

APT 500c Display

User's Guide





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The information contained in this document is derived from the TFT LCD Display Guide provided by Tianjin APT Science and Technology Co., Ltd. (otherwise known as APT). All the information contained in this user manual is published in good faith and for general information purpose only. Contact technical_support@cycmotor.com for further assistance.



Product Specifications

Electrical Parameters

- 2.2inch IPS screen
- 36V/48V/52V 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

Dimensions & Materials

Materials

Product shell – ABS plastic

Transparent window – High strength Acrylic

Dimensions

L 179mm x W 40mm x H 18mm



Features

- Suitable for low temperature: Max -20 °C.
- High-contrast 2.2inch IPS colourful 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 user's preference.
- Smart battery indicator : Provide a reliable battery indication.
- 9-level Assist : 3-level/5-level/9-level optional.
- Mileage indicator : Odometer/Trip distance/ Clock/ Riding time.
- Power indicator : Real-time power indication; digital or analog.
- Error code indicator.





Main Functionalities

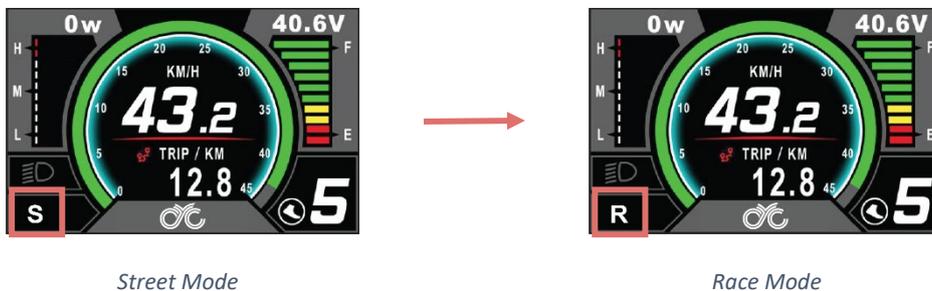


Power On/ Off

Press and hold the POWER button for 1 second to turn the display on/ off. The display will automatically shut down when there is no operation for a period of time.

Mode Switch

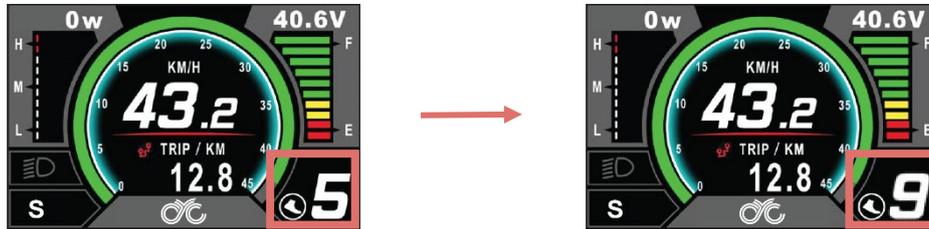
Double the POWER button to change between Race Mode and Street Mode. Note that this will not change the mode in real-time but rather set the start-up mode (Street Mode recommended). Change the mode in real-time via mobile app.





Assist Level Operating

Short press the UP/ DOWN button to change the assist level. The top assist level is 9 where 0 is neutral. The amount of assist levels can be adjusted according to the user's preference.



Speed & Mileage Display Switch

Short press the MENU button to change the speed & mileage readings: TRIP / KM -> TIME / MIN -> ODO / KM -> AVG SPD -> MAX SPD.

