

## DS-2TD8166-180ZE2F/K

### Thermal & Optical Bi-spectrum Network Stable PTZ Camera



Hikvision DS-2TD8166-180ZE2F/K Thermal & Optical Bi-spectrum Network Stable PTZ Camera is applied to frontier defense occasions, maritime defense occasions, port monitoring, airport perimeter security, and so on. The pre-alarm system helps you discover unexpected events immediately and protects you from property loss.

#### Smart Function (Thermal Imaging)

- Leading image processing technology: Adaptive AGC, DDE, 3D DNR, NETD < 40mk (0.05°C/32.09°F)
- Smart tracking: Panorama tracking, Event tracking and Multi-scene patrol tracking
- Smart tracking linkage: thermal view and optical view
- Powerful behavior analysis algorithm: Line crossing, Intrusion, Region Entrance & Exit
- Reliable temperature exception alarm function
- Advanced fire detection algorithm

#### Thermal Imaging Module Function

- 640\*512 resolution, high sensitivity sensor, support contrast adjustment
- Support shutter adjustment in various modes
- 3D DNR, 15 palettes of color adjustable, image detail enhancement



## Specifications

Parameter		Model	DS-2TD8166-180ZE2F/K
		Thermal & Optical Bi-spectrum Network Stable PTZ Camera	
<b>Thermal module</b>	Image sensor	Vanadium Oxide Uncooled Focal Plane Arrays	
	Max. Resolution	640 × 512	
	Detector Pitch	17μm	
	Response waveband	8μm to 14μm	
	NETD	< 40mk (@25°C,F#=1.0)	
	Lens (focal length)	45 mm to 180 mm	
	MRAD	0.38 to 0.09 mrad	
	Field of View	WIDE: 13.8° × 11°; TELE:3.46° × 2.77°	
	Min. Focusing Distance	5 m	
	Aperture	F 1.2	
<b>Optical camera</b>	Image Sensor	1/1.8" Progressive Scan CMOS	
	Min. Illumination	Color : 0.005 Lux @ (F3.5, AGC ON) B/W : 0.0005 Lux @ (F3.5, AGC ON)	
	Focal Length	12.5-775 mm, 62 x	
	Field of View	31.5 ° × 23.9 ° to 0.51 ° × 0.39 ° (Wide-Tele)	
	Min. Working Distance	5 m (Wide-Tele)	
	Aperture Range	F3.5 to Close	
	Focus Mode	Auto / Semiautomatic / Manual	
	WDR	Digital	
	Shutter Time	PAL: 1-1/30,000s / NTSC: 1-1/30,000s	
	White Balance	Auto/ Manual/ATW/Indoor/Outdoor/Daylight lamp/Sodium lamp	
	Day & Night	IR Cut Filter	
	Privacy Mask	24 privacy masks programmable; optional multiple colors and mosaics	
	Optical Defog	Yes	
	Enhancement	3D DNR	
<b>Smart function</b>	VCA	Support 4 VCA rule types (Line Crossing, Intrusion, Region Entrance, and Region Exiting), 10 scenes and 8 VCA rules for each scene.	
	Temperature Measurement	Support 3 temperature measurement rule types, over 256 presets as scene, 21 rules of each scene (10 points, 10 regions, and 1 line)	
	Temperature range	-20 °C to 150 °C (-4 °C to 302 °F)	
	Temperature accuracy	± 8 °C (14.4 °F)	
	Fire detection	Support 10 fire points	
<b>PTZ</b>	Movement Range	Pan: 360° Continuous Rotate; Tilt: From -45 ° to + 45 ° (auto flip)	
	Pan Speed	Configurable, From 0.01°/s to 40°/s	
	Tilt Speed	Configurable, From 0.01°/s to 20°/s	
	Proportional Zoom	Yes	
	Presets	300	
	Patrol Scan	8; Up to 32 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	
<b>Network</b>	Main Stream	Optical Light: 50Hz:25fps(1920×1080), 25fps(1280×960), 25fps(1280×720) Optical Light: 60Hz:30fps(1920×1080), 30fps(1280×960), 30fps(1280×720) Thermal: 50fps (640 × 512)	
	Sub stream	50Hz:25fps (704 × 576), 25fps (352 × 288), 25fps (176 × 144) 60Hz:30fps (704 × 480), 30fps (352 × 240), 30fps (176 × 120) Thermal: 50fps (640 × 512)	
	Video compression	H.264 (Baseline/Main/High Profile) /MJPEG/MPEG4	

