6		Exit Mission	Click this icon, and the aircraft will abort the current rectangle mission and automatically return.

■ Add a Rectangular Area

On the map of the rectangle mission interface, find the center point of the mission to be executed and click it to automatically generate a rectangular area. You can adjust the area of the rectangle by dragging the eight white points at the edges of the rectangle. You can drag the "cross arrow" in the center of the rectangle to move the rectangle or drag the "curved arrow" on both sides of the rectangle to rotate the rectangle around the center point.
When adding a rectangular area, the rectangle mission settings interface will pop up on the right side of the rectangle mission interface.

Tip

- A rectangular area includes two waypoints, that is, the starting point ( ) and the end point ( ).

■ Set Mission Name

On the rectangle mission settings interface:

➢ Click the "Mission Name" edit box and enter the name as required to set the name of a rectangle mission.

■ Set Flight Altitude and Relative Height

In the "Flight Altitude (20-800m)" edit box on the rectangle mission settings interface, directly enter the flight altitude value or click the shortcut buttons on the left and right sides to adjust the value. This way, you set the flight altitude of the rectangle mission.
The setting range of "Relative Height" will automatically be dynamically adjusted according to the flight altitude setting. In the edit box, directly enter the mission altitude value or click the shortcut buttons on the left and right sides to adjust the value. This way, you set the relative altitude of the rectangle mission.

Tip

- The maximum value for the flight altitude setting will be dynamically adjusted according to the altitude limit set in the "Flight Control Parameter Setting".
- GSD varies with different flight altitude values.

■ Set Flight Speed

In the "Flight Speed" edit box on the rectangle mission settings interface, directly enter the flight speed value or move the slider below left or right to adjust the value. This way, you set the flight speed of the rectangle mission.

Tip

- The flight speed setting ranges from 1 to 10 m/s.

■ Set Obstacle Avoidance Mode

On the rectangle mission settings interface, the obstacle avoidance mode can be set to "Hovering" or "Off".

➢ If "Hovering" is selected, the aircraft will hover when detect obstacles.

⚠ Warning
● If the obstacle avoidance mode is turned off, the obstacle avoidance system of the aircraft will not be enabled. In this case, please try to choose an open area to control the aircraft.

Tip
● When flying at a high altitude, if there are no obstacles, it is recommended to disable the obstacle avoidance mode.

■ Set Finish Action

On the rectangle mission settings interface, click the drop-down list of "Finish Action" to set the flight action of the aircraft after completing the rectangle mission.

➢ If “Auto RTH” is selected, the aircraft will automatically return to the starting point after completing the mission.

➢ If “Hovering” is selected, the aircraft will hover at the end point after completing the mission.

■ Set Signal Loss Action

On the rectangle mission settings interface, click the drop-down list of "Signal Loss Action" to set the flight action of the aircraft after losing connection with the remote controller for 4 seconds.

➢ If "Mission Continue" is selected, the aircraft will continue to execute the mission and perform the "Finish Action" after completing the mission.

➢ If “Auto RTH” is selected, the aircraft will automatically return to the starting point.

■ Advanced Settings

On the rectangle mission settings interface, click “Advanced Settings” to enter the advanced settings interface and set the front overlap, side overlap, main course angle, and gimbal pitch angle for the rectangle mission.

- Set Front Overlap
  In the "Front Overlap(%)" edit box on the advanced settings interface, directly enter the value or move the slider below left or right to adjust the value to set the front overlap of the rectangle mission.
- Set Side Overlap
  In the "Side Overlap(%)" edit box on the advanced settings interface, directly enter the value or move the slider below left or right to adjust the value to set the side overlap of the rectangle mission.

Tip
● The setting range of the front overlap and side overlap is 10%-90%, and the default value is 70%.

- Set Main Course Angle

On the advanced settings interface, you can set the main course angle (0-359°) in two ways: “Custom” or “Auto”.

- If “Custom” is selected, you can directly enter the value or click the shortcut digital buttons on the left and right sides to adjust the angle between the main route of the rectangle mission and the latitude line.

- Set Gimbal Pitch Angle

On the advanced settings interface, enter the value in the edit box to the right of "Gimbal Pitch Angle (-30°-90°)", or move the slider below left or right to adjust the gimbal pitch angle of the entire route.

■ Turn On/Off Elevation Optimization

- If this function is turned on, the aircraft will create a route along the center point of the rectangle for re-shooting after completing the shooting of the main route. This helps optimize the overall shooting accuracy of the mission.

■ Turn On/Off Double Grid

- If this function is turned on, the aircraft will change its heading by 90° and shoot the rectangle mission area again after completing the shooting of the main route. The two routes have a 90° overlap.

■ Turn On/Off Route Extension

Due to the limited gimbal pitch angle and flight altitude, some areas on the outer edges of the rectangle mission area might not be captured by the camera. In such cases, you need to turn on route extension to extend the rectangle mission area so as to ensure complete coverage of the target area.

■ Turn On/Off Coordinated Turns

After this function is turned on, the aircraft will follow the optimal arc-shaped path for turns when switching from one main route to an adjacent one.

■ Start Pre-flight Check

After the completion of all settings for a rectangle mission, relevant flight mission data will be synchronously displayed at the bottom center of the rectangle mission interface, including the route length, mapping area, estimated time, and photos to be taken. Click the “” icon on the left side to enter the "Pre-flight Check" interface.

