

DS-2TD966A-450ZK2FD/W Bi-spectrum Cooled Thermal Sphere PTZ



Hikvision cooled photoelectric sphere positioning system integrates cooled thermal imager, optical camera, and sphere positioning system, etc. This system realizes unattended and uninterrupted work, adopts thermal imaging technology, featuring good concealment, strong ability to penetrate haze, and not limited by light sources. The effective combination of optical camera and thermal imager can realize continuous monitoring day and night, and can be widely used in border surveillance, coastal vessel observation, also used in airports, ports and other critical infrastructures for security protection.

This product also uses a number of unique key technologies in materials and processing. The shell is made of high-strength aluminum alloy and stainless steel, and is specially reinforced and sealed. It can be widely used in real-time hidden monitoring occasions such as night, harsh environments, long distances and large areas.

- Using continuous zoom thermal imaging technology. The strong ability to penetrate haze and long detection distance support to search for targets in a large range.
- Equipped with day & night 2MP low-lux color camera, which performs detailed observation, the device can achieve continuous day and night monitoring.
- Multi-position intelligent recognition and auto-focus technology, which can achieve rapid focus through multiple focusing methods and triggering methods.
- 3D positioning function, which supports drawing area to zoom in and clicking to center, more convenient for device operation.
- Professionally designed shell, beautiful, light, strong, high temperature resistant, anti-corrosion, waterproof, and acid rain resistant.
- Support Locked-rotor Alarm
- The shell adopts coating anti-corrosion, and all PCBs in the equipment are added with three anti-corrosion paint/nano layer
- Facing artificial locked-rotor or icing at low temperature, the equipment will not be broken, and the alarm can be triggered.
- Support vessel detection like dredger, fishing boat and ship flow detection
- Support GPS positioning to coordinate of latitude and longitude, and compass for orientation
- Support 4 VCA rule types (Line Crossing, Intrusion, Region Entrance, and Region Exiting), up to 10 scenes and 8 VCA rules for each scene

• Specification

Thermal Module	
Image Sensor	MCT Cooled Focal Plane Array
Resolution	640 x 512
Pixel Pitch	15 μ m
NETD	≤ 25 mK (@25° C, F# = 4.0)
Focal Length	45 to 450 mm
Focus Mode	Motorized zoom, Motorized focus, Auto focus (10m to infinity, full range of temperature is clear)
Aperture	F4.0
Field of View	Wide: 12.2° × 9.8° (H × V); Tele: 1.2° × 1.0° (H × V)
Digital Zoom	×2, ×4, ×8
Spectral Range	3.7 μ m to 4.8 μ m
MRTD	≤ 250 mK (25°C)
Start-up Time	≤ 7 minutes and 30 seconds (under 25°C)
Optical Module	
Image Sensor	1/1.8" Progressive Scan CMOS
Resolution	1920 × 1080, 2 MP
Min. Illumination	Color: 0.005Lux @ (F3.5, AGC ON), B/W: 0.0005 Lux @ (F3.5, AGC ON)
Field of View	Wide: 28.0° × 16.0° (H × V); Tele: 0.37° × 0.21° (H × V)
Focal Length	10 to 1000 mm, 100x
Aperture (Range)	F3.0-F11.5
Digital Zoom	×2, ×4, ×8, ×16
Shutter Speed	1s to 1/30,000 s
WDR	120 dB
Optical Defog	Yes
Focus Mode	Semi-auto & Manual
Image Effect	
Image Stabilization	Optical channel: Optical Image Stabilization (OIS)
PTZ	
Movement Range	Pan: 360° Continuous Rotate; Tilt: From -45° to + 45°
Pan Speed	Configurable, From 0.01°/s to 120°/s, Preset Speed: 120°/s
Tilt Speed	Configurable, From 0.01°/s to 80°/s, Preset Speed: 100°/s
Proportional Zoom	Yes
Presets	300 in total, 273 are configurable.
Patrol Scan	8; Up to 256 Presets Per Patrol
Pattern Scan	4; More Than 10 Minutes Per Pattern
Power Off Memory	Yes
Park	Preset/Pattern Scan/Patrol Scan/Auto Scan/Tilt Scan/Random Scan/Frame Scan/Panorama Scan
PT Status	Turn On/Turn Off

