

D517

720° All-way obstacle avoidance drone

QUICK START GUIDE V1.1

March 7, 2025

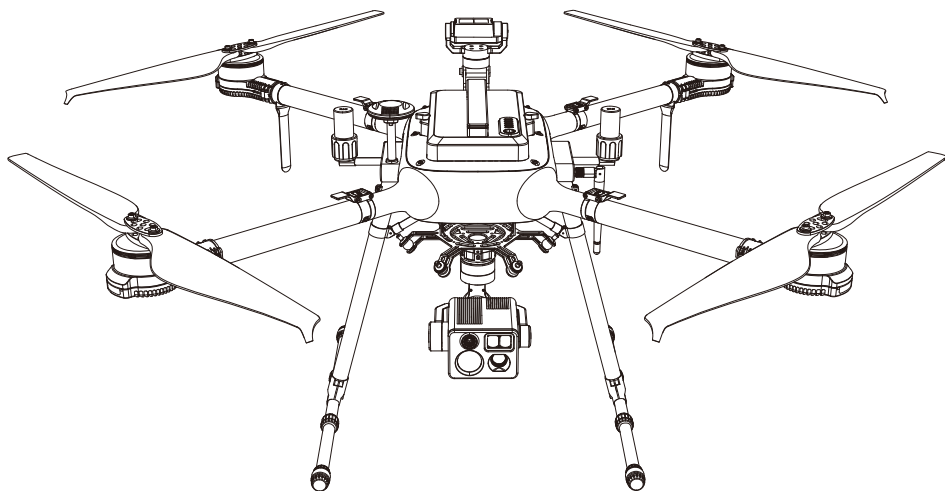


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1.0 Safety Summary



Use of the R1000 may pose certain safety risks. It is not suitable for people under the age of 18. The Safety Summary contains only a portion of the flight safety knowledge, so be sure to read the entire Quick Start Guide carefully to avoid property damage or even personal injury due to improper operation.

1.1 Environment

- The UAV adopts 2.4G frequency image transmission. Please fly it away from the crowd in an open, unobstructed area without electromagnetic interference.
- Fly below 5000 meters above sea level.
- Before flying in legal areas, please consult local flight management department to comply with local laws and regulations.
- Do not fly in severe weather, such as strong wind (wind speed is 17 m/s or above), snowy, foggy weather, etc.
- When flying the aircraft, please keep it within sight and keep at least 10 meters away from obstacles, people, water and other objects at all times.
- Do not operate the aircraft indoors.

1.2 Check before Flying

- Make sure the antennas of the remote control and the aircraft are firmly mounted and not loose.
- Adjust the preview resolution and preview bit rate of the camera before taking off. It is recommended to set the camera preview resolution to 720P and the bit rate to be 2M.
- Make sure the power of each device is sufficient.
- Make sure all parts are in good condition. If any parts are aged or damaged, please replace them before flying.
- Make sure the camera and fire extinguisher launcher are firmly installed and all screws are locked.
- Make sure the propellers are firmly installed without damage, and the arms are fully extended, and the arms are fastened.
- Make sure the engine of the aircraft is clean and undamaged.

1.3 Operation

- Use the remote control after it is fully charged. Do not use it while charging.
- Do not get close to the propeller and motor which are working.
- During the flight, try not to move the antenna of the remote control. If the image signal is weak, you should adjust the direction of the remote control slightly, swing it slightly until you find the best direction.
- If the satellite signal or RTK is interfered with during the flight and cannot be located, the aircraft will automatically switch the flight mode to "AltHold" manual mode, and the aircraft will not be able to hover automatically until the satellite signal is restored.
- Fully pushing the sticks or otherwise stopping the motor during flight will cause the aircraft to crash.
- Do not make any phone calls during the flight and do not operate the aircraft while under the influence of alcohol or drugs
- After landing, first disconnect the power of the aircraft and then turn off the remote control.
- Please maintain control of the aircraft throughout the flight. Do not rely solely on the information and data provided by the remote control display, but combine it with visual observation to reasonably judge the flight status, avoid obstacles in time, and set the corresponding flight and return altitude according to the flight environment.
- Please maintain control of the aircraft throughout the process, and do not rely solely on the information and data provided by the remote control display. It should combine naked eye observation, reasonably judge the flight status, avoid obstacles in time, and set the corresponding flight and return altitude according to the flight environment.

Disclaimer & Warnings

There are safety risks associated with the use of the R1000 UAV. It is not suitable for use by persons under the age of 18. Keep children away from the aircraft, and special care must be taken when operating it in scenes where children are present. Please read this document carefully before using this product. This statement is of great importance for the safe use of this product and for your legal rights.

The product is a multi-rotor aircraft and will provide an effortless flying experience when the power supply is working normally and all components are undamaged. DMR reserves the right to update this disclaimer at any time. It is important that you read this document carefully to understand your legal rights, responsibilities and safety instructions before using this product; failure to do so may result in property damage, accidents and personal safety hazards. Once you use this product, you are deemed to have understood, approved and accepted the terms and conditions of this statement in its entirety. The user undertakes to be responsible for his or her own actions and for all consequences arising therefrom. The user undertakes to use this product only for legitimate purposes and agrees to these terms and conditions and to any related policies or guidelines that DMR may establish. To the fullest extent permitted by law, in no event will DMR be liable for any indirect, consequential, punitive, incidental, special or criminal damages, including damages resulting from your purchase of, use of, or inability to use this product (even if DMR has been advised of the possibility of such damages).

