IP Camera

VIA-IPC-4D-FR-VIA

VIA-IPC-4D-FR-VIA is a 4 MP motorized varifocal network camera engineered for high-resolution video monitoring and advanced deep-learning analytics.

The device integrates a high-sensitivity 1/1.8» CMOS sensor with a motorized 2.8 to 12 mm P-iris lens, enabling excellent low-light performance via TrueView technology.

The camera combines IR illumination up to 40 m, built-in dual microphones and a speaker for real-time audio security, and extensive deep-learning functions such as multi-target-type detection and face capture.

The robust metal base and cover housing is rated IP67 for water and dust resistance, and IK10 for vandal proofing, making it highly durable for demanding indoor and outdoor environments.

Key Capabilities

- ☑ 4 MP resolution (2688 x 1520)
- ☑ Motorized varifocal lens (2.8 to 12 mm) with P-iris
- ☑ TrueView technology for excellent low-light performance
- ☑ 150 dB WDR
- ☑ H.265 / H.264 video compression
- ☑ IR illumination system, up to 40 m range
- ☑ Deep Learning functions, including multi-target detection (human, face, vehicle), face capture, and people counting
- ☑ Built-in dual-mic and speaker for real-time audio security
- ☑ IP67 weather protection, IK10 vandal resistance
- ☑ Metal housing (base and cover)
- ☑ Support for microSD up to 1 TB

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Fusion ILLUMINATION

HD | IR | IP 67

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)

Angle Adjustment
Pan: 0° to 355°, tilt: 0° to 75°, rotate: 0° to 355°

OPTICAL SYSTEM

Lens Type
Varifocal lens, motorized lens, 2.8 to 12 mm

Focal Length & FOV
2.8 to 12 mm: horizontal FOV 114.6° to 41.8°, vertical FOV 59.3° to 23.6°, diagonal FOV 141.3° to 48.1°

Focus
Auto, Semi-auto, Manual

Iris Type
P-iris

Aperture
2.8 to 12 mm: F1.38 to F2.53

ILLUMINATION

Supplement Light Type
IR

Supplement Light Range
2.8 to 12 mm: Monitoring: 40 m

Smart Supplement Light
Yes

IR Wavelength
850 nm

VIDEO PROCESSING & ENCODING

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.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 CAPABILITIES

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 & CYBERSECURITY

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
SDK, 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

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)

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

Wide Dynamic Range (WDR)
150 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, 2 built-in microphones

Built-in Speaker
Max. power consumption: 1.5 W, max. sound pressure level: 98 dB, speaker range: 10 m

Audio
1 input (line in), two-core terminal block, 1 output (line out), two-core terminal block

Alarm
2 inputs, 2 outputs (max. 24 VDC/24 VAC, 1 A)

RS-485
1 RS-485 (Half duplex, 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, send email, trigger alarm output, trigger recording, trigger capture, audible warning

DEEP LEARNING FUNCTION

Multi-target-type Detection
Supports dynamic mosaic mask, 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
Detects up to 120 faces simultaneously, captures up to 40 face pictures per frame simultaneously and uploads up to 10 face pictures per second, Supports swing left and right from -60° to 60°, tilt up and down from -30° to 30°, Uploads face with background and closed-up face pictures, 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

Activity Analysis
Support the detection of person smoking or making phone calls and trigger alarm. The detection attributes include head and shoulders, hands, faces, making phone calls, and smoking.

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 generating daily, weekly, monthly or annually reports, 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 face feature deduplication, Supports people flow data replenishment

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
Three-core terminal block, 12 VDC ± 20%, 1.28 A, max. 15.3 W, 24 VAC ± 20%, 0.91 A, max. 13.7 W, PoE: IEEE 802.3at, Type 2, Class 4, 42.5 V to 57 V, 0.36 A to 0.27 A, max. 15.2 W

Material
Base: metal, cover: metal

Dimension
Ø 144.3 mm × 114.1 mm (Ø 5.7" × 4.5")

Package Dimension
244 mm × 174 mm × 173 mm (9.6" × 6.9" × 6.8")

Weight
Approx. 970 g (2.14 lb.)

