

Product Specification

10/2018

Product TFT LCD Display

Mode APT TFT560C

Abbreviation 560C

Client

Customer

audit

Supplier APT(Tianjin) Develop Co., Ltd.

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

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1. Product Name

- ✧ TFT LCD display
- ✧ Model : APT TFT 560C

2. Suppliers

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

3. Electrical Parameters

- ✧ 2.2inch IPS screen
- ✧ 24V/36V/48V 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 & Material

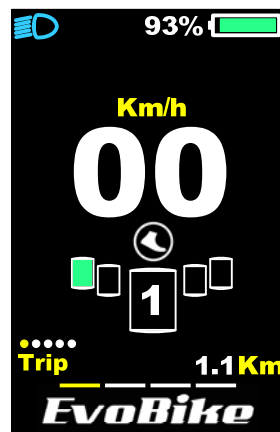
- ✧ Product shell is ABS+PC, transparent window is made with PC.
- ✧ Dimensions : host/L 68*W 40mm*H 16mm



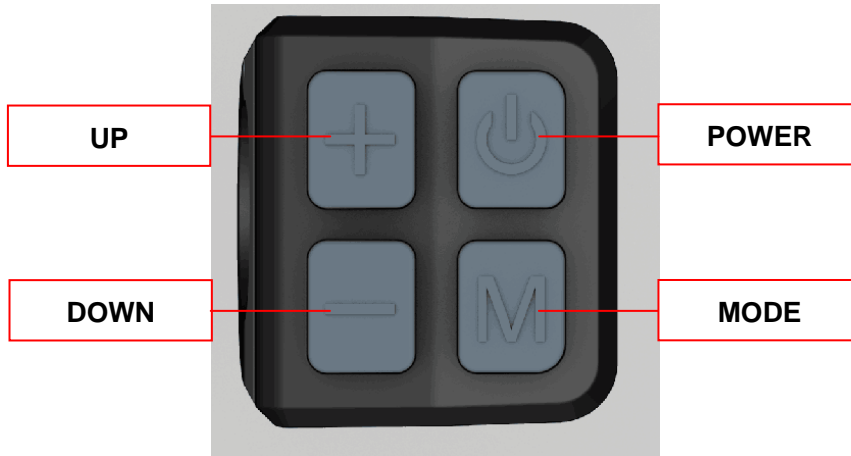
5. Features

- ✧ Suitable for low temperature, Max -20°C.
- ✧ High-contrast 2.2inch 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.
- ✧ **5-level Assist** .
- ✧ **Mileage indicator** : Odometer/Trip distance/Riding time/Range/Power.
- ✧ **Speed limit value indicator**
- ✧ **Error code indicator**.
- ✧ **Software upgraded** : Software can be upgraded through UART.

6. TFT screen instructions



7. Functional Description



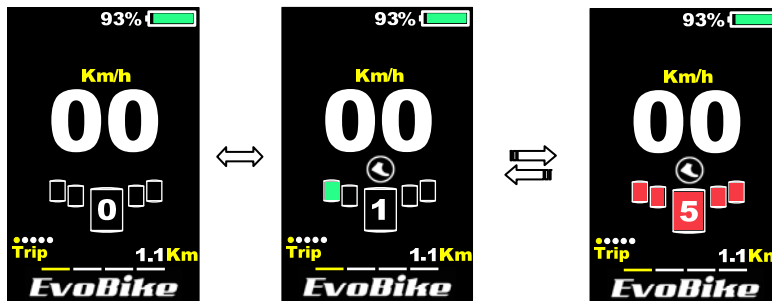
7.1 Power On/Off

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.

