

# DH-SD8A3440GA-HNV

4MP 40X Startlight IR NETWORK PTZ CAMERA



Wiz Mind

## System Overview

Embedded with an advanced AI chip, this series of cameras provides an all-in-one solution for video surveillance of large areas. Outranking conventional cameras with its extended monitoring range, it automatically tracks targets. It also produces vivid images whether day or night, using infrared technology. It is suitable for a wide variety of scenarios, such as advanced defense areas that require high levels of control. You can also have the camera custom-made with an anti-corrosion structure and IK10.

## Functions

### Perimeter Protection

Automatically filters out false alarms caused by animals, rustling leaves, bright lights, and more, and uses secondary recognition during target detection to improve alarm accuracy.

### Face Detection

Supports 6 attributes and 8 expressions: Gender, age, glasses, face mask, beard and expressions (anger, sadness, disgust, fear, surprise, calm, happiness, and confusion). It also supports face cutout settings: Face, and single inch photo. Three snapshot methods are also featured: Real-time snapshot, priority snapshot, and quality priority.

### Smart H.265+ & Smart H.264+

With advanced scene-adaptive rate control algorithm, Dahua smart encoding technology realizes the higher encoding efficiency than H.265 and H.264, provides high-quality video, and reduces the cost of storage and transmission.

- 1/1.8" 4Megapixel STARVIS™ CMOS.
- 40× optical zoom.
- Starlight technology.
- IR distance up to 500 m.
- Auto-tracking.
- Perimeter protection.
- Face Detection.
- Metadata.
- SMD.
- IP67,IK10.



## Environment (−40 °C to +70 °C, IP67)

Developed to operate in extreme conditions, Dahua camera can function in temperatures ranging from −40 °C to +70 °C (−40 °F to +158 °F) at 95% humidity. It was subjected to rigorous dust and water immersion tests, gaining its IP67 Ingress Protection certification, making it suitable for demanding outdoor applications.

## Video Metadata (Vehicles)

Metadata is information on the attributes of vehicles that is extracted during monitoring. It can be used for data retrieval. Vehicle information includes plate number, plate color, type, vehicle color, sun visor, ornament, calling, seatbelt, smoking, annual inspection sticker, and more.

## Technical Specification

### Camera

|                            |                                                                      |
|----------------------------|----------------------------------------------------------------------|
| Image Sensor               | 1/1.8" CMOS                                                          |
| Pixel                      | 4 MP                                                                 |
| Max. Resolution            | 2560 (H) × 1440 (V)                                                  |
| ROM                        | 4 GB                                                                 |
| RAM                        | 1 GB                                                                 |
| Electronic Shutter Speed   | 1/1 s–1/30,000 s                                                     |
| Scanning System            | Progressive                                                          |
| Min. Illumination          | Color: 0.001 lux@F1.6<br>B/W: 0.0001 lux@F1.6<br>0 lux (IR light on) |
| Illumination Distance      | 500 m (1,640.41 ft) (IR)                                             |
| Illuminator On/Off Control | Zoom Prio; Manual; Auto; Off                                         |
| Illuminator Number         | 10 (IR)                                                              |

### Lens

|                      |                                                                                                                                                                                                                                                                                                                                                                                 |                            |                          |                        |
|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|--------------------------|------------------------|
| Focal Length         | 5.6 mm–223 mm                                                                                                                                                                                                                                                                                                                                                                   |                            |                          |                        |
| Max. Aperture        | F1.6–F4.9                                                                                                                                                                                                                                                                                                                                                                       |                            |                          |                        |
| Field of View        | H: 63.9°–2.1°; V: 37.3°–1.2°; D: 71.2°–2.4°                                                                                                                                                                                                                                                                                                                                     |                            |                          |                        |
| Optical Zoom         | 40×                                                                                                                                                                                                                                                                                                                                                                             |                            |                          |                        |
| Focus Control        | Auto; semi-auto; manual                                                                                                                                                                                                                                                                                                                                                         |                            |                          |                        |
| Close Focus Distance | 1 m–5 m (3.28 ft–16.40 ft)                                                                                                                                                                                                                                                                                                                                                      |                            |                          |                        |
| Iris Control         | Auto                                                                                                                                                                                                                                                                                                                                                                            |                            |                          |                        |
| DORI Distance        | Detect                                                                                                                                                                                                                                                                                                                                                                          | Observe                    | Recognize                | Identify               |
|                      | 3,034.5 m<br>(9,955.71 ft)                                                                                                                                                                                                                                                                                                                                                      | 1,198.6 m<br>(3,932.41 ft) | 606.9 m<br>(1,991.14 ft) | 303.4 m<br>(995.41 ft) |
|                      | *DORI (Detect, Observe, Recognize, Identify) is a standard system (EN-62676-4) for defining the ability of a person viewing the video to distinguish persons or objects within a covered area. The numbers in this table do not reflect intelligent function distances. For intelligent function distances, refer to installation and commissioning manual/project design tool. |                            |                          |                        |

