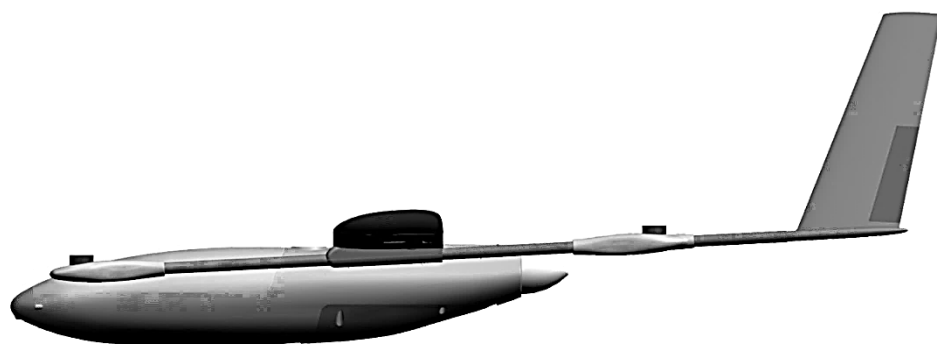


Hybrid VTOL UAV

INTERNATIONAL
ARMOUR
OUR™

www.armour.gr



 **2**

FALCON VTOL



Product: FALCON VTOL 2 (vertical takeoff and landing) Unmanned Aircraft

Power: Full electric or Hybrid (for upgrade)

Wingspan: 4400mm

Payload: 25kg

MTOW: 60kg

Cruise speed: 28m/s (100Km/H)

Max speed: 34m/s (120Km/H)

Electric Version Max endurance: 4 Hrs

Gasoline Engine Version Max endurance: 8 Hrs

Max ceiling: 6000m

Wind scale: level 7

GNSS: Support BeiDou, GPS, Galileo, GLONASS

Operational temperature: -20~50°C

Launch method: VTOL (vertical takeoff and landing)

VTOL complete set-basic package includes

- Airframe
- Avionics system (flight control, GNSS, etc)
- Power System (motor, esc, servo, battery, etc)
- 10-30km video data link - one pair
- Packing box
- Full set of assemble and ground test

OPTIONAL

- Video data link distance upgrade
- Upgrade for ground end
- Gimbal camera for surveillance and inspection
- Ground items (Optional, reusable, can pair up to aerial end with certain ratio)
- U4-HP charger package
- Autopilot Airbrain



FALCON VTOL Drone

HS 88021100

The FALCON VTOL designed based on FireFly's successful platform, which is the most efficient of its kind.

That means low stall speeds, high max efficiency, a large payload capacity, hot swap features, a retractable nose gear, a built-in component compartment, and the long-endurance gasoline engine power system.

This equates to less energy expended and more time in the air.
Product Introduction

- Ideal combination of high energy density gasoline and high efficiency electric motor
- Complete composite construction using carbon fiber and Kevlar on a rigid honeycomb core structure
- New fuselage design concept that conceals all avionics cables
- Robust structure engineered to industrial quality
- Redundant power system for flight controller to maximize safety
- Compatible with PC-based, full-featured, open source autopilot system
- High durability gasoline engine from Germany
- Built in 5.2 L fuel tank
- Easy to assemble in the field, no need for expert skill
- VTOL to suit virtually any mission



WING (Forward swept wing)

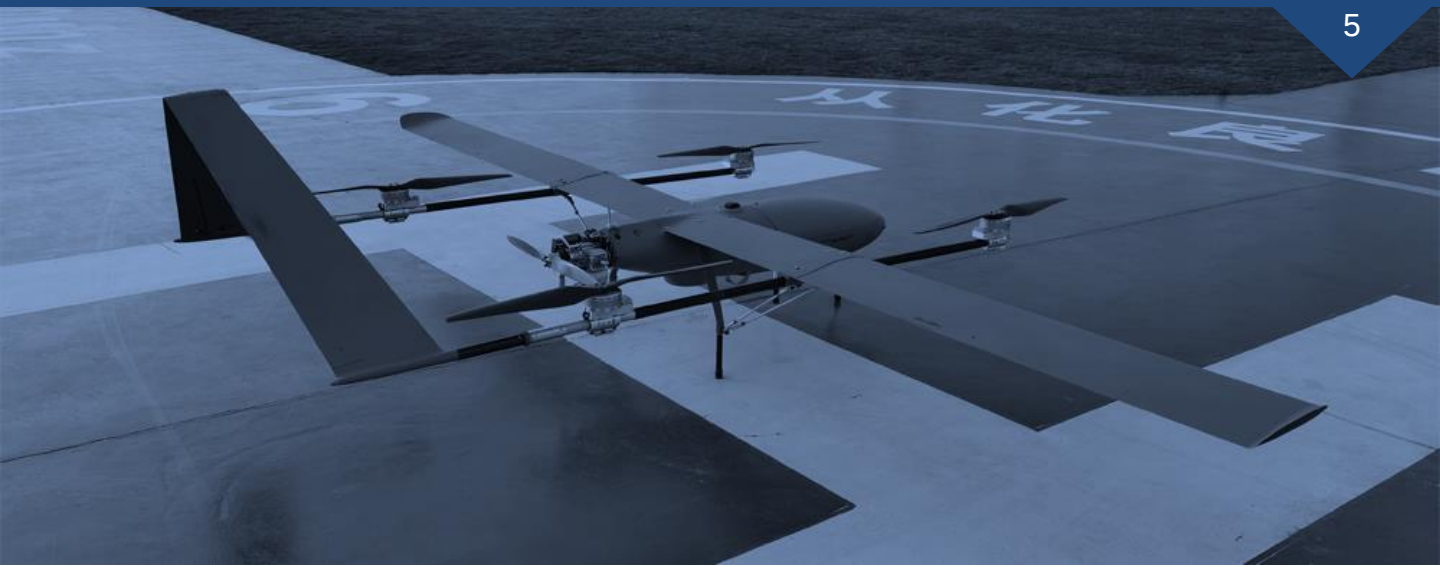
The forward swept wing means its leading edge and trailing edge are swept forward, that is, the sweep angle is an acute angle.

The tip string is in front of the root string, and the left and right wings are projected in a plan view to form a V shape.

Since the airflow on the forward swept wing points to the wing root, the airflow is first split from the wing root at high angle of attack, which fundamentally overcomes the wing tip stall problem, so the low speed performance is excellent, the lift being increased and at the same time improving the aerodynamic efficiency of the wing panel.

