iDS-2CD7A45G0/P-IZHS(Y)
4 MP 25 × IR DeepinView Varifocal Bullet Network 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

- 25 × optical zoom captures details in remote area

- Clear imaging against strong back light due to 140 dB WDR technology

- Efficient H.265+ compression technology to save bandwidth and storage

- Built-in heater on the front viewing window to ensure clear image under snowy weather

- Built-in gyroscope to ensure stable image output

- 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 leafs, 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.

Parking Management

With embedded deep learning algorithms, the camera can achieve parking space status detection and vacant parking space alarm for parking management. Both distant view mode and close view mode are supported. For the close view mode, the camera can also achieve license plate recognition. Blocklist and allowlist are available for plate categorization and separate alarm triggering.

▪ Specification

Camera	
Image Sensor	1/2.5" Progressive Scan CMOS
Max. Resolution	2688 × 1520
Min. Illumination	Color: 0.009 Lux @ (F1.6, AGC ON), B/W: 0.0018 Lux @ (F1.6, AGC ON), 0 Lux with IR
Shutter Time	1 s to 1/30,000 s
Day ＆ Night	IR cut filter
Angle Adjustment	Pan: 0° to 355°, tilt: 0° to 90°, rotate: 0° to 360°
Lens	
Focal Length ＆ FOV	4.7 to 118 mm, horizontal FOV 58° to 2.8°, vertical FOV 32.3° to 1.6°, diagonal FOV 63° to 3°
Focus	Auto,Semi-auto,Manual
Iris Type	P-iris
Aperture	4.7 to 118 mm: F1.6 to F3.8
DORI	
DORI	Wide: D (Detect): 106 m, O (Observe): 42.1 m, R (Recognize): 21.2 m, I (Identify): 10.6 m
	Tele: D (Detect): 2200 m, O (Observe): 873 m, R (Recognize): 440 m, I (Identify): 220 m
Illuminator	
Supplement Light Type	IR
Supplement Light Range	Up to 200 m
Smart Supplement Light	Yes
IR Wavelength	850 nm
Video	
Main Stream	50 Hz:
	25 fps (2688 × 1520, 2560 × 1440, 1920 × 1080, 1280 × 720)
	50 fps (2560 × 1440, 1920 × 1080, 1280 × 720)
	60 Hz:
	30 fps (2688 × 1520, 2560 × 1440, 1920 × 1080, 1280 × 720)
	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 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	
Environment Noise Filtering	Yes
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 Compression	G.711/G.722.1/G.726/MP2L2/PCM/MP3/AAC-LC
Audio Sampling Rate	8 kHz/16 kHz/32 kHz/44.1 kHz/48 kHz
Audio Type	Mono sound
Network	
Protocols	TCP/IP, ICMP, HTTP, HTTPS, FTP, SFTP, DHCP, DNS, DDNS, SRTP, RTP, RTSP, RTCP, PPPoE, NTP, UPnP, SMTP, SNMP, IGMP, 802.1X, QoS, IPv4, IPv6, UDP, Bonjour, SSL/TLS, ARP, WebSocket, WebSockets
Simultaneous Live View	Up to 20 channels
API	Open Network Video Interface (Profile S, Profile G, Profile T, Profile M),ISAPI,SDK,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, 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.
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)	140 dB
Image Enhancement	BLC,HLC,3D DNR,Distortion Correction,Defog
SNR	≥ 52 dB
Privacy Mask	8 programmable polygon privacy masks
Picture Overlay	LOGO picture can be overlaid on video with 128 × 128 24 bit bmp format.
Image Stabilization	EIS (Built-in gyroscope to improve EIS performance)
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
Audio	1 input (line in), 3.5 mm connector, max. input amplitude: 3.3 Vpp, input impedance: 4.7 KΩ, interface type: non-equilibrium, 1 output (line out), 3.5 mm connector, max. output amplitude: 3.3 Vpp, output impedance: 100 Ω, interface type: non-equilibrium
Alarm	2 inputs, 2 outputs (max. 24 VDC, 1 A)
RS-485	-Y: 1 RS-485 (Half duplex, HIKVISION, Pelco-P, Pelco-D, self-adaptive)
Reset Key	Yes
Power Output	-Y: 12 VDC, max. 100 mA
Event	
Basic Event	Motion detection (support alarm triggering by specified target types (human and vehicle)),video tampering alarm,video quality diagnosis,exception (network disconnected, IP address conflict, illegal login, abnormal restart, HDD full, HDD error),vibration detection
Smart Event	scene change detection,audio exception detection,defocus detection
Linkage	Upload to FTP/NAS/memory card,notify surveillance center,send email,trigger alarm output,trigger recording,trigger capture,audible warning
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 10,000 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 ≥98% Capture rate ≥99% Driving direction accuracy rate ≥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
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

