

EDTZ083FA Three-axis Four-light Gimbal Camera

1. Product Introduction

The EDTZ083FA gimbal camera consists of an uncooled infrared thermal imager, fixed-focus visible-light camera, 50x continuous zoom visible light camera, a laser rangefinder, a three-axis servo-stabilized platform and image processing components. It features high precision, high integration, automatic target identification and tracking. It can be integrated to the middle and small unmanned aerial vehicles to finish 24-hours security and surveillance tasks in the target area.

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

The gimbal camera has been adapted to a number of mainstream domestic flight control platforms, docked seamless with the flight control. It can be accessed to the unit's View Control Studio display and control software platform that can assist the overall unit in quickly completing the development of the unmanned aircraft system.

The application includes security and surveillance, border patrol, search and rescue, and forest fire prevention .

2. Physical Picture



3. Product Functions

- a) Identify and track typical targets.

- b) Self-check and fault report.
- c) Visible light 50x optical zoom.
- d) Output infrared and HD visible light images.
- e) Laser lighting and laser ranging.
- f) Optical zoom, autofocus, manual focus and low illumination.
- g) Electronic zoom and switch palletes.
- h) Freely rotate in azimuth and pitch angle.
- i) Manual search/servo/attitude stabilization/tracking.
- j) Isolate the disturbances of the carrier, stabilize the line of sight.
- k) Lock/unlock the target, output the image with a tracking frame after the target is locked.
- l) Auto track the target and resist interference.
- m) Memory tracking with rapid target reacquisition.
- n) Adjust size of the wave gate.
- o) Switch tracking point.
- p) Calculate target coordinates through laser ranging and UAV information.
- q) Outputs system working status, camera working status and optical axis position through RS232/100Mbps Ethernet with the control station.
- r) 100 Gigabit network video interface (RTSP protocol).
- s) Photo taking and video recording.

4. Mounting Platforms

Dropped fixed-wing drones, rotary-wing drones, tethered drones, etc.

5. Main Technical Parameters

Model	EDTZ083FA
Infrared Thermal Imager	
Detector Type	Uncooled Focal Plane Detector
Working Waveband	8 μ m~14 μ m
Detector Resolution	1280 \times 1024
Pixel Size	12 μ m
Lens Focal Length	35mm
Field of View	24.8 $^{\circ}$ \times 19.9 $^{\circ}$ (\pm 5%)
Noise Equivalent Temperature Difference	NETD \leq 50mK
Minimum Resolvable Temperature Difference	MRTD \leq 500mK
Zoom Visible Light Camera	
Resolution	3840 \times 2160
Pixel Size	2.0 μ m
Optical Zoom	50 times
Focal Length	6mm~300mm
Field of View Angle	65.2 \times 39.6 $^{\circ}$ ~1.4 \times 0.8 $^{\circ}$

Zoom	Auto focus, manual focus
Minimum Illumination	0.01Lux
Wide-angle Visible Light Camera	
Resolution	4056×3040 (fixed focus 1200W pixels)
Pixel Size	1.55μm
Focal Length	3.35mm
Field of View Angle	83°×53°
Laser Ranging Machine	
Maximum Ranging Distance	≥3km (under the condition of visibility ≥5Km, car target:3m×6m)
Minimum Ranging Distance	≤20m
Ranging Accuracy	≤2m
Ranging Frequency	1 ~5 Hz
Servo Platform	
Pan Angle	360°×n (360° continuous rotation)
Tilt Angle	-110° ~ +45° (positive upward)
Roll Angle	-45°+45°
Stabilization Accuracy	≤0.01mrad (1σ)
Maximum Angular Velocity	Azimuth≥60°/s, Pitch≥60°/s
Maximum Tracking Angular Velocity	Azimuth≥50°/s, Pitch≥50°/s
Imaging Processing Module	
Automatically identification	Automatically identify selected targets≥32
Target tracking	Target dimension≥16×16
Tracking frame rates	50HZ
Image output	RTSP/UDP/RTMP optional, 200kbps~6Mbps settable
System parameters	
Voltage	12V - 32VDC
Consumption	Stable Power Consumption: ≤40W (24VDCpower-up peak current≤5A)
Weight	≤1.9Kg
Dimensions	≤146.4mm×224.8mm×225.1mm
Interface	
Control Interface	RS232/TTL/RS422/100 Mbit(optional)
Video Interface	100 Mbit
Storage Interface	≤128G Memory Card (Micro SD Card)
Picture Format	jpg Format
Video Format	avi Format
Arm Type	Straight Arm
Environmental Adaptability	
Working Temperature	-20℃~ +55℃(-40℃ optional)
Storage Temperature	-40℃~ +60℃
Vibration Condition	Acceleration of 2g; 30 minutes in each of the vertical, lateral and

	longitudinal directions.
Impact Condition	Peak acceleration of 20g, duration of 11ms
Protection Level	Can fly in light rain

6. Mechanical Dimensions and Installation Interfaces