The laws of some countries may prohibit the exemption of warranties, so your rights may vary from country to country. DMR reserves the right of final interpretation of these terms and conditions, subject to the laws and regulations of the country in which you reside. DMR reserves the right to update, revise or discontinue these terms and conditions at any time without prior notice.

Legal Norms and Flight Restrictions

Legal Norms

Warnings

In order to avoid violations, possible injuries and damages, the following must be observed:

- 1) Do not fly the drone in the vicinity of manned aircraft. If necessary, land immediately.
- 2) Use of the aircraft in densely populated areas is prohibited. These areas include, but are not limited to, cities, sports venues, exhibitions, concerts, stations and areas where temporary events are held.
- 3) Ensure that the unmanned aircraft will fly in such a way that it does not affect large manned aircraft on the route. Remain alert and avoid other aircraft at all times.

Caution

In order to avoid violations, possible injuries and damages, the following must be observed:

- 1) It is forbidden to manoeuvre the aircraft into the vicinity of no-fly zones and sensitive building facilities as defined by laws and regulations. This may include: airports, borders, major cities, heat power stations, hydroelectric power stations, prisons, major transportation routes, government buildings and military installations.
- 2) It is forbidden to fly in the airspace that exceeds the limit altitude.
- 3) Ensure the aircraft is flying within your visual range. If necessary, observers can be arranged to help you monitor the position of the aircraft.
- 4) It is forbidden to carry any illegal and dangerous goods on the aircraft.

Caution

- 1) Ensure that you have a clear understanding of the category of flying activities (e.g. recreational, business or commercial). Always obtain a permit from the relevant authorities before flying the aircraft. If necessary, consult your local legal practitioner for a detailed definition of the category of flying activity. Please note that some regions or countries prohibit the use of aircraft for any kind of commercial activities.
- 2) Please be sure to respect the privacy of others when filming with the aircraft. It is forbidden to use this product for any unauthorized surveillance activities, including but not limited to surveillance of people, groups, events, shows, exhibitions or buildings.
- 3) Please note that in some regions or countries, although not for commercial purposes, the use of cameras to video or photograph other people, groups, events, shows, exhibitions, etc. may also violate the copyright, privacy or other legal rights of others.

Flight Restrictions

Caution

DMR always emphasizes flight safety, and to achieve this, DMR provides various technical means to assist users in using the aircraft safely and in compliance with local laws and regulations. It is strongly recommended that users download and install the latest firmware from DMR's official channels to ensure that the aircraft can work properly with the flight restriction features. The flight restriction features include:

Restricted Areas

- 1) The restricted areas include but is not limited to major airports, major cities/regions and areas for temporary events in the world. Before flying, please consult local flight management department to comply with local laws and regulations.
- 2) In different restricted areas, you will be subject to different levels of flight restriction, including but not limited to warning, no takeoff, flight altitude restriction, forced landing and so on.
- 3) All flight-related functions will be affected to different degrees when the aircraft is near or in the restricted areas. This includes, but is not limited to: when approaching a restricted area, the aircraft will be slowed down, you will not be able to set up a flight mission, the mission in progress will be interrupted. etc.

Height limit

- 1) Keep the flying height below 120 meters. The aircraft should be far away from any tall buildings when flying.
- 2) If you need to fly above the default height limit, users need to read and click on the disclaimer information that pops up from the App before proceeding with the remaining operations.

Product Storage and Transportation

Warnings

To avoid possible injuries and damages, be sure to observe the following: Always keep children away from the parts of the aircraft as wires and small parts may pose a danger to them.

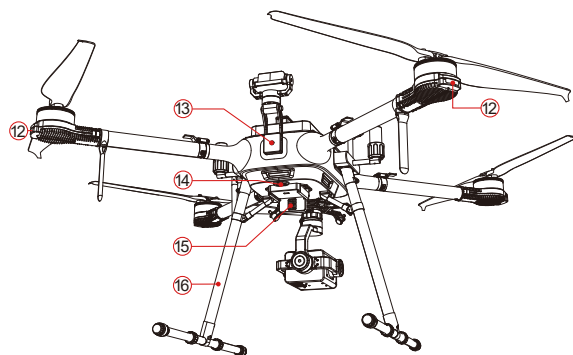
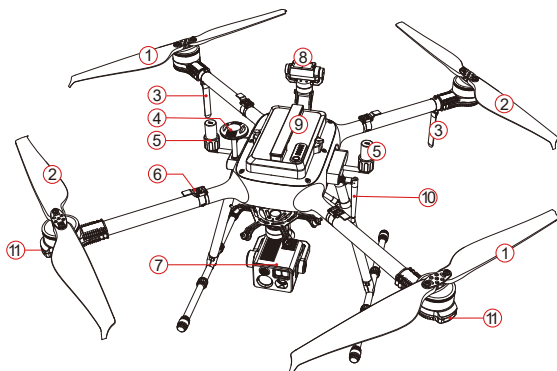
- 1) Store the flight battery in a dry and ventilated place and reduce direct sunlight to prevent the battery from overheating. If the battery is to be stored for more than three months, the recommended storage temperature is around 25 °C. Do not store the battery in an environment where the temperature is higher than 40 °C or lower than -10 °C.
- 2) Do not expose the camera to liquid or immerse it in water. If the camera is immersed in water, please wipe it off immediately with a dry, fluffy cloth. Do not turn on the power immediately after the aircraft hits the water, or it will cause permanent damage to the aircraft. Do not use liquids containing alcohol or other volatile components to clean the camera lens. Don't store the camera in a humid place.
- 3) If the aircraft and the camera are to be stored for a long period of time or transported over long distances, the camera should be removed from the aircraft, otherwise the shock absorber may be damaged.

