

OmniSight Gimbal

– Chameleon Eyes

Why OmniSight?

Other gimbals see with one eye. OmniSight sees with two. Each pod is fully equipped with EO, IR, and LRF, orchestrated by edge AI. Together, they form an **unmatched intelligence engine** – doubling your data, doubling your coverage, and doubling your impact.

Twice the data per flight



A Revolution in Aerial Vision




Traditional gimbals carry a **single camera pod** – typically with an EO sensor, a thermal imager, and sometimes a laser rangefinder. But no matter how advanced, they remain restricted to one perspective at a time.

OmniSight changes everything.

It is the **world's first dual-pod, AI-powered gimbal**. Each pod carries multiple EO-IR sensors and a laser rangefinder, and each can pan and tilt **360° independently or in perfect sync**. Together, they deliver a **doubled field of view** and capture **twice the data in every flight**.

From **defense ISR to industrial inspection**, from **search and rescue to mapping and tethered drone operations**, OmniSight provides **2× the coverage, 2× the productivity, and 2× the intelligence** – all in a single mission.

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Unique Capabilities

1. Chameleon-Eye Architecture

Two fully equipped EO/IR/Laser pods rotate 360° in any direction, independently or together → 2× intelligence gathering in one flight

3. AI-Powered Smart Coordination

Onboard Jetson Xavier NX modules act as the “brain,” assigning each pod the optimal role—zoom in, zoom out, wide scan, or context view

5. Adaptive Mission Modes

AI-directed modes for search and rescue, vertical inspection, mapping overlap, or zero-overlap coverage

7. Independent Pod Controls

Each pod manages its own zoom, focus, and exposure, with manual or AI delegation

2. Ultra-precise motion

(+/-0.005° angular vibration range)
→ Crisp stability at extreme zoom

4. Twice the Coverage

Combined dual-pod vision creates a seamless 2x field of view with no blind spots

6. Onboard AI Processing

Detections, classifications, tracks, and geotags are handled in flight. No post-mission bottlenecks — just analysis-ready data as soon as you land

8. NDAA compliance

Trusted for defense & government uses

Operational Impacts

Defense / ISR

Two pods work in tandem: 2× intelligence gathering in one flight, one provides wide-area surveillance, the other zooms in on threats. 2× faster threat detection, spherical battlefield awareness.

Industrial Inspection

Inspect top and bottom of towers, bridges, or wind turbines simultaneously. AI detects poles, wires, transformers, anomalies, and assigns pods for optimal capture. Result: Twice the data, half the flight time, no missed targets.

Public Safety & SAR

Dual views halve search time for victims. One pod scans wide areas while the other zooms in on detections. Every second saved can mean lives saved.

Counter-UAS systems

2× faster detection-to-validation cycle compared to single-pod systems.
Simultaneous tracking of multiple hostile UAVs, boosting C-UAS survivability.

Digital twin & Surveying

Two pods double coverage per trigger → 2× scanning productivity. AI ensures correct overlap and alignment, reducing post-processing.

Tethered Applications

Hera with two OmniSights provides uninterrupted 360° situational awareness for ships, vehicles, or fixed stations. Real-time zoom without losing overall context.

OmniSight Specifications

GENERAL

Weight including two EO-IR pods and gimbal	2kg (4.4lb)
Dimensions (LxWxH)	310mmx170mmx160mm (12.20 x 6.69 x 6.30 inch)
Quick release	Yes
Input Voltage	12-60V
Power Consumption	97 W
Operating Temperature	-20 ~ 50°C
Payload Control Method	UART Ethernet SBUS
Supported Autopilot Platforms	ArduPilot/PX4
Supported Controllers	HeraLink or third-party controllers supporting Ethernet, running Linux, Android, or Windows
SDK	RTR SDK
NDAA compliance	Yes

FEATURES

Chameleon-Eye Architecture	Two fully equipped EO/IR/Laser pods rotate 360° in any direction, independently or together.
Twice the Coverage	Combined dual-pod vision creates a seamless 2x field of view with no blind spots for every mission.
Adaptive Mission Modes	Dual Independence – Each pod works independently, giving you unmatched flexibility to track different targets or inspect multiple points at once. Wide Horizon – Both pods align in horizontal orientation, doubling field coverage with synchronized zoom for consistent clarity across the scene Focus and Context – One pod locks onto the smallest target, while the other secures the full scene – ensuring no detail is missed, and no perspective is lost. Vertical Vision – Camera pods shift into portrait orientation for tall targets. Perfect for utility towers, bridges, and powerlines—delivering complete coverage in half the time.
Object Tracking & AI Recognition	Real-time 30 fps tracking/detection with memory; supports custom AI models.
Instant Geotagging	Every still image and video is automatically geotagged in real time, embedding camera settings, gimbal orientation, and GPS coordinates into .SRT files. Data is stored on a removable 500GB SSD for immediate analysis right after landing.
TeamSight – Situational awareness for the team	Stream live video from the pods to servers and teammates' mobile devices, enabling shared situational awareness and coordinated action.
Tap-to-Center	The operator can point the OmniSight at the target simply by tapping the target on the screen.
Flexible Video Streaming	Stream with confidence using UDP, RTSP, and RTMP protocols. A dedicated RTSP stream ensures effortless integration, letting you plug OmniSight's live video feed directly into third-party applications and workflows for maximum versatility.
Smart Waypoint Control	Plan every detail of your mission with customized capture timing, gimbal angles, and camera settings. Operate pods independently or in sync for maximum precision and coverage.

GIMBAL

Angular Vibration Range	±0.005°
Gimbal Mount	Sliding quick release
Controllable Range - Central	Pan-Central: ± 300° Roll- Central: ± 20°
Controllable Range - Left, Right Side	Tilt: +120°, - 200° Pan: +120°, - 200° Roll: ±300°
Max Controllable Speed	Tilt: ±100°/s Pan: ±100°/s Roll: ±100°/s

RGB BLOCK CAMERA (2X)

Image Sensor	1/2.8-type STARVIS 2 CMOS Sensor
Effective Pixels	2.13 MP
Lens	f = 4.3 mm to 129 mm, F1.6 to F4.7
Zoom	Optical: 30x. Digital: 12x. Super Resolution: 30x. Combine: 360x
Resolution	Photo: 1920 x 1080 (2.13 MP) Video: 1920 x 1080 (FullHD@60fps)
Format	Photo: JPEG Video: MP4, H265
Minimum Illumination	0.009 lx (Shutter Speed: 1/30 sec)
Defog mode	On/Off (Low, Mid, High)
Image Stabilization	Super image stabilizer (Super / Super+)

IR CAMERA (2X)

Sensor	Flir Boson+
Resolution	640x512
Frame Rate	60Hz
Pixel Size	12 µm
Thermal Spectral Range	8-14 µm
Radiometric	Supported Options
Scene Temperature Range	to 140 °C (high gain)
Lens Options	Fixed Focus, 4.9mm/14mm/18mm
Digital Zoom	1x to 8x zoom
Color Palette	Yes (White Hot, Rainbow, Ironbow, Arctic, Gradedfire, Black Hot, Rainbow HC, Globow, Lava, Hottest)
Format	Photo: JPEG Video: MP4, H265
Thermal Sensitivity (NETD)	Professional: ≤20 mK

LASER RANGEFINDER (2X)

Ranging Capability (m)	Max 2000m
Performance Continuous measure mode	Single, 1HZ, 4HZ, 10HZ
Precision (m)	Maximum 0.5m
Laser Safety	EN60825 Class 1



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