

Tone

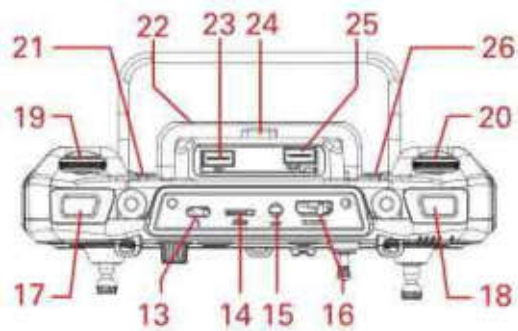
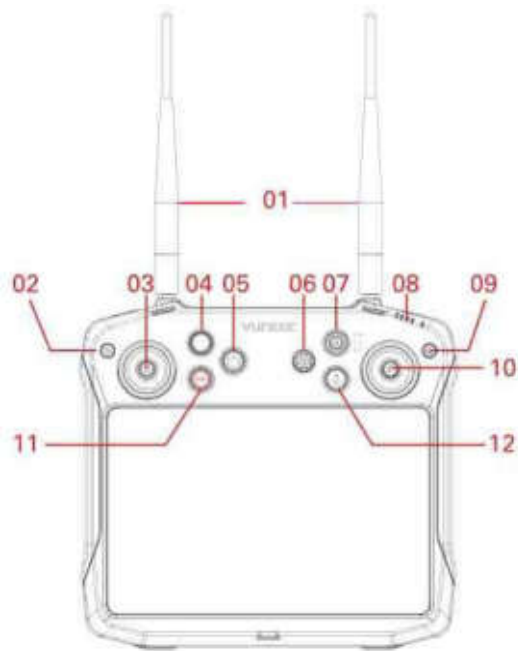
User Manual

YUNEEC

catalogue

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T-1 Transmitter



- 01** Antennas
- 02** Previous Button
- 03** Left Control Stick
- 04** Customizable Knob
- 05** Power Button
- 06** 5D Button
- 07** Flight Mode Switch
- 08** Battery Level LEDs
- 09** Home Page Button
- 10** Right Control Stick
- 11** Motor Start/Stop Button
- 12** Return to Launch Button
- 13** Type C USB Charging Port
- 14** Micro SD Card Slot
- 15** Headphone Port
- 16** HDMI Port
- 17** Video Record Button
- 18** Shutter Button
- 19** Gimbal Tilt Control Knob
- 20** Gimbal Pan Control Knob
- 21** Hot Key/Gimbal Back to Center
(Double click)
- 22** Battery
- 23** USB 2.0 Port
- 24** Battery Release Button
- 25** USB 3.0 Port
- 26** Customizable Button

Charge the Batteries

Charge the Drone Battery

Power the Charge box from a 100-240V AC outlet. Then press the power button to switch on the charger.



Plug the drone or transmitter battery into the charger port as illustrated.

Then the batteries will be charged automatically.

Charge Box Screen Overview

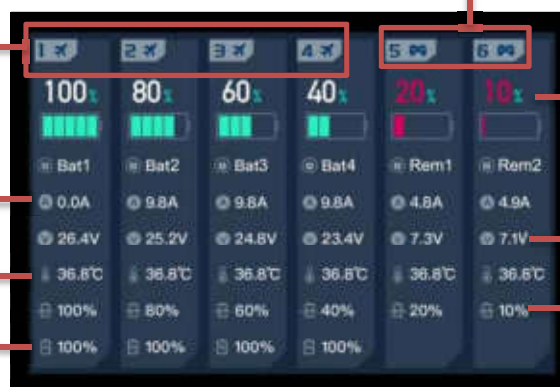
Drone battery charge port

Transmitter battery charge port

Charging Current

Battery temperature

Remaining battery life



Battery Percentage

Battery Voltage

Battery Percentage

Charge the T1 Battery by the USB

The users can also charge the T1 battery by using the Type C USB cable. Insert the connector into the Type C USB Charging Port as the picture shown.



To check the charge status when the transmitter is shut down, please short press the power button on the T-1 transmitter. The Battery Icon will be shown on the screen. Or the user can estimate the remaining power roughly by the LED indicator on the transmitter.

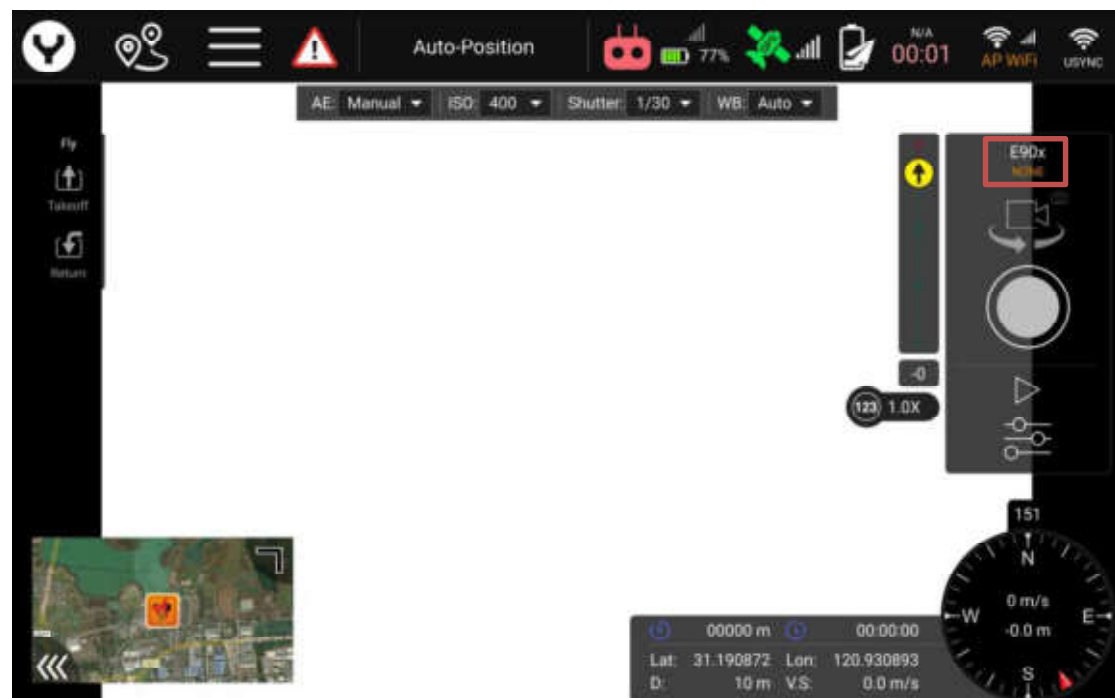
Notice: The batteries are a consumable material and that they have to be replaced after they show weakness.

Visible light Camera

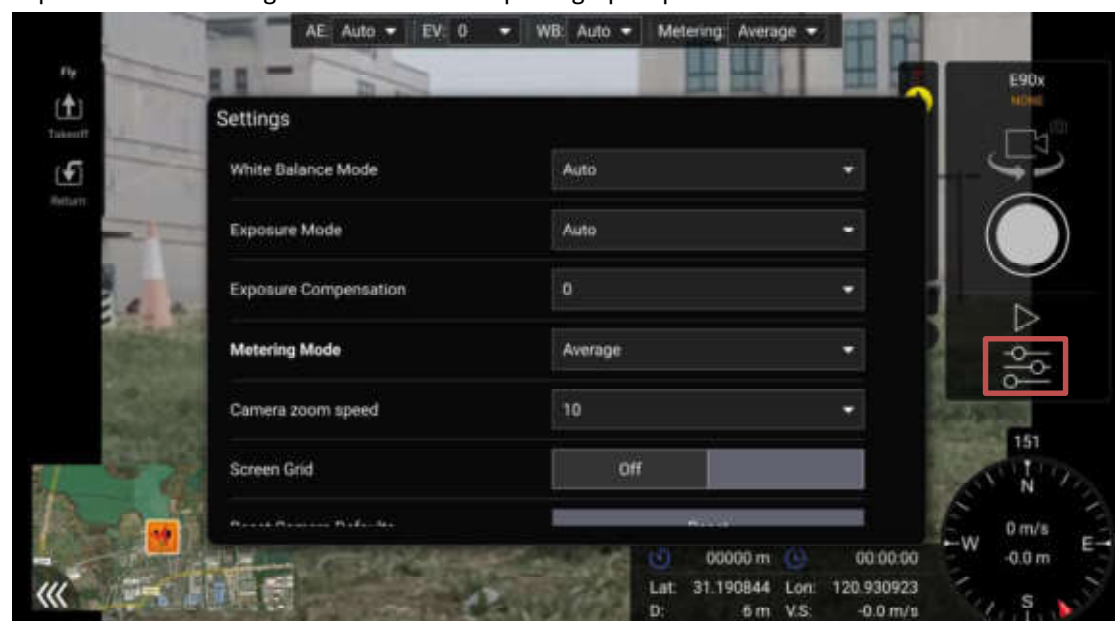
E90X

Yuneec's E90X camera is a one-inch CMOS sensor to capture high quality images with 4k 10 bit in camera color processing. Images may be captured in formats of JPEG or DNG format, or simultaneous capture of both formats. Video may be recorded in UHD, 2K, or HD resolutions at a variety of frame rates.

When the Gimbal was connected successfully the gimbal type will be shown correctly on the screen.



Tap the Camera Setting Button to set more photographic parameters.

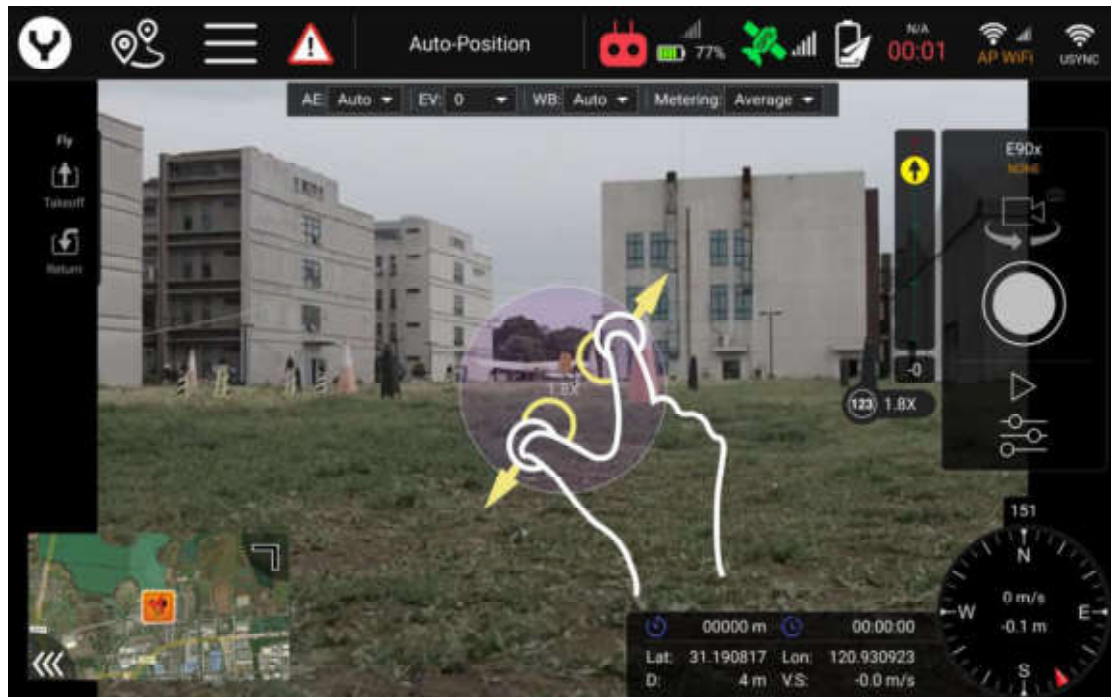


Notice: For more detailed introduction please refer to the corresponding Gimbal User Manual.

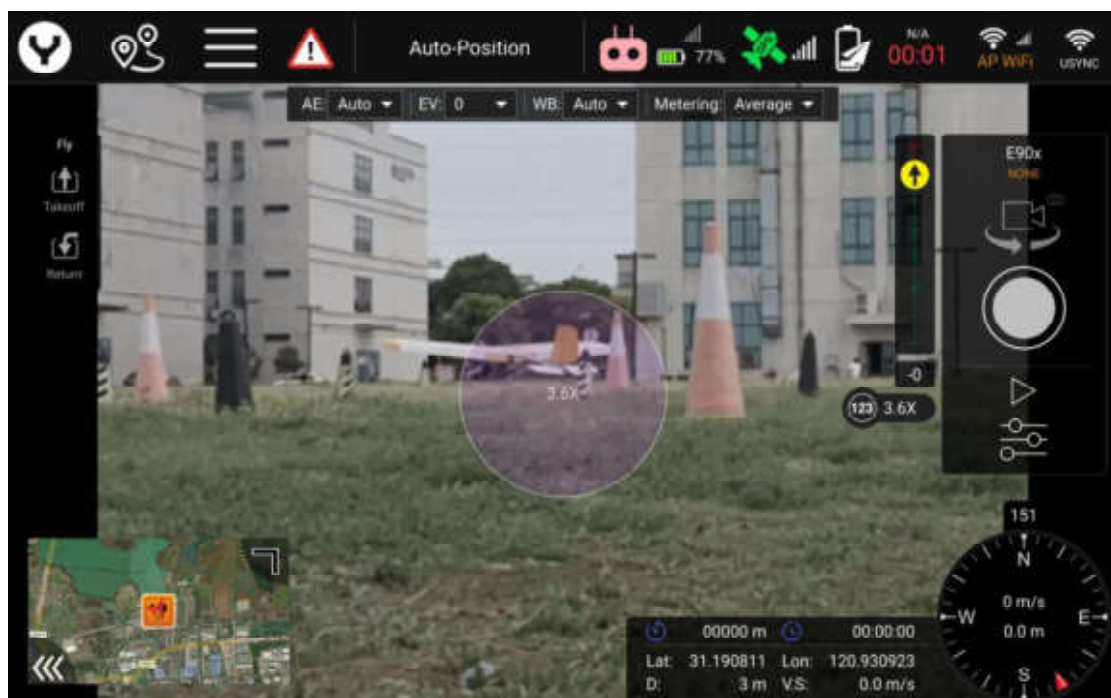
Digital Zoom function for E90x

Yuneec camera E90x is capable of digital zoom. Digital zoom is an ideal tool for many types of inspection, or getting a closer view of objects further than the camera is able to originally see. Digital zoom and optical zoom differ, as optical zoom uses placement of lenses to generate a closer image where digital zoom enlarges pixels.

When using digital zoom, some loss of fine detail is normal and expected.



Pinch the screen to zoom, just as with any other mobile device. Depending on distance, there may be a small amount of latency in seeing the image zoom.



Thermal imaging camera

ETx/E10Tx/E10Tv_x/E20Tv_x

This series are innovative combination of 3-axis gimbals, thermal imaging camera and low-light camera. While the thermal imaging camera selectively measures the temperature in the image enabling it to display relative temperature differences, the low-light RGB camera has a 20 times higher sensitivity than the human eye and can still take excellent shots even in low light conditions. Both images are streamed live on the remote control at the same time, and can be viewed separately as a picture-in-picture or as an overlay.

As same as the E90x gimbal, When the Gimbal was connected successfully the gimbal type will be shown correctly on the screen, also tap the Camera Setting Button to set more photographic parameters both for thermal imaging and visible light camera.

Notice: For more detailed introduction please refer to the corresponding Gimbal User Manual.

Variable-focus camera

E30Z_x

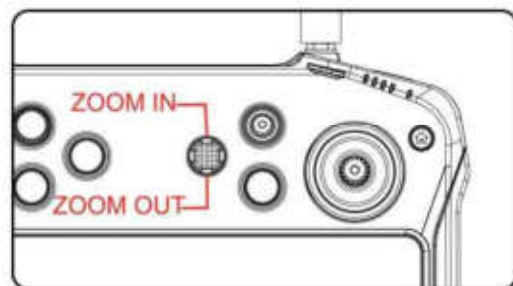
The E30Z_x is a powerful 30x zoom drone camera and makes it easy to zoom in on distant objects to gain valuable details. The compact camera housing contains a 1/2.8" CMOS sensor, which provides high-quality and stabilized recordings even in low light conditions. In addition to the 30x optical zoom, the camera offers a 6x digital zoom for flexible application options such as inspection, search and rescue operations, monitoring, people search, and much more.

As same as the E90x gimbal, When the Gimbal was connected successfully the gimbal type will be shown correctly on the screen, also tap the Camera Setting Button to set more photographic parameters.

Zoom function for E30Z_x

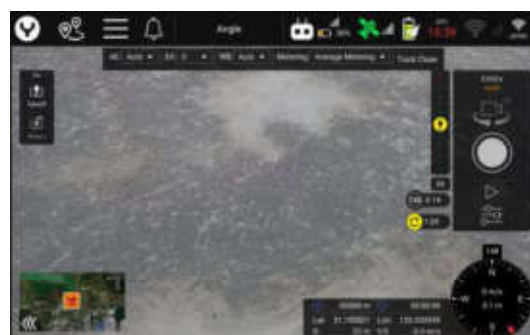
Zoom in

Press and hold the zoom in button to increase the optical zoom. When increasing to 30X optical zoom, if presses the zoom in button again, the camera begins to increase digital zoom. The digital zoom can increase to 6X at the most.



Zoom out

Press and hold the zoom out button to decrease the optical zoom. When decreasing to 1X digital zoom, if presses the zoom out button again, the camera begins to decrease optical zoom.



One Key to 1x Image

Tap the [] on the screen you can return the camera to 1X zoom.

Notice: For more detailed introduction please refer to the corresponding Gimbal User Manual.

Other payloads

Yuneec has several different camera/payload devices for use on the H850.

Get more information on www.yuneec.com.

SD CARD SELECTION

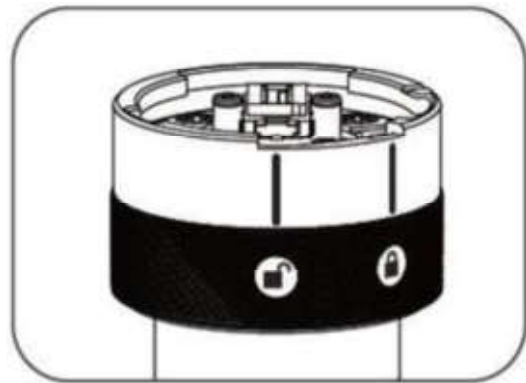
Yuneec recommend using a SDXC Class 10 UHS-3 micro SD card for recording 4k video. Using the UHS-3 card allows the camera buffer to record to the micro SD card faster resulting in fewer buffers overrun.

Assembly / Disassemble the gimbals

Assembling

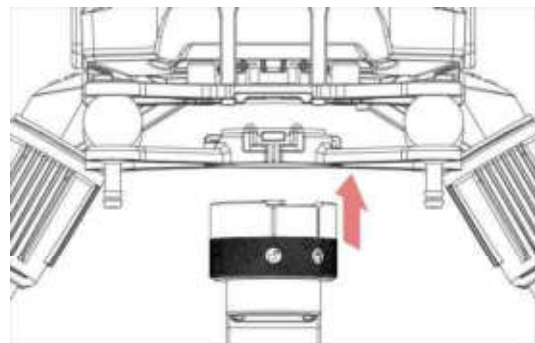
Step 1

Find the Unlocked Mark etched on the Gimbal Yaw Motor and align the Mark Line with the front of the damping plate.



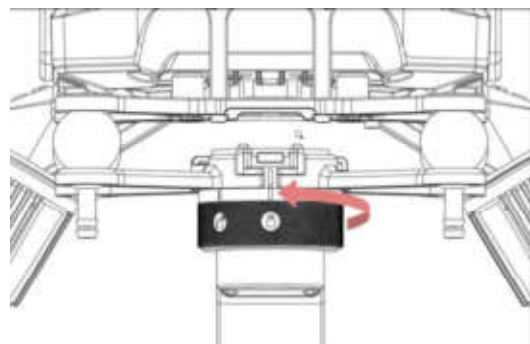
Step 2

Insert the Gimbal Yaw Motor into the damping plate and rotate it counterclockwise until the Mark Line of the Locked Mark aligns with the front of the damping plate to secure the gimbal.



Step 3

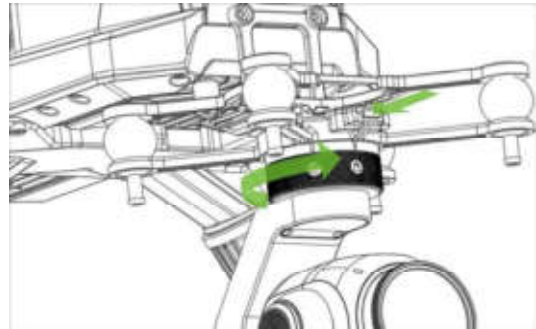
Remove the lens protector



Disassembling

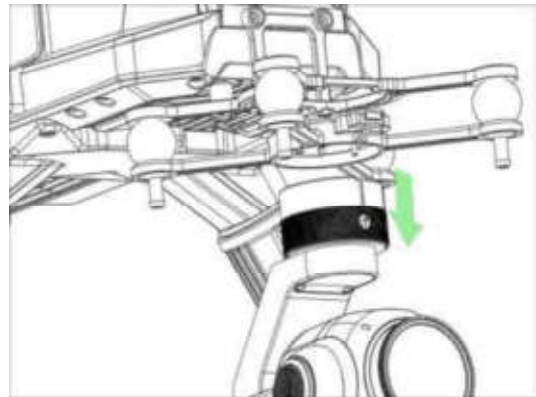
Step 1

Hold the gimbal release button and rotate the Gimbal Yaw Motor clockwise until the Mark Line of the Unlocked Mark aligns with the front of the damping plate.



Step 2

Pull the gimbal out from the damping plate.



Notice: The X-connector series gimbal needn't bind separately. If the re-binding is needed please refer to the corresponding section in the OFDM Module binding chapter.

Per-Flight Preparation

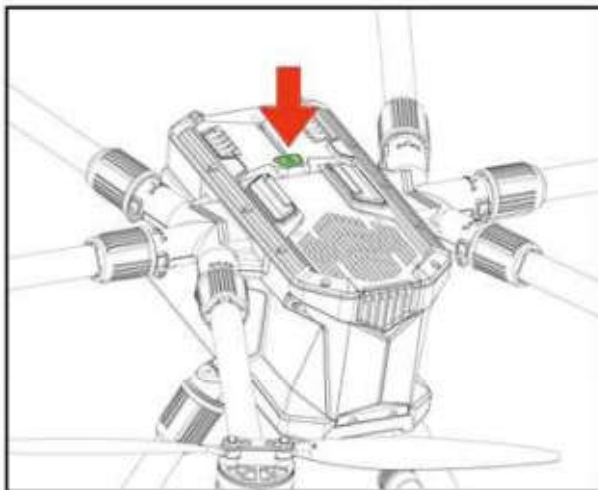
Power ON/OFF

NOTICE: Please make sure all firmware is the latest version. Firmware can be updated via the OTA update function and the user manual can be downloaded from web site: www.yuneec.com. The quick start guide does not replace the user manual.

Press and hold the Power Button to power on/off the T1

Press and hold the Power button on H850 to power on/off the drone.

Notice: Always Power on the T1 before powering on the UAS.



Calibrating the Compass

In the following situations recalibrating the Compass is suggested for flight safety:

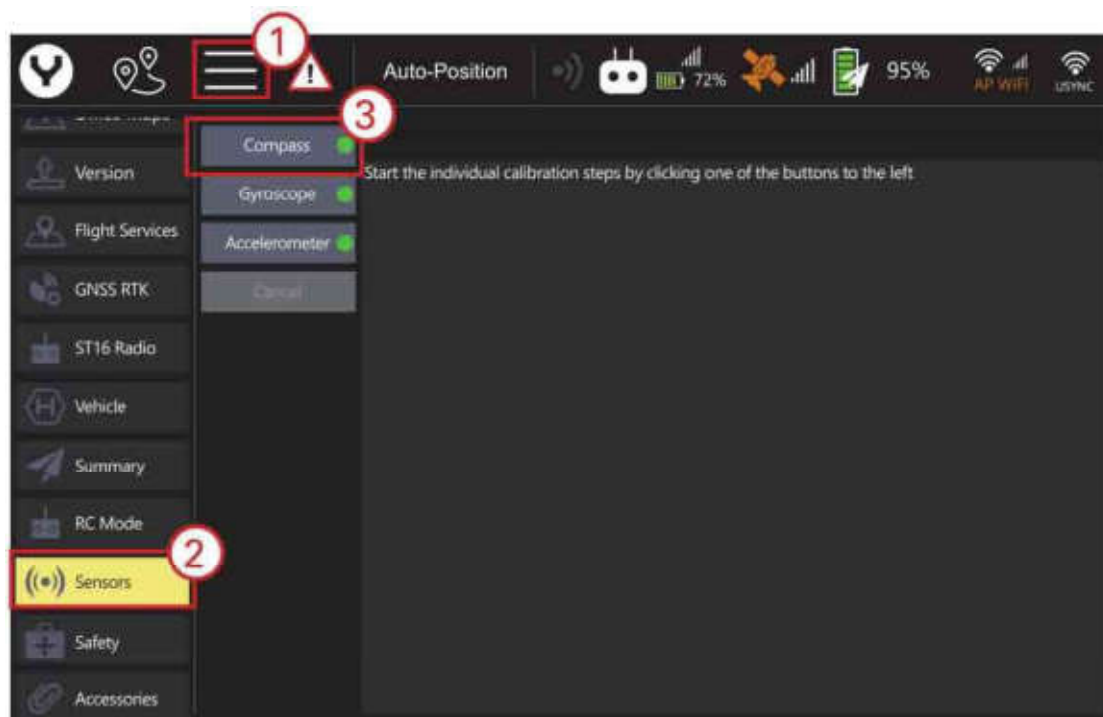
1. Before the first flight when you take the drone out of the box;
2. When feeling the drone is drifting after a long distance trip;
3. The drone alarms a compass warning.
4. There are metal materials beside the drone during storage and transport.

Calibrate steps

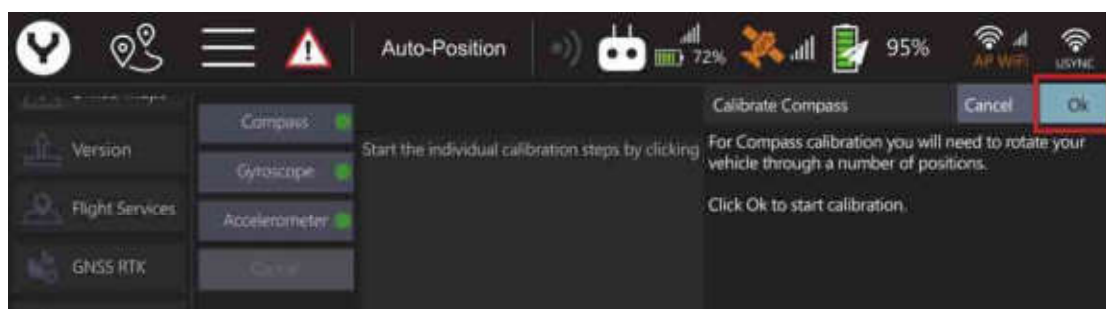
Notice: Do not calibrate the compass in parking garages, close to building or near roads with a metal core. For optimum performance, only calibrate the drone in open spaces, far away from power lines and other metal structures or concrete buildings

Be sure to perform the compass calibration procedure at least 11 feet away from the nearest cell phone or other electronic devices to ensure proper calibration.

Step 1: After the drone and T1 Transmitter already connected, place the drone on a horizontal and stable surface, and tap the setting icon then tap the compass under the Sensors Item.



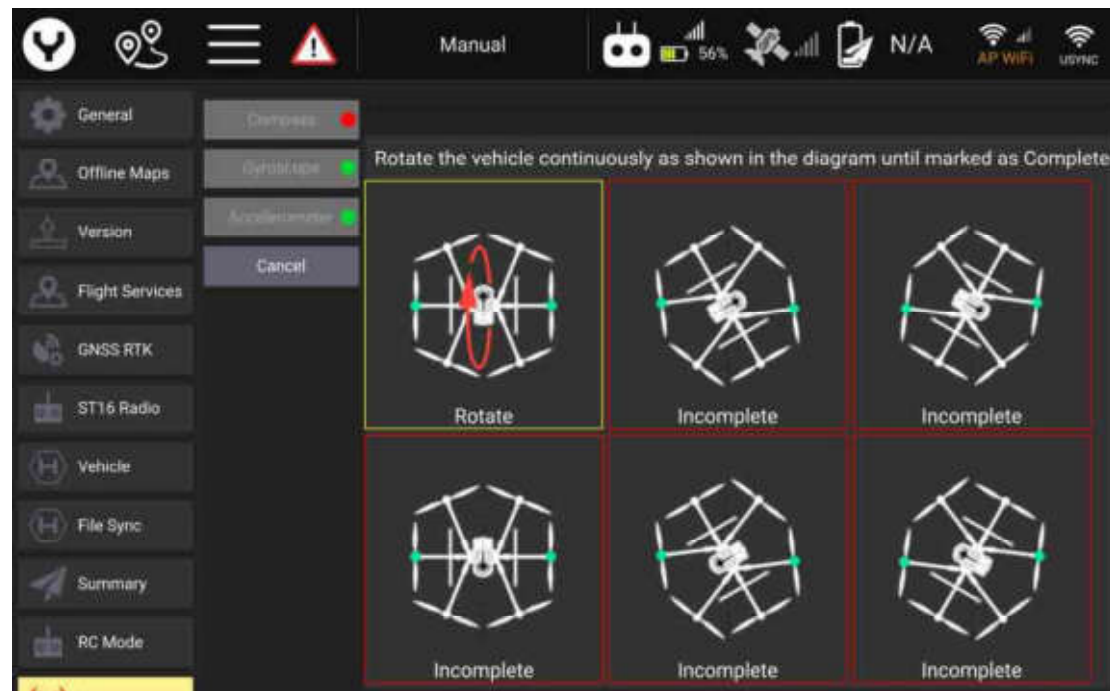
Step 2: Tap OK button to start calibrate



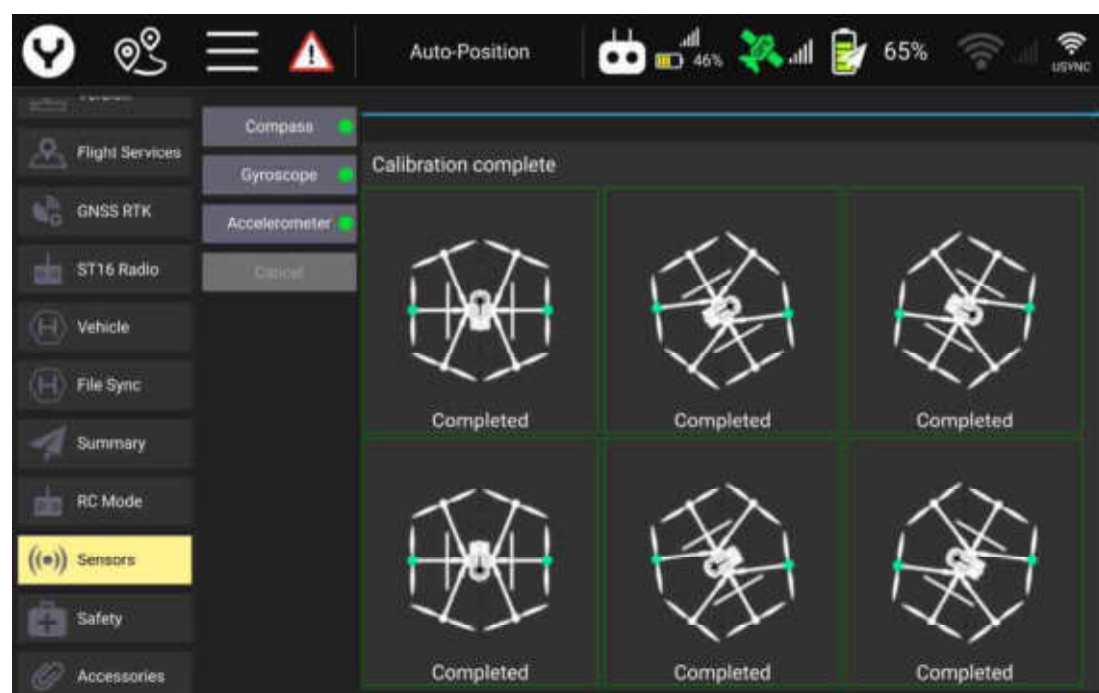
Step 3: Calibrating

Follow the onscreen display and instructions. During Compass calibration, the H850 will need to rotate along the specific axis which shown by the LED of each Motor Arm, until a tone is heard to change the next axis. Repeat this procedure for all six positions. A yellow box with a red arrow indicates the rotation axis which is calibrating. A green box indicates a completed calibration.

During Calibration

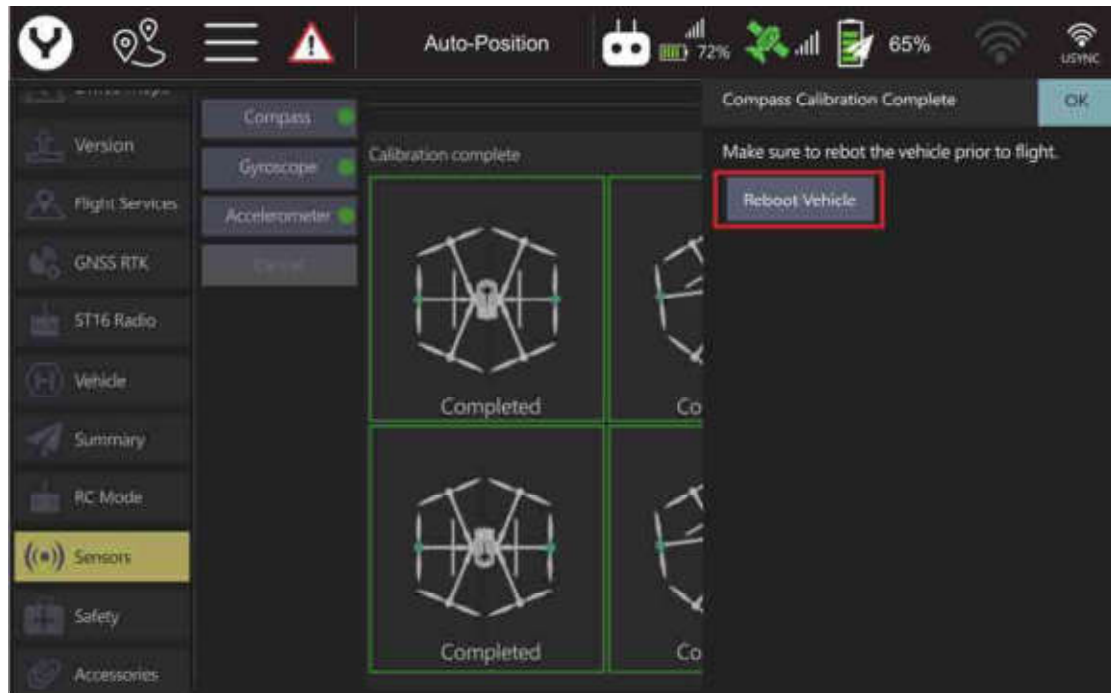


Calibration Finished for all Axis



Step 4: Reboot the drone

After all axis have been calibrated, tap the **Reboot Vehicle** button on the popped up dialog box to make the calibration effective.



CORS Network Binding:

The Network CORS and RTK GPS have been disabled by default setting. The H850 Drone will be positioned and navigated by using the single GPS technology.

