
Product Specification

01/2020

Product	TFT Display
Mode	APT TFT 750C
Abbreviation	750C

Client

Customer

audit

Supplier	APT(Tianjin) Development Co., Ltd.
-----------------	------------------------------------

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

Tel	TEL:+86 22 83715556 FAX:+86 22 83719955
------------	--

Email	<u>yzhao@aptdevelop.com</u>
--------------	---

1. Product Name

- ◇ TFT display
- ◇ Model : APT TFT 750C

2. Suppliers

- ◇ APT (Tianjin) Development Co., Ltd.
- ◇ Email : yzhao@aptdevelop.com apt@aptdevelop.com

3. Electrical Parameters

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

4. Dimensions & Material

- ◇ Product shell is ABS, transparent window is made with high strength Acrylic.
- ◇ Dimensions : host/L110mm*W68.2mm*H68mm

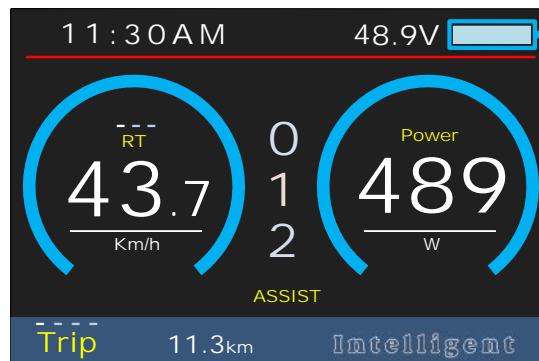


5. Features

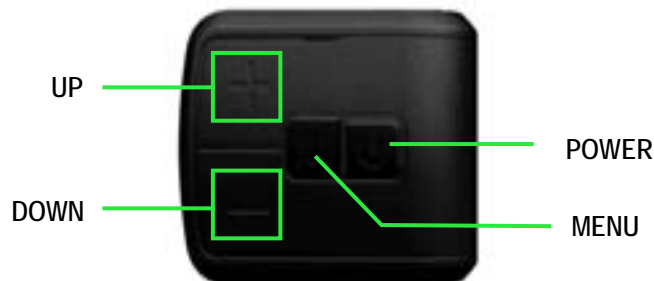
- ◇ Suitable for low temperature, Max -20°C.

- ✧ 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/Range.
- ✧ **Power indicator:** real time power indicator, digital or analog.
- ✧ **6km walking**
- ✧ **Error code indicator.**
- ✧ **Software upgraded:** Software can be upgraded through UART.

6. TFT screen instructions



7. Functional Description



7.1 Power On/Off

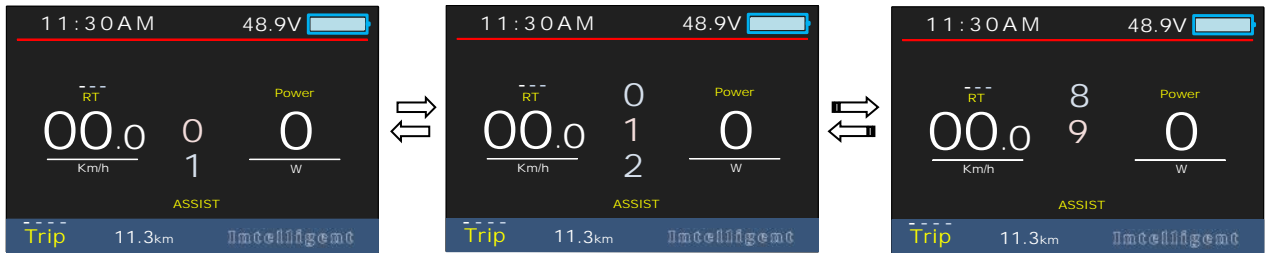
Press and hold **Power** button for 1 second can turn on/off the display. The Display can automatically shut down when there is no operate & ride for X minutes (X could be

0~9) .

*If the display has been set password power on, you need to input the right password before start.

7.2 Assist level operating

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



7.3 Speed mode switch

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.

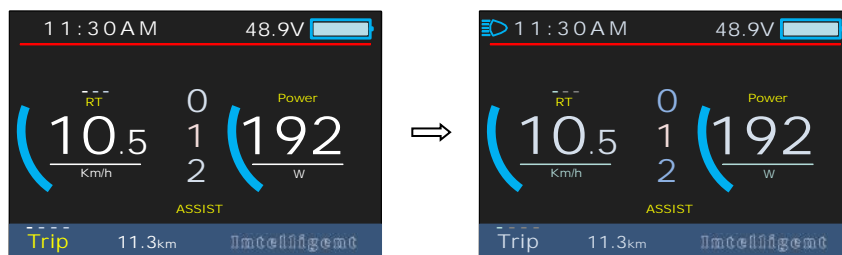
7.4 Mileage mode switch

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

7.5 Headlight/backlight On/Off

Press and hold **UP** button for 1 second can turn on/off the headlight, and the screen will switch to the corresponding mode.

*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.