2.0 About the aircraft

- The body adopts a full carbon fiber structure, and the arm can be folded for easy carrying.
- Equipped with an integrated quick-disassembly pan/tilt camera, it is simple and convenient to assemble and realize quick start operation.
- The body adopts a closed design, has IP43 three-proof capability, and has industrial-grade waterproof, dustproof and anti-corrosion capabilities.
- Equipped with a 20x optical zoom triple-optical cameras, it can provide the distance and position information of the observation target during search and rescue or patrol inspection to assist in rapid positioning and improve work efficiency.
- Equipped with a large-capacity battery pack, the maximum continuous flight time is up to 54 minutes (no-load state, hovering flight under no wind at sea level).
- Use advanced SDR technology and super protocol stack graphics system.
- Optional searchlight with an effective irradiation distance of up to 400 meters, uniform brightness, high color consistency, remote control on, off, and 90-degree tilting, for night operations and inspections Applications bring more possibilities.

* 1) Before using R1000, please upgrade the relevant firmware and calibrate the relevant items and read the "Quick Start Guide" carefully to avoid property damage or even personal injury due to improper operation.

- 2) The propellers rotating at high speed are dangerous, so the operator should keep a safe distance from the aircraft and keep it away from people, buildings, trees or other obstructions to avoid a collision.

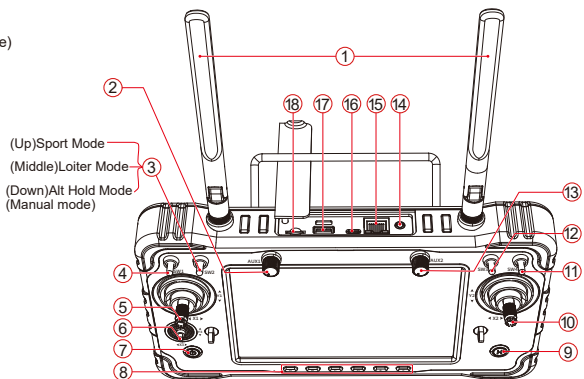


- 1) CW Propeller
- 2) CCW Propeller
- 3) Image transmission antenna
- 4) GPS module
- 5) RTK antenna
- 6) Arm locking buckle
- 7) Camera gimbal
- 8) Rotable LIDAR
- 9) Battery
- 10) digital communication antenna
- 11) Heading light
- 12) Tail heading light
- 13) Status indicator
- 14) Downward LIDAR
- 15) Fast disassembly joints for loading modules
- 16) Landing gear

3.0 About the Remote Control

The remote control column uses a brand new surging processor, equipped with an Android embedded system, uses advanced SDR technology, and super protocol stacks to make the image clearer, the delay is lower, the distance is farther, and the interference is stronger.

- 1) Antenna
- 2) Knob AUX1(idle)
- 3) The 3-position Switch SW2(Switching the flight mode)
- 4) The 3-position SW1(Recording video)
- 5) Left Stick X_1, Y_1
- 6) Small Stick X_2, Y_2 (Control the camera gimbal)
- 7) Power Button
- 8) A/B/C/D/E/F Six-position Switch (idle)
- 9) RTL mode button(Return To Home)
- 10) Right Stick X_2, Y_2
- 11) The 3-position Switch SW4(Take a photo)
- 12)The 3-position Switch SW3(idle)
- 13) Knob AUX2(idle)
- 14) PPM interface(coach function interface)
- 15) WAN interface
- 16) Type-C charging port
- 17) USB socket
- 18) Micro SD card socket



