**dahua** TECHNOLOGY

# DH-IPC-HDBW2421R-ZS/VFS

## 4MP WDR IR Dome Network Camera

· 1/3" 4Megapixel progressive CMOS
· H.264+ & H.264 dual-stream encoding
· 20fps@4M(2688×1520) &25/30fps@2M(1920×1080)
· WDR(120dB), Day/Night(ICR), 3DNR, AWB, AGC, BLC
· Multiple network monitoring: Web viewer, CMS(DSS/PSS) & DMSS
· Micro SD card slot, up to 128GB
· 2.7~12mm varifocal lens
· Max IR LEDs Length 30m
· IP67, IK10,PoE

**4Mp** | **H.264+** | **WDR** | **30m IR** | **IP67** | **Vandal-proof**

### System Overview

The IR Megapixel Vari-focal Dome camera delivers 4MP resolution with a motorized 2.7mm – 12mm varifocal lens. The camera's elegant blend of aesthetics combined with a range of easy mounting solutions provides an excellent choice for a variety of small to mid-size applications at an affordable price.

### Functions

True Day/Night
A day/night mechanical IR cut filter makes this camera ideal for applications with fluctuating lighting conditions, delivering color images during the day and automatically switching to monochrome as the scene darkens

Regions of interest
Regions of Interest (ROI) is a user defined feature that allows the operator to monitor specific areas of a scene while still maintaining overall situational awareness of less important areas

Smart IR
With IR illumination, detailed images can be captured in low light or total darkness. The camera's Smart IR technology adjusts to the intensity of camera's infrared LEDs to compensate for the distance of an object. Smart IR technology prevents IR LEDS from whiting out images as they come closer to the camera. The camera's integrated infrared illumination provides high performance in extreme low-light environments up to 30m (98ft).

Wide Dynamic Range
Embedded with industry leading wide dynamic range (WDR) technology, vivid pictures are achieved even in the most intense contrast lighting conditions. For applications with both bright and low lighting conditions that change quickly, True WDR (120dB) optimizes both the bright and dark areas of a scene at the same time to provide usable video.

ladder, or spending time away from the office

Image flip
Capturing unnecessary data such as surrounding hallway walls can increase storage requirements without any added value. The image flip feature allows the camera's image to be rotated in 90° increments for better video optimization.

Protection
The camera's outstanding reliability is unsurpassed due to its rugged design. The camera is protected against water and dust to IP67 standards, making it suitable for indoor or outdoor environments. With its IK10 rated impact resistant design, the camera provides maximum durability against vandals making it capable of withstanding the equivalent of 55 kg (120lbs) of force.

Supporting ±10% input voltage tolerance, this camera suits even the most unstable conditions for outdoor applications.  Its 6KV lightning rating provides protectection against the camera and its structure from the effects of lightning.

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

Smart H.264+
Delivering high quality video without straining the network, Smart H.264+ is the optimized implementation of H.264. The Smart H.264+ encoding platform includes a scene adaptive encoding strategy, dynamic GOP, dynamic ROI, flexible multi-frame reference structure and intelligent noise reduction, providing a savings of up to 70% of bandwidth and storage when compared with standard H.264.

**ONVIF** **PSIA**

## Technical Specification

### Camera

| | |
|---|---|
| Image Sensor | 1/3" 4Megapixel progressive CMOS |
| Effective Pixels | 2688(H) x1520(V) |
| RAM/ROM | 256MB/16MB |
| Scanning System | Progressive |
| Electronic Shutter Speed | Auto/Manual, 1/3(4)~1/100000s |
| Minimum Illumination | 0.1Lux/F1.4(Color), 0Lux/F1.4(IR on) |
| S/N Ratio | More than 50dB |
| IR Distance | Distance up to 30m(98ft) |
| IR On/Off Control | Auto/ Manual |
| IR LEDs | 2 |

### Lens

| | |
|---|---|
| Lens Type | Motorized(-ZS),Manual(-VFS) |
| Mount Type | Board-in |
| Focal Length | 2.7mm~12mm |
| Max. Aperture | F1.4 |
| Angle of View | H:100°~35°, V:54°~20 |
| Focus Control | Motorized(-ZS),Manual(-VFS) |
| Close Focus Distance | 0.3m |

| | Lens | Detect | Observe | Recognize | Identify |
|---|---|---|---|---|---|
| DORI Distance | W | 68m(223ft) | 27m(89ft) | 14m(49ft) | 7m(23ft) |
| | T | 193m(633ft) | 77m(253ft) | 39m(128ft) | 19m(62ft) |

### PTZ

| | |
|---|---|
| Pan/Tilt Range | Pan:0° ~355° ;Tilt:0° ~75° ;Rotation:0° ~355° |

### Video

| | |
|---|---|
| Compression | H.264+/H.264 |
| Streaming Capability | 2 Streams |
| Resolution | 4M(2688×1520)/3M(2048×1536) (2304×1296)/1080P(1920x1080)/720P(1280×720) /D1(704×576/704×480)/CIF(352×288/352×240) |
| Frame Rate | 4M(1 ~ 20fps)/2M (1 ~ 25/30fps) |
| | D1/CIF(1 ~ 25/30fps) |
| Bit Rate Control | CBR/VBR |
| Bit Rate | H264:24K ~ 8192Kbps |
| Day/Night | Auto(ICR) / Color / B/W |
| BLC Mode | BLC / HLC / WDR(120dB) |

| | |
|---|---|
| White Balance | Auto/Natural/Street Lamp/Outdoor/Manual |
| Gain Control | Auto/Manual |
| Noise Reduction | 3D DNR |
| Motion Detetion | Off / On (4 Zone, Rectangle) |
| Region of Interest | Off / On (4 Zone) |
| Electronic Image Stabilization(EIS) | N/A |
| Smart IR | Support |
| Digital Zoom | 16x |
| Flip | 0°/90°/180°/270° |
| Mirror | Off / On |
| Privacy Masking | Off / On (4 Area, Rectangle) |

