

Specification

August 2023

Product: Color VA LCD Display

APT Model: 810S

Client Model:

Client:

Client Check:

Supplier: APT (Tianjin) Development Co., Ltd.
1001, Building 5 HuaDing, No.1 HuaKe 3
Road, Binhai hi-tech Industrial
Development Zone, Tianjin, China
TEL: 86 22 26345859
FAX: 86 22 83719955

Email yzhao@aptdevelop.com

Approval:

Content

1	Product model.....	2
2	Suppliers.....	2
3	Specifications.....	2
4	Dimensions and Material.....	2
5	Features.....	3
6	Display Description.....	3
7	Functional Description	4
7.1	Power On/Off.....	4
7.2	Assist level.....	4
7.3	Speed & Mileage Mode	5
7.4	Headlight / Display Mode	5
7.5	Walking Mode (6km)	6
7.6	Data cleanup	6
8	Parameter Settings.....	6
8.1	System(ST).....	6
8.2	Brightness(bl).....	7
8.3	Auto off(OFF).....	7
8.4	Advance Password Settings(PS).....	7
8.5	Battery Voltage(bU).....	8
8.6	Wheelsize(Hd).....	8
8.7	Speed Limit(SL)	8
8.8	Current Limit(CL)	9
8.9	Number of speed hall (HL).....	9
8.10	Power Assist sensitivity (AS)	9
8.11	Throttle 6KM (H6).....	10
8.12	Throttle Level (HP)	10
8.13	Assist level(PA).....	10
8.14	Power-on Password enable(dP)	11
8.15	Power-on Password Setting(SP).....	11
9	Errors code.....	12
10	Assembly instructions	12
11	Install and use precautions	13
12	Copyright Notice	13

1 Product model

Model: 810S

2 Suppliers

APT (Tianjin) Development Co., Ltd.

3 Specifications

- 3.0inch Color VA LCD
- Supply voltage optional: 24V/36V/48V/52V(18-70V)
- Working current about 50 mA, off-leakage current <math><1\mu\text{A}</math>
- Maximum output current to controller: 200mA
- Operating temperature : -15~40°C, Storage temperature -20~50°C
- IP67
- EN15194/2017
- RoHS

4 Dimensions and Material

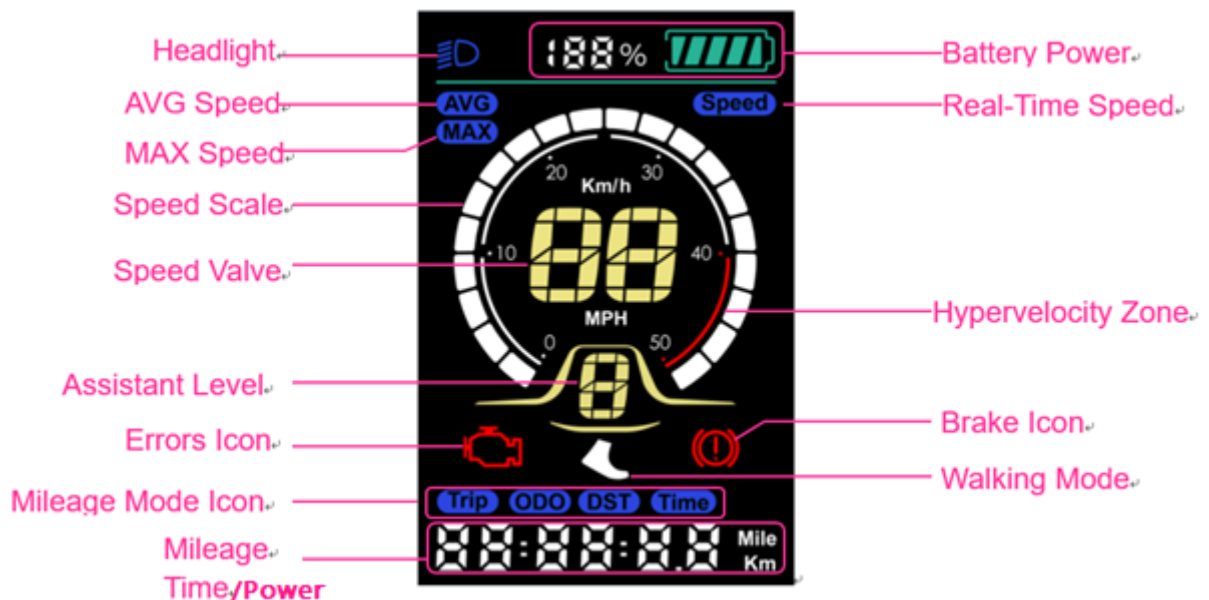
Shell is made with ABS, high hardness acrylic panel.



