

AURORA EO/IR Multi-Sensor PTZ System

Precision Tracking · All-Weather Vision · AI-Powered Intelligence · Comprehensive Awareness



Model: ZV-EOS4255-R10006-H

Direct-Drive PTZ Performance

Torque direct-drive motors eliminate gears and backlash for pure mechanical response:

- **Instant reaction:** Near-zero latency for rapid target acquisition
- **Ultra-wide speed range:** Pan 0.09° ~ 120°/Sec, Tilt 0.09° ~ 110°/Sec – seamless transition from micro-scan to high-speed tracking
- **Sub-arcminute accuracy:** $\leq 0.02^\circ$ positioning precision for stable lock-on of small, fast targets (e.g., drones)
- **Unlimited coverage:** 360° continuous pan, $\pm 90^\circ$ tilt – no blind zones, no mechanical stops

Gyro-Stabilized Platform (Optional)

Dual-axis gyro stabilization compensates for vessel roll, vehicle vibration, and platform motion – delivering shake-free imagery in maritime patrol, off-road, and airborne applications.

Multi-Spectral Sensor Suite

- **Thermal:** 15 ~ 100mm F1.0 lens, 640×512 uncooled core – sees through darkness, fog, and smoke
- **Daylight HD:** 10 ~ 550mm 55× optical zoom, 1/1.25" 4MP sensor – captures fine details at long range
- **Active Sensing:**
 - 850nm laser illuminator (500m) for covert night vision enhancement
 - 1535nm eye-safe laser rangefinder (15~3000m, ± 1 m accuracy) (Optional)
- **Situational Awareness:** 4MP wide-angle camera (4mm F1.0) for rapid target cueing and scene context (Optional)
- **Geo-Referencing:** Integrated GPS and digital compass for real-time target geolocation (Optional)

Embedded AI Intelligence

- AI autofocus: adaptive focus in complex scenes
- AI noise reduction: clean imagery in low light
- AI target detection & tracking: automatic classification and persistent lock on personnel, vehicles, UAVs

Deployed For

Border & coastal surveillance · Critical infrastructure protection · Naval & vehicle-mounted observation
– A rugged, multi-domain vision system engineered for 24/7 operation in the world's most demanding environments.

Specifications

Thermal Camera

Detector	640 × 512, Uncooled VOx Microbolometer
Pixel Pitch	12μm
Spectral Band	8 ~ 14μm
NETD	≤35 mK @ F1.0, 300K
Focal Length	15~100mm 6× Continuous Zoom Lens
Aperture Range	F0.85 ~ F1.25
FOV	28.7° × 23.1° ~ 4.4° × 3.5°
Digital Zoom	8×
Pseudo Colours	10 Modes Available
Image Settings	Saturation, Brightness, Contrast, Sharpness, etc.
Image Enhancement	Support
Image Filtering	Support
Dead Pixel Correction	Support
Noise Reduction	Support

Day Camera

Sensor	4 Megapixels, 1/1.8" CMOS
Lens	10 ~ 550mm, 55× Optical Zoom, F1.5~ F5.5
Horizontal FOV	42.8° ~ 0.8° (Wide ~ Tele)
Min. Illumination	Colour: 0.0001 Lux @ (F1.5, AGC ON); B/W: 0.0001Lux @ (F1.5, AGC ON)
Image Settings	Saturation, Brightness, Contrast, Sharpness, etc.
Focus Mode	Auto Focus / One Focus / Manual Focus / Semi-Auto Focus
Digital Zoom	16×
Noise Reduction	3D / 2D
Defog	Electronical Defog & Optical Defog
Image Stabilization	Electronical Image Stabilisation (EIS)

Network

Protocols	ONVIF (PROFILE S, PROFILE G), SDK, TCP/IP, ICMP, HTTP, HTTPS, FTP, DHCP, DNS, RTP, RTSP, RTCP, NTP, SMTP, SNMP, IPv6
Intelligent Detection	Perimeter Intrusion Detection, Auto Tracking, Human / Vehicle / Vessel Detection and Classification, Fire & Smoke Detection
Storage	Micro SD / SDHC / SDXC card (Up to 512G), NAS (NFS, SMB / CIFS)
Web Languages	English / Turkish / Russian / Korean / Persian

Image

Max. Resolution	VIS: 2688×1520 @ 25/30 fps; LWIR: 1920 × 1080 @ 25/30 fps
Video Compression	H.265 / H.264

Illumination

Max. Distance	≥500m
Wavelength	850nm±10nm (940nm optional)

Angle of Illumination	Synchronized Zoom, Min. Angle: 2°, (effective distance>500m, spot diameter <36m) Max. Angle: 70°, (effective distance>40m)
PT Unit	
Gear Type	Direct Gear Drive
Motor Type	Torque Motor
Rotation Range	Pan: 360° Continuous Rotation; Tilt: +90° ~ -90°
Speed	Pan: 0.09° ~ 120°/Sec; Tilt: 0.09° ~ 110°/Sec
Preset Position Accuracy	± 0.02°
Preset	512 (Customizable)
Functions	Cruise Scan/Auto Scan; Support Query Angle Return Function (optional real-time angle return)
Gyroscope (Optional)	2-Axis (Yaw & Pitch), MENS
Auxiliary (Optional)	
Laser Rangefinder	15m ~ 3000m, ±1m, 1535nm
Wide-Angle Camera	1/1.8" 4MP, 4mm F1.0
GPS	Support
Digital Compass	Support
Interface	
Ethernet	RJ45, 100M Network Port
Serial Port	RS485, Compatible with PELCO protocols
General	
Operating Conditions	-40°C ~ 65°C; Humidity ≤ 90%
Protection	IP66; TVS 8000V Lightning Protection, Surge Protection and Voltage Transient Protection; NEMA 4X
Power Supply	24V DC ± 20%
Power Consumption	Max: 60W, Avg: 15W
Dimensions	333mm*339mm*252.8mm
Weight	< 20KG

