

Specification

06/2021

Product LCD Display

Mode APT LCD 500S

Abbreviation 500S

Client

Customer

audit

Supplier APT(Tianjin) Development Co., Ltd.

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1. Product Name

- ✧ LCD display
- ✧ Model : APT LCD 500S

2. Suppliers

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

3. Electrical Parameters

- ✧ 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℃
- ✧ IP65
- ✧ EN 15194:2017
- ✧ RoHS

4. Dimensions & Material

- ✧ Product shell is ABS, transparent window is made with high strength Acrylic.
- ✧ Dimensions : host/L79mm*W40mm*H18mm

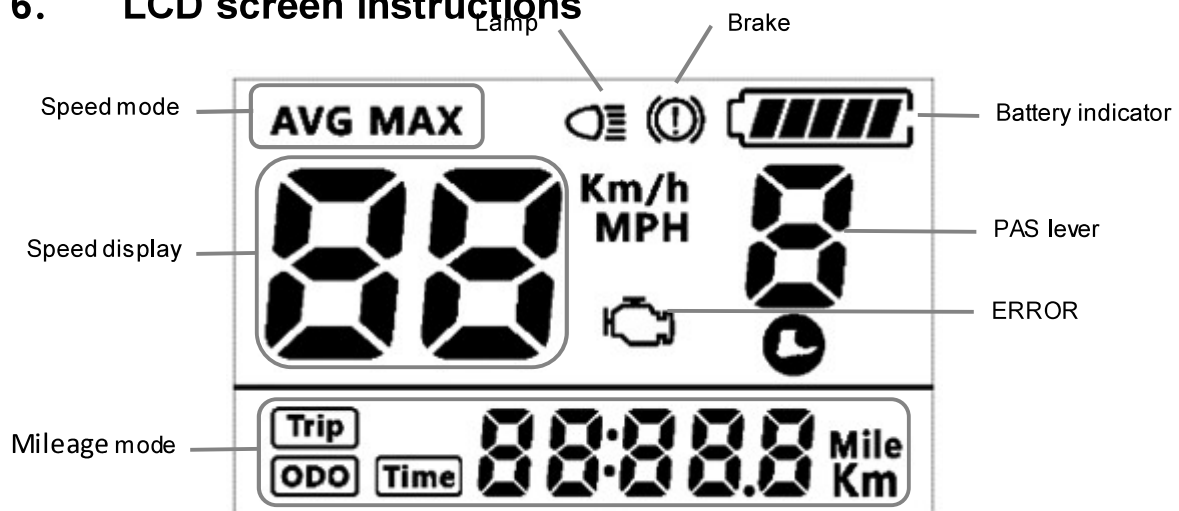


5. Features

- ✧ Suitable for low temperature, Max -20℃.
- ✧ 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:** UBE/3-levels/5-levels/9-levels optional.
- ✧ **Mileage indicator:** Odometer/Trip distance/Riding time.
- ✧ **Speed limit value indicator**
- ✧ **Error code indicator.**
- ✧ **Software upgraded:** Software can be upgraded through UART.

6. LCD screen instructions



- ✧ **Lamp:** Head Light on/ off
- ✧ **Speed mode:** AVG SPEED, MAX SPEED, SPEED(Real-time).
- ✧ **Speed display:** Kilometer / Mile, Can be set according to customers' habits.
- ✧ **Mileage mode:** Odometer/Trip distance/Riding time.
- ✧ **Battery indicator:** Provide a reliable battery indicator.
- ✧ **Assist level:** UBE/3-levels/5-levels/9-levels optional.
- ✧ **Brake Icon**
- ✧ **Error code indicator.**

7. Functional Description

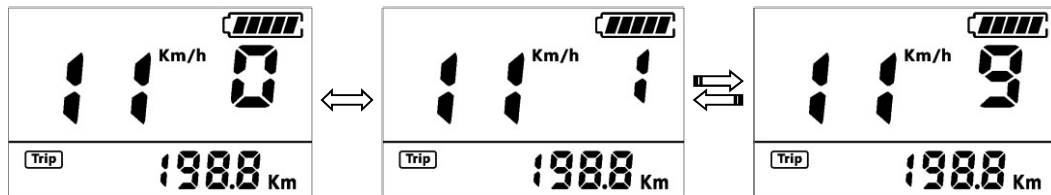


7.1 Power On/Off

Press and hold **Power** button for 2 seconds can turn on/off the display. The Display can automatically shut down when there is no operate & ride for X minutes (X could be 0~15) .

