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DRAGONFISH Autel

Producent

Autel Robotics

Opis produktu

DRAGONFISH

Move Beyond Convention, Command the Future

**SUPER LONG ENDURANCE
4K OPTICAL ZOOM**

The Dragonfish's unique tilt rotor design simplifies operation and maximizes performance and efficiency. With no complicated moving parts, the dragonfish is modular, waterproof, smart and reliable. The Dragonfish is mission ready right out of the box and includes powerful AI tracking capabilities and a multitude of modular payload options. An endurance of 120 mins (including payload) further augments the Dragonfish's robust mission capabilities and pushes it significantly ahead against other VTOL competition.

SAFETY AND REDUNDANCY

INTERCHANGEABLE PAYLOAD SYSTEM

The Dragonfish comes with a variety of payload options that can be changed rapidly to suit mission needs or to offer future expandability and versatility

Previous

4K Dual Sensor

4K 20x stabilized Optical Zoom
48 MP Wide Angle / 3-Axis Gimbal

Triple Sensor

4K 20x stabilized Optical Zoom / 48 MP Wide Angle 640x512 Radiometric Thermal / 3-Axis gimbal

Multispectral

1 RGB Wide Angle (48 MP) / 5 multispectral sensors (2MP)

Third Party Payloads

Autel's Payload SDK (PSDK) allows third party users to develop unique payload solutions quickly and efficiently for different mission scenarios and applications.

RTK

RTK MODULE

The Dragonfish is equipped with 2 RTK modules for additional redundancy. By integrating the GNSS Base Station with the RTK modules, the Dragonfish can achieve centimeter accuracy, precise headings and strong anti-magnetic interference capabilities. These modules back up one another and greatly improves the quality of image metadata for photogrammetry and increases flight precision and safety.

Autel Robotics' GNSS Base Station provides centimeter accuracy and supports all 4 major satellite systems

PROFESSIONAL SOFTWARE SOLUTIONS

Autel Voyager

Autel Voyager is specifically designed for the dragonfish for industry specific applications. The software provides advanced mission planning, intelligent tracking, flight history tracking, and other autonomous features. Simple to use yet incredibly powerful, Autel Voyager is the one stop solution for every mission.

9.7"1000NIT ultra-bright Ground Control Station

The high resolution (2048*1536), 9.7 inches, ultra-bright (1000 nits) TFT-LCD touchscreen ensures maximum visibility and practicality in all situations.

Autel Ground Control Station is water, dust, and water resistant. Autel Robotics' new antenna design allows the video transmission to reach up to 18.6 miles (30km)

The Autel Robotics ground station controller has a battery life of up to 4.5 hours and can be operated indefinitely with a remote power source

COMPACT AND PORTABLE

The Dragonfish can be easily disassembled by a one man team and will fit in the back of typical car trunks. The entire system can be assembled without tools and is ready to fly in less than 5 minutes.

Technical Specifications

Aircraft

Dimensions	2.3*1.29*0.46 m (L*W*H)
Weight	7.5 kg (including two batteries, without gimbal)
Single Battery Weight	1.3 kg
Max Payload	1.5 kg
Max Takeoff Weight	9 kg
Operating Frequency	902-928 MHz□2.4000-2.4835 GHz□5.725-5.755GHz
EIRP (Equivalent radiated power)	900MHz FCC□< 30 dBm□ 2.4 GHz FCC□< 30 dBm SRRC/CE/MIC□< 20 dBm□ 5.8 GHz SRRC/FCC□< 30 dBm CE: < 14 dBm
Hovering Accuracy (P-mode with GPS)	Vertical: ±0.1 m (Vision System enabled) ±0.5 m (GPS enabled) ±0.1 m (RTK enabled) Horizontal: ±0.3 m (Vision System enabled)

RTK Positioning Accuracy	±1.5 m (GPS enabled) ±0.1 m (RTK enabled) When RTK enabled and fixed: 1 cm+1 ppm (Horizontal) 1.5 cm + 1 ppm (Vertical)
Max Angular Velocity	Pitch: 180°/s, Yaw: 60°/s
Max Pitch Angle	20°
Max Roll Angle	35°
Max Ascent Speed	Vertical Flight Mode: 4 m/s Fixed Wing Mode: 5 m/s
Max Descent Speed (vertical)	Vertical Flight Mode: 3 m/s Fixed Wing Mode: 5 m/s
Max Speed	30 m/s
Service Ceiling Above Sea Level	6000 m
Max Flight Time	120 min
Supported Payloads	Dual-Sensor, Triple-Sensor, Multispectral, Third Party Payloads
Supported Gimbal Configurations	Fast Disassembly
Ingress Protection Rating	IP45
GNSS	GPS+GLONASS+BeiDou+Galileo
Operating Temperature	-20°C to 50°C (-4°F to 122° F)
9.7" Ground Control Station (Video Transmission)	
Operating frequency	902-928 MHz□2.4-2.4835 GHz
Max Transmitting Distance (unobstructed, free of interference)	FCC□10 km CE / MIC□5 km SRRC□5 km
9.7" Ground Control Station (Data Transmission):	
Operating frequency	5.725 - 5.755 GHz
9.7" Ground Control Station (WiFi):	
Protocol	Wi-Fi Direct; Wireless; Display; 802.11a/g/n/ac; Wi-Fi with 2×2 MIMO
Operating frequency	2.400 - 2.4835 GHz 5.150 - 5.250GHz 5.650 - 5.755GHz 5.725 - 5.850 GHz
9.7" Ground Control Station (General):	
Battery	Type: Li-Po Capacity: 8200 mAh Voltage: 52.8 V Energy: 93 Wh Charging time: 120 min
Run Time	3 hrs (Max brightness) 4.5 hrs (Half brightness)
Storage Capacity	ROM 16 GB + scalable (TF)
Video Output Port	HDMI Port
Power Supply Current / Voltage (USB-A port)	5V / 500m A
Operating Temperature Range	-4° to 104° F (-20° to 40° C)
Storage Temperature Range	< 1 month: -4° to 140° F (-20° to 60° C) 1-3 months: -4° to 113° F (-20° to 45° C) 3-12 months: -4° to 86° F (-20° to 30° C)