General	
Power	-IZHSY: 12 VDC ± 20%, 1.73 A, max. 20.7 W, three-core terminal block 24 VAC ± 20%, 1.31 A, max. 19.9 W, three-core terminal block PoE: IEEE 802.3at, Type 2, Class 4, 42.5 V to 57 V, 0.46 A to 0.35 A, max. 19.5 W -IZHS: 12 VDC ± 20%, 1.62 A, max. 19.4 W, two-core terminal block 24 VAC ± 20%, 1.21 A, max. 18.7 W, two-core terminal block PoE: IEEE 802.3at, Type 2, Class 4, 42.5 V to 57 V, 0.43 A to 0.32 A, max. 18.2 W
Material	Aluminum alloy body
Dimension	With -Y: Ø140 mm × 378.4 mm (Ø5.5" × 14.9") Without -Y: Ø144.1 mm × 375.2 mm (Ø5.7" × 14.8")
Package Dimension	425 mm × 190 mm × 180 mm (16.7" × 7.5" × 7.1")
Weight	With -Y: Approx. 2160 g (4.8 lb.) Without -Y: Approx. 2130 g (4.7 lb.)
With Package Weight	With -Y: Approx. 3310 g (7.3 lb.) Without -Y: Approx. 3200 g (7.1 lb.)
Storage Conditions	-40 °C to 60 °C (-40 °F to 140 °F). Humidity 95% or less (non-condensing)
Startup and Operating Conditions	-40 °C to 60 °C (-40 °F to 140 °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, mirror, flash log, password reset via email, pixel counter
Heater	Yes
De-icing	Yes
Device Management	Supports adding alarm box (DS-FM2466) in the LAN to expand 6 additional input and 6 output alarm interfaces
Approval	
EMC	CE-EMC: EN 55032: 2015, EN 61000-3-2:2019, EN 61000-3-3: 2013+A1:2019, EN 50130-4: 2011 +A1: 2014, 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

▪ 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.

With -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.

▪ Installation Recommendation
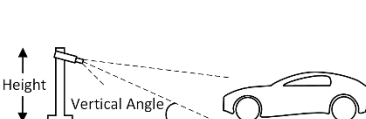
Entrance/Exit

Horizontal Angle
The view angle of the camera should be within 30° to the path of movement.
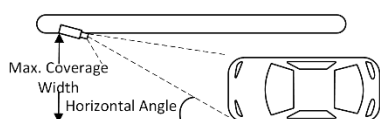
Vertical Angle
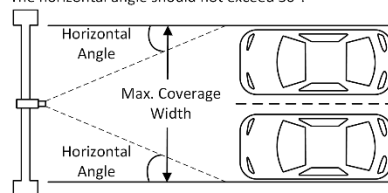The angle between the lens direction and the horizontal should be less than 30°.

Max. Coverage Width
Horizontal Angle

Height
Vertical Angle

Side of the Lane

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

City Street

Horizontal Angle
The horizontal angle should not exceed 30°.

Horizontal Angle
Max. Coverage Width
Horizontal Angle

Middle of the Road

Side of the Road
Less than 1 m

Side of the Gantry

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

Height
Vertical Angle

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 30°	3.5 to 7.5

Lane	mm							
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.