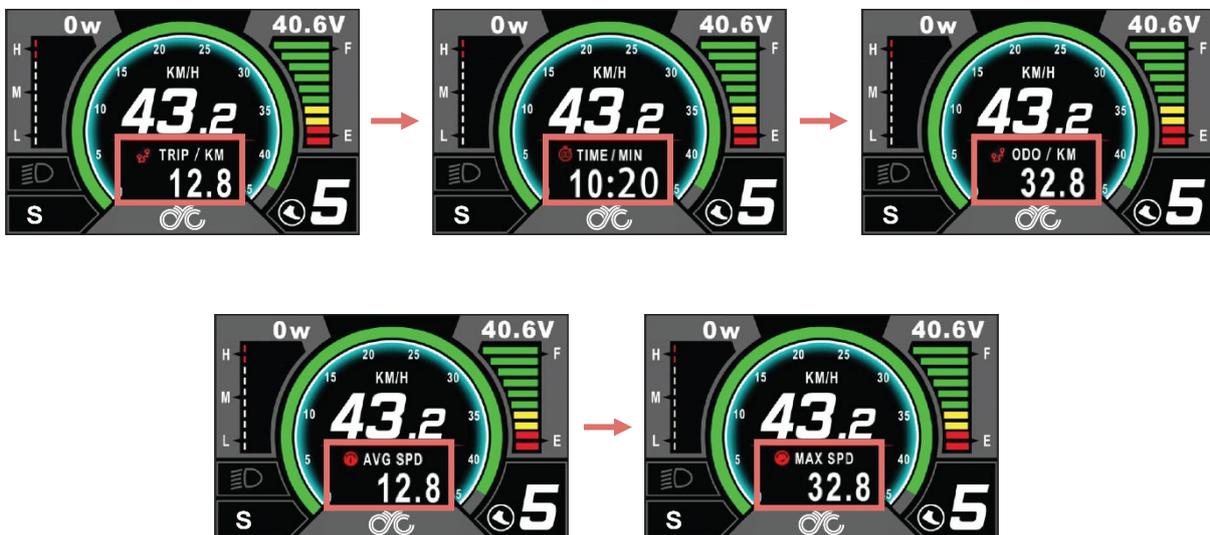
TRIP / KM = Trip distance

TIME / MIN = Trip time in minutes

ODO / KM = Odometer

AVG SPD = Trip average speed

MAX SPD = Trip maximum speed





Parameter Settings

Button Navigation

Long press the MENU button to get into the settings menu (also to exit settings menu). Hold press for at least 2 seconds.

Press the UP/DOWN buttons to change between the parameters, MENU button to select, & UP/DOWN to change the selected parameter.

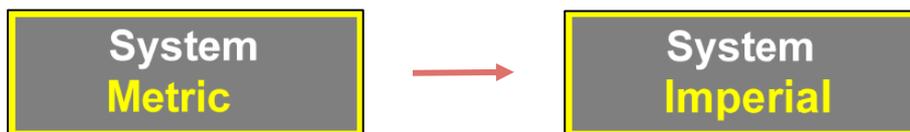
Press the MENU button to deselect parameter and to set changes made.

- * The display will automatically quit the settings menu when there is no operation for 30 seconds.
- * For safety reasons, the display cannot get into the settings menu when riding.
- * The display will quit settings menu when the user starts riding.

MENU

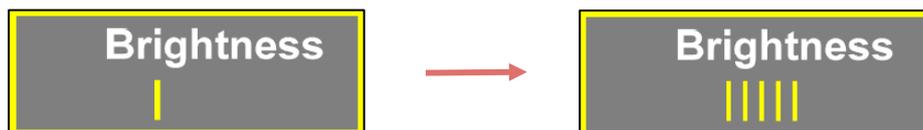
System

Press the UP/ DOWN button to change between Metric and Imperial.



Brightness

Press the UP/ DOWN button to change the brightness of the display's backlight. "I" is the darkest and "IIII" is the brightest.





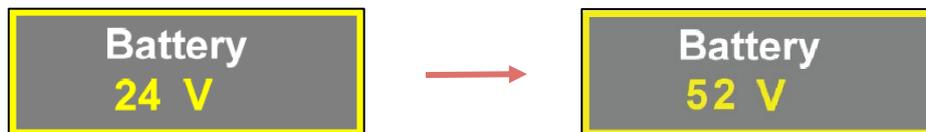
Auto off

Press the UP/DOWN button to change the auto power off time. This can be set between 1 to 9 minutes, or off.



