

iDS-2CD7046G2/P-AP 4MP DeepinView ANPR Varifocal Box Camera

DeepinView^{series}



Hikvision has been dedicated to develop products with security since established. Hikvision always follows security by design principle and has adopted many methods of security technologies into our product development lifecycle, including terminal security, data security, application security, network security, and privacy protection. In the meantime, the security technologies used by Hikvision are all in compliance with local applicable laws and safety regulations. These security measures could enhance product's cyber security protection capability and protect your devices as well as your data from malicious cyber attacks.

- High quality imaging with 4 MP resolution
- Excellent low-light performance via DarkFighter 2.0 technology
- Clear imaging against strong back light due to 150 dB AWDR technology
- Efficient H.265+ compression technology to save bandwidth and storage
- 5 streams to meet a wide variety of applications
- Built-in microphone for real-time audio security
- High frame rate, up to 2MP@120fps and 4MP@60fps
- Built-in G-sensor for vibration detection
- Built-in power meter for historical power statistics
- License plate recognition and vehicle attribution recognition

▪ 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	2688 × 1520
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, Blue glass module (less ghost phenomenon)
Lens	
Focus	Auto, Semi-auto, Manual
Lens Mount	C/CS mount
HEOP	
Open Resources	Memory: 150 MB, Smart RAM: 2200 MB, eMMC: 1288 MB
Computing Power	2.5 TOPS
Open Capability	HEOP 2.0 OpendevSDK
Deep Learning Structure	Caffe, PyTorch, TensorFlow
Programming Language	C, C++
Video	
Main Stream	Monitoring mode: 50 Hz: up to 50 fps (2688 × 1520, 1280 × 720), up to 100 fps (1920 × 1080) 60 Hz: up to 60 fps (2688 × 1520, 1280 × 720), up to 120 fps (1920 × 1080) *High frame rate is supported under monitoring mode only. smart mode: 50 Hz: 25 fps (2688 × 1520, 1920 × 1080, 1280 × 720) 60 Hz: 30 fps (2688 × 1520, 1920 × 1080, 1280 × 720)
Sub-Stream	50 Hz: 25 fps (1280 × 720, 704 × 576, 640 × 480) 60 Hz: 30 fps (1280 × 720, 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 8 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 Patrol and Auto Tracking settings
Audio	
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/48 kHz
Environment Noise Filtering	Yes
Network	
Protocols	TCP/IP, ICMP, HTTP, HTTPS, FTP, DHCP, DNS, DDNS, RTP, SRTP, RTSP, RTCP, PPPoE, NTP, UPnP, SMTP, SNMP, IGMP, 802.1X, QoS, IPv4, IPv6, UDP, Bonjour, WebSocket, WebSockets, MQTT/MQTTS, RTMP. Support X.509 authentication, Support 802.1X EAP-GTC and MSCHAP V2; 802.1X EAP 1.2 supports a maximum 32-bit key.
Simultaneous Live View	Up to 20 channels
API	ISAPI, SDK, ISUP, OTAP, ONVIF (Profile S, Profile G, Profile T, Profile M)
User/Host	Up to 32 users 3 user levels: administrator, operator, and user
Smooth Streaming	Yes
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, TLS 1.3, TPM 2.0 (FIPS 140-2 level 2), AES128/256
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., Cloud Storage
Client	iVMS-4200, Hik-Connect, Hik-Central
Web Browser	Plug-in required live view: IE 10, IE 11, Plug-in free live view: Chrome 57.0+, Firefox 52.0+, Edge 89+, Safari 11+, Local service: Chrome 57.0+, Firefox 52.0+, Edge 89+
Image	
Image Parameters Switch	Yes
Image Settings	Rotate mode, saturation, brightness, contrast, sharpness, white balance, AGC, adjustable by client software or web browser
Day/Night Switch	Day, Night, Auto, Schedule, Alarm Trigger, Video Trigger
Wide Dynamic Range (WDR)	150 dB
Image Enhancement	BLC, HLC, 3D DNR, Distortion Correction, Defog
Privacy Mask	8 programmable polygon privacy masks
SNR	≥ 52 dB
Picture Overlay	LOGO picture can be overlaid on video with 128 × 128 24 bit bmp format.