■ Upload a Route and Start a Mission

After completing the pre-flight check, press the “Slide to takeoff” icon at the bottom of the "Pre-flight Check" interface, and the aircraft will automatically take off to execute the mission. The estimated completion time, current photo count, current altitude, current wind speed, and other basic information will be synchronously displayed at the bottom center of the rectangle mission interface. The lower-left small screen displays the current view observed by the gimbal camera. Click to enlarge it to full screen for viewing.

■ Complete Route Missions

When the aircraft completes the rectangle mission, the relevant flight mission data of this route will be displayed at the bottom center of the map, including the route length, mapping area, estimated time, the number of photos taken, and the number of flights.

6.9.3 Polygon

In the shortcut toolbar (or Shortcuts), click the "" icon to enter the "Polygon" mission interface. You can add a square area on the map and perform operations such as dragging, adding side boundaries, and dragging corner points to adjust the position and size of the area. After adjustments, the Autel Enterprise App will automatically generate a continuous series of equidistant flight routes within the polygonal area based on the side overlap and course angle settings. The aircraft will then automatically fly to execute the shooting mission according to these flight routes and relevant settings.

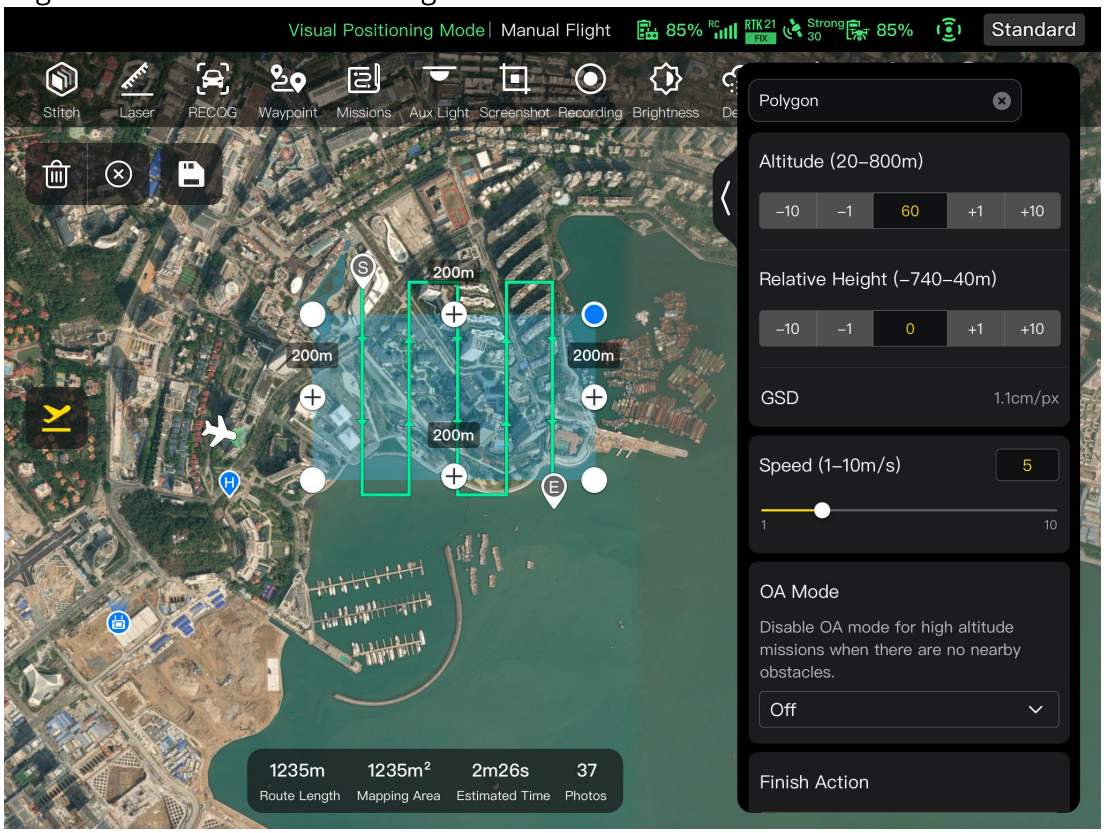

Fig 6-22 Polygon

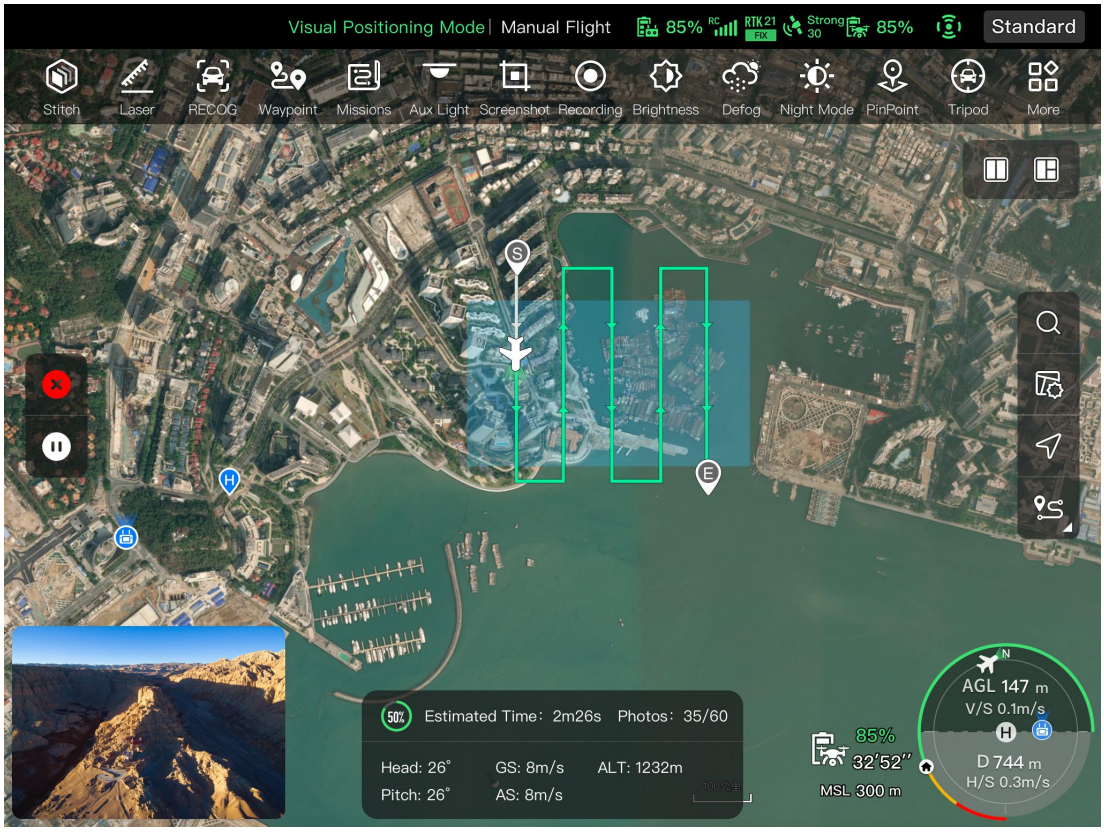

Fig 6-23 Polygon Mission in Progress

Table 6-15 "Polygon Mission" Terms and Details

Term	Definition
Relative Height	Refers to the vertical altitude of the work surface of the shot object relative to the take-off point of the aircraft.
GSD	Ground Sampling Distance.
Finish Action	Refers to the action that the aircraft will perform after completing a polygon mission.
Lost Action	Refers to the actions that the aircraft will perform when disconnected from the remote controller for more than 4 seconds during flight.
Front Overlap	Refers to the image overlap rate between two consecutive photos taken when capturing images along the flight heading.
Side Overlap	Refers to the image overlap rate between two consecutive photos taken when capturing images along two adjacent flight routes.