### PTZ

|                      |                                                               |
|----------------------|---------------------------------------------------------------|
| Pan/Tilt Range       | Pan: 0° to 360° endless<br>Tilt: –30° to +90°, auto flip 180° |
| Manual Control Speed | Pan: 0°/s–240°/s<br>Tilt: 0°/s–100°/s                         |
| Preset Speed         | Pan: 0°/s–240°/s<br>Tilt: 0°/s–100°/s                         |
| Preset               | 300                                                           |
| Tour                 | 8 (up to 32 presets per tour)                                 |
| Pattern              | 5                                                             |
| Scan                 | 5                                                             |
| Power-off Memory     | Yes                                                           |
| Idle Motion          | Preset; Pattern; Tour; Scan                                   |

### PTZ Protocol

DH-SD  
Pelco-P/D (Auto recognition)

### Intelligence

|                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Video Metadata             | Motor vehicle, non-motor vehicle, face, and human body detection; bounding box; optimization; capturing pictures; uploading high-quality face snapshots<br>Motor vehicle attributes: License plate, plate color, vehicle type, vehicle color, vehicle logo, vehicle model/year, sun visor, seatbelt, smoking, calling, ornament, and annual inspection sticker.                                                                                                                                                                                                                                                                                                                                               |
| IVS (Perimeter Protection) | Tripwire; intrusion; climbing fences; loitering detection; abandoned/missing object; fast moving; parking detection; people gathering; vehicle/human alarm classification; linkage tracking                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Face Detection             | Supports face detection, face bounding box, capturing snapshots, uploading face snapshots, enhancing face images, and selecting a preferred image among a group of snapshots. Attribute Extraction is also supported, where 6 attributes and 8 expressions can be detected. The attributes are gender, age, glasses, mask, mustache and expressions. The expressions are angry, sad, hate, scared, surprised, calm, happy and confused. Face cutout is also offered, where you can cutout one face at a time and customize the size to be a one-inch photo. The supported methods for capturing snapshots are real-time capturing, quality first, and selecting a preferred image among a group of snapshots. |
| Auto Tracking              | Yes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| SMD                        | Yes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

### Video

|                          |                                                                                                                                                                     |
|--------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Video Compression        | Smart H.265+; H.265; Smart H.264+; H.264; H.264B; H.264H; MJPEG (Sub Stream)                                                                                        |
| Streaming Capability     | 3 streams                                                                                                                                                           |
| Resolution               | 4M (2560 × 1440); 3M (2048 × 1536); 1080p (1920 × 1080); 1.3M (1280 × 960); 720p (1280 × 720); D1 (704 × 576/704 × 480); VGA (640 × 480); CIF (352 × 288/352 × 240) |
| Video Frame Rate         | Main stream: 4M/3M/1080p/1.3M/720p (1–25/30 fps)<br>Sub stream 1: D1/VGA/CIF (1–25/30 fps)<br>Sub stream 2: 1080p/1.3M/720p (1–25/30 fps)                           |
| Bit Rate Control         | CBR/VBR                                                                                                                                                             |
| Video Bit Rate           | H264: 96 Kbps–14,848 Kbps<br>H265: 38 Kbps–8,960 Kbps                                                                                                               |
| Day/Night                | Auto (ICR)/Color/B/W                                                                                                                                                |
| BLC                      | Yes                                                                                                                                                                 |
| WDR                      | 140 dB                                                                                                                                                              |
| HLC                      | Yes                                                                                                                                                                 |
| White Balance            | Auto; indoor; outdoor; tracking; manual; sodium lamp; natural light; street lamp                                                                                    |
| Gain Control             | Auto; manual                                                                                                                                                        |
| Noise Reduction          | 2D NR; 3D NR                                                                                                                                                        |
| Motion Detection         | Yes                                                                                                                                                                 |
| Region of Interest (RoI) | Yes                                                                                                                                                                 |
| Image Stabilization      | Electronic Image Stabilization (EIS)                                                                                                                                |
| Defog                    | Electronic                                                                                                                                                          |
| Digital Zoom             | 16×                                                                                                                                                                 |

|                 |                                                                                              |
|-----------------|----------------------------------------------------------------------------------------------|
| Image Rotation  | 180°                                                                                         |
| Privacy Masking | Up to 24 areas can be set, with up to 8 areas in the same view;<br>multiple colors available |
| S/N Ratio       | ≥ 55 dB                                                                                      |

## Audio

|                   |                                                               |
|-------------------|---------------------------------------------------------------|
| Audio Compression | PCM; G.711a; G.711Mu; G.726; MPEG2-Layer2; G722.1; G729; G723 |
|-------------------|---------------------------------------------------------------|