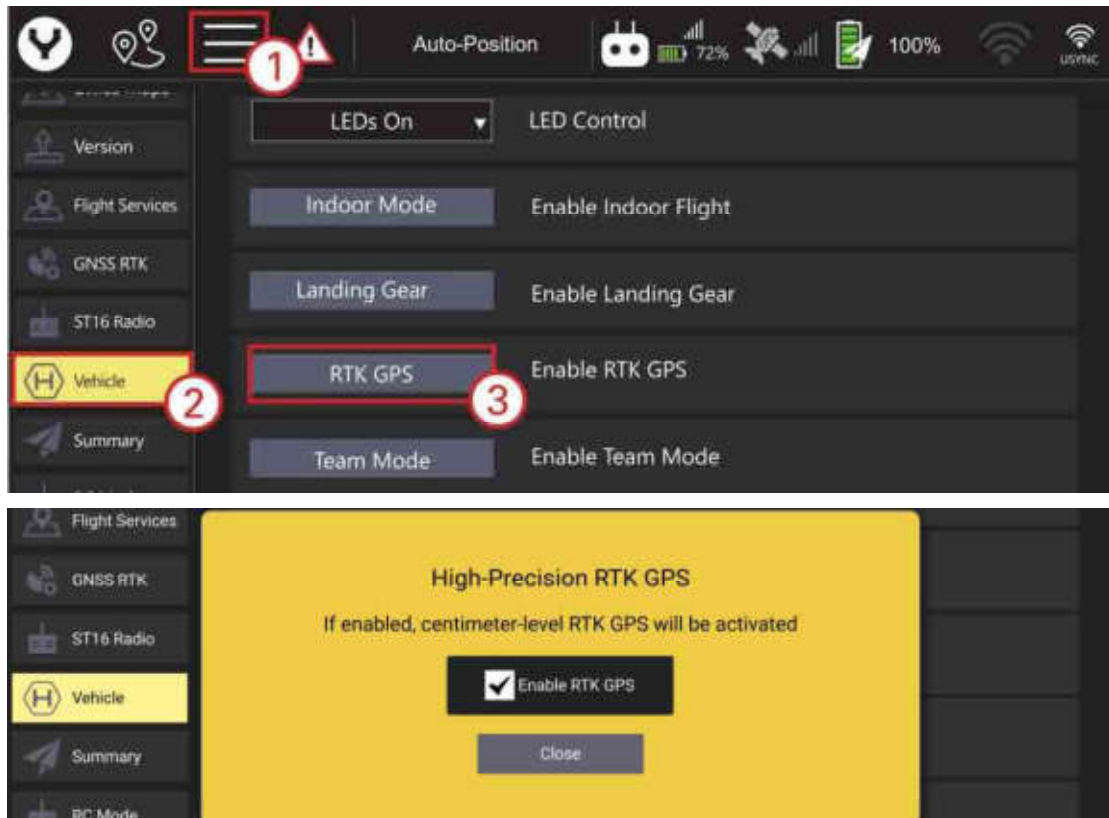
The RTCM Source was set to disabled by default under the GNSS RTK item.

The users can connect the drone with the Network CORS according the following steps to get the higher positioning accuracy.

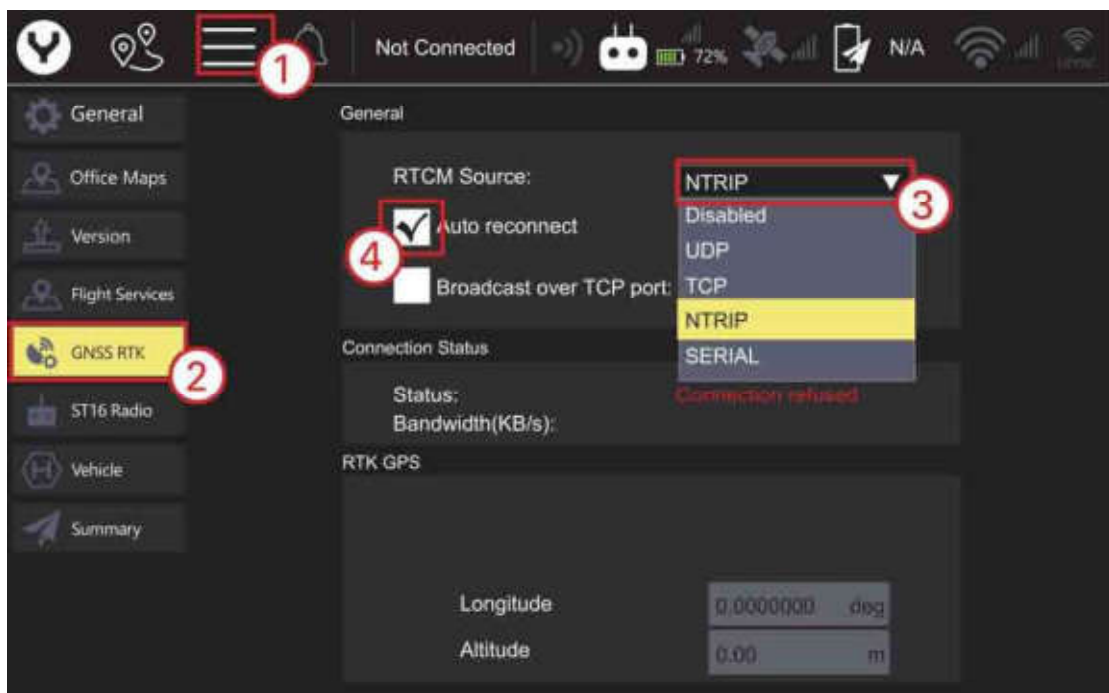
Step 1: After the T1 Transmitter and drone are bound, tap the Wi-Fi icon and select a Hotspot to make the T1 Transmitter connect to the internet.



Step 2: Tap the **Settings** icon then tap **Vehicle**. Select the RTK GPS and tick the **Enable RTK GPS**, then restart the drone.



Step 3: Tap the **Settings** icon then tap **GNSS RTK**. Select **NTRIP** as the **RTCM** source, then tick **Auto Reconnect**.



Step 4: Fill the following **NTRIP Stream Settings** parameters according to your CORS Network.

Longitude: 0.0000000 deg

Altitude: 0.00 m

NTRIP Stream Settings

NTRIP Port: address required

NTRIP Address: 2101

NTRIP User Name:

NTRIP User Password:

NTRIP Mountpoint: mountpoint required

NTRIP Proxy Address:

NTRIP Proxy Port: 8080

Apply

Notice: You must fill out the Required Tagging Form.

Step 5: Tap Apply button to finish the connection process.

Notice: When connection to the CORS Network has been successful, the Connection Status display will display a green “Connected”.

Connection Status

Status: Connected

Bandwidth(KB/s): 0.00

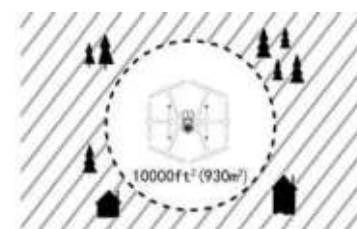
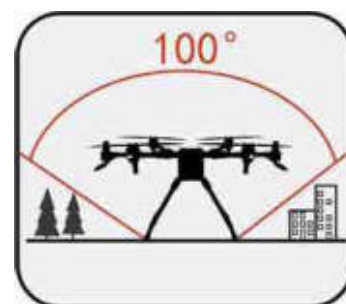
RTK GPS

Notice: Do not enable the RTK GPS when the RTCM Source is unavailable.

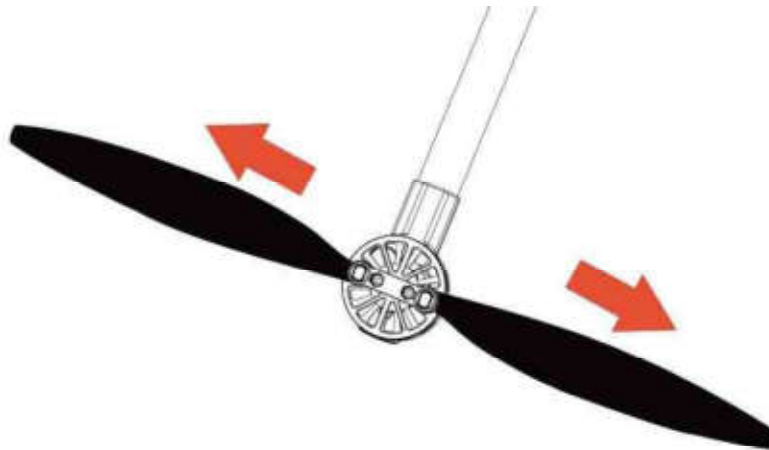
Environment Requirements

Always operate the Drone in open areas (approximately 10000 square feet/930 square meters or more) that are free from people, vehicles, trees and other obstructions. Never fly near or above crowds, airports or buildings.

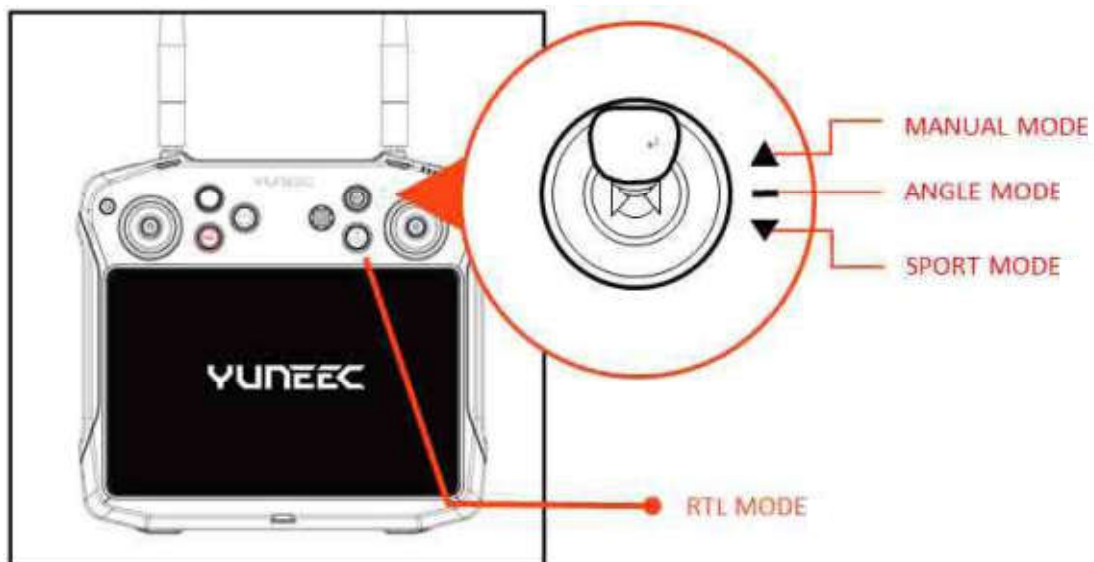
Never attempt to operate the drone near tall buildings/obstructions that do not offer a clear view of the sky (a minimum clearance of 100°).



Take OFF

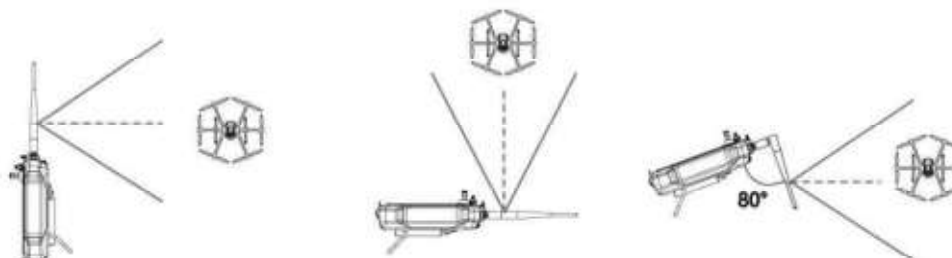


The drone has 4 different basic flight modes we suggest place the flight switch at the middle position to use the Angel mode to take off.



Optimal Transmission Range

The signal between the drone and the T1 Transmitter is most reliable when the antennas are positioned in relation to the drone below.



Ensure that the drone is flying within the optimal transmission range.

Take Off OPTION 1:

After the drone was positioned by GPS we can start the motors by pressing and holding the motor start/stop button on the T-1 Transmitter and release when the motors already started.

Slowly raise the left-hand stick to take off (Mode 2 Shown).



Take Off OPTION 2:

Tap the Take Off icon and set the takeoff altitude then slide on the screen to take off. There is also a Landing soft key beneath the takeoff soft key that may be used for Auto-Landing.

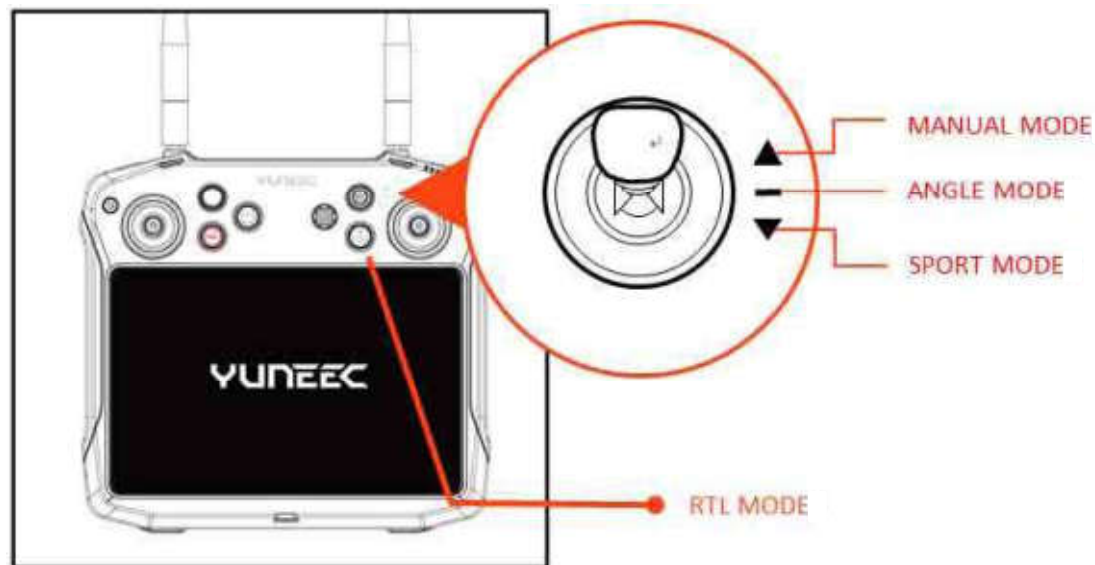


Control the drone

Basic Flight Control

Outdoor flight

Flight Mode Switch Overview



ANGLE MODE

When in Angle Mode and GPS is available, the H850 will respond according to the T-1 Transmitter.

SPORT MODE

In sport mode, the drone responses are optimized for agility and speed making it more responsive to joystick movements.

RTL MODE

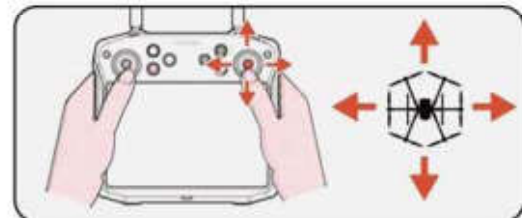
The Return to launch (RTL) function brings the drone back to the last recorded Home Point and land automatically. To enter the RTL MODE please press and hold the RTL Button on the T1 Transmitter after the drone took off.

MANUAL MODE

When in Manual Mode, GPS will be deactivated.

The aircraft will only use its barometer for positioning to control the altitude.

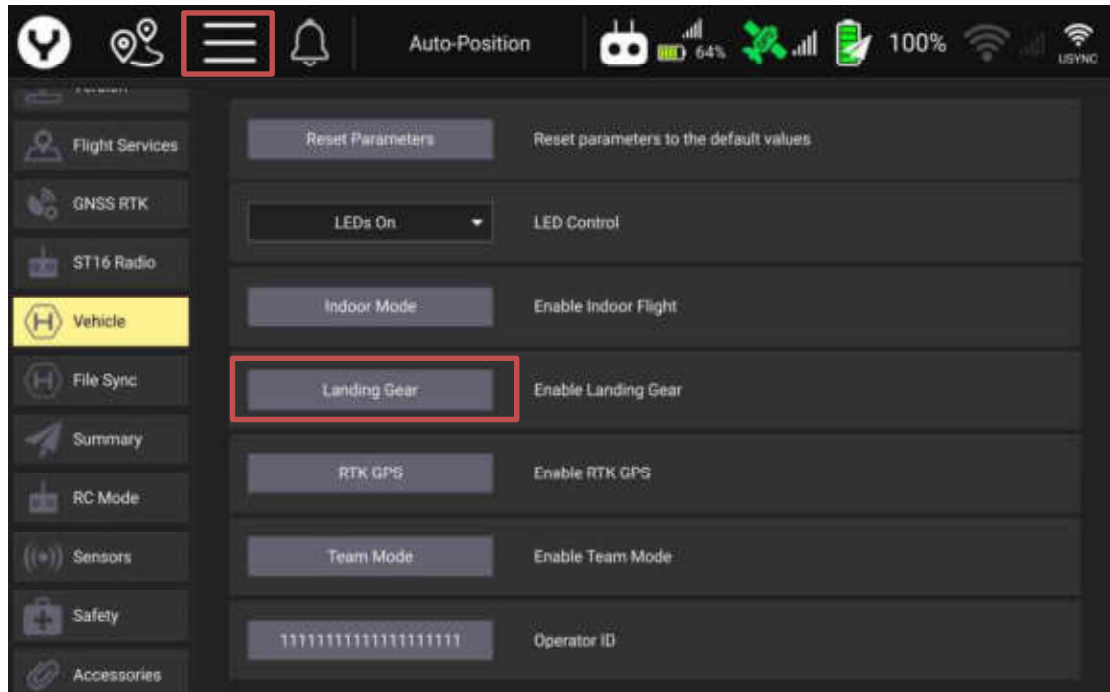
Tips: Manual mode is not recommended for first-time pilots. Without GPS, the aircraft will drift in slight winds and will not maintain position.



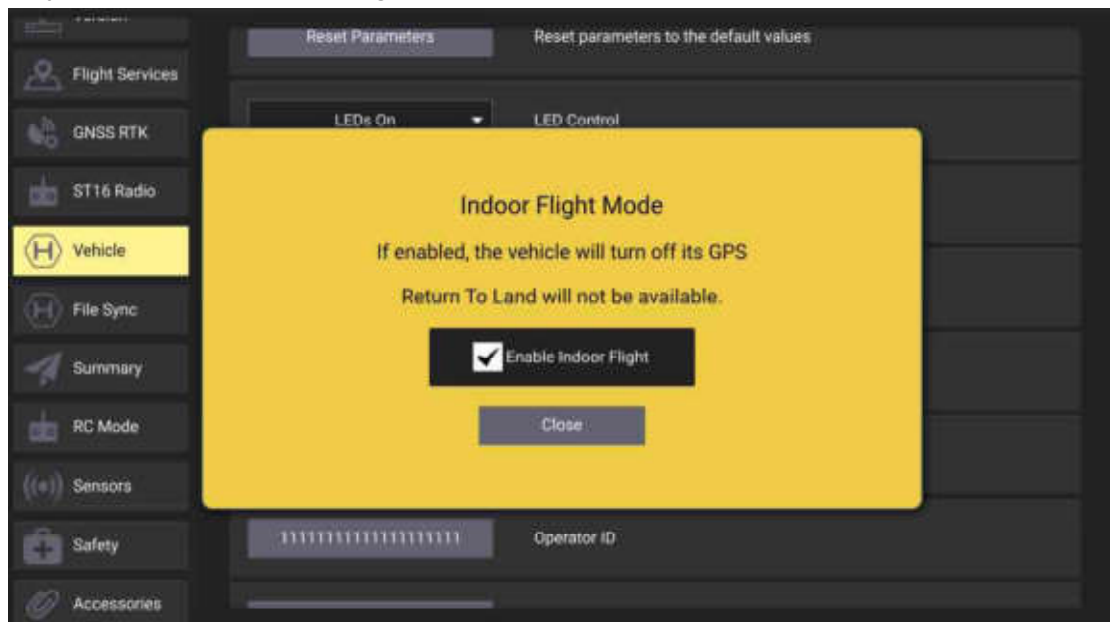
Indoor flight

When fly the drone without GPS signal, please switch to the indoor flight mode first then start the motors

Step 1: After the drone and transmitter was connected tap the system setting button then select the Vehicle item, tap the Indoor Mode button.



Step2: Tick the Enable Indoor Flight



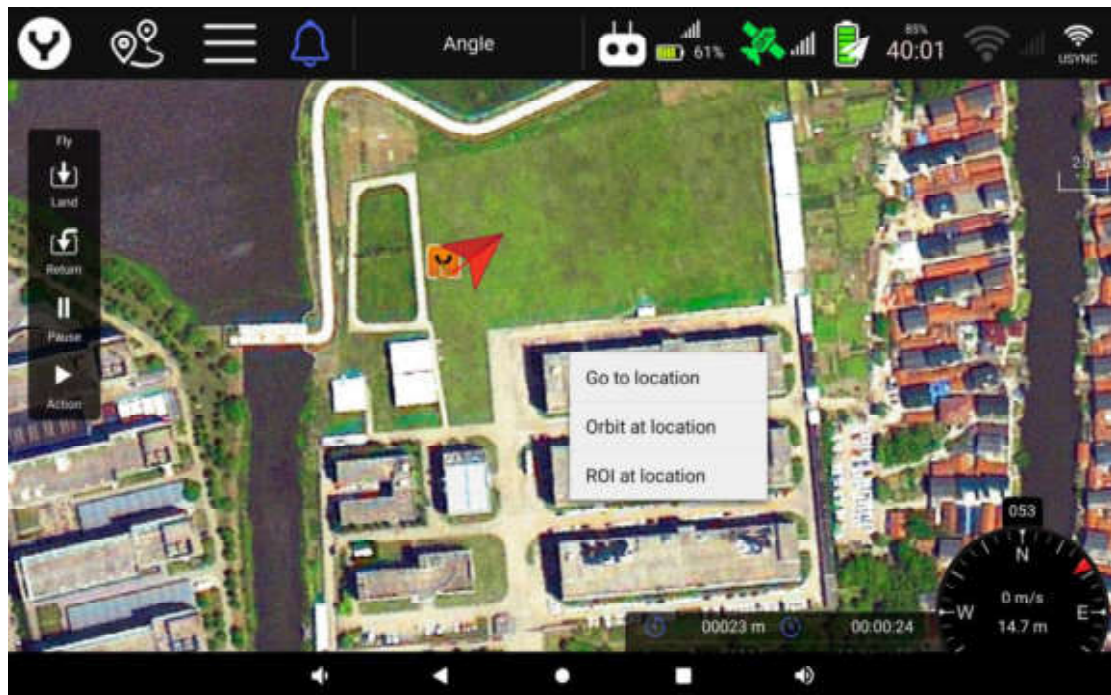
Step 3: Push the Flight Mode Selection Switch to the Manual Flight Mode then press and hold the START/STOP button for about 3 seconds to start the motors.

Notice: Please switch back to outdoor flight mode after each indoor flight; otherwise the drone won't get GPS lock when flying outdoor next time.

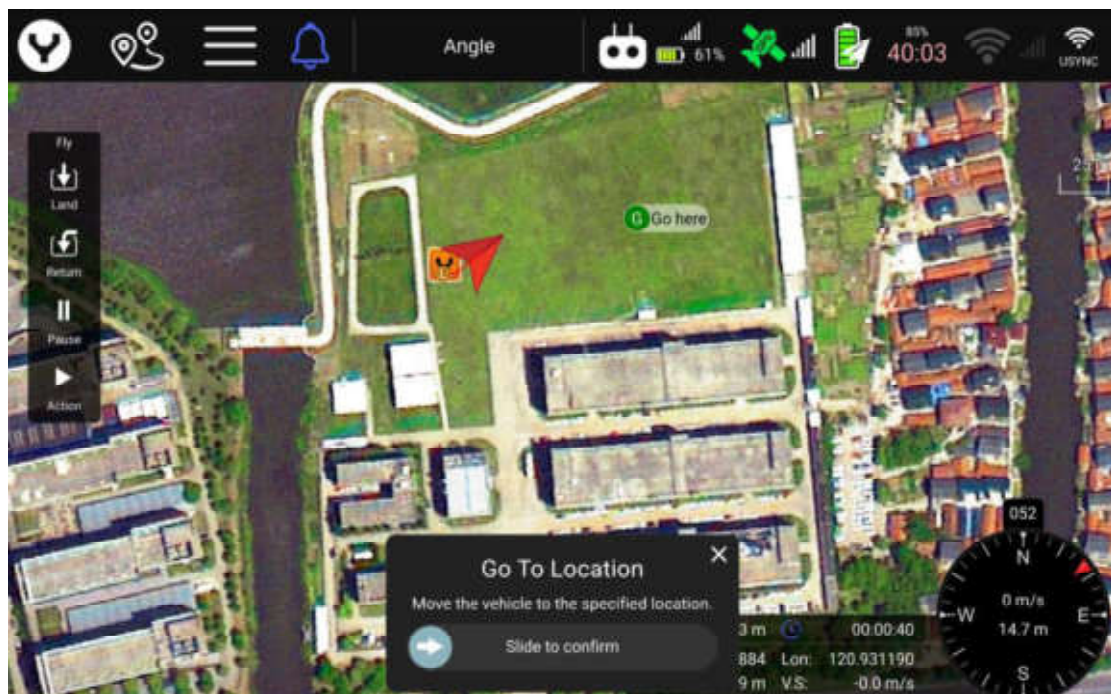
Go to Location flight

After the drone was taken off with GPS Lock the users can command the drone fly to a specific point on the map by tapping the map directly.

Click the “Go to location” then the tapped point will be marked on the map as the Go here point.



Slide the slider the drone will fly to the Go here point on a straight flight line.



After arrived the drone will keep hover at the Go here point.

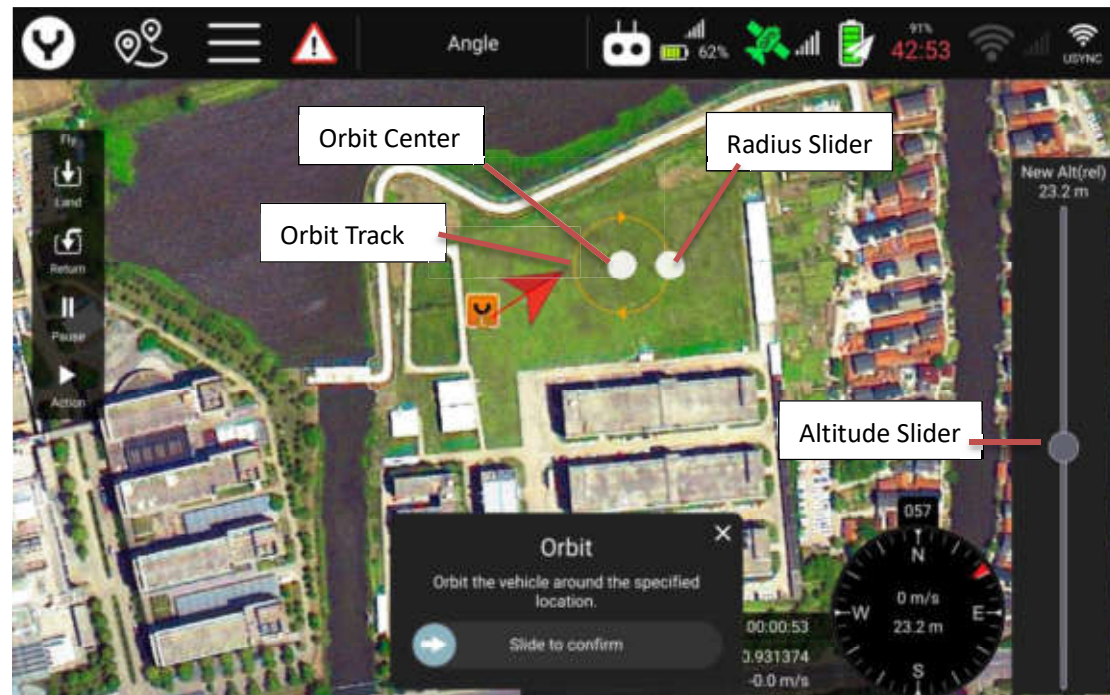
Notice: The users can stop the Go to Location Mission by push or pull any joystick to any direction.

Orbit Flight

After the drone was taken off with GPS Lock the users can command the drone fly to orbit a specific point on the map by tapping the map directly.

Select the “Orbit at location” then the tapped point will be marked on the map as the orbit center point.

Orbit Flight Setting interface overview:

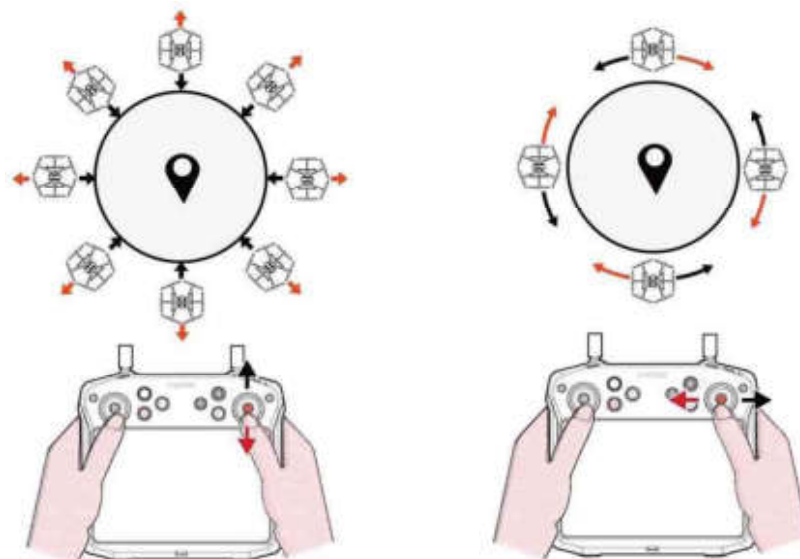


The users can adjust the initial orbit center and radius by dragging the white dot of the orbit center point and the radius slider.

After the altitude was confirmed slide the slider on the bottom to start.

Adjust the orbit speed, radius and altitude

After the orbit flight is started, users can adjust the radius by using the elevator/pitch joystick meanwhile the orbit speed can be adjusted by the aileron/roll joystick when orbiting.



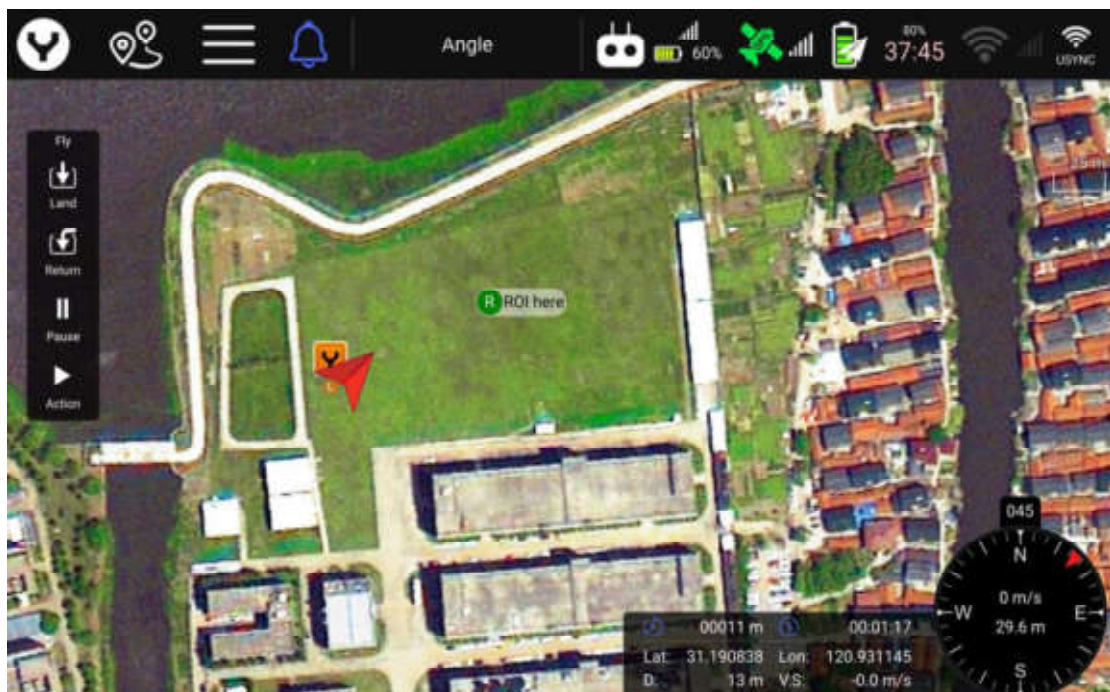
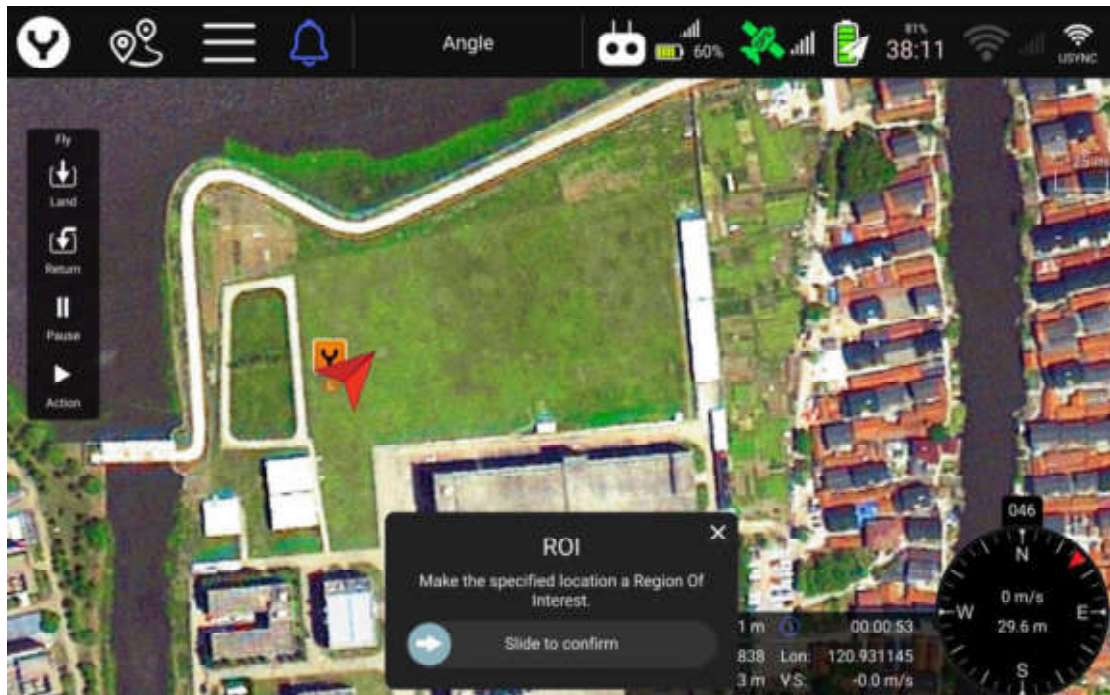
Mode 2 shown

And for the altitude users can use the throttle/altitude joystick to adjust.

ROI Flight

After the drone was taken off with GPS Lock the users can command the gimbal towards to a specific interesting point on the map by tapping the map directly.

