

# DH-SD8A240WA-H-CT

2MP 40x Starlight+ IR WizMind AI Network PTZ Speed Dome Camera



Wiz Mind

- 1/1.8" 2Megapixel CMOS
- Powerful 40x optical zoom
- Starlight+ technology
- IR distance up to 500m
- Support face recognition
- Deep-learning-based auto tracking and perimeter protection
- Support metadata
- Support Hi-PoE
- Smart Wiper
- IP67



Launched by Dahua Technology, Dahua WizMind is a full portfolio of solutions composed of project-oriented products including IPC, NVR, PTZ, XVR, Thermal and software platform which adopts industry-leading deep learning algorithms. Focusing on customer's requirements, WizMind provides precise, reliable and comprehensive AI solutions for industry verticals.

## System Overview

Dahua PTZ Speed Dome AI network camera adopts advanced CNN deep learning algorithms to support face recognition with high accuracy. This camera possesses wide monitor range, PFA algorithm that can always present a clear, focused image while zooming, and smart wiper technology that supported by RainSensor.

## Functions

### Starlight+ Technology

For challenging low-light applications, Dahua's Starlight Ultra-low Light Technology offers best-in-class light sensitivity, capturing color details in low light down to 0.001 Lux. The camera uses a set of optical features to balance light throughout the scene, resulting in clear images in dark environments.

### Face Recognition

Once facial features are extracted from captured faces, they are stored in a database where they can be easily searched and compared against other images. Once a successful match is found, the system outputs the result. The Dahua Face Recognition camera supports a built-in database that stores up to 10,000 facial images, helping the camera achieve real-time face capture and comparison.

### Perimeter Protection

Automatically filters out false alarms caused by animals, rustling leaves, bright lights, etc. Enables system to act secondary recognition for the targets. Improves alarm accuracy.

### Metadata

Metadata is feature attribute information extracted from a target object which can be used for data retrieval. There are four kinds of metadata supported by Dahua PTZ AI camera: Human face, human body, motor vehicle and non-motor vehicle metadata. Facial information includes gender, age, glasses, masks, beards, etc. Human body information includes hat, top, top color, bottom, bottom color, bag, etc. Motor vehicle information includes plate color, type, vehicle color, sunshield, ornament, calling, seatbelt, smoking, annual inspection sticker, etc. Non-motor vehicle information includes type, color, top type, top color, people number, etc.

### PFA Technology

PFA technology has innovatively introduced new methods of judgment to ensure the accuracy and predictability of the direction of subject distance adjustment. The result is a set of advanced focusing algorithms. PFA ensures clarity of the image throughout the process of zooming and shortens focus time. The realization of PFA technology substantially improves user experience and increases product value.

### Environment

Dahua cameras operate in extreme temperature environments, rated for use in temperatures from -40 °C to +70 °C (-40 °F to +158 °F) with 95% humidity. Subjected to rigorous dust and water immersion tests and certified to the IP67 Ingress Protection rating make it suitable for demanding outdoor applications.

### Protection

The camera allows for  $\pm 25\%$  input voltage tolerance, suitable for the most unstable conditions for outdoor applications. Its 8KV lightning rating provides effective protection for both the camera and its structure against lightning.

### Interoperability

The camera conforms to the ONVIF (Open Network Video Interface Forum) specifications, ensuring interoperability between network video products regardless of manufacturer.

**Technical Specification**

**Camera**

|                             |  |
|-----------------------------|--|
| Image Sensor                | 1/1.8" CMOS  |
| Pixel                       | 2MP  |
| Max. Resolution             | 1920 (H) × 1080 (V)  |
| Electronic Shutter Speed    | 1/1 s–1/30,000 s   |
| Scanning System             | Progressive  |
| Min. Illumination           | Color: 0.001 Lux@F1.4<br>B/W: 0.0001 Lux@F1.4<br>0 Lux@F1.4 (illuminator on) |
| Illumination Distance       | 500 m (1640.42 ft)   |
| Illumination On/Off Control | Auto; Manual   |
| Illuminator Number          | 10   |
| Wiper                       | Smart wiper  |

