

# DH-SD1A404XB-GNR

4M 4x Starlight IR WizSense Network PTZ Camera



Wiz Sense

Launched by Dahua Technology, WizSense is a series of AI products and solutions that adopt independent AI chip and deep learning algorithm. It focuses on human and vehicle with high accuracy, enabling users to fast act on defined targets. Based on Dahua's advanced technologies, WizSense provides intelligent, simple and inclusive products and solutions.

## System Overview

Dahua WizSense PTZ camera adopts advanced CNN deep learning algorithms to support perimeter protection with high accuracy. The camera is equipped with smooth control, high quality image, and good protection, meeting compact size demands of video surveillance applications.

## Functions

### People Counting

People Counting function uses advanced image processing technology to capture depth information from within images. The camera pairs this information with deep learning algorithms to analyze and detect human bodies and track target objects in real time. The camera provides statistics for separate individuals' entrance and exit with up to 95% counting accuracy.

### 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 0.005 lux. The camera uses a set of optical features to balance light throughout the scene, resulting in clear images in dark environments.

### Environmental

Dahua cameras operate in extreme temperature environments, rated for use in temperatures from -30 °C to +60 °C (-22 °F to +140 °F) with 95% humidity. Subjected to rigorous dust and water immersion tests and certified to the IP66 Ingress Protection rating makes it suitable for demanding outdoor applications.

- 1/2.8" 4Megapixel STARVIS™ CMOS

- ☑ Starlight technology

- ☑ Max. 25/30fps@4MP

- ☑ 4x optical zoom

- ☑ Face Detection, People Counting, Perimeter Protection

- ☑ IR distance up to 15m

- ☑ SMD Plus

- ☑ PoE

- ☑ IP66, IK08



### Protection

The camera allows for ±15% input voltage tolerance, suitable for the most unstable conditions for outdoor applications. Its 6KV lightning rating provides effective protection for both the camera and its structure against lightning.

### Wide Dynamic Range

The camera achieves vivid images, even in the most intense contrast lighting conditions, using industry-leading wide dynamic range (WDR) technology. For applications with both bright and low lighting conditions that change quickly, True WDR optimizes both the bright and dark areas of a scene at the same time to provide usable video.

### H.265+

H.265+ is the optimized implementation of the H.265 codec that uses a scene-adaptive encoding strategy, dynamic GOP, dynamic ROI, flexible multi-frame reference structure and intelligent noise reduction to deliver high-quality video without straining the network. H.265+ technology reduces bit rate and storage requirements by up to 70% when compared to standard H.265 video compression.

**Technical Specification**

**Camera**

|                            |   |
|----------------------------|---|
| Image Sensor               | 1/2.8" STARVIS™ CMOS  |
| Pixel                      | 4MP   |
| Max. Resolution            | 2560 (H) × 1440 (V)   |
| ROM                        | 4GB   |
| RAM                        | 1GB   |
| Electronic Shutter Speed   | 1/1 s~1/30,000 s  |
| Scanning System            | Progressive   |
| Min. Illumination          | Color: 0.005Lux@F1.8<br>B/W: 0.0005Lux@F1.8<br>0Lux (IR light on) |
| Illumination Distance      | 15 m (49.21 ft)   |
| Illuminator On/Off Control | Zoom Prio/Manual/SmartIR  |
| Illuminator Number         | 3   |

**Lens**

|                      |   |                       |                      |                      |
|----------------------|---|-----------------------|----------------------|----------------------|
| Focal Length         | 2.8 mm~12 mm  |                       |                      |                      |
| Max. Aperture        | F1.8~F2.7   |                       |                      |                      |
| Field of View        | H: 31.6°~96.9°<br>V: 17.8°~51.4°<br>D: 36.4°~116.2° |                       |                      |                      |
| Optical Zoom         | 4x  |                       |                      |                      |
| Focus Control        | Auto/Semi-Auto/Manual                               |                       |                      |                      |
| Close Focus Distance | 0.2 m~0.5 m (0.66 ft~1.64 ft)                       |                       |                      |                      |
| Iris Control         | Auto  |                       |                      |                      |
| DORI Distance        | Detect  | Observe               | Recognize            | Identify             |
|                      | 147.0 m<br>(482.28 ft)                              | 58.8 m<br>(192.91 ft) | 29.4 m<br>(96.46 ft) | 14.7 m<br>(48.23 ft) |