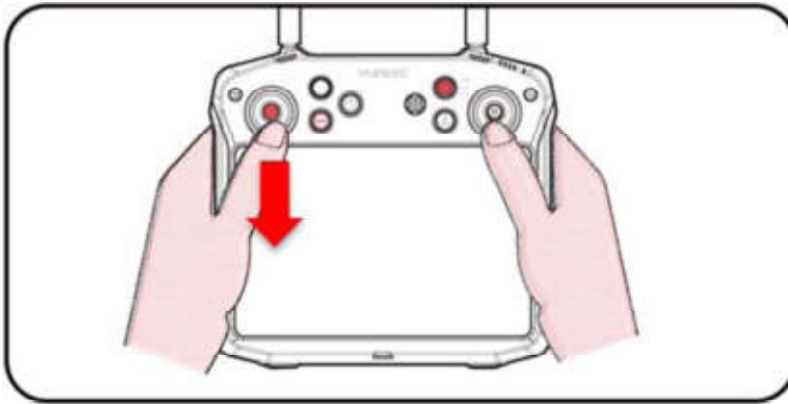
Select the "ROI at location" then slide to confirm the tapped point will be marked on the map as the ROI point.



After the ROI point was set, the gimbal will turn its pan direction to looking at the ROI point.

Land

Slowly lower the throttle/altitude joystick below the center position, H850 will descend slowly and land. After the drone lands, the motors will stop after 2 seconds without any operation.



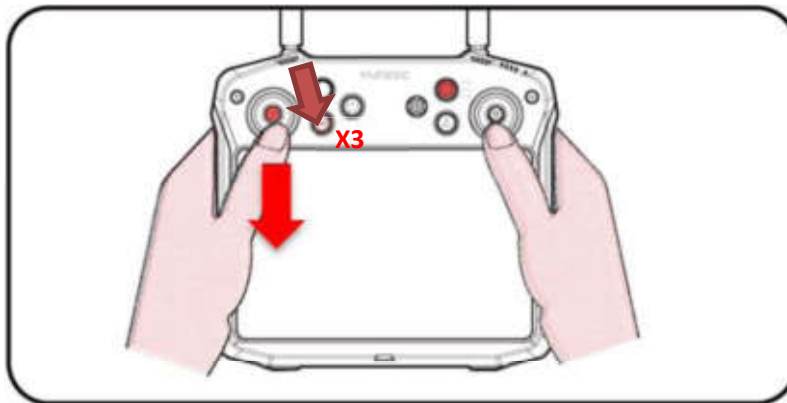
Mode 2 Shown

Emergency Motor Stop

The users can force stop the motors by following operation in the emergency status such as the blades will hit the people and cause serious injury. Or the drone has the trend of flying away under the loss control conditions which caused by the sensors fault.

To force stop the motors please pull the throttle joystick to the bottom then press the Motor Start/Stop Button 3 times rapidly.

Warning: The motors will stop even the drone is flying in the sky by the Force stop command.



Mode 2 Shown

Notice: If the motors were force stopped, to start the motors again, the users must reboot the drone first.

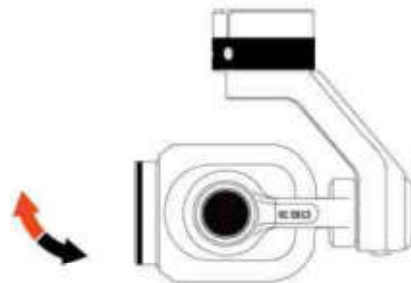
Gimbal Control

GIMBAL CAMERA TILT CONTROL

The users can control the tilt of the gimbal by using the Tilt Control Knob

Slide the knob to the left to tilt down the gimbal, slide the knob to the right to tilt up the gimbal.

Keep the knob at the center point to hold the tilt angle of the gimbal.

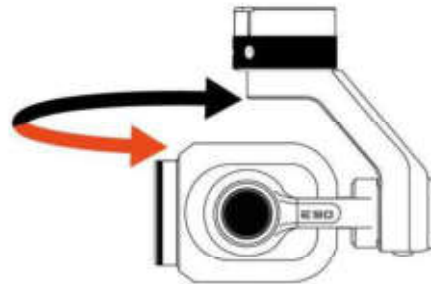


GIMBAL CAMERA PAN CONTROL

The users can control the Pan of the gimbal by using the Pan Control Knob

Slide the knob to the left to pan left the gimbal, slide the knob to the right to pan right the gimbal.

Keep the knob at the center point to hold the pan direction of the gimbal.

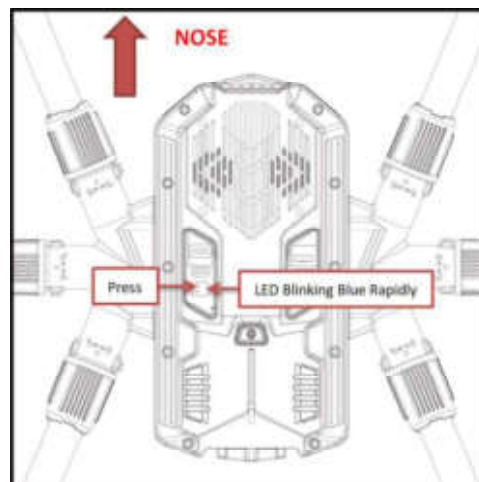


Re-Bind

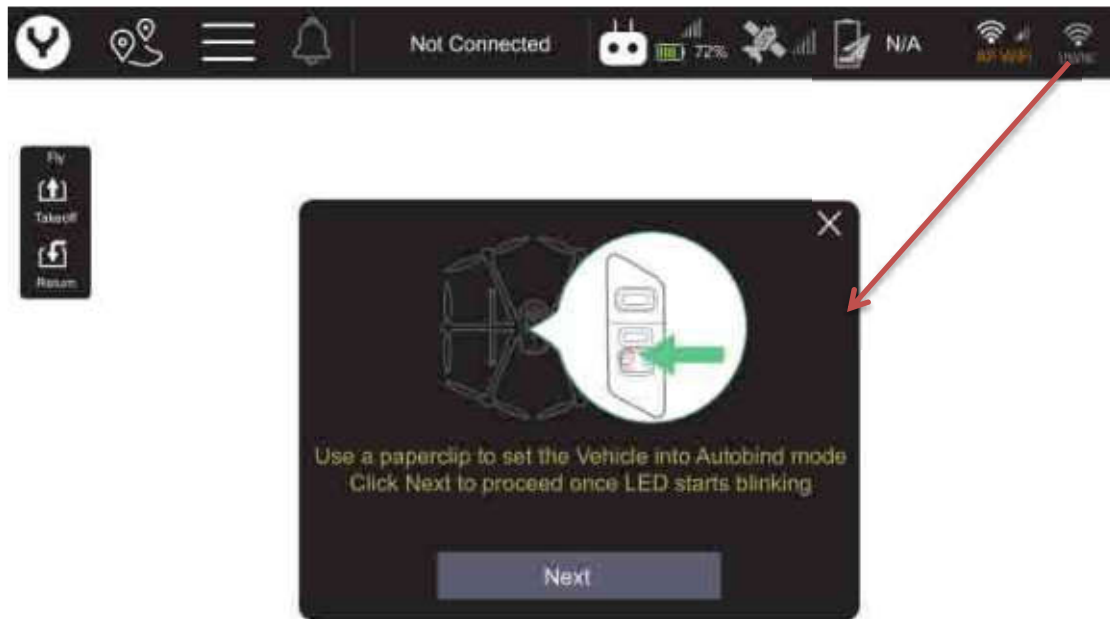
The drone and T1 Transmitter are already bound before shipped out of factory. It is unnecessary to bind them again. Pilot can follow the steps below if rebinding is needed.

Step 1: Power on the H850 Drone. Wait a few seconds for all systems to be boot up.

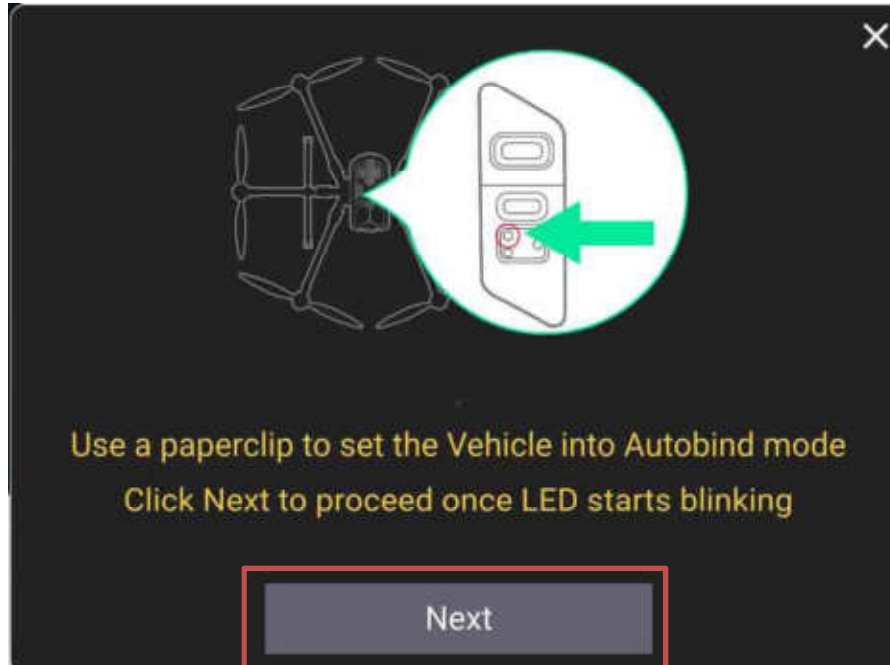
Step 2: After initialization completes, Use a paperclip or something like a needle to push the bind button inside the hole as the picture shown. Release the button until the LED blink yellow quickly.



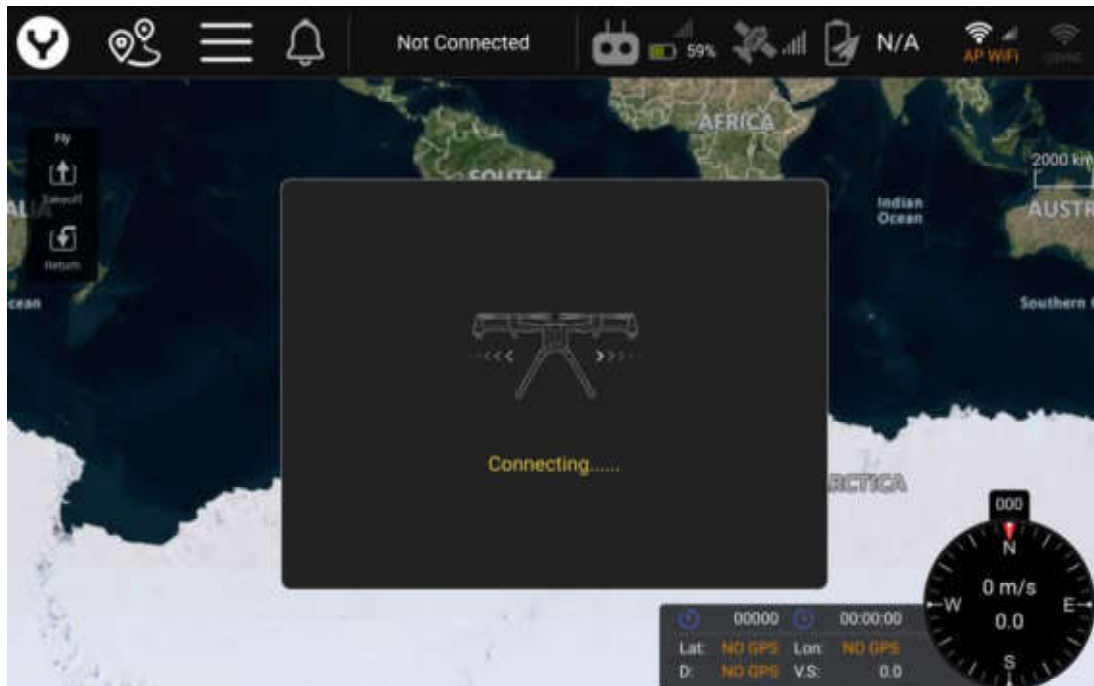
Step 3: Power on the T1 Transmitter and tap the USYNC Button to bind.



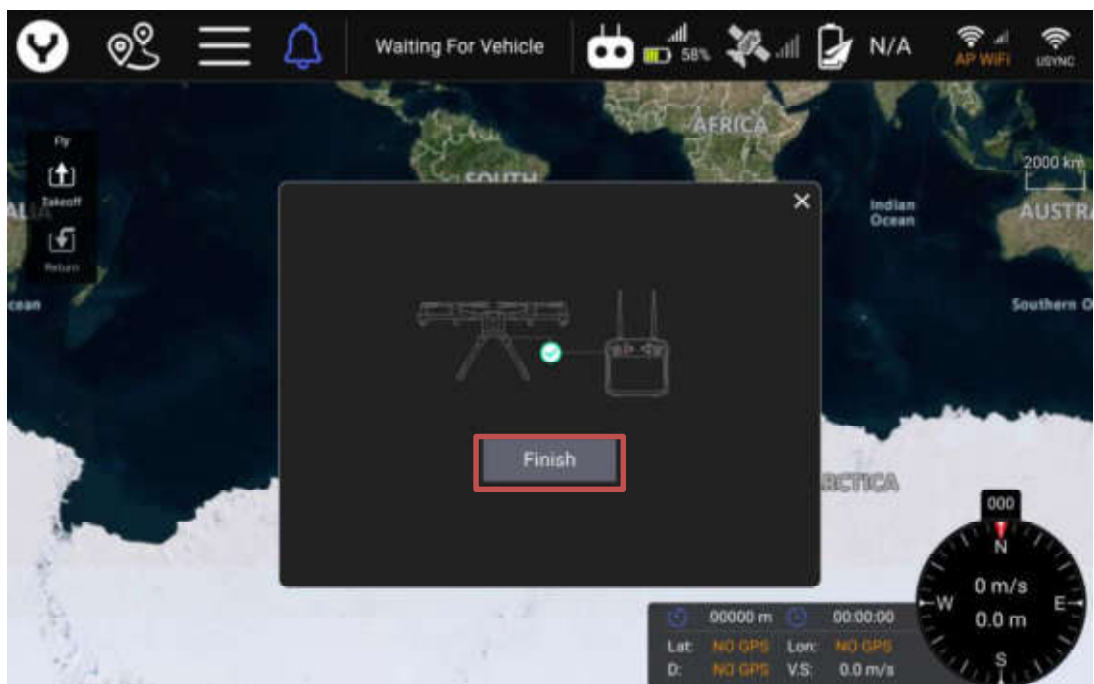
Step 4: Tap the Next Button to start the binding process.



Step 5: Connecting.



Step 6: Tap the “Finish” Button to finish the bind process.

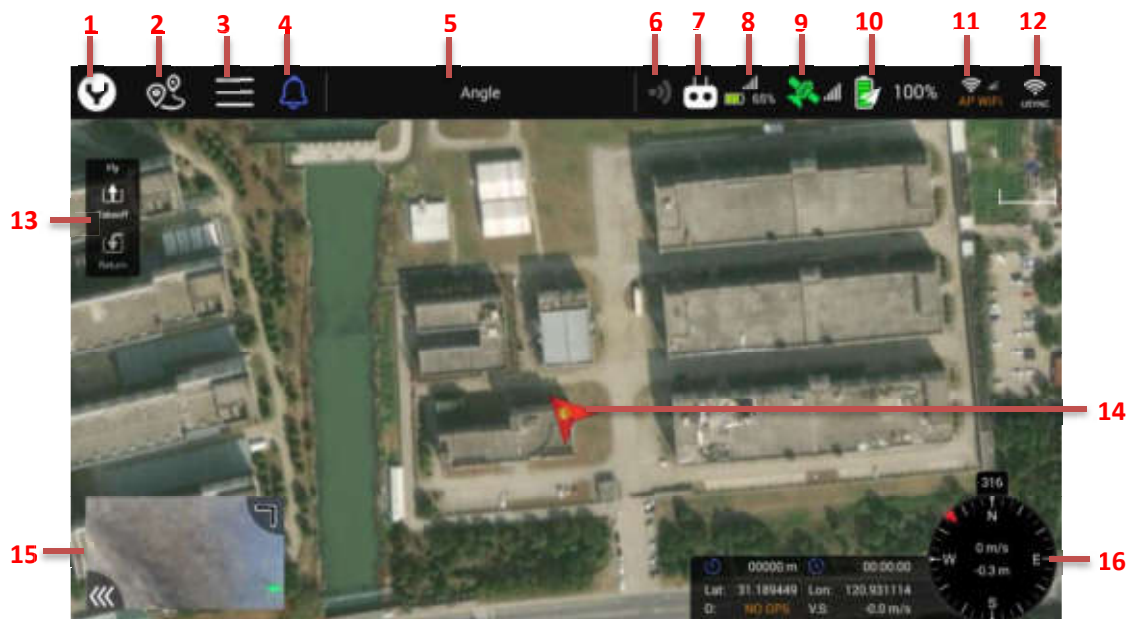


Data Pilot APP

DataPilot™ is an economic and efficient task planning software tailored for industry users, which preinstalled in the smart transmitter for all the YUNEEC commercial drones.

Main Interface Over view

Full Screen Map Interface



01 Main Interface Button

Return to main interface from any other interface by tapping this button.

02 Mission Route Setting Button

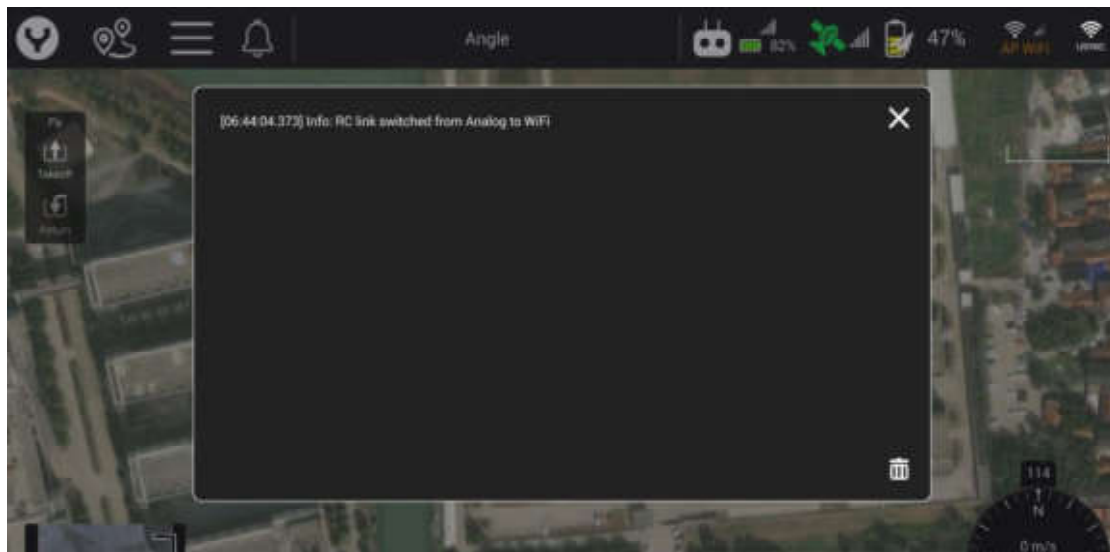
Tap this button to enter the Mission Editing Interface.

03 Settings button

Tap this button to open the extended menu to view and adjust the parameters of other settings.

04 Warning Message button

After the Warning Message released by the drone the bell icon  will change to the Exclamation mark.  To view the Warning Message, please tap the Exclamation mark then the Warning Message Window will be popped up on the screen as the screenshot shown below. Tap the close button  to close the Warning Message Window. Tap the Trash can icon  to clean the Warning Messages.



05 Flight Modes Indicator

Display the current Flight Mode of the drone.

06 Obstacle Avoidance Indicator

After the Obstacle Avoidance switched on, this icon will turn green to remind the users this function is enabled.



Note: For the drones without the Obstacle Avoidance function this indicator will be hidden.

07 Communication status indicator

This indicator show 3 different communication status as the picture shown below



Gray: The drone doesn't connect to the transmitter.



Red Flashing: The receiver already connected to the drone, and the DataPilot™ 2.0 App is attempting to establish the communication with the Autopilot in the drone.

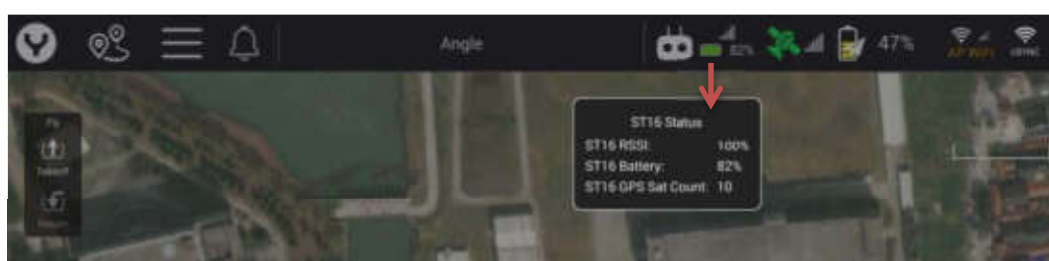


White: The communication between the DataPilot™ 2.0 App with the Autopilot was established.

08 Transmitter Battery & RSSI

This icon displays the Remaining Battery Power and acts as the RSSI (Received Signal Strength Indication) of the transmitter.

Tap this icon to displaying more information of the transmitter status.

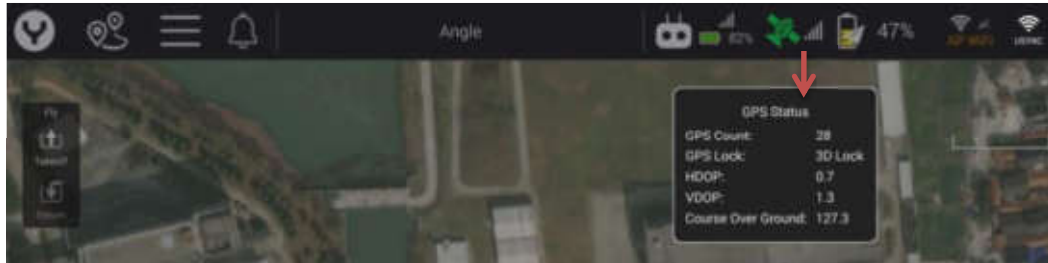


To close the dialog box, just tap other areas on the screen.

09 Drone GPS indicator

This icon displays the Drone GPS status. When the icon turns green it means the drone has an ideal positioning accuracy for flight.

Tap this icon to displaying more information of the drone GPS status.

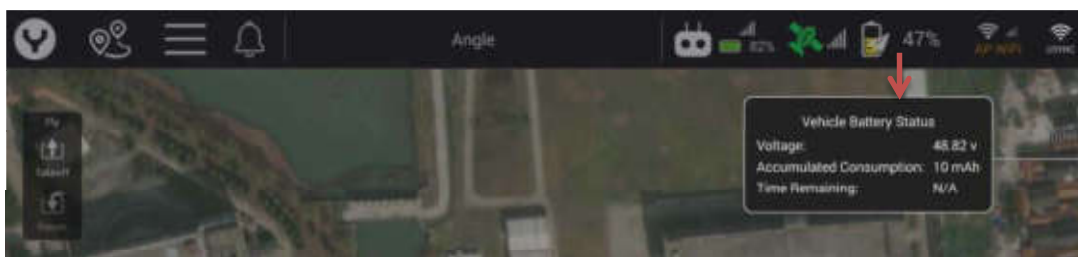


To close the dialog box, just tap other areas on the screen.

10 Drone Battery indicator

This icon displays the Remaining Power and percentage of the drone flight battery.

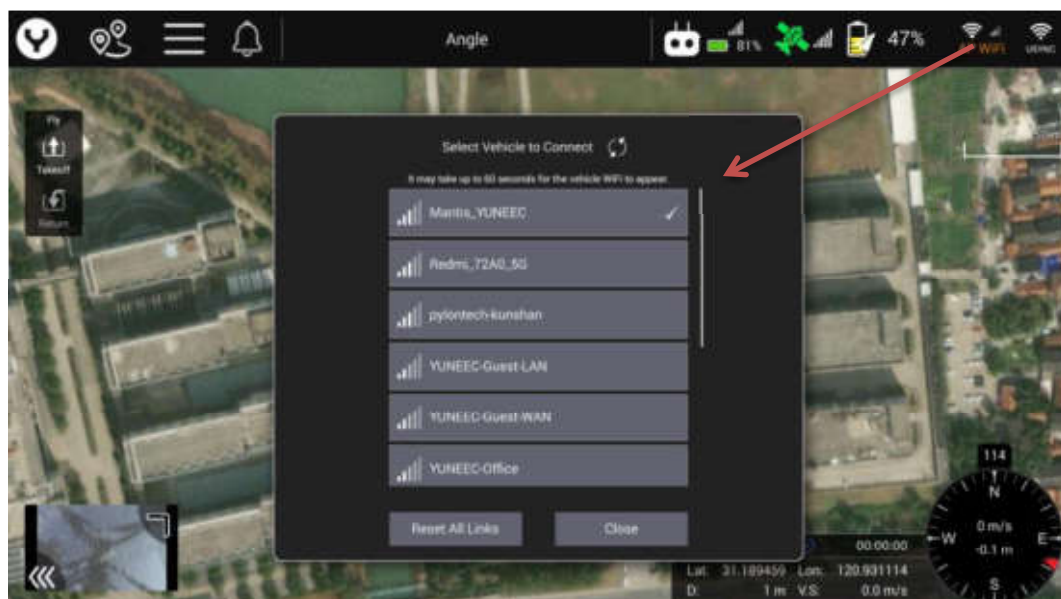
Tap this icon to displaying more information of the drone battery status.



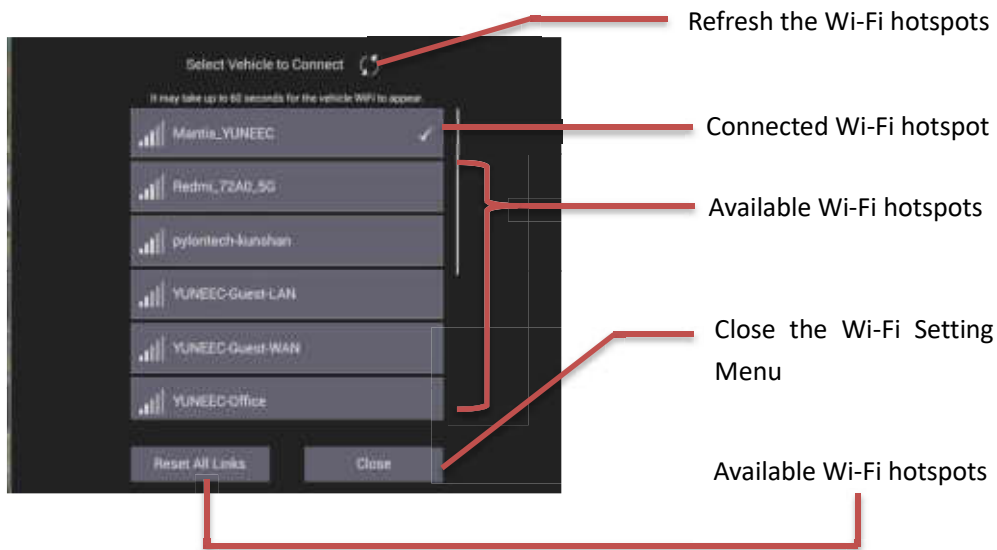
To close the dialog box, just tap other areas on the screen.

11 Wi-Fi RSSI & Setting button

This icon displays the Wi-Fi RSSI. The users can also open the Wi-Fi Setting Menu by tapping this icon.



The users can select, refresh, connect or reset the available Wi-Fi hotspot under the Wi-Fi Setting Menu.



The users can select the Wi-Fi hotspot wanted by tapping the SSID in the available Wi-Fi hotspot list, and then enter the passwords to connect.

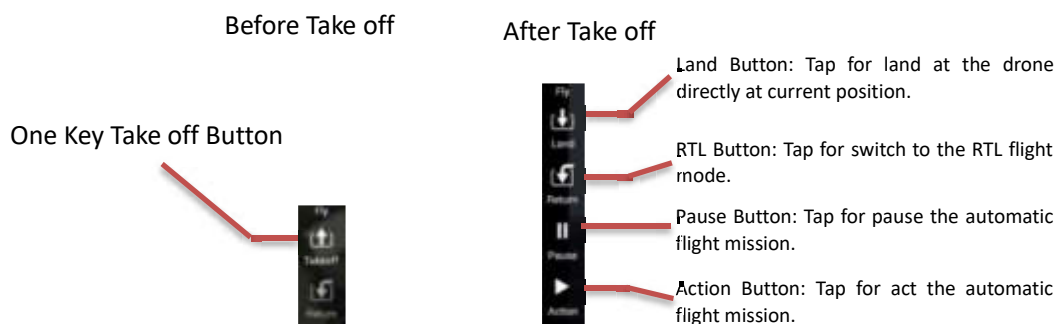
With the connection of the Internet, the users can download the electronic map, get the Network CORS source or deal with other operations.

12 OFDM RSSI & Setting button

This Icon displays the OFDM RSSI. The users can also open the OFDM Menu by tapping this icon for binding or unbinding operation.

13 Flight quick control panel

The user can send the control command by using this panel. After the drone took off the panel will add 2 items as the screenshot below:



14 Drone

Indicate the drone position and course. The L point  means the Launch point of the drone.

15 Map /Video Switch

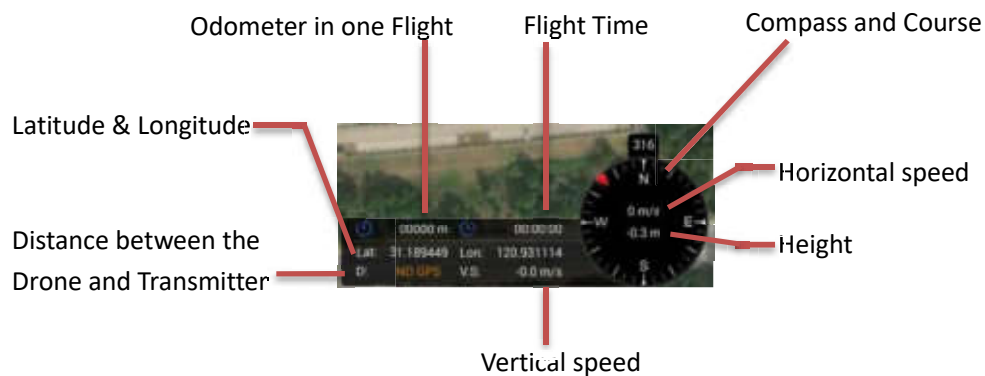
Display the thumbnail window of the map or Video link feedback. Tap to view the full screen map or Video interface.

The user can tap the hide icon ≪≪ to hide the thumbnail window, or drag the icon to adjust the size of the window.

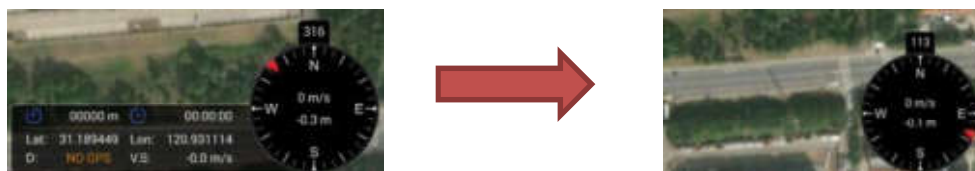


16 Flight Data Panel

Indicate the flight data



The User can hide the panel left to the compass by single tapping the compass dial.



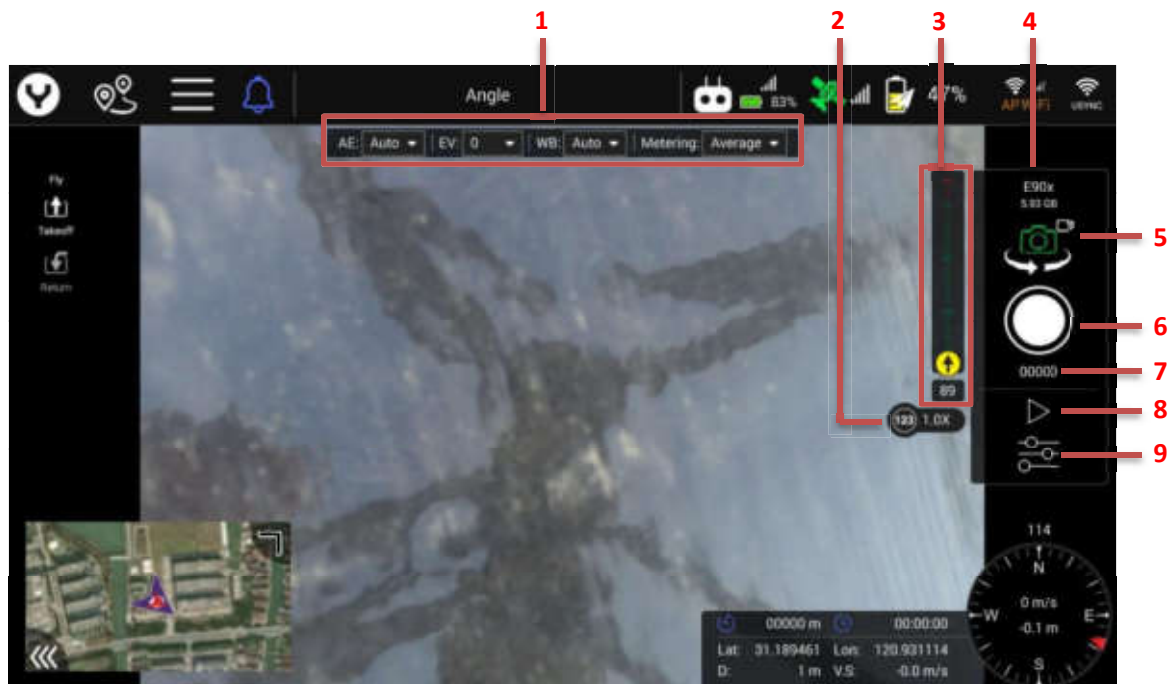
The Compass also can be switched to the gyroscopic horizon dial by tapping the dial in quick succession.



The Height and Horizontal Speed data will also be moved to the panel left to the dial.

Video Link Interface

After The Main Screen has been switch to the Video Link feedback interface, the user will get the screen shown below:



1 Camera quick access menu

The user can adjust the camera parameter quickly by using this menu. Such as exposure mode, white balance, etc.

Note: According to different camera type and parameter setting this menu could be different.

2 Zoom Icon

This icon displays the zoom ratio of the camera

Note: According to different camera type this icon could be different.

3 Gimbal attitude display

The Position of the Yellow dot  in the gimbal tilt indicator bar shows the gimbal tilt attitude.

The red marks in the bar shows the gimbal is tilted up meanwhile the green marks shows the gimbal is tilted down. For further accuracy, we can read the gimbal tilt angle in the rectangle under the Vertical bar.

Also there is a black arrow in the Yellow dot it shows which direction of the gimbal lens is point to. When the arrow is straight up it shows the gimbal lens is point to the front of the drone.

4 Camera Type and SD card remaining capacity

Display the camera type and SD card remaining capacity.

5 Photo/Video Mode Switch

Switch the Camera mode between the Photo mode with the Video recording mode. Just tap the Icon to switch the Camera work mode.



Camera in video mode



Camera in Photo mode

6 Shutter/Record button

In the Video Recording mode the icon is a red dot. Tap it to start recording the video and tap again to stop recording.

In the Single Photo mode the icon is a white dot. Tap it to capture a photo

In the Time Lapse Photo mode the icon is a white dot with time interval shown in the center. Tap it to start the time interval shooting and tap again to stop.

If the SD card is full or the camera without insert the SD card the icon is a gray dot that means you cannot record anything.