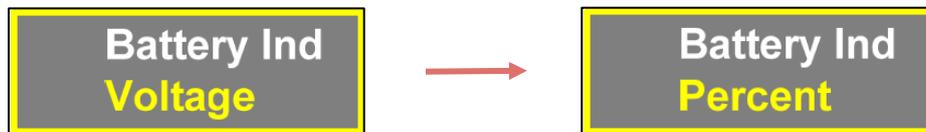
Battery

Press the UP/DOWN button to change your battery voltage. This can be set to from 36V to 52V.



Battery Ind

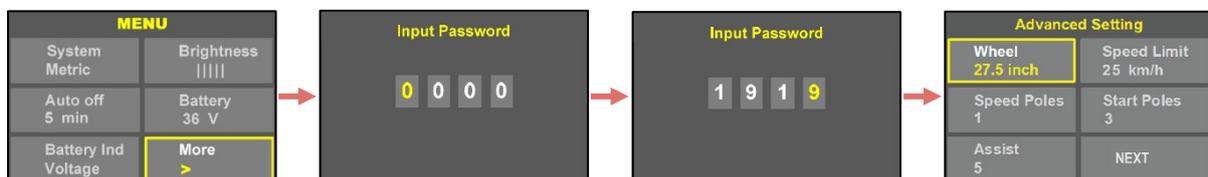
Press the UP/DOWN button to change your battery indication. This can be set to Voltage, Percentage, or off.



Advanced Settings

Entering Advanced Settings

Press the MENU button to select the “More” options. This will take you to advanced settings where you need to enter a password. The default password is 1919.



There are only 2 parameters which need to be set as all others should be neglected and will not affect your system: Wheel & Assist.

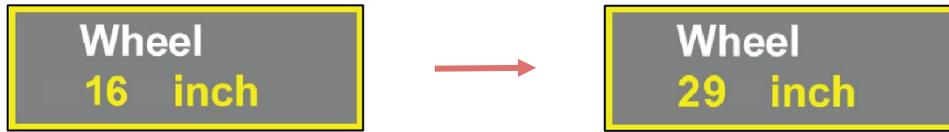
Note that the second Advanced Setting page is for changing the input password settings.

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Wheel

Press the UP/DOWN button to change the wheel settings. The optional wheel diameter is 16 inch to 29 inch.



Assist

Press the UP/DOWN button to change the amount of assist levels. Here, you can choose the number of assist levels (*or gears*) accordingly. The available options are 3, 5, or 9 assist levels.



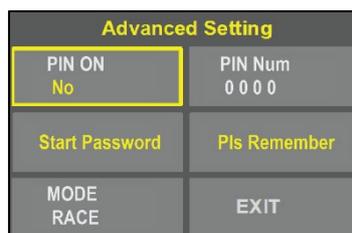
The power output will be distributed evenly across the chosen number of assist levels (*or gears*) according to the Assist Level Configuration and Speed Limit Assist settings on your CYC Motor (BAC) mobile app:

Note that the Assist Levels shown above in the app, can be customized.

Street Mode - PAS	App Assist level	3 Assist Levels	5 Assist Levels	9 Assist Levels
Rated Motor Power 750 Watts		0 (Neutral)	0 (Neutral)	0 (Neutral)
Vehicle Maximum Speed 25 km/h				
Assist Level Configuration	1 = 0.3 (30% by default)	1	1	1
Assist Gain 1 0.3 PU				2
Assist Gain 2 0.601 PU			2	3
Assist Gain 3 1 PU				4
Speed Limit Assist	2 = 0.6 (60% by default)	2	3	5
Assist Speed 1 0.3 PU				6
Assist Speed 2 0.601 PU			4	7
Assist Speed 3 1 PU				8
Others	3 = 1 (100% by default)	3	5	9

Password

When selecting the NEXT option in the advanced settings menu, it will take you to the password set-up page. The PIN ON function will enable and disable your start-up password. PIN Num will set a new password (default password is 1919). MODE will toggle between Race mode & Street mode as in the main screen.



