# DH-IPC-HDBW3841R-Z(A)S-S2

## 8MP IR Vari-focal Dome WizSense Network Camera



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.

### Series Overview

Dahua WizSense 3 Series Network Camera greatly saves on bandwidth and storage space through its AI Coding technology. Driven by its advanced deep learning algorithms, the camera supports intelligent functions such as perimeter protection, smart motion detection (SMD), Quick Pick, and AI SSA (AI Scene Self-adaptation), making it easy and convenient to use. Starlight technology and its large aperture lens also allow the camera to produce clear, vivid images even in poor lighting conditions.

### Functions

**SMD 4.0**

Dahua Smart Motion Detection technology works with intelligent algorithms to classify targets that trigger motion detection alarms. It filters out objects that are not targets, such as small and large animals, to avoid triggering false alarms. With an AI NVR, Quick Pick technology becomes available, allowing you to easily search for and pick out human and vehicle targets from SMD event videos, prioritizing the highest matches.

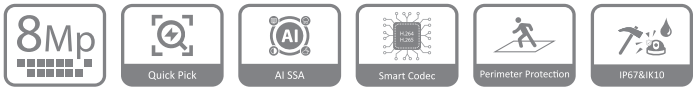
**AI SSA**

Dahua AI Scene Self-adaptation (AI SSA) adopts deep learning algorithms to detect environmental conditions, such as rain, fog, backlight, low light and flicker, to adjust the parameters of the image to suit the conditions, ensuring that clear images are always produced.

**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.

- 8-MP 1/2.8" CMOS image sensor, excellent low luminance performance and high definition of images.
- Outputs max. 8MP (3840 × 2160) @25/30 fps.
- H.265 codec, high compression rate, ultra-low bit rate.
- Built-in IR LED, max. IR distance: 40 m.
- ROI, SMART H.264 +/H.265+, AI H.264/H.265, flexible coding, applicable to various bandwidth and storage environments.
- Rotation mode, WDR, 3D NR, HLC, BLC, digital watermarking, applicable to various monitoring scenes.
- Intelligent detection: Intrusion, tripwire (support the classification and accurate detection of vehicle and human).
- Abnormality detection: Motion detection, privacy masking, scene changing, audio detection, no SD card, SD card full, SD card error, network disconnection, IP conflict, illegal access, and voltage detection.
- Alarm: 1 in, 1 out (Only - ZAS supports); audio: 1 in, 1 out (Only - ZAS supports); max. 256 G Micro SD card; built-in Mic.
- 12 VDC/PoE power supply facilitates installation.
- IP67, IK10 protection.
- SMD 4.0, AI SSA.




**Perimeter Protection**

With deep learning algorithm, Dahua Perimeter Protection technology can recognize human and vehicle accurately. In restricted area (such as pedestrian area and vehicle area), the false alarms of intelligent detection based on target type (such as tripwire, intrusion) are largely reduced.

**Protection (IP67, IK10, Wide Voltage)**

IP67: The camera passes a series of strict test on dust and soak. It has dust-proof function, and the enclosure can work normally after soaking in 1 m deep water for 30 minutes.
IK10: The enclosure can stand the punch more than 5 times from a 5 kg hammer falling from a height of 40 cm (Impact energy is 20J).
Wide voltage: The camera allows ±30% (for some power supplies) input voltage tolerance (wide voltage range), and it is widely applied to outdoor environment with instable voltage.

**Cyber Security**

Dahua network cameras employ a series of security technologies, including security authentication and authorization, access control protocols, trusted protection, encrypted transmission and encrypted storage. These technologies improve the camera's defense against external cyber threats and prevent malicious programs from comprising the device.

## Technical Specification

### Camera

| | |
|---|---|
| Image Sensor | 1/2.8" CMOS |
| Max. Resolution | 3840 (H) × 2160 (V) |
| ROM | 128 MB |
| RAM | 1 GB |
| Scanning System | Progressive |
| Electronic Shutter Speed | Auto/Manual 1/3 s–1/100,000 s |
| Min. Illumination | 0.007 lux@F1.5 (Color, 30 IRE)<br>0.0007 lux@F1.5 (B/W, 30 IRE)<br>0 lux (Illuminator on) |
| S/N Ratio | >56 dB |
| Illumination Distance | Up to 40 m (131.23 ft) |
| Illuminator On/Off Control | Auto/Manual |
| Illuminator Number | 3 (IR LED) |
| Pan/Tilt/Rotation Range | Pan: 0°–355°; Tilt: 0°–80°; Rotation: 0°–355° |

### Lens

| | |
|---|---|
| Lens Type | Motorized vari-focal |
| Lens Mount | ϕ14 |
| Focal Length | 2.7 mm–13.5 mm |
| Max. Aperture | F1.5 |
| Field of View | Horizontal: 109°–30°<br>Vertical: 56° –17°<br>Diagonal: 131° –35° |
| Iris Control | Fixed |
| Close Focus Distance | 0.8 m (2.62 ft) |

| | Lens | Detect | Observe | Recognize | Identify |
|---|---|---|---|---|---|
| DORI Distance | W | 88.3 m (289.70 ft) | 35.3 m (115.81 ft) | 17.7 m (58.07 ft) | 8.8 m (28.87 ft) |
| | T | 289.7 m (950.46 ft) | 115.7 m (379.60 ft) | 57.9 m (189.96 ft) | 29.0 m (95.14 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.