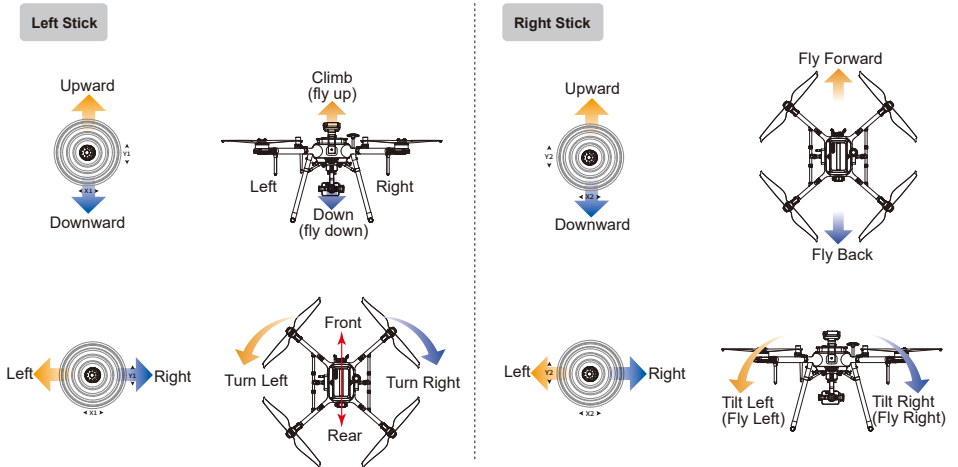
The remote control stick control mode is divided into Japanese hands and American hands, and the factory default joystick control mode is "American hand" (left hand throttle), which can be switched in the APP settings. It is recommended that beginners use the American hand as a control method. Please fly in an open and unobstructed environment without electromagnetic interference, and the maximum communication distance of the remote control is about 10 kilometers, Measured in the test environment, for reference only.

Japanese hands for right-hand throttle:

Left stick (ELEV/RUDD) controls the forward/backward and left/right steering of the aircraft; Right stick (THRO/AILE) controls the aircraft to climb up/down and fly left/right;

American hand for left-hand throttle:

Left stick (THRO/RUDD) controls the aircraft to rise/fall and turn left/right; Right stick (ELEV/AILE) controls the aircraft forward/backward and to the left/right)



4.0 Specifications

• Aircraft

Symmetrical motor wheelbase	1047mm
Fuselage size	Unfold:1140×1140×531mm (Arm unfolded, Propellers folded, Obstacle avoidance gimbal unfold); Folded: 514×439×469mm
Motor	KV value: 180rpm/V
ESC	Sustained current: 80A (Good heat dissipation conditions)
Propeller size	Diameter x screw pitch: 24x7.9 inch
Normal Take-off Weight	7.8kg (including battery)
Max. take-off weight	15.8kg (Near sea level)
Max. climb (ascending) speed	5m/s
Max. down (descending) speed	3m/s

Max. horizontal flight speed (windless)	Loiter Mode(GPS Mode): 5m/s; Sport Mode: 3-20m/s (Adjustable); Alt Hold Mode(manual mode): 25 m/s
Max. pitch angle	40°
Max. rotational angular velocity	100 °/s
Max. bearable wind speed	17m/s
Max. flight time	54 minutes (no load, Near sea level)
Max. flight altitude	5000m
Working temperature	Recommended temperature: -0 °C to +40 °C
Hovering accuracy	Enable RTK: vertical: ±10cm, horizontal: ±5cm; Satellite positioning (RTK is not enabled): Vertical: ±0.5 m, Horizontal: ±0.1 m.

• Aircraft battery

Voltage	45.6V
Capacity	14000mAh

Discharge rate	10C
Battery Type	LiHV 12S

• Network RTK

Frequency Band	GPS: L1 /L2/L5 GLONASS:F1/F2 BeiDou: B1/B2/B3 Galileo:E1/E5
Orientation Accuracy	0.2 degree/1m baseline
Positioning Accuracy	Horizontal: 1cm+1ppm; Vertical: 2cm+1ppm; 1ppm: For every increase of 1km, the accuracy will deteriorate by 1mm.
Positioning update rate	1Hz, 2Hz, 5Hz, 10Hz and 20Hz
Cold start	<45s
Hot Start	<10s

Recapture	<1s
Initialization Reliability	>99.9%
Differential Data Transmission Format	RTCM 2.X/3.X
Data Link	
Communication Distance	Unlimited distance (with network signal)
Working Temperature	0°C to 45°C

• Rotable LIDAR

Obstacle Perception Range	0.5m-40m @90% reflectance (100Klux) 0.5m-13.5m @10% reflectance (100Klux)
FOV	Horizontal 3°
Measuring Frequency	50 Hz

Measuring Distance	≤ 40 m
Horizontal Rotation Range	360°
Pitch Rotation Range	±90°

• Downward LIDAR

Speed measurement range (working conditions)	Flying speed <18km/h (height 2 m, sufficient light)
Height measurement range	≤ 12 m

Accurate hover range	±0.1m
Measuring frequency	100Hz

• Three lens camera and gimbal

Visible light zoom camera	Sensor	1/2.5 Exmor R CMOS
	Focal length	4.4mm-88.0mm
	Focusing distance	1m-infinity
	Zoom Factor	Optical: 20x; Digital: 10x; Mix: 200x
	Exposure mode	Program auto exposure, Manual exposure
	ISO Range	Video: 100-6400 (auto); Photo:100-3200 (Auto)
	Shooting mode	Single shooting, continuous shooting, timed shooting
Thermal Camera	Photo format	JPEG
	Max. resolution	PHOTO: 5184X3888; Video: 3840 ×2160@30FPS
	Sensor	Vanadium oxide uncooled external focal plane detector
	Focal length	13mm
Thermal Camera	Resolution	640*512
	Accurate temperature measurement distance	2-30 meters
	Laser rangefinder	Wavelength
Ranging range		2-1500m
Ranging accuracy		± (0.2m+Dx0.15%), where D represents the distance from the vertical reflective surface

