

Specification

September 2025

Product: E-Bike Display

APT Model: MiniTouch

Client Model: MiniTouch

Client:

Client Check:

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1 Product model

Model: MiniTouch

2 Suppliers

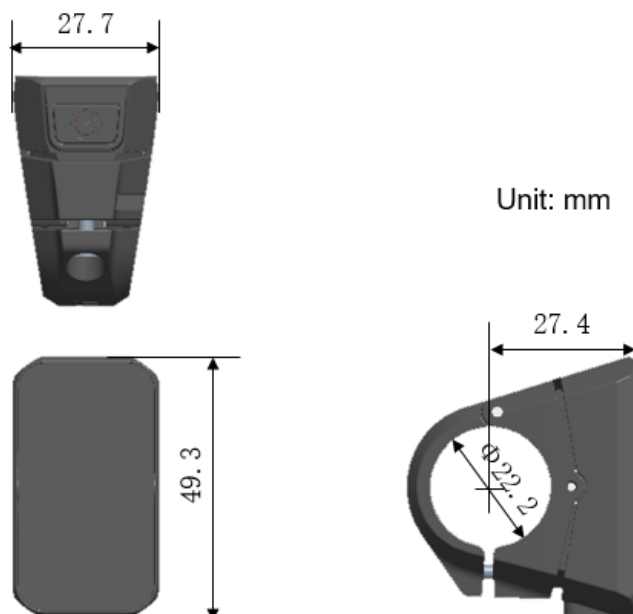
APT (Tianjin) Development Co., Ltd.

3 Specifications

- 1.45inch TFT screen(IPS 172*320 pixel), capacitive single-touch screen
- Operating voltage:
 - Low voltage version: 24V/36V/48V/52V
 - High voltage version: 48V/52V/60V/72V
- Maximum output current to controller: 1A、off-leakage current <5μA
- Operating temperature : -15~40°C、Storage temperature -20~50°C
- IP67
- EN15194/2017
- RoHS

4 Dimensions and Material

Shell and bracket is made with ABS+ PC, panel is tempered glass.



5 Features

- **1.45inch TFT screen (IPS 172*320 pixel), Capacitive single-touch screen**
All items can be set through touch screen conveniently.
- **Multi-Language**
Supports multilingual customization, suitable for use in more countries and regions.
- **Tempered glass panel, GF full lamination process**
High strength and scratch resistance, improve outdoor readability, no mists
- **Speed:** Speed (Real-time), AVG Speed, MAX Speed
- **Metric / Imperial**
- **Smart battery indication:** Capacity (percentage) or Voltage
- **Mileage mode:** TRIP A (Data is reset after power-off), TRIP B (Data is saved after power-off), Odometer, Range(Controller support required).
- **Riding-time mode:** [The Display's power-on time\(in minutes increments\)](#), TIME A (Data is reset after power-off) , TIME B (Data is saved after power-off).
- **Brightness setting:** Day and Night Brightness can be set independent.
- **Power indication:** Real-time Power(W) or Current(A).
- **Assist levels:** 3-level/5-level/9-level/UBE can be set according to user needs.
- **Errors Code tips**
- **6KM Walking mode**
- **Bluetooth**
- **Firmware upgrade:** Upgrade the Logo individually

6 Main page



- **Battery voltage:** Capacity (percentage) or voltage.
- **Battery indication:** Provide a reliable battery Power indicator.
- **Headlight:** Head Light on/ off.
- **Brake**
- **Power:** Real-time Power or Current.
- **Speed/Mileage Mode:** TRIP A (Data reset after shutdown), TRIP B (Data is saved after shutdown), Odometer, TIME A (Data reset after shutdown), TIME B (Data is saved after shutdown), AVG SPEED, MAX SPEED, Range.
- **Speed Value:** Real-time Speed, Km/h or MPH.
- **Errors Code:** Displayed when checking errors.
- **Assist Level:** Display the current assist level.

- **Bluetooth indication:** Display Bluetooth connection status.

7 Functional Description



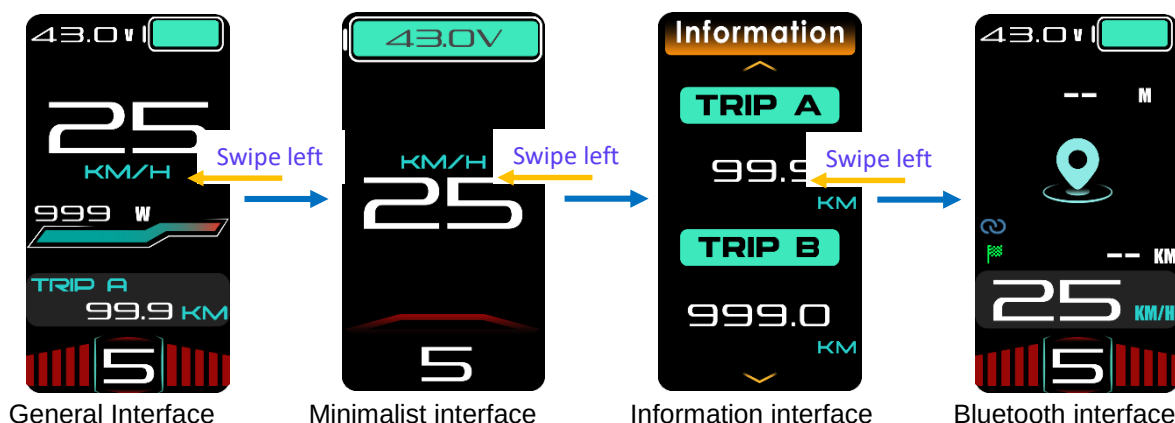
7.1 Power On/Off

Press and hold **POWER** button for 2 seconds, you can turn on/off the display. The Display can automatically turn off when there is no operating & riding for 5 minutes. (Length of time can be set, refer to 8.1.4 'Auto Power off Setting')