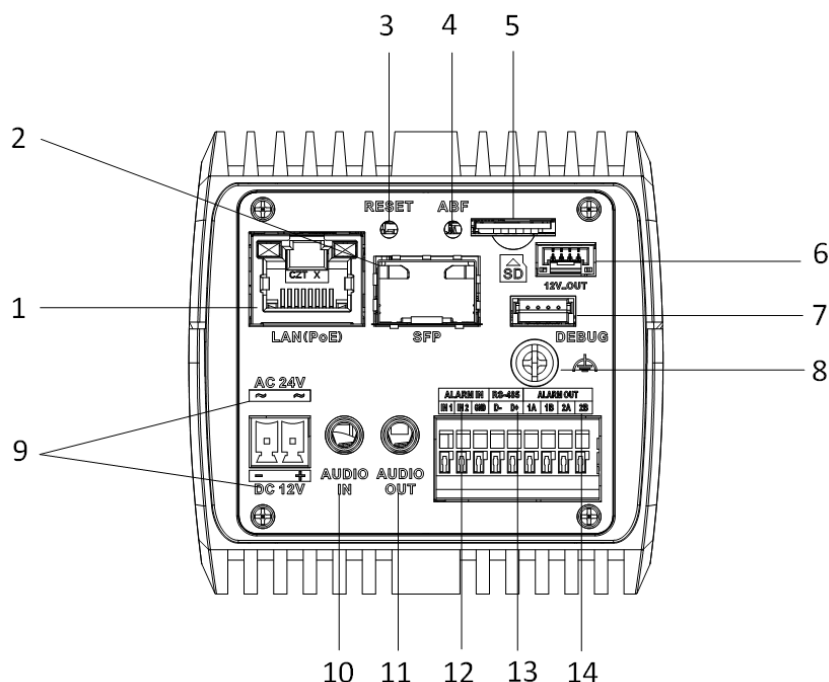
Image Stabilization	EIS
Interface	
Video Output	1 Vp-p Composite Output (75 Ω /CVBS) (Only for debugging)
Ethernet Interface	1 RJ45 10 M/100 M/1000 M self-adaptive Ethernet port
On-Board Storage	Built-in memory card slot, support microSD/microSDHC/microSDXC card, up to 1 TB
Alarm	2 inputs, 2 outputs (max. 24 VDC/24 VAC, 1 A)
Audio	1 input (line in), 3.5 mm connector, three-contact, max. input amplitude: 3.3 Vpp, input impedance: 4.7 K Ω , interface type: non-equilibrium, 1 output (line out), 3.5 mm connector, three-contact, max. output amplitude: 3.3 Vpp, output impedance: 100 Ω , interface type: non-equilibrium, mono sound
RS-485	1 RS-485 (Half duplex, HIKVISION, Pelco-P, Pelco-D, self-adaptive)
Reset Key	Yes
Power Output	12 VDC, max. 100 mA
Event	
Basic Event	Motion detection (support alarm triggering by specified target types (human and vehicle)), video tampering alarm, exception (network disconnected, IP address conflict, illegal login, HDD full, HDD error), glass break detection, scream detection, gunshot and explosion sound detection, crying sound detection
Smart Event	Line crossing detection, intrusion detection, region entrance detection, region exiting detection
Linkage	Upload to FTP/NAS/memory card, notify surveillance center, trigger recording, trigger capture, trigger alarm output, send email, audible warning, HTTP custom alarm
Deep Learning Function	
Perimeter Protection	Line crossing, intrusion, region entrance, region exiting Support alarm triggering by specified target types (human and vehicle) Support combined event alarm triggering
Metadata	Intrusion detection, line crossing detection, region entrance detection, region exiting detection, road traffic

