

MYK/3A/2LG/IR 640/10X Eo 8MP/4K/Ta Tr

Three-axis Dual-light Gimbal Camera

1. Product Introduction

MYK/3A/2LG/IR 640/10X Eo 8MP/4K/Ta Tr gimbal camera consists of an uncooled thermal infrared camera, a 10x continuous zoom 8M-pixel EO camera, a three-axis servo-stabilized platform and an video processing unit (AI recognition and auto tracking). It features light weight, high stability accuracy, high integration, AI recognition and auto tracking. It can be integrated to the small and medium-sized UAV to complete tasks such as day and night reconnaissance and surveillance of target areas.

The gimbal camera has been adapted to a number of mainstream domestic flight control platforms, docked seamless with the flight control; and it can be accessed to the unit's MYK Vision Studio display and control software platform, which can assist the overall unit complete the development of the unmanned aircraft system.

The gimbal Camera can detect, identify, and track the ground and air targets for 24 hours both in daytime and nighttime. It also supports for infrared and visible light videos streaming in real time.

Application: Reconnaissance, Border patrol, Search and rescue, Forest fire prevention.

2. Product Photo



Fig 1 MYK/3A/2LG/IR 640/10X Eo 8MP/4K/Ta Tr- photo

3. Function

- a) AI recognition and auto tracking;
- b) Self-check and fault report;
- c) Output infrared camera and EO camera video;
- d) One key return zero, Look down mode, AI recognition and auto-tracking;
- e) Photo taking and video recording;
- f) Quick-release
- g) 8MP EO camera, 10x optical zoom, 8X digital zoom;
- h) EO camera have Optical zoom, auto-focus, manual focus, defog, Image enhance and low illumination;
- i) TI camera have 1~8x digital zoom, 10 kinds of color palette;
- j) Large target 3km Laser range finder;
- k) Freely rotate in yaw, pitch and roll axis;
- l) Head lock / Manual search / Follow-up / attitude stabilization / tracking mode;
- m) Mechanical image stabilization;
- n) Supports manual target lock/unlock and automatic target lock;
- o) Auto track the target with powerful jamming-resistant;
- p) Memory tracking / Recapture / Adjust size of the tracking gate / Switch tracking point;

- q) Bidirectional communication with the ground station via RS422/TTL/ RS232 /IP (UDP);
- r) IP video interface (RTSP / UDP/TS protocol).

4. Application platforms

Fixed wing UAV, Multi-rotor UAV, Tethered UAV, etc.

5. Specification

Model	MYK/3A/2LG/IR 640/10X EO 8MP/4K/TA TR
System Para	
Net Weight	680g
Size	108mm×130mm×165mm
Input voltage	3s~8s (12V~32VDC)
Consumption	Stable consumption13W(Power-on peak current ≤ 3A)
Video interface	IP(RTSP / UDP/TS, H.265/H.264, 4K@30Hz)
Control Method	RS232/TTL/RS422/IP
Local-storage	TF card(Up to 512G)
Picture storage format	JPG(3840×2160)
Video storage format	MP4(4K@30Hz)
Network read card	HTTP read TF card online
Geotagging	Support, display time and GPS coordinate in picture exif
Function	AI recognition, Auto-tracking, One key return zero, Look down, AI recognition and auto-tracking
Target location accuracy	≤30m(cep)@1km
Mounting method	TJport-V1 quick-release
Support AutoPilot Protocol	MAVLink
EO camera spec	
Sensor Type	1/2.8" CMOS
Resolution	8MP(3840×2160)
Optic zoom	10X
Focal length	5mm~50mm
Digital zoom	1~8X
FOV	31.11°×17.8°~3.19°×1.79° (±5%)
Focus	Manual zoom / Auto focus / Manual focus
Min illumination	0.01Lux(black and white)
DRI(visibility≥15km)	Human target(1.7m×0.5m):