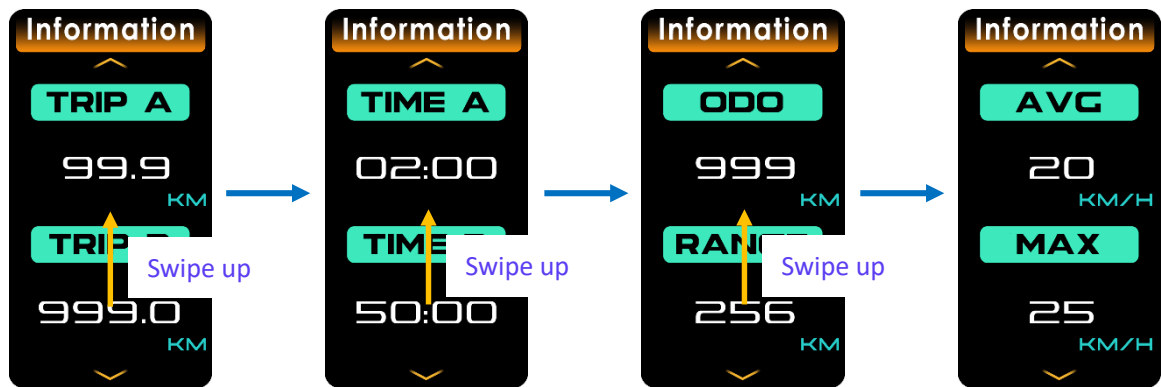
*If the Display is set with a start password, it can only work normally after entering the correct password.

7.2 User interface operating

User interface includes General Interface, Minimalist interface, Information interface and Bluetooth interface. You can switch between these interfaces by swiping left or right on the screen.



In the Information interface, swipe up or down on the screen to display TRIP A, TRIP B, TIME A, TIME B, ODO, RANGE, AVG SPD, and MAX SPD information.



Information interface

7.3 Assist level

Click **UP/DOWN** button to change assist level. If the default setting is 5rd level: Top assist level is 5, 0 for neutral.

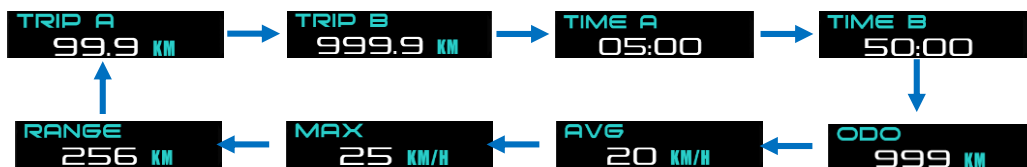
Level quantities can be adjusted according to the customer requirements.



Assist level

7.4 Speed & Mileage mode

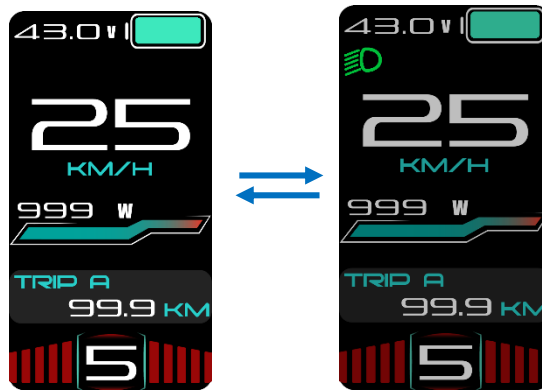
Click **POWER** button can display speed and mileage information on General interface, sequence as below:



TRIP A → TRIP B → TIME A → TIME B → ODO → AVG SPEED → MAX SPEED → RANGE → TRIP A

7.5 Headlight/Display Mode

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



* The brightness of the Display can be customized. 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)

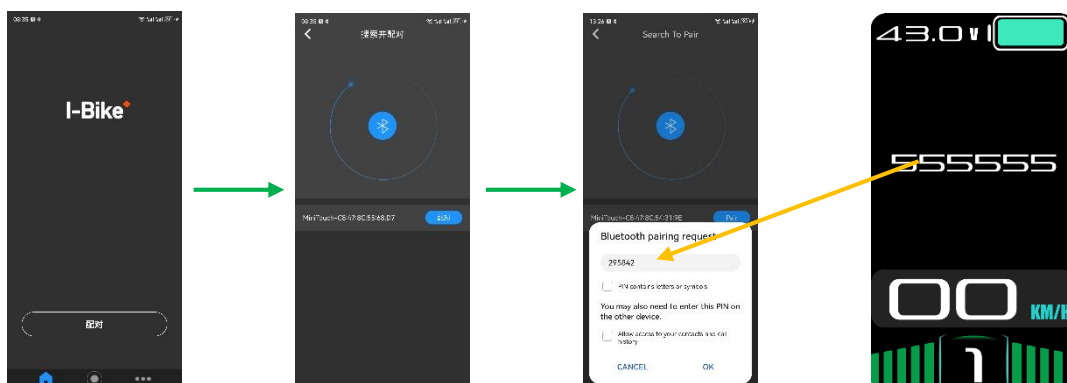
Press and hold **DOWN** button for 2 seconds can get into walking mode, show  on screen, out of walking mode when releasing button.