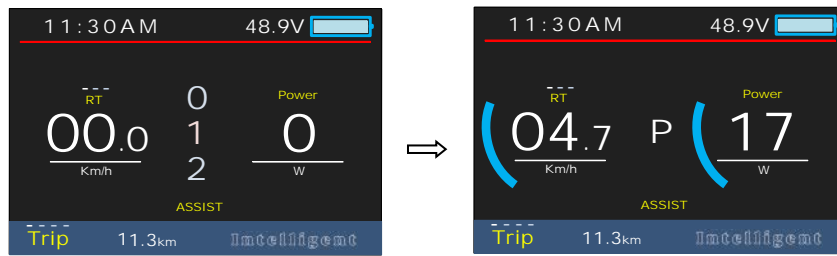


Daytime mode

night mode

7.6 Walking mode (6km)

Press and hold **DOWN** button for 2 second can get into walking mode, out of the mode when release the button.



* This feature needs to be supported by controller.

7.7 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

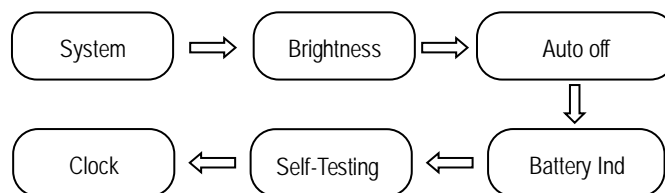
Double press **MENU** button (press interval less than 0.3 second) can get into setting menus, press **POWER** button to change **Display Setting / Basic setting**, press **UP/DOWN** buttons to change the parameter setting, press **MENU** button can switch to next item. Double press **MENU** button will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

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

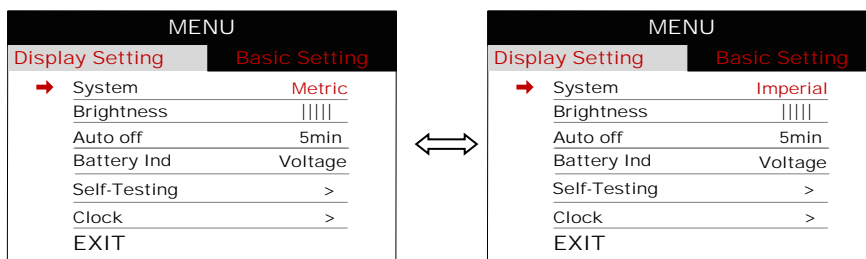
* For safety reasons, display can't get into MENU when riding.

* Display will quit MENU when start riding.

The order of parameters is as follow.

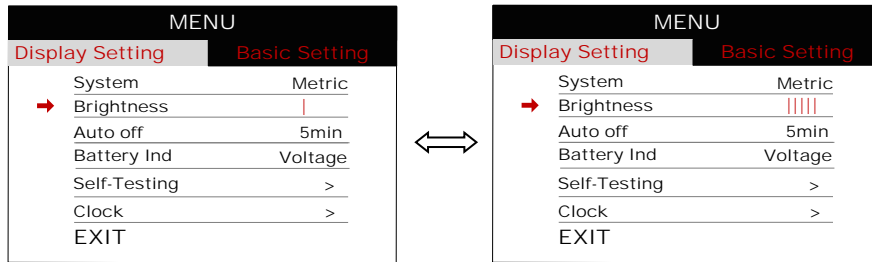


8.1 System : Press Up / Down button to switch between Metric / Imperial.

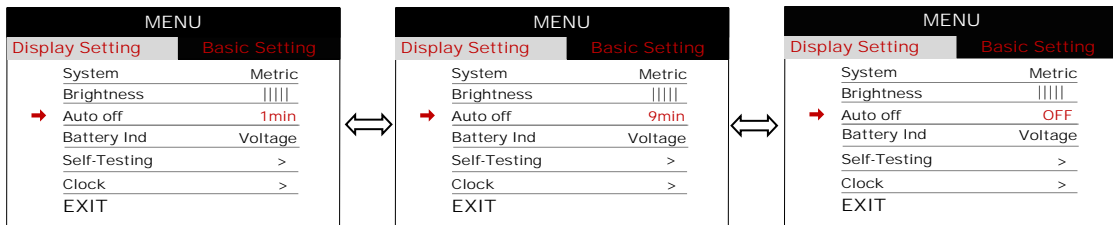


8.2 Brightness : Press Up / Down button to change the brightness of the backlight, | is

darkness, is brightness. The daytime mode defaults to , and the night mode defaults to .

