iDS-2CD70166G2-AP
16MP DeepinView Box Camera

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 16 MP resolution
- Excellent low-light performance via DarkFighter 2.0 technology
- Clear imaging against strong back light due to 120 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
- Built-in G-sensor for vibration detection
- Built-in power meter for historical power statistics

▪ Function

Face Capture

With embedded deep learning based algorithms, the camera is able to give the best shot of a target face through detecting, capturing, grading and selecting. The camera uses face exposure function to dynamically adjust face area exposure of captures and ensures high face picture quality.

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.

Multi-Target-Type Detection

With the embedded deep learning algorithms, the camera detects and captures the face, human body, vehicle in the specified region.

Queue Management

With embedded deep learning based algorithms, the camera detects queuing-up people number and waiting time of each person. It can generate reports to compare the efficiency of different queuing-ups and display the changing status of one queue, and supports raw data export for further analysis.

Regional People Counting

With the embedded deep learning algorithms, the camera supports people density detection and will upload detection data through scheduled uploading, number of people change uploading and congestion level uploading. It also supports number of people exception detection and waiting time exception detection.

On/Off Duty Detection

With the embedded deep learning algorithms, the camera supports absence detection and on/off duty detection. It can detect the on/off duty status and people number changes in a predefined area.

Heat Map

The camera can generate a graphic description of visits (by calculating amount of people or amount of dwell time) in a configured area.

Multi-Dimension People Counting

With the embedded deep learning algorithms, the camera integrates multiple intelligences. It counts persons and compares them with the built-in face picture library to remove duplicates. It counts persons and reports an alarm simultaneously to achieve both the entrance control and people counting.

Hard Hat Detection

With the embedded deep learning algorithms, the camera detects the persons in the specified region. It detects whether the person is wearing a hard hat, and reports an alarm if not.

▪ Specification

Camera	
Image Sensor	1/1.8" Progressive Scan CMOS
Max. Resolution	4608 × 3456
Min. Illumination	Color: 0.005 Lux @ (F1.2, AGC ON),B/W: 0.002 Lux @ (F1.2, AGC ON)
Shutter Time	1 s to 1/100,000 s
Day & Night	IR cut filter,Blue glass module (less ghost phenomenon)
Lens	
Lens Mount	CS mount
Focus	Auto,Semi-auto,Manual
Iris Type	P-iris
Illuminator	
Smart Supplement Light	Yes
HEOP	
Open Resources	Memory: 150 MB, Smart RAM: 2200 MB, eMMC: 1288 MB
Computing Power	5 TOPS
Open Capability	HEOP 2.0 OpendevSDK
Deep Learning Structure	Caffe,PyTorch,TensorFlow
Programming Language	C,C++
AI Open Platform	
Model Specification	Up to 4 models, Model type: detection model, classification model, mixed model (detection model and classification model)
Video	
Main Stream	Monitoring mode: 50 Hz: up to 50 fps (3840 × 2160, 3072 × 1728, 2560 × 1440, 1280 × 720), up to 100 fps (1920 × 1080) 60 Hz: up to 60 fps (3840 × 2160, 3072 × 1728, 2560 × 1440, 1280 × 720), up to 120 fps (1920 × 1080) 50 Hz: 25 fps (4000 × 3000,4608 × 2592) 60 Hz: 30 fps (4000 × 3000,4608 × 2592) *High frame rate is supported under monitoring mode only. smart mode: 50 Hz: 25 fps (4608 × 3456 ，4000 × 3000 ，3840 × 2160, 3072 × 1728, ，2560 × 1440, 1920 × 1080, 1280 × 720) 60 Hz: 30 fps (4608 × 3456 ,4000 × 3000 ,3840 × 2160, 3072 × 1728, 2560 × 1440, 1920 × 1080, 1280 × 720)
Sub-Stream	50 Hz: 25 fps (1280 × 720, 704 × 576, 640 × 480) 60 Hz: 24 fps (1280 × 720, 704 × 480, 640 × 480)
Third Stream	50 Hz: 25 fps (1920 × 1080 ，1280 × 720, 704 × 576, 640 × 480) 60 Hz: 30fps (1920 × 1080 ，1280 × 720, 704 × 480, 640 × 480)