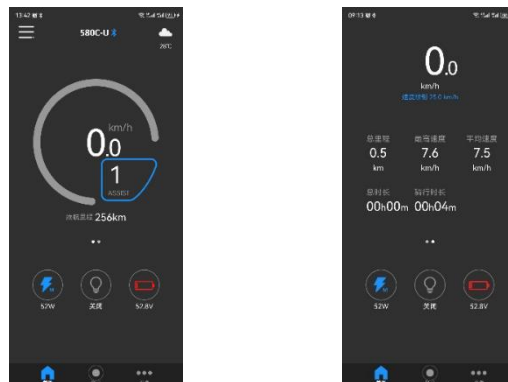
7.7 Bluetooth

Installing the “I-Bike” mobile app, turn on the Bluetooth of the mobile phone.

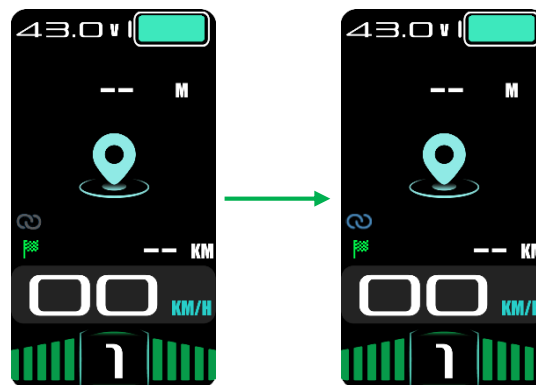
Open “I-Bike” app, click “Pairing”, find the Display to be connected and click. In the pop-up "Bluetooth pairing request" dialog box, enter the 6-digit pairing key displayed on the Bluetooth interface of the Display, and then click "OK".



After the Bluetooth pairing is successful,  is displayed in blue, and the I-Bike APP will enter the main interface. When the mobile phone receive calls, messages, etc., the instrument can display the corresponding reminder icon.



Main Interface

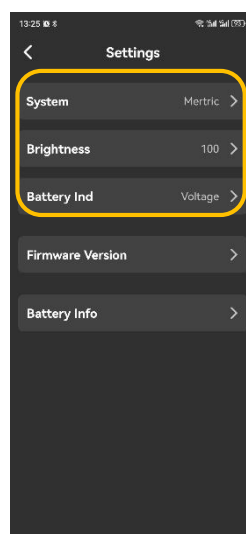


Before Bluetooth connection

After Bluetooth connection

➤ Settings

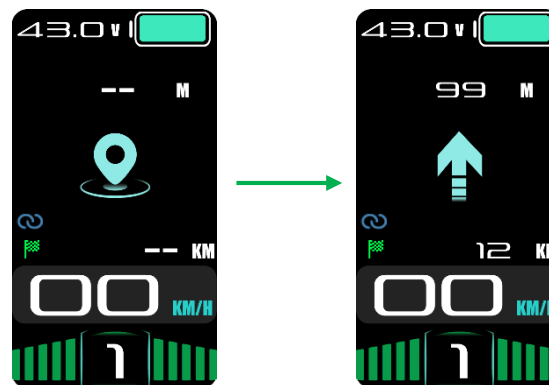
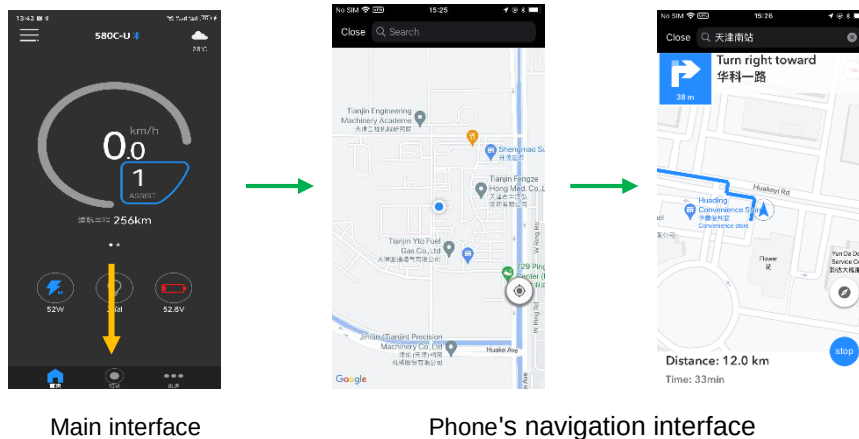
Click  in the upper left corner of the main APP interface to enter the setting interface to view or modify relevant parameters.