5 Features

- **Color VA LCD, wide viewing angle, no flicker, high brightness**
Better visual effect under sunlight
- **Independent button, easy to operate**
- **Speed mode:** Speed (Real-time), MAX Speed, AVG Speed
- **Mileage mode:** Odometer, Trip distance, Riding Time
- **Metric / Imperial:** Be set according to customers' habits
- **Smart battery indicator:** 5-level POWER indicator
- **5-level Brightness:** Day and Night Brightness can be set independent. 1: darkest; 5: brightest.
- **Power-on password**
- **Assist Level:** 0-3/0-5/0-9 adjustable
- **Walking Mode**
- **Errors Code**
- **Firmware upgrade**

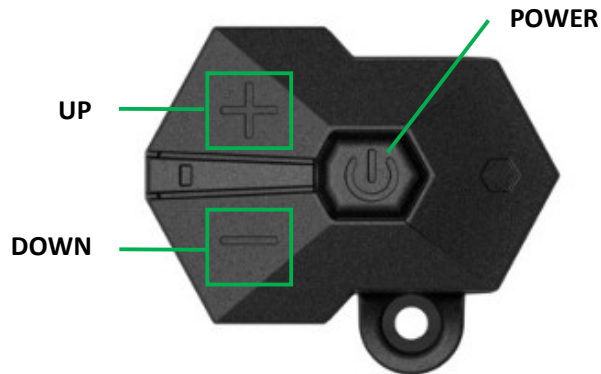
6 Display Description



- **Head Light:** Headlight indication
- **Speed Mode:** Real-time Speed, AVG Speed, MAX Speed.
- **Speed Valve:** Km/h or MPH.

- **Assist Level:** 0-3-level/0-5-level/9-level optional.
- **Errors Icon:** Flashes when error is checked.
- **Mileage Mode:** Trip distance, Odometer, Riding Time
- **Smart battery Power indication**
- **Walking Mode Icon**

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. (The time can be set, refer to 8.3 '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. If the default setting is 5-gear: Top assist level is 5, 0 for neutral. Level quantities can be adjusted according to the customer requirements.