**Lens**

|                      |   |                    |                    |                   |
|----------------------|---|--------------------|--------------------|-------------------|
| Focal Length         | 5.6 mm–223 mm                           |                    |                    |                   |
| Max. Aperture        | F1.4– F4.8                              |                    |                    |                   |
| Field of View        | H: 70.3°–1.8°; V: 35.1°–1°; D: 67.5°–2° |                    |                    |                   |
| Optical Zoom         | 40x                                     |                    |                    |                   |
| Focus Control        | Auto                                    |                    |                    |                   |
| Close Focus Distance | 0.1 m–1 m (0.33 ft–3.28 ft)             |                    |                    |                   |
| Iris Control         | Auto; Manual                            |                    |                    |                   |
| DORI Distance        | Detect                                  | Observe            | Recognize          | Identify          |
|                      | 2340 m (7677.17 ft)                     | 930 m (3051.18 ft) | 460 m (1509.19 ft) | 230 m (754.59 ft) |

**PTZ**

|                      |  |
|----------------------|--|
| Pan/Tilt Range       | Pan: 0°–360° endless<br>Tilt: -30°–90°, auto flip 180° |
| Manual Control Speed | Pan: 0.1° –240°/s<br>Tilt: 0.1° –100°/s                |
| Preset Speed         | Pan: 240°/s; Tilt: 150°/s                              |
| Preset               | 300  |
| Tour                 | 8 (up to 32 presets per tour)                          |
| Pattern              | 5  |
| Scan                 | 5  |
| Speed Adjustment     | Yes  |
| Power-off Memory     | Yes  |
| Idle Motion          | Preset; Tour; Pattern; Scanning                        |
| Protocol             | DH-SD; Pelco-P/D (auto recognition)                    |

**General Intelligence**

|               |  |
|---------------|--|
| Event Trigger | Motion detection; video tampering; scene changing; network disconnection; IP address conflict; illegal access; storage anomaly |
|---------------|--|

|     |                                  |
|-----|----------------------------------|
| IVS | Object abandoned; object missing |
|-----|----------------------------------|

**Artificial Intelligence**

|                      |  |
|----------------------|--|
| Auto Tracking        | Yes( Manual/Automatic)   |
| Face Recognition     | Yes  |
| Perimeter Protection | Tripwire and intrusion. Support alarm triggering by target types (human and vehicle). Support filtering false alarms caused by animals, rustling leaves, bright lights, etc. |
| Video Metadata       | Support human body, human face, motor vehicle and non-motor vehicle image capture and attributes extraction.   |

**Video**

|                          |   |
|--------------------------|---|
| Compression              | Smart H.265+; H.265; Smart H.264+; H.264; MJPEG (Sub Stream 1)  |
| Streaming Capability     | 3 streams   |
| Resolution               | 1080p (1920 × 1080)/1.3M (1280 × 960)/720p (1280 × 720)/D1 (704 × 576/704 × 480)/CIF (352 × 288/352 × 240)                                  |
| Frame Rate               | Main stream: 1080p/1.3M/720p (1 fps–50/60 fps)<br>Sub stream 1: D1/CIF (1 fps–25/30 fps)<br>Sub stream 2: 1080p/1.3M/720p (1 fps–25/30 fps) |
| Bit Rate Control         | Variable; Constant  |
| Bit Rate                 | H.265/H.264: 512 Kbps–8192 Kbps   |
| Day/Night                | Auto (ICR); Color; B/W  |
| BLC                      | Yes   |
| WDR                      | 140 dB  |
| HLC                      | Yes   |
| White Balance            | Auto; ATW; Indoor; Outdoor; Manual  |
| Gain Control             | Auto; Manual  |
| Noise Reduction          | Ultra DNR (2D/3D)   |
| Motion Detection         | Yes   |
| Region of Interest (RoI) | Yes   |
| Image Stabilization      | Electronic (EIS).Built-in gyroscope.  |
| Defog                    | Optical   |
| Digital Zoom             | 16x   |
| Flip                     | 180°  |
| Privacy Masking          | Up to 24 areas  |

**Audio**

|             |   |
|-------------|---|
| Compression | G.711a; G.711mu; PCM; G.726; AAC; G722.1; G.729; MPEG2-Layer2 |
|-------------|---|