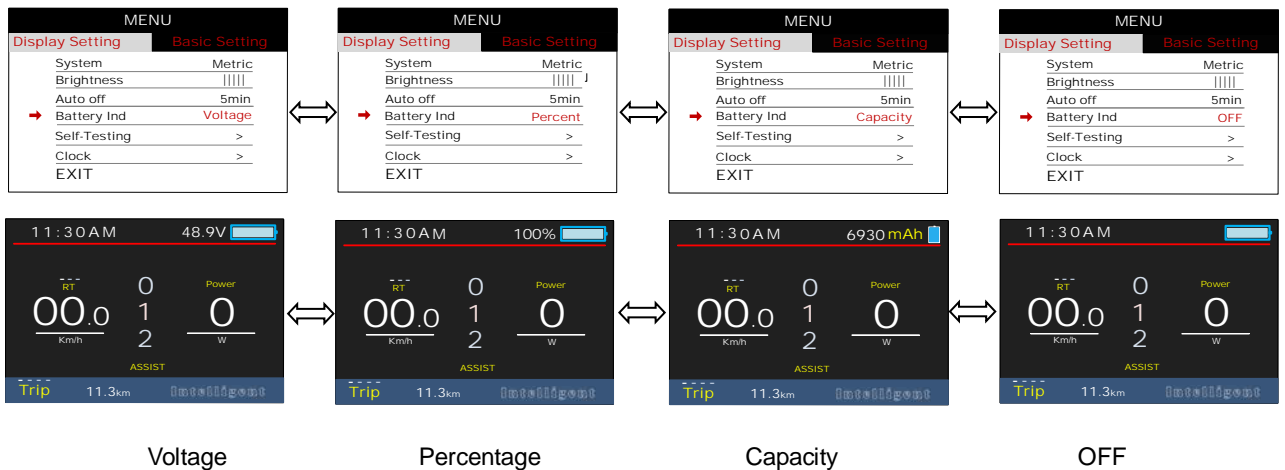


8.3 Auto off : Press UP/DOWN button to change the auto power off time, from 1 to 9 or **OFF**, the number represent time (minutes) to shutdown, default value is 5 minutes.

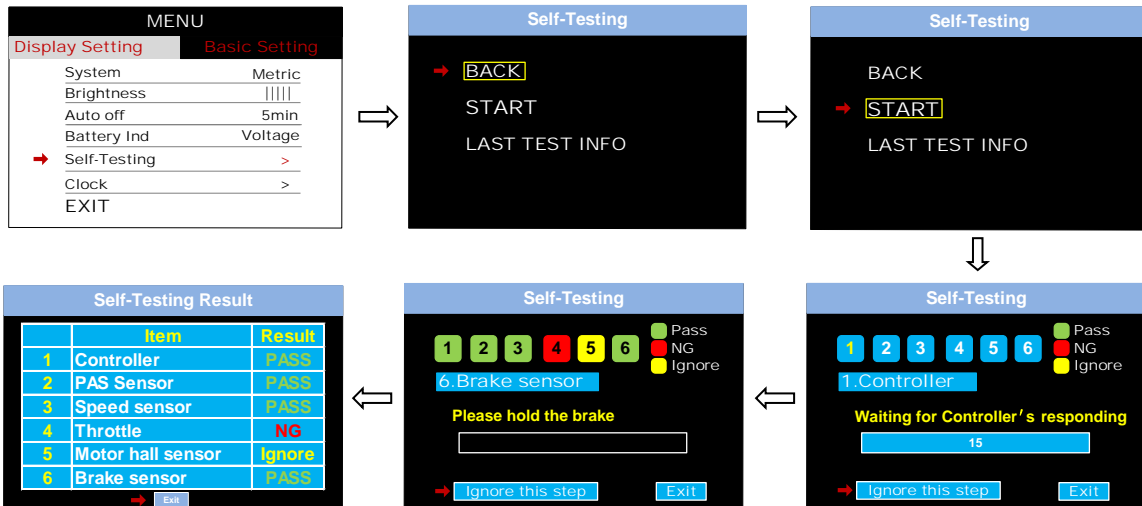


8.4 Battery Ind : Press UP/DOWN button to change the battery indicator, Voltage / Percentage / Capacity/ OFF.

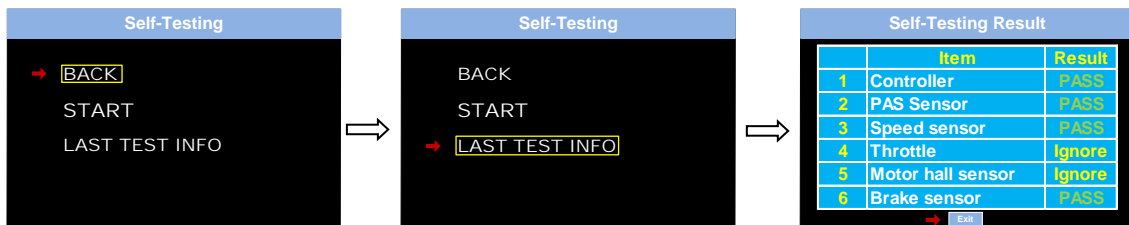
*Accurate percentage needs communication with battery.