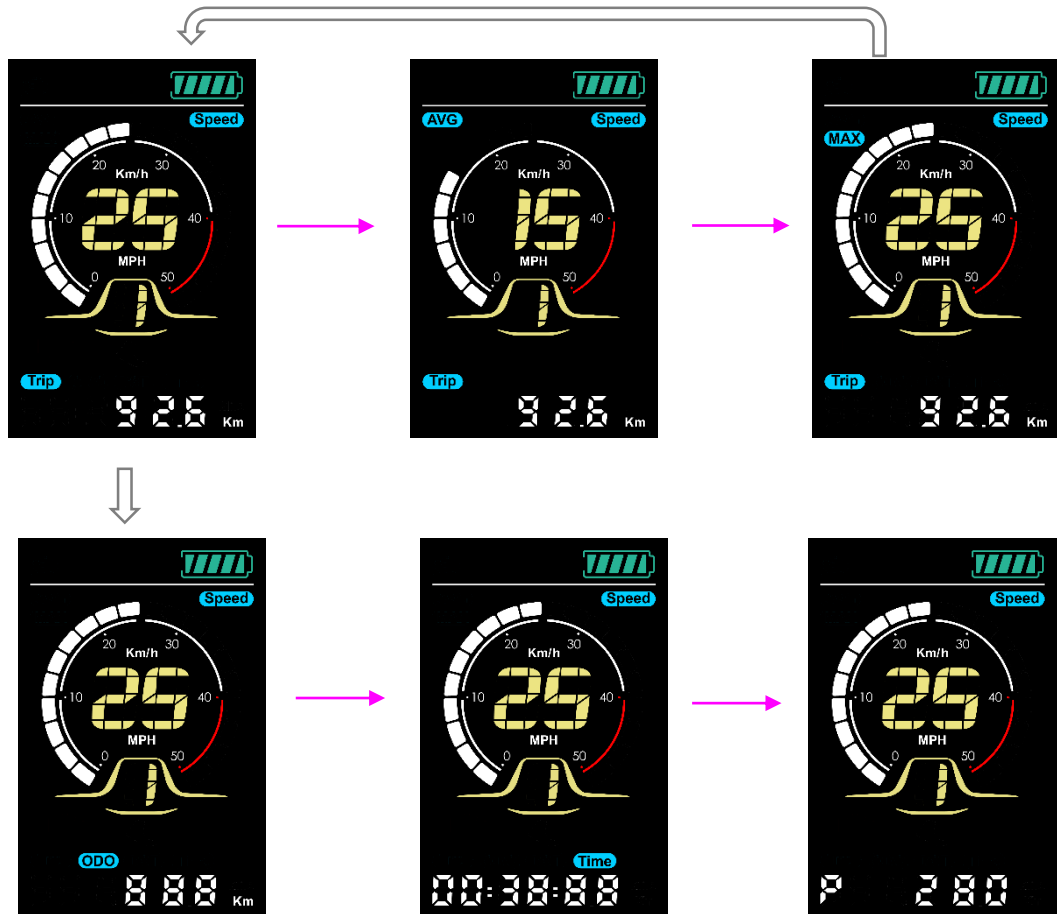


Assistant level

7.3 Speed & Mileage Mode

Click **POWER** button to change items, sequence as below:

AVG Speed → MAX Speed → Speed/Trip → ODO → Time → P

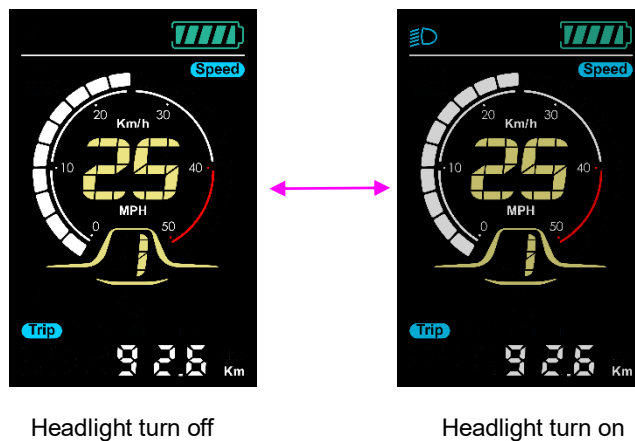


Speed / Mileage / Riding Time / POWER Mode

* If there is no operation for 5 seconds, right item will restore to Time automatically.

7.4 Headlight / Display Mode

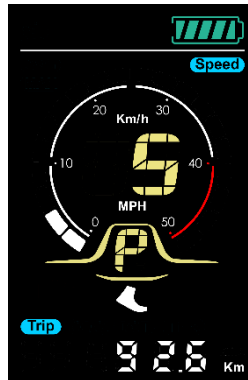
Press and hold **UP** button for 2 seconds can turn on/off headlight, display will switch to the corresponding mode (Day or Night).



*Brightness can be customized. Refer to “8.2 Brightness”.

7.5 Walking Mode (6km)

Press and hold **DOWN** button for 2 seconds, you can get into walking mode. ‘P’ is showed, out of walking mode when released button.



Walking Mode

7.6 Data cleanup

Press and hold **UP** and **DOWN** button together for 2 seconds, you can clean temporary data (Trip, Riding-Time, AVG Speed, MAX Speed).

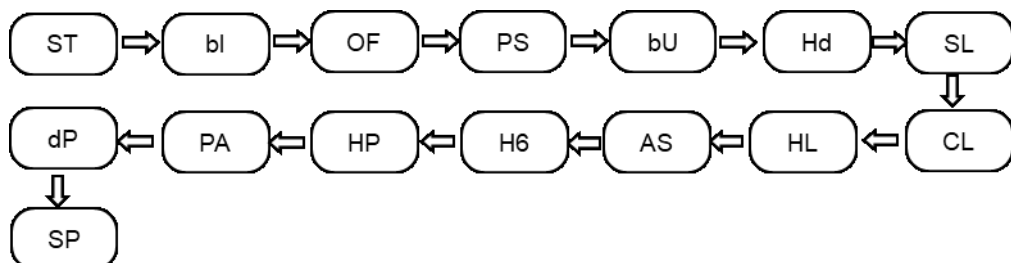
* Temporary data is automatically saved when POWER off. Abnormal POWER outage will cause data lost.

* ODO will reset to zero over 999999km. TRIP will reset to zero over 99999.9km.

