



S4E



VIRAJ28DDS-CD

Long Range Multi-Sensor Optical Platform Camera

The Viraj DDS series is a multi-sensor optical platform camera specially designed for drone detection in the key areas as surveillance 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-CD | |
|--|---|--------------------------|
| (Day) Detection Recognition Identification | Vehicle: 20 km, 10 05 | Human: 10 km 05 03 |
| (Night) Detection Recognition Identification | 15 08 04 | 10 05 03 |
| Field of View | 35 x 28 1.8 X 1.4 | |
| Spectral range | 3km - 5km | |
| Thermal Sensor | FPA MCT detector, stirling cryo cooler sensor, 640 X 512 resolution | |
| Thermal Lens | 15 - 300 mm | |
| FOV | 20 X continuous zoom, 8X digital zoom | |
| Image Process | Auto focus | |
| Image Process | 1. Image enhancement:SDE 2. Color: White hot / Black hot 3. Bright ness and contrast: 4. AGC, adjustable 5. Digital zoom: 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 | |
| | 2 megapixels,1920X1080 | |
| | Automatic ICR switch | |
| | H.264/MPEG4/MIPEG | |
| Visible camera lens | 32Kbps~16Mbps, 60Hz30 FPS | |
| | 60 X zoom, auto focus | |
| Intelligent Analytic | Auto Focus | |
| | Supports hot spot alarm Supports cruise detection Supports regional intrusion detection Supports cross-border intrusion detection Supports 3D frame selection zoom/position | |
| PTZ structure | Dome Shape Structure, Three Window design, anti strong wind | |
| Rotation | Pan: 0~360°, Tilt: +90°~-90° | |
| PT position | 1.Positioning accuracy: 0.01°- 0.02°, high-frequency fine-tuning pulse precision motor drive, digital angle measurement sensorservo 2.Positioning time: less than4s | |
| Patrol and Scan | 1. Preset: no less than255 2. Path scanning: support preset point cruise, day and night cruise, line sweep, apple skin scan, scan speed can beset 3. Watch function: support watch preset point \ line sweep \ cruise \ appleskin | |
| Data Feedback | 1.Lens servo: support lens field of view, magnification, ZOOM/FOCUS valuequery, return, positioningfunction 2. Pan Tilt angle: support horizontal, vertical angle real-time / query return, positioningfunction | |
| Track Mode | 1. Support front - end module automatic tracking 2. Support automatic tracking of back - end software | |
| Track Module | 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 switched manually/ automatically according to different scenarios, and support recapture and lock when the target is temporarily lost 5. Targetsized: adaptivegate, the size of the tracking frame changes automatically according to the target size | |

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| 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. Upgrademaintenance : remote restart, remote upgrade function, convenient system maintenance |
| 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 portocol, 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 Reference

