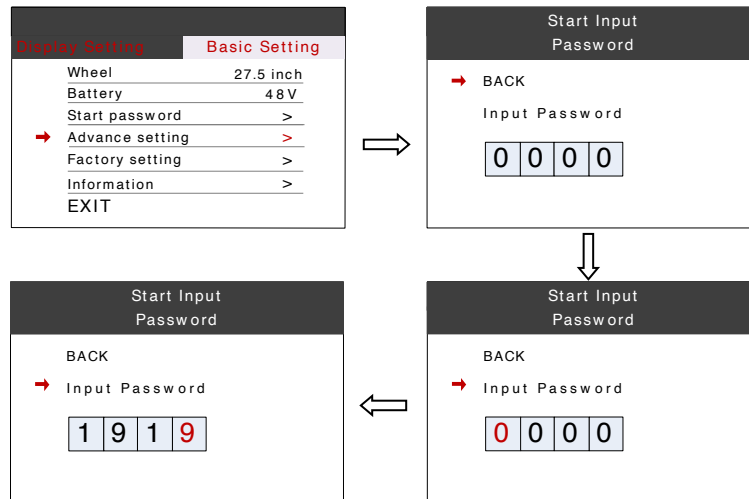
Display will connect with your smart phone automatically if they had been paired before.

- (2) **Input preset password:** Please input preset password in 30 seconds, display will power off automatically if the password was wrong for three times.

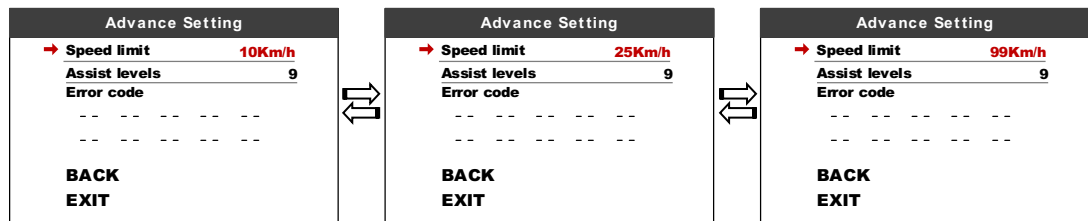


8.2.4 Advance setting

Press **MENU** button can get into the advance setting menu, default password is '1919'.

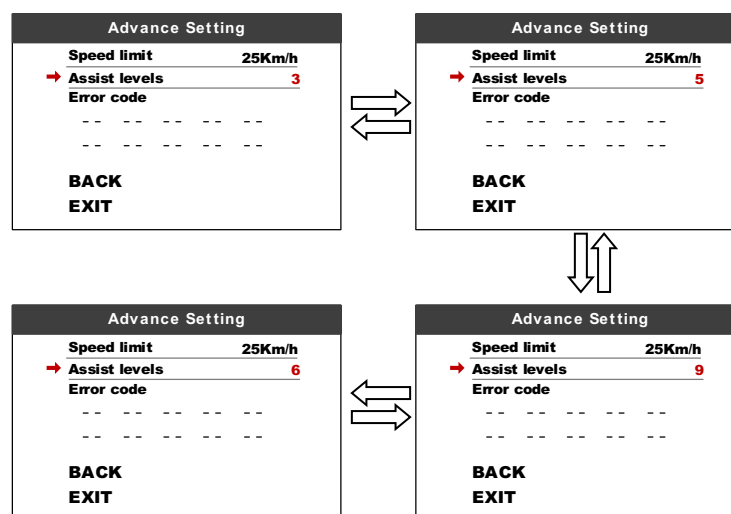


- **Speed limit** : Press **UP/DOWN** will change speed limit, range 10km/h~99km/h. Default value is 25km/h.



*Speed limit and current limit are restricted by controller and motor.

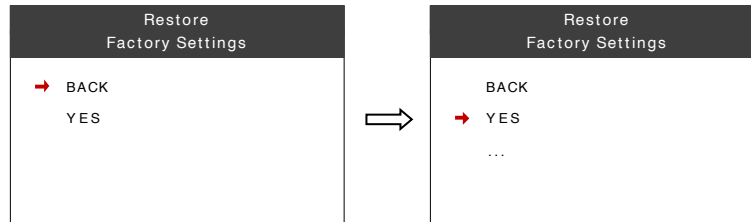
- **Assist levels** : This parameter can customize assist levels, options are 3/5/9/6.



- **Error code**: Error messages can be displayed. Select Back to return to Advance Setting.