8 Parameter Settings

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

Settings:

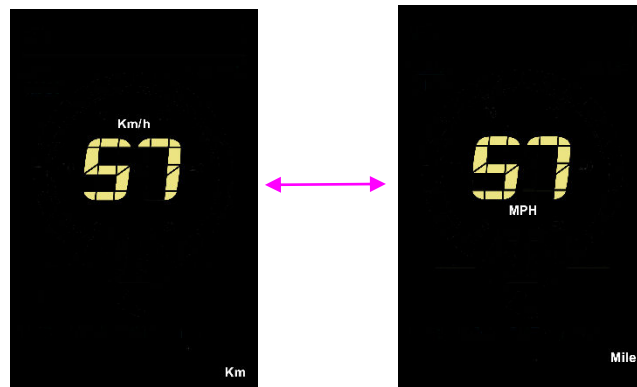


* Parameter Settings page will quit automatically if there is no operation for 10 seconds.

* For safety reason, display can't get into Settings Menu when riding (speed is not 0km/h).

8.1 System(ST)

Select Metric(km/h) or Imperial(MPH).



8.2 Brightness(bl)

You can set the backlight brightness in the light on and off state, press **UP/DOWN** button to change brightness of backlight, 1 is darkness, 5 is brightness.



8.3 Auto off(OFF)

This item enables to set the automatic shutdown time of the display, from 0 to 15min. Default value is 5 minutes, represents display shut down when there was no operation and riding for 5 minutes. 0 indicates that the display disables automatic shutdown.



8.4 Advance Password Settings(PS)

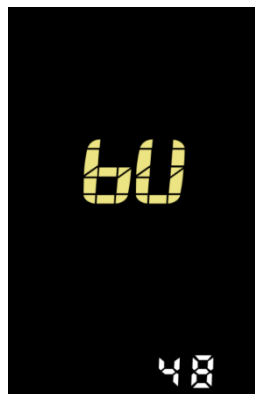
Advanced settings have password to prevent illegal modification, default password is '1919', password may be different according to request.

Input correct password to enter "bU" setting page. If the password is wrong, it will automatically return to "OF" setting page.



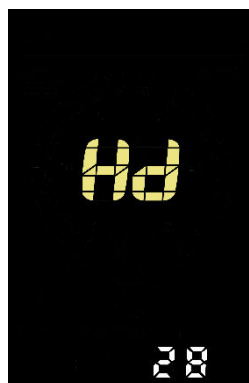
8.5 Battery Voltage(bU)

This item can select battery voltage setting, including 24/36/48/52V.



8.6 Wheelsize(Hd)

This item can select wheel diameter, including 10~35inch, value represents the diameter of the wheel (inch). Incorrect wheel diameter selection can lead to abnormal speeds.



8.7 Speed Limit(SL)

Select range 10~100km/h.



The maximum speed is restrict by the motor and controller, probably couldn't reach the setting value.

8.8 Current Limit(CL)

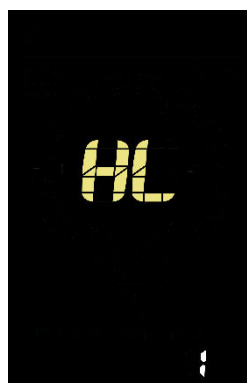
The value can be set from 10 to 30A.



The max current is restrict by motor and controller, probably couldn't reach the setting value.

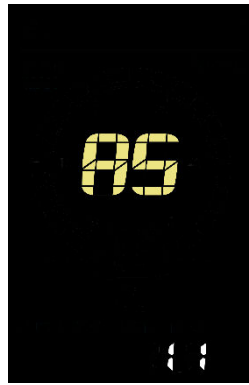
8.9 Number of speed hall (HL)

The value can be set from 0 to 15.



8.10 Power Assist sensitivity (AS)

The value can be set from 0 to 15.



8.11 Throttle 6KM (H6)

Support 0 or 1, 0 represents max speed, 1 represents 6Km.



8.12 Throttle Level (HP)

Support 0 or 1, 0 represent throttle start max speed, 1 represent throttle's speed is accorded to the assist level.



8.13 Assist level(PA)

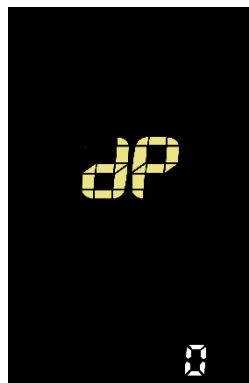
This item can select assist levels, options are 0-3/0-5/0-9.



8.14 Power-on Password enable(dP)

The start password includes two parameter settings, 1 or 0.

If you had set start input 1, you must input right password before power on.