Scheduled Task	Preset/Pattern Scan/Patrol Scan/Auto Scan/Tilt Scan/Random Scan/Frame Scan/Panorama Scan/Doom Reboot/Doom Adjust/Aux Output
Acceleration	120°/s ²
Video and Audio	
Main Stream	Optical channel 50 Hz: 25 fps (1920×1080, 1280×960, 1280×720) 60 Hz: 30 fps (1920×1080, 1280×960, 1280×720) Thermal channel Up to 25fps (384×288, 640×512, 704×576, 1280×720P, 1280×960, 1920×1080P)
Sub-stream	Optical channel 50 Hz: 25 fps (704 × 576, 352 × 288) 60 Hz: 30 fps (704 × 576, 352 × 288) Thermal channel 25 fps (704 × 576, 640 × 512, 384 × 288)
Video Compression	H264, H265, MJPEG
Audio Compression	G.711/G.722.1/G.726/MP2L2/PCM
Network	
Protocols	IPv4/IPv6, HTTP, HTTPS, 802.1x, Qos, FTP, SMTP, UPnP, SNMP, DNS, DDNS, NTP, RTSP, RTCP, RTP, TCP, UDP, IGMP, ICMP, DHCP, PPPoE
Network Storage	MicroSD/SDHC/SDXC card (up to 256 G) local storage, and NAS (NFS, SMB/CIFS), auto network replenishment (ANR)
API	ISAPI, HIKVISION SDK, Open Network Video Interface (Profile S, Profile G, Profile T)
Simultaneous Live View	Up to 20 channels
User/Host level	Up to 32 users, 3 levels: Administrator, Operator, User
Security	User authentication (ID and Password), MAC address binding, HTTPS encryption, IEEE 802.1x(EAP-MD5, EAP-TLS), access control, IP address filtering
Client	iVMS-4200, Hik-Connect, Hik-Central
Web Browser	Live view (plug-in allowed) : Internet Explorer 11 Live view (plug-in free) : Chrome 57.0 +, Firefox 52.0 + Local service : Chrome 57.0+, Firefox 52.0 +
Interface	
Alarm Input	2-ch inputs (0 to 5 VDC)
Alarm Output	2-ch relay outputs, alarm response actions configurable
Alarm Action	Preset/Patrol Scan/Pattern Scan/SD Card Record/Relay Output/Smart capture/FTP upload/Email linkage
Audio Input	1, 3.5 mm Mic in/Line in interface. Line input: 2 to 2.4 V [p-p], output impedance: 1 KΩ ± 10%
Audio Output	Linear Level; Impedance: 600 Ω
Communication Interface	1, RJ45 10 M/100 M/1000 M Self-adaptive Ethernet interface. 1, RS-485 interface
Reset Key	1 reset button built in the motherboard
RS-485	1

General	
Menu Language	32 languages English, Russian, Estonian, Bulgarian, Hungarian, Greek, German, Italian, Czech, Slovak, French, Polish, Dutch, Portuguese, Spanish, Romanian, Danish, Swedish, Norwegian, Finnish, Croatian, Slovenian, Serbian, Turkish, Korean, Traditional Chinese, Thai, Vietnamese, Japanese, Latvian, Lithuanian, Portuguese (Brazil)
Power Supply	Wide input AC110~AC305V, 50/60Hz; Power supply: DC48V±20%, or DC30~36V
Power Consumption	Power consumption ≤180 W Power consumption ≤460 W (turn on deicing heating)
Working Temperature/Humidity	From -40°C to 60°C; Humidity: ≤95% (no condensation)
Wiper	Yes, manual wiper
Protection Level	Base: IP66; Sphere space: IP67, sealed and filled with nitrogen. Comply with GB/T17626.5 Level 4 standard 4KV surge protection
Dimensions	748*748*970mm
Weight	Approx. 130kg (286.6 lb)
Laser	
Laser Ranger Finder Wavelength	1570nm (eye safe)
Effective Distance	100m~10km
Accuracy	±5m

▪ DORI

*Effective distance values shown are nominal values and should be used as estimates only. Exact value calculations depend on a wide variety of conditions. These values are calculated according to Stanag 4347 standards.

