

FlyShark FS100

Fixed-Wing Hybrid VTOL UAV



FS100 is a fixed-wing hybrid VTOL UAV system with the smallest takeoff weight and body size among UAVs integrated with satellite communication equipment in China, and it carries high-throughput broadband satellite communication equipment. It overcomes many pain points of traditional point-to-point radio communication, such as: limited communication distance, blocked by earth curvature and mountain terrain, high flight altitude requirements, etc. It enables UAVs to achieve long-range, large-scale, ultra-low altitude, whole range, controllable and visual flight capability anywhere within the satellite coverage.

Due to the innovation of communication technology, the application needs of UAVs that cannot be solved by communication means in the past have been solved, such as:

Forest fire prevention: solve the problem that the communication link of small UAV cannot realize real-time data and image transmission due to the shelter of forest mountain terrain.

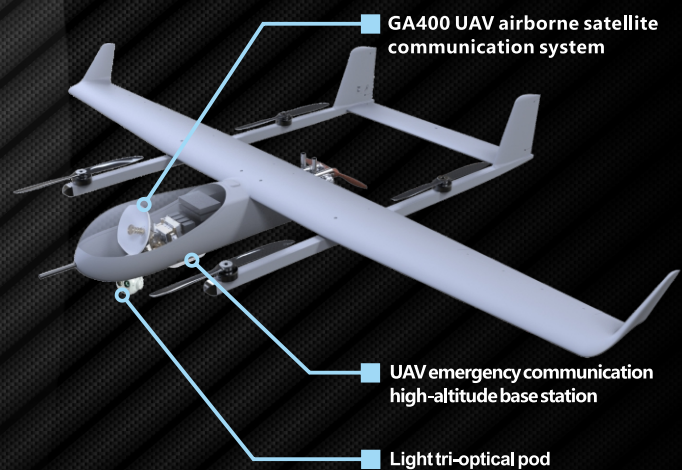
Line patrol, border patrol and other belt patrol areas: compared with the current small unmanned aerial vehicle (UAV) with communication technology, the single patrol is 50~100km, and is greatly affected by the terrain environment. Due to the support of satellite communication links, the ultra-low altitude single patrol area that can not be affected by the terrain is close to the 600~700km belt area.

Maritime patrol: It can take off and land along the coast or above ships, and conduct long-distance and large-scale operations in the 300km sea area near the sea or around ships, which can meet the application needs of fishery resources protection, maritime rescue and search and rescue, military intelligence investigation, etc.

Emergency communication: After a major natural disaster, the rescue site generally needs to quickly establish ground communication, so that rescue personnel can contact with the outside on the rescue site. Through UAV+SATCOM+4G/5G technology, 4G/5G base stations are set up on UAVs. In combination with 4G/5G technology and satellite resources, local communication networks are quickly restored to provide communication support for rescue missions.

Multi-department cooperation and data sharing: Real-time flight data and flight video can be transmitted back to the large screen of the multi-department command center in real time, so that different departments can obtain all data and videos of a single flight, and improve the value of a single flight and the efficiency of multi-department cooperation.

Wingspan	6.0m
Length	3.57m (Head airspeed tube excluded)
Maximum take-off weight	115kg
Power	232CC two stroke electric EFL piston engine
Max Load Capacity	40kg (fuel +mission load)
Fuel Tank Capacity	38L
Position Accuracy	RTK centimeter level positioning
Orientation Method	Dual GPS orientation + magnetic compass redundant orientation
Wind Resistance	Level 6
Endurance	7~10H (Depends on mission load weight and fuel fill)
Economical Cruising Speed	100km/h
Take-off and Landing Method	VTOL



FS100 satellite communication UAV is equipped with mobile base station for ground coverage test. When the flight height of the UAV is 150 m~200 m, the limit radius of continuous air to ground coverage is 800 m (no shelter), the continuous coverage area is about 2 square kilometers, and the average RSRP is about -108 dBm.

GA400-M Ku-band UAV Airborne VSAT



GA400-M is a two axis broadband mobile satellite communication product based on Ku band satellite. It adopts a highly integrated design and integrates high efficiency semi paraboloid, feed network, low noise amplifier, servo control module, GPS/Beidou positioning module and intelligent tracking structure into the same antenna equipment. This system enables UAVs to perform real-time video retrieval, IP call and broadband Internet access through satellite in high altitude. It effectively fills the gap in the UAV satellite communication market.

Model		GA400-M	
Overall Dimension (Diameter × Height)		Φ440mm*415mm	
Weight		≤7kg	
Frequency	Rx	10.70~12.75GHz	Gain
	Tx	13.75~14.50GHz	
Type		Linear polarization VP/HP	
Consumption		≤80W	
Azimuth Range		360° continuous rotation	
Elevation Range		-8°~ 90°	
Roll Range		-20°~ +20°	
Polarization Range		0°~ 270°	
Azimuth Elevation Velocity&Acceleration		> 60°/s; > 200°/s ²	
Cross polsolation		≥30dB	
Port isolation		≥85dB	
Tracking Accuracy		≤0.2° (R.M.S)	
DC Power Supply		DC 48V	

POD150 PHOTOELECTRIC POD



Uncooled photoelectric pod, with built-in continuous zoom visible light camera, infrared sensor and laser rangefinder, can be installed on small UAV to perform search, reconnaissance, surveillance and other tasks. It is mainly used to monitor, detect and track the ground with a wide range of visible light and infrared images from high altitude. It is widely used in power line patrol, pipeline patrol, forest fire prevention, emergency rescue, security monitoring and other industries for target detection and positioning.

	Model	POD150
Turntable	Platform Type	Biaxial
	Overall Dimension (Diameter × Height)	≤φ150×203.5mm
	Pod Weight	≤3kg
	Accuracy of angle position of sighting line (Azimuth, Elevation)	≤0.5urad (1σ)
Color visible light camera	Focal Length	4.3mm ~ 129mm (Optical 30x continuous zoom)
	Effective Pixel	1920×1080pixels
Long wave uncooled infrared sensor	Focal Length	Fixed focus 45mm/F1.2
	Number of pixels	640×512
Laser range finder	Measuring Distance	50~3000m
	Measurement Accuracy	±2m
Power supply & other performance	Power Supply	Power supply DC+24V (20V~25.2V); Ripple: ≤ 100mV
	Operating Temp.	-40°C ~ +60°C
	Storage Temp.	-55°C ~ +70°C

Color visible light camera
Detection and identification distance table
(visibility ≥ 20Km, atmospheric temperature 25 °C)

Target	Target size (m)	Detection distance (Km)	Identification distance (Km)
Person	0.5×1.8	6	2
Vehicle	3×6	15	6

Long wave uncooled infrared sensor
Detection and identification distance table
(visibility ≥ 20Km, atmospheric temperature 25 °C)

Target	Target size (m)	Detection distance (Km)	Identification distance (Km)
Person	0.5×1.8	1.2	0.7
Vehicle	3×6	4.8	1.6