Five different status of the Shutter or Start/Stop recording soft button



Tap to start
Recording video



Tap to Record
one photo



Tap to start time
interval shooting



Tap to stop the
Video recording
or time interval
shooting



No SD card or
SD Card full

7 Counter in photo mode/ Timer in video mode

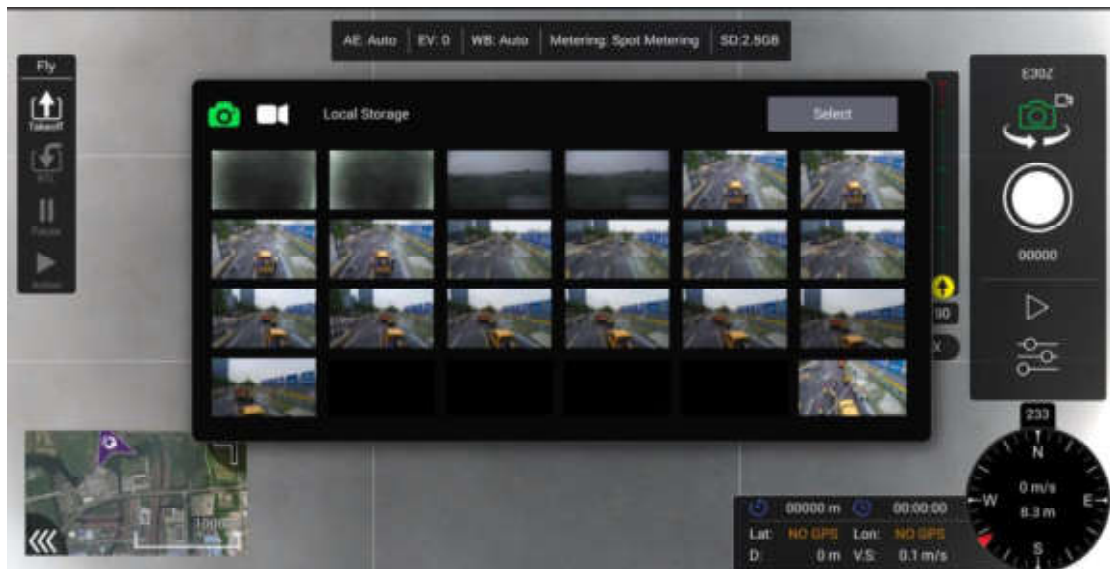
In the photo mode the counter shows how many photos you have recorder within one Electrified time .Once you have powered off the drone the number will be reset.

In the video mode the timer shows the time you have recorded in each single video.

8 Gallery

The main function of Gallery preview enables drone to check the pictures and videos taken on the remote control, without pulling out the SD card in the camera. It realizes that checking the effect of its own aerial photos without landing, so that users can quickly reshoot for the unsatisfactory photos or videos, greatly improving the efficiency of aerial photos of drone The photos or videos also can be deleted in the gallery function to save the storage capacity of the Remote Controller.

Note: When deleting in the Gallery, the device will only delete the file in the Remote Controller, you won't delete them in the Micro SD card which inserted in the Gimbal Camera.



9 Camera Setting Button

Tap this button to open the camera menu for further setting.

Note: According to different camera type the camera setting menu could be different.

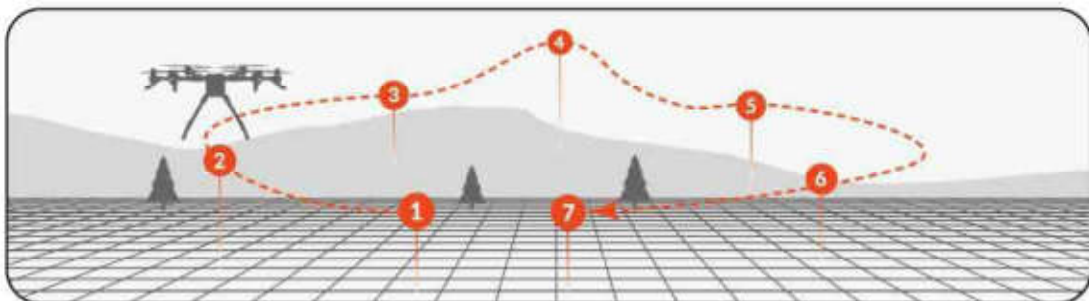
Please refer to the corresponding chapter of the gimbal manual for the camera setting menu instruction in detail.

Mission flight mode

To enter Mission planning mode, tap the Mission Route Setting icon[] on the top of the DataPilot™ home screen. The PLAN window will open, allowing users to create Waypoint and Survey missions, sync missions between desktop, ST16E, and the drone, store/recall missions, and Center a mission around a particular point on the ST16E screen.

Waypoint

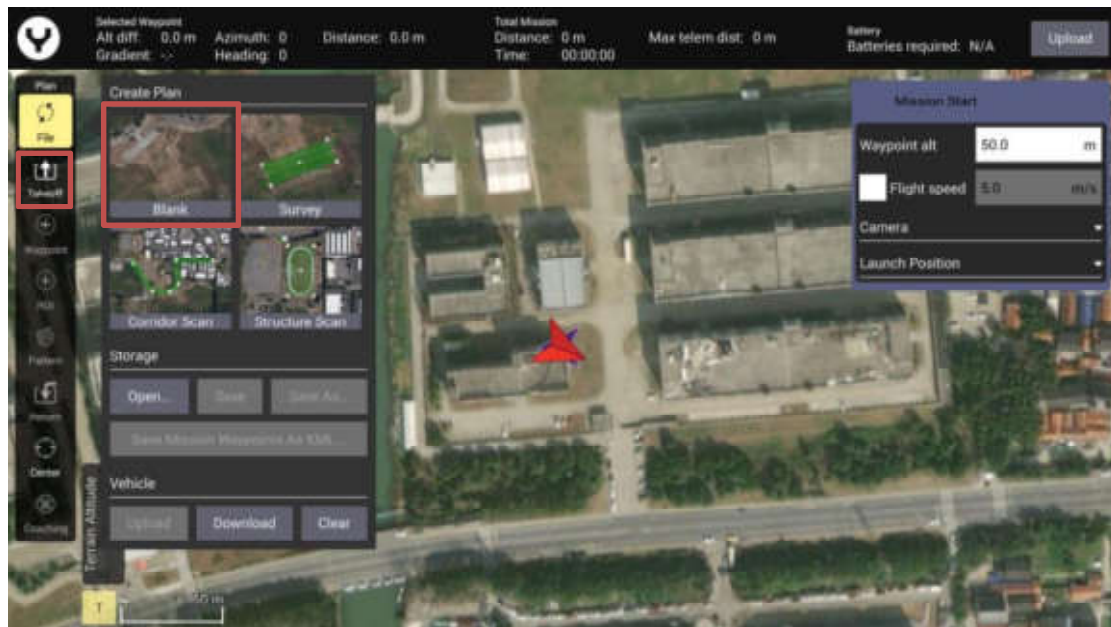
A waypoint defines a specific location and behavior at a specific point in time, allowing for intelligent auto-functions during flight. Waypoint flight is ideal for capturing oblique images, perimeter monitoring, and many other uses.



Add Waypoints

If the user need plan a fight mission in a new area, connect the transmitter to the internet via a Wi-Fi hotspot is advised for map downloading works.

After entered the Mission planning mode, select a Blank plan and tap the Takeoff icon on the left side of the screen. If the Transmitter doesn't connected to the drone or the drone doesn't have locked by the GPS the user need tap on the map to set the takeoff point position manually.



Once the Takeoff point has been set, the waypoint can be added. Tap the Waypoint icon first then tap on the map directly to set the waypoint position.

After the waypoints were added they will be shown on the screen as the picture below.

Waypoint User Interface Over view



1 Selected Waypoint Parameters

Display the parameters of the selected waypoint.

2 Mission Summary

Display the Summary of the entire flight mission added on this map.

3 Selected Waypoint

When a waypoint was selected, it will be marked by green color.

4 Ahead Direction Indicator

This white arrow shows the forward direction of the drone along the flight route.

5 Insert Button

Tap to insert a waypoint on before the selected one on the flight route.

6 Other Waypoint

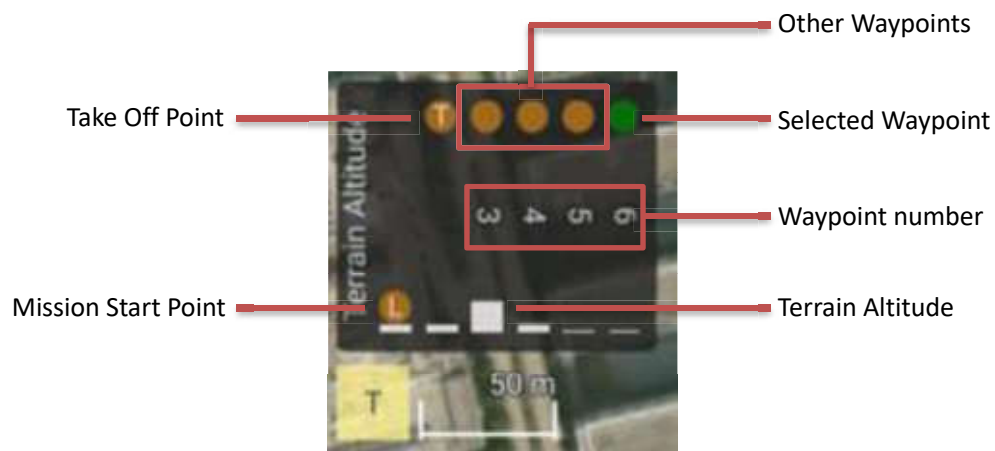
Other unselected waypoints on the flight route.

7 Flight Route

The Flight Route of this Mission

8 Terrain Altitude Indicator

This window displays the Terrain Altitude and Waypoint Altitude for mission planning.

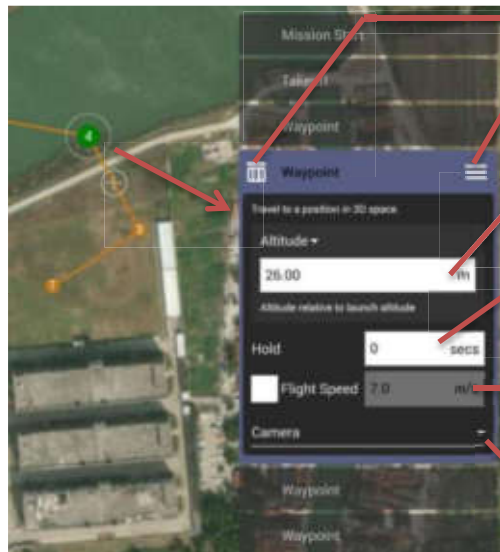


9 Waypoint Setting Panel

This panel is a setting panel for each waypoint to adjust the parameters in detail.

Adjust the waypoint parameters

Once a waypoint was set and selected, the screen will pop up the Way point Setting Panel on the right side. In this panel almost every parameter of a waypoint can be set freely, such as Altitude, Flight speed, Hold Time, etc. Even the direction of the gimbal and the camera behaviors was also included.



Delete this waypoint

Position Edit Menu

Waypoint Altitude Setting

The user can type in the number directly for altitude setting.

Hold Time setting

For setting the hover time on this waypoint

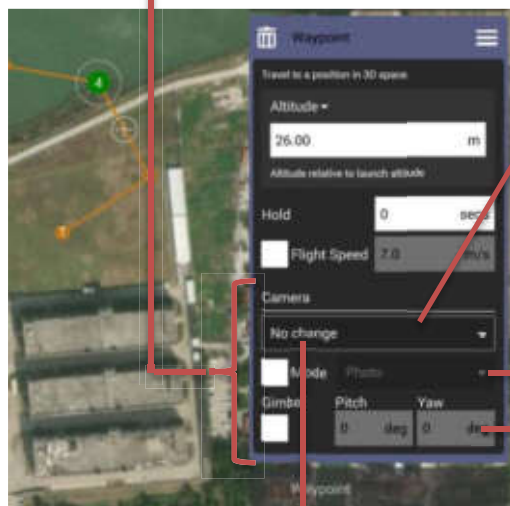
Flight Speed Setting

Tick the Box before the "Flight Speed" then type in the speed you want for this waypoint.

Camera and Gimbal Setting menu button

Tap this button to open the Camera and Gimbal Setting for the selected waypoint.

After the Camera and gimbal setting menu was open



Camera Behavior Setting Menu

Tap to open the Drop-down menu for Camera behavior setting for the selected waypoint.

Camera Mode Setting Menu

Tick the Box before the "Mode" then tap to open the Drop-down menu for Camera mode setting for the selected waypoint.

Gimbal Attitude Setting

Tick the Box under the "Gimbal" then type in the Pitch and Yaw data to set the gimbal attitude for the selected waypoint.

Camera Behavior Setting Menu Instructions

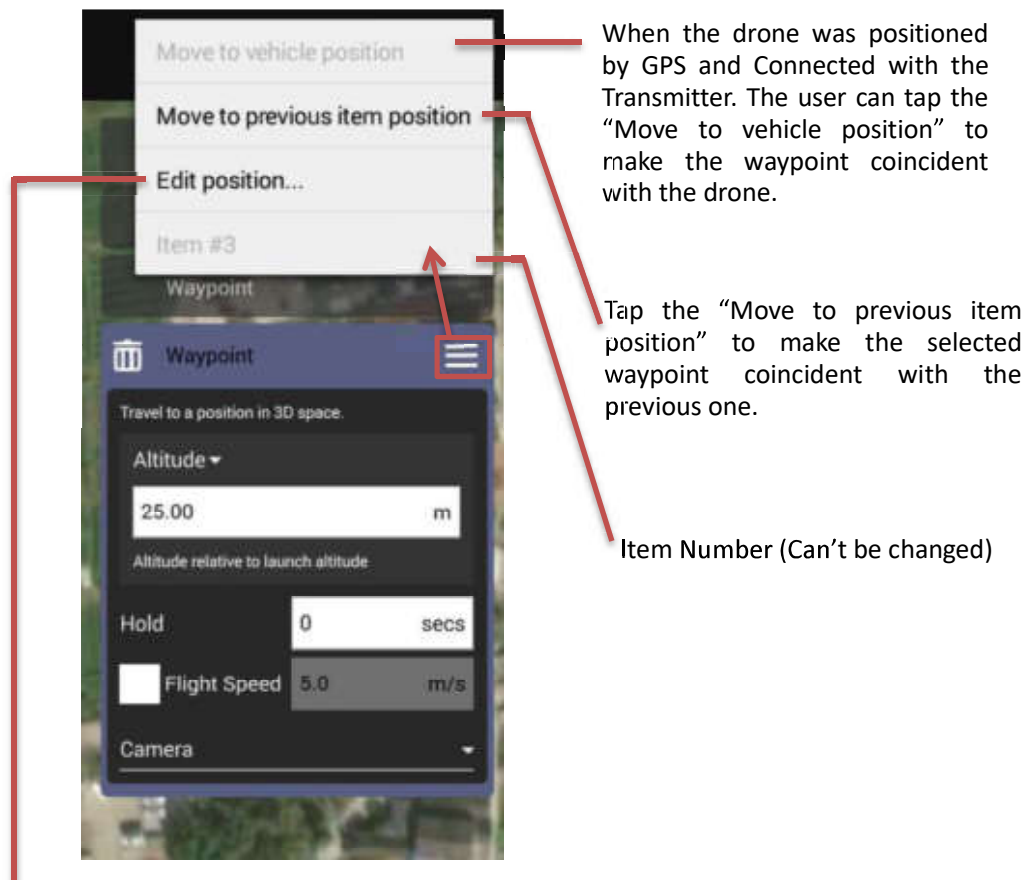
- No Change – Camera maintains its current mode/settings.
- Take Photo – Captures a photo at the current position.
- Take Photos (Time) – Captures photos over a set time interval.
- Take Photos (Distance) – Captures photos over a set distance travelled.
- Stop Taking Photos – Stops the camera from taking photos.
- Start Recording Video – Begins video recording.
- Stop Recording Video – Stops video recording.

Gimbal Attitude Setting Instructions

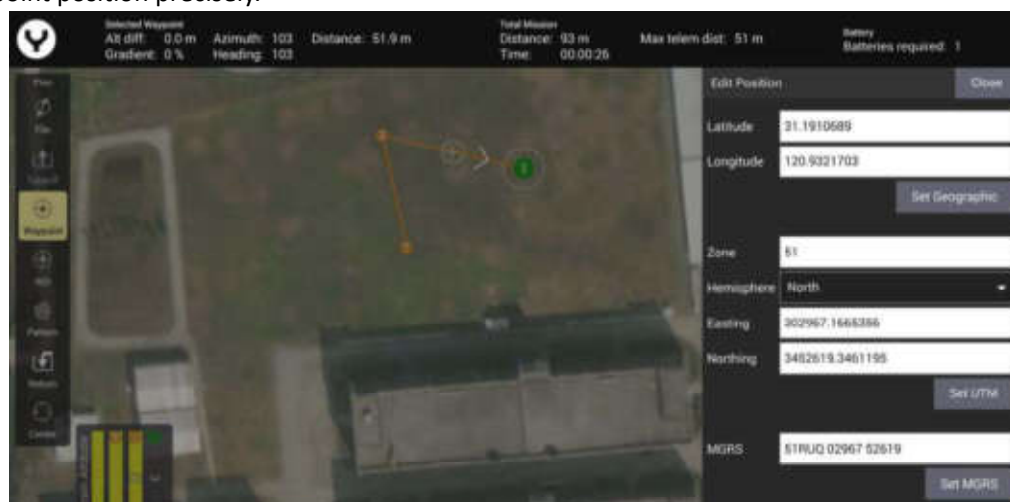
Gimbal - Adjust the camera pitch and yaw at the currently selected Waypoint. To adjust pitch, select a value between 0 (flat to the ground) and 90 (straight down). To adjust the yaw select a value between -180(left of the airframe centerline) and 180(right of the airframe centerline).

Position Edit Menu

There is a Position Edit Menu for each waypoint. To open this menu, please tap the setting icon  at the upper right corner of the Waypoint Setting Panel for the selected waypoint.



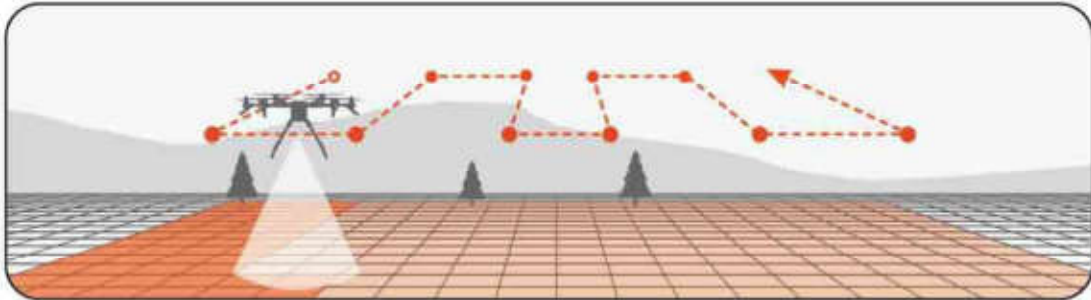
Tap the "Edit position" button to open the coordinate input menu as shown below to adjust the waypoint position precisely.



After all the waypoints have been checked, please upload the flight mission to the drone, and then start it.

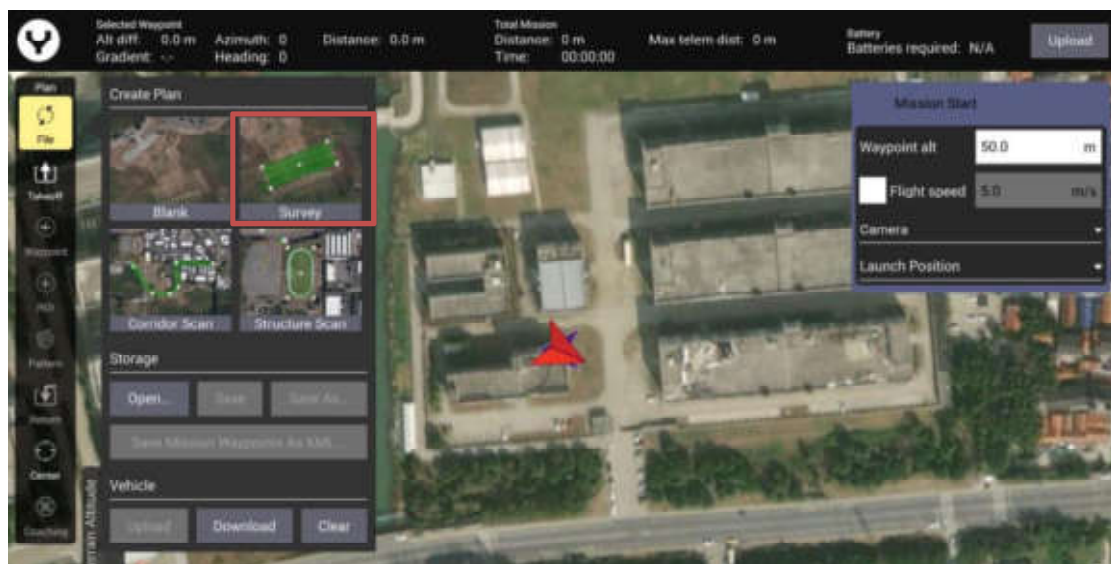
Pattern

Pattern is designed for mapping and 3D scanning of ground-based objects.

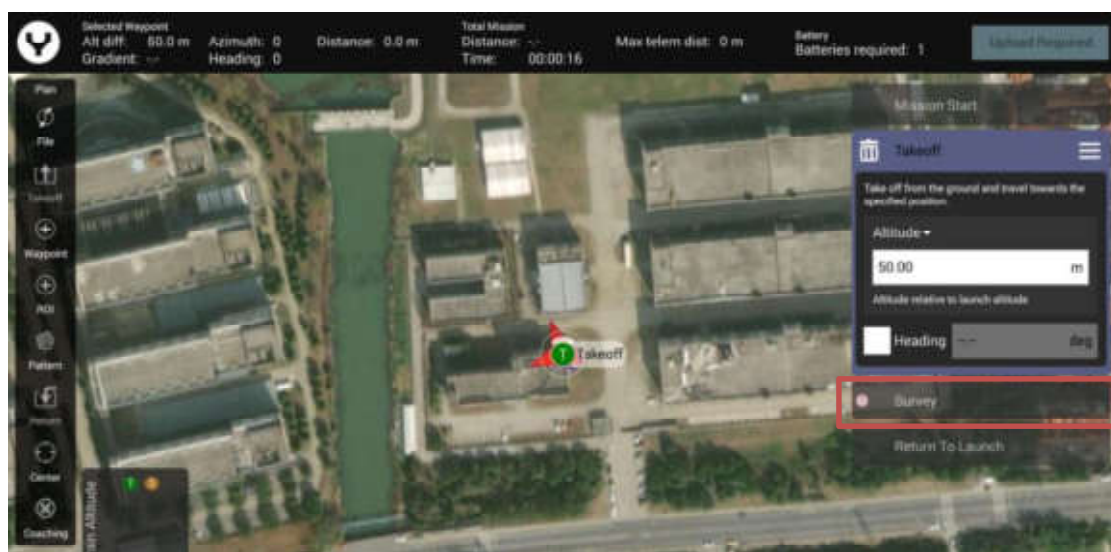


Survey Mode

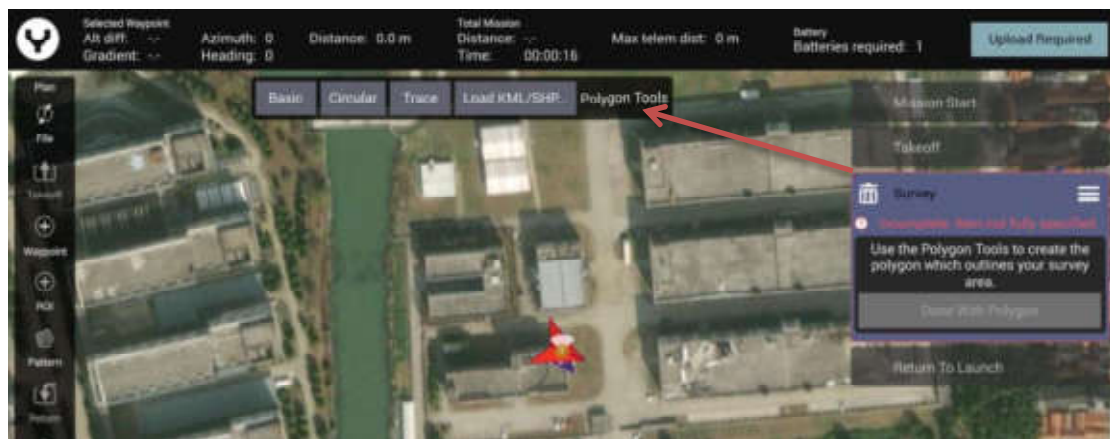
Survey mode allows the Pilot to quickly place a survey grid over a desired area. To select a survey grid mission, tap the Survey button after tapping the Mission Route Setting icon.



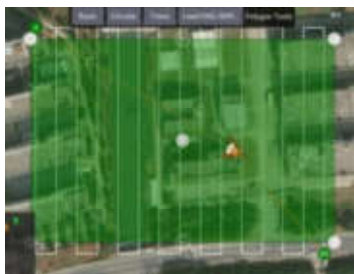
Then tap the Survey button on the right side of the screen to finish the further settings.



There are 3 preset templates to choose for editing the survey area.



Basic preset template overview



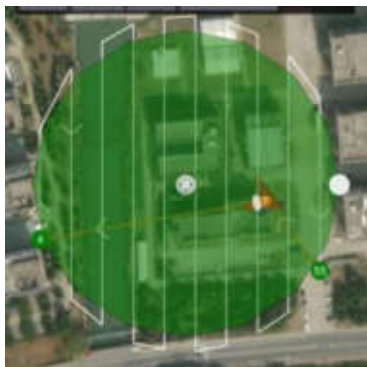
After tap the “Basic” button, the App will generate a rectangle survey area.

Tap and hold the Center dot to drag the survey area on the map.

Tap and hold the white vertices then drag them to adjust the shape of the survey area.

Tap ‘+’ dot allows the Pilot to add more white vertices to the edge of the survey grid for a better fit.

Circular preset template overview



After tap the “Circular” button, the App will generate a circular survey area.

Tap and hold the Center dot to drag the survey area on the map.

Tap the white dot on the edge of the Circle to adjust the radius of the survey area.

Trace preset template overview



After tap the “Trace” button, then tap on the screen to set the vertex of your survey area. Once you have no less than 3 vertices. A triangular survey area will be generated automatically. The user can add more vertices to get a better fit.

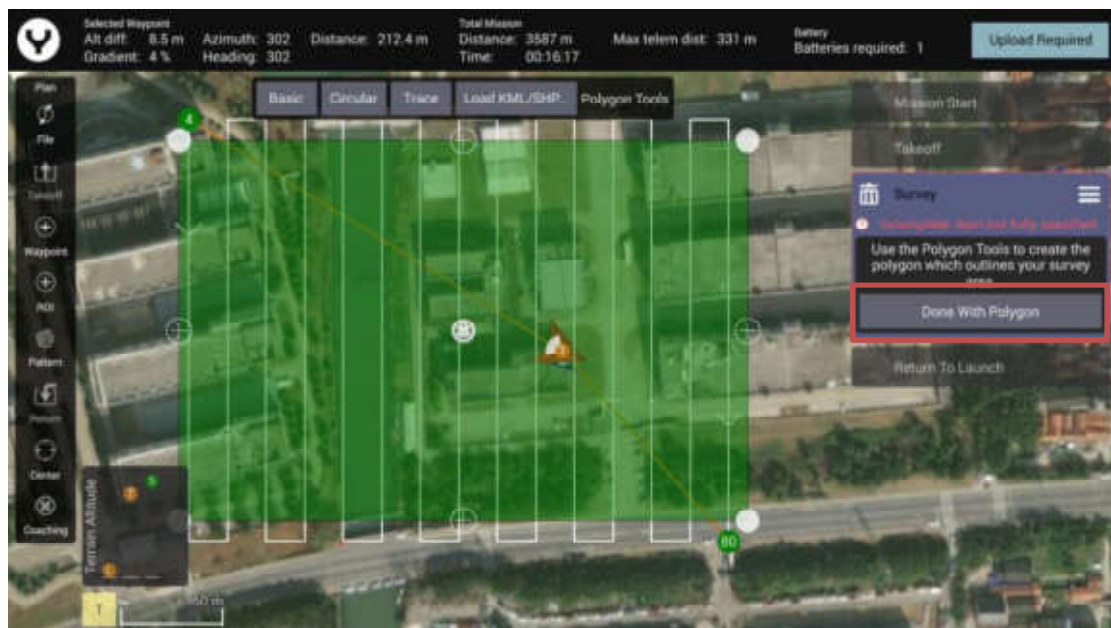
Tap and hold the Center dot to drag the survey area on the map.

Tap and hold the white vertices then drag them to adjust the shape of the survey area.

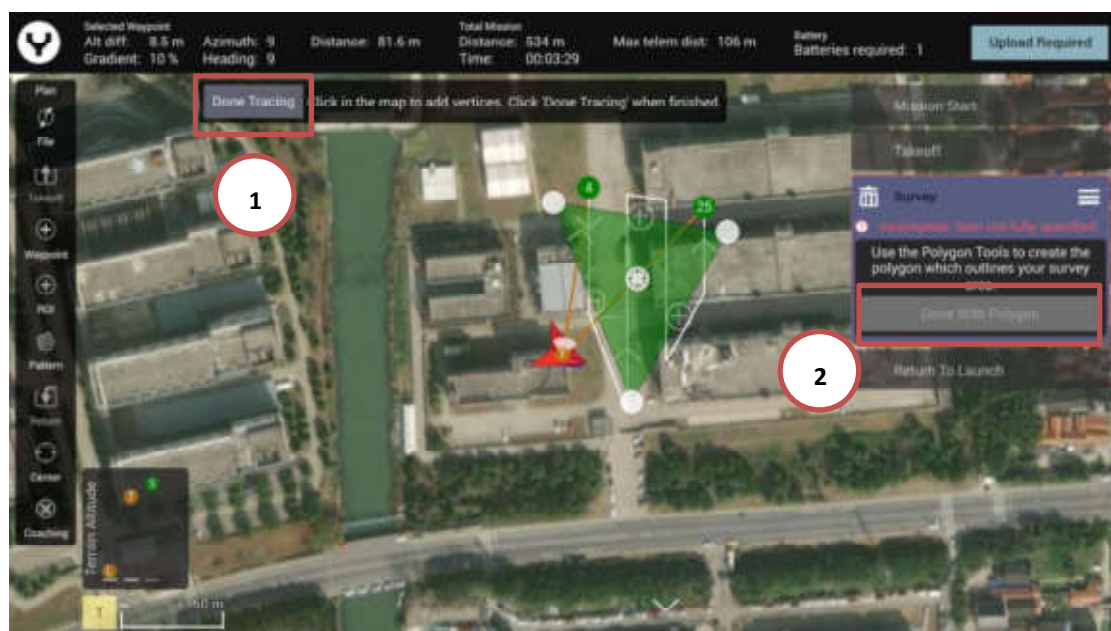
Tap ‘+’ dot allows the Pilot to add more white vertices to the edge of the survey grid for a better fit.

The white line in the green survey area means the flight route when surveying.

After the green template covered the survey area you want on the map, please tap the “Done with Polygon” button and then tap the “Done Adjusting” button for the further settings.



Notice: For the Trace template, please tap the “Done Tracing” First, and then tap the “Done with Polygon” and other buttons.



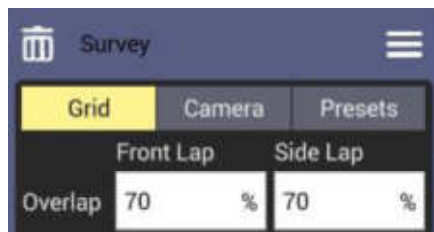
Adjust the Survey parameters

After the Survey area has been confirmed the users can adjust the survey parameters. Click the “Grid” tap under the selected survey mission to adjust the flight route.

Overlap

Front Overlap – Creates images with a percentage of each image overlapping to the front of the image.

Side Overlap – Creates images with a percentage of each image overlapping to the side of the image.

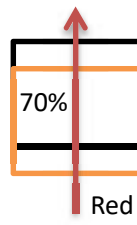


Survey

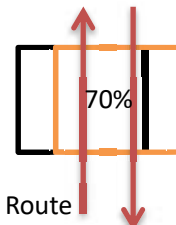
Grid Camera Presets

Front Lap Side Lap

Overlap 70 % 70 %



Front Lap for 2
photos



Side Lap for 2
photos

Red Arrow: Flight Route

Altitude or Ground Res

Altitude – Sets the survey grid altitude. This is not changeable mid-flight. Use the Waypoint tool when variable altitudes are required.

Ground Res – Sets the ground resolution in inches/pixel, which will automatically calculate and set the survey altitude.



Select one:

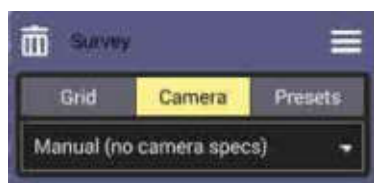
☒ Altitude 25.00 m

☐ Ground Res 0.7 cm/px

Select one and type in the parameters directly.

Note: A higher ground resolution requires a lower flight altitude. If unsure about ground resolution altitude, enter desired ground resolution then view the corresponding altitude in the altitude setting (greyed out), and vice versa.

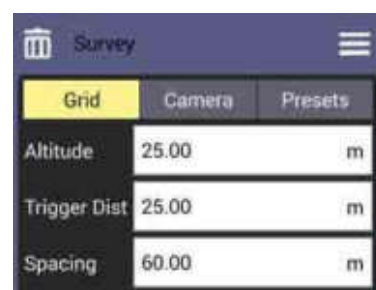
Notice: When the “Manual (no camera specs)” was selected under the camera item, the Overlap will be replaced by the Trigger Dist and Spacing setting form and the Ground Res will be hidden.



Survey

Grid Camera Presets

Manual (no camera specs)



Survey

Grid Camera Presets

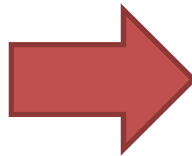
Altitude 25.00 m

Trigger Dist 25.00 m

Spacing 60.00 m

Angle

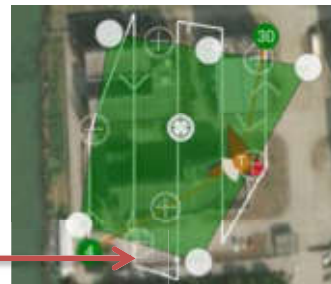
Angle –Drag the slider or type in the parameter **to** adjust the angle of the survey grid lines.



Turnaround dist

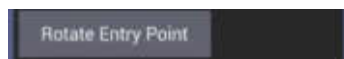
– Sets the distance outside the survey for the drone to turnaround.

Type in the parameters directly to adjust the distance

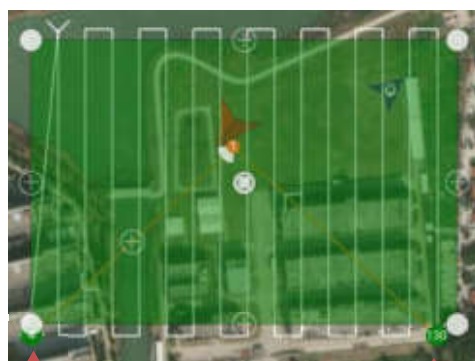


Rotate Entry Point Button

-The DataPilot App will offer more than one solution to lead the drone enter and exit the survey area, the user can change the enter and exit point by tapping the “Rotate Entry Point” button according to the actual conditions.

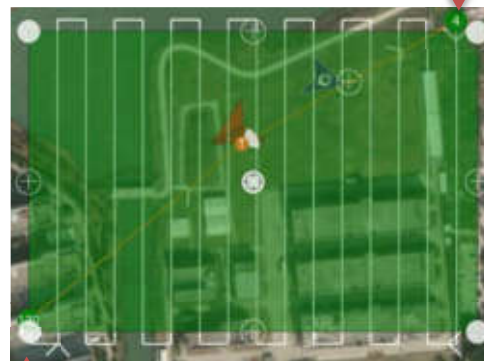


For example the enter point was No.4 waypoint and the exit point was No.130 waypoint by default. After tapping the “Rotate Entry Point” button, the enter and exit point was changed.