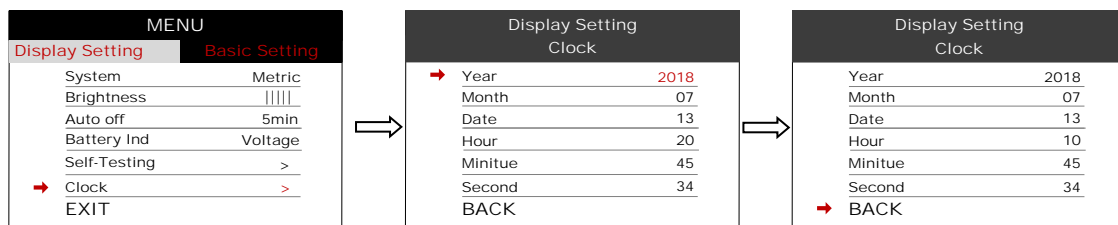
8.5 Self-Testing : Press **MENU** button to change **BACK/START/LAST TEST INF.** The self-test items are: Controller, PAS Sensor, Speed sensor, Throttle, Motor hall sensor, Brake sensor.



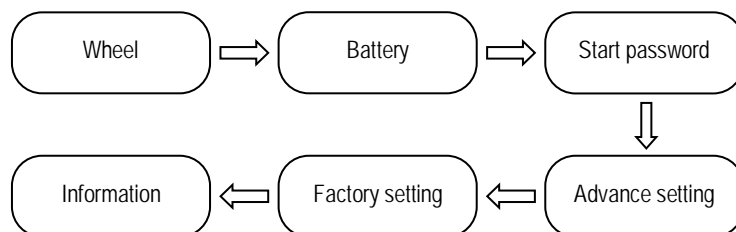
Note: After the test starts, you can press the MENU button to ignore the option test, and the test can still be performed in sequence.



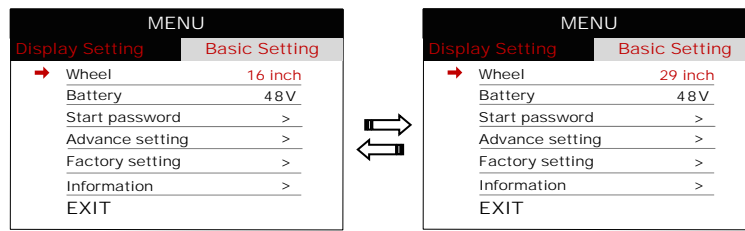
8.6 Clock : Clock setting, press **MENU** button get into the clock setting menu, press UP/DOWN button to set Year/Month/Day/Hour/Min/Sec.



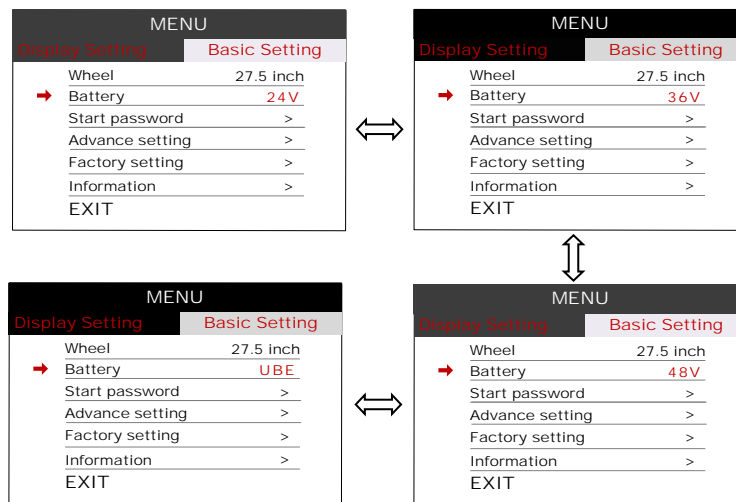
Basic Setting



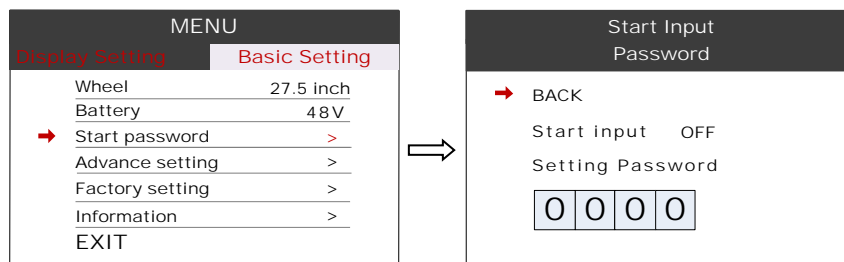
8.7 Wheel : Press UP/DOWN can change the wheel setting, optional wheel diameter is 16/18/20/22/24/26/27/27.5/28/29 inch (this needs controller support).



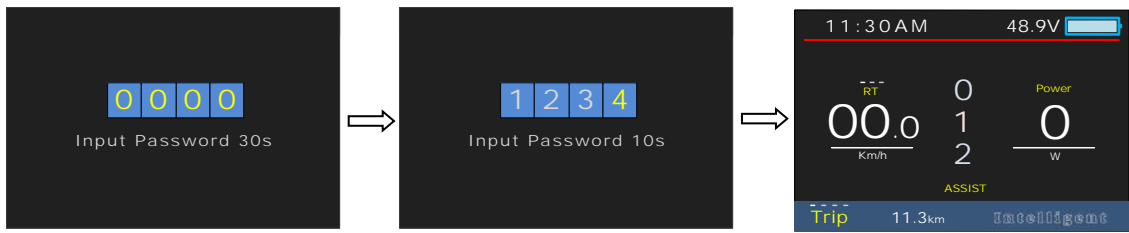
8.8 Battery : Press UP/DOWN will change battery voltage setting, optional value is 24V/36V/48V/UBE.