Visible light wide-angle camera	Sensor	1/2.3" CMOS
	Effective resolution	12 million
	FOV	83°
	Focal length	4.49mm
	Aperture	F2.6
	ISO Range	Video: 100-6400 (auto); Photo:100-3200 (Auto)
	Shooting mode	Single shooting, continuous shooting, timed shooting
Thermal Camera	Photo format	JPEG
	Max. resolution	PHOTO: 3840×2160; Video: 3840 ×2160@30FPS
	Shooting mode	Single shooting, continuous shooting, timed shooting
	Video resolution	640×512@30fps
Thermal Camera	Temperature measurement	Point temperature measurement, area temperature measurement and high temperature alarm
	Storage format	TIFF heat map
Gimbal	Stability system	3 axis (Pitch, Roll, Yaw)
	Controllable rotation range	Pitch: -90° ~+40°; Yaw: ±270°; Roll: ±12°
	Max. control speed	Pitch:60°/s; Yaw:100°/s; Roll: direct angle control
	Angle control accuracy	Static: ±0.008°; Dynamic: ±0.02°; Anti-shake: ±0.008°

• Remote Controller

Model No.	H16
Working voltage	4.2V
Frequency	2.400-2.483GHz
Size	272×183×94mm
Endurance	6-20h
Channels	16

RF Power	20DB@CE/23DB@FCC
Frequency hopping	Newest FHSS
Weight	1034g
Battery	2000mAh
Charging port	Type-C
Update way	APP Update online

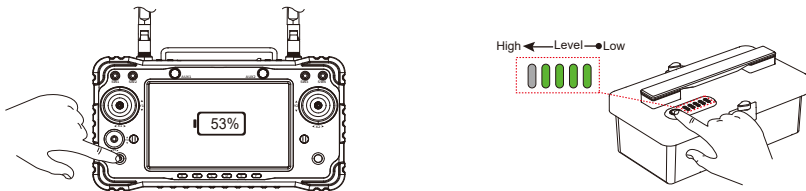
5.0 Check Battery Level

Remote control battery:

Shortly press the power button once under the condition of the remote control shutdown, the display screen will display the power of the remote control battery.

Aircraft battery :

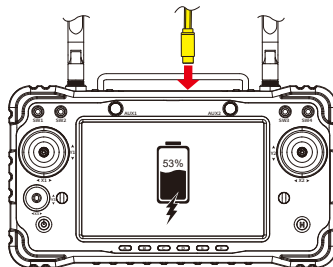
Short press the battery levels check button once and the power indicator is always on (showing power). Repeat this operation to turn off the aircraft battery power indicator.



6.0 Charge

6.1 Charge the remote control battery

Tip: This controller uses a built-in integrated rechargeable lithium battery, compatible with the market standard Type-c interface, please use the original charger or use a USB charger that meets the QC3.0 protocol (such as a USB charger for digital products such as mobilephones, cameras and other digital products) for charging. If there is smoke, odor, or leakage during the charging of the remote control, please do not continue to charge the remote control, and please transfer it to our company for repair.

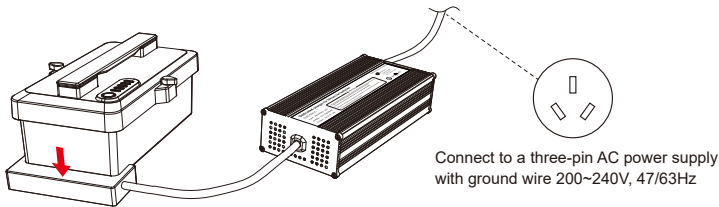


⚠ Warnings

- Do not charge the product in the area where babies touch, to avoid the risk of electric shock.
- Do not charge this product in an environment exceeding 60°C.

6.2 Charging the aircraft battery

- 1) As shown in the figure below, buckle the aircraft battery into the charging base of the charger.
- 2) Connect the AC power supply, and the red light of the charger indicator lights up to indicate that the battery starts to charge.
- 3) The green light on charger charging means the battery is fully charged.