**Network**

|          |   |
|----------|---|
| Ethernet | RJ-45 (10Base-T/100Base-TX).Self-adaptive.  |
| Protocol | IPv4/IPv6; HTTP; HTTPS; SSL; TCP/IP; UDP; UPnP; ICMP; IGMP; SNMP v1/v2c/v3 (MIB-2); ARP; RTCP; RTP; RTSP; SMTP; NTP; DHCP; DNS; PPPOE; DDNS; FTP; IP Filter; QoS; Bonjour; 802.1x; RTMP |

|                     |  |
|---------------------|--|
| Interoperability    | ONVIF Profile S&G&T; API   |
| Streaming Method    | Unicast; Multicast   |
| User/Host           | 20 (total bandwidth 64MB)  |
| Storage             | NAS (Network Attached Storage); local PC for instant recording; Micro SD/SDX,SDHC card (256 GB); ANR with VMS. |
| Browser             | IE; Chrome; Firefox; Safari  |
| Management Software | Smart PSS; DSS; DMSS   |
| Mobile Phone        | IOS; Android   |
| Certifications      | CE: EN55032; EN55024; EN50130-4<br>FCC: Part15 subpartB, ANSI C63.4-2014                                       |

|               |                              |
|---------------|------------------------------|
| <b>Port</b>   |                              |
| Analog Output | 1 port (BNC, 1.0V[p-p], 75Ω) |
| RS-485        | 1                            |
| Audio I/O     | 1/1                          |
| Alarm I/O     | 7/2                          |

|                   |                                   |
|-------------------|-----------------------------------|
| <b>Power</b>      |                                   |
| Power Supply      | AC24V/DC 36V/2.23A (±25%); Hi-PoE |
| Power Consumption | 26W, 38W (heater on, IR on)       |

|                       |                                  |
|-----------------------|----------------------------------|
| <b>Environment</b>    |                                  |
| Operating Temperature | -40°C to +70°C (-40°F to +158°F) |
| Operating Humidity    | Less than 95% RH                 |
| Protection            | IP67                             |

|                  |                                       |
|------------------|---------------------------------------|
| <b>Structure</b> |                                       |
| Casing           | Metal                                 |
| Dimensions       | Φ262 mm × 415.6 mm (Φ10.31" × 16.36") |
| Net Weight       | 8.5 kg (18.74 lb)                     |
| Gross Weight     | 14.3 kg (31.53 lb)                    |

**Ordering Information**

| Type                         | Part Number       | Description   |
|------------------------------|-------------------|---|
| 2MP<br>WizMind<br>PTZ Camera | DH-SD8A240WA-H-CT | 2MP 40x Starlight IR WizMind AI Network PTZ Camera, WDR, PAL  |
|                              | DH-SD8A240WAN-HNF | 2MP 40x Starlight IR WizMind AI Network PTZ Camera, WDR, NTSC |
|                              | SD8A240WA-HNF     | 2MP 40x Starlight IR WizMind AI Network PTZ Camera, WDR, PAL  |
|                              | SD8A240WAN-HNF    | 2MP 40x Starlight IR WizMind AI Network PTZ Camera, WDR, NTSC |

|                    |              |                       |
|--------------------|--------------|-----------------------|
| <b>Accessories</b> | PFB306W      | Wall Mount Bracket    |
|                    | DC 36V/2.23A | Power Adapter         |
|                    | PFA118       | Mount Adapter         |
|                    | PFB710C      | Ceiling Mount Bracket |
|                    | PFA150       | Pole Mount Bracket    |
|                    | PFB301S-E    | Plane Mount Bracket   |

**Accessories**

Included:



PFB306W  
Wall Mount Bracket



DC 36V/2.23A  
Power Adapter

Optional:



PFA118  
Mount Adapter



PFB710C  
Ceiling Mount Bracket



PFA150  
Pole Mount Bracket



PFB301S-E  
Plane Mount Bracket

| Wall Mount     | Ceiling Mount  |
|----------------|----------------|
| PFB306W        | PFA118+PFB710C |
|                |                |
| Pole Mount     | Plane Mount    |
| PFB306W+PFA150 | PFB301S-E      |
|                |                |

**Dimensions (mm[inch])**