**PTZ**

|                      |                                   |
|----------------------|-----------------------------------|
| Pan/Tilt Range       | Pan: 0°~355°<br>Tilt: 5°~90°      |
| Manual Control Speed | Pan: 0.1~70°/s<br>Tilt: 0.1~30°/s |
| Preset Speed         | Pan: 80°/s<br>Tilt: 40°/s         |
| Presets              | 300                               |
| Tour                 | 8 (up to 32 presets per tour)     |
| Speed Adjustment     | Support                           |
| Power-off Memory     | Support                           |
| Idle Motion          | Preset/Tour                       |

**General Intelligence**

|               |  |
|---------------|--|
| Event Trigger | Motion detection, Video tampering, Scene changing, Network disconnection, IP address conflict, Illegal Access, Storage anomaly |
| IVS           | Object Abandoned/Missing   |

**Artificial Intelligence**

|                      |   |
|----------------------|---|
| People Counting      | Count people entering and exiting the area (crossing people counting); count people staying in the area (in-area people counting); display and export reports by day, week and month. |
| 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.          |
| SMD Plus             | Support   |
| Face Detection       | Support   |

**Video**

|                                |  |
|--------------------------------|--|
| Compression                    | H.265; H.264BaselineProfile; H.264MainProfile; H.264HighProfile; MJPEG (Sub Stream); H.265+; H.264+  |
| Streaming Capability           | 3 streams  |
| Resolution                     | 4M (2560 x 1440); 3M (2048 x 1536); 1080P (1920 x 1080); 1.3M (1280 x 960); 720P (1280 x 720); D1 (704 x 576/704 x 480); CIF (352 x 288/352 x 240)         |
| Frame Rate                     | Main stream: 4M/3M (1~25/30fps), 1080P/1.3M/720P (1~25/30fps)<br>Sub stream 1: D1/CIF (1~25/30fps)<br>Sub stream 2: 720P (1~25/30fps), D1/CIF (1~25/30fps) |
| Bit Rate Control               | Variable Bit Rate/Constant Bit Rate  |
| Bit Rate                       | H.264/H.265/MJPEG: 3 kbps~20480 kbps   |
| Day/Night                      | Auto (ICR)/Color/B/W   |
| BLC                            | Support  |
| WDR                            | 120 dB   |
| HLC                            | Support  |
| White Balance                  | Auto/Indoor/Outdoor/Track/Manual/Sodium lamp/Natural light/Street lamp   |
| Gain Control                   | Auto/Manual  |
| Noise Reduction                | 2D/3D  |
| Motion Detection               | Support  |
| Region of Interest (RoI)       | Support  |
| Electronic Image Stabilization | Support  |
| Electronic Defog               | Support  |
| Digital Zoom                   | 16x  |
| Flip                           | 0°/180°  |
| Privacy Masking                | Up to 24 areas, and up to 8 areas in the same view   |

**Audio**

|             |  |
|-------------|--|
| Compression | G.711a; G.711Mu; G.726; AAC; MPEG2-Layer2; G.722.1; G.729; G.723 |
|-------------|--|

**Network**

|                  |  |
|------------------|--|
| Ethernet         | RJ-45 (10/100Base-T)   |
| Protocol         | IPv4; IPv6; HTTP; HTTPS; 802.1x; Qos; FTP; SMTP; UPnP; SNMPv1/v2c/v3(MIB-2); DNS; DDNS; NTP; RTSP; RTP; TCP; UDP; IGMP; ICMP; DHCP; DHCP; PPPoE; ARP; RTCP |
| Interoperability | ONVIF Profile S&G&T; CGI   |
| Streaming Method | Unicast/Multicast  |

|                     |  |
|---------------------|--|
| User/Host           | 20   |
| Storage             | FTP; Micro SD card (256G); P2P                       |
| Browser             | IE; Chrome; Firefox; Safari (no version restriction) |
| Management Software | SmartPSS<br>DSS                                      |
| Mobile Phone        | iOS/Android  |

