S230TG Dual-Axis Triple-Sensor Electro-Optical Pod

1. Product Profile

S220TC optoelectronic pod consists of an uncooled infrared thermal camera, a 30x continuously zoomed visible camera, a laser illuminator, a two-axis servo-stabilized platform and an image processing component (auto identification and tracking). It is characterized by high precision and long acting distance, can be applied to medium and small-sized UAVs to accomplish day and night reconnaissance, surveillance and other tasks on the target area.

The optoelectronic pod realizes all-day detection, identification and tracking of ground targets by means of uncooled infrared thermal camera and visible light camera, and outputs real-time infrared and visible light video for the mission executives to view at the same time.

The pod has been adapted to a number of domestic mainstream flight control platforms, and can realize seamless docking with the flight control; and can be accessed to the Users' View Control Studio software platform, to assist the company to quickly complete the development of the unmanned aircraft system.

The optoelectronic pod is mainly used in reconnaissance, border patrol, personnel search and rescue, forest fire prevention and other scenarios.

2. Product Picture



Picture 1 product

3. Product Features

- a) Features automatic target recognition and target tracking capabilities;
- b) Includes self-diagnostic and fault reporting functions;
- c) Offers 30x optical zoom functionality in the visible light spectrum;
- d) Capable of detecting in the long-wave infrared and visible light spectra, and can output infrared and visible light images;
- e) Visible light functionality includes optical zoom, auto-focus, manual focus, and low-light performance;
- f) Infrared has 3x continuous zoom functionality;
- g) Capable of laser ranging and illumination functionality;
- h) Capable of two-degree-of-freedom movement in azimuth and elevation;
- i) Capable of multiple operating modes including automatic search, manual search, follow-up, and tracking;
- j) In manual search mode, capable of receiving control station commands and performing pod operations;
- k) Capable of isolating carrier disturbances and maintaining a stable aiming line:
- I) Capable of locking/unlocking targets, with the pod outputting images with tracking frames after target lock;
- m) Capable of target tracking with resistance to natural interference;
- n) Capable of memory tracking, enabling rapid reacquisition of targets after brief loss;
- o) Capable of adjusting aperture size;
- p) Capable of switching tracking points;
- q) Capable of calculating target coordinates based on laser ranging, pod azimuth and pitch angles, and UAV attitude information;
- r) Capable of bidirectional communication with the control station via 100Mbps Ethernet/RS422, and outputting infrared images, visible light images, system operational status, camera operational status, optical axis position, and other information;
- s) Equipped with HD-SDI/100Mbps Ethernet multi-channel video output interfaces;
- t) Capable of photography and video recording functions.

4. Applications

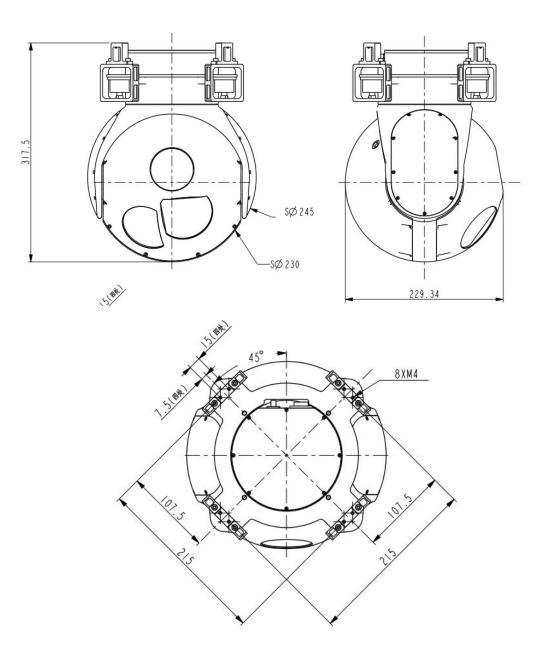
Dropped fixed-wing UAVs, rotary-wing UAVs, tethered UAVs, etc

.5. Main Technical Parameters

Model	S230TG	
Thermal imaging camera		
Detector Type	Uncooled Focal Plane Detector	
Operating Band	$8\mu m{\sim}14\mu m$	
Detector	640×512	
Resolution		
Image size	12μm	
Lens focal length	25mm to 75mm continuous zoom	
Field of view	17.5°×14°~5.9°×4.7°	
Noise Equivalent		
Temperature	NETD≤50mK	
Difference		
Minimum		
Resolvable	MRTD≤500mK	
Temperature Difference		
Difference	Visible Light Camera	
Resolution	1920×1080	
Response Band	$0.4 \mu \mathrm{m}{\sim} 0.9 \mu \mathrm{m}$	
Image size	2.8µm	
Optical zoom	30x	
Hybrid zoom	60x	
Focal length	4.3mm~129mm	
Field of view	63.7°×35.8°~2.3°×1.3°	
Zoom Method	Auto Focus, Manual Focus	
Minimum		
Illumination	0.01Lux (B/W)	
Laser Illuminator		
Wavelength	1064nm	
Laser energy	≥40mJ	
Laser pulse width	15ns±5ns	
Laser Beam	≤0.3mrad	
Scatter Angle	2011-	
Frequency	20Hz 8 groups of codes can be pre-stored; accurate frequency code,	
Laser code	variable interval code, pseudo-random code	
Irradiation	≥4Km (under visibility ≥15Km)	
distance	, , ,	
Maximum distance	≥6km (under the condition of visibility ≥15Km)	
Minimum distance	≤100m	
Ranging accuracy	≤5m	
Frequency	1∼5Hz	
Servo platform		
Azimuth angle	360°×n (360°continuous rotation)	
Pitch angle	-120°~+90° (positive upward)	
Frame Angle		
Accuracy	≤0.06° (1σ)	

accuracy Corner position accuracy Maximum turning speed Maximum rotational acceleration Image processing components Automatic recognition Target tracking Tracking frame rate Image output RTSP/UDP/RTMP optional, code rate 200kbps ~ 6Mbps can be set System index Voltage range Wattage Stable power consumption: ≤60W Weight Volume Stable power consumption: ≤60W Weight Summx229.3mmx317.5mm Interfaces Control Interface Memory Interface Picture Format Video Format Coperating Temperature Storage Temperature Vibration Conditions Shock conditions Shock conditions Stable power consumption: ≤60W Summx229.3mmx317.5mm Interfaces Control Interface Acceleration of 2g; 30min in each of the three directions of vertical, horizontal and longitudinal. Peak acceleration 20g, duration 11ms	Stabilization		
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		Can fly in light and moderate rain	

6. Dimensions and Interface



Picture 2 Product Dimensions