### Intelligence

| | |
|---|---|
| IVS (Perimeter Protection) | Tripwire, intrusion (support the classification and accurate detection of vehicle and human) |
| AI SSA | Yes |
| Quick Pick | With AI NVR, quickly pick up the human/vehicle targets that users are interested in from SMD events |
| Smart Search | Work together with Smart NVR to perform refine intelligent search, event extraction and merging to event videos |

### Video

| | |
|---|---|
| Video Compression | H.265; H.264; H.264H; H.264B; MJPEG (only supported by the sub stream) |
| Smart Codec | Smart H.265+<br>Smart H.264+ |
| AI Coding | AI H.265<br>AI H.264 |
| Video Frame Rate | Main stream: 3840 × 2160 @ (1–25/30) fps<br>Sub stream 1: 704 × 576 @ (1–25 fps)/704 × 480 @ (1–30 fps)<br>Sub stream 2: 1920 × 1080 @ (1–25/30 fps)<br>*The values above are the max. frame rates of each stream; for multiple streams, the values will be subjected to the total encoding capacity |
| Stream Capability | 3 streams |
| Resolution | 8M (3840 × 2160); 6M (3072 × 2048); 5M (3072 × 1728/2592 × 1944); 4M (2688 × 1520); 3.6M (2560 × 1440); 3M (2048 × 1536); 3M (2304 × 1296); 1080p (1920 × 1080); 1.3M(1280 × 960); 720p (1280 × 720); D1 (704 × 576/704 × 480); CIF (352 × 288/352 × 240); VGA (640 × 480) |
| Bit Rate Control | CBR/VBR |
| Video Bit Rate | H.264: 3 kbps–8192 kbps<br>H.265: 3 kbps–8192 kbps |
| Day/Night | Auto (ICR)/Color/B/W |
| BLC | Yes |
| HLC | Yes |
| WDR | 120 dB |
| Scene Self-adaptation (SSA) | Yes |
| White Balance | Auto; natural; street lamp; outdoor; manual; regional custom |
| Gain Control | Auto |
| Noise Reduction | 3D NR |
| Motion Detection | OFF/ON (4 areas, rectangular) |
| Image Stabilization | Electronic Image Stabilization (EIS) |
| Region of Interest (RoI) | Yes (4 areas) |
| Defog | Yes |
| AFSA | Yes |
| Image Rotation | 0°/90°/180°/270° (support 90°/270° with 2688 × 1520 resolution and lower) |
| Mirror | Yes |
| Privacy Masking | 4 areas |

### Audio

| | |
|---|---|
| Built-in MIC | Yes |
| Audio Compression | G.711a; G.711Mu; PCM; G.726; G.723 |

### Alarm

| | |
|---|---|
| Alarm Event | -ZAS:<br>No SD card; SD card full; SD card error; service life warning (only supported by Dahua card); network disconnection; IP conflict; illegal access; motion detection; video tampering; intrusion; tripwire; scene changing; audio detection; voltage detection; defocus detection; external alarm; SMD; safety exception<br>-ZS:<br>No SD card; SD card full; SD card error; service life warning (only supported by Dahua card); network disconnection; IP conflict; illegal access; motion detection; video tampering; intrusion; tripwire; scene changing; audio detection; voltage detection; defocus detection; SMD; safety exception |

## Network

| | |
|---|---|
| Network Port | RJ-45 (10/100 Base-T) |
| SDK and API | Yes |
| Network Protocol | IPv4; IPv6; HTTP;TCP; UDP; ARP; RTP; RTSP; RTCP; RTMP; SMTP; FTP; SFTP; DHCP; DNS; DDNS; QoS; UPnP; NTP; Multicast; ICMP; IGMP; NFS; PPPoE; SNMP; P2P |
| Cyber Security | Video encryption; Firmware encryption; Configuration encryption; Digest; WSSE; Account lockout; Security logs; IP/MAC filtering; Generation and importing of X.509 certification; syslog; HTTPS; 802.1x; Trusted boot; Trusted execution; Trusted upgrade |
| Interoperability | ONVIF (Profile S/Profile G/Profile T); CGI |
| User/Host | 20 (Total bandwidth: 64 M) |
| Storage | FTP; SFTP; Micro SD card (support max. 256 G); NAS |
| Browser | IE: IE11<br>Chrome<br>Firefox |
| Management Software | SmartPSS Lite; DSS; DMSS |
| Mobile Client | IOS; Android |