Road Traffic and Vehicle Detection	Smart Function: Support license plate recognition of vehicles and motorcycles (only in checkpoint scenario) Support vehicle attribute detection, including vehicle type, color, brand, driving direction, etc. Support vehicle and non-vehicle counting Blocklist and allowlist: up to 50,000 records LPR Countries/Regions: 4 areas (Europe, Middle East, Asia-Pacific, Africa) and more than 124 countries/regions Accuracy (Under recommended installation and lighting conditions): License plate recognition rate $\geq 98\%$ Capture rate $\geq 99\%$ Driving direction accuracy rate $\geq 98\%$ Vehicle Capture Speed: Front installation in checkpoint scenario: up to 120 km/h Side installation: up to 80 km/h Capture Mode: License Plate and Vehicle Mode, Vehicle Priority Mode Supports license plate recognition in detection area or lane line in the entrance and exit. Supports Reverse License Plate Secondary Detection. If the vehicle is always in the camera view, when it triggers one capture, another capture will be triggered when it backs out of parking lot.
Parking Management	Support distant view mode and close view mode Distant view mode: support status detection on up to 40 parking spaces, parking duration detection, and vacant parking space alarm Close view mode: support status detection on up to 4 parking spaces, license plate recognition, parking timeout alarm, and vacant parking space alarm
AcuSeek	Support searching for humans, license plates, vehicles, non-motorized vehicles, and animals and uploading the feature information. This function requires use with AcuSeek NVR/Servers.
Vehicle Event Detection	Supports Parking Detection and Congestion Detection.
General	
Power	12 VDC $\pm 20\%$, 0.8 A, max. 9.6 W, three-core terminal block, reverse polarity protection, 24 VAC $\pm 20\%$, 0.64 A, max. 9.2 W, PoE: IEEE 802.3at, Type 2, Class 4, 42.5 V to 57 V, 0.32 A to 0.24 A, max. 13.2 W
Material	Aluminum alloy body
Dimension	142.5 mm $\times$ 69.8 mm $\times$ 68 mm (5.61" $\times$ 2.75" $\times$ 2.68")
Package Dimension	315 mm $\times$ 140 mm $\times$ 140 mm (12.4" $\times$ 5.51" $\times$ 5.51")
Weight	Approx. 765 g (1.69 lb.)
With Package Weight	Approx. 1150 g (2.54 lb.)
Storage Conditions	-30 °C to 65 °C (-22 °F to 149 °F). Humidity 95% or less (non-condensing)
Startup and Operating Conditions	-30 °C to 65 °C (-22 °F to 149 °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,anti-banding,one-key reset,mirror,password protection,flash log
Demist	Yes
Device Management	Supports adding alarm box (DS-FM2466) in the LAN to expand 6 additional input and 6 output alarm interfaces. Supports adding network microphone and speaker.
Integrated Connector Panel	Yes
Approval	
EMC	CE-EMC: EN 55032:2015+A1:2020, EN 50130-4:2011+A1:2014, EN IEC 61000-3-2:2019+A1:2021, EN 61000-3-3:2013+A1:2019+A2:2021, RCM: AS/NZS CISPR 32: 2015, IC: ICES-003: Issue 7, KC: KN32: 2015, KN35: 2015
Safety	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
Automotive and Railway	EN50121-4
Other	PVC FREE

▪ Physical Interface

No.	Description	No.	Description
1	LAN (PoE)	8	GROUND
2	SFP	9	AC 24 V/DC 12 V
3	RESET Button	10	AUDIO IN
4	ABF	11	AUDIO OUT
5	MicroSD Card Slot	12	ALARM IN
6	DC 12 V OUT	13	RS-485
7	DEBUG	14	ALARM OUT



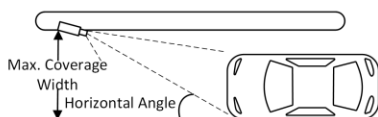
*Note: The interface varies depending on the model. Please refer to the actual product.

Installation Recommendation

Entrance/Exit

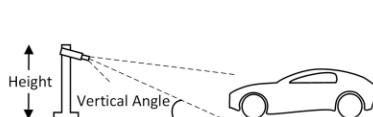
Horizontal Angle

The view angle of the camera should be within 30° to the path of movement.



Vertical Angle

The angle between the lens direction and the horizontal should be less than 30°.

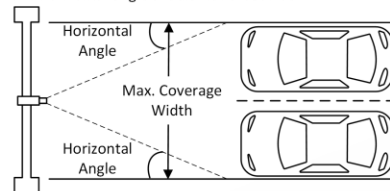


Side of the Lane

City Street

Horizontal Angle

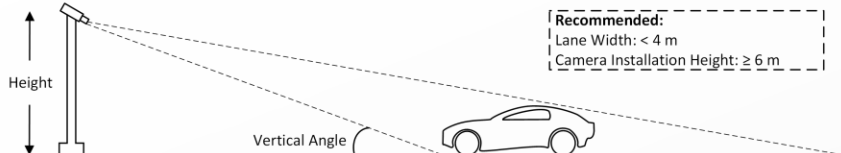
The horizontal angle should not exceed 30°.



Middle of the Road

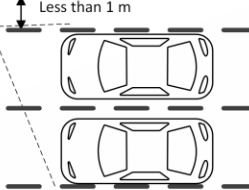
Vertical Angle

The angle between the lens direction and the horizontal should be less than 30°.