Charging Temperature Range	32° to 113° F (-0° to 45° C)
GNSS	GPS+GLONASS+Galileo
Dimensions	319*233*74 mm (antennas folded) 319*398*74 mm (antennas unfolded)
Weight	1987g
Base Station (GNSS receiver):	
Satellite receiving frequency	Simultaneous receive: GPS: L1, L2, L5 BeiDou: B1, B2, B3 GLONASS: F1, F2 Galileo: E1, E5A, E5B
Positioning accuracy	Single Point Horizontal: 1.5 m (RMS) Vertical: 3.0 m (RMS) RTK Horizontal: 1 cm+1 ppm (RMS) Vertical: 1.5 cm+ 1 ppm (RMS) 1 ppm: For every 1 km increase in distance, the accuracy will be 1 mm less. For example, the horizontal accuracy is 1.1 cm when the receiving end is 1 km away from the base station.
Positioning update rate	1 Hz, 2 Hz, 5 Hz, 10 Hz and 20 Hz
Cold start	< 40s
Hot start	< 10s
Recapture	< 1s
Initialization reliability	> 99.9%
Differential data transmission format	RTCM 2.X/3.X
Base Station (Communication):	
Data link	Image transmission, Wi-Fi
Base Station (Image transmission):	
Operating frequency	902-928 MHz; 2.400-2.4835 GHz;
EIRP (Equivalent radiated power)	902-928 MHz FCC:< 30 dBm 2.400-2.4835 GHz FCC:< 30 dBm SRRC/CE/MIC:< 20 dBm
Base Station (Wi-Fi):	
Operating frequency	2.400-2.4835 GHz; 5.125-5.25GHz; 5.650-5.755GHz;
EIRP (Equivalent radiated power)	5.725-5.850GHz 2.400-2.4835 GHz FCC:< 26 dBm SRRC/CE/MIC:< 20 dBm 5.125-5.25 GHz FCC/SRRC:<26 dBm 5.650-5.755 GHz MIC:< 20 dBm 5.725-5.850 GHz SRRC/FCC:< 26 dBm CE:< 14 dBm SRRC/CE/MIC:< 20 dBm
Communication distance	Mobile station and aircraft: 30 km (FCC) Mobile station and remote control: 200 m (FCC)

(Unobstructed and free of interference, when the mobile station is used as a base station and the distance from the mobile station antenna to the bottom of the tripod is 2 m; and when the difference in height between the remote controller and mobile station is less than 10 m, and when the remote controller is 1.2 m from ground level)

Base Station (Electrical characteristics):

Power consumption	7.5 W
Power supply	5 to 20V DC (supports USB PD charging protocol)
Battery	Type: lithium ion polymer battery Capacity: 4950 mAh Energy: 57.1 WH
Run time	> 7.5 h

Base Station (Physical properties):

Size(Base station body + extension rod)	193 mm×177 mm×73 mm
Weight	1275 g
Dustproof and waterproof	IP65
Operating temperature	-20°C to 50°C

Dual Sensor (Zoom camera):

Effective Pixels	8MP
Zoom	20x zoom, 12x digital zoom, 240x total magification
Aperture	F2.0 (wide) to 3.8 (tele)
Photo Resolution	3840x2160
Photo	JPEG
Video Resolution	3840x2160 1920x1080
Video	MP4

Dual Sensor (Wide-angle camera):

Effective Pixels	12MP
Zoom	1-8x digital zoom
Photo Resolution	4000x3000
Photo	JPEG
Video Resolution	3840x2160 1920x1080
Video	MP4

Triple Sensor (Zoom camera):

Effective Pixels	8MP
Zoom	20x zoom, 12x digital zoom, 240x total magification
Aperture	F2.0 (wide) to 3.8 (tele)
Photo Resolution	3840x2160
Photo	JPEG
Video Resolution	3840x2160 1920x1080
Video	MP4

Triple Sensor (Wide-angle camera):

Effective Pixels	12MP
Zoom	1-8x digital zoom
Photo Resolution	4000x3000
Photo	JPEG
Video Resolution	3840x2160 1920x1080
Video	MP4

Triple Sensor (Thermal camera):

Infrared camera sensor	Uncooled VOx Microbolometer
Sensor Resolution	640*512
Zoom	1-8x digital zoom
Pixel Pitch	12µm
Spectral Band	8-14µm
Lens	25mm F1.0
FOV	17°×14°
Photo Resolution	640*512
Photo	JPEG
Video Resolution	640*512
Frame Rate	30Hz
Video	MP4
Accuracy	±3°C or ±3% of reading (whichever is greater) @ambient temperature -20°C~60°C
Scene Range	High Gain: -20° to +150°C Low Gain: 0° to +550°C