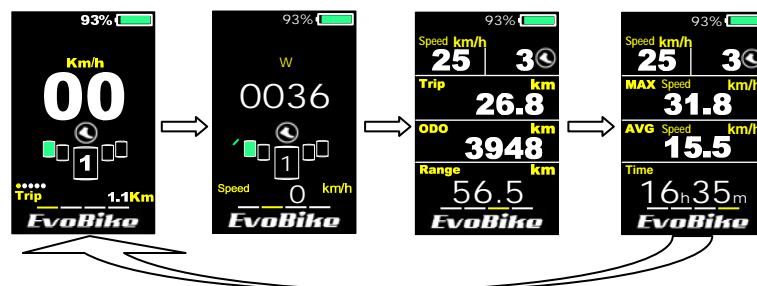
7.2 Assist level operating

Short press **UP/DOWN** button can change the assist level. Top assist level is 5, 0 for neutral.



7.3 Speed & Mileage mode switch

Short press **POWER** button can change interface, such as the power, speed and mileage mode.



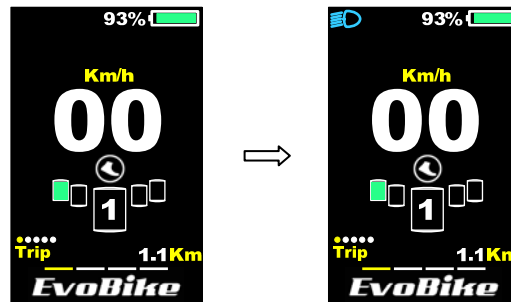
Short press **M** button can change mileage mode, Trip→ODO→Time →Range→Power.



7.4 Headlight On/Off

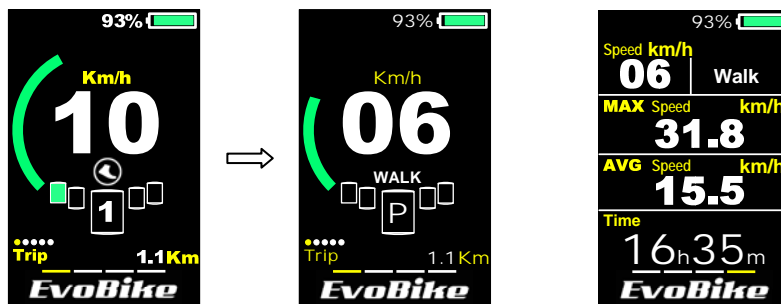
Press and hold **UP** button for 1 second can turn on/off the headlight.

*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.



7.5 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.

7.6 Data cleanup ← Commissioning period

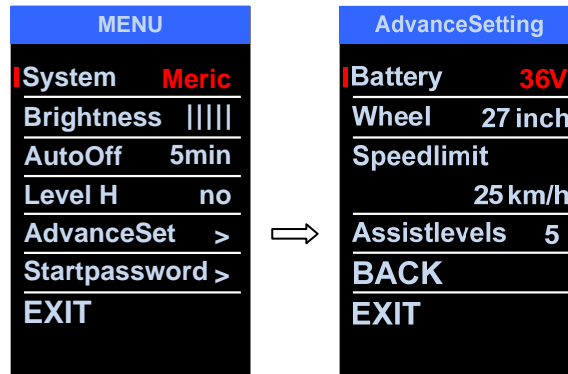
Several temporary data can be reset in MENU, temporary data include **AVG Speed / MAX Speed / Trip / Time.**

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

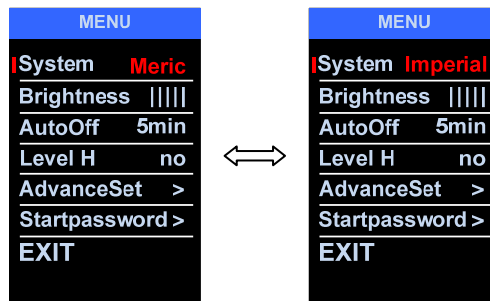
8. Parameter setting

Press **POWER** button (press no less than 2second) can get into setting menus, press **UP/DOWN** buttons to change the parameter setting, press **POWER** button can switch to next item. Press **POWER** (press no less than 2second) button will exit from menu.