Enter Point

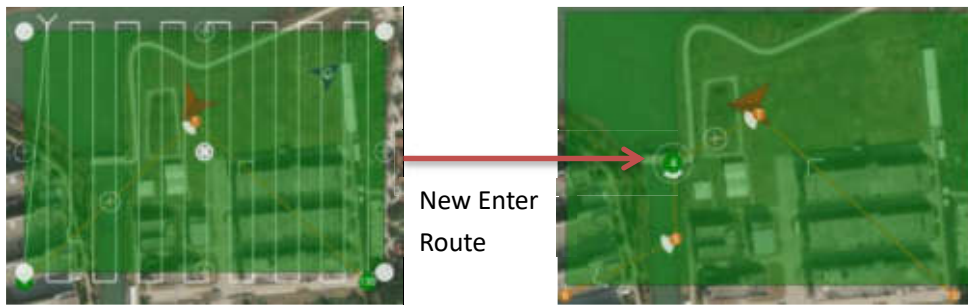
Exit Point



Exit Point

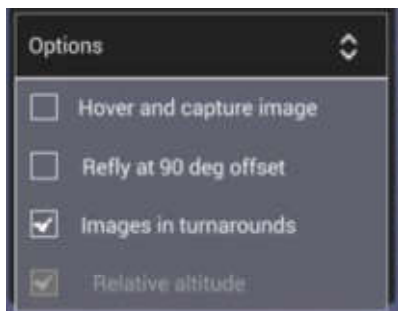
Enter Point

The User can also tap the ‘+’ dot on the enter flight route for editing a more complex entering flight route.



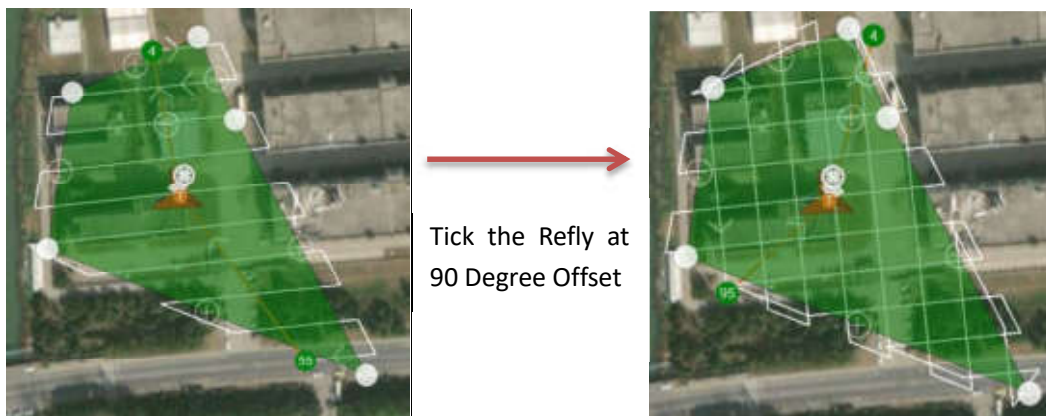
Options

Taps the Options to open the Drop-down menu

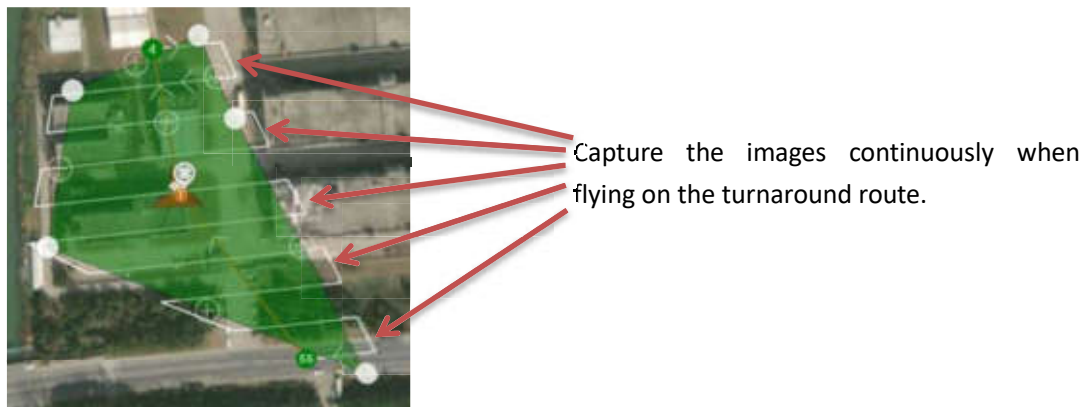


Hover and capture image – After this Item was ticked the drone will stop and hover and then capture the image at each capture point for better image quality.

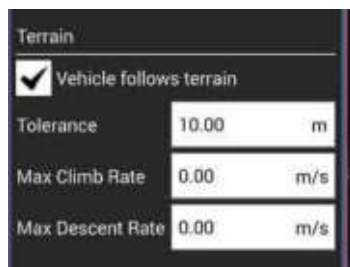
Refly at 90 Degree Offset – Overlays a secondary survey grid 90 degrees from the first survey (also known as cross-hatch). This feature is useful for extremely high quality maps, and for flying in early morning or late afternoon flights where long shadows may provide deep contrasts.



Images in turnarounds – After this Item was ticked the drone will continue capturing the images when flying on the turnaround route.



Terrain



Terrain	
☒ Vehicle follows terrain	
Tolerance	10.00 m
Max Climb Rate	0.00 m/s
Max Descent Rate	0.00 m/s

Tap the Terrain button and tick the Vehicle follows terrain to make the drone fly closer to the ground for capturing more pictures or fill the holes in the following inner process working flow.

The users can type in the parameters directly in the text box for setting.

Statistics

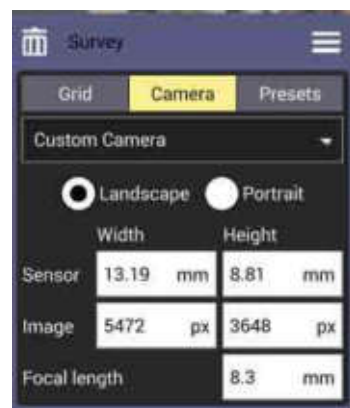


Statistics	
Survey Area	108634.32 m ²
Photo Count	1156
Photo Interval	1.6 secs
Trigger Distance	7.96 m

Display the key parameters of this survey mission.

Select the Camera

Due to the different camera has different sensor size and Lens parameters. Select the correct camera type is very important to get a correct flight route and achieve a correct survey result.



Survey	
Grid Camera Presets	
Custom Camera	
☐ Landscape ☐ Portrait	
Width Height	
Sensor	13.19 mm 8.81 mm
Image	5472 px 3648 px
Focal length	8.3 mm

Tap the Camera button beside the Grid button to select the camera type or set the camera parameters.

The user can set the parameters manually when the Custom Camera was selected.

Type the parameters directly to finish the setting operation.

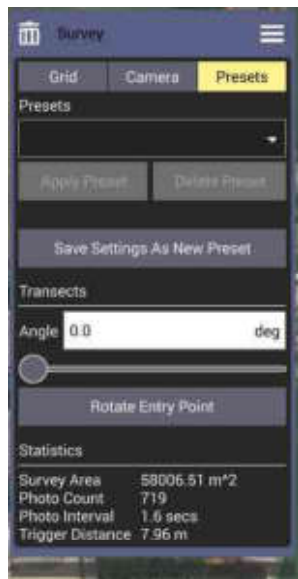


Survey	
Manual (no camera specs)	
Custom Camera	
E50	
E90	
CGOET	
CGOET-Thermal	
E10T	
E10T-50-Thermal	
E10T-34-Thermal	
E10T-24-Thermal	
E10T-16-Thermal	
E10Tv	
E10Tv-32-Thermal	

The DataPilot App also has preset the camera select list. Users can select conveniently according to the gimbal camera purchased.

After the camera type was selected the users needn't to set the camera parameters one by one. The app will calculate the flight route and photo taking interval automatically.

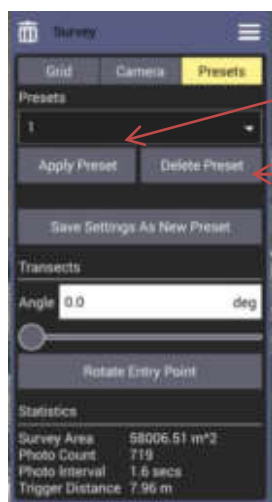
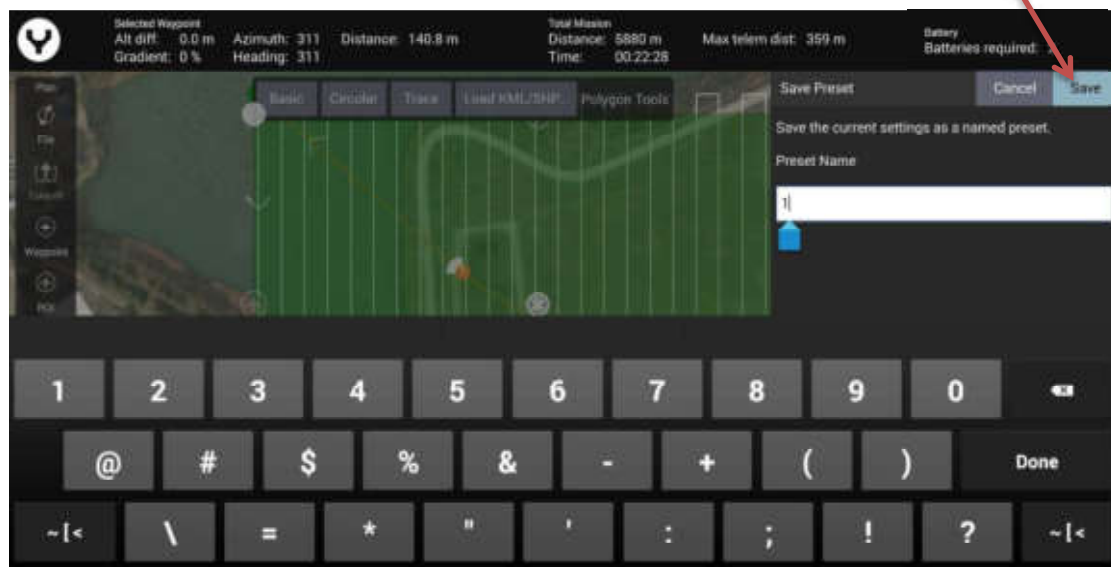
Save reload and delete the survey data



Tap the Presets button to save the setting parameters under the Grid and Camera Items.

Tap the “Save Settings As New Preset” button to create a new save.

Type the name and tap the “Save” button to finish.



After the file name was selected tap the “Apply Preset” button to load the parameters.

Tap the “Delete Preset” button to delete the useless preset files.

Tap the trash can icon  beside the Survey to delete the whole survey mission.

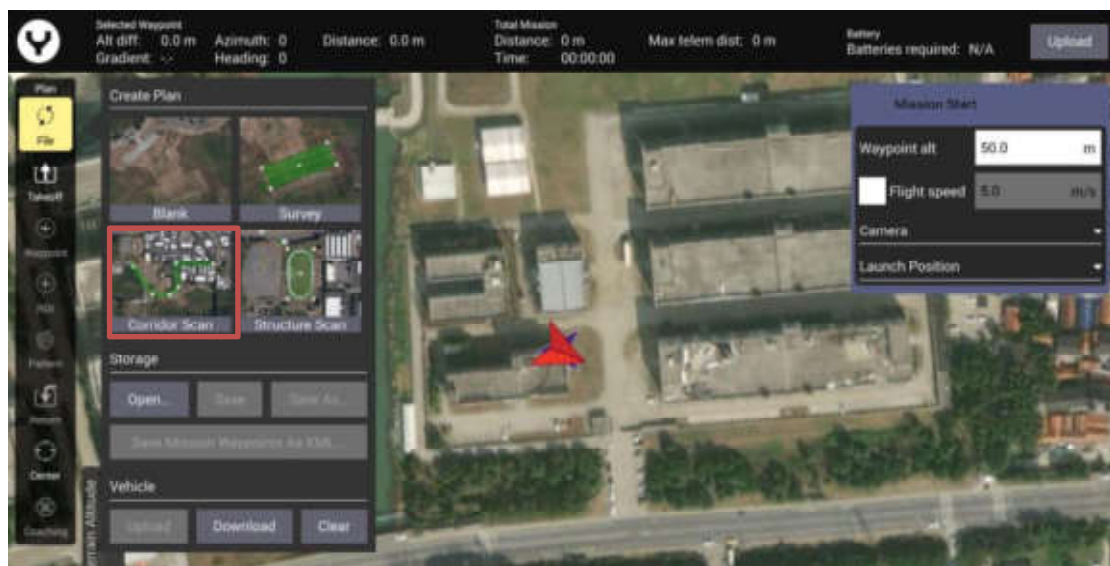
CORRIDOR SCANS

Roadways, power lines, train tracks, footpaths, and other narrow winding areas may be set up as “corridor scans.” Corridor scans enable the drone to fly long pathways with overlap for these sorts of missions.



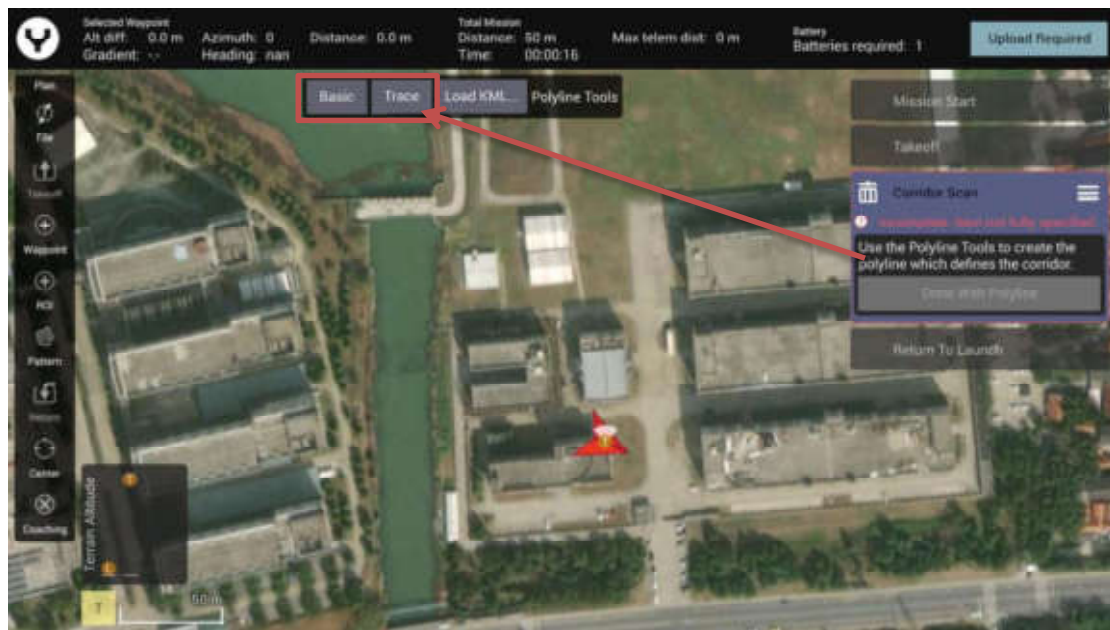
This is an example of a corridor scan

To create the CORRIDOR SCAN, tap the Corridor Scan button after tapping the Mission Route Setting icon.

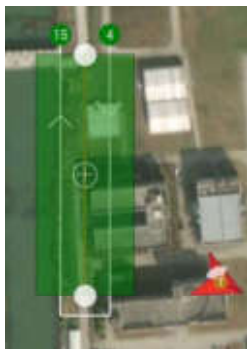


If the transmitter already connected with the drone and the drone was positioned by the GPS, the takeoff point will be set above the drone location, otherwise place the takeoff point at the position you need then tap the “Done Adjusting” button to finish setting. Then the app will switch to Corridor scan setting panel automatically.

There are 2 preset templates to choose for editing the Corridor Scan area.



Basic preset template overview



After tap the “Basic” button, the App will generate a corridor scan area with 2 vertices.

Tap and hold the vertices dot to drag the corridor scan area on the map.

Tap ‘+’ dot allows additional vertices to be created/inserted in the pathway, allowing for numerous angles to follow the road.

Trace preset template overview



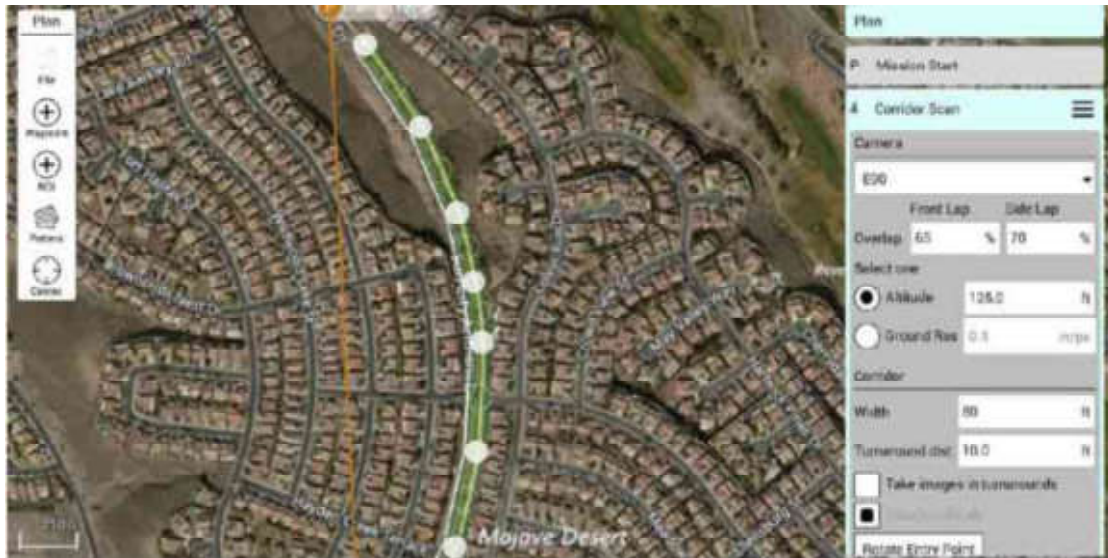
After tap the “Trace” button, then tap on the screen to set the vertex of your corridor scan area. Once you have no less than 2 vertices. A corridor scan area will be generated automatically. The user can add more vertices by tapping on the screen directly to allowing for numerous angles to follow the road.

Tap and hold the vertices dot to drag the corridor scan area on the map.

Tap ‘+’ dot allows additional vertices to be created/inserted in the pathway, allowing for numerous angles to follow the road.

Click the “Done Tracing” button to finish the shape settings of the Trace template.

After the green template covered the corridor scan area you want on the map, please tap the “Done with Polygon” button the further settings.

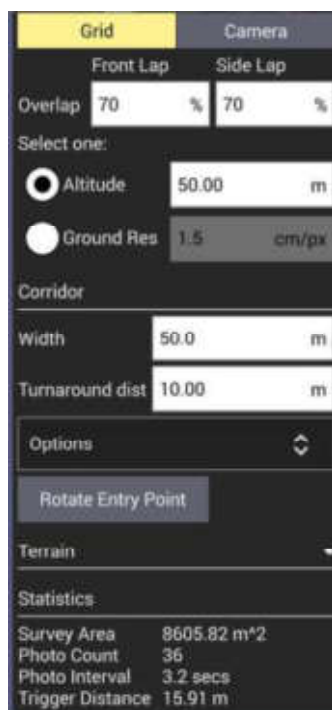


In this image, seven vertices have been inserted, allowing the Drone to follow the curvature of the roadway

Notice: Be similar with the Survey mode the CORRIDOR SCAN Setting Panel shown on the right side. Through this panel users can set all the CORRIDOR SCAN parameters. Drag the panel up and down to view more items.

Adjust the Corridor Scan parameters

After the Corridor Scan area has been confirmed the users can adjust the scan parameters. Click the “Grid” tap under the selected Corridor Scan mission to adjust the flight route.



The most functions in the Corridor Scan Setting Panel are the same as what in the Survey function.

But the Corridor Scan Setting Panel still has a function that the Survey doesn't. That is Width Setting.

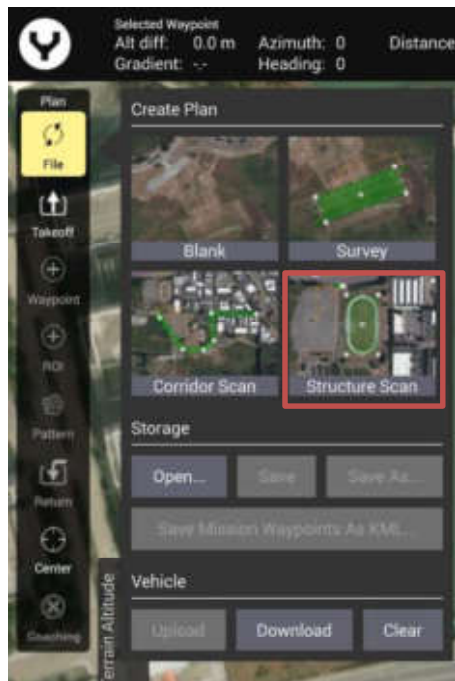
Type the width parameter directly in the text box to adjust the width of the corridor.



Select the Camera

As the same as the Survey mode, select a correct camera is especially important to achieve a correct result.

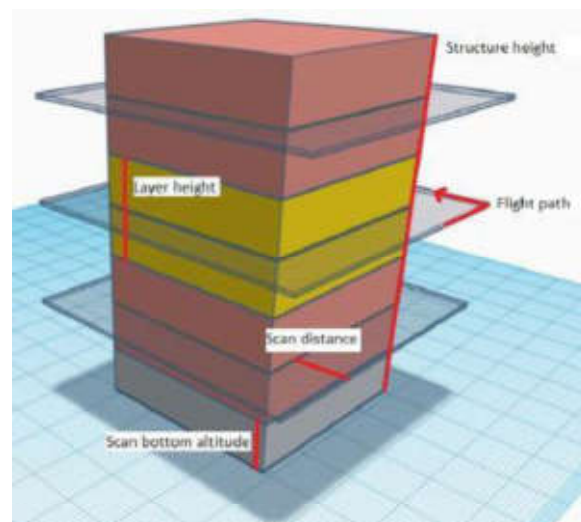
STRUCTURE SCANS



Flight pattern that captures images over *vertical surfaces* (e.g. walls) around a structure with an arbitrary polygonal (or circular) ground footprint. Structure Scans may be combined with nadir/survey flights to better serve architects, engineers, and construction companies looking to create accurate 3D models, or output .las files to products such as Revit or Autodesk workflows.

Structure scans may also be used for virtually any vertical scan element, and may be combined with other automated flight profiles.

The concepts of the STRUCTURE SCANS Function ->

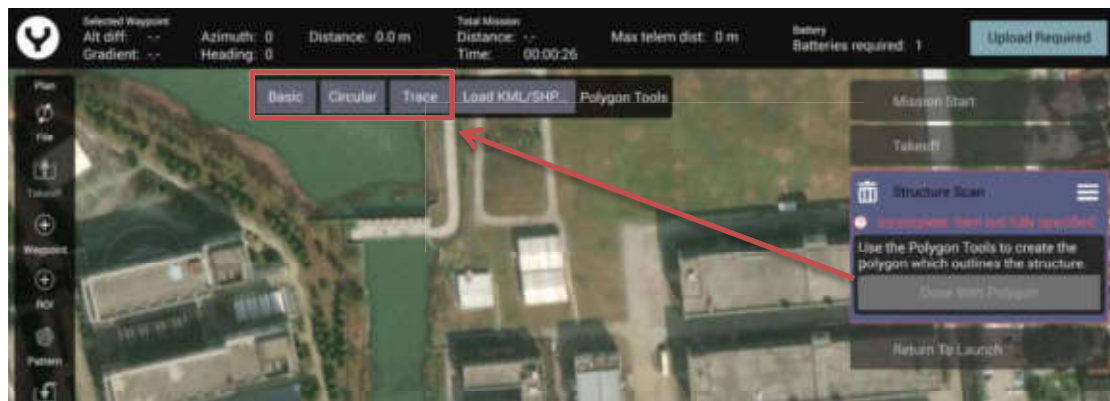


A Structure Scan allows users to create a grid

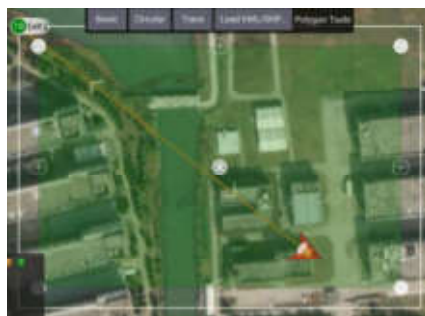
Structure Scans may be inserted into a mission using the Structure scan button after tapping the Mission Route Setting icon.

Using the map function, zoom to the geographic area to be scanned, and center it on the screen for best access.

Be similar with the Survey mode, there are 3 preset templates to choose for editing the Structure Scan area after tapping the Structure Scan button and the takeoff point was set.



Basic preset template overview



A green overlay will appear with four corners.

Tap and hold the Center dot to drag the survey area on the map.

Tap and hold the white vertices then drag them to adjust the shape of the structure scan area.

Tap '+' dot allows the Pilot to add more white vertices to the edge of the structure scan area for a better fit.

Circular preset template overview



After tap the "Circular" button, the App will generate a circular structure scan area.

Tap and hold the Center dot to drag the structure scan area on the map.

Tap the white dot on the edge of the Circle to adjust the radius of the structure scan.

Trace preset template overview



After tap the "Trace" button, then tap on the screen to set the vertex of your structure scan area. Once you have no less than 3 vertices. A triangular structure scan area will be generated automatically. The user can add more vertices to get a better fit.

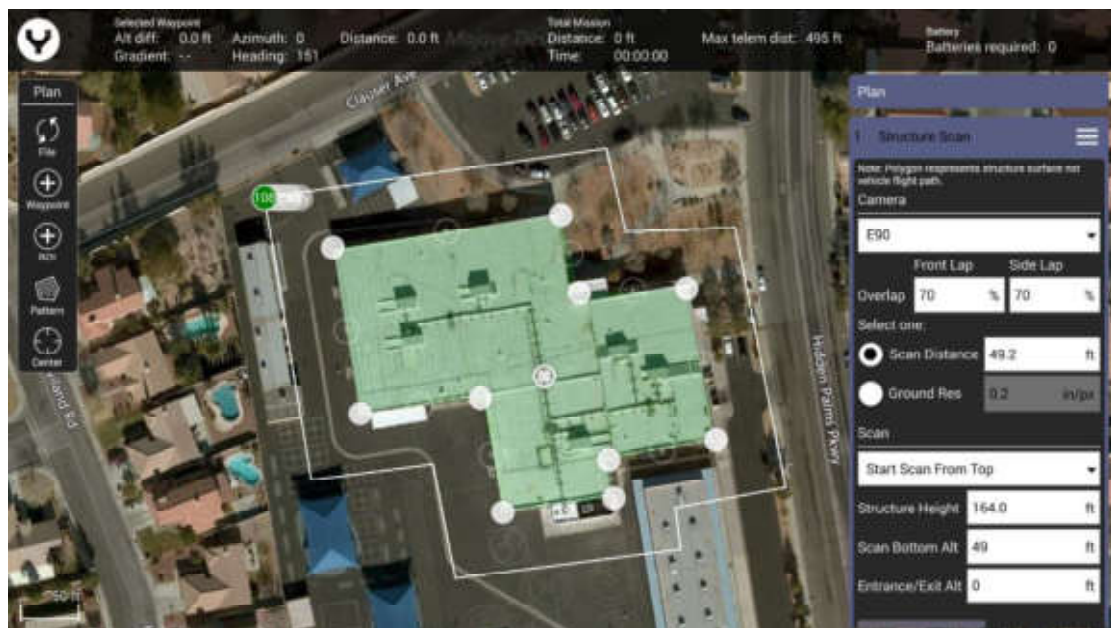
Tap and hold the Center dot to drag the structure scan area on the map.

Tap and hold the white vertices then drag them to adjust the shape of the structure scan area.

Tap '+' dot allows the Pilot to add more white vertices to the edge of the survey grid for a better fit.

For the Trace template tap the "Done Tracing" button first, others please tap the "Done With Polygon" button directly to start the further settings.

A green overlay will appear with four corners. The region shown in green must be modified so that it surrounds the structure.



- Drag the opaque vertices on the map to the edge of the structure.
- If the structure footprint is more than a simple square, click the semi-transparent circles between the vertices to create a new vertex. This allows for complex shapes such as the one seen above.

Adjust the Structure Scan parameters

After the Structure Scan area has been confirmed the users can adjust the scan parameters. Click the “Grid” tap under the selected Structure Scan mission to adjust the flight route.



The user can adjust the Structure Scan parameters according to actual needs and the concepts of the STRUCTURE SCANS Function introduced above in the Structure Scan setting panel.

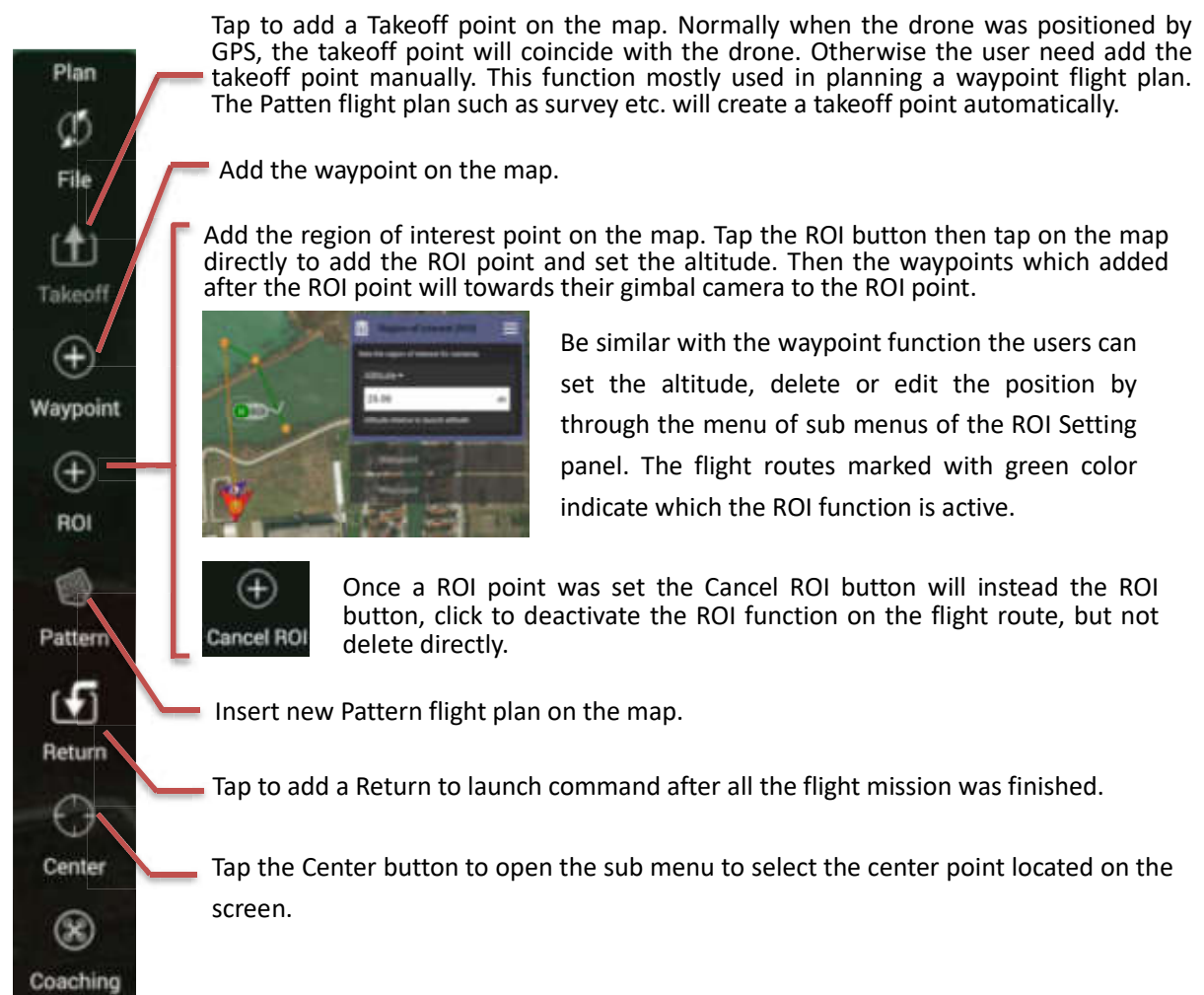
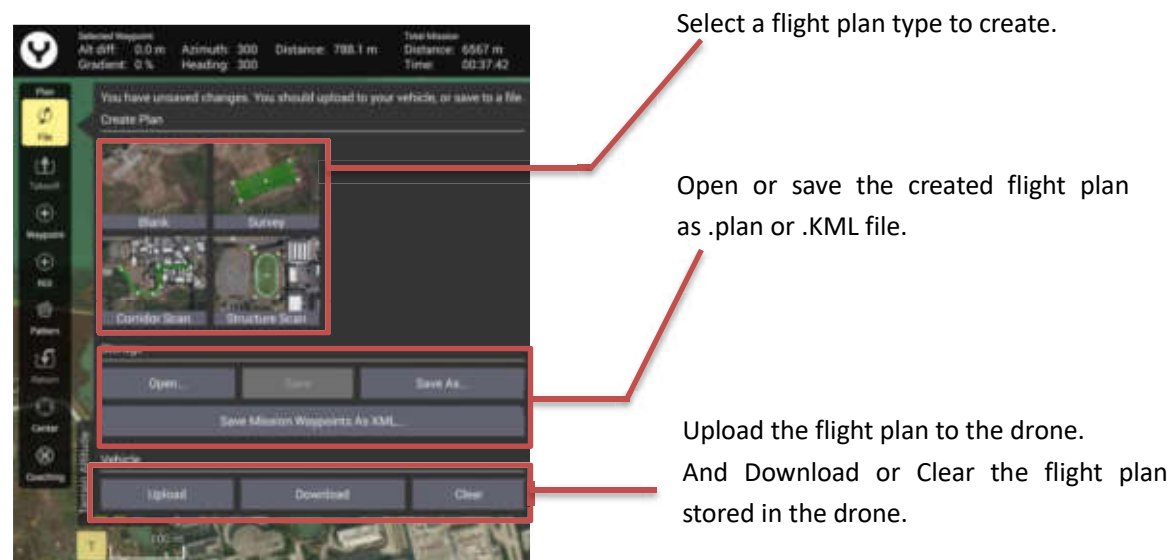
Select the Camera

Click the “Camera” tap under the selected Structure Scan mission to enter into the camera settings.

As the same as the Survey mode, select a correct camera is especially important to achieve a correct result.

Other functions of the Plan Panel

After entered into the Mission planning mode by tapping the Mission Route Setting icon, the File button will be active automatically. Beside the Waypoint and other Pattern mission can be created by tap directly on the popped up create plan window, the users also can save the created flight plan or open the plan already existed.





After the drone and transmitter was connected the Coaching button will displayed on the plan setting panel.

The coaching function will allow the Datapilot 2.0 App to capture the drone current GPS position as a new waypoint.

Tap the takeoff button to add a takeoff point for the Blank flight plan, and then tap the Coaching button, the user can add a waypoint by long press the waypoint button.