Main Course Angle	Refers to the course angle between the main route and the latitude line (horizontal line) when the flight routes are automatically generated.
Gimbal pitch	The observable range of the gimbal camera, that is, the angle from the top to the bottom (-30° ~ 90°).

Coordinated Turns	When enabled, the aircraft will switch from one main route to an adjacent main route along the optimal arc-shaped path.

Table 6-16 "Polygon Mission" Icons and Details

No.	Icon	Meaning	Description
1		Clear	Click this button, and then click the "Confirm" button in the pop-up window to reset the polygon mission.
2		Save Route	Click this icon, and the currently edited polygon mission will be saved to "Mission".
3		Edit Route	Click this icon to edit the saved polygon mission.
4		Execute Mission	Click this button, and the aircraft will enter the "Pre-flight Check" interface. After the check is completed, the aircraft will take off to perform the polygon mission.
5		Pause Mission	When executing a polygon mission, click this icon, and the aircraft will pause the polygon mission and hover at the current position.
6		Exit Mission	Click this icon, and the aircraft will abort the current polygon mission and automatically return.

■ Add a Polygonal Area

On the map of the polygon mission interface, find the center point of the mission to be executed and click it to automatically generate a square area. You can click the "+" icon between two white points to add side lines for the area. You can drag the white points to adjust the positions of the corner points of the polygon, which allows you to modify the area of the polygon. You can also drag the "cross arrow" in the center of the polygonal area to move the polygon.

When adding a polygonal area, the polygon mission settings interface will pop up on the right side of the polygon mission interface.

Tip

- A polygonal area includes two waypoints, that is, the starting point (S) and the end point (E).
- For the settings of other operations for a polygon mission, see "6.9.2 Rectangle Mission" in this chapter.

6.9.4 Pre-flight Check

Before the aircraft starts to execute a mission, a pre-flight check is required. On the "Pre-flight Check" interface, you can preview the current status (such as battery level, battery temperature, and SD card memory) and route data of the aircraft and perform some settings such as flight parameters and obstacle avoidance settings.