Setting parameters

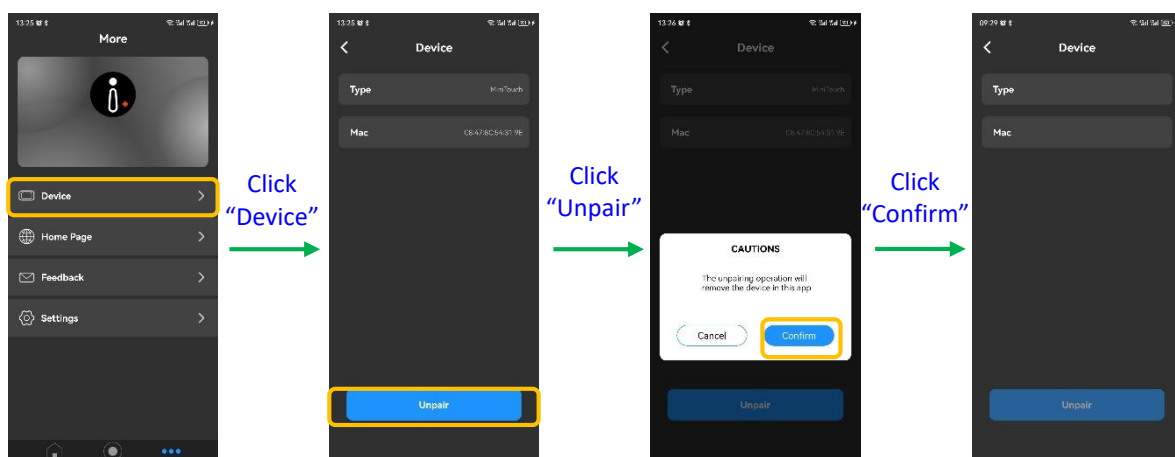
➤ Navigation

Click "Record" to enter the navigation interface of the "I-Bike" APP; After starting navigation, the instrument Bluetooth interface can display navigation information.



➤ Unpair

At the bottom of the main interface of "I-Bike" APP, click "More", and then in the "Device" option, you can remove the Bluetooth connection with the paired instrument.



*Phone that has successfully connected to the Display's Bluetooth does not need to be paired again.

*The version information of the “I-Bike” APP is displayed in “More” on the main interface of the APP.

***Please note:**

For some Android™ driven smartphones, there might occur eventual Bluetooth™ connection problems with the APT display due to software mismatches.

7.8 Data cleanup

Press and hold **UP** & **POWER** button together for 2 seconds can clean temporary data (TRIP B, TIME B, AVG SPD, MAX SPD).

* Temporary data is automatically saved when power off. Abnormal power outage will cause data lost.

* Restore Factory Mode (advanced settings in Menu Page) can clear temporary data (TRIP B, TIME B, AVG SPD, MAX SPD, MENU settings) except ODO.

* ODO will reset to zero over 99999. TRIP will reset to zero over 9999.9.

* TIME will reset to zero over 99:59.

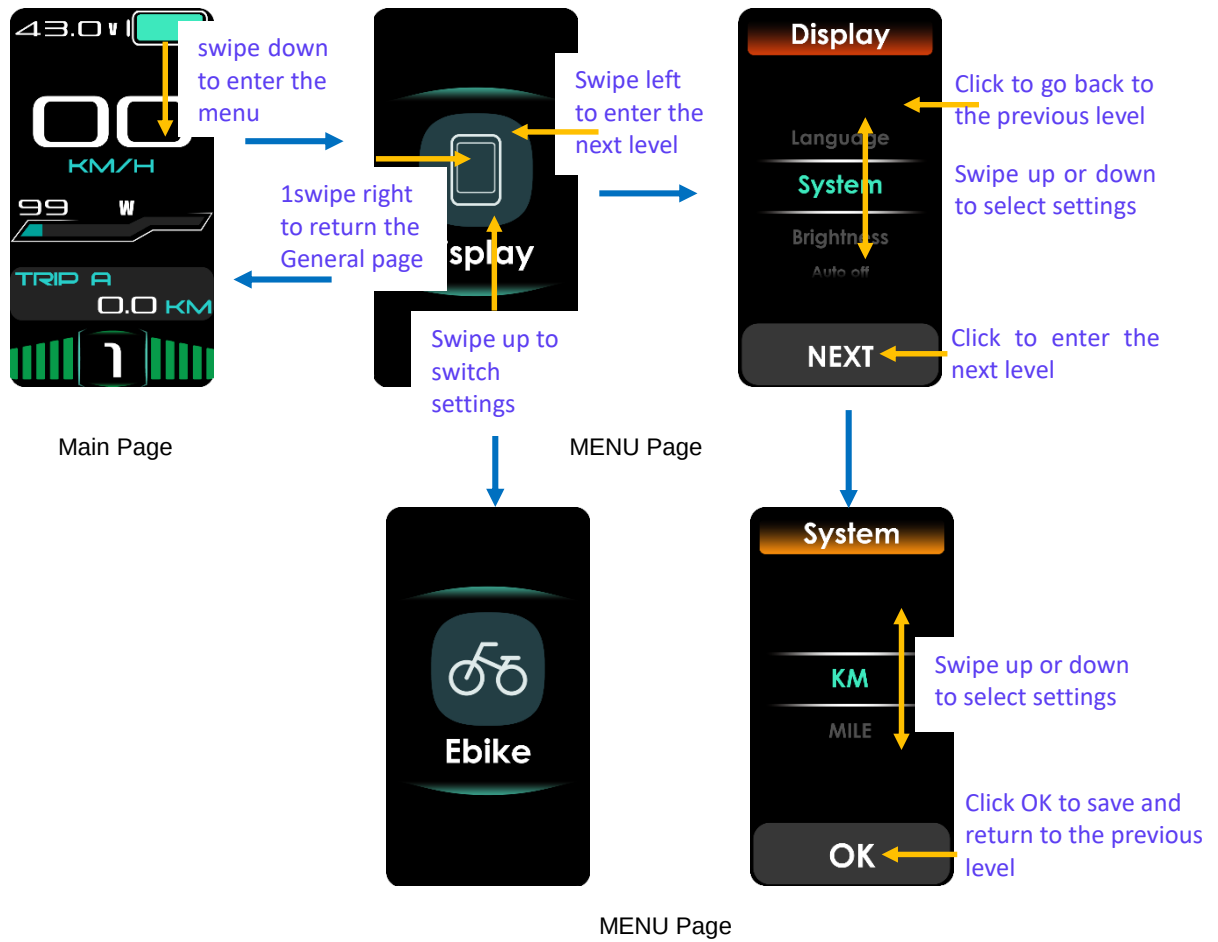
8 Menu Page

In the Main interface, swipe down from the top of the screen to enter the MENU settings. In this state, use touch screen controls to set the instrument parameters.