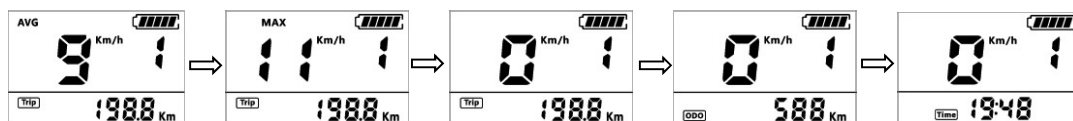
7.2 Assist level operating

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 & Mileage mode switch

Short press **MODE** button can change the speed and mileage mode, AVG SPEED→MAX SPEED→TRIP→ODO→TIME.

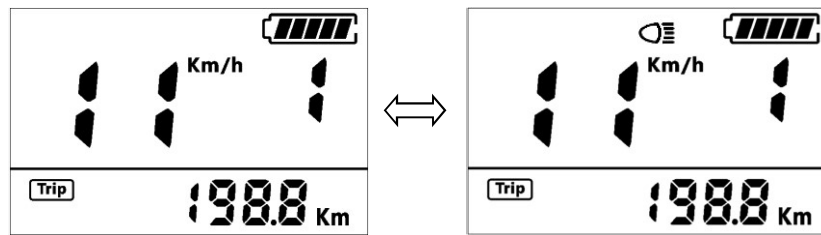


*If there is no operation for 5 seconds, display will return Speed (Real-Time) display automatically.

7.4 Headlight/backlight On/Off

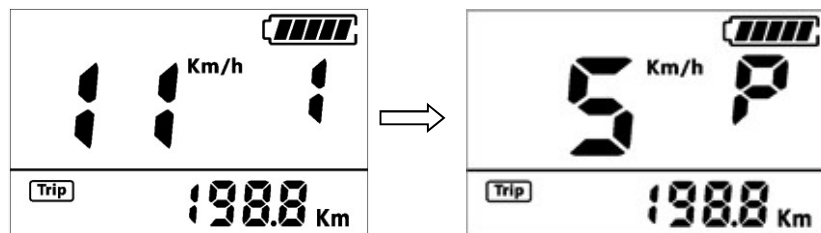
Press and hold **UP** button for 2 seconds can turn on/off the headlight.

*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 seconds can get into walking mode, out of the mode when release the button.



* This feature needs to be supported by controller.

8. Parameter setting

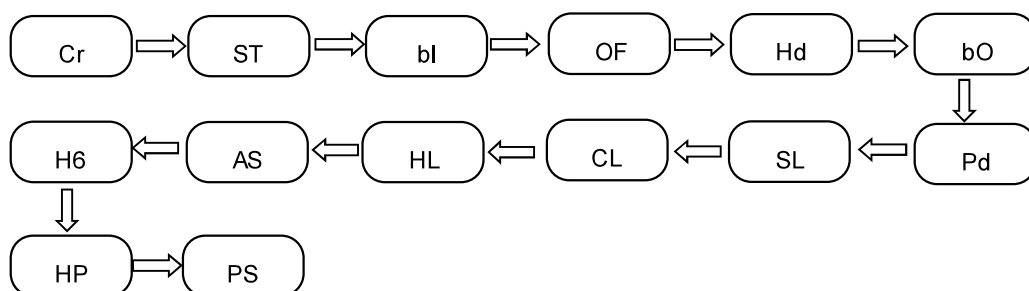
Press **MODE** button (press no less than 2 seconds) can get into setting menus, press **UP/DOWN** button to change the parameter setting, press **MODE** button can switch to next item. Press **MODE** (press no less than 2 seconds) button will exit from menu.

* Display will automatically quit menu when there is no operation for 10 seconds.

