**alhua**
TECHNOLOGY

# DH-IPC-HDBW2431R-ZS-S2

## 4MP WDR IR Dome Network Camera

- 4MP, 1/3" CMOS image sensor, low illuminance, high image definition
- Outputs 4MP (2560 × 1440)@25/30 fps, Max. supports 4MP (2688 × 1520)@20 fps
- H.265 coding, high compression ration, low bit rate
- Built-in IR LED, max IR distance: 40 m
- ROI, SMART H.264/H.265, flexible coding, applicable to various bandwidth and storage environments
- Rotation mode, WDR, 3D DNR, HLC, BLC, digital watermarking, applicable to various monitoring scenes
- Intelligent detection: Intrusion, tripwire
- Abnormality detection: Motion detection, video tempering, no SD card, SD card full, SD card error, network disconnected, IP conflict, illegal access, voltage detection
- Max. 256 GB SD card
- 12V DC/POE power support
- IP67, IK10 protection grade

**4Mp** | **H.265+** | **WDR** | **Starlight** | **IVS** | **IP67** | **Vandal-proof**

## System Overview

With updraded H.265 encoding technology, Dahua Lite series camera has efficient video encoding capacity, which saves bandwidth and storage space. This camera adopts the latest starlight technology and displays better colorful image in the environment of low illumination. It supports SD card storage, waterproof function, dust-proof function and tamper-proof function, complying to the standards of IP67 and IK10.

## Functions

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

Adopting advanced algorithm of auto stream control according to the environment, Dahua smart encoding technology realizes the higher efficiency than (H.265 & H.264 ), providing high-quality video, and reducing the cost of storage and transmission.

### Wide dynamic range (WDR)

Dahua adopts advanced Wide Dynamic Range (WDR) technology. You can get clear details in the environment of strong brightness contrast. In high brightness and back- light environment, bright region and dark region with strong light source, you can also get clear images.

### Starlight

Dahua Starlight technology mainly applies to the environment of low illumination, and it can provide clear colorful video. Even in the environment of min. illumination, the technology can guarantee the good image effect.

### Intelligent Video Analysis (IVS)

With advanced video algorithm, Dahua camera supports intelligent detection, such as tripwire and intrusion and so on.

### 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 works normal 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 m (Impact energy is 20J).

Wide voltage: The camera allows ±30% input voltage tolerance (wide voltage range), and it is widely applied to outdoor environment with instable voltage.

**ONVIF**

## Technical Specification

### Camera

| | |
|---|---|
| Image Sensor | 1/3" CMOS |
| Effective Pixels | 2688 (H) × 1520 (V) |
| ROM | 128 MB |
| RAM | 128 MB |
| Scanning System | Progressive |
| Electronic Shutter Speed | Auto/Manual 1/3 s–1/100000 s |
| Min. Illumination | 0.01 Lux @ F1.6 |
| IR Distance | 40 m (131.23 ft) (IR) |
| IR On/Off Control | Auto/Manual |
| IR LEDs Number | 2 (IR LED) |
| Pan/Tilt/Rotation Range | Horizonal: 0°–355°<br>Vertical: 0°–67°<br>Rotation: 0°–355° |

### Lens

| | |
|---|---|
| Lens Type | Motorized vari-focal |
| Mount Type | φ14 |
| Focal Length | 2.7 mm–13.5 mm |
| Max. Aperture | F1.6 |
| Field of View | Horizonal: 104°–27°<br>Vertical: 55°–15°<br>Diagonal: 124°–31° |
| Optical Zoom | 5 times |
| Iris Type | Fixed |
| Close Focus Distance | 0.8m–0.8m (2.62 ft–2.62 ft) |

| DORI Distance | Lens | Detect | Observe | Recognize | Identify |
|---|---|---|---|---|---|
| | W | 64 m (209.97 ft) | 25.6 m (83.99 ft) | 12.8 m (41.99 ft) | 6.4 m (21 ft) |
| | T | 220 m (721.78 ft) | 88 m (288.71 ft) | 44 m (144.36 ft) | 22 m (72.18 ft) |

### Smart Event

| | |
|---|---|
| General IVS Analytics | Intrusion; tripwire |

### Video

| | |
|---|---|
| Video Compression | H.265; H.264; H.264B; MJPEG |
| Smart Codec | H.264: Yes<br>H.265: Yes |
| Video Frame Rate | 50Hz<br>Main stream (2560 × 1440@25 fps); sub stream (704 × 576@25 fps)<br>Main stream (2688 × 1520@20 fps); sub stream (704 × 576@20 fps)<br>60Hz<br>Main stream (2560 × 1440@30 fps); sub stream (704 × 480@30 fps)<br>Main stream (2688 × 1520@20 fps); sub stream (704 × 480@20 fps) |
| Stream Capability | Main stream; sub stream |