	$D \geq 2\text{km}$; $R(\text{manual}) \geq 500\text{m}$; $l \geq 1.3\text{km}$ Vehicle target($6\text{m} \times 3\text{m}$): $D \geq 9.4\text{km}$; $R(\text{manual}) \geq 4.7\text{km}$; $l \geq 2.3\text{km}$
TI camera spec	
Detector Type	Uncooled Focal Plane Detector
Working Waveband	$8\mu\text{m} \sim 14\mu\text{m}$
Resolution	640×512
Pixel	$12\mu\text{m}$
Focal Length	25mm
Focus	athermalized fixed focus
FOV	$17.5^\circ \times 14^\circ$ ($\pm 5\%$)
Palette	10 kind(WH / BH / Iron red etc.)
Digital zoom	1~8X
NETD	$\leq 50\text{mK}$
MRTD	$\leq 500\text{mk}$
DRI($\Delta T \geq 5\text{K}$)	Human target($1.7\text{m} \times 0.5\text{m}$): $D \geq 960\text{m}$; $R(\text{manual}) \geq 320\text{m}$; $l \geq 160\text{m}$ Vehicle target($6\text{m} \times 3\text{m}$): $D \geq 4.4\text{km}$; $R(\text{manual}) \geq 1.4\text{km}$; $l \geq 730\text{m}$
Gimbal spec	
Yaw	$360^\circ \times n$ (360° continuous)
Pitch	$-110^\circ \sim +90^\circ$ (upward is positive)
Roll	$-40^\circ + 40^\circ$
Frame Angle Accuracy	$\leq 0.3^\circ$ (1σ)
Angular jitter	$\leq 0.1\text{mrad}$ (1σ)
Maximum Rotating Speed	yaw $\geq 60^\circ/\text{s}$, pitch $\geq 60^\circ/\text{s}$
Video Processing Module	
AI recognition	The num of AI recognition human and vehicle targets ≥ 32
Recognition probability	85%
Track Size	$\geq 16 \times 16$
Target contrast	$\geq 5\%$
Track speed	48 pixel/frame
Tracking frame rates	50HZ
Environment	
Working temperature	$-20^\circ\text{C} \sim +55^\circ\text{C}$
Storage temperature	$-40^\circ\text{C} \sim +60^\circ\text{C}$

Vibration	The acceleration is 2g; the three directions of vertical, horizontal and longitudinal are 30 minutes each.
Shocking	Max acceleration 20g, lasting time 11ms
IP	IP54

6. Dimensions

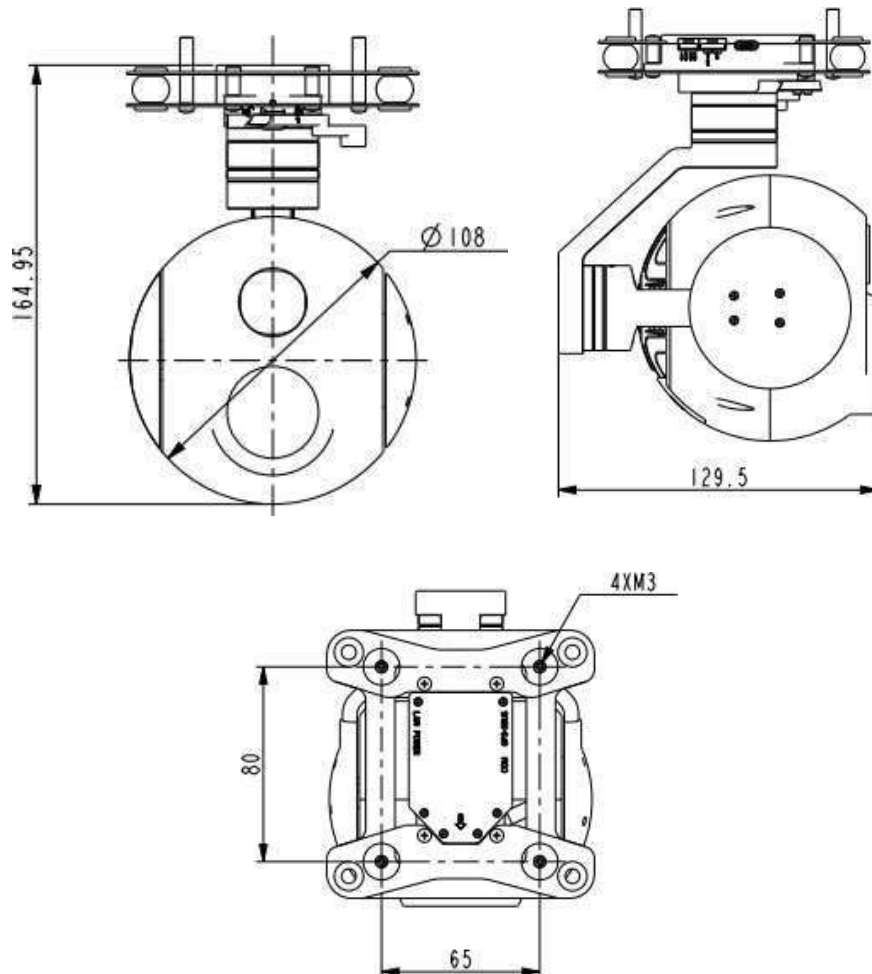


Fig2 Mechanical Dimensions