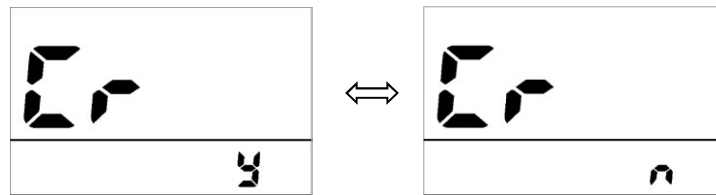
* For safety reasons, display can't get into MENU when riding.

* Display will quit MENU when start riding.

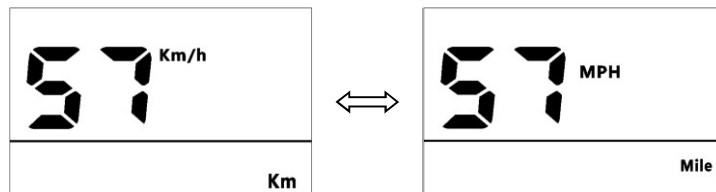
The order of parameters is as follow.



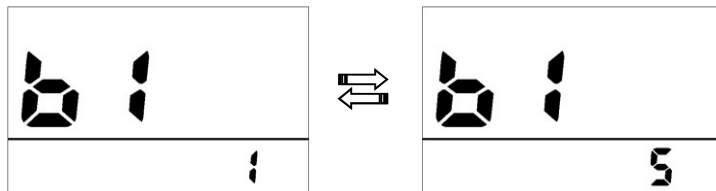
8.1 Data cleanup(Cr): Press **UP/DOWN** button to change **n** or **y**. **y** means to clear temporary data, cleanup data include MAX SPEED, AVG SPEED, TRIP, TIME.



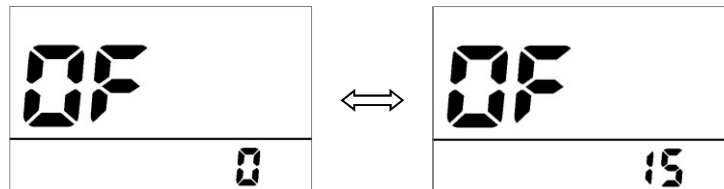
8.2 System (ST): Press **UP/DOWN** button to switch between **Metric / Imperial**.



8.3 Brightness (bl): Press **UP/DOWN** button to change the brightness of the backlight, **1** is darkness **5** is brightness.



8.4 Auto off (OF): Press **UP/DOWN** button to change the auto power off time, from **0~15/OFF**, the number represent time (minutes) to shutdown, OFF means disable auto off function, default value is 5 minutes.



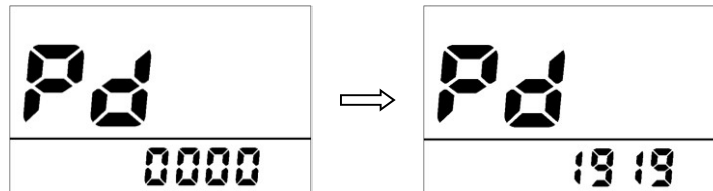
8.5 Wheel (Hd): Press **UP/DOWN** can change the wheel setting, optional wheel diameter is **10~27/700C/28~35** inch.



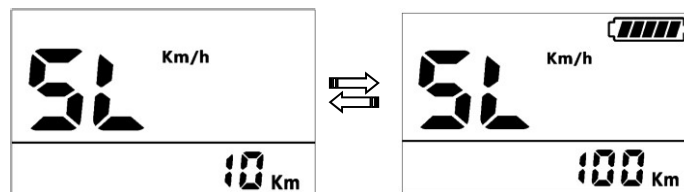
8.6 Voltage setting (bO): Press **UP/DOWN** button to switch between **24V/36V/48V/52V/UbE**, UbE means user-defined voltage setting, this parameter can be set through computer.



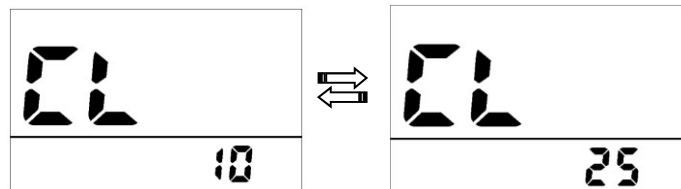
8.7 Password (Pd): Press **MODE** button can get into the advance setting menu, press **UP/DOWN** button to adjust the value, default password is '1919'.