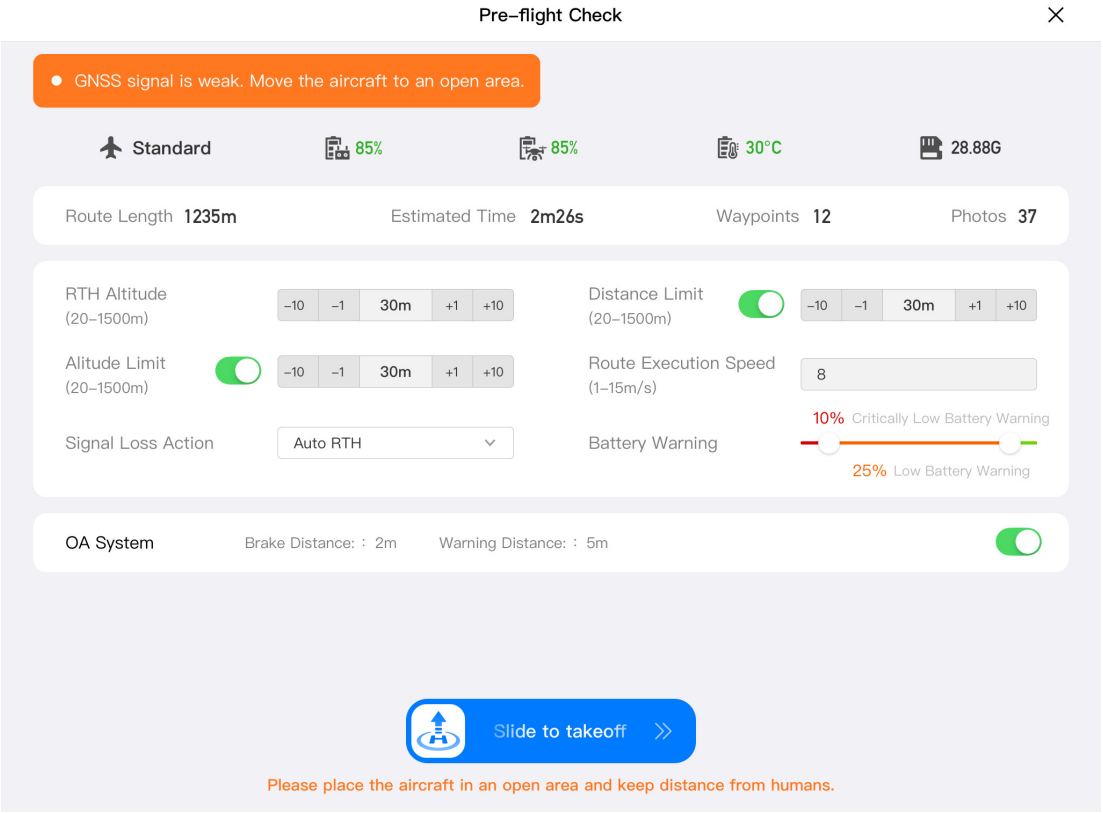

Fig 6-24 Pre-flight Check for a Flight Mission

1. On the ongoing flight mission interface, click the "" icon on the left, and the "Pre-flight Check" interface will pop up. Please make sure that there is no fault or abnormal alarm, otherwise, you need to follow the tips to solve it.
2. Confirm aircraft status and route preview data.
3. According to different types of flight missions, set the corresponding flight parameters. If not set, the "RTH Altitude", "Distance Limit", "Altitude Limit", "Home Point Settings", and "Remote Controller" settings are based on general settings.
4. Select to enable or disable obstacle avoidance.
5. After completing the above operations, press the “Slide to takeoff” icon at the bottom of the interface.

6.9.5 Resume Mission

When an abnormal situation such as an abnormal exit occurs during a flight mission, click the " " icon to enter the "Mission" interface. This will trigger the “Resume Mission” function, and a prompt window will pop up.

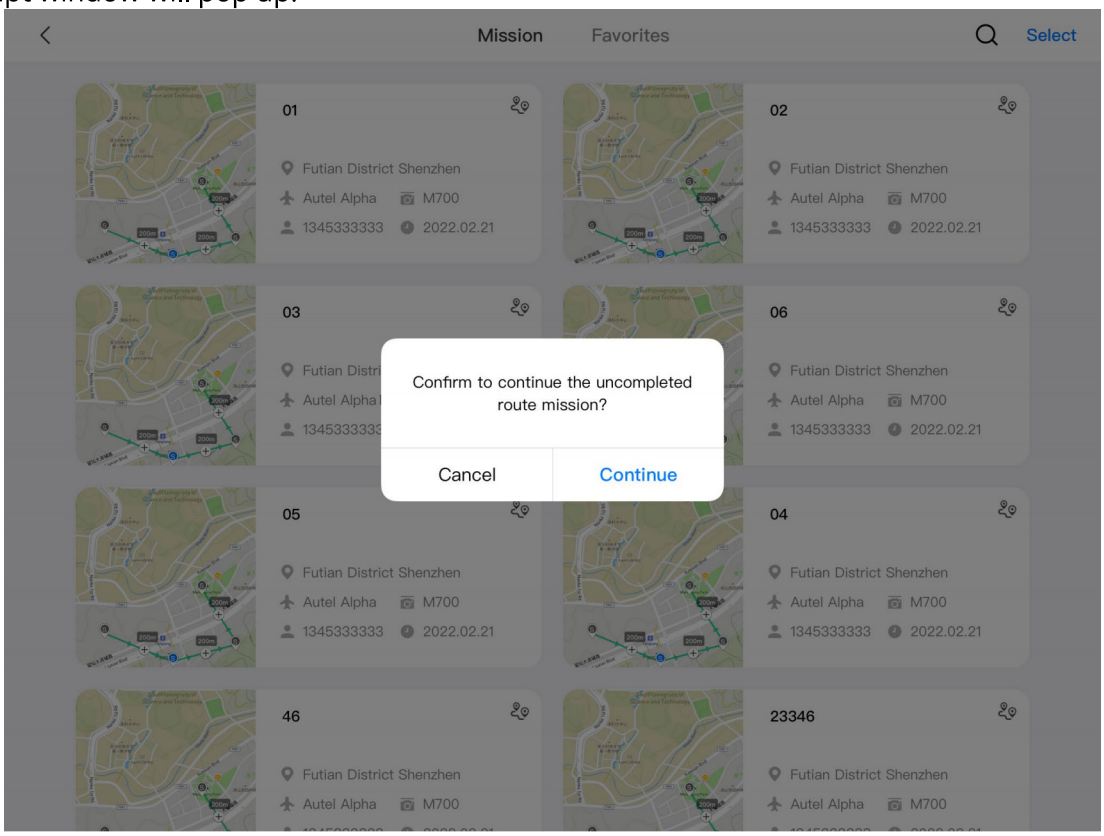

Fig 6-25 Resume Mission

■ **Resume Mission Options**

- Click the "Continue" button. The position where the aircraft stopped will be displayed, and the aircraft will fly to this position to continue the last mission.
- Click the "Cancel" button. After closing the pop-up window, the mission will no longer be executed from the last point.