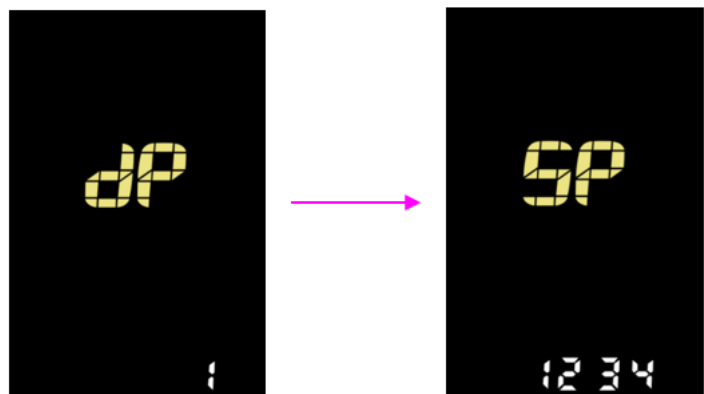


8.15 Power-on Password Setting(SP)

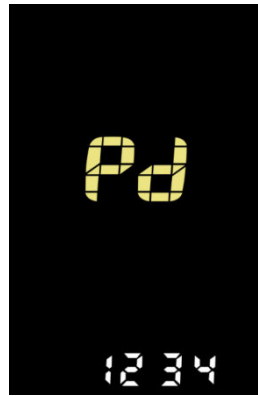
Set 4-digit power-on password.

Example:

Press **UP/DOWN** button can set 4-digit POWER-on password, press **POWER** button can confirm after each digit is entered.



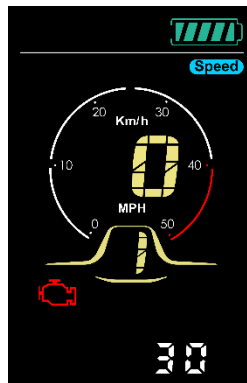
You need to input the right password before start with 30 seconds.



* Please set the Power-on Password carefully, if you forget the password, Display will not be able to start normally.

9 Errors code

Display shows errors code and  icon when system checked abnormal.



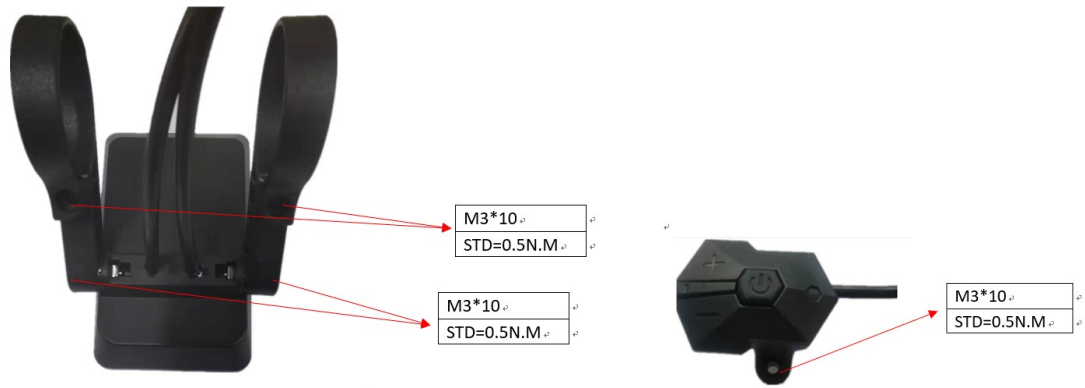
Errors code

See below for errors code details:

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
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.

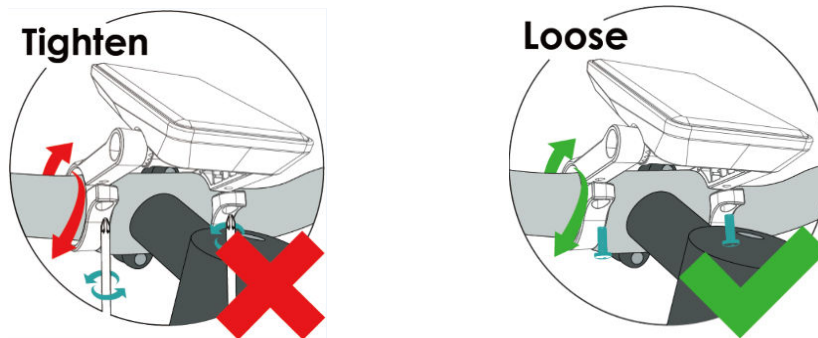


The bracket is suitable for three handlebar sizes: 31.8mm/25.4mm/22.2mm.

25.4mm/22.2mm handlebars need to be matched the corresponding transfer rings. Please pay attention to the directions: 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.aptdvelop.com