

AOEXO Smart 4K Full-Color Night Vision Micro Gimbal (XF Platform)

深圳市飞雄科技有限公司

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Key Features

[AOEXO Custom Upgrades]

Intelligent 4K full-color night vision imaging system developed on an industry-leading platform, integrated with AI-ISP enhancement engine

Multi-protocol control module with secondary development, supporting Network/Serial/S.BUS and private protocol extensions

[Smart Tracking System]

AI-optimized multi-target detection and tracking system with pedestrian/vehicle feature recognition and continuous locking
Proprietary trajectory prediction algorithm for intelligent tracking recovery after target loss

[AOEXO Technology Integration]

Exclusively adapted Dragonfly Pro display control system (includes AOEXO expansion pack)
Real-time video transmission without protocol integration
Smart gallery management system with cloud/local dual-mode storage
AOEXO custom OSD module for overlaying flight parameters/geolocation data
QGC Pro control suite for open-source flight controllers (AOEXO-authorized version)

[Military-Grade Stabilization]

AOEXO-optimized three-axis mechanical stabilization (69g lightweight design)
Intelligent temperature compensation fused with carrier inertial data for $\pm 0.01^\circ$ stabilization accuracy

[All-Scenario Adaptation]

AOEXO rapid deployment kit supports upright/inverted installations
Preconfigured solutions for aerial photography/inspection/mapping
Professional geolocation embedding system (auto-EXIF coordinate writing)

Technical Specifications

General Parameters

Parameter	Specification
Product Name	AOEXO Smart 4K Full-Color Night Vision Micro Gimbal (XF Technology Platform)
Dimensions	50.2 × 48.4 × 67.4 mm
Weight	69 g
Operating Voltage	10 – 26.4 VDC
Power Consumption	4.5 W (avg) / 18 W (stall)
Installation	Upright/Inverted Multi-Mode

Gimbal Parameters

Parameter	Specification
Gimbal Type	Non-orthogonal Three-Axis Mechanical Stabilization
Stabilization Accuracy	±0.01°
Controllable Range	Pitch: ±120°, Roll: ±60°, Yaw: ±160°
Max Rotation Speed	±200°/s

Fixed-Focus Camera

Parameter	Specification
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Parameter	Specification
Image Sensor	1/2.8" CMOS, 8.29MP
Lens Focal Length	6.0 mm (40.6 mm equivalent)
Aperture	f/1.0
Field of View (FOV)	HFOV: 54.7°, VFOV: 30.2°, DFOV: 63.2°
Resolution	3840(H) × 2160(V)
Pixel Size	1.45 μm(H) × 1.45 μm(V)
Digital Zoom	8× Equivalent

Target Detection (EN62676-4:2015 Johnson's Criteria)

Target Type	Detection Distance	Recognition Distance	Verification Distance
Pedestrian [1]	2,069 m	517 m	259 m
Small Vehicle [2]	6,345 m	1,586 m	793 m
Large Vehicle [3]	13,517 m	3,379 m	1,690 m

Reference Sizes:

- [1] Pedestrian: 1.8 × 0.5 m (0.75 m critical size)
- [2] Small Vehicle: 4.2 × 1.8 m (2.3 m critical size)
- [3] Large Vehicle: 6.0 × 4.0 m (4.9 m critical size)

AI Multi-Target Detection & Tracking

Parameter	Specification
Target Size	16×16 – 128×128 px

Parameter	Specification
Recognition Speed	<40 ms
Tracking Speed	±32 px/Frame
Update Rate	30 Hz
Output Latency	≤5 ms

Photo & Video

Parameter	Specification
Photo Format	JPEG
Max Photo Resolution	3840 × 2160
EXIF Data	Geolocation Coordinates
Video Format	MP4
Max Video Resolution	3840×2160 @30fps (Recording) / 1920×1080 @30fps (Streaming)
Codecs	H.264, H.265
Streaming Protocol	RTSP

Storage

Parameter	Specification
Supported Media	microSD Card (Max 256GB, U3/V30 or higher)

Environmental

Parameter	Specification
Operating Temperature	-20°C to 50°C
Storage Temperature	-40°C to 60°C
Humidity	≤85% RH (Non-condensing)

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