6.9.6 Mission and Favorites

On the "Mission/Favorites" interface, you can query, edit, favorite, and delete previously saved flight missions.

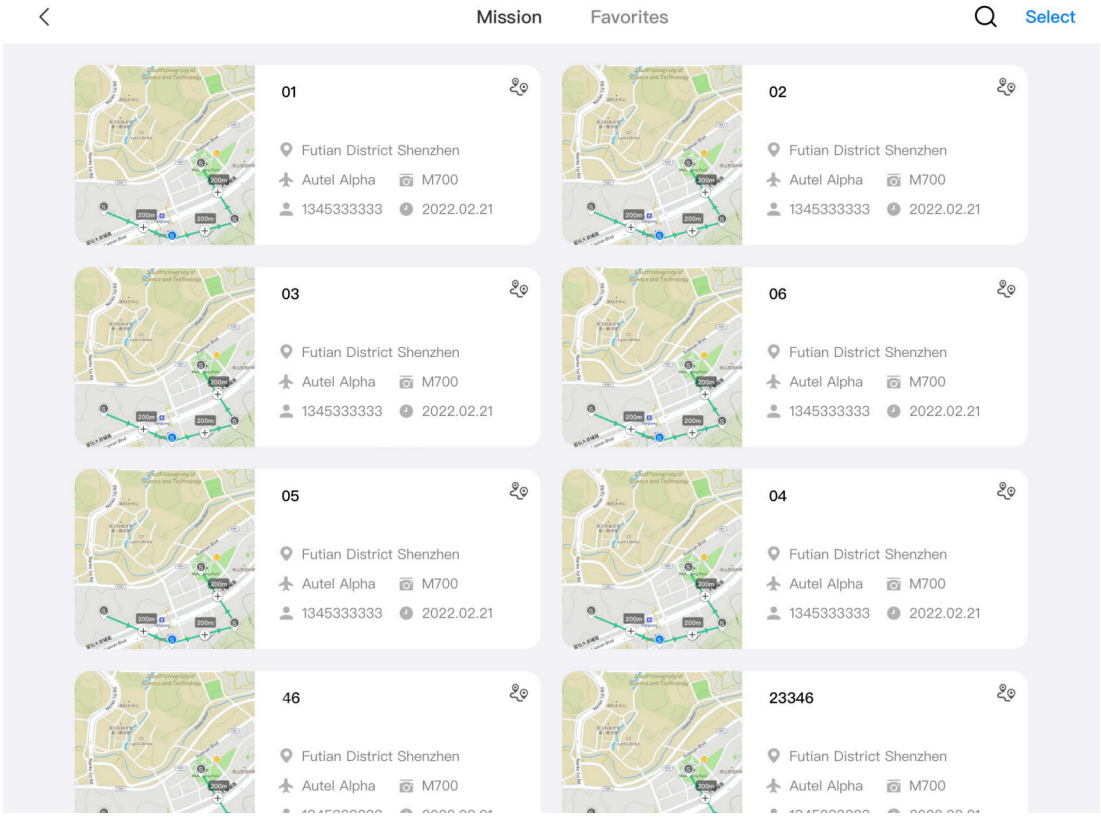

Fig 6-26 Mission/Favorites Interface

■ **Query**

Click the "🔍" icon in the upper-right corner of the "Mission" interface and enter the desired content to quickly locate the corresponding historical flight mission.

■ **Edit**

Click a historical flight mission on the "Mission" interface to enter the waypoint mission editing interface. Click the "✎" icon to edit the flight mission.

■ **Favorite**

Click the "Select" button in the upper-right corner of the "Mission" interface, then single-select, multi-select, or select all the missions to be favorited, and then click the "☆" icon to complete the favoriting action. Favorited missions will be displayed on the "Favorites" interface for easy access.

■ **Delete**

Click the "Select" button in the upper-right corner of the "Mission" interface, then single-select, multi-select, or select all the missions to be deleted, and then click the "🗑" icon. After a dialog box pops up, click the "Confirm" button. This way, the selected flight missions are deleted.

6.9.7 Personal Center

Click the "⊛" icon (in the shortcut toolbar or Shortcuts) to enter the "Personal Center" interface. When using the product for the first time, you need to register and log in to the Autel Enterprise App.

