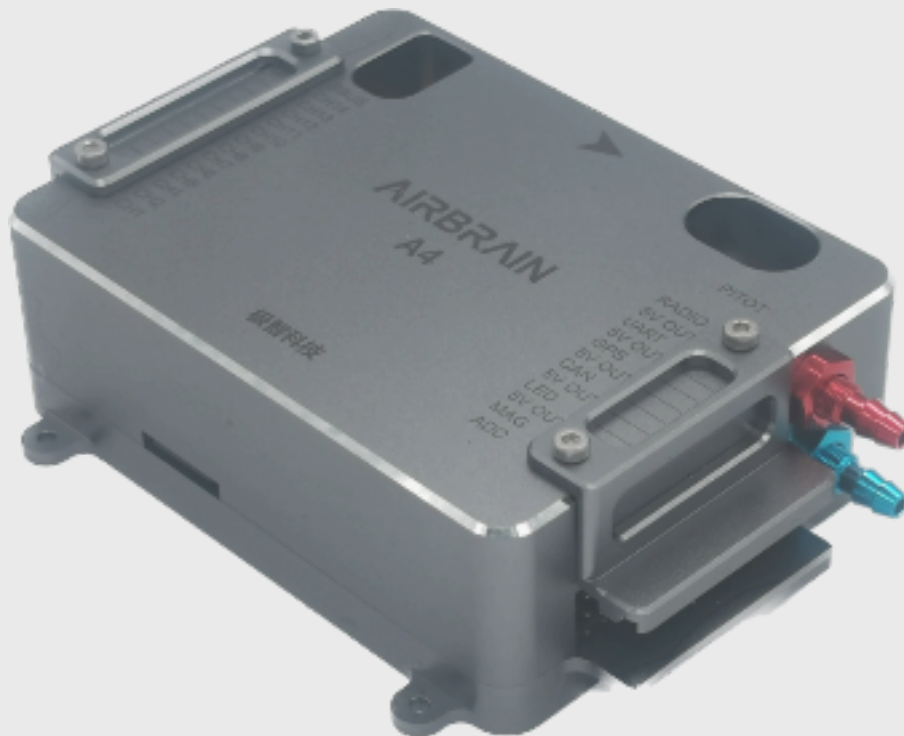


AUTOPILOT DATASHEET

AUTOPILOT for Fixed-Wing and VTOL



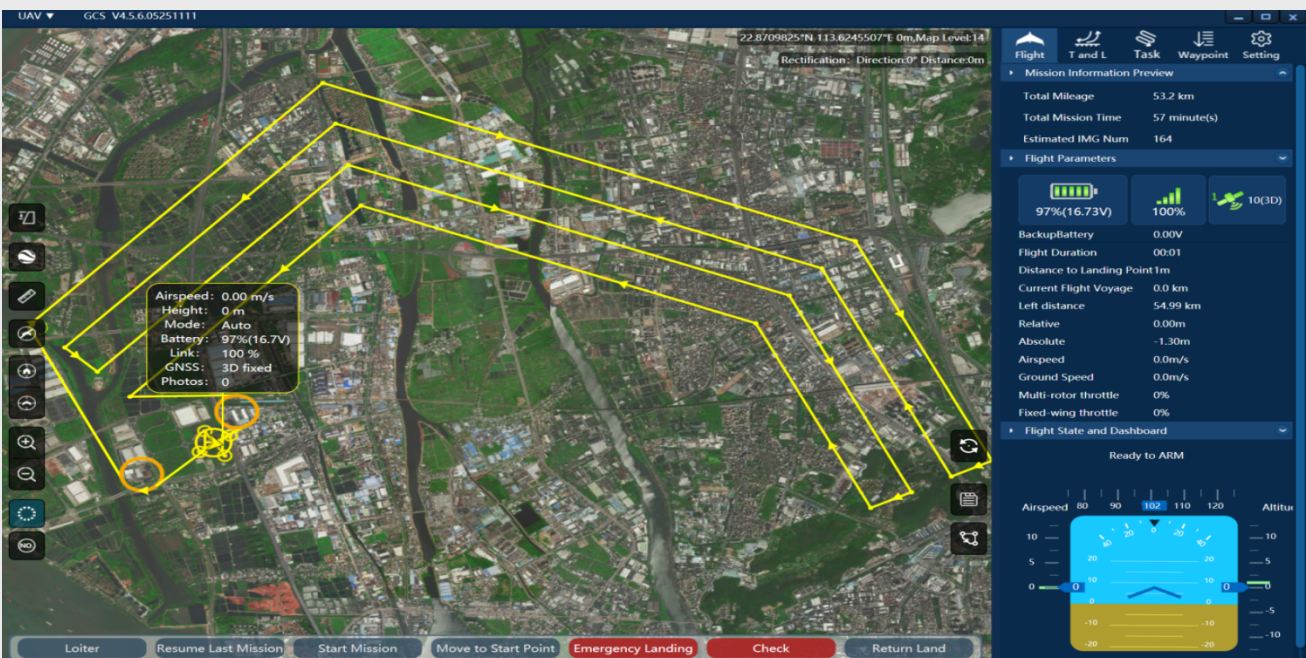
The A-series autopilot is specifically designed for fixed-wing unmanned aircraft. It supports hand-launch, runway takeoff, and VTOL capabilities for fixed-wing drones. It is accompanied by a user-friendly ground station with an embedded simulator, allowing users to quickly learn how to operate it without the need for training. The autopilot utilizes an adaptive sensor calibration algorithm, eliminating the need for manual sensor calibration. With its redundant sensor design, it incorporates comprehensive safety protection mechanisms. It can be applied in various fields such as security, inspection, and aerial surveying.