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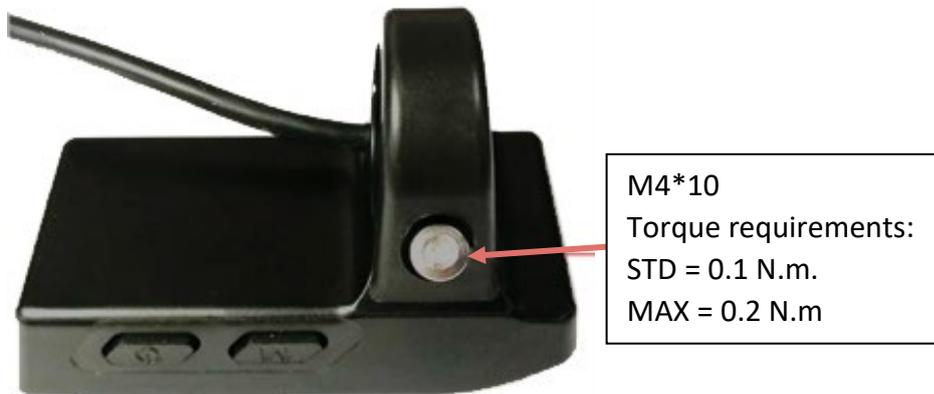


Error Codes

In certain circumstances, an error code may appear on your display. Refer to the CYC Motor (BAC) mobile application user guide for instructions on how to clear the errors.

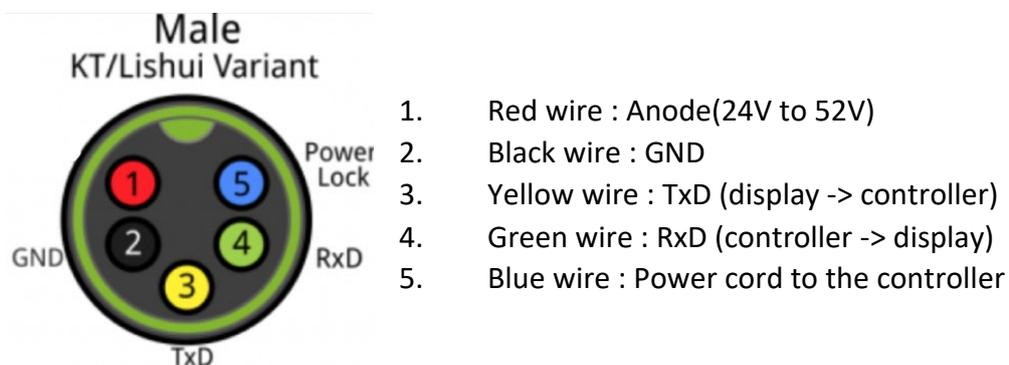
Error Code	Description
Error 21H	Instant resume not enabled
Error 22H	Throttle error
Error 24H	Hall sensor error
Error 30H	Communication error

Assembly Information



Note the torque requirements described above as excessive torque can cause damage.

Pin Layout



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Certification

CE / IP65 (waterproof) / ROHS.

Quick start guide

After unboxing and installing your X1 Pro or X1 Stealth, there are a few things you need to set up.

STEP 1

Ensure that all wires are properly connected & that your system can switch on by pressing the display's power button. Check that the display shows your battery voltage & level. Should your display briefly show Error 30H upon start-up, this is normal as the system takes a moment to connect. Should your battery voltage & level not display refer to step 3.

STEP 2

Ensure that your pedal assist & throttle are working correctly. To test this, connect to the CYC Motor (BAC) mobile app & change to Assist Level 0 on your display. You can test the PAS by looking at the app's dashboard & turning the crank set. If your Average Pedal RPM reading changes, then your PAS is working. To test the throttle, open your throttle & check that your Throttle In voltage changes. Ensure that you test the PAS & throttle in Assist Level 0 as to not make the bike thrust forward.



STEP 3

Set up the correct information on your display. You will need to enter your wheel diameter, battery voltage (if incorrect), & your preferred number of assist levels.

Be sure to contact technical_support@cycmotor.com if further assistance is needed.

THANK YOU!