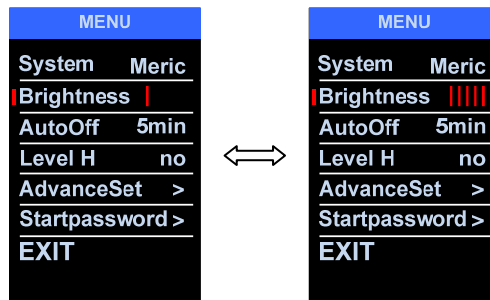
The orders of parameters are as follow.



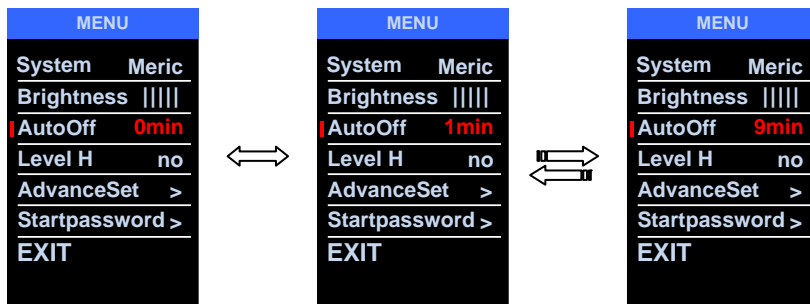
8.1 System : Press Up / Down button to switch between Metric / Imperial.



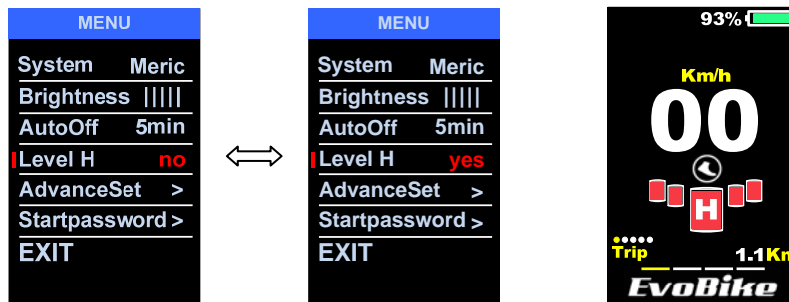
8.2 Brightness : Press Up / Down button to change the brightness of the backlight, | is darkness, ||||| is brightness



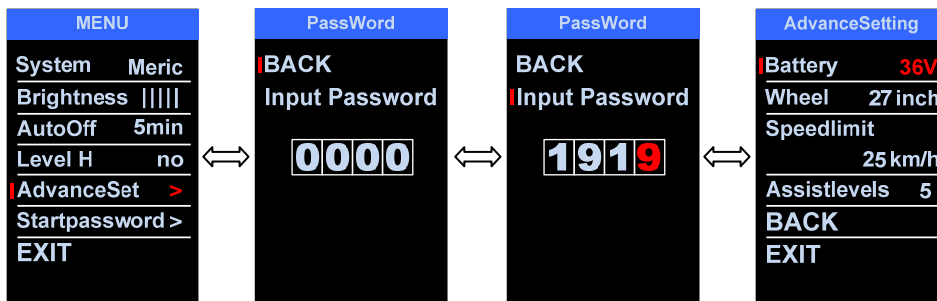
8.3 Auto off : Press UP/DOWN button to change the auto power off time, from 0 to 9, the number represent time (minutes) to shutdown.



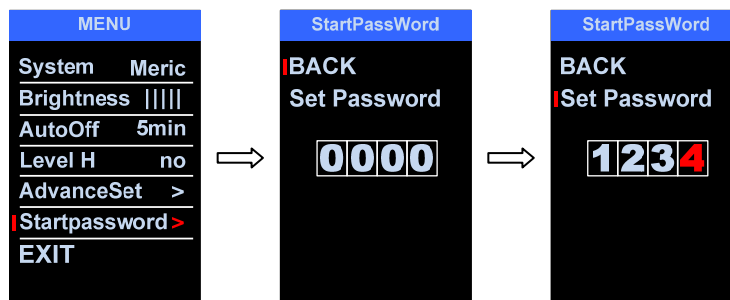
8.4 Level H: Press UP/DOWN button to select **yes** or **no**, choose **yes** will activate Level H, Level H will be no speed limit. Level H can be selected only in MEMU.