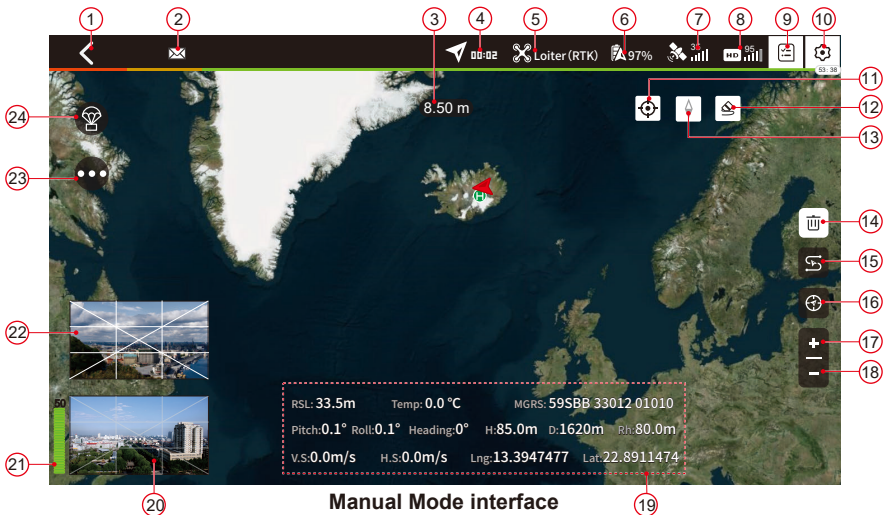


⚠ Warnings

- Do not charge the flight battery in an environment above 45°C (after the aircraft returns to home at low voltage, please wait until the battery temperature drops below 45°C before charging);
- Do not charge in flammable and explosive places; well ventilated during charging;
- Please do not charge in the area where the baby touches, so as to avoid the risk of electric shock;
- Do not charge in the rain or humid environment.

7.0 DMRGCS App Interface Introduction

In this interface, you can preview the real-time high-definition video and photos taken by D517, as well as dynamically set up parameters such as aircraft, remote control, gimbal and batteries.



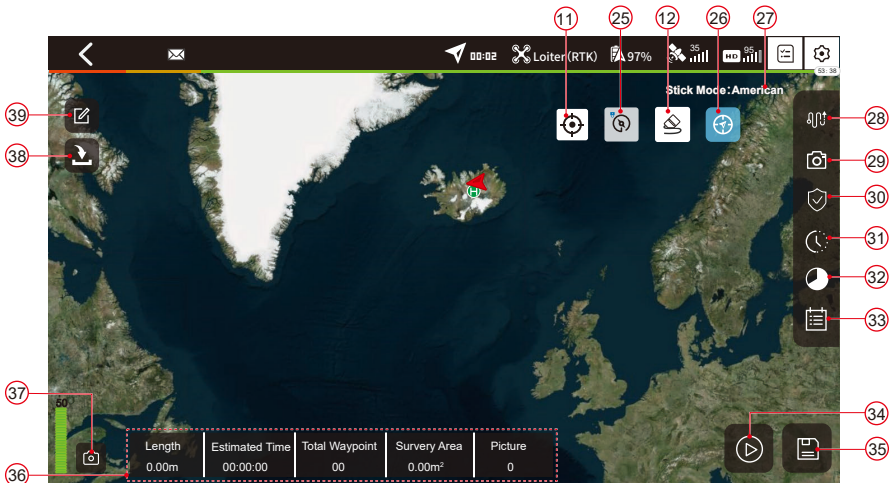
1) **Return:** Return to the main interface.

2) **Notification information:** click the icon to view the notification list.

3) **Rotable LIDAR measurement value:** displayed in flight direction on Real-time distance values for objects closest to the aircraft.