## Certification

| | |
|---|---|
| Certifications | CE-LVD: EN62368-1;<br>CE-EMC: Electromagnetic Compatibility Directive 2014/30/EU;<br>FCC:47 CFR FCC Part 15, Subpart B;<br>UL/CUL: UL62368-1 & CAN/CSA C22.2 No. 62368-1-14 |

## Port

| | |
|---|---|
| Audio Input | 1 channel (RCA port) (Only- ZAS supports) |
| Audio Output | 1 channel (RCA port) (Only- ZAS supports) |
| Alarm Input | 1 channel in: wet contact, 5 mA 3 V–5 VDC (Only- ZAS supports) |
| Alarm Output | 1 channel out: wet contact, 300 mA 12 VDC (Only- ZAS supports) |

## Power

| | |
|---|---|
| Power Supply | 12 VDC/PoE (802.3af) |
| Power Consumption | Basic: 4 W (12 VDC); 4.9 W (PoE)<br>Max. (WDR + IR intensity + Intelligence): 9.2 W (12 VDC); 10.5 W (PoE) |

## Environment

| | |
|---|---|
| Operating Temperature | –30 °C to +60 °C (–22 °F to 140 °F) /Less than 95% RH |
| Storage Temperature | –40 °C to +60 °C (–40 °F to 140 °F) |
| Protection | IP67; IK10 |

## Structure

| | |
|---|---|
| Casing | Metal |
| Product Dimensions | 94 mm × Φ122 mm (3.7" × Φ4.8") |
| Net Weight | 713 g (1.57 lb) |
| Gross Weight | 986 g (2.17lb) |

## Ordering Information

| Type | Model | Description |
|---|---|---|
| 8MP Camera | DH-IPC-HDBW3841R-ZAS-S2 | 8MP IR Vari-focal Dome WizSense Network Camera |
| | DH-IPC-HDBW3841R-ZS-S2 | 8MP IR Vari-focal Dome WizSense Network Camera |
| Accessories (Optional) | PFA137 | Junction Box Bracket |
| | PFA109 | Mount Adapter |
| | PFB220C | Ceiling Mount Bracket |
| | PFB206W | Wall Mount |
| | PFA156 | Pole Mount |
| | PFM321D | 12 VDC 1 A Power Adapter |
| | PFM900-E | Integrated Mount Tester |
| | TF-P100 | TLC SD Card |

## Accessories

### Optional:



PFA137
Junction
Box Bracket



PFA109
Mount
Adapter



PFB220C
Ceiling Mount
Bracket



PFM321D
12 VDC 1 A
Power Adapter



PFB206W
Wall
Mount



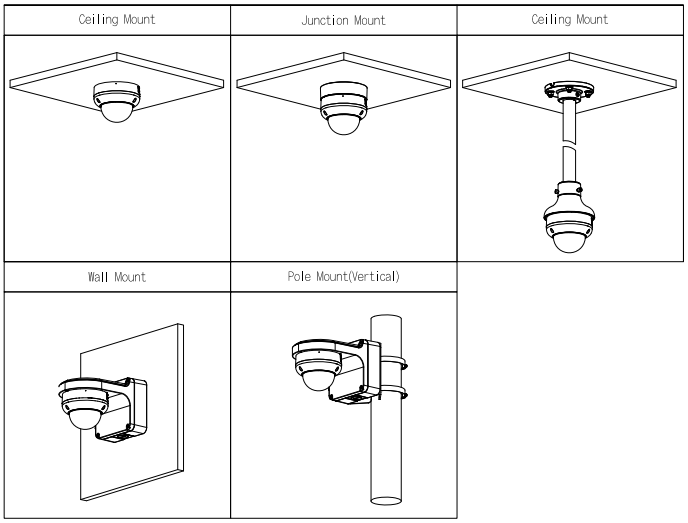
PFA156
Pole
Mount



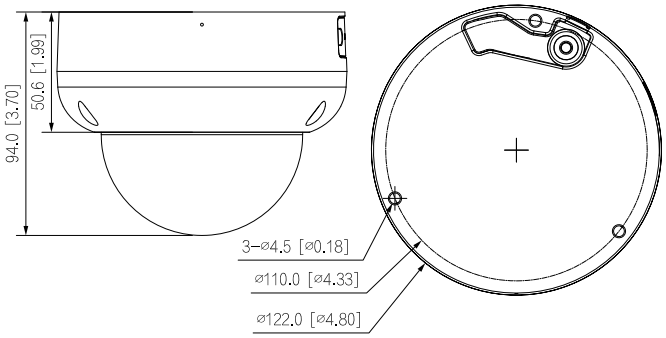
PFM900-E
Integrated
Mount Tester



TF-P100
TLC SD
Card




## Dimensions (mm[inch])




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