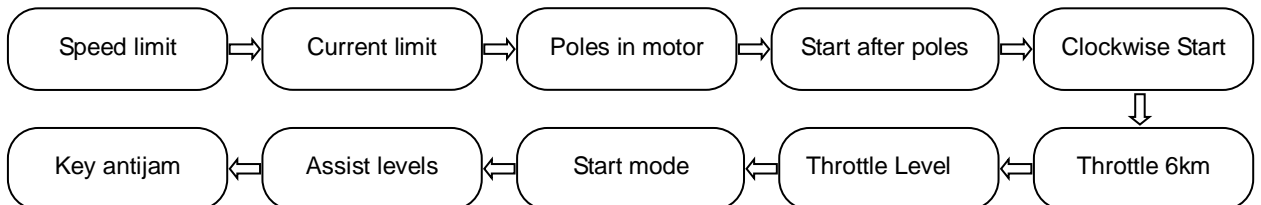
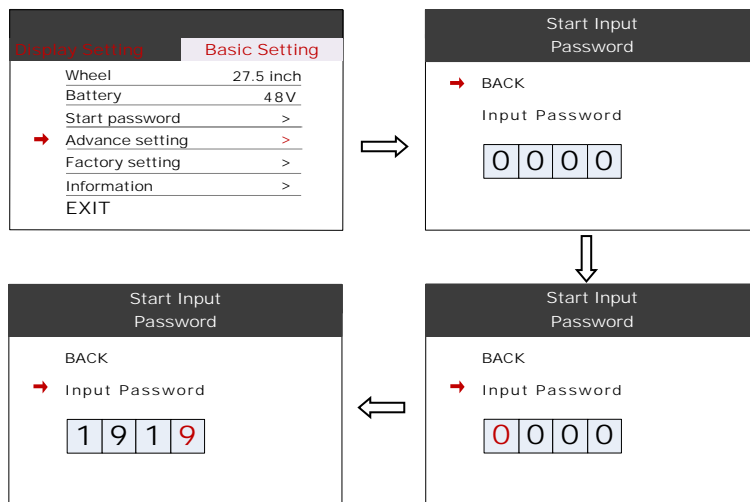
8.9 Start password : Press **MENU** button get into the password setting menu. If you had set Start input **ON**, you must input right password before power on, password is accorded to your setting.



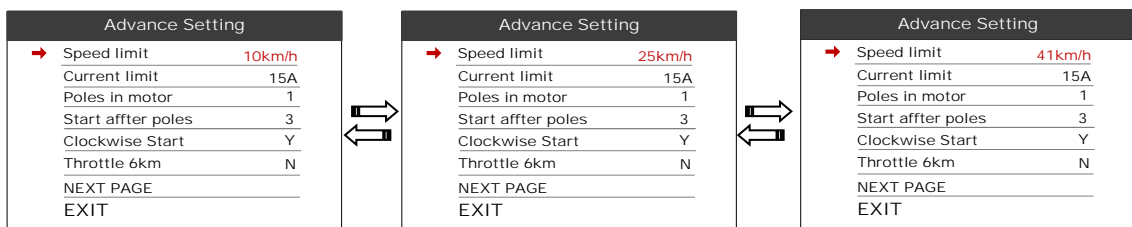
You need to input the right password before start with 30 seconds, display will power off automatically if the password was wrong three times.



