

## iDS-2CD7146G0/P-IZ(H)S(Y)(D) 4 MP LPR IR Varifocal Dome Network Camera

**DarkFighter**



### DeepinView<sup>series</sup>

- High quality imaging with 4 MP resolution
- Excellent low-light performance via DarkFighter technology
- Clear imaging against strong back light due to 140 dB WDR technology
- License Plate Recognition
- Efficient H.265+ compression technology to save bandwidth and storage
- 5 streams to meet a wide variety of applications
- Water and dust resistant (IP67) and vandal proof (IK10)





## - Function

### Perimeter Protection

With embedded deep learning based target detection and classification algorithms, the camera carries out the duty of perimeter protection, monitoring the actions of line crossing, intrusion, region entrance, and region exiting. The algorithms greatly filter out the mistaken alarm caused by the interference of leaves, lights, animal, flag, etc.

### Road Traffic and Vehicle Detection

With embedded deep learning based license plate capture and recognition algorithms, the camera alone can achieve plate capture and recognition. The algorithm enjoys the high recognition accuracy of common plates and complex-structured plates, which is a great step forward comparing to traditional algorithms. Blocklist and allowlist are available for plate categorization and separate alarm triggering.

## - Specification

Camera	
Image Sensor	1/1.8" Progressive Scan CMOS
Max. Resolution	2560 × 1440
Min. Illumination	Color: 0.0005 Lux @ (F1.2, AGC ON), B/W: 0.0001 Lux @ (F1.2, AGC ON), B/W: 0 Lux with IR
Shutter Time	1 s to 1/100,000 s
Day & Night	IR cut filter
Angle Adjustment	Pan: 0° to 355°, tilt: 0° to 75°, rotate: 0° to 355°
Lens	
Focal Length & FOV	2.8 to 12 mm, horizontal FOV 107.4° to 39.8°, vertical FOV 56° to 22.4°, diagonal FOV 130.1° to 45.7° 8 to 32 mm, horizontal FOV 42.5° to 14°, vertical FOV 23.4° to 8°, diagonal FOV 49.7° to 17°
Focus	Auto, Semi-auto, Manual
Iris Type	P-iris
Aperture	2.8 to 12 mm: F1.2, 8 to 32 mm: F1.6
DORI	
DORI	2.8 to 12 mm: D: 149.0 m, O: 59.1 m, R: 29.8 m, I: 14.9 m 8 to 32 mm: D: 400 m, O: 158.7 m, R: 80 m, I: 40 m
Illuminator	
Supplement Light Type	IR
Supplement Light Range	2.8 to 12 mm: Monitoring: 40 m; 8 to 32 mm: Monitoring: 60 m
Smart Supplement Light	Yes
IR Wavelength	850 nm
Video	
Main Stream	50 Hz: 50 fps (2560 × 1440, 1920 × 1080, 1280 × 720) 60 Hz: 60 fps (2560 × 1440, 1920 × 1080, 1280 × 720)
Sub-Stream	50 Hz: 25 fps (704 × 576, 640 × 480) 60 Hz: 30 fps (704 × 480, 640 × 480)
Third Stream	50 Hz: 25 fps (1920 × 1080, 1280 × 720, 704 × 576, 640 × 480) 60 Hz: 30 fps (1920 × 1080, 1280 × 720, 704 × 480, 640 × 480)
Fourth Stream	50 Hz: 25 fps (704 × 576, 640 × 480) 60 Hz: 30 fps (704 × 480, 640 × 480)
Fifth Stream	50 Hz: 25 fps (704 × 576, 640 × 480) 60 Hz: 30 fps (704 × 480, 640 × 480)
Video Compression	Main stream: H.265+/H.265/H.264+/H.264, Sub-stream: H.265/H.264/MJPEG, Third stream: H.265/H.264, Fourth stream: H.265/H.264/MJPEG, Fifth stream: H.265/H.264/MJPEG
Video Bit Rate	32 Kbps to 16 Mbps

