AOEXO Technology 7-inch FPV Racing Drone (Customizable)

深圳市飞雄科技有限公司

Shenzhen AOEXO Technology Co., Ltd.

7-inch Racing Drone, Carbon Fiber FPV Drone

(Custom Orders Accepted, Monthly Supply Capacity: 50,000 Units)

Product Overview:

The AOEXO Technology 7-inch FPV Racing Drone is designed for racing, medium-to-long-range aerial photography, and lightweight industrial applications. Built with the T300 carbon fiber frame for military-grade strength, it weighs only 680g (empty) while maintaining agility and stability. It supports a maximum payload of 2.2kg and a maximum takeoff weight of 4.5kg. Equipped

with 1600KV high-efficiency motors and a 45A ESC system, it can reach a top speed of 145km/h, withstand Level 6 winds, and operate in harsh environments from -10°C to 40°C. The drone comes standard with a 5.8GHz adjustable video transmitter (3W peak power, 8km+ transmission range), a 1500TVL low-light camera with Super WDR technology for clear day and night imaging, and an optional GPS module for ±1.5m return accuracy. It supports ELRS/915MHz multi-band customization and is powered by a 6S battery, offering 12 minutes of hover time at full load. This makes it an ideal choice for racing, patrol inspections, and dynamic filming.

Product Highlights:

Ultra-Lightweight Design: Empty weight of 680g, T300 carbon fiber frame + 6061 aluminum alloy brackets, improving strength-to-weight ratio by 20%.

Efficient Payload Capacity: Rated payload of 2kg, maximum takeoff weight of 4.5kg, suitable for lightweight missions.

Agile Flight Performance: 145km/h horizontal speed, 720°/s tri-axis angular velocity for rapid dynamic response.

Optimized Long Endurance: 12 minutes of hover time at full load (sea level), up to 16 minutes with light load.

All-Terrain Adaptability: Operational temperature range of -10°C to 40°C, Level 6 wind resistance, stable takeoff and landing at altitudes up to 4500 meters.

HD Low-Latency Video Transmission: 5.8GHz 48CH adjustable power (25mW~3W), 8km+ interference-free signal coverage.

High-Torque Power System: 1600KV 12-pole motors + 45A ESCs, peak power of 1380W, thrust-to-weight ratio of 1:3.2.

All-Weather Imaging Support: 1/2.7" CMOS sensor, 0.0001Lux night vision + 120° wide-angle lens, adaptable to complex lighting conditions.

Modular Expansion Interface: Supports dual GPS redundancy, customizable video transmitter/receiver frequency bands, compatible with Betaflight/INAV open-source ecosystems.

Industrial-Grade Protection: IP54 dust and water splash resistance, 12.9-grade alloy steel screws + silicone shock-absorbing pads.

Technical Specifications

Drone Parameters

Parameter	Specification
Empty Weight	680g
Rated Payload	2kg
Maximum Payload	2.2kg
Maximum Takeoff Weight	4.5kg

Parameter	Specification
Maximum Control Distance	8km+ (ELRS 915MHz)
Hover Time at Rated Payload (Sea Level)	16min (< Level 2 Wind)
Hover Time at Full Load (Sea Level)	12min (< Level 2 Wind)
Maximum Tilt Angle	360°
Maximum Horizontal Speed	145km/h (Sea Level, < Level 2 Wind)
Maximum Ascent/Descent Speed	12m/s / 18m/s
Maximum Wind Resistance	Level 6
Angular Velocity (Pitch/Roll/Yaw)	720°/s / 720°/s / 720°/s
Video Transmitter Power	25mW/500mW/1W/2W/3W (Default: 3W)
Video Transmitter Frequency	5.8GHz (Customizable: 2.4GHz/1.3GHz)
Antenna Gain	3dB (RHCP SMA Interface)
Dimensions (L×W×H)	280×240×35mm
Wheelbase	255mm
Frame Material	T300 Carbon Fiber (1.5mm Thickness)

Parameter	Specification
Operating Temperature	-10°C ~ +40°C

Power System

Component	Parameter
Motor	
KV Value	1600KV
Pole Count	12 Poles
Stator Size	Φ23×12mm
Maximum Power	1380W (Per Motor)
Maximum Current	34.5A (Per Motor)
Mounting Hole Spacing	M2 16×16mm
Motor Weight	58g
Propeller	
Size	7×3.5inch (3-Blade)
Material	High-Strength Nylon-Carbon Composite
Propeller Weight	15g

Component	Parameter
Mounting Method	Quick-Release Mortise and Tenon Structure

Electronic System

Component	Parameter
Flight Controller	
Processor	STM32F722 (Dual Gyroscope Redundancy)
Gyroscope	ICM-20689 + BMI270 (Dual Backup)
Barometer	Sensirion SDP810 (Switzerland)
Built-in Black Box	16MB Flash Storage
Tuning Protocol	Betaflight/INAV/ArduPilot
ESC	
Main Chip	BLHeli_32 32-bit Processor
Continuous Current	45A×4
Peak Current	55A (10S)
Firmware Version	BLHeli_32 32.7
Power Distribution Board	

Component	Parameter
Model	PDB-7X
Continuous Current	80A (Total Output)
BEC Output	5V@3A + 9V@2A
Integrated Functions	Current Sensor/Voltage Alarm/Capacitor Filtering

Imaging and Communication

Component	Parameter
Camera	
Sensor	1/2.7" Sony STARVIS 2
Resolution	4K@30fps / 1080P@120fps
Low-Light Performance	0.0001Lux (IR Illumination Enabled)
Lens Focal Length	2.8mm (Replaceable)
FOV	150° (Diagonal)
Video Transmission System	
Transmitter Power	3W (FCC Certified Mode)
Frequency Band	5.8GHz (5650-5925MHz)

Component	Parameter
Latency	≤28ms (720P@120fps)
Antenna Interface	MMCX (Compatible with DJI Protocol)

Expansion and Accessories

Component	Parameter
GPS Module (Optional)	
Positioning System	GPS+GLONASS+Galileo Triple-Mode
Hover Accuracy	Vertical ±0.8m / Horizontal ±1.5m
Return Accuracy	±1.5m
Recommended Battery	
Model	FLY-X7P
Capacity	3300mAh
Voltage	22.2V (6S)
Continuous Discharge	100C
Weight	420g

Environmental Certifications

Protection Rating: IP54 (Dust/Water Splash Resistant)

Electromagnetic Compatibility: FCC Part 15/CE RED Dual Certification

Safety Certification: UN38.3 Battery Transportation Certification

Application Scenarios

Aerial Photography: Capture stunning cityscapes and natural landscapes.

Power Line Inspection: Inspect transmission lines and towers for improved efficiency.

Emergency Rescue: Rapid deployment for reconnaissance and communication relay in disaster zones.

Agricultural Monitoring: Monitor crop growth in large fields and orchards in real-time.

Logistics Delivery: Explore lightweight cargo transportation and rapid delivery.

Environmental Monitoring: Collect real-time environmental data for ecological protection.

Outdoor Adventure Recording: Capture unique perspectives during extreme sports and expeditions.

Security Patrols: Provide 24/7 aerial surveillance for commercial and residential areas.

Scientific Research: Support experiments and data collection in aviation, dynamics, and environmental science.

Live Event Broadcasting: Deliver stable, high-definition aerial footage for live event coverage.