

# UAV-200

A Quad-rotor Drone for Enterprise



- 427mm Diagonal Wheelbase
- Max Flight Time: 42min
- Max Speed: 20m/s
- 360° Obstacle Sensing
- Max Transmission Distance: 7~13km
- Max Wind Speed Resistance: 20 m/s (scale 8)
- Satellite Positioning Systems: GPS+GLONASS+Galileo

## System Overview

This product is a quad-rotor drone which includes the aircraft, payload and remote control. It's designed for public security, transportation, firefighting, border defense, forestry, and energy industries. It provides a complete aerial video surveillance solution with long transmission distance, high hovering accuracy.

## Functions

### Intelligent Mode

The drone supports convenient operation with multiple intelligent modes, including flight route, waypoint flight, circle (points of interest), and direction lock mode. The drone can take off automatically and enable intelligent mode, moving according to the pre-set route / waypoints and points of interest. When the mission is finished, the drone will return to base and land automatically.

### Security Mechanism

There are a series of security mechanisms which ensure safe and reliable drone operation. If the drone runs out of battery or moves out of the control range, it will signal an alarm and return to base automatically, triggering landing mode. E-Fence functionality makes setting flight boundaries easy, preventing the drone from flying into restricted areas.

### Quick Assembly and Disassembly

All parts of the drone, including the battery, payload, propellers, antenna, and aircraft arms can be quickly assembled and disassembled, ensuring immediate mission readiness as well as quick extraction.

### A variety option of payload

The drone supports to carry multiple payloads, such as 6K PTZ camera, visual thermal hybrid camera, Speaker, Beacon, Spotlight which is suitable for critical surveillance tasks such as power line inspection, forest fire detection, public event management, bridge security, and police detection.

### Accurate Positioning

Three satellite positioning systems used by the drone - GPS, Galileo, and GLONASS - ensure high accuracy positioning with  $\pm 1.5\text{m}$  horizontal and  $\pm 0.5\text{m}$  vertical accuracy. These three positioning systems also ensure near complete coverage of the global market.

Technical Specification

Aircraft	
Takeoff Weight (Without Accessories)	1110 g(6K camera)
	1136.5 g(visual thermal hybrid camera)
Diagonal Wheelbase	427 mm
Dimensions (L×W×H)	508*634*111mm(unfolded)
	258*368*111mm(folded)
Max Flight Time	42 min (windless conditions) 36 min (RTK module attached) 29 min (With beacon turned off) 38 min (With spotlight turned off) 34 min (With speaker turned off)
Max Speed (without wind)	20 m/s
Max Ascent Speed	8 m/s
Max Descent Speed	4 m/s
Max Service Ceiling Above Sea Level	7000 m
Operating Temperature	-10° to 40° C
Max Wind Speed Resistance	20 m/s (scale 8)
Operating Frequency	2.400-2.4835 GHz; 5.725-5.850 GHz
Hovering Accuracy Range	Vertical: ± 0.1 m (with RTK) ± 0.1 m (with vision positioning) ± 0.5 m (with GNS positioning) Horizontal: ± 0.1 m (with RTK) ± 0.3 m (with vision positioning) ± 1.5 m (with GNS positioning)
Sensing System	
Sensing System	Omnidirectional Dual-Visual Obstacle Sensing
Forward	Precision Measurement Range: 0.5 - 20 m Detectable Range: 20 - 40 m Effective Sensing Speed: < 15m/s FOV: Horizontal: 60°, Vertical: 80°
Backward	Precision Measurement Range: 0.5 - 16 m Detectable Range: 0.5 - 32 m Effective Sensing Speed: < 12m/s FOV: Horizontal: 60°, Vertical: 80°
Upward	Precision Measurement Range: 0.5 - 12 m Detectable Range: 0.5 - 24 m Effective Sensing Speed: < 6m/s FOV: Horizontal: 65°, Vertical: 50°
Downward	Precision Measurement Range: 0.5 - 11 m Detectable Range: 0.5 - 22 m Effective Sensing Speed:< 6m/s FOV: Horizontal: 100°, Vertical: 80°
Sides	Precision Measurement Range: 0.5 - 12 m Detectable Range: 0.5 - 24 m Effective Sensing Speed:< 10m/s FOV: Horizontal: 65°, Vertical: 50°