* Display will automatically quit MENU if there is no operation for 30 seconds.

* For safety reason, display will be locked on Main interface when riding (speed over 2 km/h), function of MENU will be deactivated.

* Display didn't save setting until click OK to confirm.



8.1 Display settings

Basic settings include several items: Language, System, Brightness, Auto off.



8.1.1 Language

The default language is English and cannot be adjusted.



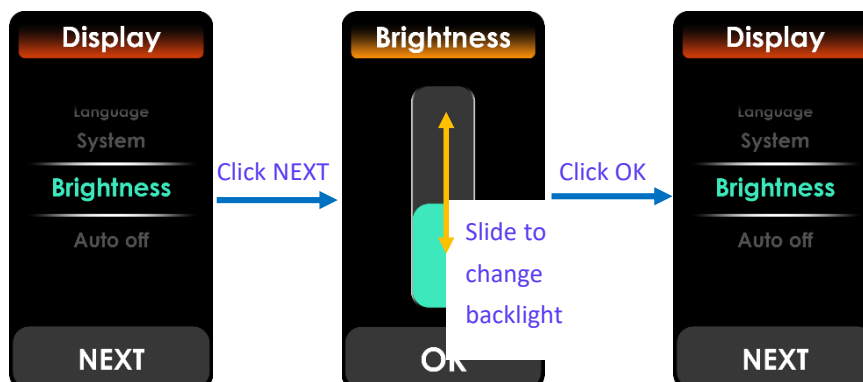
8.1.2 System

Select Metric or Imperial(KM/MILE).



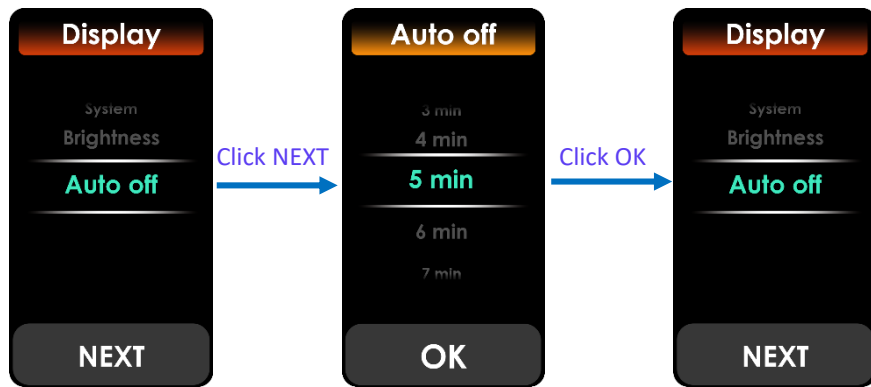
8.1.3 Brightness

Use slide bar to set the backlight brightness for both the on and off states of the light.



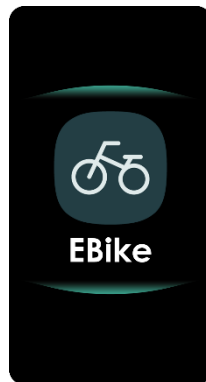
8.1.4 Auto off

This item enables to set the automatic shutdown time of the display, from 1 to 10min. Default value is 5 minutes, represents display shut down when there was no operation and riding for 5 minutes. OFF indicates that the display disables automatic shutdown.



8.2 EBike settings

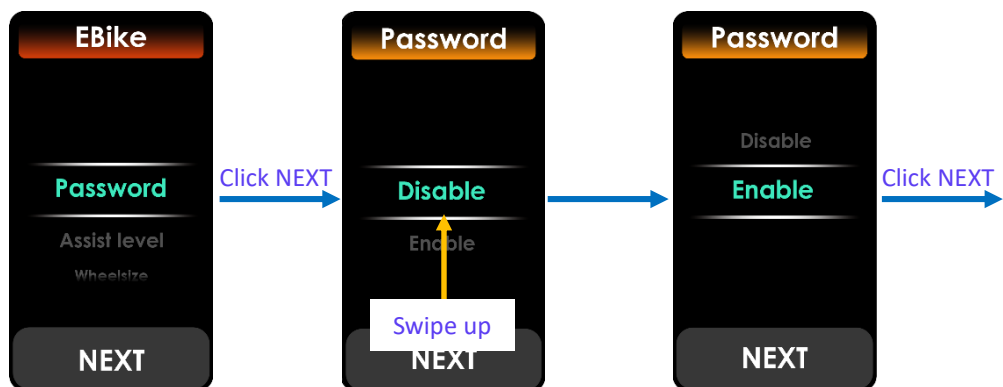
EBike settings include Password, Assist level, Wheelsize, Voltage, Battery Ind, Pow Ind.