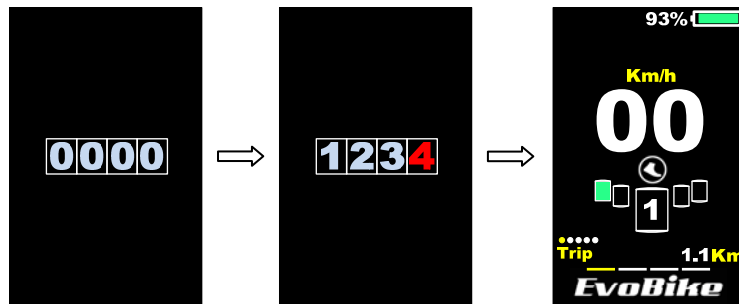


8.5 Advance setting : Press **POWER** button can get into the advance setting menu, default password is '1919'.

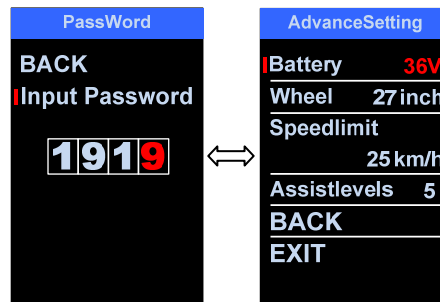


8.6 Start password : Press **POWER** button get into the Sartpassword setting menu. You can input right password before power on, password is accorded to your setting. The initial password value is 0000.

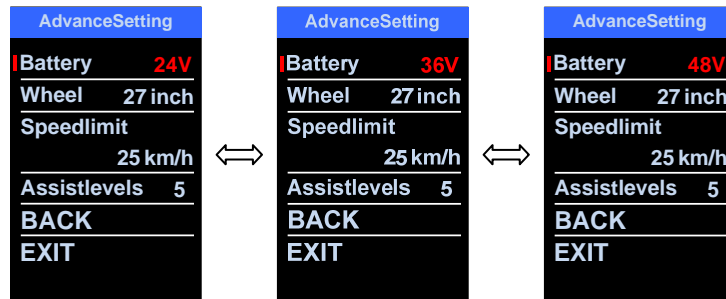




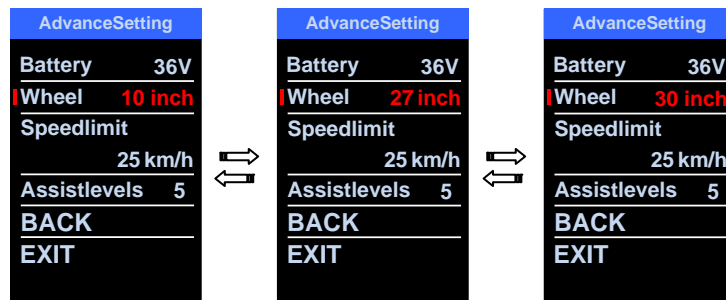
8.7 Advance setting : Press **POWER** button can get into the advance setting menu, default password is '1919'.



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

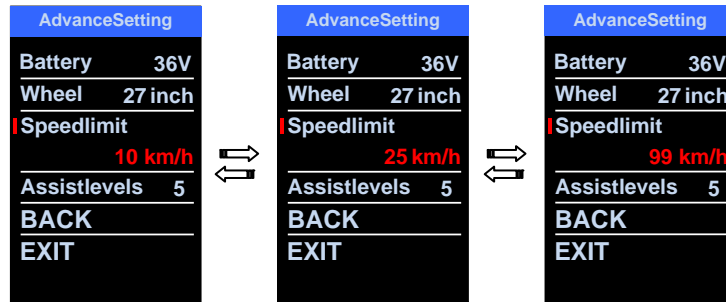


8.9 Wheel : Press UP/DOWN can change the wheel setting, optional wheel diameter is 10 ~ 30 inch.



8.10 Speed limit : Press UP/DOWN will change speed limit, range 10km/h~99km/h.

Default value is 25km/h.