### Audio

| | |
|---|---|
| Compression | N/A |

### Network

| | |
|---|---|
| Ethernet | RJ-45 (10/100Base-T) |
| Protocol | HTTP;HTTPs;TCP;ARP;RTSP;RTP;UDP;SMTP;FTP; DHCP;DNS;DDNS;PPPOE;IPv4/v6;QoS;UPnP;NTP; Bonjour;802.1x;Multicast;ICMP;IGMP; |
| Interoperability | ONVIF, PSIA, CGI |
| Streaming Method | Unicast / Multicast |
| Max. User Access | 10 Users/20 Users |
| Edge Storage | NAS(Network Attached Storage) Local PC for instant recording Micro SD Card 128GB |
| Web Viewer | IE, Chrome, Firefox, Safari |
| Management Software | Smart PSS, DSS,Easy4ip |
| Smart Phone | IOS, Android |

### Certifications

| | |
|---|---|
| Certifications | CE (EN 60950:2000) UL:UL60950-1 FCC: FCC Part 15 Subpart B |

### Interface

| | |
|---|---|
| Video Interface | N/A |
| Audio Interface | N/A |
| RS485 | N/A |
| Alarm | N/A |

### Electrical

| | |
|---|---|
| Power Supply | DC12V PoE (802.3af)(Class 0) |
| Power Consumption | <9.75W |

## Environmental

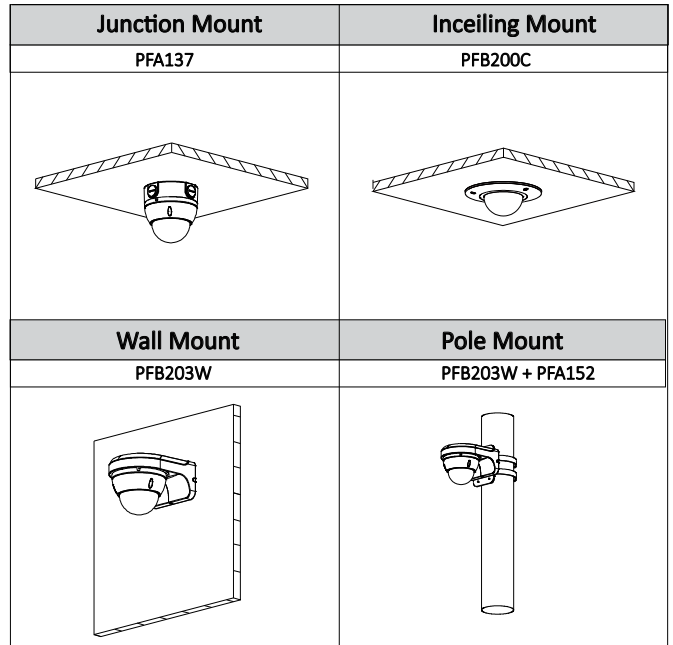| | |
|---|---|
| Operating Conditions | -30° C ~ +60° C (-22° F ~ +140° F) / Less than 95% RH |
| Strorage Conditions | -30° C ~ +60° C (-22° F ~ +140° F) / Less than 95% RH |
| Ingress Protection | IP67 |
| Vandal Resistance | IK10 |

## Construction

| | |
|---|---|
| Casing | Metal |
| Dimensions | φ122mm×88.9mm(4.80''x3.50'') |
| Net Weight | 0.4Kg (0.88lb) |
| Gross Weight | 0.54Kg(1.19lb) |

## Ordering Information

| Type | Part Number | Description |
|---|---|---|
| 4MP camera | DH-IPC-HDBW2421RP-ZS | 4MP WDR IR Dome Network Camera, PAL |
| | DH-IPC-HDBW2421RN-ZS | 4MP WDR IR Dome Network Camera, NTSC |
| | IPC-HDBW2421RP-ZS | 4MP WDR IR Dome Network Camera, PAL |
| | IPC-HDBW2421RN-ZS | 4MP WDR IR Dome Network Camera, NTSC |
| | DH-IPC-HDBW2421RP-VFS | 4MP WDR IR Dome Network Camera, PAL |
| | DH-IPC-HDBW2421RN-VFS | 4MP WDR IR Dome Network Camera, NTSC |
| | IPC-HDBW2421RP-VFS | 4MP WDR IR Dome Network Camera, PAL |
| | IPC-HDBD2421RN-VFS | 4MP WDR IR Dome Network Camera, NTSC |
| Accessories (optional) | PFA137 | Junction box |
| | PFB203W | Wall mount |
| | PFA152 | Pole mount |
| | PFB200C | In-celling Mount |

## Accessories

**Optional:**



PFA137 Junction Box    PFB203W Wall Mount    PFA152 Pole Mount    PFB200C In-ceiling Mount

| Junction Mount | Inceiling Mount |
|---|---|
| PFA137 | PFB200C |
|  |  |
| **Wall Mount** | **Pole Mount** |
| PFB203W | PFB203W + PFA152 |
|  |  |

## Dimensions (mm/inch)



122.0 [4.8"]
88.9 [3.5"]
⌀122.0 [⌀4.8"]
3-⌀4.5 [⌀0.18"]
⌀110.0 [⌀4.33"]