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

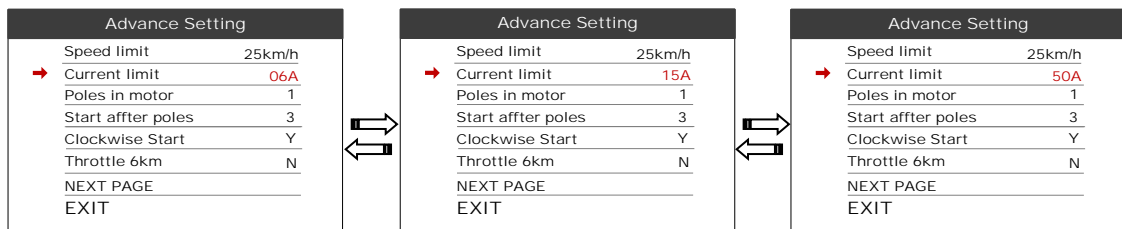


8.11 Speed limit : Press UP/DOWN will change speed limit, range 10km/h~41km/h. Default value is 25km/h.

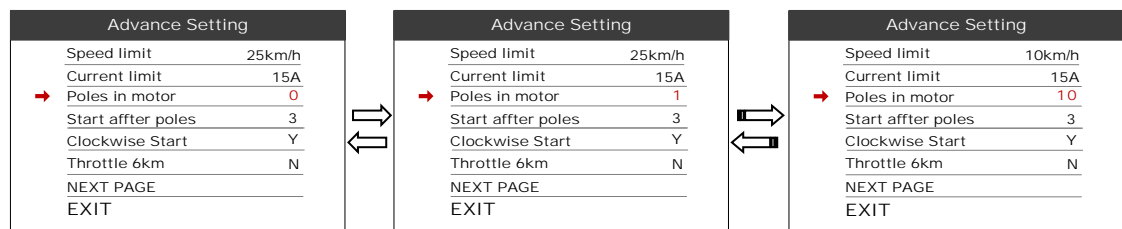


*Speed limit and current limit are restricted by controller and motor.

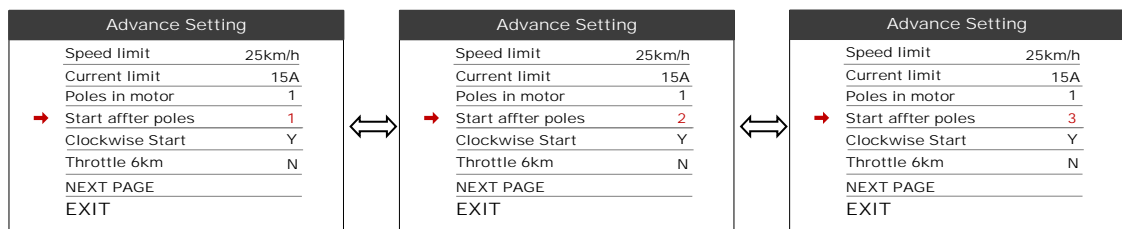
8.12 Current limit : Press UP/DOWN will change current limit, range 6A~50A. Default value is 15A.



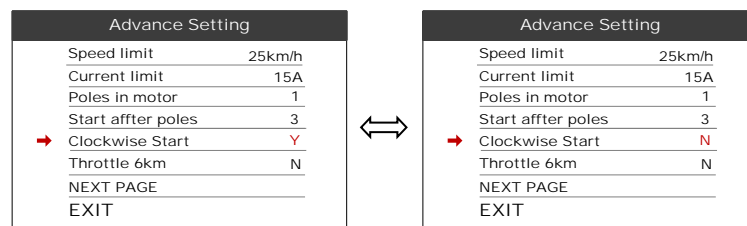
8.13 Poles in motor : Magnetic poles inside the motor, press UP/DOWN will change pole number, range 0~10.



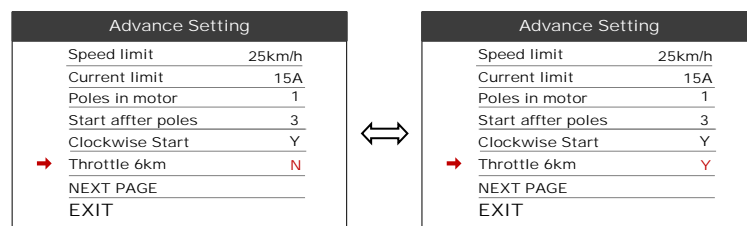
8.14 Start after poles : How many poles (speed sensor) need to be detected by controller before starting motor. Default value is 3.



8.15 Clockwise start : This parameter represent speed sensor turn direction, default value is Y (forward).

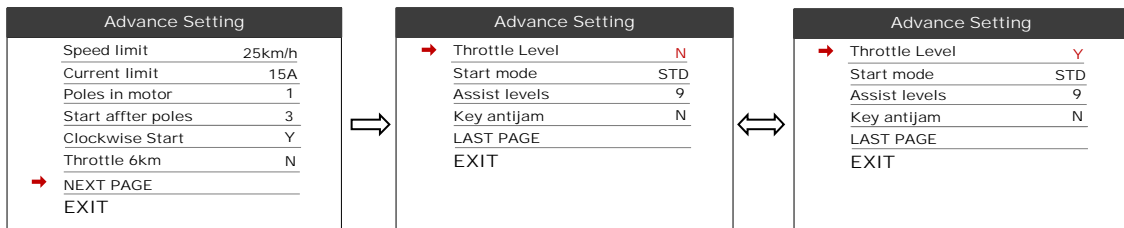


8.16 Throttle 6km : this parameter can set the throttle function, N represent max speed, Y represent 6Km.



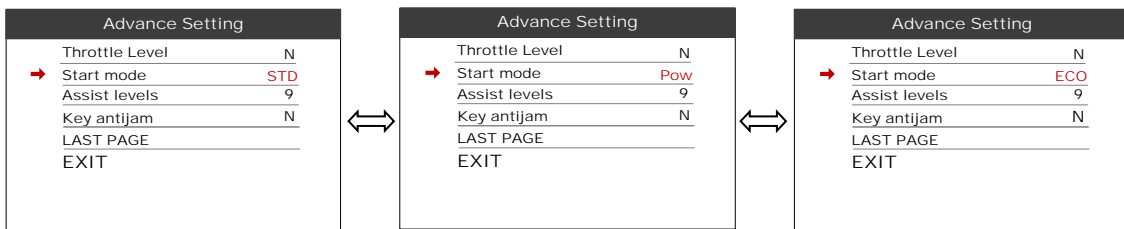
8.17 Throttle Level : This parameter is functional when Throttle 6KM set N, Press UP/DOWN will change Y/N, N represent Throttle start max speed, Y represent

throttle's speed is accorded to the assist level.