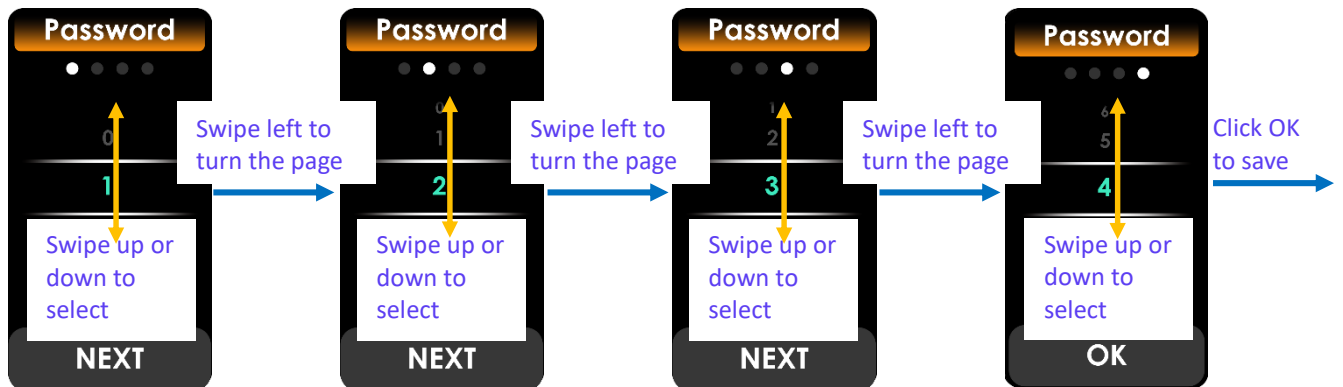
8.2.1 Password

The password includes two parameter settings: Power-on password (Disable/Enable) and 4-digit password.

If you had set Power-on password Enable, you must input right password before power on.

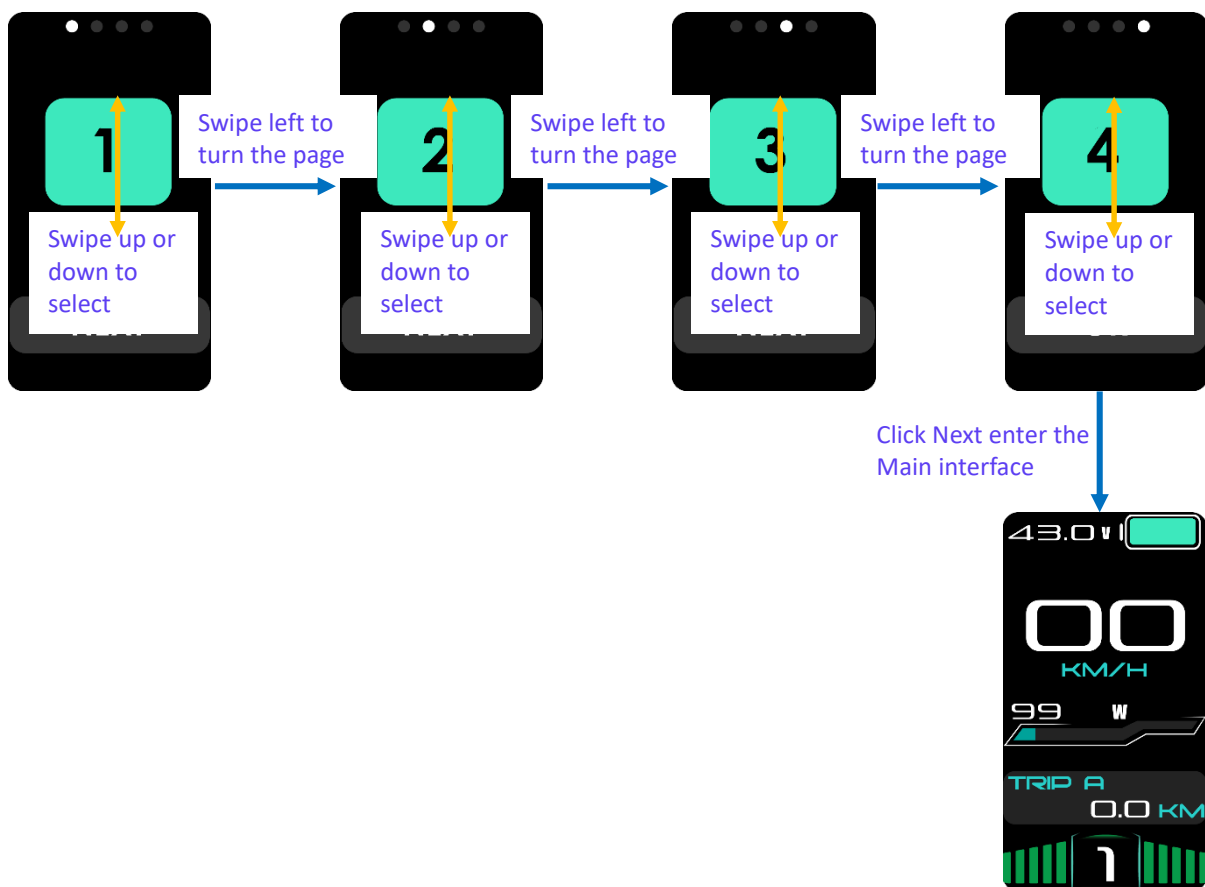


Set up Power-on password



Set up 4-digit password

You need to input the right password before start.



* If the correct password is not entered within the specified time or the password is entered incorrectly three times, the Display will automatically shut down.

* Press and hold the **POWER** button for 2 seconds to shut down while entering the password.