H.264 Type	Baseline Profile, Main Profile, High Profile
H.265 Type	Main Profile
Bit Rate Control	CBR, VBR
Scalable Video Coding (SVC)	H.264 and H.265 encoding
Region of Interest (ROI)	4 fixed regions for each stream
Target Cropping	Yes
e-PTZ	Support Preset, Patrol, and Auto Tracking settings
<b>Audio</b>	
Audio Type	Mono sound
Audio Compression	G.711/G.722.1/G.726/MP2L2/PCM/MP3/AAC-LC
Audio Bit Rate	64 Kbps (G.711ulaw/G.711alaw)/16 Kbps (G.722.1)/16 Kbps (G.726)/32 to 192 Kbps (MP2L2)/8 to 320 Kbps (MP3)/16 to 64 Kbps (AAC-LC)
Audio Sampling Rate	8 kHz/16 kHz/32 kHz/44.1 kHz/48 kHz
Environment Noise Filtering	Yes
<b>Network</b>	
Protocols	TCP/IP, ICMP, HTTP, HTTPS, FTP, DHCP, DNS, DDNS, RTP, RTSP, RTCP, PPPoE, NTP, UPnP, SMTP, SNMP, IGMP, 802.1X, QoS, IPv6, UDP, Bonjour, SFTP, SRTP
Simultaneous Live View	Up to 20 channels
API	Open Network Video Interface (Profile S, Profile G, Profile T),ISAPI,ISUP
User/Host	Up to 32 users 3 user levels: administrator, operator, and user
Security	Password protection, complicated password, HTTPS encryption, 802.1X authentication (EAP-TLS, EAP-LEAP, EAP-MD5), watermark, IP address filter, basic and digest authentication for HTTP/HTTPS, WSSE and digest authentication for Open Network Video Interface, RTP/RTSP OVER HTTPS, Control Timeout Settings, Security Audit Log, TLS 1.2
Client	iVMS-4200,Hik-Connect
Web Browser	Plug-in required live view: IE10, IE11, Plug-in free live view: Chrome 57.0+, Firefox 52.0+
Network Storage	NAS (NFS, SMB/CIFS),Auto Network Replenishment (ANR), Together with high-end Hikvision memory card, memory card encryption and health detection are supported.
<b>Image</b>	
Image Parameters Switch	Yes
Image Settings	Saturation, brightness, contrast, sharpness, AGC, white balance, adjustable by client software or web browser
Day/Night Switch	Day, Night, Auto, Schedule, Alarm Trigger, Video Trigger
Wide Dynamic Range (WDR)	140 dB
Image Enhancement	BLC, HLC, 3D DNR, Defog, EIS
Privacy Mask	8 programmable polygon privacy masks, mask color or mosaic configurable
Picture Overlay	LOGO picture can be overlaid on video with 128 × 128 24 bit bmp format.
<b>Interface</b>	
Video Output	1 Vp-p Composite Output (75 Ω/CVBS) (Only for debugging)
Ethernet Interface	1 RJ45 10 M/100 M/1000 M self-adaptive Ethernet port
On-Board Storage	Built-in memory card slot, support microSD/microSDHC/microSDXC card, up to 1 TB

Built-in Microphone	Yes, 2 built-in microphone(s)
Built-in Speaker	Max. power consumption: 1.5 W, max. sound pressure level: 98 dB, speaker range: 10 m
Audio	1 input (line in), 3.5 mm connector, three-contact, max. input amplitude: 3.3 Vpp, input impedance: 4.7 K $\Omega$ , interface type: non-equilibrium, 1 output (line out), 3.5 mm connector, three-contact, max. output amplitude: 3.3 Vpp, output impedance: 100 $\Omega$ , interface type: non-equilibrium, mono sound
Alarm	2 input(s), 2 output(s) (max. 24 VDC/24 VAC, 1 A)
RS-485	1 RS-485 (Half duplex, HIKVISION, Pelco-P, Pelco-D, self-adaptive)
Reset Key	Yes
Power Output	12 VDC, max. 100 mA
<b>Event</b>	
Basic Event	Motion detection, video tampering alarm, video quality diagnosis, exception (network disconnected, IP address conflict, illegal login, abnormal reboot, HDD full, HDD error), vibration detection
Smart Event	Line crossing detection, intrusion detection, region entrance detection, region exiting detection, audio exception detection, scene change detection, defocus detection
Linkage	Upload to FTP/NAS/memory card, notify surveillance center, send email, trigger alarm output, trigger recording, trigger capture, audible warning
<b>Deep Learning Function</b>	
Perimeter Protection	Line crossing, intrusion, region entrance, region exiting Support alarm triggering by specified target types (human and vehicle)
Road Traffic and Vehicle Detection	Blocklist and allowlist: up to 10,000 records Support vehicle attribute detection, including vehicle type, color, brand, etc. (City Street mode is recommended.)
<b>General</b>	
Power	12 VDC $\pm$ 25%, 0.97 A, max. 11.43 W, three-core terminal block, reverse polarity protection, 24 VAC $\pm$ 25%, 0.73 A, max. 10.67 W, PoE: 802.3at, Type 2, Class 4, 42.5 V to 57 V, 0.19 A to 0.28 A, max. 11.92 W
Material	Base: metal, cover: metal
Dimension	$\varnothing$ 144.3 mm $\times$ 114.1 mm ( $\varnothing$ 5.7" $\times$ 4.5")
Package Dimension	244 mm $\times$ 174 mm $\times$ 173 mm (9.6" $\times$ 6.9" $\times$ 6.8")
Weight	Approx. 990 g (2.0 lb.)
With Package Weight	Approx. 1425 g (3.1 lb.)
Storage Conditions	-30 $^{\circ}$ C to 60 $^{\circ}$ C (-22 $^{\circ}$ F to 140 $^{\circ}$ F). Humidity 95% or less (non-condensing)
Startup and Operating Conditions	-30 $^{\circ}$ C to 60 $^{\circ}$ C (-22 $^{\circ}$ F to 140 $^{\circ}$ F). With heater model (-H): -40 $^{\circ}$ C to 60 $^{\circ}$ C (-40 $^{\circ}$ F to 140 $^{\circ}$ F). Humidity 95% or less (non-condensing)
Language	33 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), Ukrainian
General Function	Heartbeat, one-key reset, mirror, password protection, watermark
Cable Length	0.25 m (0.8 ft.)