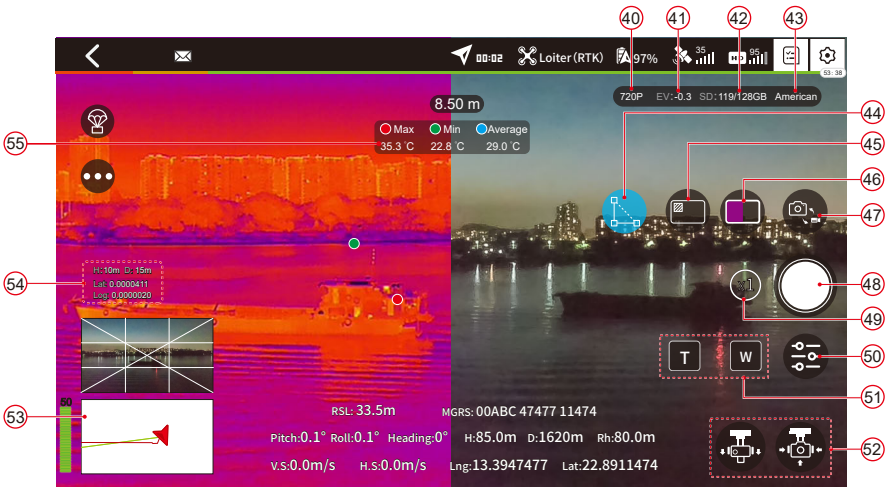
- 4) **Flight time:** Display the current flight time of the aircraft.
- 5) **Flight mode:** Show the current flight mode of the aircraft.
- 6) **Aircraft battery information:** Displays the current voltage and percentage of the aircraft battery. click the icon to see more battery information.
- 7) **GPS (Satellite positioning) Status:** Shows the strength of the satellite positioning signal. Click on the icon to view a more specific satellite positioning status.
- 8) **Video Transmission Signal Strength:** Displays the strength of the video transmission signal between the aircraft and the remote controller.
- 9) **Task list:** Click on the icon to expand the route flight mission list, which can be used for task management.
- 10) **Settings:** Click on the icon to open the menu: there are general setting, fly safe setting, battery information, sensor setting, RC setting, Network RTK setting, Beacon RTK setting, live Url setting, Drone serial, advanced settings.
- 11) **Location switching:** Click on the icon to select the location of the aircraft or the location of the remote control or return point.
 Click the icon "▲", which will show the location of the aircraft at the map interface (previous condition: the satellite positioning of aircraft is normal and the connection with the remote control is normal);
 click the icon "⊙", at the map interface will show the location of the remote control or return point(previous condition: the satellite positioning of aircraft is normal and the connection with the remote control is normal);
- 12) **Erase the flight trajectory:** Erase the flight trajectory in the map interface.
- 13) **Map lock:** click on the icon lock or Unlock the North (North on the above, South on the below, West on the left , East on the right); "⬆" to lock the north-south state); "⬆" to unlock the map state.
- 14) **Clear Waypoints:** clear waypoints that have been raised to the aircraft.
- 15) **Display or concealment of trajectories:** Click on the icon to display or hide the trajectory of flight on the map window.
- 16) **Map follows the aircraft:** Lights up the icon map to follow the movement of the aircraft, and the aircraft is always in the center of the map.
- 17) **Zoom in:** Click on the icon to enlarge the map.
- 18) **Narrowing:** Click on the icon to narrow the map.
- 19) **Flight status parameters :**
RSL is Altitude: show the current real-time aircraft altitude.
Temp is Temperature Display: Real-time display of aircraft battery temperature.
MGRS is Military Geographic Coordinate System: displays the military geographic coordinates of the current location of the aircraft.
Pitch is dive angle: the angle of the front and rear tilt of the aircraft.
Roll is roll angle: The aircraft left and right tilt angle.
Heading is heading angle: The aircraft turns left and right.
H is relative altitude: The distance between the aircraft and the vertical direction of the HOME point.
D is distance: The distance between the current position of the aircraft and the horizontal direction of the HOME point.
R.H is the downward LiDAR measurement value: Displays the real-time distance value of the object closest to the aircraft under the aircraft (requires the installation of downward LiDAR)
V.S Vertical speed: The speed at which the aircraft moves (climbs) vertically.
H.S Horizontal speed: The speed at which the aircraft moves horizontally.
Lng is longitude: The longitude value of the aircraft's current position.
Lat is latitude: The latitude value of the aircraft's current position.
- 20) **Camera Window Thumbnail Window:**
 Click this thumbnail window to expand the camera window to full screen, and the map interface window to zoom out to the thumbnail window.
- 21) **Throttle value:** shows the current percentage value of throttle
- 23) **Visible light Wide-Angle Camera Thumbnail Window (This thumbnail window is only displayed when the aircraft is equipped with a three lens camera):** Click this thumbnail window to expand the visible light wide-angle camera window to full screen, and the map interface window or visible light zoom camera window to zoom out to the thumbnail window.
- 23) **More extended function keys:** Click the icon to pop up a list of more extended function keys.
 ☞ : Laser on/off key(not available on this configuration).
 ☞ : Night lights on/off key(not available on this configuration model).
 ☞ : Electromagnetic window breaker fires on/off key(not available on this configuration).
- 24) **Throw function keys(extended function):** Click the icon to pop up the Throwin function key interface.
A : Press and hold the letter A to select Item A(not available on this configuration).
B : Press and hold the letter A to select Item A(not available on this configuration).
C : Press and hold the letter A to select Item A(not available on this configuration).
D : Press and hold the letter A to select Item A(not available on this configuration).
 ☞ : Press and hold the icon to drop the item or drop the currently selected item(not available on this configuration).
- 25) **Map lock:** click on the icon lock or Unlock the North (North on the above, South on the below, West on the left, East on the right); "⬆" to lock the north-south state); "⬆" to unlock the map state.
- 26) **Map follows the aircraft:** Lights up the icon map to follow the movement of the aircraft, and the aircraft is always in the center of the map.
- 27) **Remote control stick mode:** Display the currently set remote control stick mode.
- 28) **Mission setting:** Click on the icon to expand the mission setting menu, which contains the mission altitude setting, flight speed setting and margin setting.
- 29) **Camera settings:** light up the icon to expand the (mapping) camera settings menu, you can set camera parameters, heading overlap rate, side overlap rate, etc.