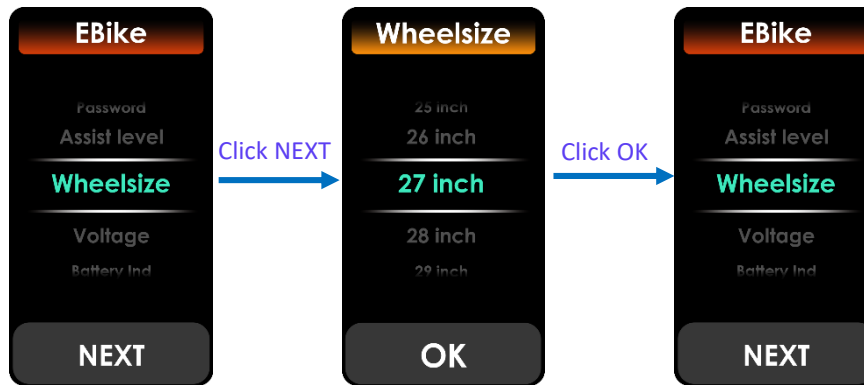
8.2.2 Assist level

This item can select assist levels, options are 3/5/9/U.



8.2.3 Wheelsize

This item can select wheel diameter, including 12/14/16/18/20/22/24/26/27/27.5/28/29/30/31 inch, 51~250cm. Incorrect wheel diameter selection can lead to abnormal speeds.

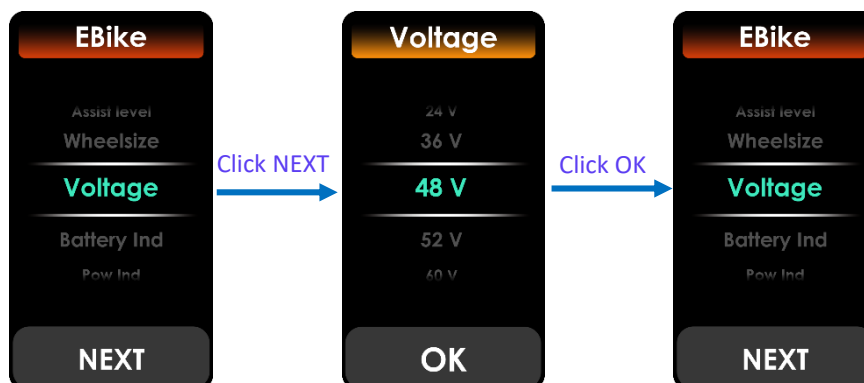


8.2.4 Voltage

This item can select battery voltage setting:

Low Voltage: 24V/36V/48V/52V

High Voltage: 48V/52V/60V/72V



8.2.5 Battery Ind

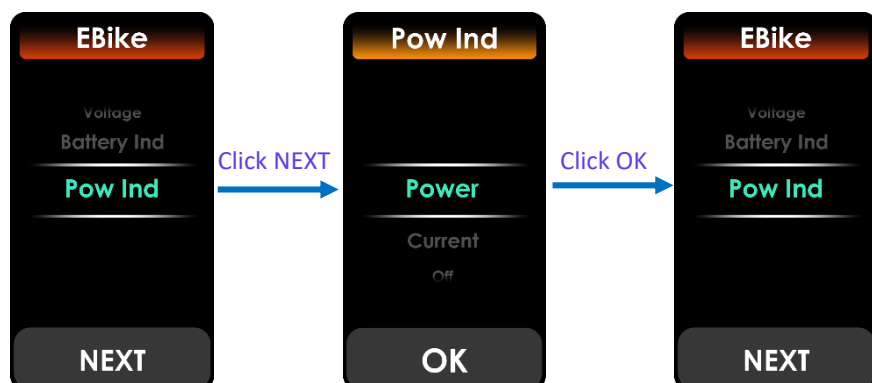
The battery remaining charge display settings on the main interface: 'Off', 'Voltage', and 'Percentage'.



8.2.6 Power Ind

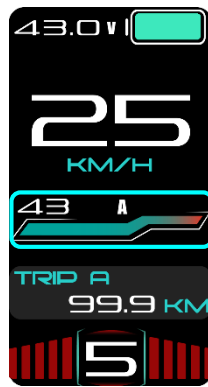
This item set power indicator on Main Page, 'OFF', 'Power(W)' and 'Current(A)'.

Note: Power indicator represent battery's output power (current), not motor.

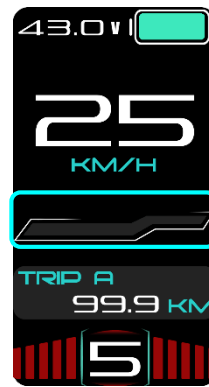




Output power (W)



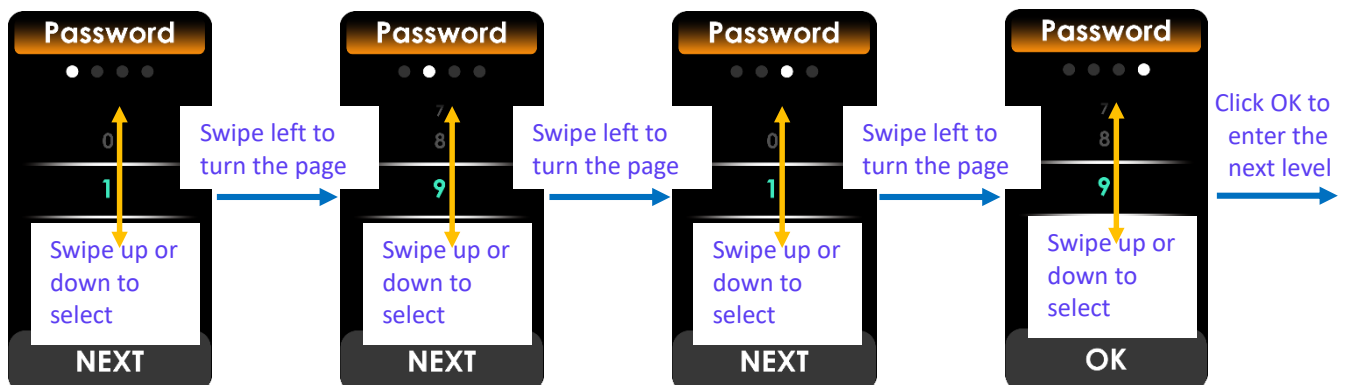
Output current (A)