User-friendly Mission Planning

The ground station software interface is clean, intuitive, and easy to understand, allowing even novice users to operate it effortlessly. Only basic mission parameters need to be set, and the ground station can intelligently generate various types of missions based on the terrain, satisfying a wide range of application needs.



Block Mission Planning



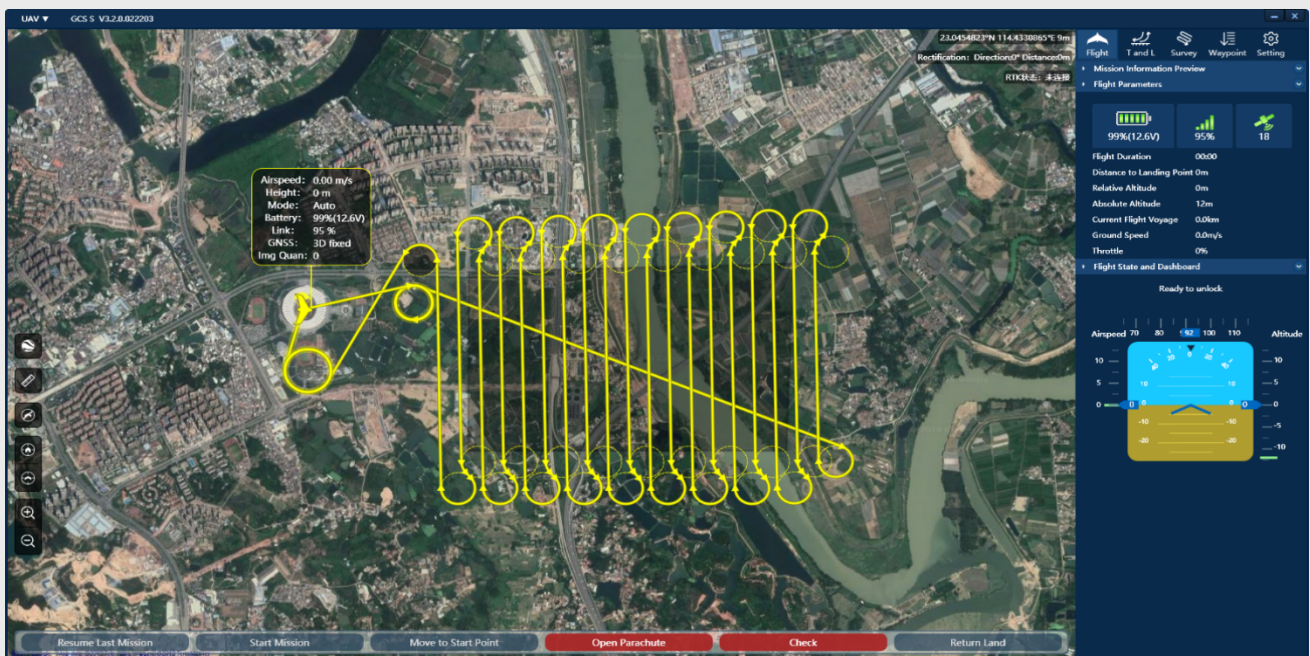
Strip Mission Planning



Conventional Route Planning

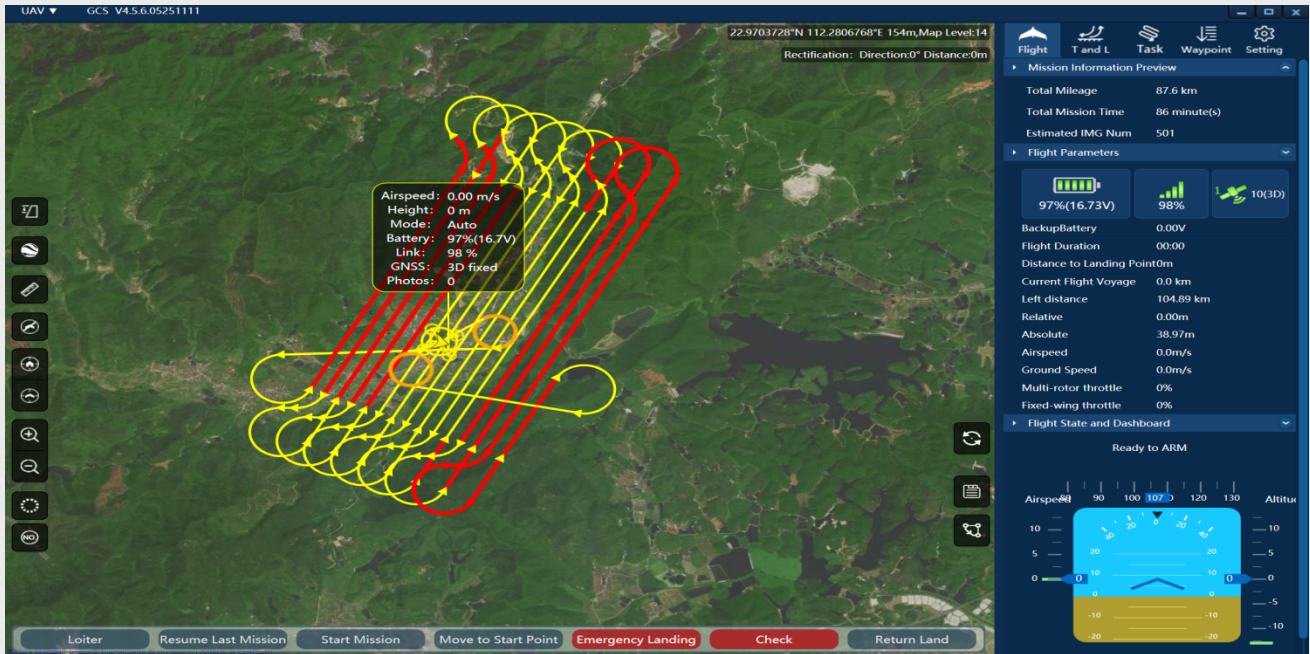
Embedded Simulation Flight

The ground station comes with a built-in simulation system, eliminating the need for additional hardware. Through ground station simulation, users can learn the entire process of operating drones at zero cost, including takeoff&landing, mission execution, emergency handling, etc. This significantly reduces training costs and improves training efficiency.



Comprehensive Safety Mechanisms

It adopts three redundant IMUs, dual GPS systems. Supports GNSS dual antenna for heading, immune to compass interference. Automatic route altitude check.