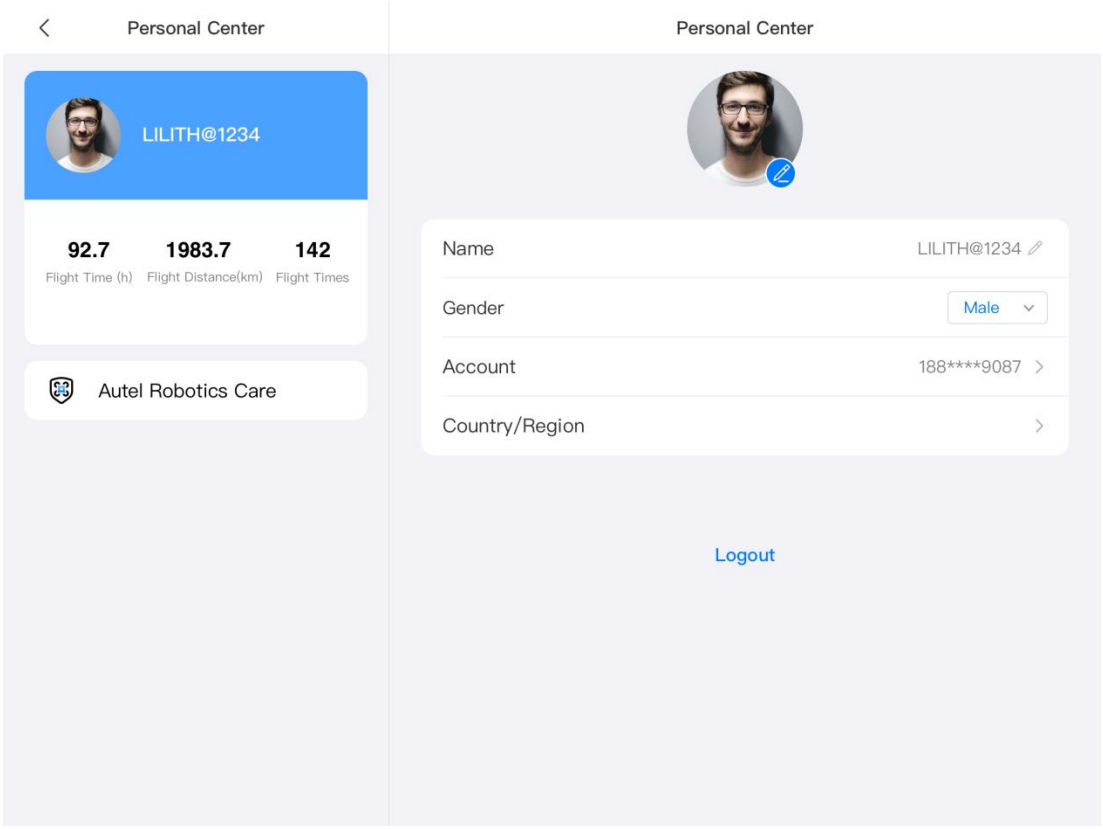

Fig 6-27 "Personal Center" Interface

On the "Personal Center" interface, you can perform the following operations:

■ Query Flight Data

On the "Personal Center" interface, you can query the flight time, flight distance, and the number of flights.

■ Purchase "Autel Robotics Care"

On the "Personal Center" interface, you can purchase the "Autel Robotics Care" value-added service for your aircraft (within 48 hours of activation).

Tip
• If you do not register and log in to the Autel Enterprise App, you cannot use cloud-related functions. • You have the right to use a registered account, but the account ownership belongs to Autel Robotics. Please read the "User Agreement" carefully when registering.

Chapter 7 Firmware Updates and Maintenance

In order to ensure the reliability and overall performance of the aircraft and relevant parts, as well as to obtain the best flight experience, the aircraft, remote controller, and parts need to be updated to the latest firmware version.
Use the Autel Enterprise App to perform firmware updates for the aircraft, remote controller, smart battery, and other parts.

Important

- Online updates require that the remote controller can access the internet.

7.1 Aircraft and Remote Controller Firmware Updates

1. Power on the remote controller and aircraft. Make sure that the aircraft and remote controller are already paired, both have a battery level of more than 25%, and the network connection of the remote controller is normal.
2. Open the Autel Enterprise App. If there is a version update available, you will receive a pop-up notification on the main interface of the App or you can manually select the update in the settings of the App.
3. Click "Update All", and the Autel Enterprise App will automatically download and update the firmware for the remote controller and aircraft.
4. After the update is complete, follow the pop-up instructions to restart the remote controller and aircraft.

Important

- During the update process, do not power off the aircraft and keep it connected to the remote controller.
- The update process is expected to take about 15 minutes (depending on the network that the remote controller is connected to).
- Do not move the command sticks before and after the update to ensure that the propellers remain stationary.
- Make sure that the aircraft and remote controller have sufficient storage space for the firmware update packages.
- During the update process, the firmware of the smart battery ABMC0 will also be updated to the latest version.

7.2 Aircraft Parts Maintenance

To ensure the optimal performance of the aircraft, regular maintenance is required for the aircraft parts. For more information, see “Maintenance Manual”. If you have any questions, please contact Autel Robotics After-Sales Support.

Table 7-1 Aircraft Wearable Parts List

No.	Part	Quantity	Note
1	Propeller CW	8	
2	Propeller CCW	8	
3	Powered Motor	8	Replacement only during deep maintenance (every 900 service hours/every 3 years).
4	Mount	1	
5	Image Transmission Antenna Case	2	
6	Decoration Coat	2	
7	Rubber Protective Cover P-Port	2	
8	Rubber Protective Cover O-Port	1	
9	Rubber Protective Cover TF/SIM	1	
10	Rubber Protective Cover DEBUG	1	
11	Rubber Protective Cover POWER	1	
10	Air Inlet Dust Filter	1	
11	Air Outlet Dust Filter	1	
12	Remote Controller Sticks	2	

Table 7-2 User-replaceable Parts List

No.	Part	Quantity	Part Number	Manufacturer
1	Propeller CW	8		Autel Robotics

2	Propeller CCW	8		
3	Gimbal	1	EAN: 6924991126195 UPC: 889520206198	Autel Robotics
4	Smart Battery	2	EAN: 6924991126201 UPC: 889520206204	Autel Robotics
5	Mount	1		Autel Robotics

Tip

- You can independently contact Autel Robotics to purchase the aforementioned parts and follow the operation instructions for replacement.
- If the part that you want to replace is not listed in the above lists, please contact Autel Robotics. Failures caused by unauthorized disassembly and reassembly will not be covered by the warranty.
- For the service life of each part, see "Maintenance Manual".