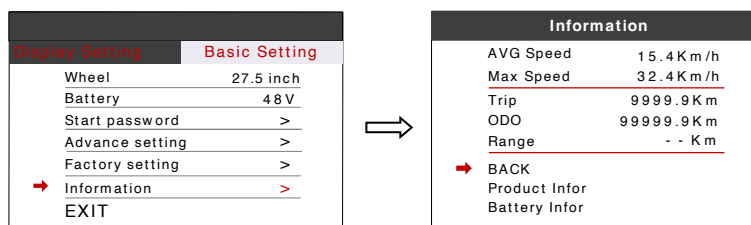
8.2.5 Factory setting

Press **MENU** button enter Restore Factory Settings item, set YES will restore all parameter to factory settings.

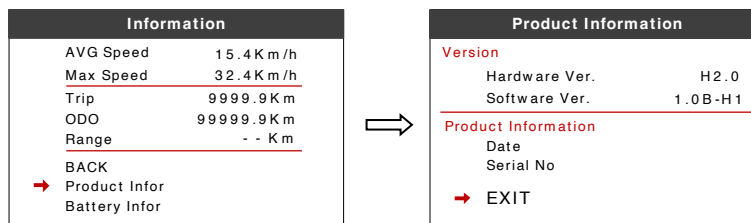


8.2.6 Information

Show information of the E-bike.

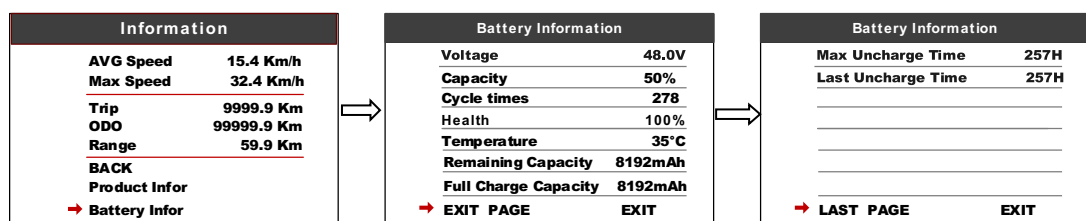


- **Product info:** Get into this item can show hardware version software version...



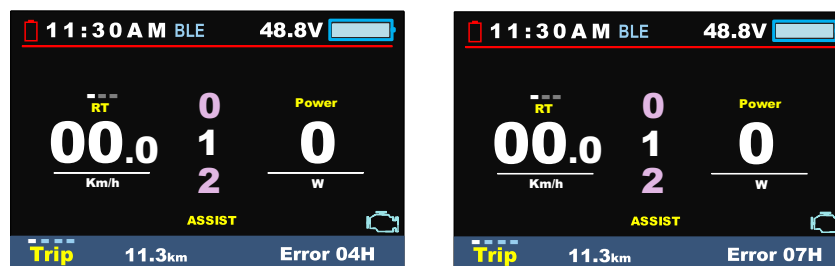
- **Battery info :** Get into this item can show all information of battery, including Voltage, Capacity, Cycle times, Health, Temperature of battery, Remaining Capacity, Full Charge Capacity, Max Uncharge Time, Last Uncharge Time.

*These information needs to be supported by battery communication.



9. Errors code

Display shows warning message,  icon shows on the screen, and show error code at the bottom of the screen, error code from 04~30, definition see the table below.