Compared to the swept wing, the forward swept wing has four main advantages:

- 1) **Structural advantages.** The forward swept wing structure ensures a better connection between the wing and the fuselage and reasonably distributes the pressure by the wing and the nose landing gear. These advantages are difficult or impossible to achieve by other methods, which greatly improve the aerodynamic performance of the maneuvering, especially at low speeds.
- 2) **Maneuverability advantage.** The forward swept wing technology allows the aircraft to have very good aerodynamic performance at subsonic flight, greatly improving its maneuverability while high pitch flight.
- 3) **Takeoff and landing advantage.** Compared with the normal swept-wing aircraft of the same wing area, the forward-swept aircraft has a higher lift and a 30% increase in payload capacity, thus reducing the wing area and size, reducing the drag and aircraft structural weight; reducing the weight for balancing, improves the low-speed maneuverability, shortens the take-off landing distance. According to USA aviation specialist calculation, if the F-16 fighter uses the forward swept wing structure, it can increase the turning velocity by 14%, increase the combat radius by 34%, and shorten the takeoff and landing distance by 35%.
- 4) **Controllable advantages.** The use of the forward swept wing structure can improve the controllability of the aircraft at low speeds, improve the aerodynamic performance in all flight conditions, reduce the stall speed, and ensure that the aircraft is not easy to enter the tail spin, thus greatly improving the safety and reliability of the aircraft.



FUSELAGE

The trapezoidal shape of the fuselage minimizes the fuselage to wing interaction, drag and interference.

It was designed with a high pressure region in the nose and a low pressure region behind the wing, on top and below the motor mounting area.

This acts to create a pressure differential, essentially "pulling" air through the fuselage. The layout allows for smarter cooling, by cooling off lower temperature components towards the front, and higher temperature components in the rear (motor).

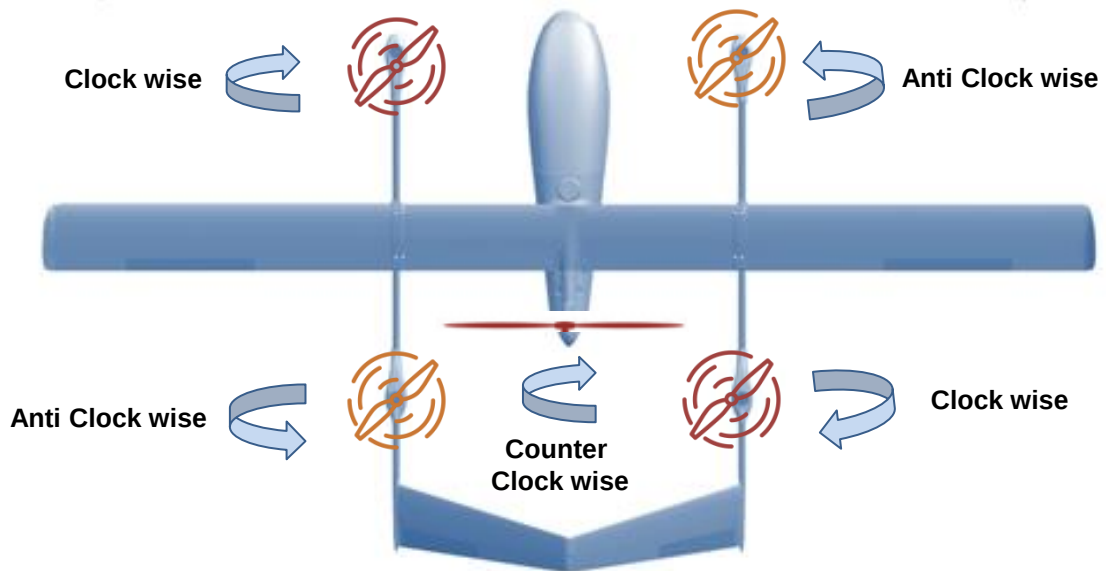
The cooling exhaust placement was purposely in an area with turbulent airflow, so as to not disturb the otherwise laminar airflow over the rest of the fuselage

VTOL FEATURES

Implement the mature quad motor concept achieve vertical takeoff and landing eliminating the restriction of the runway requirement in the field.

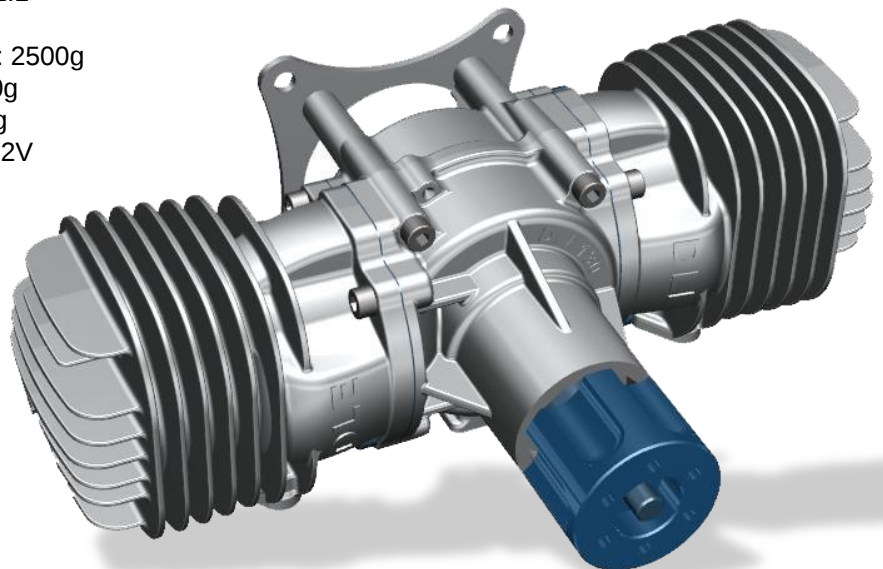
The quad motor also provide the maximum fail safe protection against any malfunctions situation during the mission.

Awesome VTOL system eliminate the restriction of take off and landing condition
 This system being well proved for the reliability of thousands hour flight.
 Simple, reliable and easy of maintenance is the goal at anytime.