- 30) Safety setting:** Click on the icon to start the flight safety setting menu, which contains the loose safe method settings, finish action settings, climb behavior and the RTL altitude settings.
- 31) Task History:** Light the icon to expand the task history list.
- 32) Unfinished tasks:** Light the icon to expand the list of unfinished tasks.
- 33) Task Plan:** Click on the icon to expand the list of saved mission plans.
Light the icon to expand the list of saved task plans.
Click the icon "☰" to display all task plans;
Click the icon "▣" to select and display all polygon route task plans;
Click the icon "☏" to select and display all airstrip scanning task plans;
Click the icon "⊕" to select and display all waypoint flight mission plans;
Click the icon "✂" to delete all scheduled tasks displayed in the schedule table;
Click on any plan name in the plan list to load the plan line to the map window interface.
- 34) Start the Mission Route flight:** Click on the icon to start the Mission route flight.
- 35) Save Mission Route:** Click the icon to save the current mission route to the schedule list.
- 36) Parameters of mission route:** Displays the specific parameters of the currently selected mission route.
- 37) Camera Window Icon:** Click the icon to expand the camera window thumbnail window, click the camera window thumbnail window to expand the camera window to full screen, and the map interface window to zoom out to the thumbnail window.
- 38) Import route:** Click on the icon "📄" to open the KML route save path and import the saved KML route file.
- 39) Route editing:** Click on the icon to expand or put away the route editing function icon.
 ☑ Add waypoint: Lit the icon and then click on the map to add waypoints.
 ☑ Route type selection: Click the icon to expand the route type icon.
 The icon "▣" is type-polygon routes. type-polygon routes are subdivided into Two types:
 The icon "▣" is square type-polygon route;
 The icon "⊙" is circular type-polygon route;
 The icon "▬" is type-corridor route;
 The icon "⊖" is type-line route.
 ☑ Gesture operation (adjusted route): Click on the icon to activate the gesture operation, and click on the icon again to exit the gesture operation route modification:
 ☑ Two fingers doing rotating gesture action at the map interface can modify the angle of the type-polygon route;
 ☑ Two fingers doing a gesture reduction action at the map interface can modify the width of the type-corridor route;
 ☑ Single finger makes a downward gesture move at the map interface to exit the gesture operation.
 Click on this icon "❓" to open the gesture operation reminder.



Airway Mode interface

- 40) Preview resolution:** Display the resolution of the current preview image. (ie image transmission).
- 41) Exposure Value:** Displays the current exposure value of the aircraft camera.
- 42) Camera Micro SD card information:** Real-time display of the current aircraft camera Micro SD card capacity information.
- 43) Remote control stick mode:** Display the currently set remote control stick mode.
- 44) Camera Focus Mode Setting, Observation Target Selection Switch Icon:** Click this icon to expand the Camera Focus Mode Options and Observation Target Selection Switch.
Click the icon "⊕" to set the center point to focus, the camera will focus on the center point of the frame, click the "⊕" or "⊖" icon to adjust the focusing distance;



Camera window interface

Click the icon to set it to point and focus, click the focus point anywhere in the camera window, and the camera will focus on the selected focus point;

Light up the icon , turn on the observation target selection function, and select the observation target anywhere in the zoom camera window, and the camera's laser rangefinder will measure the distance from the currently selected observation target to the aircraft.

45) Camera Temperature Mode Settings Icon: Click this icon to expand the Temperature Mode option.

Click the icon to set it as a picture-in-picture temperature measurement, and the camera will measure the temperature in the entire infrared thermal imaging camera window, displaying the highest temperature, lowest temperature, and average temperature;

Click the icon to set it as the temperature measurement area, and select the temperature measurement area anywhere in the infrared thermal imaging camera window, and the camera will measure the temperature in the selected area, displaying the highest temperature, minimum temperature, and average temperature;

Click the icon to set it as spot temperature measurement, click anywhere in the window of the infrared thermal imaging camera to select the temperature measurement point, and the camera will measure the temperature of the current selected temperature measurement point.

46) Camera window display mode setting icon: Click this icon to expand the display mode options.

Click the icon to display only the visible light camera screen;
Click the icon to display only the infrared thermal imaging camera screen;
Click the icon to display both the infrared thermal camera and the visible light camera.

47) Camera working mode switching: Every time you click on the icon, the camera working mode will be switched between the photo and the video.

48) Photo/ Video Icon: Every time this icon is clicked in the photo mode, a camera will be taken; click on this icon in the video mode, the camera will start recording and click on this icon again, The camera will stop and save the video.

49) Zoom camera multiple display (Only zoom camera window has this icon): The maximum zoom is 200 times, 1 to 20 times for optical zoom, 40 to 200 times for digital zoom.

50) Camera settings: Click on this icon to expand the camera setting interface, which includes professional settings, photo settings, video settings and other settings.

51) Zoom camera zoom control: W Click the icon to zoom out; T Click on the icon to zoom in.

52) Gimbal quick operation icon: clickon the icon , the gimbal camera will back to horizontal forward, click on the icon , the gimbal camera will be adjusted for Straight down.

53) Map Thumbnail Window: Click this thumbnail window to expand the map interface window to full screen, and the camera window to zoom out to the thumbnail window.

54) Information of the currently selected observation target: Displays the information of the target observed by the camera.
H: Displays the altitude of the currently selected observation target.

D: Displays the straight-line distance or focusing distance from the currently selected observation target to the aircraft;

Lat: Displays the geographic latitude of the currently selected observation target or focus point;

Log: Displays the geographic longitude of the currently selected observation target or focus point.

55) Temperature display: The highest temperature, the lowest temperature and the average temperature in the temperature measurement area are displayed, the green dot indicates the lowest temperature in the temperature measurement area, and the red dot indicates the highest temperature in the temperature measurement area.