7.3 Troubleshooting Guide

Tip

- The following troubleshooting measures are only limited to failures resulting from normal usage.
- For failures resulting from abnormal usage, please contact Autel Robotics for handling.

1. The remote controller cannot power on:
   - Check whether the remote controller has sufficient power. If the battery level is too low, it may result in a power-on failure after shutdown. In this case, fully charge the remote controller and then power it on.
   - Check whether the ambient temperature is suitable, as low temperatures can affect battery output performance, resulting in a power-on failure.
   - If the remote controller was accidentally powered off during an update, it may not power on normally. In this case, contact Autel Robotics.
   - If the remote controller has not been subjected to external impacts, liquid submersion, or other destructive behaviors and does not have any conditions mentioned above, it may have a hardware failure. In such cases, contact Autel Robotics.

2. The aircraft cannot power on:
   - Check whether the smart battery has sufficient power. If the battery level is too low, it may result in a power-on failure after shutdown. In this case, fully charge the smart battery and then power the aircraft on.

- If the smart battery has sufficient power, check whether the battery makes proper contact with the aircraft's fuselage. Dirt or rust at the battery connector can lead to poor contact and must be cleaned before being re-inserted into the battery for power-on.
- Check whether there are any missing or damaged metal contacts at the aircraft battery connector and the smart battery connector. If yes, please contact Autel Robotics.
- Check whether the ambient temperature is suitable, as low temperatures can affect battery output performance, resulting in a power-on failure.
- If the aircraft or the smart battery is unexpectedly powered off during a firmware update, it may result in a power-on failure. In this case, contact Autel Robotics.
- When none of the above conditions apply, if the aircraft can power on after the smart battery is replaced, it may be a hardware failure of the smart battery; if the aircraft still cannot power on after the smart battery is replaced, it may be a hardware failure of the aircraft itself. In this case, contact Autel Robotics.

3. The aircraft reports a fault during startup self-check:
   - Check the gimbal camera (if mounted). If the gimbal camera has no response, power off the aircraft, reassemble the gimbal camera, and then perform a startup self-check again.
   - If the gimbal camera successfully passes the self-check, but the aircraft still reports a fault, it may be a hardware failure of the aircraft. In this case, contact Autel Robotics.

4. There is no response from the remote controller when pairing it with the aircraft:
   - Confirm that the distance between the aircraft and the remote controller is within 50 centimeters.
   - Check whether there is a metal object, mobile device, signal interference device, or another remote controller nearby.

5. After the aircraft powers on, the motors do not start:
   - Check if the battery handle is fastened properly.
   - Check whether the remote controller is paired with the aircraft.
   - Please confirm whether the arms are fully unfolded. The motors will not be powered if the arms are not fully unfolded.
   - Check whether the command sticks of the remote controller are functioning correctly and whether the remote controller has been correctly calibrated.
   - Check whether the aircraft's battery has sufficient power.
   - Check whether the aircraft's compass has been correctly calibrated.
   - If none of the above conditions apply, it may be a hardware failure of the aircraft itself. In this case, contact Autel Robotics.

6. After the motors start, the aircraft does not take off:
   - Check whether the aircraft is in a No-Fly Zone.
   - Check whether the aircraft is placed on a flat surface.
   - Check whether there are obstacles near the aircraft and whether the obstacle avoidance system of the aircraft is enabled.
   - Please confirm that all smart batteries are installed, and the battery level difference between the two batteries is less than 12%.

7. The aircraft has shortened flight time:
   - During flight, factors such as low ambient temperatures, flying against the wind, air turbulence, and carrying a mount all may lead to a shortened operating time of the aircraft.

- Make sure that the smart battery has fewer than 200 cycles. During the normal use of the smart battery, the battery capacity naturally decreases over time.

8. The remote controller has unstable image transmission (e.g., image lag, image loss, or frequent disconnection):
   - Check whether the remote controller's antennas are securely connected and whether they are adjusted to an appropriate direction.
   - Check whether there is any strong magnetic field or signal interference source near the aircraft and remote controller.
   - Confirm that the distance between the aircraft and the remote controller falls within the effective communication range and promptly reduce the flight radius if needed.

9. The gimbal camera automatically turns off during recording:
   - Do not immediately remove the microSD card from the gimbal. Instead, restart the camera and wait for the video file to be stored as much as possible.
   - Check whether the memory of the microSD card is full; if it is, replace it with a new microSD card or transfer the media files.
   - Check whether the gimbal camera is securely connected to the aircraft. If the gimbal camera is not securely locked during installation, it may become loose due to flight vibrations, leading to poor contact and thus malfunctions.

10. When the aircraft is flying beyond the visual line of sight, image transmission fails:
    - Enable auto-return to let the aircraft return to the home point.

11. What precautions should I follow when using the omnidirectional visual sensing system?
    - Before flying, make sure that the visual sensing camera lens is clean and not blocked ("Omnidirectional" means that the system can sense objects in six directions, including front, rear, left, right, up, and down).
    - When flying, pay attention to the surrounding environment and safety prompt messages of the Autel Enterprise App.
    - Obstacles can be detected by checking the texture of their surfaces. The detection function cannot work properly for objects with no texture, repeated texture, a surface of pure color, moving objects, or tiny objects. It also cannot work properly in a strong light or weak light environment.

12. The accurate landing/landing protection function cannot work properly:
    - The accurate landing function can be implemented by the visual sensing lens on the rear of the aircraft. The camera detects the ground texture when the aircraft takes off or lands.
    - However, if the ground does not have any texture or the visual sensing lens on the rear of the aircraft is damaged, this function cannot work properly.