DLE130 Engine

Performance: 13HP/8500rpm
 Idle Speed: 1400 rpm
 Static Thrust: 28.5Kg / 100 meters Altitude
 24.5Kg / 1800 meters Altitude
 Recommended : 27×12 ; 28×10; 28×11; 29×9 Propeller
 Spark Plug Type: DLE 6
 Displacement: 130cm³
 Diameter x Stroke: 47mm×37.5mm
 Compression Ratio: 9.2:1
 Lubrication Ratio: 30:1
 Weight of Main Engine: 2500g
 Weight of Exhaust: 350g
 Weight of Ignition: 190g
 Ignition voltage: 4.8~12V



DLE130 Gasoline engine

The A-series Airbrain Autopilot is expertly engineered for fixed-wing unmanned aircraft, supporting hand-launch, runway takeoff, and VTOL capabilities.

Paired with a user-friendly ground station featuring an embedded simulator, it allows users to master operations quickly without formal training.

The autopilot employs an adaptive sensor calibration algorithm, removing the need for manual calibration.

Its redundant sensor design ensures robust safety protection mechanisms. This versatile system is ideal for applications in security, inspection, and aerial surveying.

User-friendly Mission Planning: The ground station software features a clean, intuitive interface that ensures ease of use, even for beginners. With just a few simple mission parameters, the system can intelligently generate diverse mission plans tailored to the terrain, meeting a wide array of application requirements effortlessly.

Embedded Simulation Flight: The ground station is equipped with an integrated simulation system, removing the necessity for extra hardware. Users can simulate the complete drone operation process, including takeoff, landing, mission execution, and emergency procedures, all at zero cost. This feature greatly lowers training expenses while enhancing training efficiency.

Comprehensive Safety Mechanisms: The system incorporates triple-redundant IMUs and dual GPS modules, ensuring robust and reliable performance. It also supports GNSS dual-antenna configuration for accurate heading, immune to compass interference. Additionally, automatic altitude checks for flight routes further enhance safety.

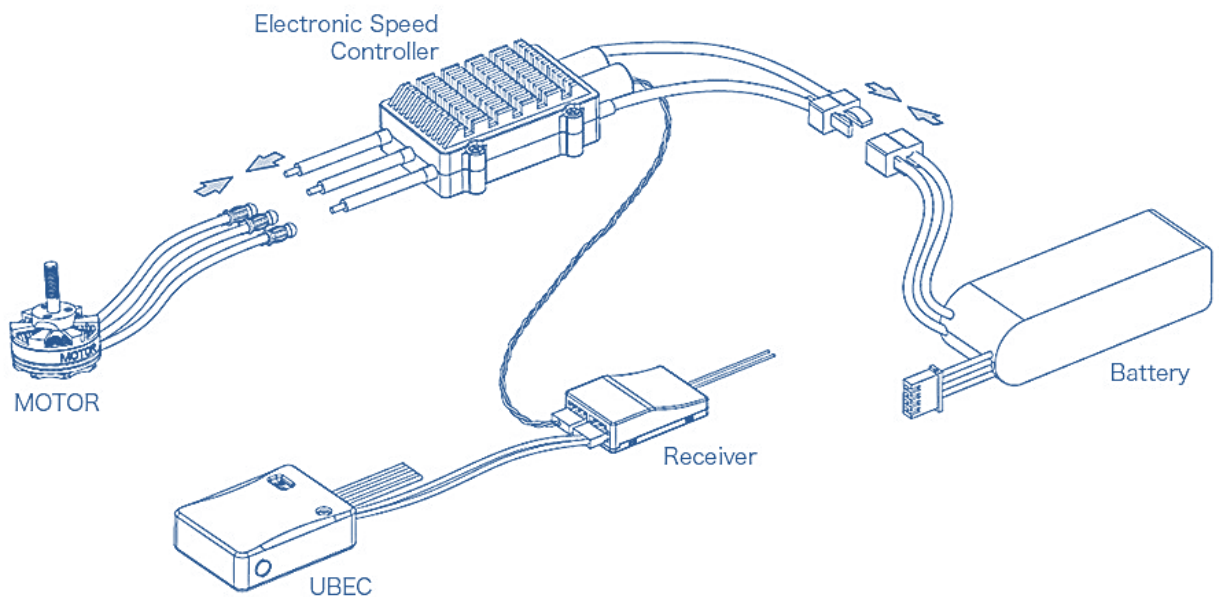
No Manual Sensor Calibration Required: With advanced adaptive sensor calibration algorithms, all sensors, including airspeed sensors, IMUs, and barometers, automatically adjust without requiring user calibration. These sensors remain unaffected by environmental factors like temperature changes, minimizing human error and streamlining operational procedures.

Airbrain Autopilot – Multi-Area Mission Planning: For regions with substantial elevation variations, the system enables multi-area mission planning within a single flight. This allows for segmented data collection based on distinct elevation reference planes, effectively meeting indoor and complex terrain requirements.

Dynamic Target Tracking Flight : Airbrain Autopilot offers dynamic tracking capabilities tailored to the speed of moving targets. When the target remains stationary, the aircraft hovers above it. For slow-moving targets, the system guides the aircraft to follow in a circular orbit. When the target accelerates, the aircraft seamlessly switches to straight-line tracking to maintain an accurate pursuit