8.11 Assist levels : Option is only 5.

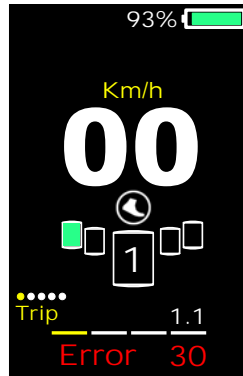


9. Error Code define

560C can show warning message, Error icon shows on the screen, and show error code at the bottom of the screen, error code is from 04H~30H, definition see the table below.

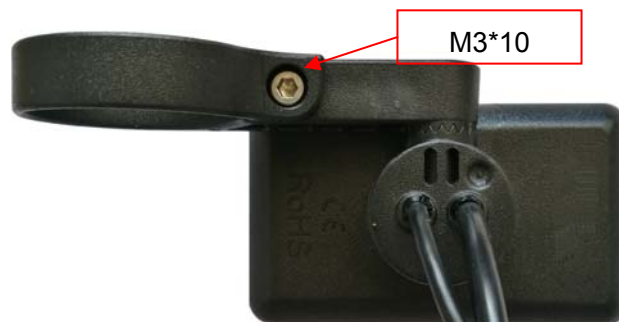
Error Code	Error description	Error display
0x01	Normal	No error
0x03	Brake signal	No error
0x04	Throttle on high position	Display 04H on LOGO position
0x05	Throttle error	Display 05H on LOGO position
0x06	Low voltage protection	Display 06H on LOGO position
0x07	High voltage protection	Display 07H on LOGO position
0x08	Motor's hall sensor error	Display 08H on LOGO position
0x09	Phase line of motor error	Display 09H on LOGO position
0x10	Controller over temperature	Display 10H on LOGO position
0x11	Motor over temperature	Display 11H on LOGO position
0x12	Current sensor error	Display 12H on LOGO position
0x13	Battery's temperature sensor	Display 13H on LOGO position
0x14	Motor's temperature sensor error	Display 14H on LOGO position
0x15	Controller's temperature sensor error	Display 15H on LOGO position
0x21	Speed sensor error	Display 21H on LOGO position
0x22	BMS communication error	Display 22H on LOGO position

0x23	Head light error	Display 23H on LOGO position
0x24	Head light sensor error	Display 24H on LOGO position
0x25	Torque sensor error-Torque	Display 25H on LOGO position
0x26	Torque sensor error-speed	Display 26H on LOGO position
0x30	Communication error	Display 30H on LOGO position

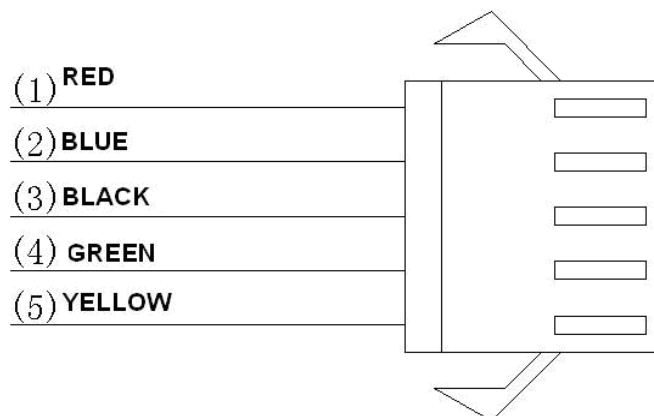


10. Assembly instructions

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



11. Connector descriptions



- 1、 Red wire : Anode(24v/36v/48V)
- 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. Assist level instructions

Assist level can be customized, the highest level is 5, common used assist level see the table below:

5 level	
0	No power assist
1	
2	
3	
4	
5	

13. Certification

CE / IP65 (water proof) / ROHS.