Power (OFF)

8.3 Advanced setting

Advanced settings have password to prevent illegal modification, default password is '1919', password may be different according to request. Input correctly password to enter advanced setting page.



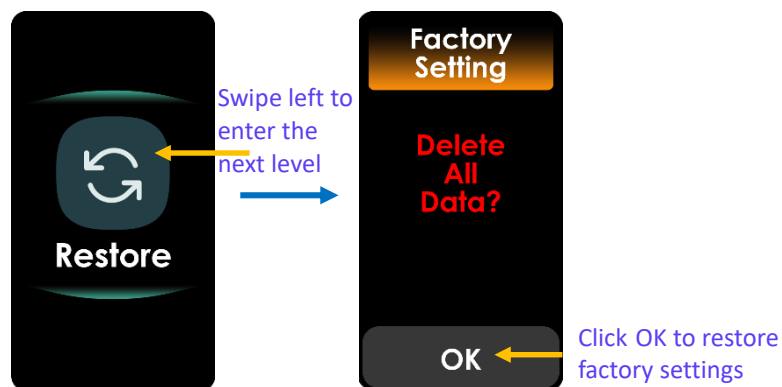
Advanced settings include Speed Limit, range 10km/h ~ 60km/h、99m/h (6.2Mile/h ~ 37.2Mile/h, 61.4 Mile/h) .



* The maximum speed is limited by the motor and controller and may not reach the set value.

8.4 Factory setting

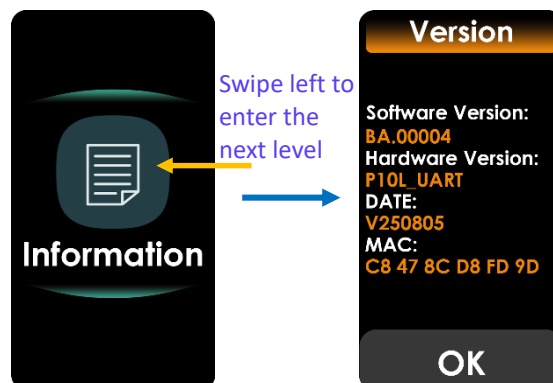
Click 'OK' will restore all setting to factory defaults, it also clear temporary data.



Note: ODO data will not be reset.

8.5 Information

The information display interface includes: Software Version, Hardware Version, DATE and the Display's MAC.



9 Errors code

Display shows error code and  at the top of the screen when system checked abnormal.



Error Code	Error description
04	The throttle does not return
05	The throttle fault
06	Lowvoltage protection
07	Overvoltage protection
08	The motor Hall signal line fault
09	Motor phase wire fault
10	Controller temperature is high and has reached the protection point.
11	Controller temperature sensor fault
12	Current sensor fault
13	Malfunction of Battery temperature
14	Motor temperature sensor fault
21	Controller temperature sensor fault
22	BMS Communication fault
23	Headlight fault
24	Headlight sensor fault
25	Torque sensor signal fault
26	Torque sensor speed fault
30	Communication fault (The Display automatically detects communication faults and the controller does not upload this information)

10 Assembly instructions

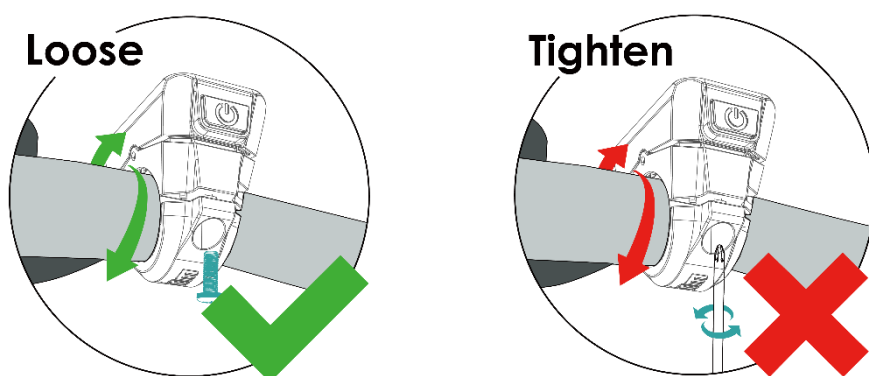
Please pay attention to the torque value, exceeding the maximum torque can damage the part.

Electrical or pneumatic tools is not recommended.



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.aptdvelop.com

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.

Changes or modifications to this unit 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.

This device and its antenna(s) must not be co-located or operation in conjunction with any other antenna or transmitter.

Radiation Exposure Statement

The device has been evaluated to meet general RF exposure requirement in portable exposure condition without restriction.