FLAME 200A/HV

FLAME-200A/HV

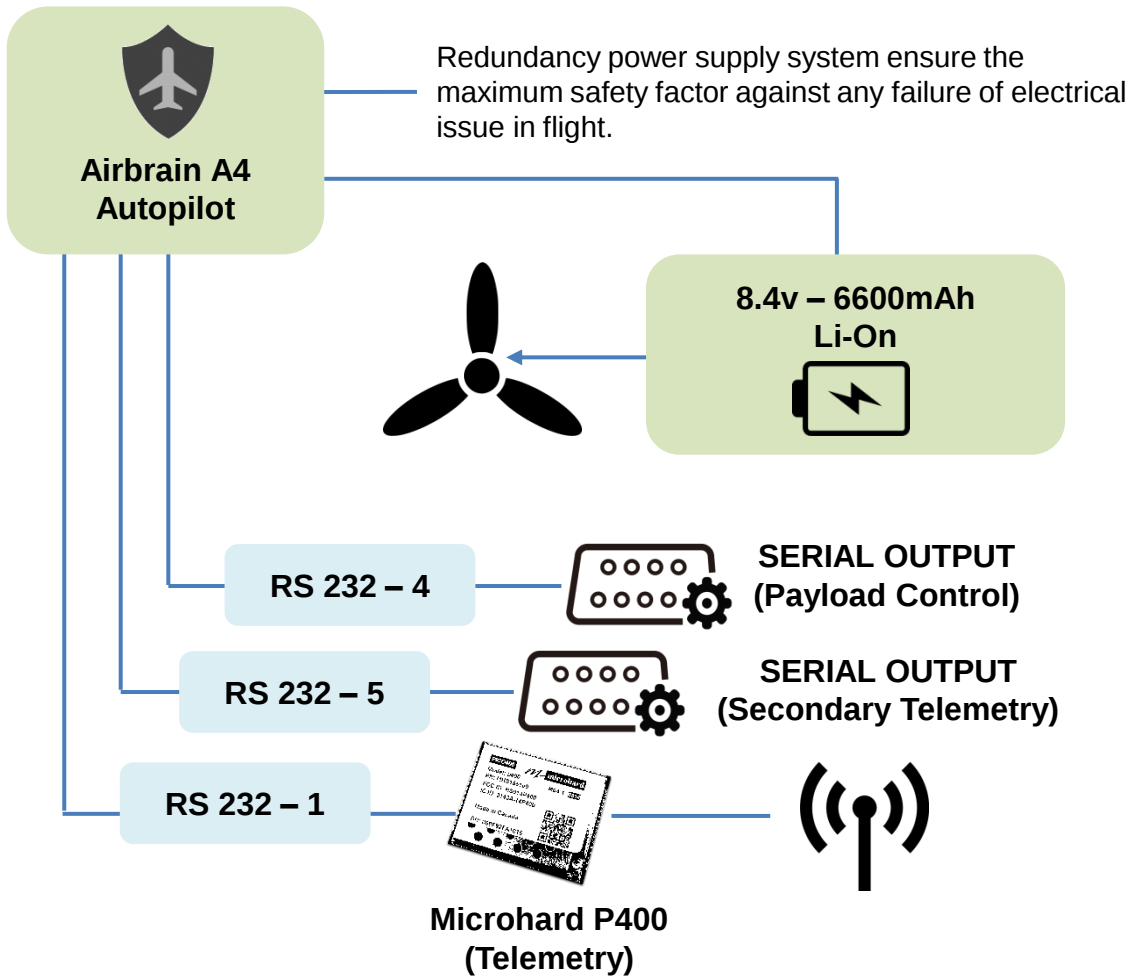


AIRBRANE A4 AUTOPILOT

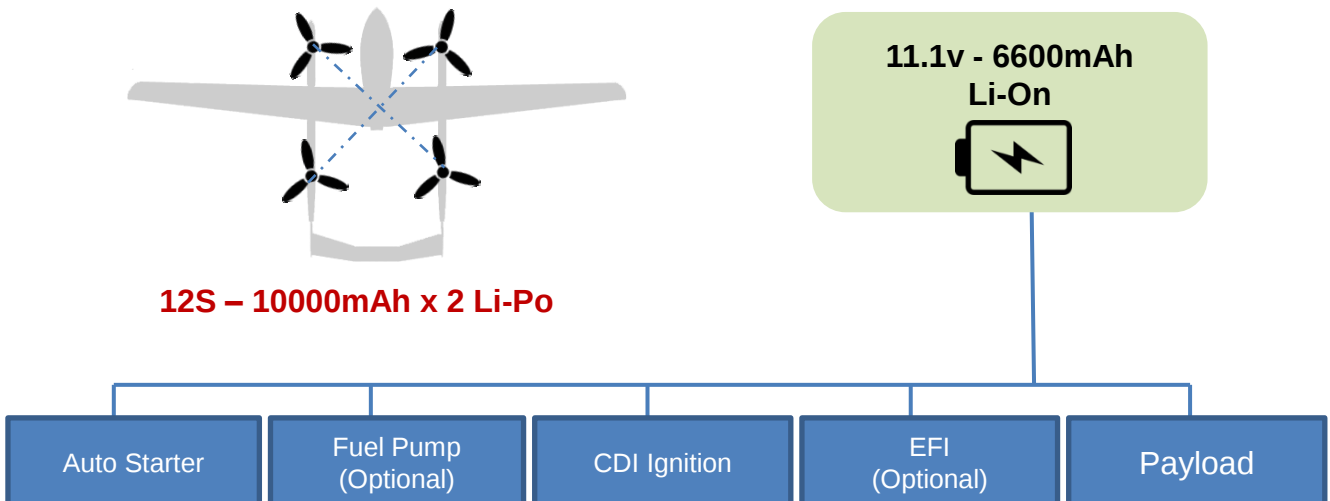
Airbrain A4 AUTOPILOT for Fixed-Wing and VTOL | Engine Control Support | Triple Redundancy IMU sensor

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	±8
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
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

POWER SYSTEM (DIAGRAM)