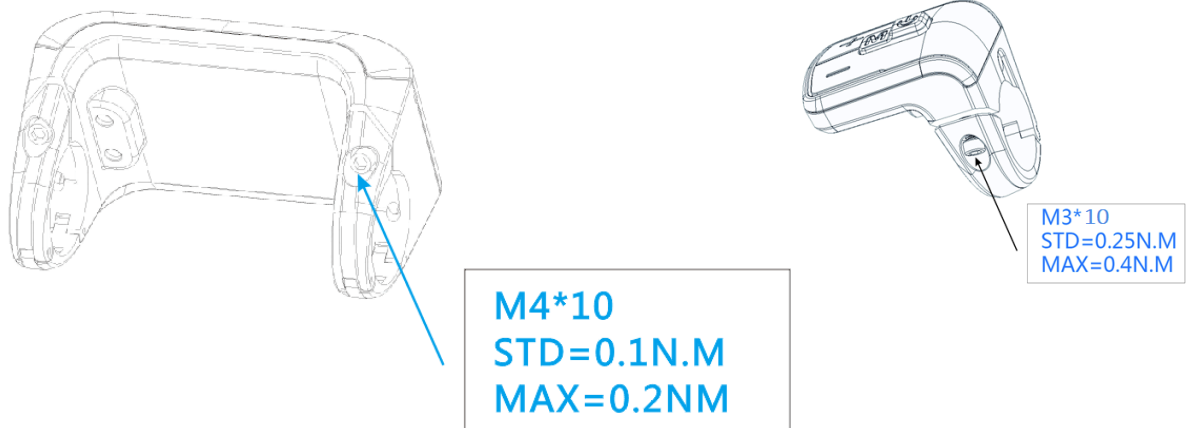
Error code prompt page

Error Code	Error description	Handle
04	Throttle error	Check throttle and connection
05	Throttle turn back fault	Check throttle and connection
07	Overvoltage protection	
08	Hall error	Check the hall connection
09	three-phase power error	Check three-phase power line connection
10	The controller is overheated	Stop using 10 minutes to restart
11	Motor overheating	Stop using 10 minutes to restart
12	Current sensor error	Check the sensor connection
13	battery temperature abnormality	Stop using 10 minutes to restart
14	Motor temperature sensor is abnormal	Check the sensor
15	Controller temperature sensor failure	Check the sensor
21	Speed sensor fault	Check the sensor
22	BMS Communication Error	Check the cable connection
23	Headlight error	Check the cable connection
24	Headlight sensor error	Check the cable connection
25	Torque sensor signal error	Contact the supplier
26	Torque sensor speed error	Contact the supplier
30	Communication Error	Check the cable connection

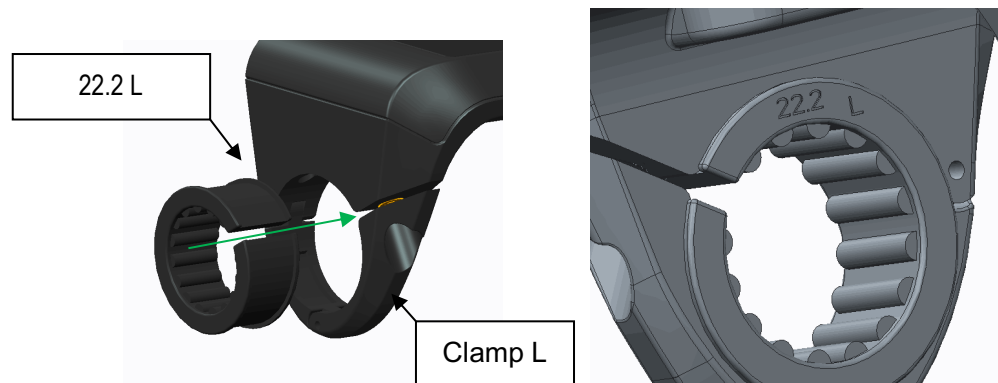
10. Assembly instructions

Please pay attention to the torque value, exceeding the maximum torque can damage the part.

Electrical or pneumatic tools is not recommended.

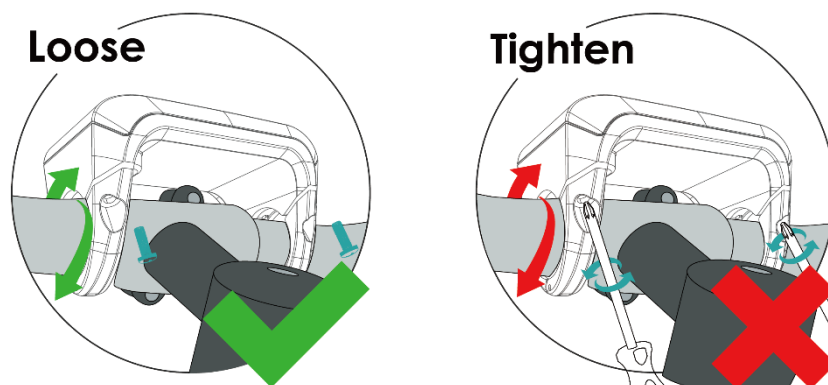


Clamps suit for 3 sizes of handlebar, 31.8mm, 25.4mm, 22.2mm, there are transfer rings for 25.4mm and 22.2mm (marked with L or R), transfer ring must be assembled with the special directions, pay attention to the green arrow below.



11. Install and use precautions

Do not adjust viewing angle before loose the screws.



12. Copyright Notice

Questions about your e-bike, please contact with dealer firstly.

APT reserves the right to modify this specification file, without declaration in advance.

Content and Image owner: APT (Tianjin) Development Co., Ltd.

1001, Building 5 HuaDing, No.1 HuaKe 3 Road, Binhai hi-tech Industrial Development Zone, Tianjin, China

website: www.apdevelop.com

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.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.