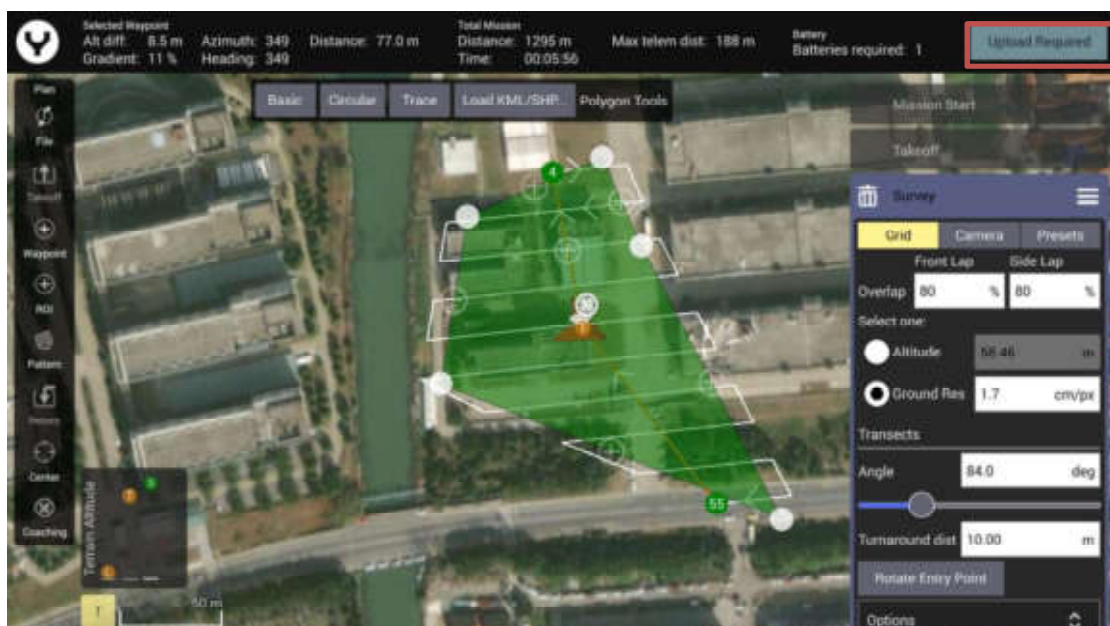


After all the waypoints have been captured tap the Mission Route Setting Button and upload the waypoints data to the drone.

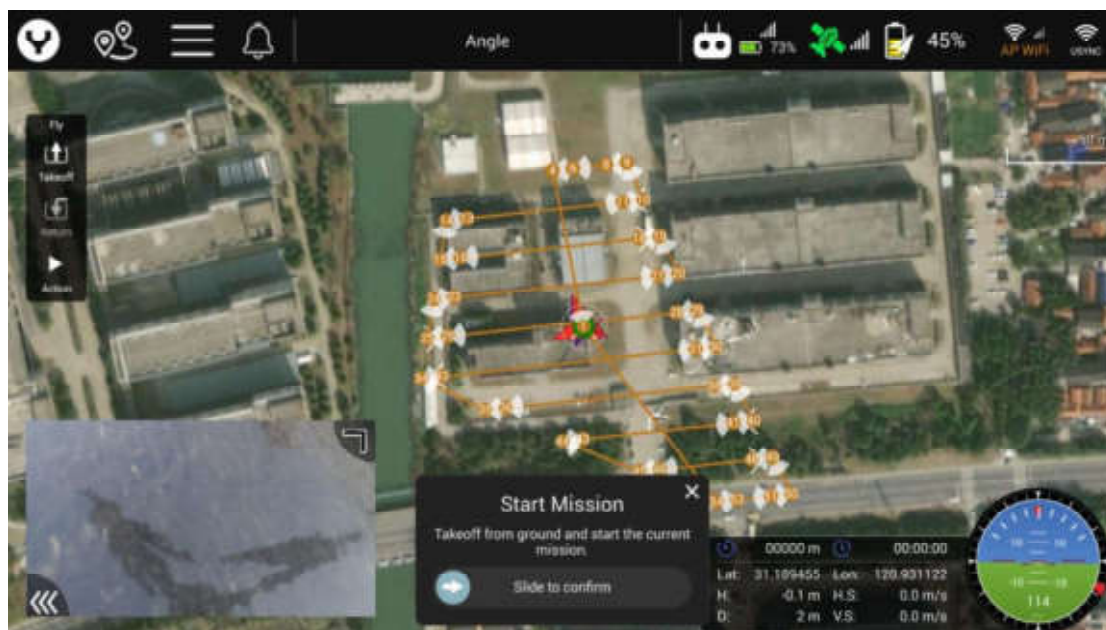
Execute the flight mission

No matter what kind of the flight plan was created, to execute the user need upload the plan to the drone first.

After the flight plan was confirmed and the drone was connected tap the "Upload Required" or the "Upload" to upload the mission to the drone.



Tap the Main Interface Button to switch back from Mission planning interface.



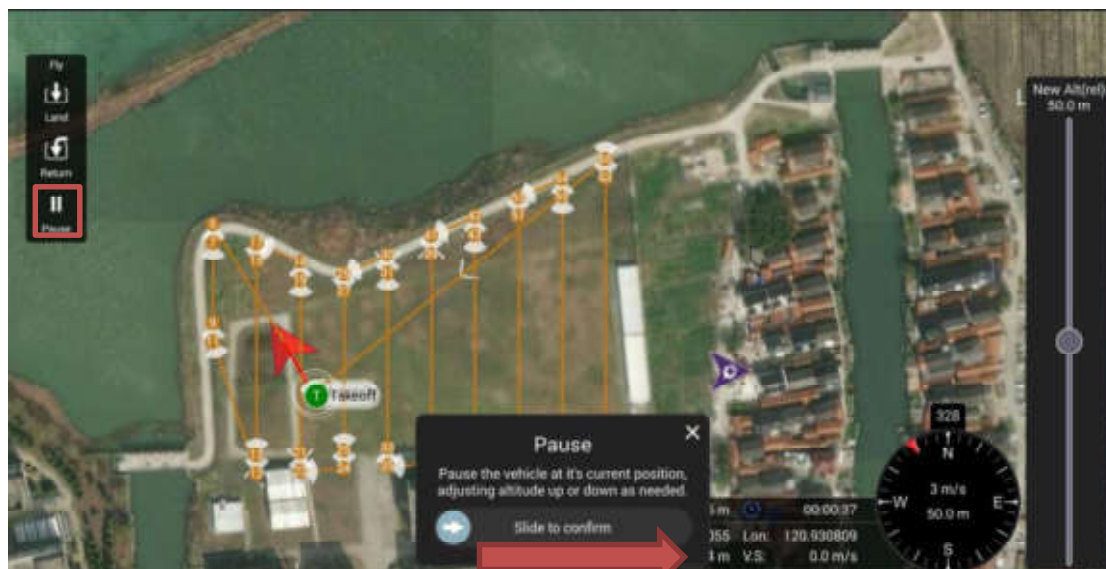
Slide the slider to confirm and the drone will execute the flight mission automatically.

Operations in mission flight mode

Pause the flight mission

The users can pause the flight mission by the following 3 method:

1. Switch the flight mode by using the flight mode switch.
2. Tap the Pause button then slide to confirm.



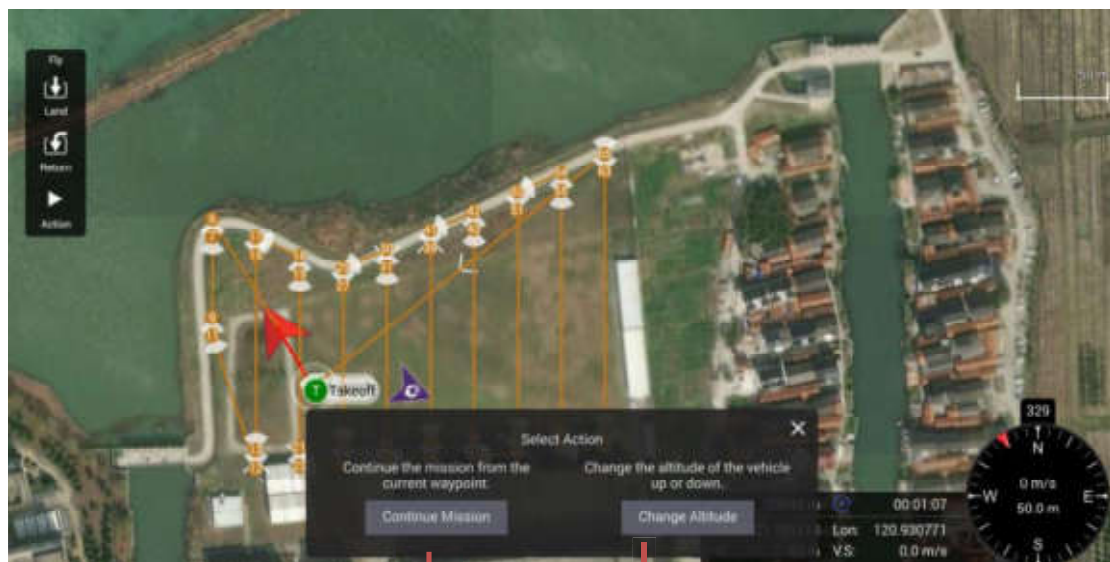
3. The users can move the joysticks to any direction to pause the flight mission immediately especially in emergency cases, such as the drone will crash into some obstacles.

Continue the flight mission

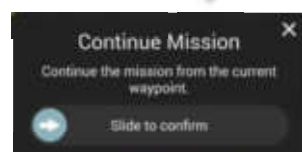
1. Slide the slider to continue the mission directly.



2. Tap the Action button then select continue or set the new altitude.



Tap the "Continue Mission" button then slide to confirm to continue the mission.

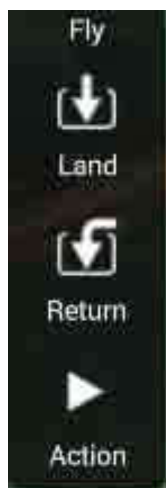


Set the new altitude then slide to confirm.

Then Tap the "Continue Mission" button under the Select Action sub menu to continue.



Land or Return in mission flight



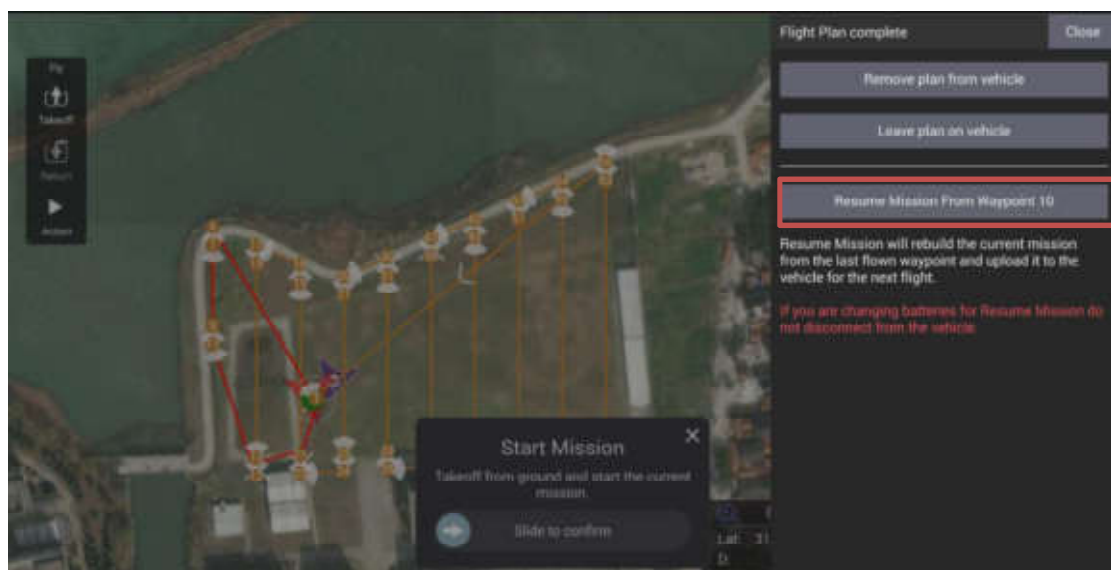
Tap the Land button and slide to confirm then land the drone at current position.

Tap the Return button and slide to confirm then return the drone at the launch point.

Breakpoint continuation

For surveying some huge area, the drone can't finish the job in 1 flight. The breakpoint continuation function allows the user to change the battery for the drone and continue the unfinished mission.

When the drone landed with the unfinished mission, the dialog box will pop up as the picture shown.



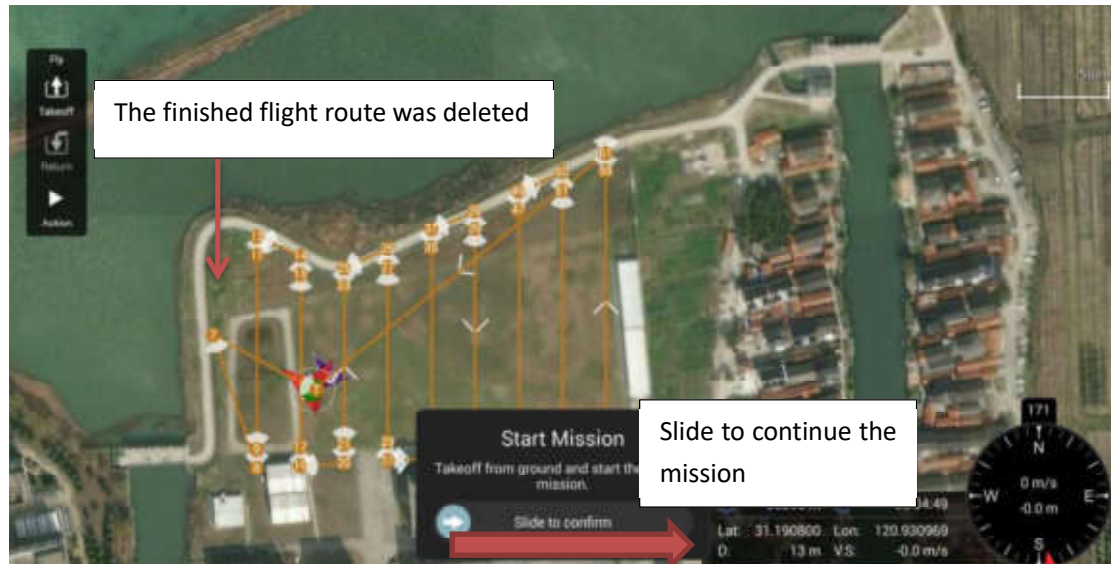
Tap the “Resume Mission From Waypoint XX” button the mission will be updated. It will delete the flight route already finished.

Notice: It would take a few minutes to update, if there are a large number of waypoints in the mission, please be patient, do not power off the drone and transmitter before the mission has been refreshed.

Then the users can power the drone off and change the battery.

After the drone and the transmitter connected again, the unfinished flight mission will be loaded automatically, and the users only need to slide to confirm to continue.

After the drone and the transmitter connected again:



Setting Interface

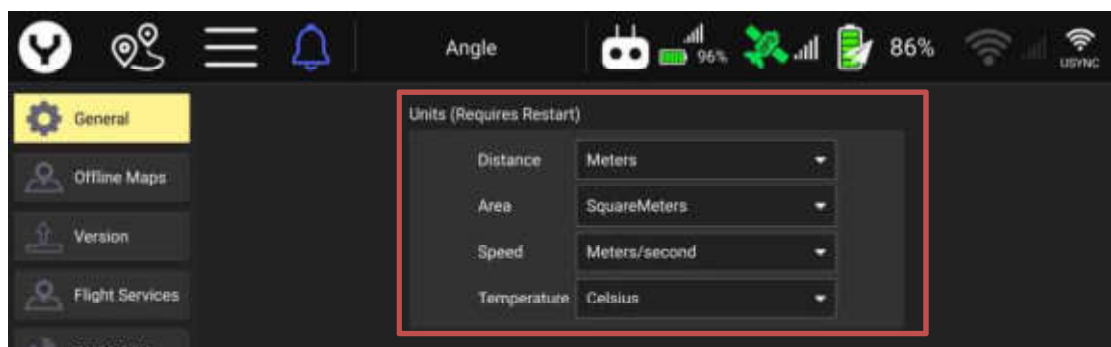
Tap settings button to open the extended menu to view and adjust the parameters of other settings. We suggest entering this interface after the drone and transmitter was connected to view all the items in this interface.

Notice: Due to the DataPilot 2.0 App is a cross platform flight control application, beside the H850, there are many items in the setting interface are designed for other types such as H520E and Q820, please ignore the items which do not introduced in this manual. They may be not compatible or the H850 drone doesn't have this function.

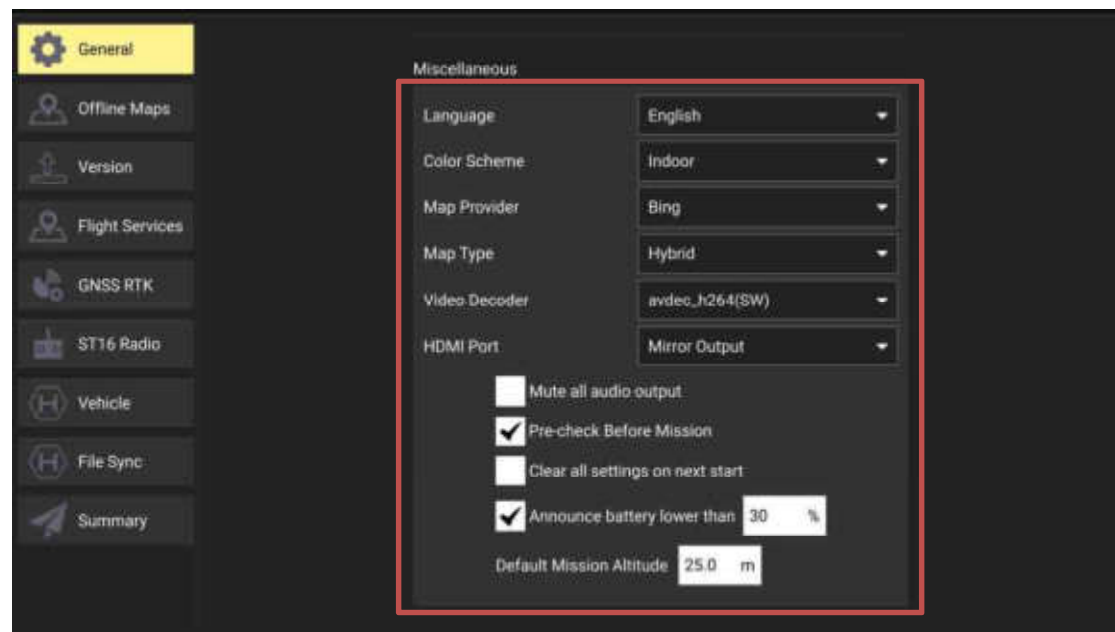
Introduction of common functions in setting interface

1. General

Units: Users can make selections according to their own habits in the drop-down menu.



Miscellaneous



Language- Users can make selections according to their own habits in the drop-down menu.

Color Scheme- The DataPilot 2.0 supports 2 different schemes. Indoor scheme will provide a dark interface meanwhile the outdoor has a bright interface.



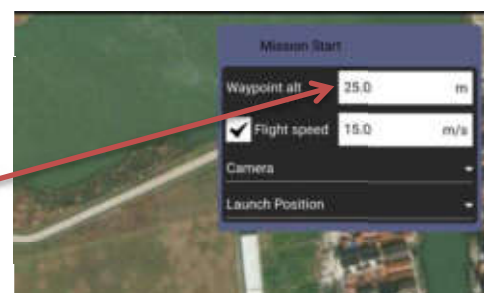
Indoor



Outdoor

Map Provider and Map Type- The user can change the map provider and type according to their network speed or requirements.

Default Mission Altitude- Set the default waypoint alt when enter the flight mission plan interface.

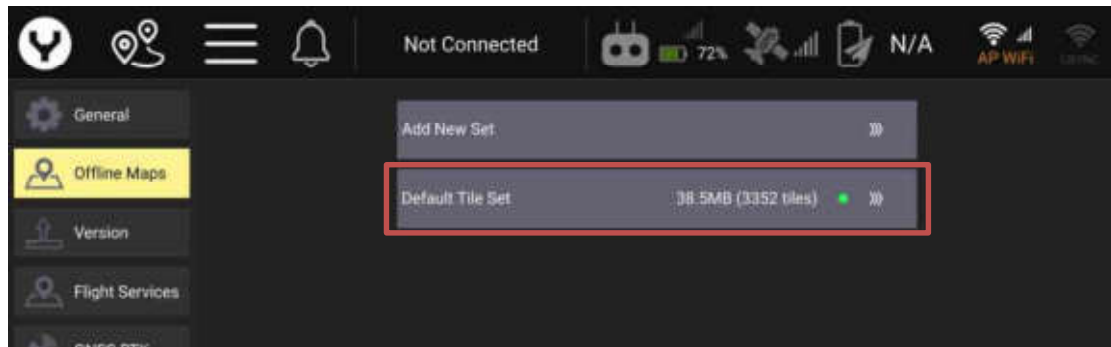


Other settings in General Items- We suggest keep them as default setting.

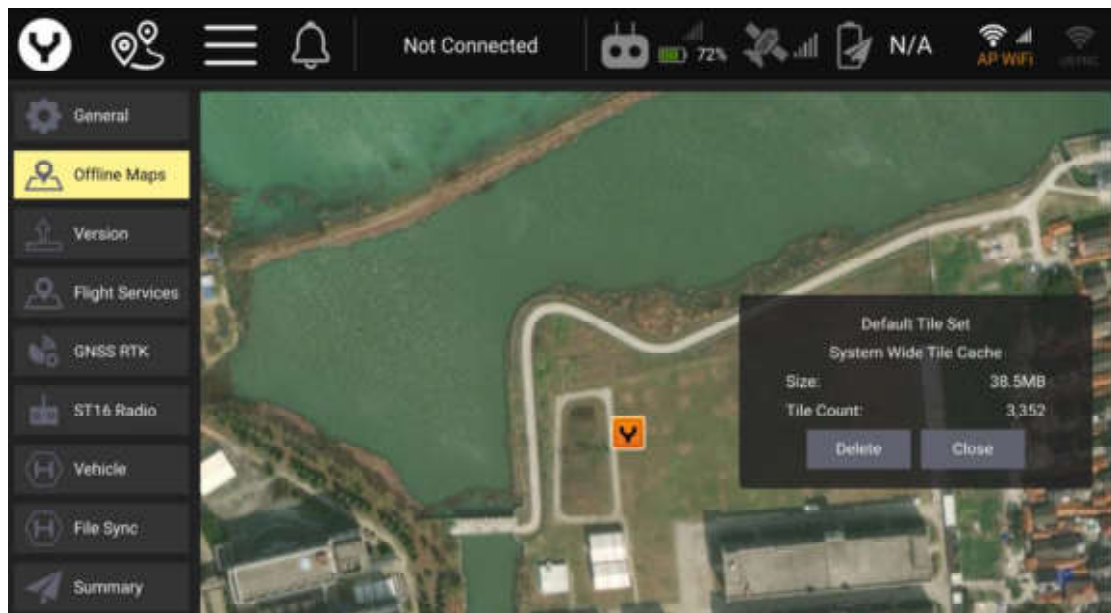
2. Offline Maps

The Offline Maps allows the Datapilot 2.0 App store the map tile in the cache in the transmitter to working in the wild field without the internet.

After the transmitter connected with internet the map will download automatically according to the drone or the transmitter GPS position. The first downloaded map will be set as default tile.

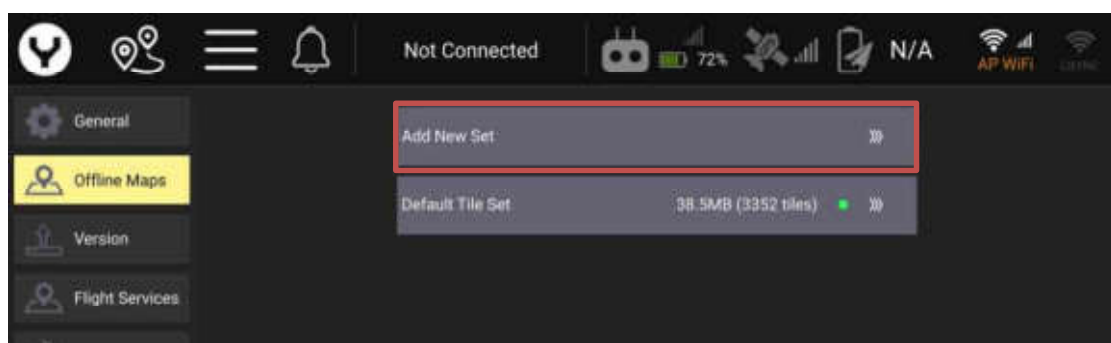


The users can delete the default tile by tap the “Default Tile Set” button and then tap the “Delete” button.



Tap the “Close” button to return.

The user can also add a new tile set manually beside the default tile set, tap “Add New Set” button to edit.



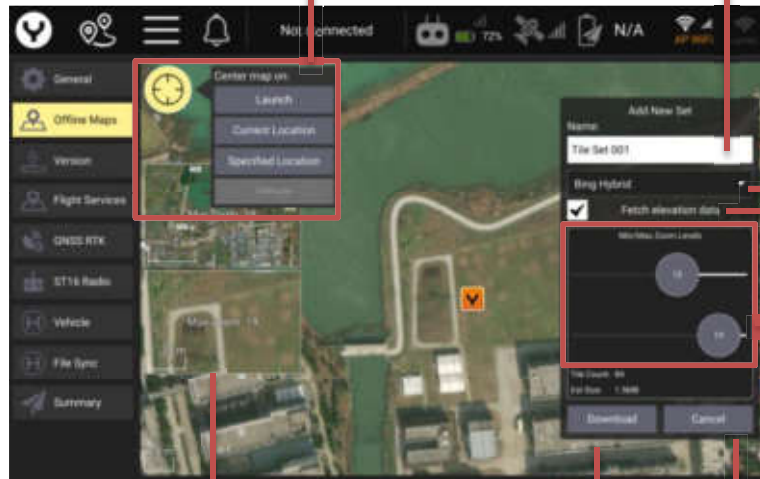
New set edit interface Introduction

Map center setting button

The users can tap this button and select the center position on the sub menu.

New Tile Set Name Edit Box

The users can edit the name of the new tile set in this box.



Map type select

The users can select the Map provider and type in the drop-down menu.

Tick to fetch the elevation data on the map.

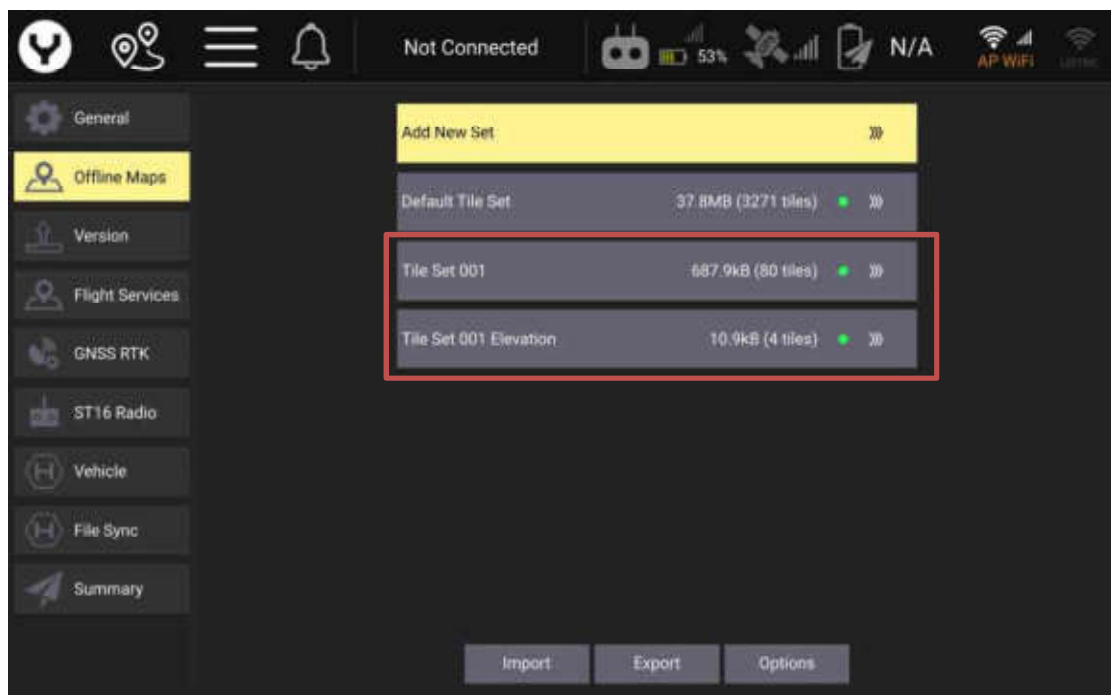
Slide to adjust the Min/Max Zoom level.

Slide to adjust the Min/Max Zoom level effect preview.

Tap Download button to save the new set.

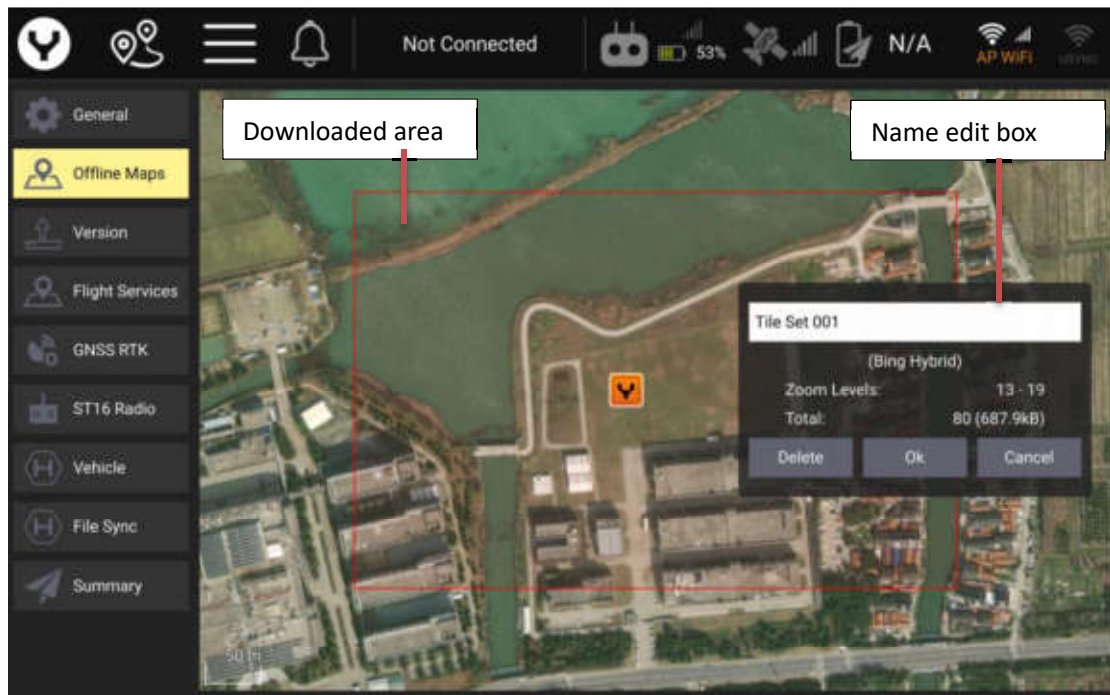
Tap the Cancel to return.

After click the Download button the new tile set will be downloaded and saved in the Offline Maps menu.

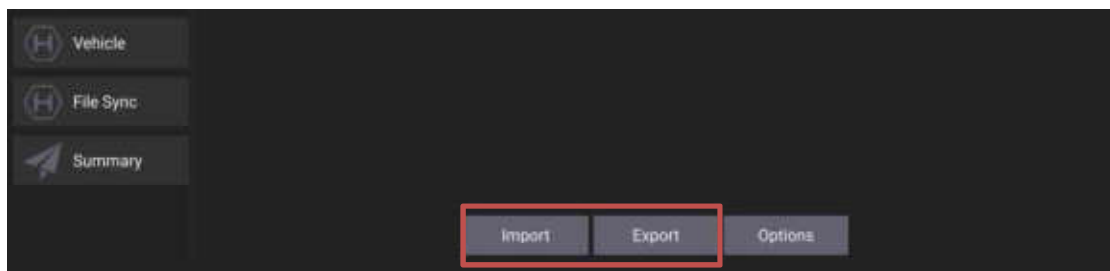


Be Similar with the Default Tile Set the new added tile set can be review by tapping the name and can be deleted by tapping the Delete button.

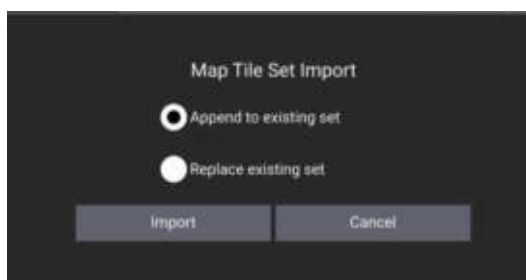
The difference is the new added tile set can be renamed and tap the "OK" button to confirm.



The downloaded map tile set can be import and export to deliver in different devices.

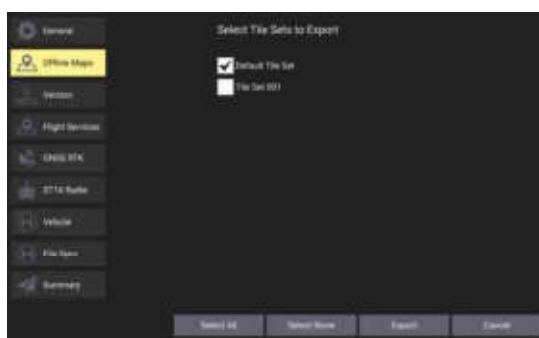


Import



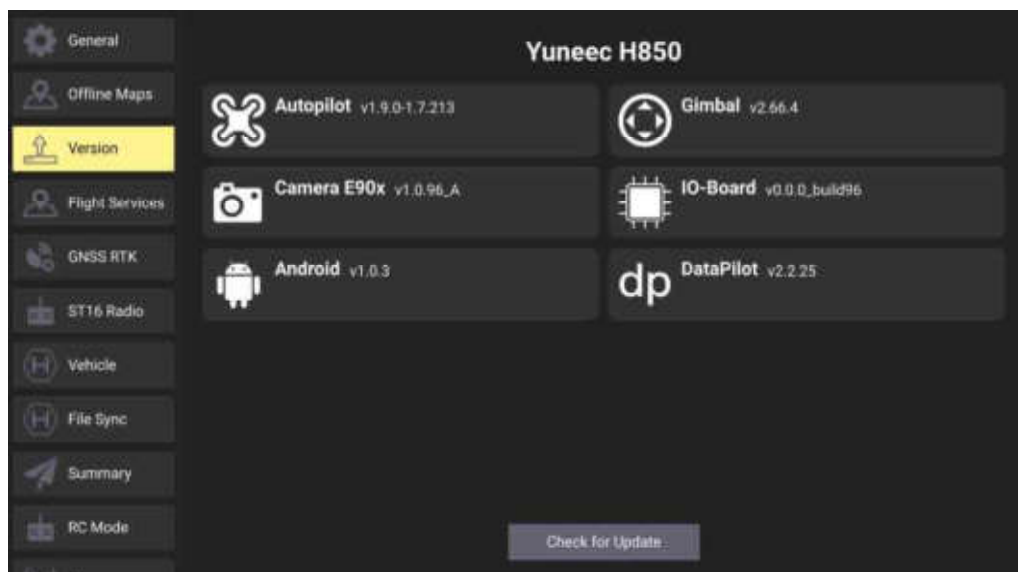
After tap the Import button, select an import method then tap the Import button on the popped up dialog box, finally select the file to import.

