AOEXO NightHawk Series Intelligent Low-Light Full-Color Gimbal (XF Platform)

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Core Advantages

[AOEXO Night Vision Imaging Solution]

• Starlight-grade image sensor system (1/1.8" custom sensor) with AOEXO calibration

• Vision 2.0 Full-Color Night Vision Engine: 40% improved light sensitivity vs. standard versions

• Proprietary noise suppression algorithm enables recognizable imaging at 0.0001Lux illumination

[AOEXO Enhanced Features]

[Smart Tracking System]

• Self-developed AI multi-target trajectory prediction system (pedestrian/vehicle/custom target libraries)

• Intelligent learning compensation mechanism: 35% improved tracking stability in complex scenarios

[Military-Grade Stabilization Platform]

• AOEXO-optimized three-axis mechanical stabilization (100g lightweight military-grade design)

• Dynamic thermal drift compensation technology + carrier inertial navigation for ±0.01° anti-shake accuracy

[AOEXO Intelligent Control Ecosystem]

• Deep integration with Dragonfly Pro professional suite

  - Custom protocol direct-connect module (dual-channel network/HDMI assurance)

  - Smart media library with encrypted transmission/offline download modes

• Exclusive QGC Enterprise control suite (includes AOEXO extended command set)

[Full-Scenario Operation System]

• AOEXO rapid deployment kit (15-second upright/inverted installation)

• Wide-voltage smart power system (10–26.4VDC adaptive stabilization)

• GeoTag geolocation system

  - OSD overlay for flight parameters (longitude/latitude/altitude)

  - Encrypted EXIF metadata writing (GIS platform direct-read compatible)

Technical Specifications

General Parameters

Parameter	Specification
Product Name	AOEXO NightHawk Series Intelligent Low-Light Full-Color Gimbal (XF Technology Platform)

Parameter	Specification
Dimensions	59.2 × 48.4 × 80.2 mm
Weight	100 g
Operating Voltage	10 – 26.4 VDC
Power Consumption	6 W (avg) / 20 W (stall)
Installation	Upright/Inverted Installation

Gimbal Parameters

Parameter	Specification
Gimbal Type	Non-orthogonal Three-Axis Mechanical Stabilization
Stabilization Accuracy	±0.01°
Controllable Range	Pitch: -135°~+100°, Roll: ±50°, Yaw: ±150°
Max Rotation Speed	±200°/s

Fixed-Focus Camera

Parameter	Specification
Image Sensor	1/1.8" CMOS, 4.09MP
Focal Length	8.5 mm (41.1 mm equivalent)
Aperture	f/1.0
Field of View (FOV)	HFOV: 57.1°, VFOV: 30.4°, DFOV: 66.3°
Resolution	2688(H) × 1520(V)

Parameter	Specification
Pixel Size	2.9 µm(H) × 2.9 µm(V)
Digital Zoom	6× Equivalent

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

Target Type	Detection Distance	Recognition Distance	Verification Distance
Pedestrian [1]	1,466 m	366 m	183 m
Small Vehicle [2]	4,494 m	1,124 m	562 m
Large Vehicle [3]	9,575 m	2,394 m	1,197 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
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	2688 × 1520
EXIF Data	Geolocation Coordinates
Video Format	MP4
Max Video Resolution	2560×1440 @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℃ to 50℃
Storage Temperature	-40℃ to 60℃
Humidity	≤85% RH (Non-condensing)