

MYK – 2A/3LG/Eo-1920X1080/IR-
640 X 512/LRF/ M-Ta-Tr /WWS-450

Product Introduction

This product is a two-axis gyro-stabilized three-light pod with integrated industrial design. It incorporates a 10× continuous optical-zoom visible-light camera, a fixed-focus long-wave uncooled infrared imaging assembly, and a laser rangefinder. It supports cruise applications up to 450 km/h and is extendable to open/object recognition and template-matching capabilities.



Functional Features

- visible light and long-wave infrared (LWIR).
- High-precision two-axis stabilization, fully isolating carrier yaw and pitch motion.
- Multiple operation modes: velocity following, angle following, image tracking, geo-tracking, scanning, reset, etc.
- Character overlay and picture-in-picture (PIP) functionality.
- Laser ranging and target localization.
- Simultaneous still-image capture and video recording for visible and infrared channels.
- Electronic image stabilization achieving sub-pixel level stabilization.
- Tracking resistant to module drift and occlusion based on fused deep-learning algorithms.
- Specific-target recognition: automatic detection/recognition of four target classes — person, vehicle, vessel, aircraft — with support for “adhesive” (lock-on) tracking.
- Multi-target tracking with keyboard or voice target numbering/locking.
- Link-latency compensation for precise locking of moving targets.
- Real-time monitoring of sensor and product status.
- Web-based remote firmware/feature upgrade capability.
- Expandable autonomous intelligent control module and integrated intelligent control system enabling detection of 600+ generic target types (e.g., “floating objects”, “fireworks”) with local deployment (no external training data dependency) and template matching; supports autonomous task workflows (text/voice interaction) for missions such as “traffic inspection” and “forest inspection

Technical Parameters

1. Visible-Light Camera (EO)

Spectral band: 0.4 μm – 0.9 μm

Resolution: 1920 \times 1080

Focal length: 4.7 mm – 47 mm ; 10 \times continuous optical zoom

Horizontal field of view (H-FOV): 58.1 $^\circ$ – 7.1 $^\circ$

Target	Person (0.5m \times 1.8m)	Vehicle (3m \times 6m)
Detection (km)	1.9	11.6
Recognition (km)	0.5	2.9

2. Long-Wave Uncooled Infrared Imaging (IR)

Spectral band: 8 μm – 14 μm

Resolution: 640 \times 512

Pixel pitch: 12 μm NETD:

$\leq 40\text{mK}$;

Focal length: 35mm/F1.0;

Field of view (FOV): 12.4 $^\circ$ \times 9.9 $^\circ$.

Target	Person (0.5m \times 1.8m)	Vehicle (3m \times 6m)
Detection (km)	1	4.6
Recognition (km)	0.35	1.5

3. Laser Rangefinder

Wavelength: 1535 nm

Range: 30 m – 3000 m

Range accuracy: ± 1 m

Measurement rate: 1 – 10 Hz

4. Servo / Stabilization Performance

Azimuth range: $N \times 360^\circ$

Elevation range: -120° to $+90^\circ$

Stabilization accuracy: $\leq 50 \mu\text{rad}$ ($2^\circ/1\text{Hz}$, $1^\circ/2\text{Hz}$ sway);

Angle-measurement accuracy: $\leq 1 \text{ mrad}$

Geolocation/positioning accuracy: 10 m @ 2 km (with extended inertial navigation)

Maximum angular velocity: $\geq 60^\circ/\text{s}$

Maximum angular acceleration: $\geq 150^\circ/\text{s}^2$

5. Single-Target Tracking Performance

Target type: Generic targets

Tracking threshold (motion): $\geq 32 \text{ pixels/frame}$

Update frame rate: $\geq 50 \text{ FPS}$

6. Multi-Target Recognition / Tracking Performance

Target type: Person, vehicle, vessel, aircraft, etc.

Recall rate: $\geq 90\%$

Accuracy rate: $\geq 80\%$

Minimum detectable target size: $32 \times 32 \text{ pixels @ } 1080\text{p}$

Tracked targets quantity: ≥ 20

Track-loss / jump rate: $\leq 15\%$

Update frame rate: $\geq 20 \text{ FPS}$

7. Video and Storage

image format: JPEG

Video format: MP4

Video codecs: H.264, H.265

Streaming protocols: RTSP, UDP, etc.

Onboard storage: 128 GB

8. Power Characteristics

Input voltage range: 18 – 32 VDC (with spike and surge protection)

Average power consumption: 15 W

Peak power consumption: 80 W

9. Electrical Interfaces

Communication interfaces: Serial (RS-422 / RS-232 / TTL selectable),
100 Mbps Ethernet

Video interfaces: 100 Mbps Ethernet, SDI

10. Environmental Adaptability

Operating temperature: –40 °C to +60 °C

Storage temperature: –45 °C to +70 °C

Shock: 20 g, @11 ms

11. Dimensions & Weight

Weight: ≤ 1.5 kg

Size: ≤ Φ115 mm × 171 mm