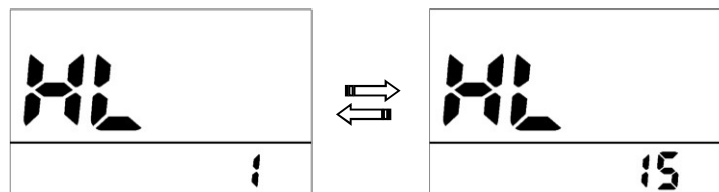
8.8 Speed limit (SL): Press **UP/DOWN** will change speed limit, range 10km/h~100km/h.



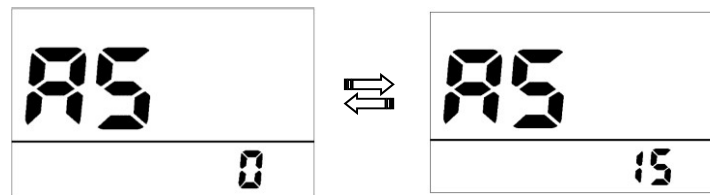
8.9 MAX Current Limit set (CL): Press **UP/DOWN** button to modify the Current value, 10~30A. This parameter is restricted by controller.



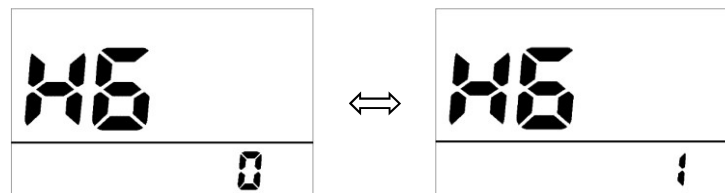
8.10 HALL (HL): Press **UP/DOWN** will change magnetic pole number, range 1~15. It is magnetic poles number of speed sensor. Mismatch will cause speed error.



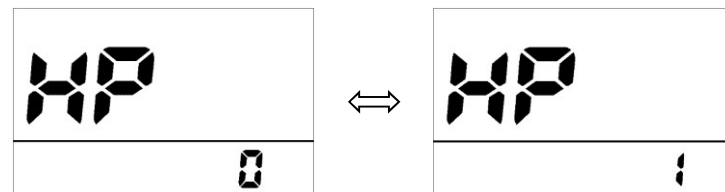
8.11 Magnetic pole number of Disk (AS): How many poles (speed sensor) need to be detected by controller before starting motor. Press **UP/DOWN** buttons can modify the value from 0~15.



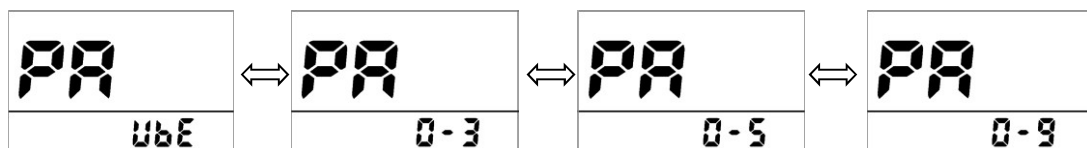
8.12 Throttle 6KM set(H6): Press **UP/DOWN** button shows symbol **0/1** to change the throttle 6km OFF or ON. It change the throttle's action, 1 - walking mode(6km/h), 0 - max speed.




8.13 Throttle set(HP): Press **UP/DOWN** button shows symbol **0/1** to change the throttle OFF or ON. 0 - max speed, 1 - speed is restricted by assist level.



8.14 Assist levels (PS): This parameter can customize assist levels, options are **UBE/3/5/9**.



9. Error Code define

500S can show warning message,  icon shows on the screen, and show error code at the bottom of the screen, and the definition see the table below.

Error code	Error description	Handle
01	Communication Error	Check the cable connection
02	Controller protection	Check three-phase power line
03	three-phase power error	Check three-phase power line connection
04	Battery low	Charge the battery
05	Brake error	Check the brake connection
06	Throttle error	Check Throttle to connect

07	Hall sensor error	Check the hall connection
08-0F	Reserved	Reserved



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.