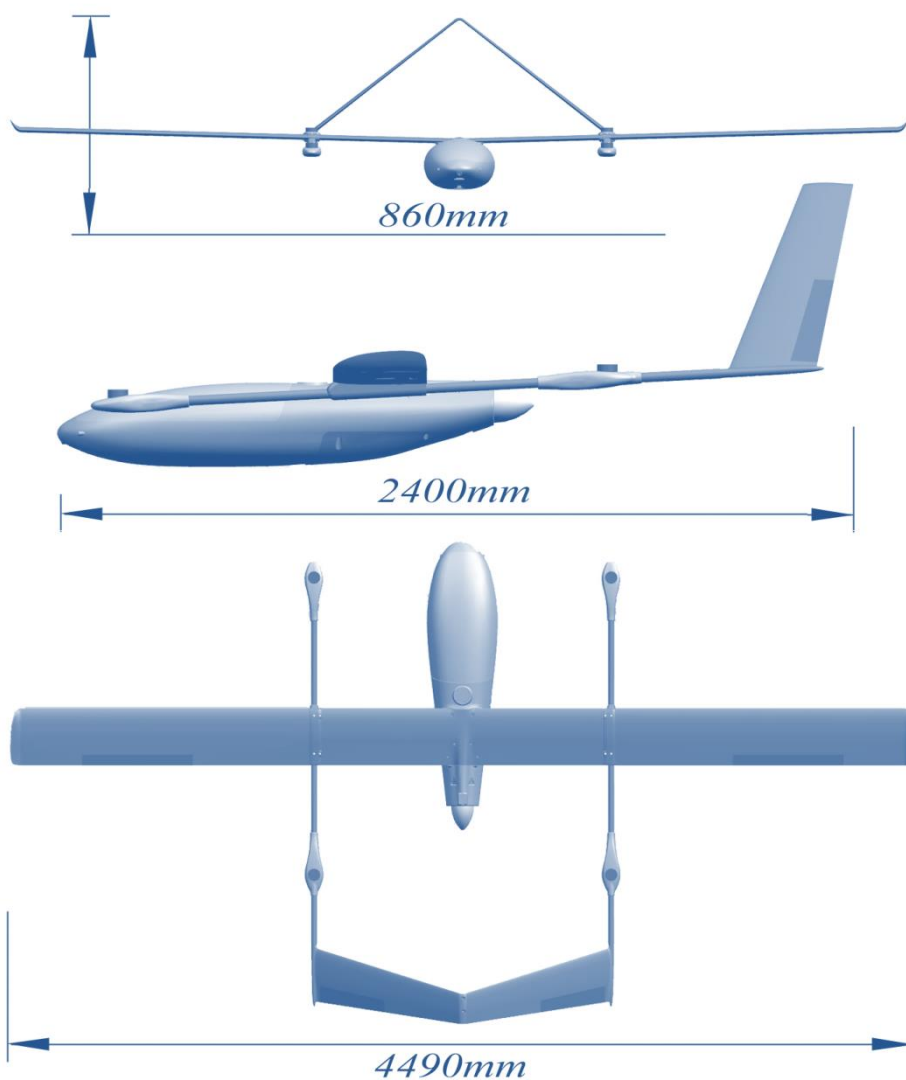
VTOL POWER SYSTEM



Special design of payload compartment
sport installing on the Center of Gravity
(CG) position. Swap variety of weight of
payload not affect the balancing



TAIL: Inverted /---\ design improves efficiency while decreasing drag.



MimoMesh Wireless Broadband MESH

Broadband wireless mesh radio is the best choice for point-to-point, point-to-multipoint integrated services communication, which is consisted of a centerless, distributed, self-forming, self-adapting and self-healing dynamic routing/multi-hop relay communication mesh network.

And the broadband mesh radio can achieve dynamic routing, multi-hop relay HD video, multi-channel data and fidelity voice between different nodes of the same network in complex applications, such as fast displacement, non-line-of-sight and electromagnetic interference.

Based on fifth-generation mobile communication (5G)/ software defined radio (SDR) technology for multi-carrier modulation OFDM, smart antenna MIMO and mobile Ad Hoc network MANET, MimoMesh is the most powerful mesh radio recently, which can provide real-time HD video, multi-channel data, push to talk voice and broadband Ethernet connection with 100Mbps transmission rate and distance of 50KM or more.

It is ideal choice for wireless communication in critical private networks.

MimoMesh wireless broadband MESH, fully ip-based design, flexible installation and use, convenient operation and maintenance, provide video extension and WIFI/4G routing extension.

It can be flexibly applied to military communication private network, public safety private network, emergency communication private network, industry information private network, regional Broadband Private network, wireless monitoring private network, cooperative management private network and intelligent transmission private network.

For military communications, counter-terrorism, public security law enforcement, security activities, emergency rescue, fire command, forest fire prevention, forestry monitoring, civil air defense/earthquake, electric power patrol, digital oilfield, UAV fleet interchange, fleet formation, maritime communications, airport ground service, subway emergency, highway construction, hydrological monitoring, mobile picking and broadcasting, medical and other fields, provide stable, reliable, timely and efficient high-definition video, multi-channel data, clear voice and visual command scheduling.

