

MYK-3A/2LG/4X IR -1280*1024/40 X EO- 1920 X 1080/Ta- Tr

Three-Axis Dual-Optical Pod

I. Product Overview

The MYK-3A/2LG/4X IR -1280*1024/40 X EO- 1920 X 1080/TA-TR electro-optical pod consists of an uncooled infrared thermal imager, a 40x continuous zoom visible light camera, a three-axis servo- stabilized platform, and an image processing module (with automatic recognition and tracking functions). It features light weight, high stabilization accuracy, high integration, automatic target recognition, and automatic tracking. It can be mounted on medium and small-sized UAVs to perform day and night reconnaissance, surveillance, and other tasks in target areas.

Through the uncooled infrared thermal imager and visible light camera, the electro-optical pod realizes all-time detection, recognition, and tracking of ground targets, and outputs infrared and visible light videos in real time for task operators to view.

The electro-optical pod is mainly used in scenarios such as reconnaissance, border patrol, personnel search and rescue, and forest fire prevention.

II. Product Images



III. Product Functions

- a) Equipped with automatic recognition and tracking functions for typical targets;
- b) Has self-inspection and fault reporting functions;
- c) Features 40x optical zoom for visible light;
- d) Possesses detection capabilities in long-wave uncooled infrared and visible light bands, capable of outputting infrared and visible light images;
- e) Visible light supports optical zoom, auto-focus, manual focus, fog penetration, and low illumination functions;

- f) Infrared supports 1.0~4.0x electronic zoom and 6 pseudo-color switching functions;
- g) Capable of three-degree-of-freedom movement (azimuth, pitch, and roll);
- h) Offers multiple working modes including course lock/manual search/follow-up/attitude stabilization/tracking;
- i) Can isolate carrier disturbance and stabilize the optical axis;
- j) Has target locking/unlocking functions, and the pod outputs images with tracking frames after target locking;
- k) Equipped with target tracking function and resistance to natural interference;
- l) Features memory tracking function, enabling re-acquisition of targets within a short time after temporary loss;
- m) Allows adjustment of gate size;
- n) Supports tracking point switching;
- o) Bidirectional communication with the control station via serial port/100M Ethernet (UDP), capable of outputting system working status, camera working status, optical axis position, and other information;
- p) Has a 100M Ethernet video interface (RTSP protocol);
- q) Supports photo taking and video recording functions;
- r) Features quick-release function.

IV. Mounting Platforms

Vertical take-off and landing fixed-wing UAVs, rotor UAVs, tethered UAVs, etc.

V. Main Technical Parameters

Model	MYK-3A/2LG/4X IR -1280*1024/40 X EO- 1920 X 1080/TA-TR
Infrared Thermal Imager	
Detector Type	Uncooled Focal Plane Array Detector
Operating Waveband	8μm~14μm
Detector Resolution	1280*1024
Pixel Size	12μm
Lens Focal Length	25mm
Field of View	35.2x28.1
Pseudo-Color	6 types
Digital Zoom	1.0~4.0X
Noise Equivalent Temperature	NETD≤50mK

Difference (NETD)	
Minimum Resolvable Temperature Difference (MRTD)	MRTD≤500mK
Visible Light Camera	
Resolution	1920×1080
Response Waveband	0.4μm~0.9μm
Pixel Size	2.0μm
Optical Zoom	40x
Hybrid Zoom	2x
Focal Length	4.25mm~170mm
Field of View	62.1°×37.4°~1.7°×0.97°
Zoom Mode	Auto-focus, Manual Focus
Minimum Illumination	0.01Lux(Black and White)
Servo Platform	
Azimuth Rotation Angle	360°×n (Continuous 360° Rotation)
Pitch Rotation Angle	-110°~+45° (Upward as Positive)
Roll Rotation Angle	-40°~+40°
Frame Angle Accuracy	≤0.3° (1σ)
Stabilization Accuracy	≤0.1mrad (1σ)
Maximum Slewing Speed	Azimuth ≥50°/s, Pitch ≥50°/s
Maximum Slewing Acceleration	Azimuth ≥20°/s², Pitch ≥20°/s²
Image Processing Module	
Automatic Recognition	Capable of automatic recognition of human and vehicle targets; maximum number of targets ≥32
Target Tracking	Target size≥16×16
Tracking Frame Rate	≤50Hz
Image Output	Optional RTSP/UDP/RTMP; bit rate adjustable from 200kbps to 6Mbps
System Indicators	
Power Supply Voltage Range	12V~32VDC
Power Consumption	Stable power consumption: ≤30W (Peak current ≤5A when powered on at 24VDC)
Weight	≤1.1Kg
Dimensions	120mm×129.4mm×198mm
Interfaces	
Control Interface	RS232/TTL/RS422/100M Ethernet (Optional)

Video Interface	100M Ethernet
Storage Interface	≤128G memory card (Micro SD card)
Image Format	jpg
Video Format	avi
Arm Type	Inclined Arm
Quick-Release Type	With Quick-Release
Environmental Adaptability	
Operating Temperature	-20°C ~ +55°C
Storage Temperature	-40°C ~ +60°C
Vibration Resistance	Acceleration: 2g; 30 minutes each in vertical, transverse, and longitudinal directions
Shock Resistance	Peak acceleration: 20g; Duration: 11ms
Protection Level	Capable of flying in light rain

VI. Mechanical Dimensions and Installation Interface Diagrams