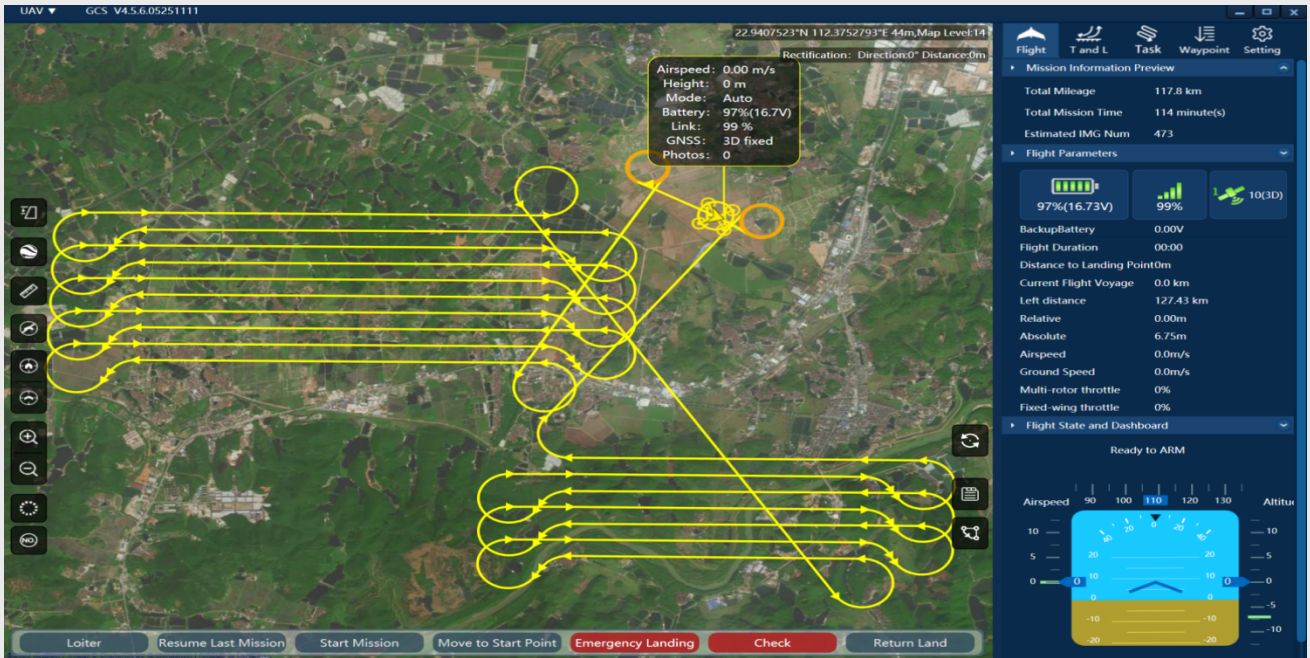
Routes with ground collision risk automatically turn red.

No manual calibration is required for the sensors

Using advanced adaptive sensor calibration algorithms, all sensors including airspeed sensors, IMUs, barometers, etc., do not require user calibration and are unaffected by environmental factors such as temperature changes. This avoids human errors and simplifies the operational procedures.

Multi-Area Mission Planning

For areas with significant elevation changes, the same flight can be used for multi-area mission planning, allowing for segmented data collection based on different elevation reference planes to meet indoor requirements.



Dynamic Target Tracking Flight

For moving targets, dynamic tracking flight can be performed, adapting to different target speeds. When the target is stationary, the aircraft hovers above it. When the target moves slowly, the aircraft follows it in a circular path. When the target moves at high speed, the aircraft follows it in a straight line.



Product Parameter

Autopilot	A3	A3PRO	A4
			
IMU Sensors	1	3	3
Number of GPS	1	2	2
Component Grade	Industrial Grade	Industrial Grade	Military Grade
Operating Temperature	-20~50°C	-20~50°C	-40~65°C
Optronics POD Support	×	√	√
Tracking Flight Support	×	√	√
Engine Control Support	×	×	√
Three-axis Gimbal Control Support	×	√	√
Dimensions	82x62x19mm	82x62x19mm	99x62x28mm
Weight	90g	90g	125g
Airspeed Measurement Method	Dynamic Pressure	Dynamic Pressure	Dynamic Pressure & Static Pressure
Power Consumption	< 2W	< 2W	< 3W
Attitude Accuracy	1°	1°	0.75°
Heading Accuracy	2°	2°	1.5°
Gyroscope Measurement Range	±450°/S	±450°/S	±500°/S
Accelerometer Measurement Range	±6g	±6g	±8g
Positioning Accuracy (Non-RTK)	2.5m	1.5m	1.5m
Velocity Measurement Accuracy	0.1m/s	0.1m/s	0.1m/s
Altitude Measurement Range	-500~10000m	-500~10000m	-500~10000m
Airspeed Measurement Range	0~40m/s	0~40m/s	0~120m/s(定制)
PWM Channels	14	14	14
SBUS Input Channels	1	1	1
Servo Update Frequency	50~200Hz	50~200Hz	50~200Hz
Voltage Monitoring Channels	2	2	2
Voltage Input Range	0~54V	0~54V	0~62V
CAN Communication Interface	0	1	1
Serial Ports	3	4	4
Engine RPM Monitoring Channels	0	0	1
Engine RPM Monitoring Range	0	0	0~20000RPM