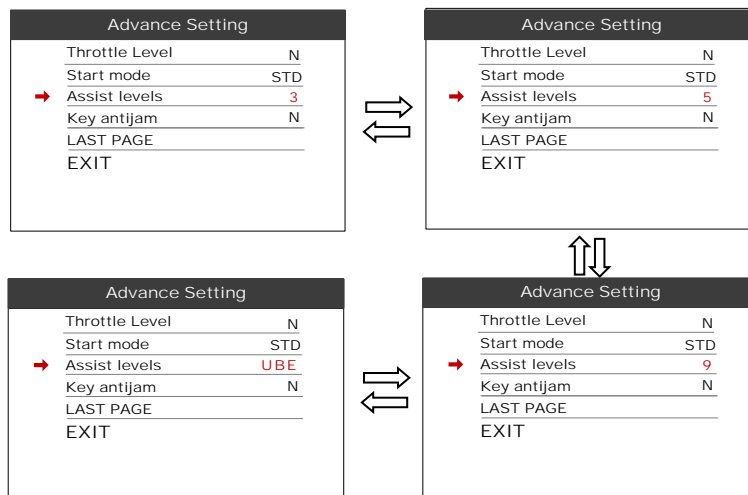
8.18 Start mode : Pow/ECO/STD represent Power/ECO/Standard, STD (default).

Power mode means use maximum current when speed up, ECO mode means use minimum current.

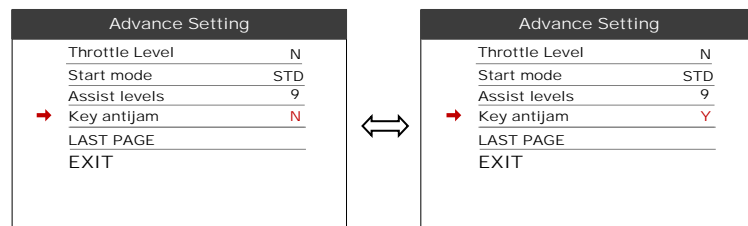


*This function is optional, may not supported by each mode.

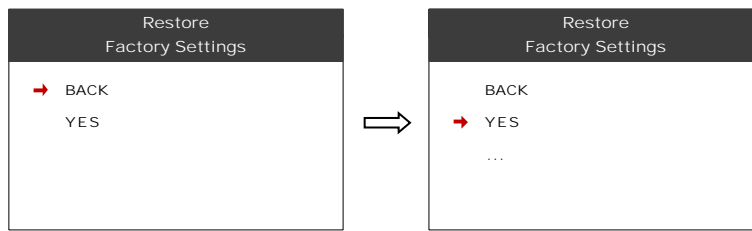
8.19 Assist levels : This parameter can customize assist levels, options are 3/5/9/UBE, UBE represent factory default settings.



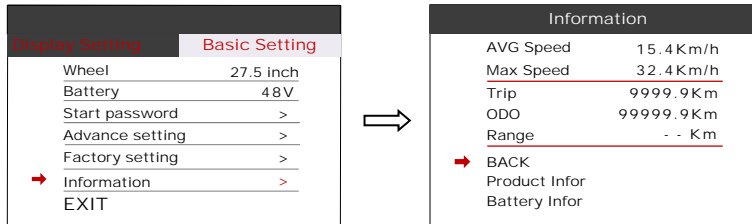
8.20 Key antijam: Press **MENU** button will change Y or N, default N.



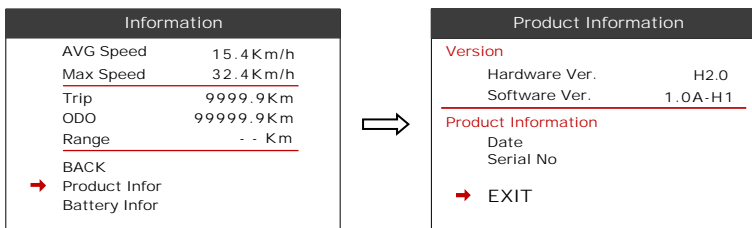
8.21 Factory setting: Press **MENU** button enter Restore Factory Settings item, set YES will restore all parameter to factory settings.