Export



After tap the Import button on the Offline Maps main interface, tick the tile set wanted and tap the Export button then assign the name and save path on the popped up dialog box, finally tap the Ok button to export.

3. Version



The users can check the Version of each module or system of the drone.

If the transmitter already connected to the internet the users can tap the “Check for Update” button to keep the firmware up-to-date.

Once the later version was detected, the update process can be started.

4. GNSS RTK

In the sub menu under the GNSS RTK item the users can enter to parameters to connect the drone system to the CORS source. Please refer to the corresponding chapter in the quick start Guide and this user manual mentioned above.

5. ST16 Radio

There are 2 function under this Item the Monitor function was the default interface when tap the ST16 Radio button on the screen.

Monitor

Move the Joysticks, Knobs, and Sliders or press the buttons to check the controller hardware input.

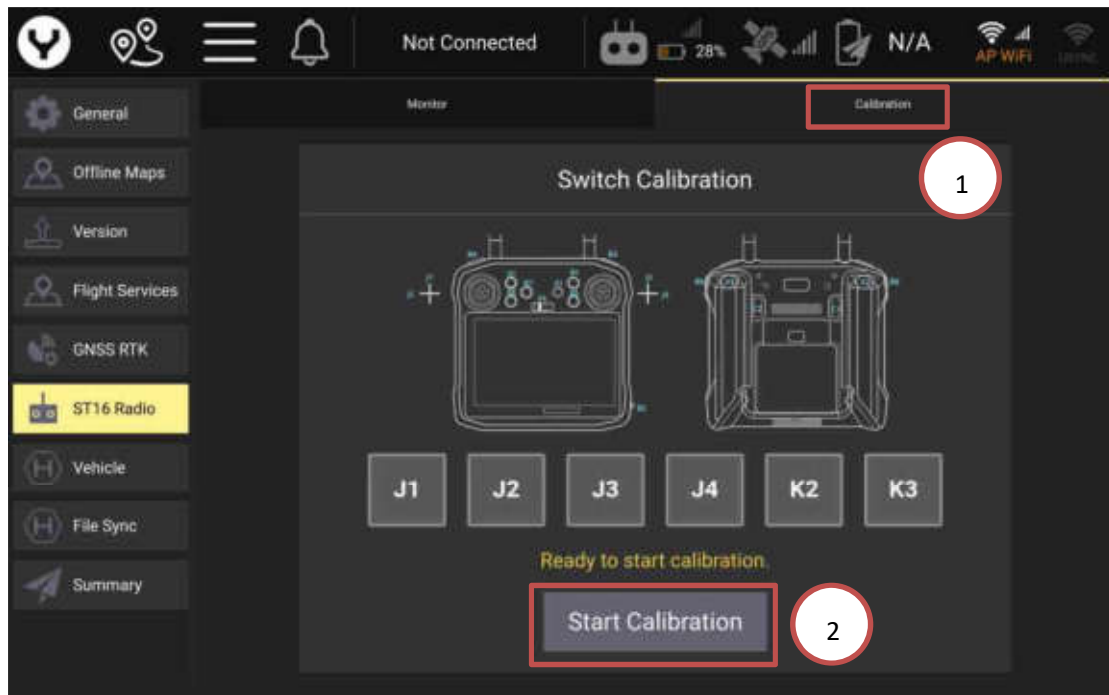


Calibration

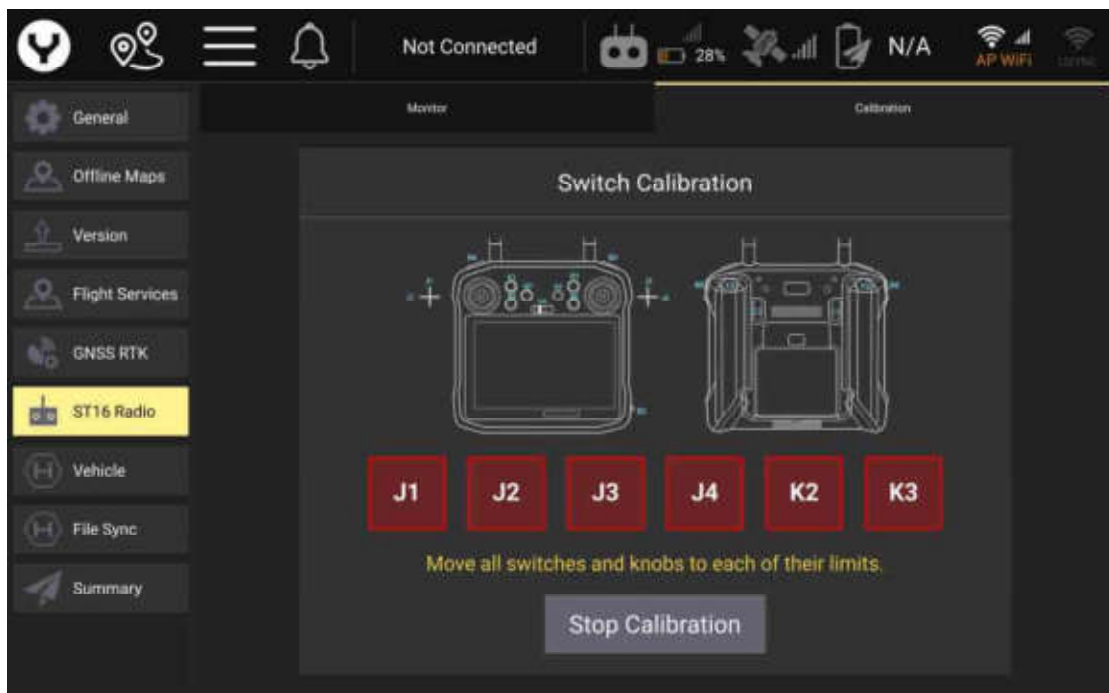
Another function in the ST16 Radio item is the Calibration.

To calibrate the Joysticks and knobs please power off the drone to disconnect the drone and transmitter.

Then switch to the calibration function by tap the calibration button, and tap the Start Calibration button.

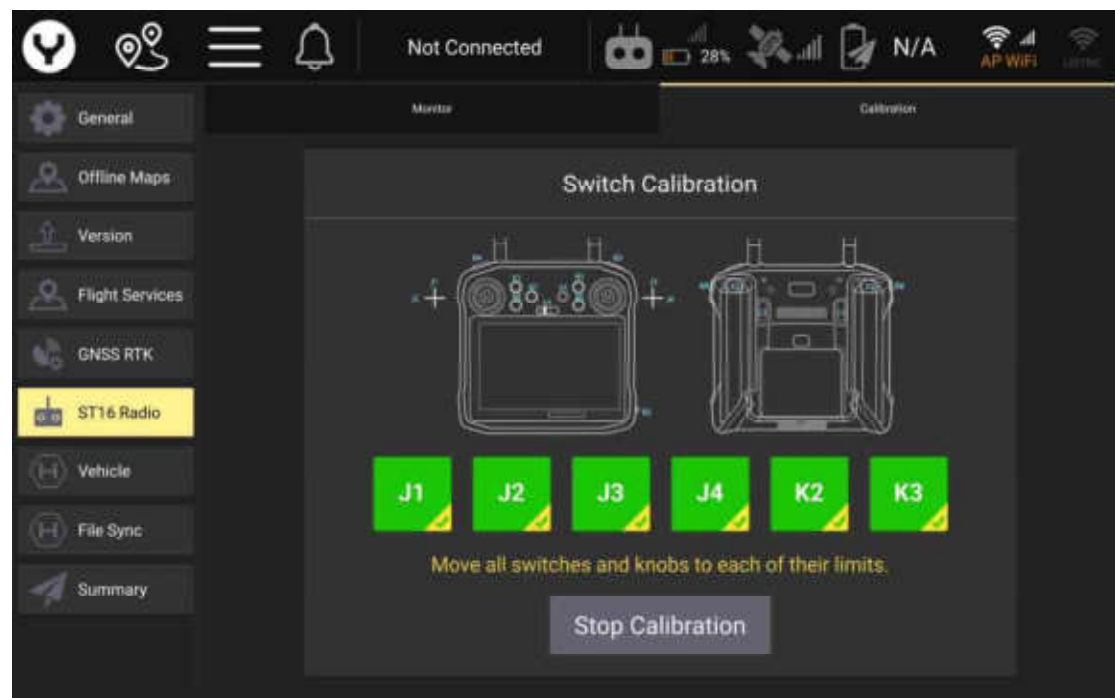


Follow the guidelines of the transmitter to move all joysticks and knobs to each their limits.

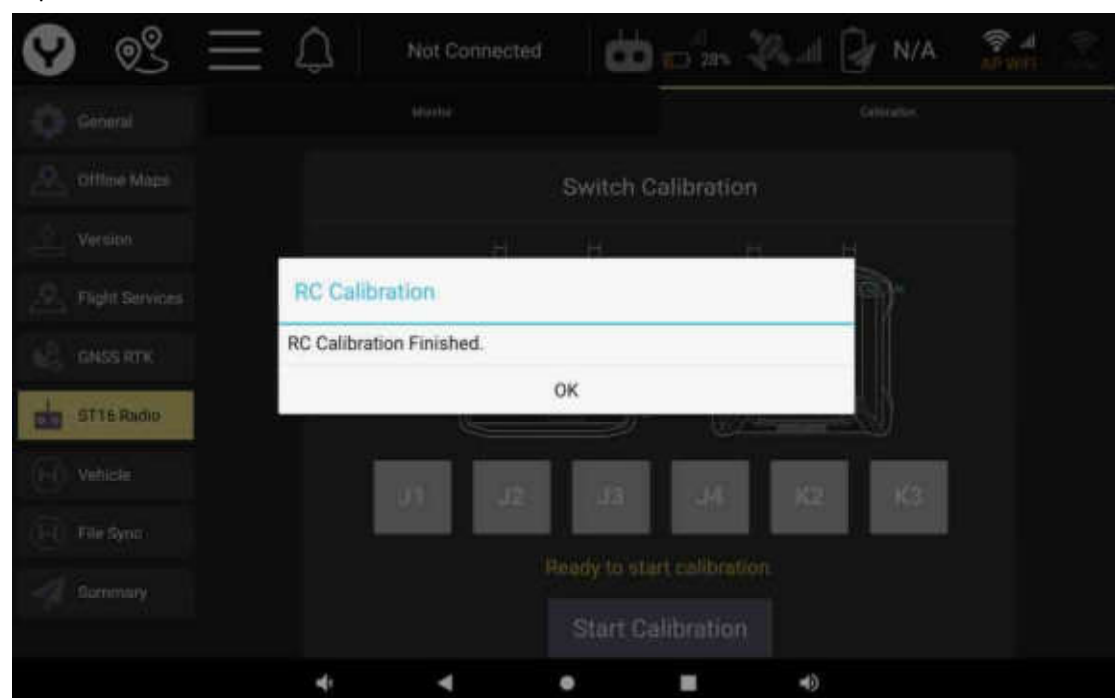


The joysticks and knobs which passed the Calibration will be marked green.

After all of them passed release the hands from the joysticks and knobs to keep them at the center position, then tap the Stop Calibration button.



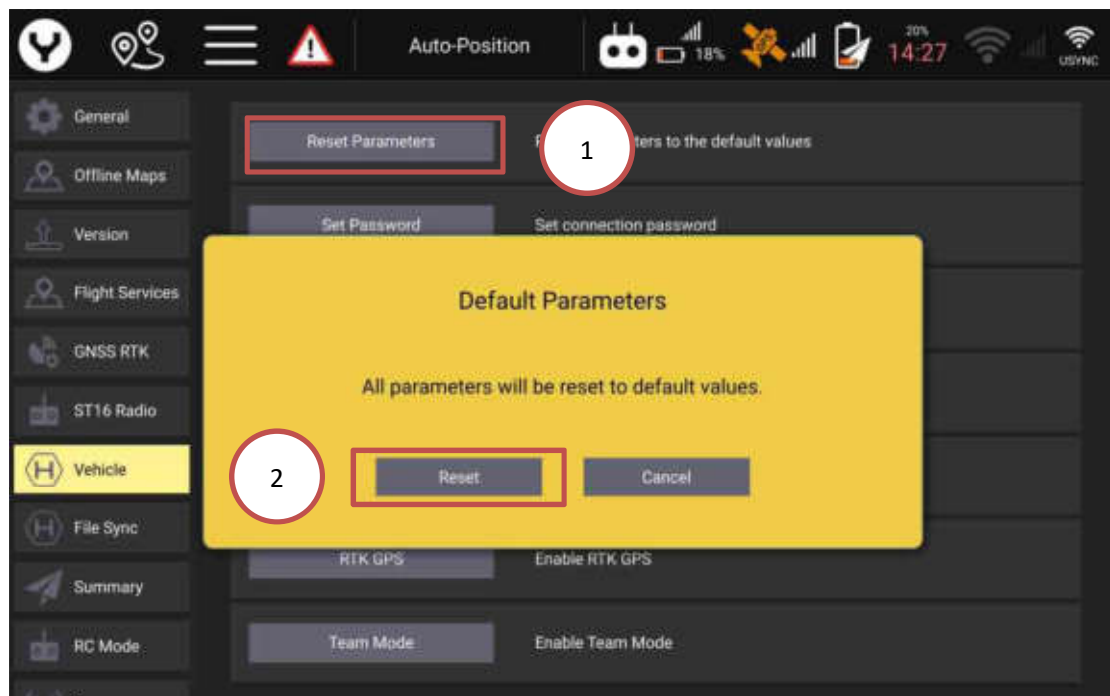
Tap OK button to finish the calibration



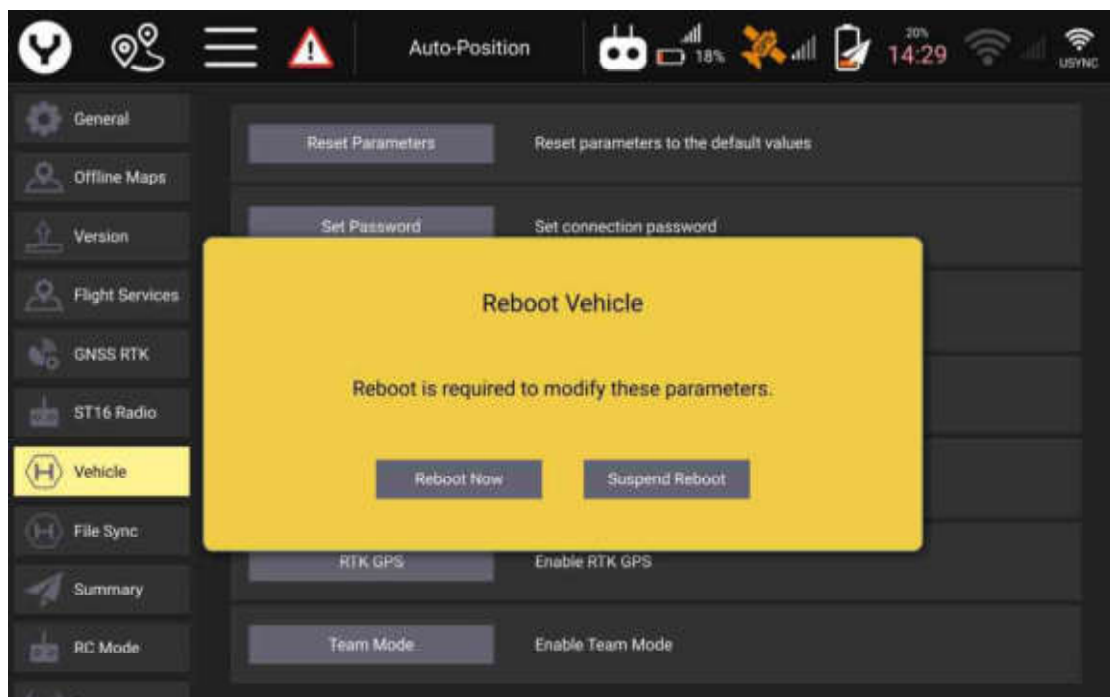
6. Vehicle

The users can reset parameter, control the motor LEDs, enable the indoor mode, enable the RTK GPS and check the vehicle info under this item.

Reset parameter button



Tap the “Reset Parameters” button first then tap the “Reset” button.

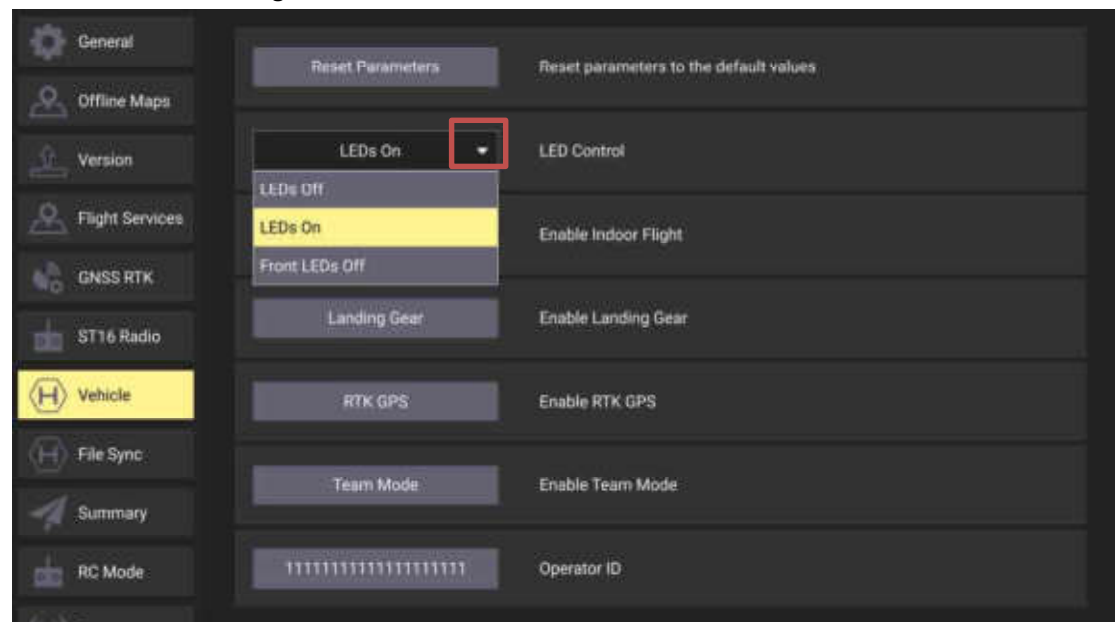


Tap the “Reboot Now” button to reboot drone then the reset will take effect.

LED Control

In the cases of taking the aerial photography at night the motor LED would influence the color effect of the photos the users can control the motor LED according to the following introduction.

Tap the white arrow to open the drop-down menu then select the needed LED setting, the LEDs On is the default setting.



LEDs Off- Switch off all the motor LEDs.

LEDs On- Switch on all the motor LEDs.

Front LEDs Off – Only switch off the LEDs on the front motor arms.

Indoor Mode button

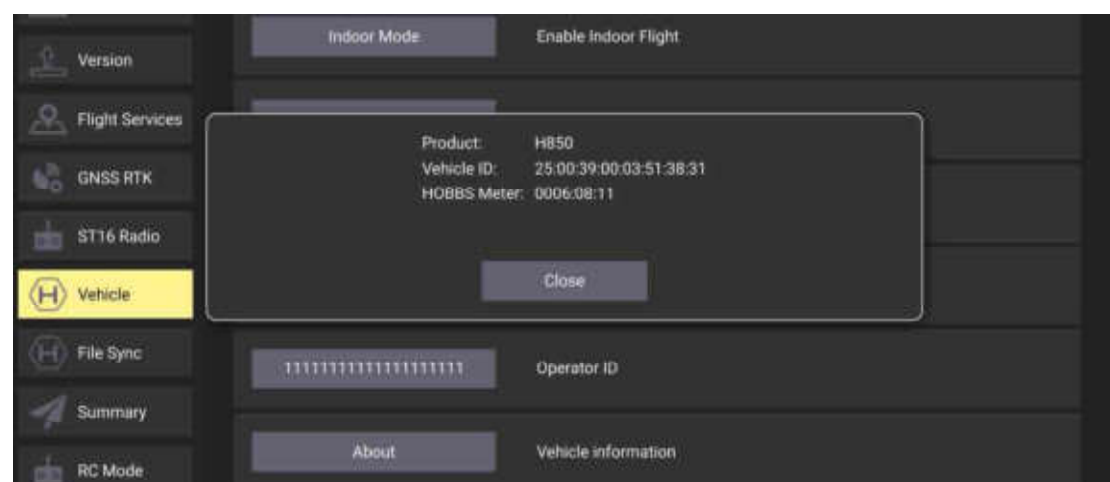
To disable the GPS totally for starting the motor without GPS position, please refer to the corresponding chapter introduced above for more details.

RTK GPS button

Tap this button to enable or disable the High-Precision RTK GPS, please refer to the corresponding chapter introduced above for more details.

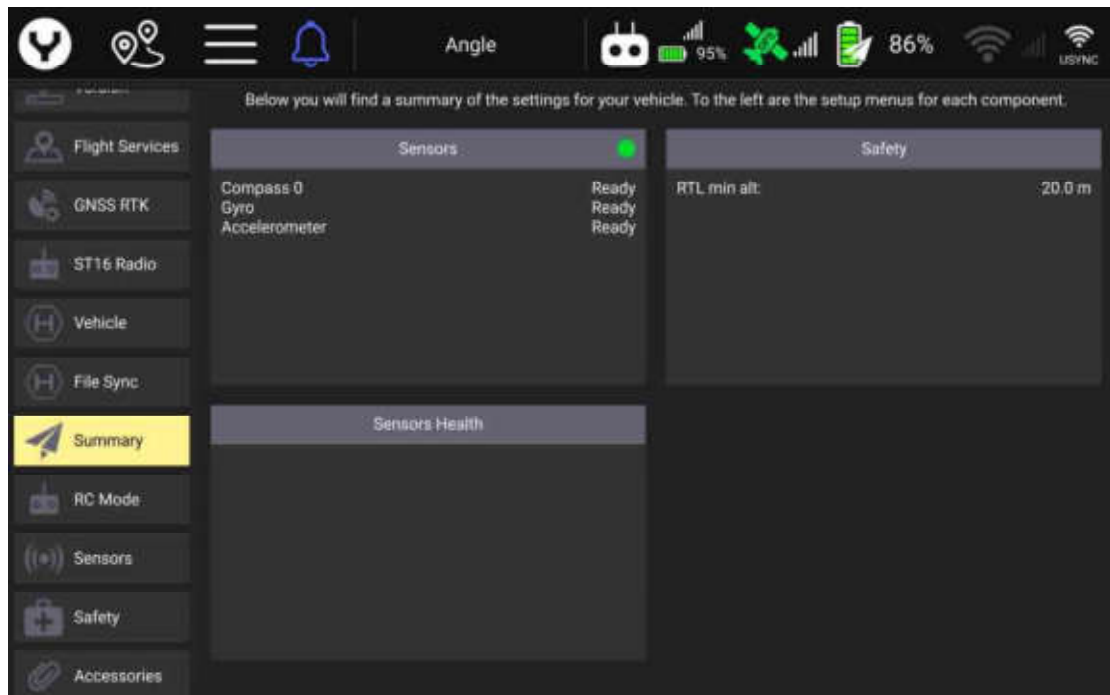
About button

Tap this button to check the Product type, Vehicle ID and HOBBS Meter.



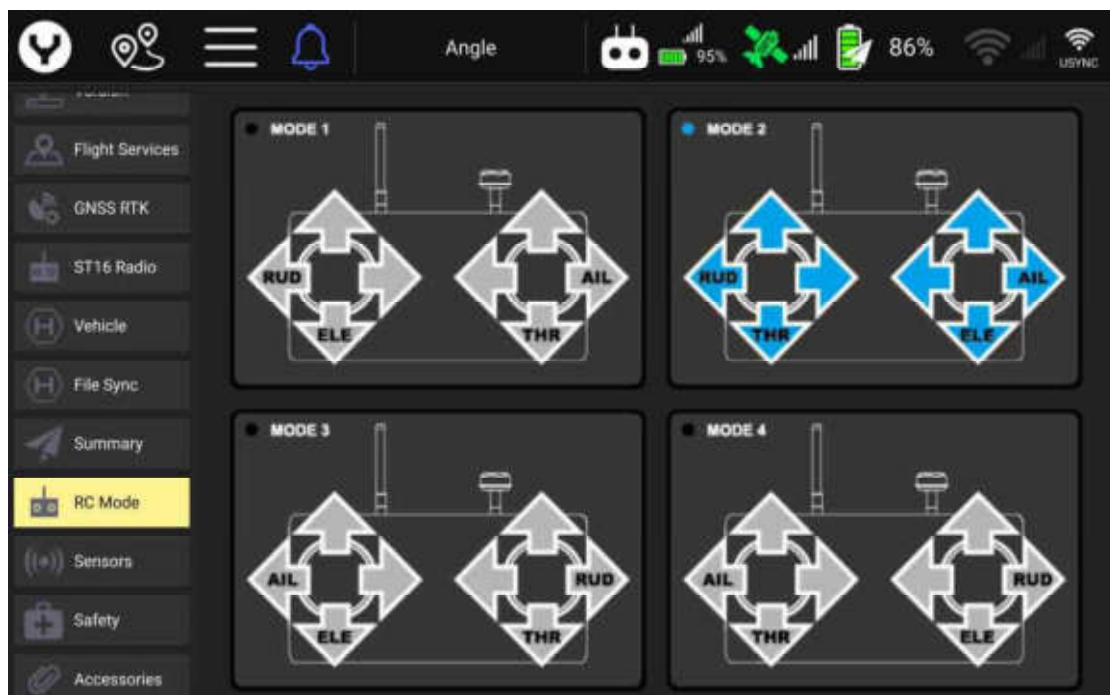
7. Summary

This item displays the summary of the settings for the vehicle.



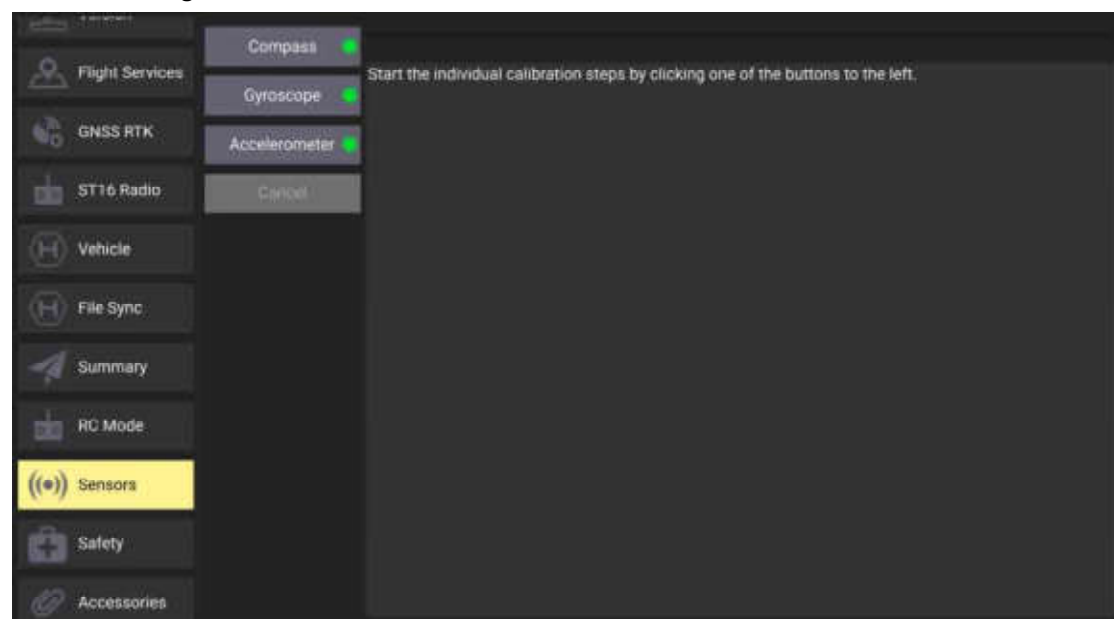
8. RC Mode

Tap to select the Joysticks mode as your wish.



9. Sensors

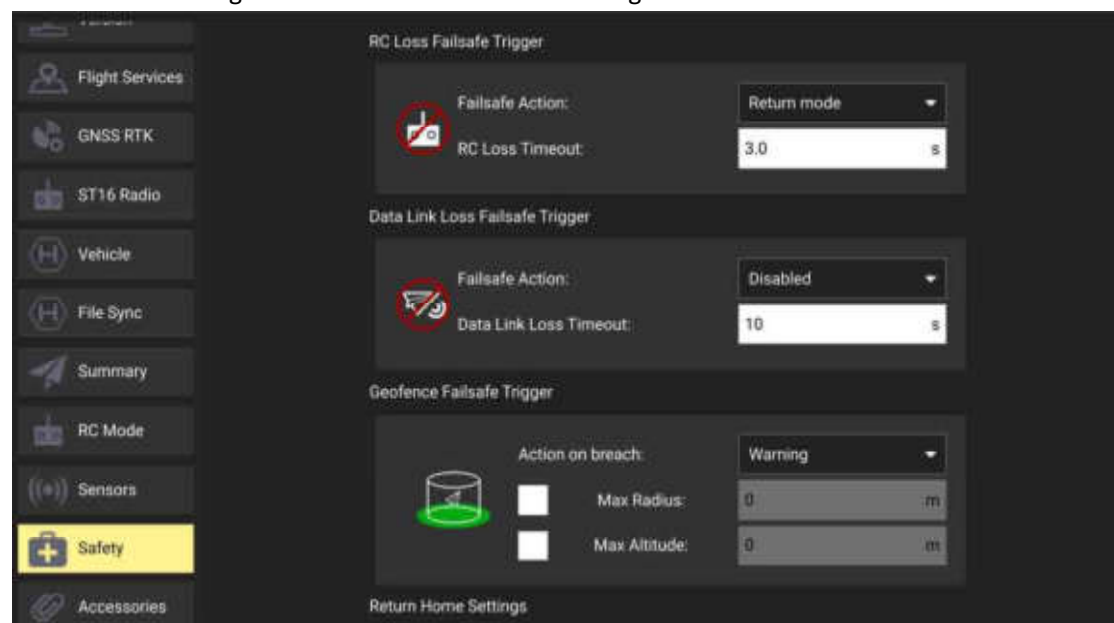
The users can check sensors status also start the compass calibration in this interface, normally it will display a green dot beside each sensor. If the dot turns red the corresponding sensor need to be calibrated again.



The users can calibrate the compass by themselves, for the Gyroscope and Accelerometer we suggest to calibrate with the support of the nearest YUNEEC Service center to ensure the best result.

10. Safety

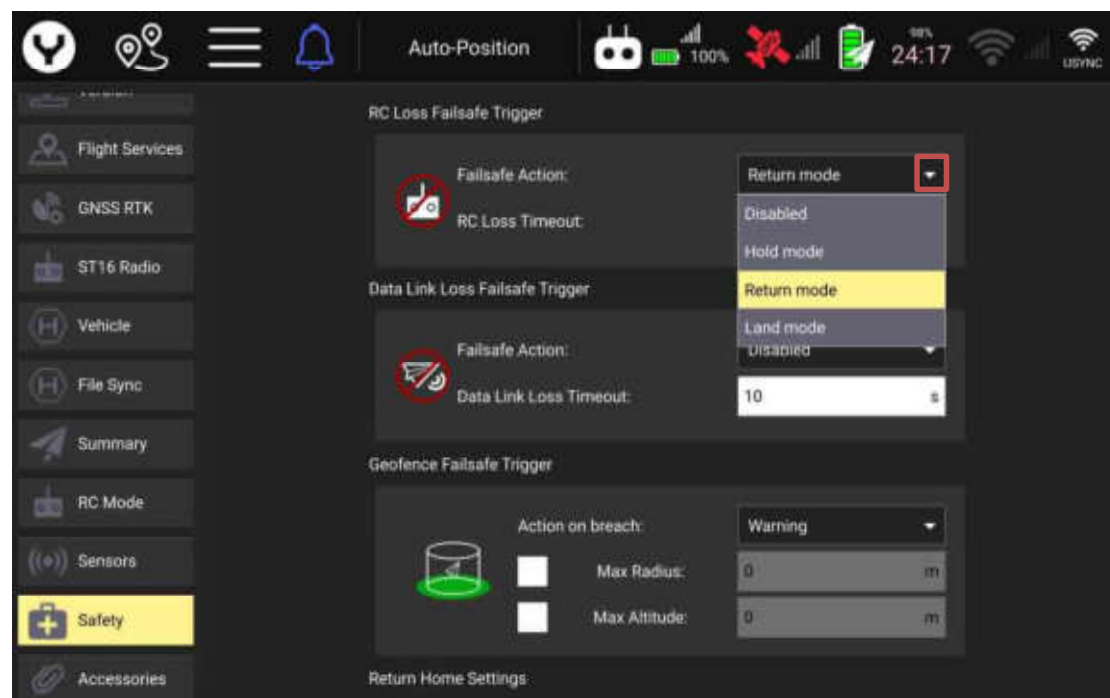
The users can change the drone fail safe behavior and geo-fence via this interface.



RC Loss Failsafe Trigger and Data Link Loss Failsafe Trigger

This 2 sub item allows the users to edit the drone behavior after the RC or Data Link Loss. For the H850 drone please remain the “Disable” selection for the Data Link Loss Failsafe Trigger. Only edit the RC Loss Failsafe Trigger is enough.

Tap the white arrow to open the drop-down menu then select a Failsafe behavior.



Disabled- The drone will keep the last flight mode before the RC Loss.

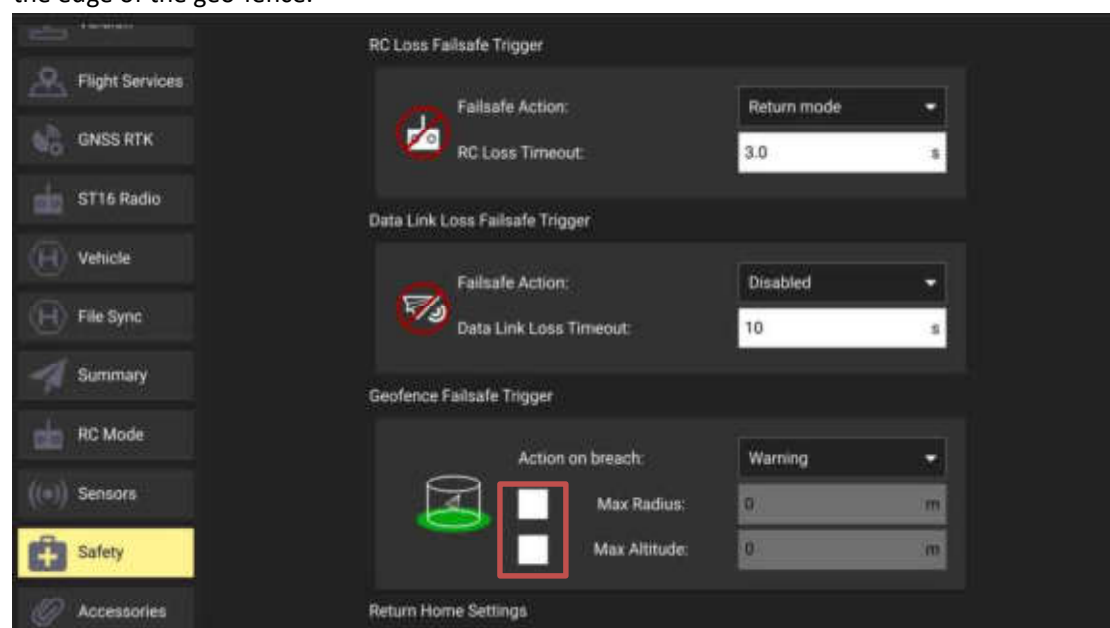
Hold mode- The drone will keep hover after the RC Loss happen.