With Package Weight
Approx. 1461 g (3.23 lb.)

Storage Conditions
-40 °C to 65 °C (-40 °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
Multi-language interface including English, Ukrainian, Russian and additional international languages.
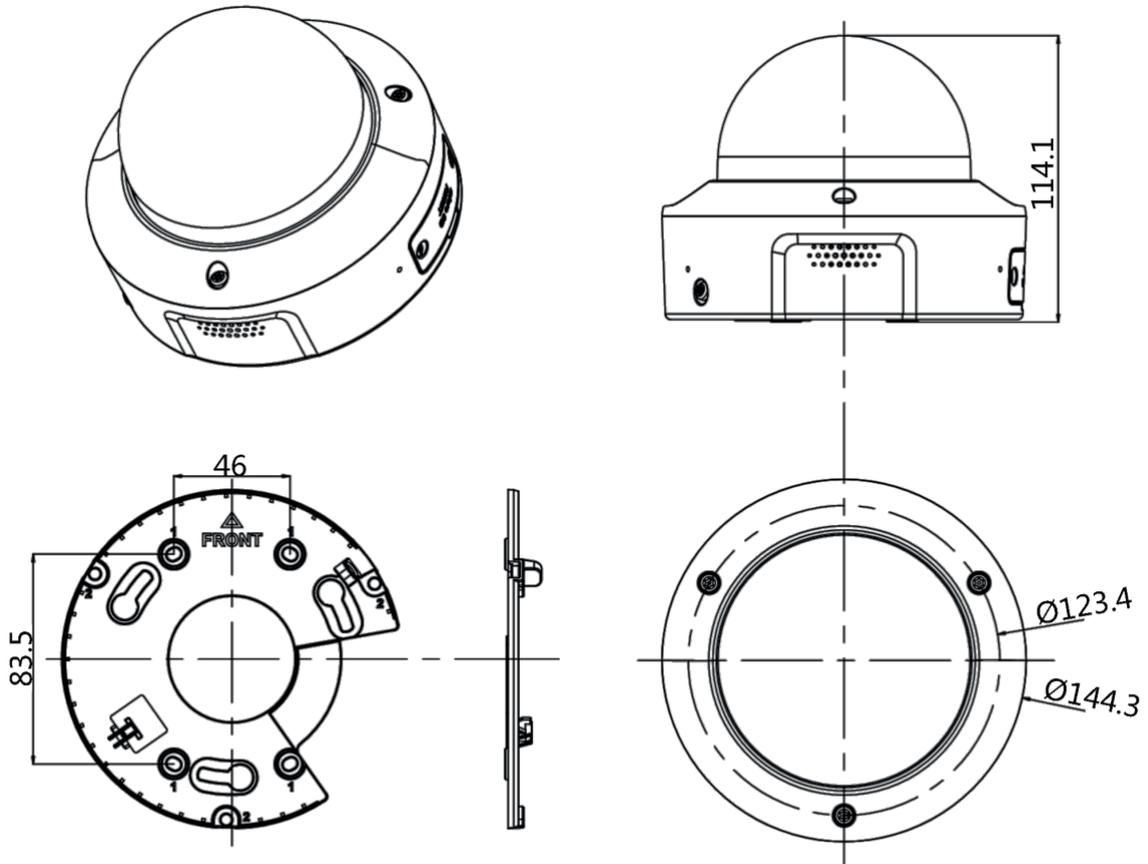
General Function
Heartbeat, one-key reset, mirror, password protection

Protection
IP67, IK10

DIMENSIONS

114.1

46

FRONT

83.5

Ø123.4

Ø144.3

Unit: mm

*Product in box may vary in appearence and specifications.

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