## Network

|                  |                                                                                                                                        |
|------------------|----------------------------------------------------------------------------------------------------------------------------------------|
| Network Port     | RJ-45 (10/100 Base-T)                                                                                                                  |
| Network Protocol | HTTP;HTTPS;TCP/IP;IPv4;RTSP;UDP;SMTP;NTP;DHCP;DNS;DDNS;IPv6;802.1x;SSL;Qos;FTP;UPnP;ICMP;SNMP;IGMP;ARP;RTCP;RTP;PPPoE;RTMP;Bonjour;NFS |
| Interoperability | ONVIF(Profile S&G&T);CGI;SDK                                                                                                           |
| Streaming Method | Unicast/Multicast                                                                                                                      |
| User/Host        | 20 (total bandwidth: 64 M)                                                                                                             |
| Storage          | Micro SD card (512 GB); FTP/SFTP; NAS                                                                                                  |
| Browser          | IE 9 and later versions<br>Chrome 42 and later versions<br>Firefox 50 and later versions<br>Safari 10 and later versions               |
| Mobile Client    | iOS;Android                                                                                                                            |

## Port

|               |                                                                                                                                                                                      |
|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| RS-485        | 1 (baud rate: 1,200 bps–9,600 bps)                                                                                                                                                   |
| Audio Input   | 1 channel (LINE IN, bare wire)                                                                                                                                                       |
| Audio Output  | 1 channel (LINE OUT, bare wire)                                                                                                                                                      |
| Alarm Linkage | Capture; preset; tour; pattern; recording; alarm digital input; audio; send email                                                                                                    |
| Alarm Event   | Motion/tampering detection; audio detection; network disconnection detection; IP conflict detection; memory card status detection; memory space detection; power exception detection |
| Alarm I/O     | 7/2                                                                                                                                                                                  |
| Audio I/O     | 1/1                                                                                                                                                                                  |

## Power

|                   |                                                        |
|-------------------|--------------------------------------------------------|
| Power Supply      | 36 VDC/2.23 A ± 25%; Hi-PoE                            |
| Power Consumption | Basic: 17 W<br>Max.: 30 W (illuminator + heater + PTZ) |

## Environment

|                       |                                                                                 |
|-----------------------|---------------------------------------------------------------------------------|
| Operating Temperature | –40 °C to +70 °C (–40 °F to +158 °F)                                            |
| Operating Humidity    | ≤ 95%                                                                           |
| Protection            | IP67, TVS 8000V lightning proof; surge protection; voltage transient protection |

## Structure

|                    |                                         |
|--------------------|-----------------------------------------|
| Product Dimensions | 415.9 mm × Φ262.0 mm (16.37" × Φ10.31") |
| Net Weight         | 8.5 kg (18.74 lb)                       |
| Gross Weight       | 13.1 kg (28.88 lb)                      |

## Ordering Information

| Type        | Part Number               | Description                              |
|-------------|---------------------------|------------------------------------------|
| 4M Camera   | DH-SD8A3440GA-HNV         | 4MP 40X Startlight IR NETWORK PTZ CAMERA |
| Accessories | DC36V/2.23A               | Power Adapter                            |
|             | PFB306W                   | Wall Mount Bracket                       |
|             | PFB710C + PFA118          | Ceiling Mount Bracket                    |
|             | PFB301C + PFA118          | Ceiling Mount Bracket                    |
|             | PFA150 + PFB306W          | Vertical Pole Mount Bracket              |
|             | PFA150 + PFB301C + PFA118 | Horizontal Pole Mount Bracket            |

## Accessories

### Included:



DC36V/2.23A  
Power Adapter



PFB306W  
Wall Mount Bracket

### Optional:



PFB710C + PFA118  
Ceiling Mount  
Bracket



PFB301C + PFA118  
Ceiling Mount  
Bracket



PFA150 + PFB306W  
Ceiling Mount  
Bracket



PFA150 + PFB301C +  
PFA118  
Corner mount Bracket

|                                        |                                 |                                                 |
|----------------------------------------|---------------------------------|-------------------------------------------------|
| Wall Mount<br>PFB306W+PFA120           | Ceiling Mount<br>PFA118+PFB710C | Ceiling Mount<br>PFA118+PFB301C                 |
|                                        |                                 |                                                 |
| Pole Mount(Vertical)<br>PFB306W+PFA150 | Corner Mount<br>PFB306W+PFA151  | Pole Mount(Horizontal)<br>PFA118+PFB301C+PFA150 |
|                                        |                                 |                                                 |
| Plane Mount<br>PFA118+PFB301S-E        |                                 |                                                 |
|                                        |                                 |                                                 |

Dimensions (mm[inch])