GOVERNMENT
AND DEFENSE

MILITARY
COMMUNICATION SOLUTIONS

Unmanned Systems
EMBEDDED SOLUTIONS

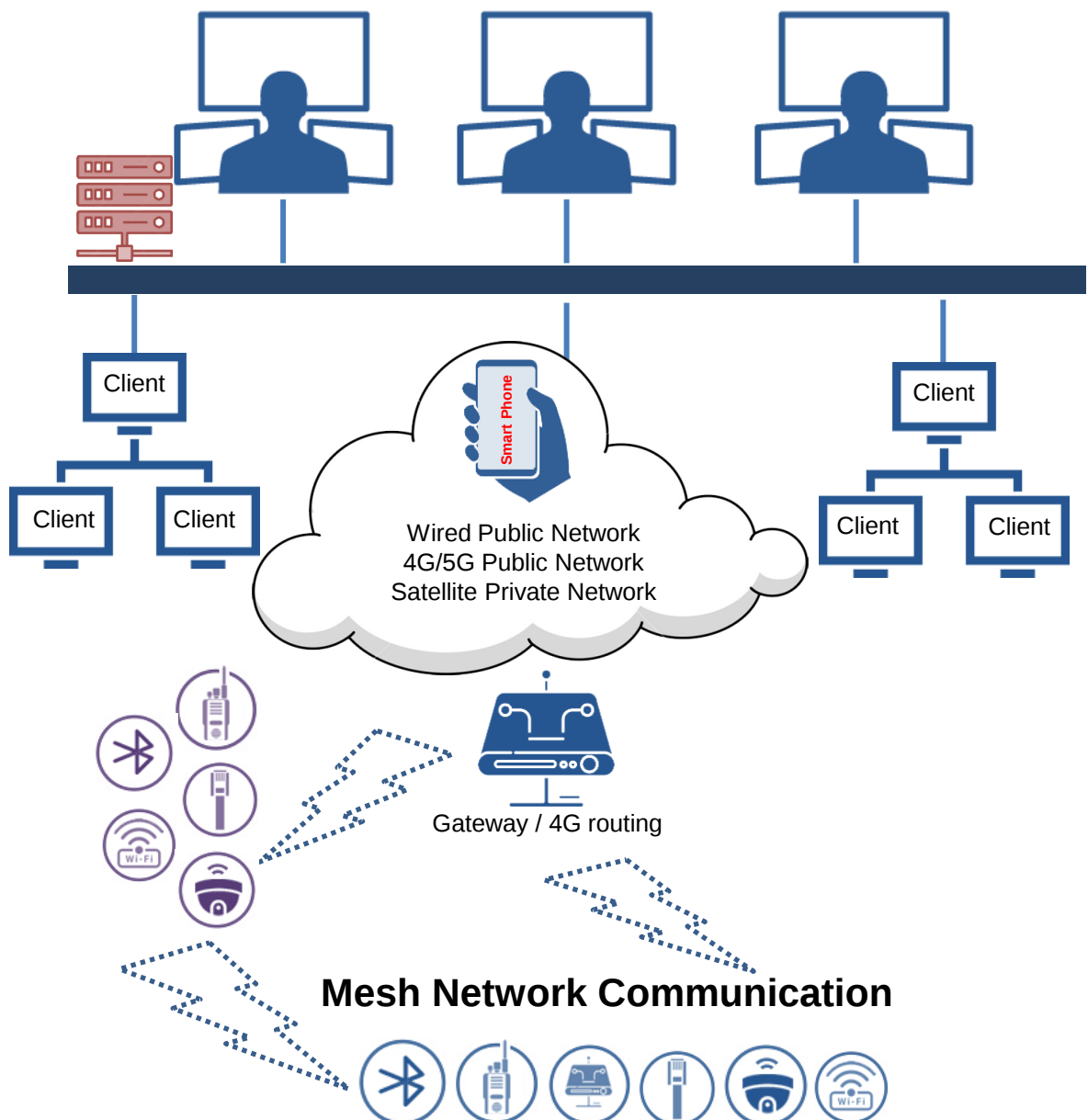
Industrial Control & Survey

MimoMesh Wireless Broadband MESH

- Each node radio station is not only an access terminal server, but also a wireless routing relay and Internet gateway.
- Centerless, distributed self-organizing, self-adapting, self-recovering dynamic routing, multi-hop relay star, linear, mesh and hybrid networks
- Support reliable transmission of point-to-point, point-to-multipoint and multipoint-to-multipoint IP network streams, asynchronous data streams, high-definition video, and fidelity voice
- Provides long-distance, high-bandwidth and low-latency transmission in harsh terrain working environments such as non-line-of-sight, fast-moving, and complex interference

Dispatch & Command Center

Voice/Document/Video/ Storage and relay



MimoMesh Series of Wireless Broadband MESH

- Beamforming/Space Diversity/Spatial Multiplexing, Reach More Than Twice Distance
- IP67 Rugged Handheld Design For MESH Networking In Harsh Environments
- Handheld/Backpack Radio 2Watts×2/10Watts×2 RF Out , 10/12 Hours Or More Battery Life, Cool Design
- Airborne Radio 2Watts×2 RF Out , Environment And Electromagnetic Environment
- Push To Talk With Built-in High Fidelity (G.722)
- Throughput Over 100Mbps

The Latest Generation Of MimoMesh Wireless Broadband MESH performance

- Mesh network (self-forming, self-adapting ,self-healing), high-speed throughput
- Non-visual urban construction, jungle multi-path transmission terrain, effective connection
- High-speed movement of ground, water and air, effective connection
- Multiple antenna settings, omnidirectional, high gain orientation or mixing
- GPS/BD and Multicast Support

Advantages

- Increased 4.5 times coverage in densely populated areas
- Increase the range by 2 times in the visible limit environment
- Increase 2-4 times data transmission rate
- The same communication range and transmission data rate, reducing transmission power by 2 times

Significant applications in Non Line of Sight / Multipath Fading environments, video/data/voice critical Communications

- Robot / Unmanned Vehicle, Reconnaissance / Surveillance / Anti-Terrorism / Monitoring
- Air-to-air & air-to-ground & ground-to-ground, public safety / special operations
- Urban network, emergency support / normal patrol / traffic management
- Inside and outside the building, fire fighting / rescue and disaster relief / forest / civil air defense / earthquake
- TV broadcast wireless audio / video / live broadcast
- Marine communication / high speed transmission on the opposite side of the ship
- Low deck wireless network / ship landing
- Mine / tunnel / basement connection



Portable professional ground control system



GCS-dual

Computer parameters	Model	G22
	CPU	Intel I5 7200U
	RAM	8G
	HDD	128G SSD
	Graphic	Intel HD Graphics 620
	Net	1 Gigabit Ethernet
	OS	Windows7/10/Linux
	Screen Size	UP:15.6inch(touch) DOWN: 12.1inch(touch)
	Resolution	UP: 1920*1080 DOWN: 1280*800
	Brightness	1000 ccd/ m ²
	Touch Panel	10 points capacitance
	Battery Cap	16.8V 12AH
	Battery indicator	By computer /led
	Charger time	3-4H
	Endurance time	3-4H
	Meas	462*256*75mm
	N.W.	7.9KG
	Storage Temp	-20-70°C
	Operating Temp	-10-60°C
	Ports	2*USB3.0/1*LAN/1*HDMI
Other parameters	Gimbals sticks	4* Hall sticks
	button	8 Third gear switch
	Video input	HDMI
	Module Tank size	140*70*27mm
	Power supply	12V(max 3A)
	Rocker output	SBUS/USB-HID

Ping20Si - ADS-B transceiver.

The Ping20Si is a Mode S, 20W transponder with support for ADS-B extended squitter. The Ping20Si has a nominal power output of 20W.

The integrated GPS sensor meets the requirements of DO-229D.
Meets the requirements of:

RTCA DO-181E Level 2els (20W output power level)
RTCA DO-260B Class B1S
RTCA DO-176B Level C
RTCA DO-254 Level C
RTCA DO-160G
RTCA DO-229D Class Beta 1
ICAO Annex 10, Volume IV
EuroCAE ED-115 Class LcF
EU-RED Annex VII



This transponder replies to both legacy Mode A/C interrogations and to Mode S interrogations from both ground radar and airborne collision avoidance systems. In all cases, the interrogations are received by the transponder on 1030MHz and replies are transmitted on 1090MHz.

1. For Collision Avoidance

- ADS-B Out sends your drone's position, speed, altitude, and heading every second.
- Other aircraft (especially manned aircraft or drones with ADS-B In) can see your drone on their traffic display systems.
- Helps prevent mid-air collisions.
- The ping20Si does not avoid collisions automatically — it makes your aircraft visible to others, which is essential for detect and avoid (DAA) systems or human operators to act.

2. For ATC Surveillance (Mode S Replies)

- When ATC radars scan the airspace, they send Mode S interrogations.
- The ping20Si responds like a manned aircraft transponder: with aircraft ID, pressure altitude, and squawk code.
- This allows air traffic controllers to track your UAV on their radar screens.

3. For Legal Airspace Compliance

- In many regions (e.g., FAA in the U.S., EASA in Europe), flying drones beyond visual line of sight (BVLOS) or in controlled airspace requires an ADS-B Out transmitter.
- The ping20Si meets this requirement.

Ping20Si - ADS-B transceiver.