	Audio compression	G.711u/G.711a/G.722.1/MP2L2/G.726/PCM
	Protocols	IPv4/IPv6,HTTP,HTTPS,802.1x,Qos,FTP,SMTP,UPnP,SNMP,DNS,DDNS,NTP,RTSP,RTCP,RTP,TCP,UDP,IGMP,ICMP,DHCP,PPPoE,Bonjour
	Simultaneous live view	Up to 20-ch
	User/Host level	Up to 32 users, 3 levels: Administrator, Operator, User
	Security measures	User authentication (ID and PW), MAC address binding, HTTPS encryption, IEEE 802.1x access control, IP address filtering
<b>Integration</b>	Alarm Input	Up to 7-ch Relay Input (0-5V DC)
	Alarm Output	Up to 2-ch; Support Alarm Linkage
	Alarm Action	Preset/Patrol Scan/Pattern Scan/SD Card Record/Relay Output/Smart capture/FTP upload/Email linkage
	Audio Input	LINE_IN Input/MIC Input; Peak: From 2 to 2.4V[p-p]; Output Impedance: 1KΩ±10%
	Audio Output	Linear Level; Impedance: 600Ω
	Communication Interface	Built-in RJ45; 10M/100M Ethernet Interface
	Onboard Storage	Built-in Micro SD/SDHC/SDXC Card Slot, Up to 64GB; Support Manual/Alarm Recording
	Analog Video Output	1.0V [p-p]/75Ω, PAL/NTSC/BNC
	RS485	Half-Duplex; HIKVISION, PELCO-P and PELCO-D Self-adaptive
	API	Open-ended API, support ISAPI; Support HIKVISION SDK and Third-party Management Platform
	Client	iVMS-4200
	Web Browser	IE 7+, Chrome 18+, Firefox 5.0+, Safari 5.02+; Multiple Languages
	<b>General</b>	Menu
Wiper		Yes
Power		48V DC/5A, 220W
Work Temperature/Humidity		From -40°C to 65°C (-40°F to 149°F); Humidity: 90% or Less
Protection Level		IP66 Standard; TVS 6000V Lightning Protection, Surge Protection and Voltage Transient Protection
Dimension		439 mm × 649 mm × 649 mm (17.28 '' × 25.55 '' × 25.55 '')
Weight		Approx. 60kg (132.3 lb)

## Wide Range Coverage for Different Specifications

**Note:** The table below is only for reference, the performance varies from model to model, and the specific data is based on 17 μm detector pitch.

Lens (focal length)	7mm	10mm	15mm	25mm	35mm	50mm	75mm	100 mm	150 mm	180 mm
Detection range (Vehicles)	631m	902m	1353m	2255m	3157m	4510m	6765m	9020m	13529 m	16235 m
Detection range (Humans)	206m	294m	441m	735m	1029m	1471m	2206m	2941m	4412 m	5294 m
Recognition range (Vehicles)	158m	225m	338m	564m	789m	1127m	1691m	2255m	3382 m	4059 m
Recognition range (Humans)	51m	74m	110m	184m	257m	368m	551m	735m	1103 m	1324 m
Identification range (Vehicles)	79m	113m	169m	282m	395m	564m	846m	1127m	1691 m	2029 m
Identification range (Humans)	26m	37m	55m	92m	129m	184m	276m	368m	551 m	662 m

## Smart functions Range Table

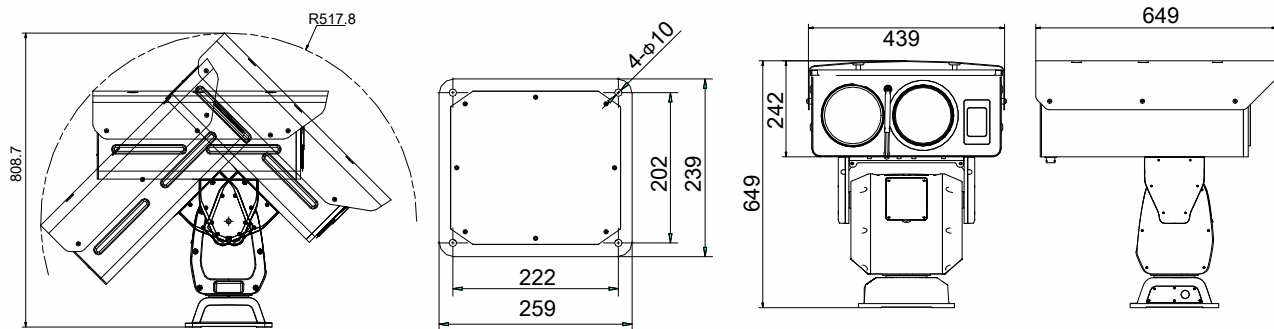
**Note:** The table below is only for reference, the performance varies from model to model, and the specific data is based on 17 μm detector pitch.

Lens (focal length)	7mm	10mm	15mm	25mm	35mm	50mm	75mm	100 mm	150mm	180mm
VCA range (humans)	50m	72m	110m	183m	255m	360m	540m	720m	1080m	1296m
VCA range (Vehicles)	144m	205m	308m	514m	720m	1029m	1544m	2000m	3000m	3600m
Temperature measurement (Object:2×2 m)	164m	234m	351m	585m	819m	1170m	1775m	2340m	3510m	4212m
Temperature measurement ((Object:1×1 m)	83m	118m	177m	295m	413m	590m	885m	1180m	1770m	2124m
Fire Detection (Object:2×2 m)	412m	588m	882m	1470m	2058m	2940m	4410m	5880m	8820m	10584m
Fire Detection (Object:1×1 m)	206m	294m	441m	735m	1029m	1470m	2205m	2940m	4410m	5292m

## Order Models

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## Dimensions



Unit: mm

Distributed by



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