### Approval

EMC	FCC: 47 CFR Part 15, Subpart B, CE-EMC: EN 55032: 2015, EN 61000-3-2:2019, EN 61000-3-3: 2013+A1:2019, EN 50130-4: 2011 +A1: 2014, EN50121-4 RCM: AS/NZS CISPR 32: 2015, IC: ICES-003: Issue 7, KC: KN32: 2015, KN35: 2015
Safety	UL: UL 62368-1, CB: IEC 62368-1: 2014+A11, CE-LVD: EN 62368-1: 2014/A11: 2017, BIS: IS 13252 (Part 1): 2010/IEC 60950-1: 2005, LOA: IEC/EN 60950-1
Environment	CE-RoHS: 2011/65/EU, WEEE: 2012/19/EU, Reach: Regulation (EC) No 1907/2006
Protection	IP67: IEC 60529-2013,IK10: IEC 62262:2002
Anti-Corrosion Protection	-Y: NEMA 4X (NEMA 250-2018)
Other	PVC FREE

### - Available Model

iDS-2CD7146G0/P-IZHSY (D) (2.8 to 12 mm, 8 to 32 mm)

### - Typical Application

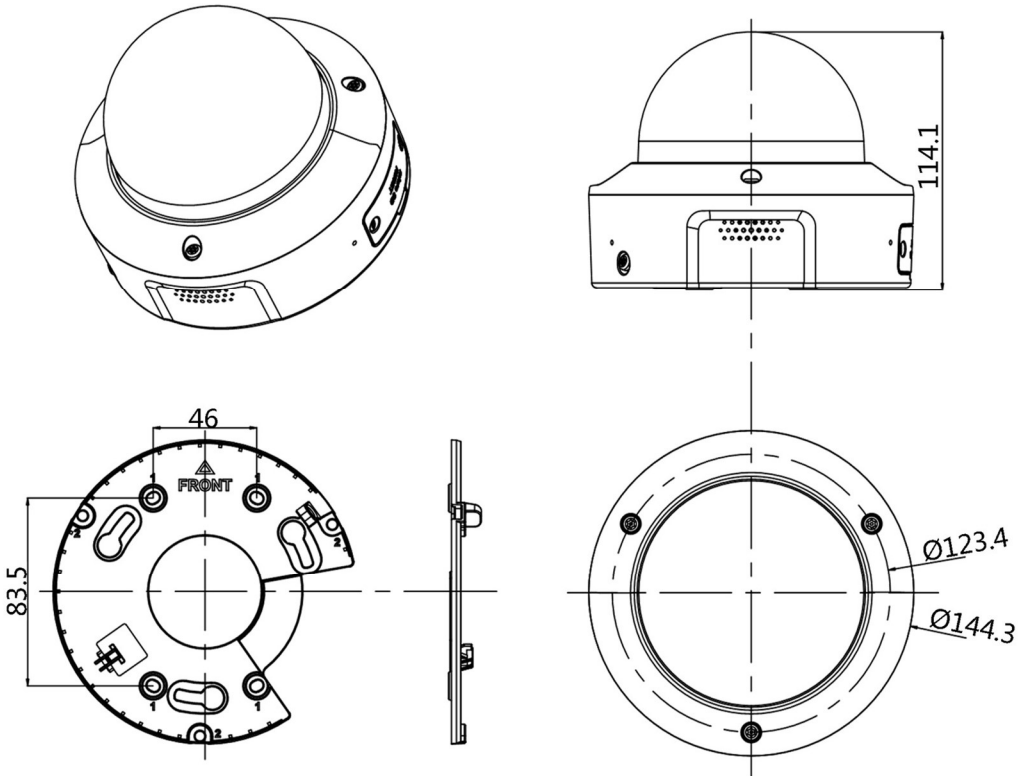
Hikvision products are classified into three levels according to their anti-corrosion performance. Refer to the following description to choose for your using environment.

-Y model: This model has MODERATE PROTECTION.

Without -Y model: This model has NO SPECIFIC PROTECTION.

Level	Description
Top-level protection	Hikvision products at this level are equipped for use in areas where professional anti-corrosion protection is a must. Typical application scenarios include coastlines, docks, chemical plants, and more.
Moderate protection	Hikvision products at this level are equipped for use in areas with moderate anti-corrosion demands. Typical application scenarios include coastal areas about 2 kilometers (1.24 miles) away from coastlines, as well as areas affected by acid rain.
No specific protection	Hikvision products at this level are equipped for use in areas where no specific anti-corrosion protection is needed.

### - Dimension



Unit: mm

- Accessory

- Optional

PC-160 Wall Mount	CM Corner Mount	RCM-VH In-Ceiling Mount	PM1 Vertical Pole Mount	CM1 Corner Mount
				
PM Vertical Pole Mount	CPM Pendant Mount	WML Wall Mount	DS-2280ZJ-WA140	
				

\*Bracket model with -Y or -AKS supports anti-corrosion protection.

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