Specifications



Specification	Value
Operating Altitude	unrestricted
Max Cruising Speed	unrestricted
Transmit Power (Max)	45dBm, 32W
1030 Receive Sensitivity	$\leq -61 \pm 3$ dBm
RF Impedance	50 Ω
Host Serial Communications	SageTech, GDL90
Calibrated Pressure Altitude	85,000 ft
Export Compliance	ECCN 7A994
Supply Voltage	11–28V
Power Consumption (ON & ALT)	1W
Power Consumption (STBY)	0.5W
Transponder Performance Standard	RTCA DO-181E
- Class	20W
- Level	2els
ADS-B Performance Standard	RTCA DO-260B
- Class	B1S
Pressure Altitude Standard	SAE AS8003
Granted Certifications	TSO-C199 (GPS)
Compliance	DO-181E Class 1 Level 1els (20W output power level) DO-260B Class B1S (20W output power level) DO-160F ICAO Annex 10, Volume IV EuroCAE ED-115 Class Lc2 es V3 (20W output power level) EU-RED Annex VII
Environmental	RTCA DO-160F
Software	RTCA DO-178B
Hardware	RTCA DO-254 Level C
Operating Temperature	-45°C to +80°C / +55°C*
Storage Temperature	-55°C to +85°C
Transmitter Modulation	6M7D V1D
Weight	20 grams
Height	17mm
Length	40mm
Width	35mm
Host Interface Connector	4p JST
RF Connector	SMA

* based on max. operating temperature with battery pack

D-80Pro 40x-4K Spherical Gimbal



The **D80Pro** equips with a high-accuracy 3-axis non-orthogonal gimbal and an 8.29M pixels 40x zoom camera.

User can quickly switch to a highly magnified zoom camera view after recognizing a target in a wide camera view.

Thanks to the laser lighting module, the D-80Pro can provide a clear image even in complete dark environments.

The D-80Pro have target tracking functions. The gimbal camera can constantly track the target selected on screen.

The D-80Pro can be mounted tool-lisle onto multiple carriers, whether downward or upward.

With the GCU and the Dragonfly software, user can watch the image from the camera and control the gimbal real-timely on a computer.

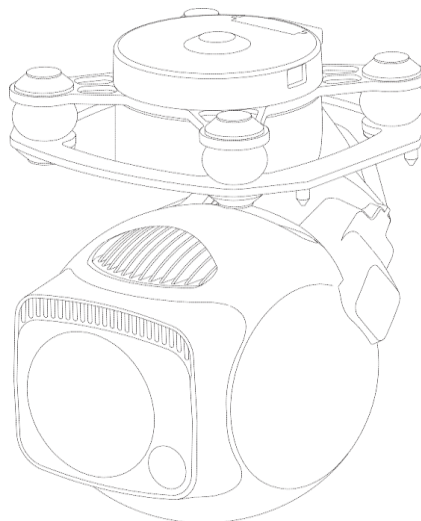
- 8.29M pixels
- 40x hybrid zoom (10x optical, 4x digital) for visible light
- Image resolution: 3840*2160
- Laser lighting module for clear darkness vision

D-80Pro 40x-4K Spherical Gimbal

General		
Product Name		D80Pro
Dimensions		Gimbal: 85.8 x 86 x 129.3mm GCU: 45.4 x 40 x 13.5mm
Weight		Gimbal: 405g GCU: 18.6g
Operating Voltage		14 ~ 53 VDC
Power		Gimbal: 6.7W (AVG, light off) / 55 W (Stall, light on) GCU: 1.8W
Mounting		Downward / Upward
Gimbal		
Gimbal Type		3-axis Nonorthogonal Mechanical Stabilization
Angular Accuracy		±0.01°
Controllable Range		Pitch: -157° ~ +70° , Yaw: ±360° constantly
Max Controllable Speed		Pitch: ±200° /s, Yaw: ±200° /s
Zoom Camera		
Image Sensor		1/2.8"CMOS; Effective Pixels: 8.29M
Lens		Focal Length: 4.8~48mm Aperture: f1.7~f3.2 HFOV: 60.2° ~ 6.6° VFOV: 36.1° ~ 3.7° DFOV: 67.2° ~ 7.6°
Resolution		3840 x 2160
Pixel Pitch		1.45µm
Electronic Shutter speed		1~1/30000 s
Optical Zoom Rate		10x
Equivalent Digital Zoom Rate		4x
Min Illumination		Night Vision off: 0.01Lux / F1.5 Night Vision on: 0.001Lux / F1.5
Object Detection Distance	EN62676-4:2015	Person ^[1] : 1449m Light vehicle ^[2] : 1904m Large vehicle ^[3] : 4057m
	Johnson Criteria	Person: 16552m Light vehicle: 50759m Large vehicle: 108138m
Object Identification Distance	EN62676-4:2015	Person: 290m Light vehicle: 381m Large vehicle: 811m
	Johnson Criteria	Person: 4138m Light vehicle: 12690m Large vehicle: 27035m
Object Verification Distance	EN62676-4:2015	Person: 145m Light vehicle: 190m Large vehicle: 406m

D-80Pro 40x-4K Spherical Gimbal

Laser Lighting Module	
Wavelength	850±10nm
Laser Power	0.8W
Beam Angle	8°
Beam Diameter	14m @ 100m
Effective Illumination Distance	≤ 200m
Laser Safety	Class 3B (IEC 60825-1:2014)
Image & Video	
Image Format	JPEG
Maximum Image Resolution	3840 x 2160
EXIF	Shooting point coordinate
Video Format	MP4
Maximum Video Resolution	4K@30fps
Stream Encode Format	H.264, H.264H, H.264B, H.265, MJPEG
Stream Network Protocol	ONVIF, RTSP
Storage	
Supported SD Cards	Supports a Speed Class 10 MicroSD card with a capacity of up to 256GB
Environment	
Operating Temperature	-20°C ~ 50°C
Storage Temperature	-40°C ~ 60°C
Operating Humidity	≤ 85%RH (Non-condensing)



D-90Pro 4K Full-Color Night Vision Multi-Sensor Spherical Pod



- 4K resolution and AI-ISP full-color night vision imaging engine empowerment.
- Carries a 60x hybrid zoom camera, a thermal camera and a laser range finder.
- Provides the distance and location coordinates of the observed target, assisting in quick and precise positioning.
- Optional AICore features AI multi-object detection and tracking, which can constantly track one of the persons and vehicles intelligently identified in the image.
- Low-profile spherical shape and 3-axis nonorthogonal mechanical stabilized structure, minimize the gyration radius and the wind resistance of the pod. The D-90Pro is able to spin continually around its yaw axis.
- Supports network, UART and S.BUS control and compatible with both private protocol and MAVLink protocol.
- Thanks to the Dual-IMU complementary algorithms with IMU temperature control and carrier AHRS fusion, the D-90Pro provides a stabilization accuracy at $\pm 0.01^\circ$.
- Can be mounted onto multiple carriers, whether downward or upward.
- With the Dragonfly software, user can watch the image and control the pod without protocol ducking.
- Photos and videos can be downloaded online through the "Gallery" function of the Dragonfly software.
- With the customized QGC software, all the functions of the pod can be achieved in conjunction with an open source autopilot.
- Screen supports overlaying OSD information such as latitude, longitude and altitude. Image supports shooting point coordinate EXIF save.
- 20~53 VDC wide voltage input.