Return mode-The drone will trigger on the RTL mode after RC Loss.

Land mode-The drone will land directly at current position after RC Loss.

Geofence Failsafe Trigger

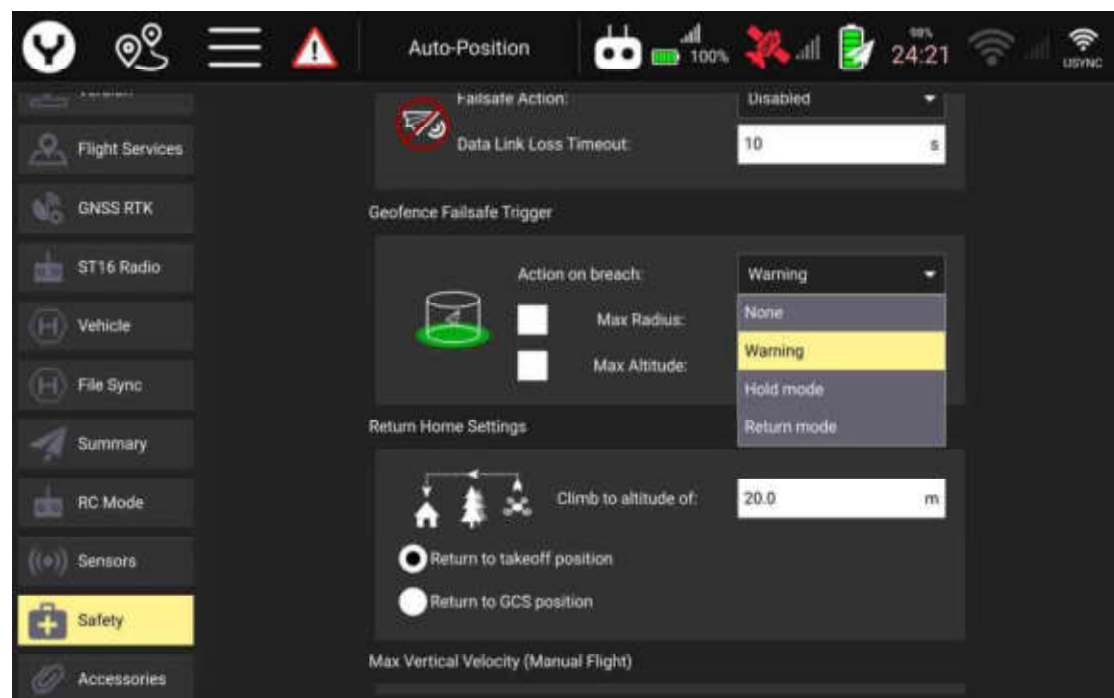
The users can set the Radius and Altitude of the Geo-fence also the drone behavior after reach the edge of the geo-fence.



Tick the box before the Max Radius and Max Altitude to enable the Geo-fence range.

The users can type in the parameters directly to edit the Geo-fence after the boxes were ticked.

Tap the white arrow to open the drop-down menu then select an Action on breach.



None - Although the Max Radius and Max Altitude already be set the “None” selection still deactivate the geo fence, the drone doesn’t have any reaction after reach the edge of the geo fence.

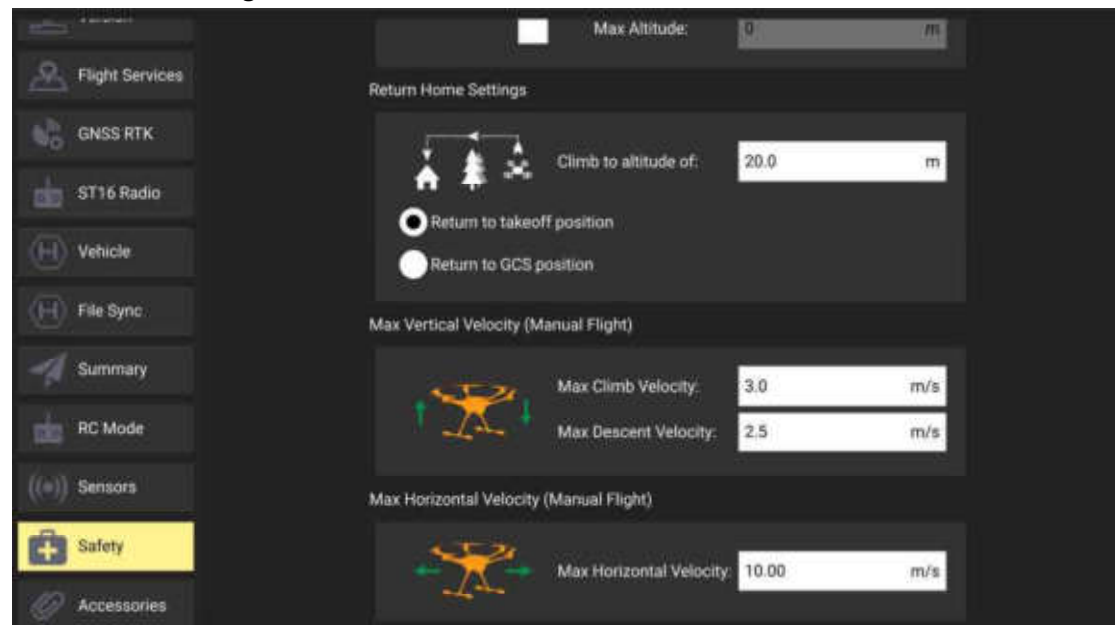
Warning- The transmitter will continuously alarm the warnings when the drone reach or fly out of the geo fence.



Hold mode- The drone will keep hovering after reach the edge of the geo fence, the users need switch the drone to RTL mode to take the drone back.

Return mode- The drone will switch to the RTL mode automatically after reaching the edge of the geo fence.

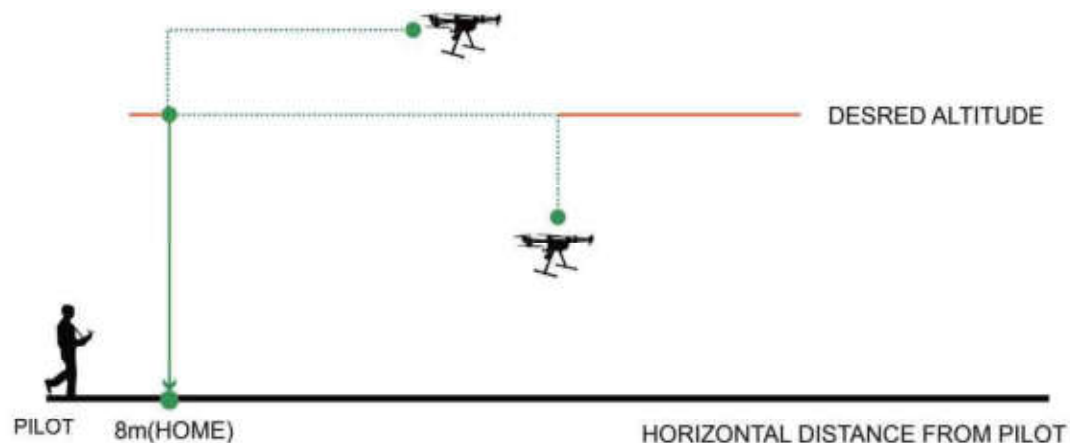
Return Home Settings



Climb to altitude of-Tap the box behind then type in the altitude to set a new altitude. The 20m is the default setting.

When the drone is below the altitude set after the users enable the RTL mode the drone will climb to the RTL altitude first then flying back to the return point.

If the drone is flying higher than the RTL altitude, after the RTL enabled the drone will keep the current altitude and flying back.



Return point setting

Tap the select dot directly to choose the return point.

If the takeoff position was selected the drone finally will land on the takeoff point in RTL mode.

If the Return to GCS position was selected the drone will land around the transmitter GPS position when the RTL mod is active.

Max Vertical and Horizontal Velocity setting



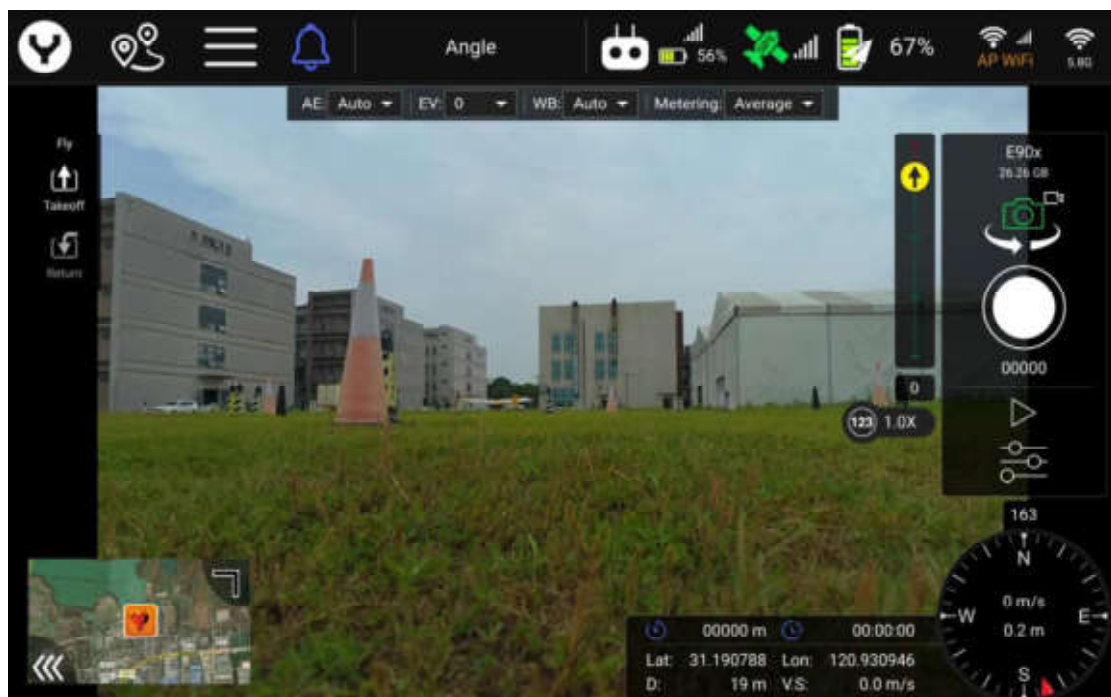
Tap the boxes behind each items then type in the parameters to set the max climb, descent and horizontal velocity.

Notice: We do not suggest the users to change these parameters for flight safety.

Team mode

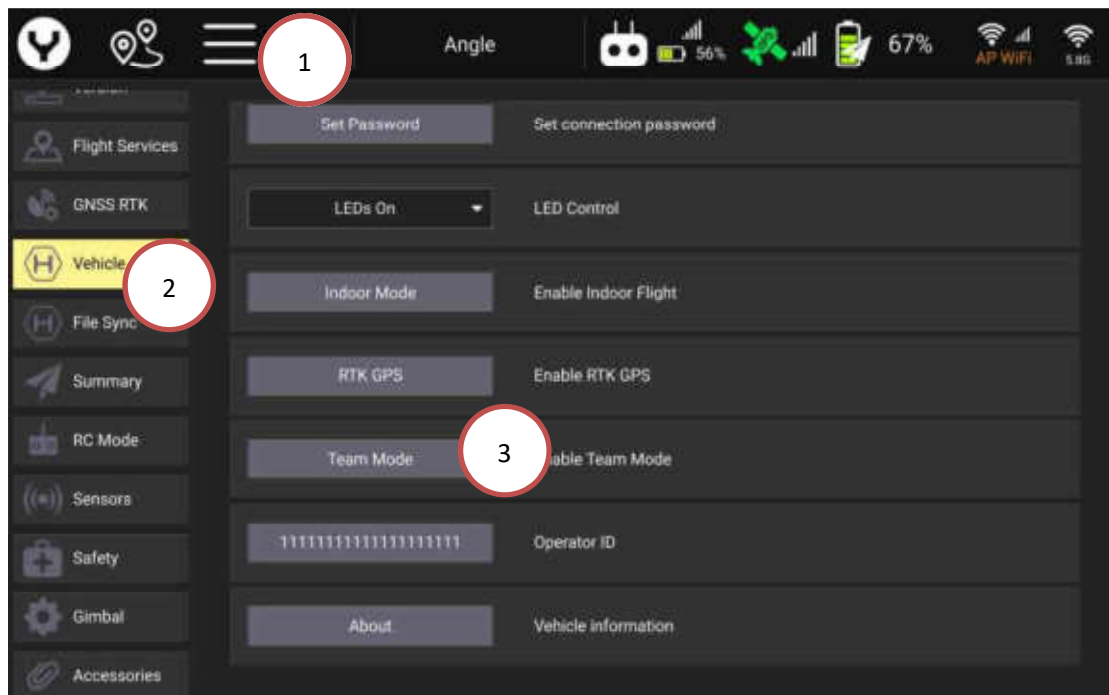
Team mode bind

Step1: Power on the controller and drone waiting for the communication established.

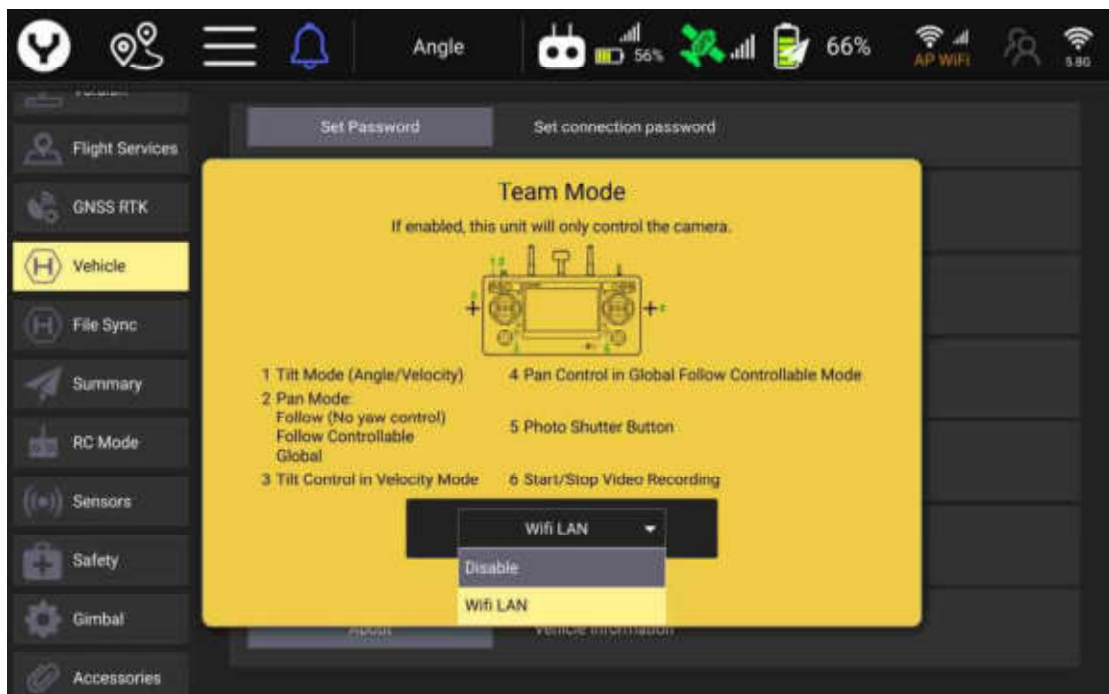


Step2: Power on a new controller waits until it finishes boot up.

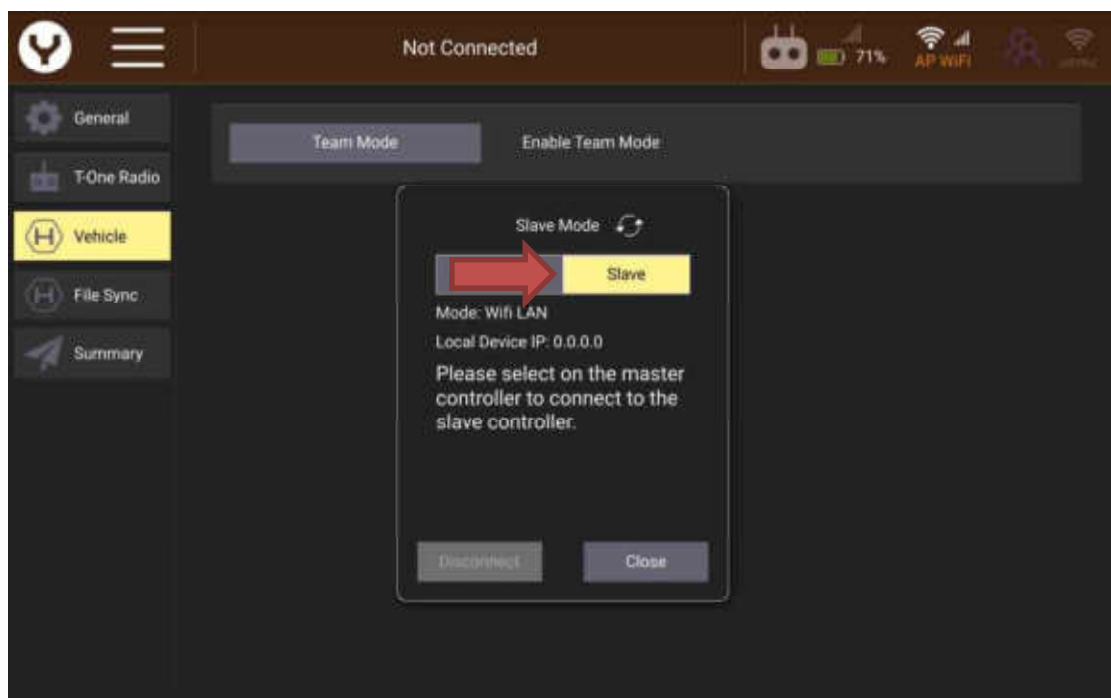
Step3: Click the Settings button and select the Vehicle item, then tap the Team mode on both master and slave remote screen



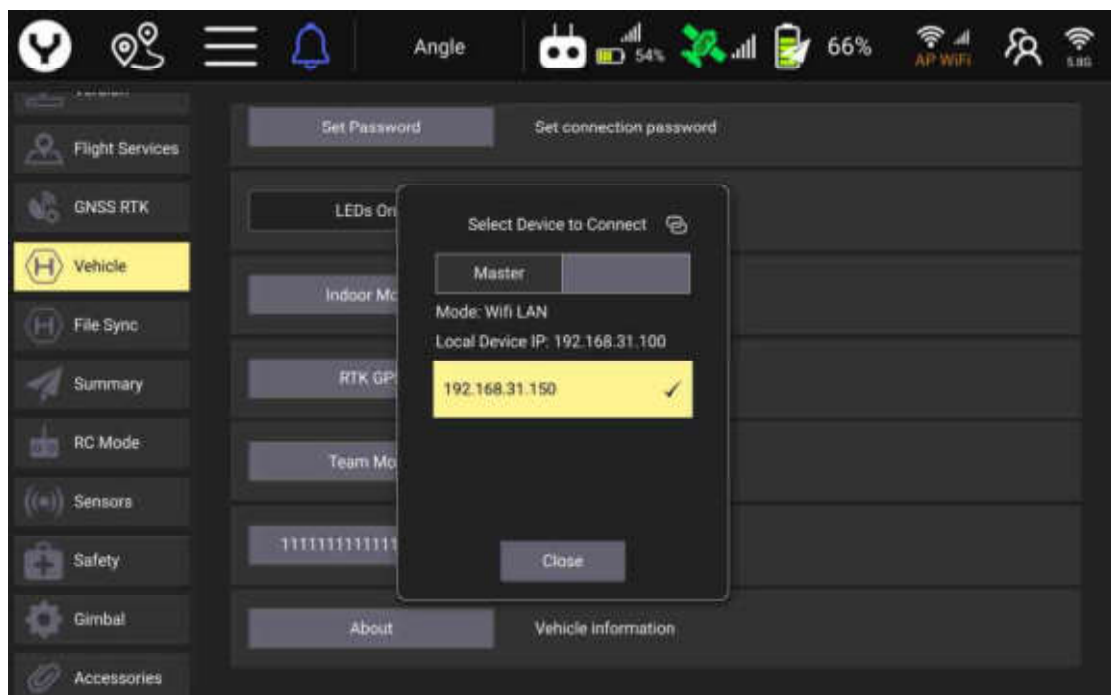
Step4: Select Wifi LAN as connect mode for both controller.



Step5: Slide the switch from the Master to the Slave, on the slave remote screen.



Step6: After the Slave remote has been transformed. The available slave device IP address will be shown on the Master remote screen. Tap the wanted Slave device IP address to bind



Tap the Main Interface Button to back.

After the team mode bind finished the users can control the drone via the Master Remote and the gimbal camera can be controlled by the Slave Remote.

Bind finished

Master Remote interface



Slave Remote interface

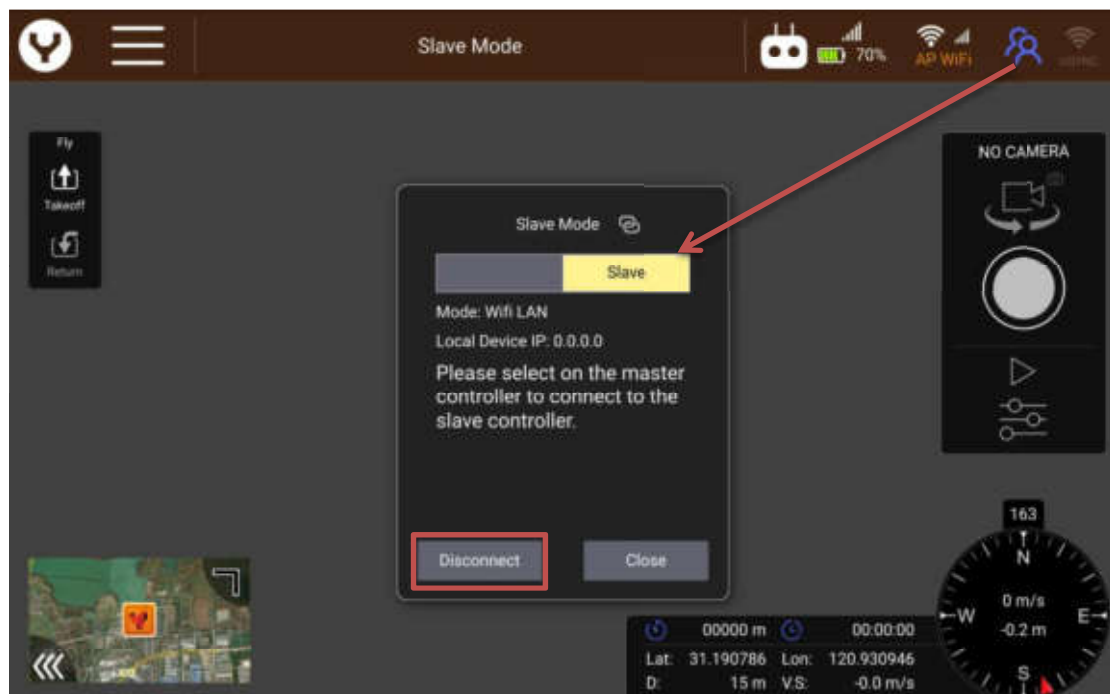


Quit the Team Mode

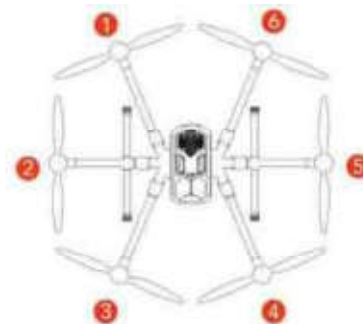
For the Master Remote: Click the Settings button and select the Vehicle item, then tap the Team mode. Switch to “Disable” selection to quit.



For the Slave Remote: Tap the Team Mod Icon and tap the Disconnect button under the Team Management Menu to quit the Team mod.



- Initialization Failed : All LEDs
- Binding Completed : All LEDs
- Compass/Accelerometer/Gyro Calibration : All LEDs
- Other Status all refer to the 2 rear LEDs (LED 3#/4#)



STATUS	2 5 1 6 3 4
Initiate Compass Calibration	 2 5 3 6 4 1 5 2 6 3 1 4
Accelerometer/ Gyro Calibration Completed	
During Inialization	
Calibration Failed	
The Aircraft is in Manual Mode	   
The Aircraft is in Angle Mode (without GPS lock)	   
The Aircraft is in Angle Mode (with GPS lock)	   
The Aircraft is in RTL Mode	   
The Aircraft is in SPORT Mode	   
The Aircraft is in Task Mode	   
First/Second Level Low Voltage Battery Warning	   
Compass Alarming	   

Disclaimer

Yuneec International (China) Co., Ltd shall not be held liable for any damage, injury or for use of the product in violation with legal regulations, especially in the following circumstances:

Damage and/or injury as well violation of legal regulations resulting from a failure to comply with the operating instructions or the instructions at www.yuneec.com, product information, user manual and other legally binding information;

Damage and/or injury as well violation of legal regulations brought about by the influence of alcohol, drugs, medication or other narcotics which may impact on the concentration of the user; The same applies to illnesses effecting the concentration of the user (dizziness, tiredness, nausea etc.) or other factors compromising mental and physical capabilities.

Intentionally caused damage, injury or violation of legal regulations;

Any request for compensation caused by an accident resulting from use of the product;

Malfunction of the product caused by retrofitting or replacement with components which did not come from Yuneec;

Damage and/or injury caused by the use of replica parts (non-original parts);

Damage and/or injury as well as violation of legal regulations caused by incorrect operation or misjudgment;

Damage and/or injury caused by damaged spare parts or not using original Yuneec spare parts;

Damage and/or injury caused by unauthorized change settings and/or parameters;

Damage and/or injury caused by modify and/or add parts;

Damage and/or injury as well as violation of legal regulations caused by ignoring the low voltage battery warning;

Damage and/or injury caused by knowingly and negligibly flying with a damaged model or one which is unfit to fly, e.g. due to dirt, water penetration, coarse particles, oil or a model which has not been correctly or completely assembled or if the main components exhibit visible damage, defects or missing parts;

Damage and/or injury as well as violation of legal regulations caused by use of the product in a no-fly zone, e.g. next to an airfield, above a motorway or a natural conservation area;

Damage and/or injury as well as violation of legal regulations caused by operating the model in a magnetic field (e.g. high voltage lines, electricity/ transformer stations, radio towers, mobile phone masts etc.), a strong wireless signal environment, no-fly zones, poor visibility and in the event of vision impairments or other impacts on the pilot which are left unchecked etc. ;

Damage and/or injury brought about through a violation of the legal regulations for operating the model, in unsuitable weather conditions, e.g. rain, wind, snow, hail, storms, hurricanes etc. ;

Damage and/or injury as well as violation of legal regulations caused by force majeure, e.g. collision, fire, explosion, flooding, tsunami, landslide, avalanche, earthquake or other forces of nature;

Damage and/or injury as well as violation of legal regulations caused by the illegal or immoral use of the model, e.g. capturing videos or recording data which infringes upon/harms the privacy of other people;

Damage and/or injury as well as violation of legal regulations caused by incorrect use of the batteries, protection systems, chargers or aircraft;

Consequential damage caused by the incorrect operation of any kind of system components and accessory parts, especially memory cards, whereby image or video material from the camera can

become defect;

Any non-compliance with legal obligations, personal injury, material damage and environmental damage caused by use and a failure to comply with the local laws and regulations;

Damage and/or injury as well as violation of legal regulations caused by hazardous use without sufficient practical experience;

Damage and/or injury as well as violation of legal regulations caused by flying in legally defined no-fly zones.

Further losses which do not fall within the scope of use defined by Yuneec as improper.

This product is designed for both professional use and personal private use. The national and international laws and regulations in force as the time of taking off must be adhered to.

Collection and Processing of Data

Yuneec may collect navigation information such as GPS data to help improve our products.

We may also collect Depth Map information and Infrared Image information from your drone delivered to our service center for repair and maintenance service or any other service.

We may also collect other information such as device information, server log information, etc.

We may also collect personal information used in registration if you choose to become a registered user and any other information user provided to Yuneec. We may also collect information which users send to other users, and the recipients and senders of such information. We reserve the right to disclose your information if required to do so by law or in the good-faith belief that such disclosure is needed to comply with applicable laws, for example in response to a court order, judicial subpoena, warrant or request from government, or otherwise cooperating with government agencies or law enforcement.

We also reserve the right to disclose your information that we believe in good faith is necessary or appropriate to: (i) protect ourselves or others from fraudulent, unlawful, or abusive activities; (ii) take precautions against potential liability; (iii) protect the security of the Yuneec Apps embedded into or downloaded onto your drone or any associated equipment and services; (iv) protect the legal rights of ourselves or any others.

Any information we collected maybe disclosed or transferred to an acquirer, successor or assignee as part of any potential merger, acquisition, debt financing or other activities that involves transfer of business assets.

We may make the aggregated non-personal information of the users available to third parties for various purposes, including (i) complying with various report obligations; (ii) marketing efforts; (iii) analyzing product safety; (iv) understanding and analyzing our users' interests, habits, usage pattern for certain functionalities, services, content, etc.

Battery Warnings and Usage Guidelines

WARNING: Lithium ion (Li-ion) batteries are significantly more volatile than alkaline, NiCd or NiMH batteries. All instructions and warnings must be followed exactly to prevent property damage and/or serious injury as the mishandling of Li-ion batteries can result in fire. By handling, charging or using the included Li-ion battery you assume all risks associated with Li-ion batteries. If you do not agree with these conditions please return the complete product in new, unused condition to the place of purchase immediately.

You must always charge the Li-ion battery in a safe, well-ventilated area away from flammable

materials.

Never charge the Li-ion battery unattended at any time. When charging the battery, you must always remain in constant observation to monitor the charging process and react immediately to any potential problems that may occur.

After flying/discharging the Li-ion battery you must allow it to cool to ambient/room temperature before recharging.

To charge the Li-ion battery you must use only the included charger or a suitably compatible Li-ion battery charger. Failure to do so may result in a fire causing property damage and/or serious injury.

If at any time the Li-ion battery begins to balloon or swell, discontinue charging or discharging immediately.

Quickly and safely disconnect the battery, then place it in a safe, open area away from flammable materials to observe it for at least 15 minutes. Continuing to charge or discharge a battery that has begun to balloon or swell can result in a fire. A battery that has ballooned or swollen even a small amount must be removed from service completely.

Do not over-discharge the Li-ion battery. Discharging the battery too low can cause damage to the battery resulting in reduced power, flight duration or failure of the battery entirely. Li-ion cells should not be discharged to below 3.0V each under load.

Store the Li-ion battery at room temperature and in a dry area for best results.

When charging, transporting or temporarily storing the Li-ion battery the temperature range should be from approximately 40–120 ° F (5–49 ° C). Do not store the battery or aircraft in a hot garage, car or direct sunlight. If stored in a hot garage or car the battery can be damaged or even catch fire.

Never leave batteries, chargers and power supplies unattended during use.

Never attempt to charge low voltage, ballooned/swollen, damaged or wet batteries.

Never allow children less than 14 years of age to charge batteries.

Never charge a battery if any of the wire leads have been damaged or shorted.

Never attempt to disassemble the battery, charger or power supply.

Never drop batteries, chargers or power supplies.

Always inspect the battery, charger and power supply before charging.

Always ensure correct polarity before connecting batteries, chargers and power supplies.

Always disconnect the battery after charging.

Always terminate all processes if the battery, charger or power supply malfunctions.

General Safety Precautions and Warnings

WARNING: Failure to use this product in the intended manner as described in the quick start guide and instruction manual can result in damage to the product, property and/or cause serious injury.

A Radio Controlled (RC) multirotor aircraft, APV platform, drone, etc. is not a toy! If misused it can cause serious bodily harm and damage to property.

WARNING: As the user of this product you are solely and wholly responsible for operating it in a manner that does not endanger yourself and others or result in damage to the product or the property of others.

Keep your hands, face and other parts of your body away from the spinning propellers/rotor

blades and other moving parts at all times. Keep items that could impact or become entangled away from the propellers/rotor blades including debris, parts, tools, loose clothing, etc.

Always operate your aircraft in open areas that are free from people, vehicles and other obstructions.

Never fly near or above crowds, airports or buildings.

To ensure proper operation and safe flight performance never attempt to operate your aircraft nearby buildings or other obstructions that do not offer a clear view of the sky and can restrict GPS reception.

Do not attempt to operate your aircraft in areas with potential magnetic and/or radio interference including areas nearby broadcast towers, power transmission stations, high voltage power lines, etc.

Always keep a safe distance in all directions around your aircraft to avoid collisions and/or injury. This aircraft is controlled by a radio signal subject to interference from many sources outside your control.

Interference can cause momentary loss of control.

To ensure proper and safe operation of the automatic landing function in Return Home Mode you must start the motors with the aircraft in an open space and achieve a proper GPS lock.

Do not attempt to operate your aircraft with any worn and/or damaged components, parts, etc. including, but not limited to, damaged propellers/rotor blades, old batteries, etc.

Never operate your aircraft in poor or severe weather conditions including heavy winds, precipitation, lightning, etc.

Always begin to operate your aircraft with a fully charged battery. Always land as soon as possible after the first level low voltage battery warning or land immediately after the second level low voltage battery warning.

Always operate your aircraft when the voltage of the battery in the transmitter/personal ground station is in a safe range (as indicated by the LED status indicator light of the transmitter/personal ground station).

Always keep the aircraft in clear line of sight and under control, and keep the transmitter/personal ground station powered on while the aircraft is powered on.

Always move the throttle control stick down fully and turn off the power in the event the propellers/ rotor blades come into contact with any objects.

Always allow components and parts to cool after use before touching them and flying again.

Always remove batteries after use and store/transport them per the corresponding guidelines.

Avoid water exposure to all electronic components, parts, etc. not specifically designed and protected for use in water. Moisture causes damage to electronic components and parts.

Never place any portion of the aircraft or any related accessories, components or parts in your mouth as doing so could cause serious injury or even death.

Always keep chemicals, small parts and electronic components out of the reach of children.

To ensure safe fly, it is recommended to install the propeller protectors when operating the aircraft indoors or nearby crowds.

Carefully follow the instructions and warnings included with this aircraft and any related accessories, components or parts (including, but not limited to, chargers, rechargeable batteries, etc.).

FCC Statement

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radiocommunications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications to this equipment. Such modifications could void the user's authority to operate the equipment.

RF Exposure Warning

The SAR limit of FCC&IC is 1.6 W/kg averaged over one gram of tissue. Device types Smart Remote Controller (FCC ID: 2ACS5-TONE) has also been tested with 0mm (at the limbs) and tested with 10mm (at the body) against this SAR limit.

IC Radiation Exposure Statement for Canada

This device complies with Industry Canada RSS-247 of Industry Canada. Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device. Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Note : This equipment will not transmit in the 5600-5650 MHz frequency band when used in Canada.

This equipment will not transmit in the 5150-5250 MHz frequency band when used in Canada.

This radio transmitter [11554B-TONE] has been approved by Innovation, Science and Economic Development Canada to operate with the antenna types listed below, with the maximum permissible gain indicated. Antenna types not included in this list that have a gain greater than the maximum gain indicated for any type listed are strictly prohibited for use with this device.

Antenna Information:

Antenna Type	Model Name	Antenna Manufacturer	Antenna Gain (dBi)	
			2.4 - 2.5GHz	5.15 - 5.85GHz
Dipole Antenna	5DB External antenna	N/A	5	5

Antenna Type	Module name	Manufacturer	Frequency(MHz)	Gain (dBi)
PCB Antenna	PCB Antenna	NA	2400-2483.5	1.5
PCB Antenna	PCB Antenna	NA	5150-5250 5250-5350 5470-5725	5
PCB Antenna	PCB Antenna	NA	5725-5850	2