▪ Available Model

iDS-2CD7A45G0/P-IZHSY(4.7-118mm)
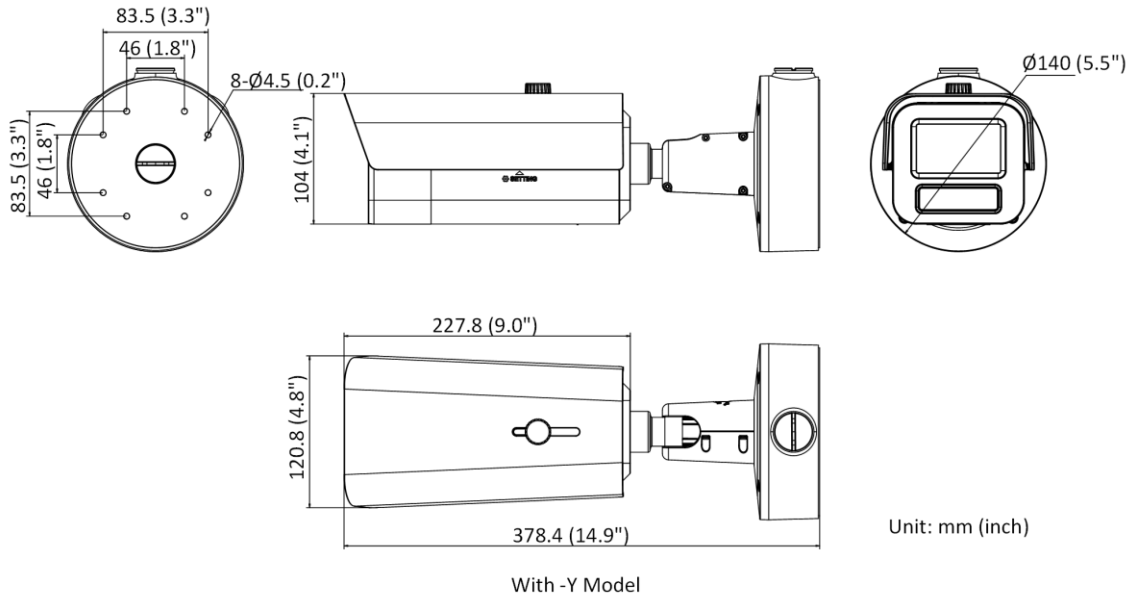
iDS-2CD7A45G0/P-IZHS(4.7-118mm)

▪Dimension
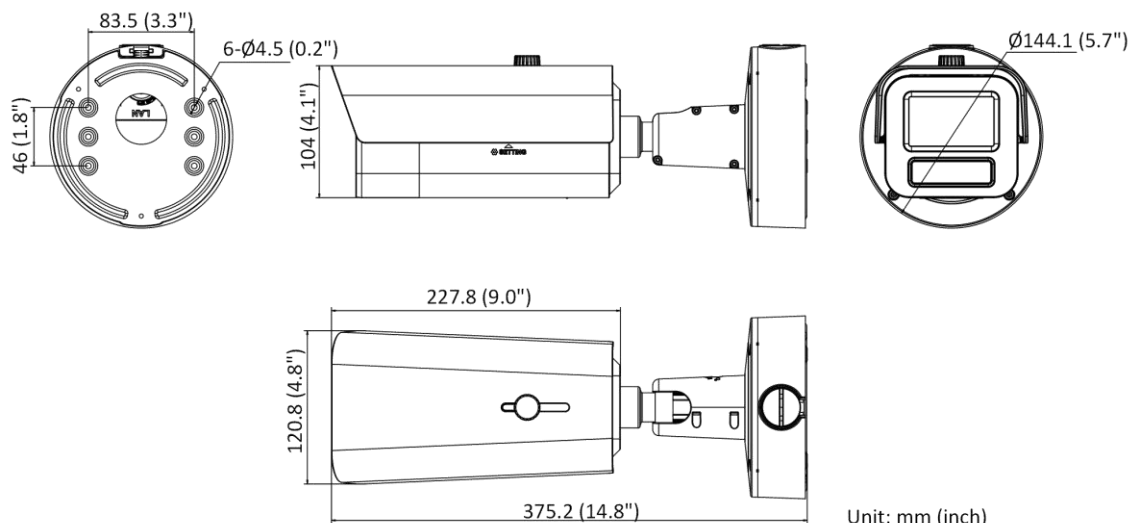
Unit: mm (inch)

Without -Y Model

83.5 (3.3")
46 (1.8")
8-Ø4.5 (0.2")
83.5 (3.3")
46 (1.8")
104 (4.1")
Ø140 (5.5")

227.8 (9.0")
120.8 (4.8")
378.4 (14.9")

Unit: mm (inch)

With -Y Model

▪ **Accessory**

▪**Optional**

DS-1475ZJ-SUS Vertical pole mount	DS-1476ZJ-SUS Corner mount	DS-1275ZJ-S-SUS Vertical pole mount	DS-1475ZJ-Y Vertical pole mount	DS-1476ZJ-Y Corner mount

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