Fourth Stream	50 Hz: 25 fps (1280 × 720, 704 × 576, 640 × 480) 60 Hz: 24 fps (1280 × 720, 704 × 480, 640 × 480)
Fifth Stream	50 Hz: 25 fps (1280 × 720, 704 × 576, 640 × 480) 60 Hz: 24 fps (1280 × 720, 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 32 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, Support X.509 authentication, Support802.1xEAP-GTC and MSCHAP V2; 802.1xEAP 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
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+

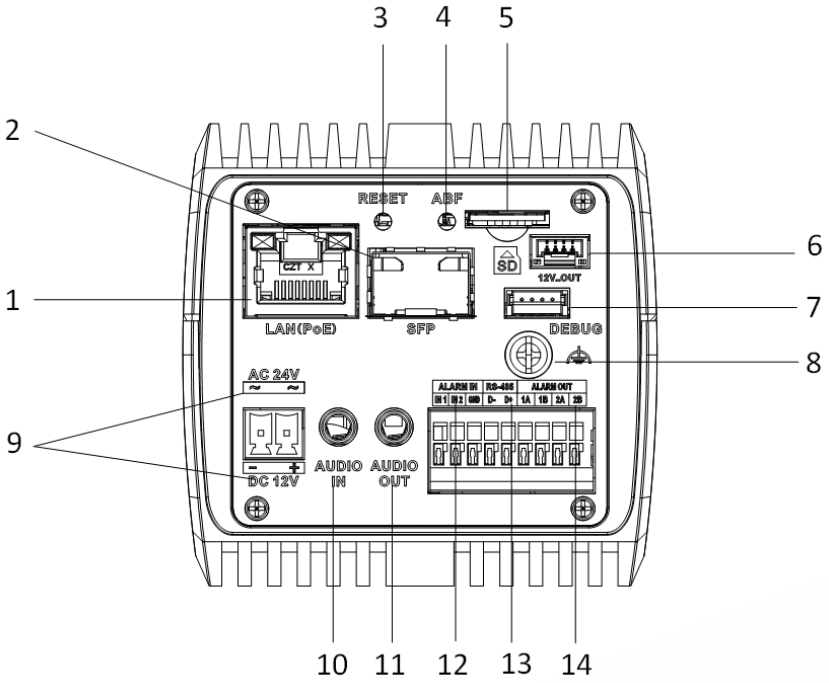
Network Storage	NAS (NFS, SMB/CIFS),Auto Network Replenishment (ANR), Together with high-end Hikvision memory card, memory card encryption and health detection are supported.
Image	
Image Parameters Switch	Yes
Image Settings	Rotate mode,saturation,brightness,contrast,sharpness,AGC,white balance,adjustable by client software or web browser
Day/Night Switch	Day,Night,Auto,Schedule,Alarm Trigger
Wide Dynamic Range (WDR)	120 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
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
Built-in Microphone	Yes,1 built-in microphone
Audio	1 input (line in), 3.5 mm connector, three-contact, max. input amplitude: 3.3 Vpp, input impedance: 4.7 KΩ, 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
Alarm	2 inputs, 2 outputs (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
Event	
Basic Event	glass break detection,scream detection,gunshot and explosion sound detection,crying sound detection,video tampering alarm,alarm input and output,video quality diagnosis,Motion detection (support alarm triggering by specified target types (human and vehicle)),exception (network disconnected, IP address conflict, illegal login, HDD full, HDD error, abnormal restart)
Smart Event	Line crossing detection, intrusion detection, region entrance detection, region exiting detection,loitering detection,people gathering detection,fast moving detection,parking detection, unattended baggage detection, object removal 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	
Multi-target-type Detection	Supports dynamic mosaic mask, Supports ShotN technology, Supports simultaneous detection and capture of human body, face, and vehicle, Gets 7 face features, Gets 13 human body features, Gets 2 vehicle features, Supports counting the number of line crossing targets by type, including human body, non-motor vehicle, motor vehicle,
Face Capture	Supports swing left and right from -70° to 70°, tilt up and down from -50° to 50°, Uploads face with background and closed-up face pictures,Detects up to 60 faces simultaneously, captures up to 60 face pictures per frame simultaneously and uploads up to 10 face pictures per second, Supports best shot and quick shot for capture mode, Supports dynamic mosaic mask, Gets 7 face features
Face Comparison	Up to 10 face libraries. 30,000 faces for each library. 150,000 faces in total, Supports face library encryption
Perimeter Protection	Line crossing, intrusion, region entrance, region exiting Support alarm triggering by specified target types (human and vehicle) Support combined event alarm triggering
People Counting	Supports Multi-Dimension People Counting, Supports counting, displaying and exporting the people flow data of entering, exiting and passing by (The data is stored in the flash.), Supports real-time uploading and uploading by statistic cycle, Supports dynamic deduplication based on face picture comparison, and can filter out the target with the same custom face pictures, same attributes, or filter out repeated invalid targets within the set time interval, Supports people flow data replenishment, Supports face feature deduplication, Supports generating daily, weekly, monthly or annually reports
Queue Management	Supports up to 8 detection regions, and independent arming schedule and linkage method Supports 2 detection modes: regional people queuing-up, waiting time detection Generates reports to compare the efficiency of different queuing-ups and display the changing status of one queue Supports raw data export for further analysis Supports real-time data uploading and scheduled data uploading Regional people queuing-up: supports 4 alarm trigger conditions, including greater than threshold, less than threshold, equal to threshold, not equal to threshold Waiting time detection: supports 1 alarm trigger condition, including greater than threshold
Heat Map	A graphic description of visits (by calculating amount of people or amount of dwell time) in a configured area., Two report types are available, space heat map and time heat map line chart.