## Certification

|                |   |
|----------------|---|
| Certifications | CE: EN55032/EN55024/EN50130-4<br>FCC: Part15 subpartB, ANSI C63.4-2014<br>UL62368-1+CAN/CSA C22.2.No. 62368-1 |
|----------------|---|

## Port

|              |                                       |
|--------------|---------------------------------------|
| Audio Input  | 1(Line in; bare wire or built in Mic) |
| Audio Output | 1                                     |

## Power

|                   |                                 |
|-------------------|---------------------------------|
| Power Supply      | DC12V/1.5A±15%<br>PoE (802.3af) |
| Power Consumption | 3W<br>8.5W (IR on)              |

## Environment

|                       |   |
|-----------------------|---|
| Operating Temperature | -30°C to +60°C (-22°F to 140°F)                         |
| Operating Humidity    | ≤95%  |
| Protection            | IK08; IP66; TVS 6000V lightning proof; surge protection |

## Structure

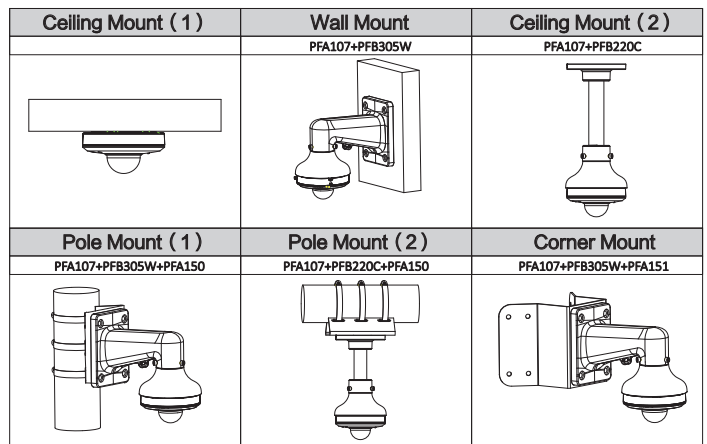
|              |                                     |
|--------------|-------------------------------------|
| Dimensions   | Φ128.0 mm × 65.4 mm (5.04" × 2.57") |
| Net Weight   | 0.485 kg (1.06 lb)                  |
| Gross Weight | 0.7 kg (1.54 lb)                    |

## Ordering Information

| Type                          | Model             | Description   |
|-------------------------------|-------------------|---|
| 4MP<br>WizSense<br>PTZ Camera | DH-SD1A404XB-GNR  | 4M 4x Starlight IR WizSense NetworkPTZ Camera, PAL  |
|                               | DH-SD1A404XBN-GNR | 4M 4x Starlight IR WizSense NetworkPTZ Camera, NTSC |
|                               | SD1A404XB-GNR     | 4M 4x Starlight IR WizSense NetworkPTZ Camera, PAL  |
|                               | SD1A404XBN-GNR    | 4M 4x Starlight IR WizSense NetworkPTZ Camera, NTSC |
| Accessories                   | PFA107            | Mount Adapter                                       |
|                               | PFB305W           | Wall Mount Bracket                                  |
|                               | DH-PFA120         | Junction Box  |
|                               | DH-PFA140         | Power Box   |
|                               | DH-PFA151         | Corner Mount Bracket                                |
|                               | PFB220C           | Ceiling Mount Bracket                               |
|                               | DH-PFA150         | Pole Mount Bracket                                  |
|                               | DC12V/1.5A        | Power Adapter                                       |

## Accessories

### Optional:



## Dimensions (mm[inch])

