



S4E



VIRAJ28DDS-C

Long Range Multi-Sensor Optical
Platform Camera

(DAY AND NIGHT)

The Viraj DDS series is a multi-sensor optical platform camera specially designed for drone detection in the key areas such as Airports, Military bases, Chemical industries, Border and Coastal defenses. The camera system can be offered as a multi-detection system comprising of

- High definition visible light camera,
- Refrigerated cooled thermal imager,
- Near-infrared laser illumination, etc., and can be equipped with
- Laser range finder,
- Electronic compass,
- Automatic tracking,
- Intelligent Analytics

The system has been designed for all-weather positioning, tracking, identification and tracking of targets, and the operating distance can reach more than 15km.

The optical platform camera system can be stationary or used in vehicles. The system has been built to MIL spec compliance wherein the housing structure is made of Super cast aluminum material IP67 grade which in turn effectively ensures long-term stable operation of the equipment in hazardous, extreme climate

Salient Features

1. The reinforced aluminium alloy housing allows system to be used in hazardous environments
2. Wide coverage offered by the PT -Azimuth rotation range $0^{\circ}\sim 360^{\circ}$, Pitch rotation range $-90^{\circ}\sim +90^{\circ}$, realizing no dead angle detection and full-dimensional coverage.
3. The rotation speeds attained are $60^{\circ}/s$, and acceleration $120^{\circ}/s^2$, with quick start and stop facility which allows capture and tracking of fast moving targets;
4. The PT system utilizes the cutting edge innovations, viz Precision angle encoder and high-precision closed-loop servo control system, wherein the positioning accuracies guaranteed are 0.01° . Added features are high-performance image processing unit with high-precision focus control mechanism
5. The automatic tracking module designed with a variety of advanced target acquisition algorithms and tracking algorithms, supplemented by high-precision servo control, tracking accuracy can reach $\pm 0.5m$ rad, to ensure stable tracking of the target during fast flight and change of direction
6. The software built in house with Intelligent Analytics, offers very unique functions viz hot spot alarm, Regional intrusion alarm, Cross-border intrusion alarm, Target tracking, Long-distance small target recognition, Radar linkage, Panoramic stitching, 3D zoom positioning.

Technical specifications

Model	VIRAJ 28DDS-C(DAY AND NIGHT)	
(Day) Detection Recognition Identification	Vehicle: 17 km, 08 04	Human: 6.8 km 3.5 02
(Night) Detection Recognition Identification	12 06 03	6.8 03 02
UAV Detection	1.5km~2km (Thermal Camera System)	
UAV Detection	22 - 230mm	
Thermal Detection	3km (Daylight camera system)	
Thermal Lens	Uncooled Vox sensor, 640x512 resolution	
Fov	22 - 230mm	
Image process	1. Imageenhancement:SDE 2. Color: White hot/Black hot 3. Brightnessandcontrast: 4. AGC, adjustable 5. Digitalzoom:2X/4X 5. Cross:Display 6. Correction:Shutter/Background	
Visible camera sensor	1/1.8" CMOS	
	0.0002lux super high sensitive color to B/W CCD	
	2megapixels, 1920X1080	
	Automatic ICR switch	
Visible camera lens	H.264/MPEG4/MIPEG	
	32Kbps~16Mbps, 60Hz30 FPS	
	12.5 ~ 750mm	
Intelligent Analytic	60X zoom, auto focus	
	Auto Focus	
PTZ structure	Supports hot spot alarm Supports cruise detection Supports regional intrusion detection Supports cross-border intrusion detection Supports 3D frame selection zoom/position	
Rotation	Dome Shape Structure, Three Window design, anti strong wind	
Speed	Pan: 0~360°, Tilt: +90°~-90°	
PT position	1. Panspeed:0.01°~60°/s;Tilt speed: 0.01°~45°/s 2. Acceleration: 80°/s2 Pan; 80°/s2 Tilt 4. Intelligent sensing shifting function, support lens focal lengthspeed adaptivefunction 5. Variable 6. Direct drive with high torque rare earth permanent magnet synchronous motor, high speed start and stop facility	
Patrol and Scan	1. Positioning accuracy: 0.01°- 0.02°, high-frequency fine-tuning pulse precision motor drive, digital angle measurement sensor servo 2. Positioning time: less than 4s 1. Preset: no less than 255 2. Path scanning: support preset point cruise, day and night cruise, line sweep, apple skin scan, scan speed can be set 3. Watch function: support watch preset point \ line sweep \ cruise \ appleskin	

Data Feedback	<ol style="list-style-type: none"> 1. Lens servo : support lens field of view, magnification, ZOOM/FOCUS value query, return, positioning function 2. Pan Tilt angle: support horizontal, vertical angle real-time / query return, positioning function
Track Mode	<ol style="list-style-type: none"> 1. Supports front-end module automatic tracking 2. Supports automatic tracking of back-end software
Track Module	<ol style="list-style-type: none"> 1. Video interface: support visible light/ thermal image video switching tracking 2. Video format: composite video, PAL, NTSC 3. Multi-target detection: support multi-target detection 4. Tracking algorithm: Integrate multiple tracking algorithms, which can be switched manually/ automatically according to different scenarios, and support recapture and lock when the target is temporarily lost 5. Target size: adaptive gate, the size of the tracking frame changes automatically according to the target size
Enhance	<ol style="list-style-type: none"> 1. Heating defrost: oriented industrial window defroster, automatic heating temperature control 2. Power failure memory: support, can restore power off state 3. Motor protection: PT blocking protection, high reliability 4. Fault detection: support power-on self-test, status query and fault code feedback 5. Upgrade maintenance: remote restart, remote upgrade function, convenient system maintenance
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Protocol	<ol style="list-style-type: none"> 1. TCP / IP, HTTP, DHCP, DNS, DDNS, RTP and other network protocols 2. Support ONVIF 2.0 3. Pelco-P, Pelco-D and other industry-standard protocol, baudrate 2400, 4800, 9600, 19200 alternative, proprietary protocols can be customized
Power supply	AC90V~305V to DC48V Turntable rotation power can be controlled in 120W Maximum power consumption 180W
Environmental Indicators	<ol style="list-style-type: none"> 1. Working temperature: -40° C ~ + 60° C 2. Storage temperature: -45° C ~ + 70° C 3. Humidity: <90% 4. Protection: IP67

Integration of System For