Hard Hat Detection	Detects up to 30 human targets simultaneously Supports up to 4 shield regions
Metadata	Intrusion detection,line crossing detection,region entrance detection,region exiting detection,face capture,multi-target-type detection
Regional People Counting	Supports up to 8 detection regions, and independent arming schedule and linkage method Supports 3 detection modes: people density detection, number of people exception detection, waiting time exception detection Supports parameter settings: alarm times per exception, alarm interval, first alarm delay Supports searching real-time number of people People density detection: supports scheduled uploading, number of people change uploading, congestion level uploading Number of people exception detection: supports 6 alarm trigger conditions, including greater than threshold A, less than threshold A, equal to threshold A, not equal to threshold A, greater than threshold A and less than threshold B, less than threshold A or greater than threshold B (threshold A should be less than threshold B) Waiting time exception detection: supports 3 alarm trigger conditions, including greater than threshold A, less than threshold A, greater than threshold A and less than threshold B (threshold A should be less than threshold B)
On/Off Duty Detection	Supports up to 8 detection regions, and independent arming schedule and linkage method Supports 2 detection modes: absence detection, on/off duty detection Supports parameter settings: person on duty, absence duration
PPE Detection	Detects hard hat and reflective clothing, triggering alarm when not worn. Detects people not wearing hard hat. Supported hat colors: red, orange, yellow, blue, white, and others.
General	
Power	12 VDC ± 20%, 0.95 A, max. 11.4 W 24 VAC ± 20%, 0.75 A, max. 11.5 W PoE: IEEE 802.3at, Type2, Class 4, 42.5 V to 57 V, 0.35 A to 0.26 A, max. 14.7W
Material	Aluminum alloy body
Dimension	142.5 mm × 69.8 mm × 68 mm (5.61" × 2.75" × 2.68")
Package Dimension	315 mm × 140 mm × 140 mm (12.4" × 5.51" × 5.51")
Weight	Approx. 765 g (1.69 lb.)
With Package Weight	Approx. 1150 g (2.54 lb.)
Storage Conditions	-30 °C to 60 °C (-22 °F to 140 °F). Humidity 95% or less (non-condensing)
Startup and Operating Conditions	-30 °C to 60 °C (-22 °F to 140 °F). Humidity 95% or less (non-condensing)
Language	31 languages:English,Traditional Chinese,Bulgarian,Hungarian,Greek,German,Italian,Czech,Slovak,French,Polish,Dutch,Portuguese,Spanish,Russian,Japanese,Turkish,Korean,Thai,Estonian,Vietnamese,Romanian,Danish,Swedish,Norwegian,Finnish,Croatian,Slovenian,Serbian,Lithuanian,Ukrainian
General Function	Heartbeat,one-key reset,mirror,password protection,pixel counter,anti-banding
Device Management	Supports adding alarm box (DS-FM2466) in the LAN to expand 6 additional input and 6 output alarm interfaces
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
Safety	CB: IEC 62368-1: 2014+A11, CE-LVD: EN 62368-1: 2014/A11: 2017
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