D-90Pro 4K Full-Color Night Vision Multi-Sensor Spherical Pod

General			
Product Name	D-90Pro		
Dimensions	96.4 x 96 x 147mm		
Weight	620g		
Operating Voltage	20 ~ 53 VDC		
Power	10.5W (AVG, ranging off) / 55W (Stall, ranging on)		
Mounting	Downward / Upward		
Target Positioning Accuracy ^[1]	Horizontal Error: 1.8m Vertical Error: 0.7m	@	Horizontal Distance: 105m Relative Height: 75m
	Horizontal Error: 17.4m Vertical Error: 6.7m	@	Horizontal Distance: 513m Relative Height: 119m
	Horizontal Error: 33.8m Vertical Error: 13.7m	@	Horizontal Distance: 1003m Relative Height: 246m
Gimbal			
Gimbal Type	3-axis Nonorthogonal Mechanical Stabilization		
Angular Accuracy	±0.01°		
Controllable Range	Pitch: -175°~+105°, Roll: ±50°, Yaw: ±360°constantly		
Max Controllable Speed	±200°/s		
Zoom Camera			
Image Sensor	1/2.8-inch CMOS; Effective Pixels: 8.29M		
Lens	Focal Length: 5.5~54.7mm (Equivalent focal length: 37.2~370.5mm) Aperture: f/1.8~f/2.6 HFOV: 53.9°~5.8° VFOV: 31.9°~3.3° DFOV: 60.5°~6.7°		
Resolution	3840(H) x 2160(V)		
Pixel Pitch	1.45µm(H) x 1.45µm(V)		
Optical Zoom Rate	10x		
Equivalent Digital Zoom Rate	6x		
Object Detection Distance	EN62676-4:2015	Person ^[2] : 1651m Light vehicle ^[3] : 2170m Large vehicle ^[4] : 4624m	
	Johnson Criteria	Person: 18862m Light vehicle: 57844m Large vehicle: 123232m	
Object Identification Distance	EN62676-4:2015	Person: 330m Light vehicle: 434m Large vehicle: 925m	
	Johnson Criteria	Person: 4716m Light vehicle: 14461m Large vehicle: 30808m	
Object Verification Distance	EN62676-4:2015	Person: 165m Light vehicle: 217m Large vehicle: 462m	
	Johnson Criteria	Person: 2358m Light vehicle: 7231m Large vehicle: 15404m	

D-90Pro 4K Full-Color Night Vision Multi-Sensor Spherical Pod

Temperature Measurement	Optional (Thermometry Type)
Temperature Measurement Method	Spot Measurement, Area Measurement
Temperature Measurement Range	High Gain: -20°C~150°C Low Gain: 0°C~550°C
Temperature Alert	High-temp Alert, Low-temp Alert
Sun Burn Protection	Supported ^[5]
Palette	White Hot, Black Hot, Tint, Fulgurite, Iron Red, Hot Iron, Medical, Arctic, Rainbow 1, Rainbow 2
Laser Range Finder	
Wavelength	905nm
Max Laser Power	1mW
Beam Angle	3.5mrad
Beam Diameter	0.35m@100m
Laser Safety	Class 1M (IEC 60825-1:2014)
Measurement Accuracy	±1.0m
Measurement Range	5-1200m (φ12m vertical surface with 20% reflectivity)
AI Multi-object Detection & Tracking (Optional AICore)	
Object Identification Size	≥30x20 px
Object Identification Rate	≥85%
Object Identification Quantity	≤50
Target Tracking Size	16x16~256x256 px
Tracking Deviation Refresh Rate	30Hz
Tracking Deviation Output Delay	≤60ms
Target Pixel Error	≤±1 px
Tracking Speed	>24 px / frame
Target Memory Time	>5s
Image & Video	
Image Format	JPEG
Maximum Image Resolution	3840 x 2160
EXIF	Shooting point coordinate
Video Format	MP4
Maximum Video Resolution	Stream: 1920 x 1080P @30fps Recording: 3840 x 2160 @30fps
Stream Encode Format	H.264, H.265
Stream Network Protocol	RTSP
Storage	
Supported SD Cards	Supports a U3/V30 or above MicroSD card with a capacity of up to 256GB
Environment	
Operating Temperature	-20°C~50°C
Storage Temperature	-40°C~60°C
Operating Humidity	≤85%RH (Non-condensing)

APPENDIX 1

Pre-flight Checking List

Ground Station _____ Maintenance _____ Flight Date _____

Flight Environment			
Weather _____	☐	Wind Speed _____	☐
		Wind Direction _____	☐
UAV Inspection			
Are the connecting screws secure?	☐	Is the wing locking pin secure?	☐
Hover motor/propeller is good?	☐	Is the motor mount secure?	☐
Are the servo control surfaces being intact?	☐	Is cruise fly propeller intact?	☐
Is the centre of gravity normal?	☐	Oil Level _____	☐
Ground Station Inspection (without power)			
Whether the output of the remote control correct?	☐	Whether the posture is correct?	☐
Magnetic compass calibrated?	☐	Whether the flight plan is correct?	☐
Magnetic Inspection : _ , _ , _ , _ .			Compass ☐
Ground Station Inspection (with power)			
Main Power _____ V		Autopilot Power _____ V	☐
Hovering Power Supply _____ V			
No. of GPS satellite: _____	☐		
Whether the manual radio control command correct?	☐	Whether the hovering propeller and motor is oriented in the correct?	☐
		Will the airspeed increase when pressing the pitot tube?	☐
	☐		☐
	☐		☐

