MYK/3A/4LG/WA EO 12Mp 5X/LF EO 4K 16X/IR 640/LRF/TA-TR
Three -axis Four-light Gimbal Camera

1. Product Introduction

MYK/3A/4LG/WA EO 12MP 5X/LF EO 4K 16X/IR 640/LRF/TA-TR gimbal camera consists of an uncooled thermal infrared camera, 12M-pixel wide-angle EO camera, 8M-pixel zoom EO camera (50X optical zoom, 16X digital zoom), 3km LRF , 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 micro-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/4LG/WA EO 12MP 5X/LF EO 4K 16X/IR 640/LRF/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 and AI recognition to tracking;

e) Target location;

f) Photo taking and video recording;

g) Quick-release;

h) 8MP EO camera, 50X optical zoom,16X digital zoom;

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 UART/ /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/4LG/WA EO 12MP 5X/LF EO 4K 16X/IR 640/LRF/TA-TR
System Para	
Net Weight	1.9Kg
Size	153mm×231mm×245mm
Input voltage	3s～8s（12V～32VDC）
Consumption	Stable consumption24W(Power-on peak current ≤ 5A)
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 storge format	JPG(3840×2160)
Video storge 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, Target location, One key return zero, Look down, AI recognition to tracking
Target location accuracy	≤30m(cep)@1km
Mounting method	TJport-V1 quick-release
Support AutoPilot Protocol	MAVLink, Chuangheng, Weike, Jizhi, Borui, etc.
Wide angle EO camera spec	
Sensor Type	1/2.3″ CMOS
Resolution	12MP(4056×3040)
Focal length	3.35mm
Digital zoom	1～5X
FOV	83°×53°（±5%）
Focus	athermalized fixed focus
DRI(visibility≥15km)	Human target(1.7m×0.5m): D≥180m; R(manual)≥90m; I≥50m Vehicle target(6m×3m): D≥850m; R(manual)≥400m; I≥200m
Long-focus EO camera spec	
Sensor Type	1/2.3″ CMOS

Resolution	8MP(3840×2160)
Digital zoom	1～16X
Focal length	6mm～300mm
Optical zoom	50X
FOV	65.2×39.6°～1.4×0.8°（±5%）
Focus	Manual zoom / Auto focus / Manual focus
DRI(visibility≥15km)	Human target(1.7m×0.5m): D≥8.9km; R(manual)≥4.4m; I≥2.2m Vehicle target(6m×3m): D≥41km; R(manual)≥20km; I≥10km
TI camera spec	
Detector Type	Uncooled Focal Plane Detector
Working Waveband	8μm～14μm
Resolution	640×512
Pixel	12μm
Focal Length	35mm
Focus	athermalized fixed focus
FOV	12.5°×10°（±5%）
Palette	10 kind(WH / BH / Iron red etc.)
Digital zoom	1～8X
NETD	≤50mK
MRTD	≤500mk
DRI(ΔT≥5K)	Human target(1.7m×0.5m): D≥1.3km; R(manual)≥450m; I≥230m Vehicle target(6m×3m): D≥6.2km; R(manual)≥2km; I≥1km
Laser range finder(Eye safe)	
Wavelength	1535nm
Maximum Distance	Vehicle≥3km (under the condition of visibility ≥15Km); Building≥5km
Minimum Distance	≤15m
Accuracy	≤±2m
Laser divergence	≤0.7mrad
Frequency	1Hz～5Hz
Gimbal spec	
Yaw	360°×n(360° continuous)

Pitch	-110°～+90°（upward is positive）
Roll	-40°+40°
Frame Angle Accuracy	≤0.3°
Angular jitter	≤0.1mrad（1σ）
Maximum Rotating Speed	yaw≥60°/s，pitch≥60°/s
Video Processing Module	
AI recognition	The num of AI recognition human and vehicle targets ≥32
Recognition probability	85%
Track Size	⩾16×16
Target contrast	⩾5%
Track speed	48 pixel/frame
Tracking frame rates	50HZ
Environment	
Working temperature	-20℃～＋55℃
Storage temperature	-40℃～＋60℃
Vibration	The acceleration is 2g; the three directions of vertical, horizontal and longitudinal are 30 minutes each.
Shocking	Max accelaration20g，lasting time 11ms
IP	IP54

6. Dimensions

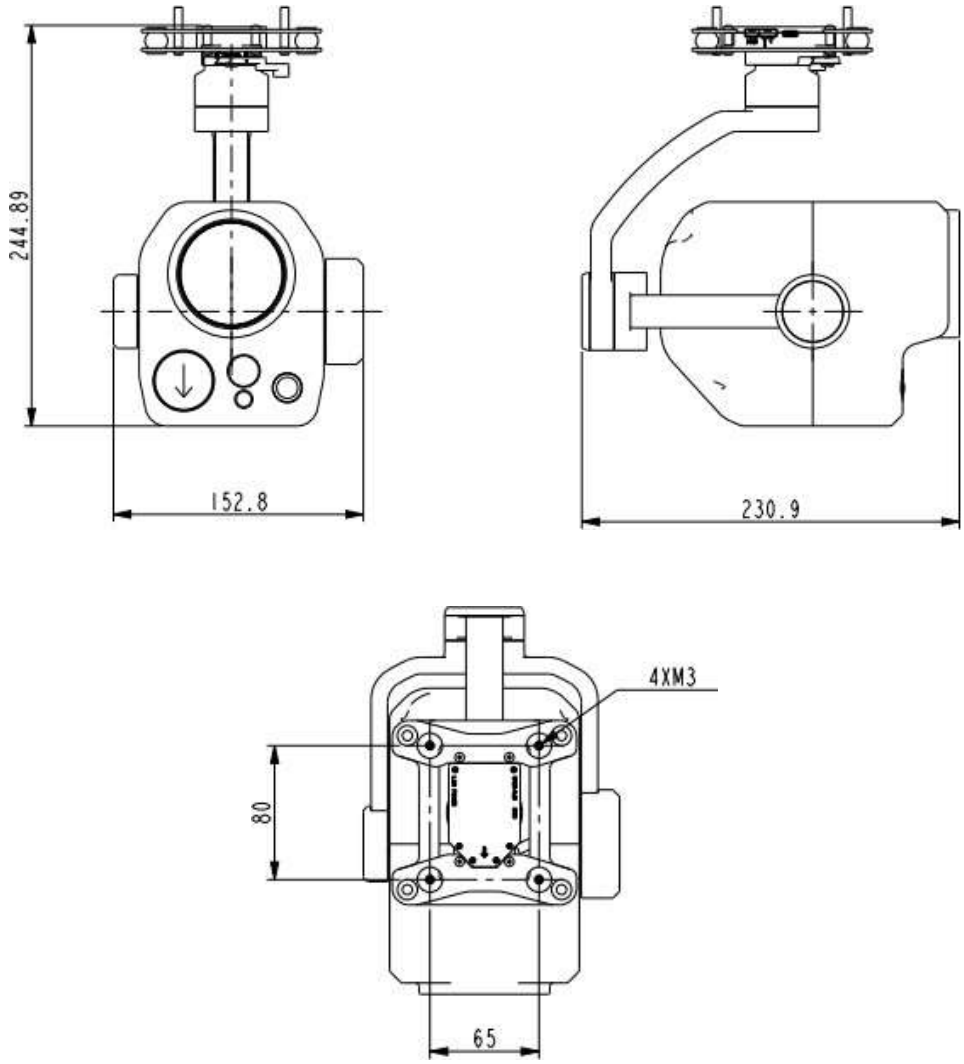

Fig2 Mechanical Dimensions