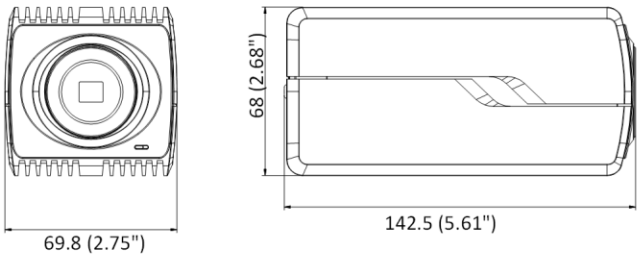
No.	Description	No.	Description
1	LAN (PoE)	8	GROUND
2	SFP	9	AC 24 V/DC 12 V
3	RESET Button	10	AUDIO IN
4	ABF	11	AUDIO OUT
5	MicroSD Card Slot	12	ALARM IN
6	DC 12 V OUT	13	RS-485
7	DEBUG	14	ALARM OUT

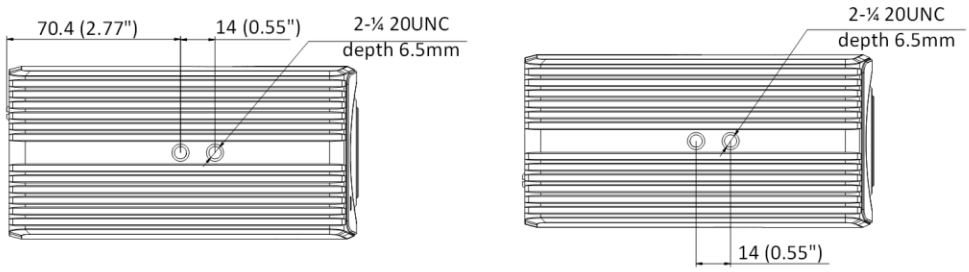
*Note: The interface varies depending on the model. Please refer to the actual product.

▪ Available Model

iDS-2CD70166G2-AP

▪ Dimension





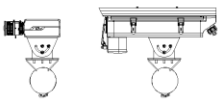
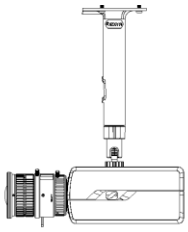
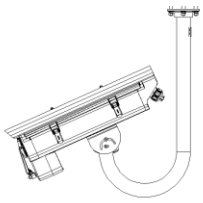
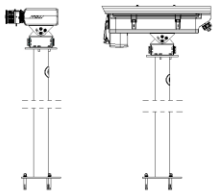
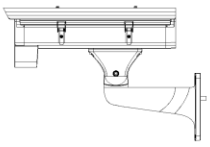
Unit: mm (inch)

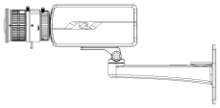
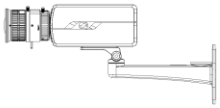
▪ Accessory

▪ Optional

HV3816P-16MPIR	HV3816D-16MPIR	HV1140D-16MPIRA	HV1140P-16MPIRA	DS-1214ZJ
DS-1331HZ-W	**DS-1299ZJ**	**DS-1269ZJ**	**DS-1233ZJ**	**DS-1332HZ**
DS-2202ZJ	**DS-1293ZJ**	**DS-1292ZJ**		

▪ Installation Methods

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

Wall Mounting DS-1293ZJ	Wall Mounting DS-1292ZJ
	

See Far, Go Further

www.hikvision.com
support@hikvision.com

© Hangzhou Hikvision Digital Technology Co., Ltd. Unless otherwise agreed, Hikvision makes no warranties, express or implied. We reserve the right to introduce modifications without notice.

HIKVISION®