8.22 Information: Show information of the E-bike.

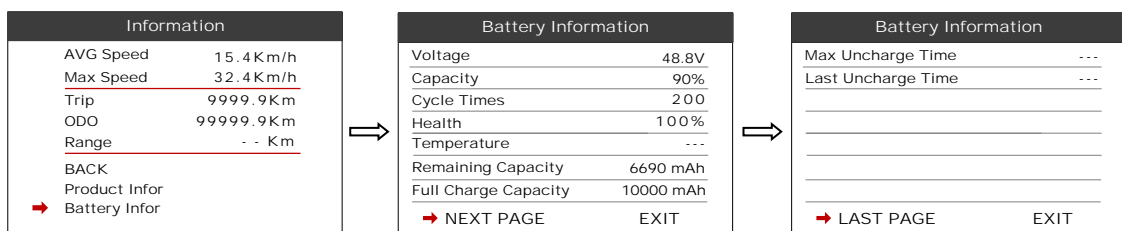


8.23 Product info: Get into this item can show hardware version software version...



8.24 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.

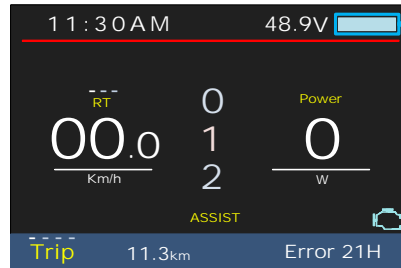


9. Error Code define

750C can show warning message, icon shows on the screen, and show error code at the bottom of the screen, error code from 01~30, definition see the table below.

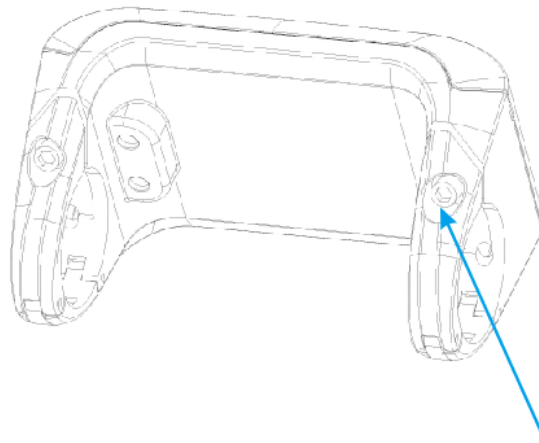
Error Code	Error description	Handle
30	Communication Error	Check the cable connection
21	Current protection	Check controller.

22	Throttle error	Check throttle and connection.
23	three-phase power error	Check three-phase power line connection
24	Hall error	Check the hall connection
25	Brake error	Check the brake connection.
26-99	Reserved	Please contact the controller's manufacturer for error definitions



10. Assembly instructions

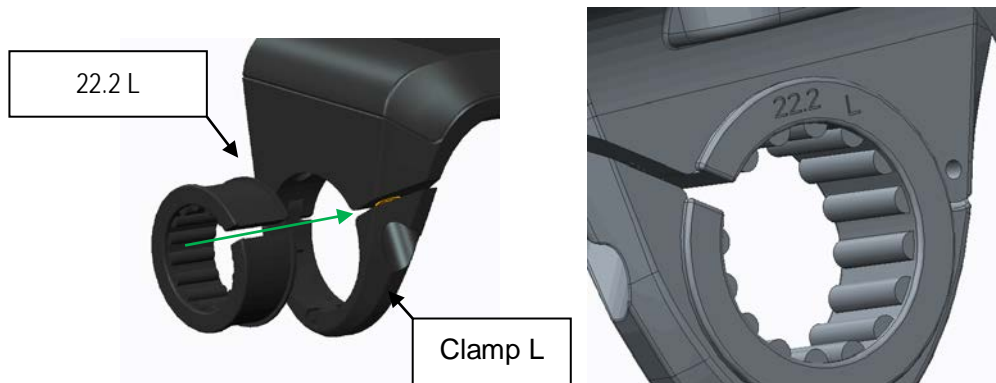
Please pay attention to the screw's torque value, damaged caused by excessive torque is not within the scope of the warranty.



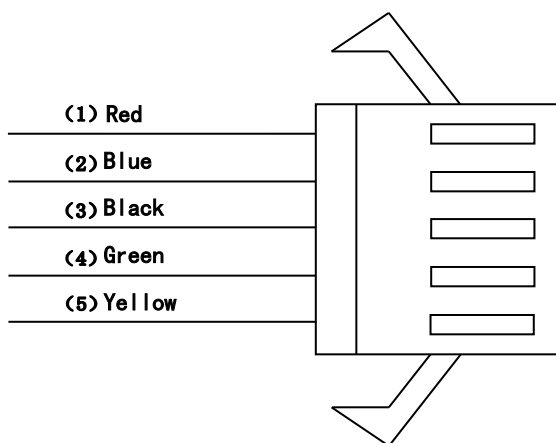
M4*10
STD=0.1N.M
MAX=0.2NM



Clamps suit for 3 size 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. Connector descriptions



- 1、 Red wire : Anode(24v/36v/48V/UBE)
- 2、 Blue wire : Power cord to the controller
- 3、 Black wire : GND

- 4、 Green wire : RxD (controller -> display)
- 5、 Yellow wire : TxD (display -> controller)

12. Certification

CE / IP65 (water proof) / ROHS.