Recommended:
Lane Width: < 3.5 m
Camera Installation Height: 1.6 to 2 m

Side of the Road



Side of the Gantry

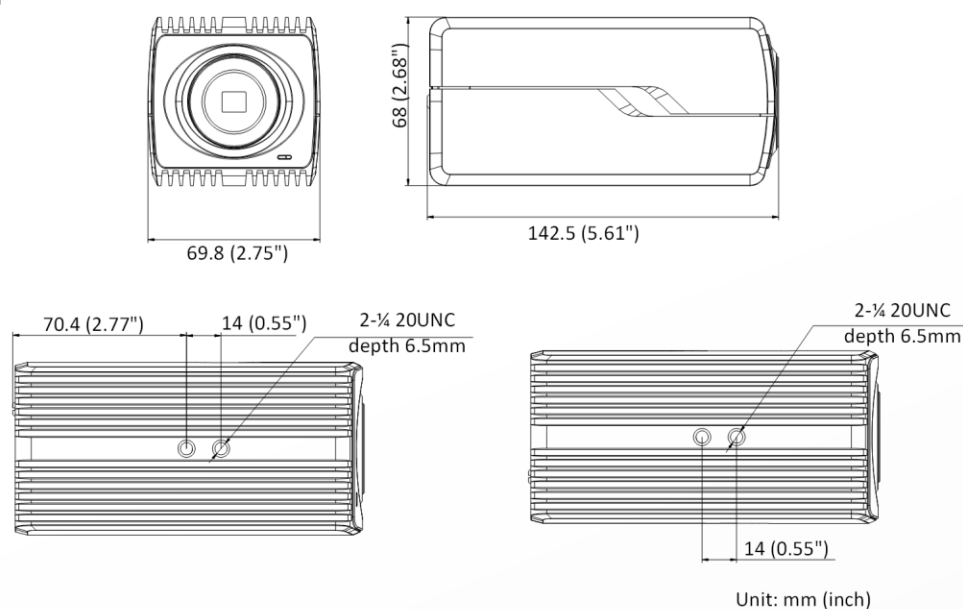
Recommended:
Lane Width: < 4 m
Camera Installation Height: ≥ 6 m

Camera Position	Lens	Height (m)	Suggested Vertical Angle	Suggested Trigger Distance (m)	Max. Coverage Width	Max. Horizontal Angle	Vertical Angle Range	Capture Range (m)
Side of the Lane	2.8 to 12 mm	1.5	20°	4	4.5	30°	15° to 30°	2.5 to 5.5
Side of the	2.8 to 12	2	20°	5.5	4.5	30°	15° to	3.5 to 7.5

Lane	mm						30°	
Side of the Lane	2.8 to 12 mm	2.5	20°	6.5	4.5	30°	15° to 30°	4.5 to 9
Side of the Lane	8 to 32 mm	3	20°	8	6	30°	15° to 30°	5 to 11
Side of the Lane	8 to 32 mm	4	20°	11	6	30°	15° to 30°	6 to 14
Side of the Lane	8 to 32 mm	5	20°	13.5	6	30°	15° to 30°	8.5 to 18
Side of the Lane	8 to 32 mm	6	20°	16.5	6	30°	15° to 30°	10 to 22
Middle of the Road	8 to 32 mm	3	20°	8	12	30°	15° to 30°	5 to 11
Middle of the Road	8 to 32 mm	4	20°	11	12	30°	15° to 30°	6 to 14
Middle of the Road	8 to 32 mm	5	20°	13.5	12	30°	15° to 30°	8.5 to 18
Middle of the Road	8 to 32 mm	6	20°	16.5	12	30°	15° to 30°	10 to 22

**Note: The installation diagram is for reference only. The actual scenario and appearance may vary.*

▪ Dimension



▪ Accessory

▪ Optional

HV0733D-6MP

DS-1299ZJ

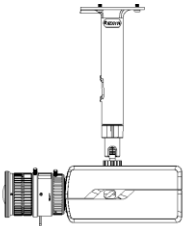
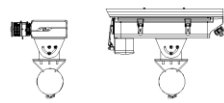
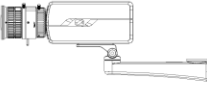
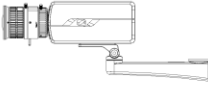
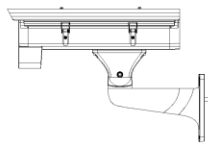
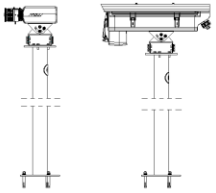
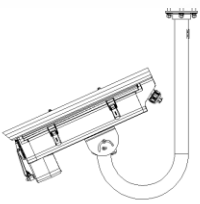
DS-1214ZJ

DS-1332HZ

HV3816P-8MPIR

				
DS-1292ZJ	DS-1233ZJ	HV1140P-8MPIR	DS-1331HZ-W	HV1140D-8MPIR
				
DS-1293ZJ	DS-2202ZJ	HV0415D-MP	DS-1269ZJ	HV3816D-8MPIR
				

■ Installation Methods

Pendant Mounting DS-1299ZJ	Horizontal Pole Mounting DS-1214ZJ	Wall Mounting DS-1292ZJ	Wall Mounting DS-1293ZJ	Wall Mounting DS-2202ZJ
				
Vertical Pole Mounting DS-1233ZJ	Gooseneck Mounting DS-1269ZJ			
				

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