Operating Environment	Forward, Backward and Sides: Surface with clear pattern and adequate lighting (lux > 15) Upward: Detects diffuse reflective surfaces(>20%) (walls, trees, people, etc.) Downward: Surface with clear pattern and adequate lighting (lux > 15)Detects diffuse reflective surfaces (>20%) (walls, trees, people, etc.)
Gimbal	
Mechanical Range	"Tilt: -135°- +45° Pan: -100°- +100°"
Controllable Range	"Tilt: -90°- +30° Pan: -90°- +90°"
Stabilization	3-axis (tilt, roll, pan)
Max Control Speed	300°/s
Angular Vibration Range	±0.005°
6K Camera	
Sensor	1" CMOS, Effective Pixels: 20 M
Lens	"FOV: 82° Equivalent Focal Length: 28.6mm Aperture: f/2.8 - f/11 Focus: 1 m to ∞"
ISO Range	Video: 100-6400 (auto) Photos: 100-12800 (auto)
Zoom	Digital Zoom:16x Optical Zoom:3x
Photography Resolution	5472*3648 (3:2) 5472*3076 (16:9) 3840*2160 (16:9)
Video Format	MP4 / MOV (MPEG-4 AVC/H.264, HEVC/H.265)
Video Resolution	6K 5472*3076 p30/p25/p24 4K 3840*2160 p60/p50/p48/p30/p25/p24 2.7K 2720*1528 p120/p60/p50/p48/p30/p25/p24 1080p 1920*1080 p120/p60/p50/p48/p30/p25/p24
Visual Thermal Hybrid Camera—Thermal	
Sensor	Vanadium oxide uncooled infrared focal plane detector
FOV	H33°V26°
Sensor Resolution	640x512
Pixel Pitch	12μm
Focal Length	13mm
Spectral Band	8~14μm
Optimum Temperature Detection Distance	2-20m
Accuracy of Thermal Temperature	Measurement: ±2℃ or ±2%, whichever is greater.

Scene Range	-20 °C to 150 °C (High Gain) 0 °C to 550 °C (Low Gain)
Zoom	Digital Zoom:16x
Camera resolution	Infrared mode: 640*512 Picture in Picture: 1920*1080, 1280*720
Video Resolution	640*512 30fps
Video Format	MOV / MP4

**Visual Thermal Hybrid Camera—Visual**

Sensor	1/2" CMOS, Effective Pixels: 48 M
Lens	FOV: 79° Equivalent Focal Length: 25.6mm Aperture:f/1.8 Focus: 0.5 m to ∞
ISO Range	Video: 100-6400 (auto) Photos: 100-3200 (auto)
Zoom	Digital Zoom:16x Optical Zoom:4x
Still Photography Modes	Single Shot Burst shooting: 3/5 frames Automatic Exposure Bracketing (AEB): 3/5 bracketed frames at 0.7 EV Bias Timelapse: JPG:2s/5s/7s/10s/20s/30s/60s DNG:5s/7s/10s/20s/30s/60s HyperLight:support (under 4K JPEG format) Long Exposure: Max 8s HDR imaging: (under 4K JPEG)
Photography Resolution	8000*6000 (4:3) 7680*4320 (16:9) 4000*3000 (4:3) 3840*2160 (16:9)
Video Format	MP4 / MOV (MPEG-4 AVC/H.264, HEVC/H.265)
Video Resolution	8K 7680*4320 p25/p24 6K 5760*3240 p30/p25/p24 4K 3840*2160 p60/p50/p48/p30/p25/p24 2.7K 2720*1528 p120/p60/p50/p48/p30/p25/p24 1080P 1920*1080 p120/p60/p50/p48/p30/p25/p24

**Beacon**

Dimensions (L×W×H)	39*72*34 mm
Connections	Floating Connector
Power	Avg. 1.6W
Controllable Range	5000 m
Light intensity	Min Angle: 50 cd; Light intensity: 290cd

**Loudspeaker**

Dimensions (L×W×H)	46*80*77 mm
Connections	Floating Connector

Power	Max. 18W
Decibel	120 dB @ 1 meter distance
Max Bitrate	36kbps

**Spotlight**

Dimensions (L×W×H)	48.5*72*63 mm
Connections	Floating Connector
Power	Max. 35W
Controllable Range	30 m
Adjustable Angle Range	0°~90°
Illuminance	FOV14°, Max: 11lux @ 30m Straight

**RTK Module(Optional)**

Dimensions (L×W×H)	55.5*72.5*57 mm
Connections	Floating Connector
Power	Max. 3W
RTK Positioning Precision	1 cm + 1 ppm (Horizontal) 1.5 cm + 1 ppm (Vertical)

**Accessories****Spotlight****Speaker****Strobe****Battery****Charger****Propeller****Remote Controller****Optional****RTK Module**