13. The omnidirectional visual sensing system cannot work properly:
    - Restart the aircraft and check whether the system can work properly this time.
    - Check whether the ambient light illuminance is suitable for the operation of the visual sensing system.

14. When recording video during flight, the image tilts:
    - Place the aircraft horizontally and keep it stationary. Use the "Gimbal Calibration" function in the Autel Enterprise App to calibrate the gimbal.
    - If the problem persists, adjust the gimbal according to the instructions described in the “Gimbal Adjustment” section.

15. The camera lens of the aircraft is dirty:
    - Gently wipe the lens with a lens cleaning cloth. It is recommended to use the lens cleaning cloth provided in the rugged case.

16. The aircraft or remote controller experiences unexpected shutdown during firmware updates:
    - Restart the device. If it can power on normally, make sure that the device is sufficiently charged before proceeding with the update.
    - If the device cannot power on, contact Autel Robotics.

17. Restore the factory setting of the remote controller:
    - Click the "Maxitools" app on the main interface of the remote controller to perform a factory reset. Please back up important data before performing this operation.

18. Forcefully restart the remote controller after lag:
    - Press and hold the power button on the top of the remote controller for more than 6 seconds to forcefully power off the remote controller.
    - Restarting the remote controller during flight will trigger the lost action of the aircraft.

Appendix A Product Specifications

A.1 Aircraft

Aircraft	
Autel Titan Weight	23.5 kg (Smart battery, Gimbal, and propellers included)
Autel Titan Maximum Take-Off Mass (MTOM)	24.9 kg
Fuselage Dimensions	1879×1866×584 mm (unfolded, incl. propellers) 1141×1120×563 mm (unfolded, excl. propellers) 745×470×335 mm (folded, excl. propellers)
Diagonal Wheelbase	Diagonal: 1447 mm
Propeller Dimension	33inches
Propeller weight	single blade: 45 g
Maximum Propeller Rotational Speed	4000 RPM
Maximum Ascent Speed	Slow: 3 m/s Smooth: 5 m/s Standard: 6 m/s Ludicrous: 15 m/s
Maximum Descent Speed	Slow: 3 m/s Smooth: 5 m/s Standard: 6 m/s Ludicrous: 10m/s
Maximum Horizontal Flight Speed (Windless Near Sea Level)	Slow: 3 m/s Smooth: 10 m/s Standard: 15 m/s (forward & backward), 10 m/s (sidewards) Ludicrous: 25 m/s
Max Service Ceiling Above Sea Level	5000 meters
Maximum Flight Altitude	800 meters (Altitude limit in the App)
Maximum Flight Time (Windless)	60 minutes

Maximum Range	40 km
Maximum Hovering Time (Windless)	55 minutes
Maximum Wind Resistance (Take-off and Landing)	12 m/s
Maximum Tilt Angle	Slow: 10° Smooth: 30° Standard: 30° Ludicrous: 36°
Maximum Angular Velocity	Pitch axis: 300°/s Heading axis: 120°/s
Operating Temperature	-20℃ to 50℃
Hot-swappable Batteries	Supported
IP Rating	IP55
Strobe	Integrated
Mid-flight Sensing	ADS-B receiver. UAT and 1090ES are supported.
GNSS	GPS+Galileo+BeiDou+GLONASS
Hovering Accuracy	Vertically ±0.1 m (when visual positioning works normally) ±0.3 m (when GNSS works normally) Horizontally ±0.15 m (when visual positioning works normally) ±0.3 m (when GNSS works normally)

Image Transmission	
Operating Frequency	902 -928MHz*/5.15 - 5.25GHz* 5.17-5.25GHz** 2.400 – 2.4835GHz/5.725 - 5.850GHz * Only applicable to FCC/IC regions. ** Only applicable to CE, UKCA regions.
Maximum Transmission Distance (Without Interference and Blocking)	FCC: 20km CE: 8km

Effective Isotropic Radiated Power (EIRP)	902 - 928MHz： <28dBm（FCC/IC ） 2.400 - 2.4835GHz： <26dBm（FCC/IC）；<20dBm（CE/SRRC/MIC） 5.150 - 5.250GHz： < 20dBm（FCC） 5.170 - 5.250GHz： < 21dBm（CE） 5.725 - 5.850GHz： <28dBm（FCC/SRRC/IC ）；<14dBm（CE）
Visual Sensing System	
Sensing Range	Forward: 0.2 - 31 m Backward: 0.2 - 26 m Sidewards: 0.5 - 45 m Upward: 0.2 - 45 m Downward: 0.2 - 45 m
FOV	Forward & Backward: 90°(H), 90°(V) Sidewards: 90°(H), 90°(V) Upward: 90°(H), 90°(V) Downward: 90°(H), 90°(V)
Operating Environment	Forward, backward, sidewards, and upward: The surface has rich textures, under a sufficient lighting environment (>15 lux, normal indoor fluorescent lighting environment). Downwards: The surface is a diffuse material with a reflectivity >20% (walls, trees, humans, etc.), under a sufficient lighting environment (>15 lux, normal indoor fluorescent lighting environment).
Millimeter-wave Radar Sensing System	
Operating Frequency	60 - 64 GHz/24.0 - 24.25 GHz
Effective Isotropic Radiated Power (EIRP)	60 - 64GHz: <20dBm (CE/FCC), <13dBm (MIC) 24.0 - 24.25GHz: <20dBm (KC)
Sensing Range	60 - 64 GHz radar: Upward: 0.3 - 20 m