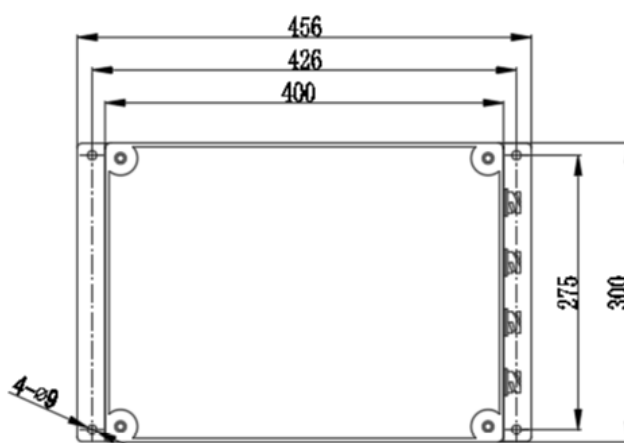
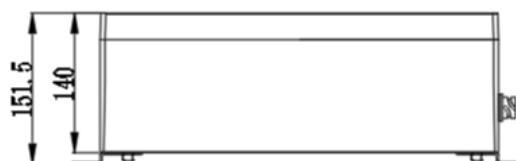
Effective Distance				
Target type	Human (1.8m*0.5m)	Vehicle(2.3*2.3m)	Ship(10*5m)	Ship(20*5m)
Detection Range	13.8km	20.6km	22km	26km
Recognition Range	4.4km	8.9km	15km	20km
Identification Range	2.8km	6km	8km	15km

▪ Available Model

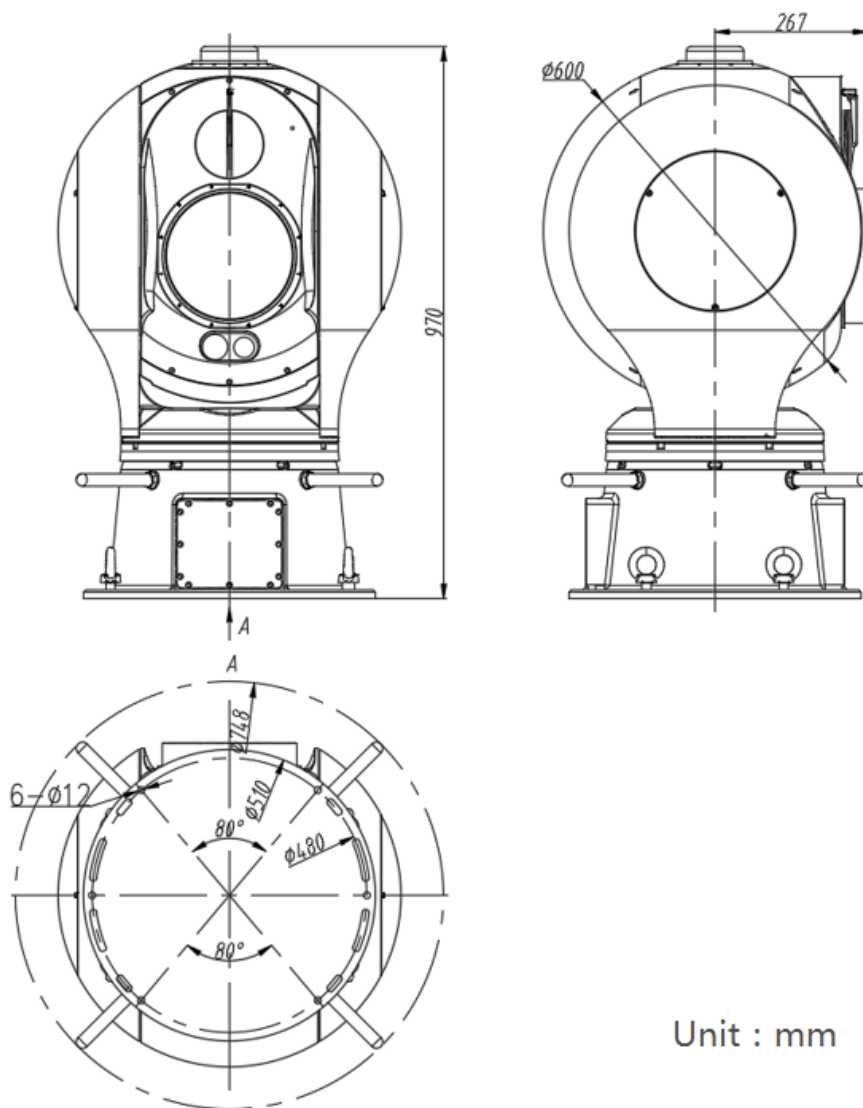
DS-2TD966A-450ZK2FD/W

DS-2TD966A-450ZK2FD/W(B)

▪ Dimension



Unit: mm



Unit : mm

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