| | |
|---|---|
| Resolution | 2688 × 1520 (2688 × 1520); 2560 × 1440 (2560 × 1440); 2304 × 1296 (2304 × 1296); 1080p (1920 × 1080); 1.3M (1280 × 960); 720p (1280 × 720); D1 (704 × 576/704 × 480); VGA (640 ×480); CIF (352 × 288/352 × 240) |
| Bit Rate Control | CBR/VBR |
| Video Bit Rate | H.264: 32 kbps–6144 kbps<br>H.265: 12 kbps–6144 kbps |
| Day/Night | ICR switch |
| BLC | Yes |
| WDR | 120 dB |
| White Balance | Auto/natural/street lamp/outdoor/manual/regional custom |
| Gain Control | Auto/Manual |
| Noise Reduction | 3D DNR |
| Motion Detection | Disable/Enable (4 areas, rectangle) |
| Region of Interest(RoI) | Yes (4 areas) |
| Smart IR | Yes |
| Image Rotation | 0°/90°/180°/270° (Supports 90°/270° with 2688 × 1520 resolution.) |
| Mirror | Yes |
| Privacy Masking | 4 areas |

### Network

| | |
|---|---|
| Network | RJ-45 (10/100 Base-T) |
| Protocol | HTTP; TCP; ARP; RTSP; RTP; UDP; RTCP; SMTP; FTP; DHCP; DNS; DDNS; PPPoE; IPv4/v6; QoS; UPnP; NTP; RTMP; Multicast; HTTPS; SFTP; 802.1x; ICMP;IGMP |
| Interoperability | ONVIF (Profile S/Profile G); CGI; Milestone; Genetec |
| User/Host | 20 |
| Edge Storage | Dahua Cloud; FTP; Micro SD card (max. 256 GB); NFS |
| Browser | IE<br>Google<br>Firefox |
| Management Software | Smart PSS; DSS; DMSS |
| Mobile Phone | IOS; Android |

### Certification

| | |
|---|---|
| Certifications | CE-LVD: EN60950-1<br>CE-EMC: Electromagnetic Compatibility Directive 2014/30/EU<br>FCC: 47 CFR FCC Part 15, Subpart B<br>UL: UL60950-1 CAN |

### Power

| | |
|---|---|
| Power Supply | 12V DC/POE |
| Power Consumption | Basic power consumption: 1.9W (12V DC); 2.8W (POE)<br>Max power consumption: (H.265, Max resolution, Max stream, WDR, IR full intensity, IVS): 5.6W (12V DC), 6.5W (POE) |

## Environment

| | |
|---|---|
| Operating Temperature | -30°C to +60°C (-22°F to +140°F) |
| Operating Humidity | ≤95% |
| Storage Temperature | -40°C to +60°C (-40°F to +140°F) |
| Storage Humidity | ≤95% |
| Protection Grade | IP67, IK10 |

## Structure

| | |
|---|---|
| Casing | Metal |
| Dimensions | Φ122 mm × 88.9 mm (Φ4.80" × 3.50") |
| Net Weight | 0.47 kg (1.04 lb) |
| Gross Weight | 0.63 kg (1.39 lb) |

## Ordering Information

| Type | Part Number | Description |
|---|---|---|
| 4MP Camera | DH-IPC-HDBW2431RP-ZS-S2 | 4MP WDR IR Dome Network Camera,PAL |
| | DH-IPC-HDBW2431RN-ZS-S2 | 4MP WDR IR Dome Network Camera,NTSC |
| Accessories (optional) | PFA137 | Junction Box |
| | PFB203W | Wall Mount |
| | PFA152-E | Pole Mount |
| | PFA200W | Rain Shade |
| | PFA106 | Mount Adapter |
| | PFB220C | Celling Mount |
| | PFB200C | In-Celling Mount |
| | PFM321D | DC12V1A Power Adapter |
| | LR1002-1ET/1EC | Single-port Long Reach Ethernet over Coax Extender |
| | PFM900-E | Integrated Mount Tester |
| | PFM114 | TLC SD Card |

## Accessories

### Optional:



PFA137
Junction Box

PFB203W
Wall Mount

PFA152-E
Pole Mount

PFA200W
Rain Shade

PFA106
Mount Adapter

PFB220C
Celling Mount

PFB200C
In-Celling Mount

PFM321D
DC12V1A Power Adapter

LR1002-1ET/1EC
Single-port long reach ethernet over coax extender

PFM900-E
Integrated Mount tester

PFM114
TLC SD card

| Junction Mount | Wall Mount | Wall Mount | Pole Mount |
|---|---|---|---|
| PFA137 | PFA137+PFA200W | PFB203W | PFB203W+PFA152-E |
|  | | | |

| Ceiling Mount | In-Ceiling Mount |
|---|---|
| PFA106+PFB220C | PFB200C |
|  | |

## Dimensions (mm[inch])



⌀122.0 [⌀4.80]

88.9 [3.50]　45.5 [1.79]　[3.50]

3-⌀4.5 [⌀0.18]　⌀110.0 [⌀4.33]