

# DH-IPC-HFW5231E-Z12E

2MP WDR IR Bullet Network Camera



## System Overview

With upgraded H.265 encoding technology, Eco-savvy series brings high efficient video compression capability. It can save bandwidth and storage. Meanwhile, the series features starlight, smart IR technology and intelligent image analysis techniques. This series supports reminder function, meanwhile fully protected from dust and water, certified to IP67 and vandal resistant to IK10 standard.

## Functions

### ePoE technology

The ePoE technology of Dahua, designed internally, adopts advanced 2D-PAM3 coding modulation from physical layer, and realizes full duplex transmission over 800 meters at the speed of 10Mbps, or 300 meters at the speed of 100Mbps via Cat 5 or coaxial cable media. Besides, it supports PoE and PoC power supply technology which has greatly simplified construction and wiring. Dahua ePoE technology offer a new way to accomplish long distance transmission between IP camera and network switch. It allows more flexible surveillance system design, improves reliability and saves construction and wiring cost.

### 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 0.006lux. The camera uses a set of optical features to balance light throughout the scene, resulting in clear images in dark environments.

### 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 (120 dB) optimizes both the bright and dark areas of a scene at the same time to provide usable video.

- 1/2.8" 2Megapixel progressive scan STARVIS™ CMOS
- H.265&H.264 triple-stream encoding
- 50/60fps@1080(1920×1080)
- Smart Detection supported
- WDR(120dB), Day/Night(ICR), 3DNR, AWB, AGC, BLC
- Multiple network monitoring: Web viewer, CMS(DSS/PSS) & DMSS
- 5.3mm ~64mm 12x zoom lens
- 2/1 Alarm in/out, 1/1 audio in/out
- Max. IR LEDs Length 200m
- Micro SD memory, IP67, IK10, PoE



### Intelligent Video System (IVS)

IVS is a built-in video analytic algorithm that delivers intelligent functions to monitor a scene for Tripwire violations, intrusion detection, and abandoned or missing objects. A camera with IVS quickly and accurately responds to monitoring events in a specific area. In addition to scene analytics, the camera supports face detection to quickly capture a face and upload the image to a server. The camera also offers tamper detection by recognizing a dramatic scene change and generating a warning message to inspect the camera.

### Protection(IP67, IK10, wide voltage)

The camera allows for ±30% 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. Subjected and certified to rigorous dust and immersion tests (IP67) and impact tests (IK10), the camera is the choice for installation in even the most unforgiving environments.

### Smart H.265+

Smart 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. Smart H.265+ technology reduces bit rate and storage requirements by up to 70% when compared to standard H.265 video compression.

| Technical Specification        |      |                                                                                                      |              |             |            | Day/Night                            |  | Auto(ICR) / Color / B/W                                                                                                                        |  |
|--------------------------------|------|------------------------------------------------------------------------------------------------------|--------------|-------------|------------|--------------------------------------|--|------------------------------------------------------------------------------------------------------------------------------------------------|--|
| Camera                         |      |                                                                                                      |              |             |            | BLC Mode                             |  | BLC / HLC / WDR(120dB)                                                                                                                         |  |
| Image Sensor                   |      | 1/2.8" 2Megapixel progressive scan CMOS                                                              |              |             |            | White Balance                        |  | Auto/Natural/Street Lamp/Outdoor/Manual                                                                                                        |  |
| Effective Pixels               |      | 1920(H) x 1080(V)                                                                                    |              |             |            | Gain Control                         |  | Auto/Manual                                                                                                                                    |  |
| RAM/ROM                        |      | 256MB/32MB                                                                                           |              |             |            | Noise Reduction                      |  | 3D DNR                                                                                                                                         |  |
| Scanning System                |      | Progressive                                                                                          |              |             |            | Motion Detetion                      |  | Off / On (4 Zone, Rectangle)                                                                                                                   |  |
| Electronic Shutter Speed       |      | Auto/Manual, 1/3(4)~1/100000s                                                                        |              |             |            | Region of Interest                   |  | Off / On (4 Zone)                                                                                                                              |  |
| Minimum Illumination           |      | 0.006Lux/F1.4 ( Color,1/3s,30IRE)<br>0.05Lux/F1.4 ( Color,1/30s,30IRE)<br>0Lux/F1.4 (IR on)          |              |             |            | Electronic Image Stabilization (EIS) |  | N/A                                                                                                                                            |  |
| S/N Ratio                      |      | More than 50dB                                                                                       |              |             |            | Smart IR                             |  | Support                                                                                                                                        |  |
| IR Distance                    |      | Distance up to 200m (656ft)                                                                          |              |             |            | Defog                                |  | N/A                                                                                                                                            |  |
| IR On/Off Control              |      | Auto/ Manual                                                                                         |              |             |            | Digital Zoom                         |  | 16x                                                                                                                                            |  |
| IR LEDs                        |      | 4                                                                                                    |              |             |            | Flip                                 |  | 0°/90°/180°/270°                                                                                                                               |  |
| Lens                           |      |                                                                                                      |              |             |            | Mirror                               |  | Off / On                                                                                                                                       |  |
| Lens Type                      |      | Motorized/ Auto Iris(HALL)                                                                           |              |             |            | Privacy Masking                      |  | Off / On (4 Area, Rectangle)                                                                                                                   |  |
| Mount Type                     |      | Board-in                                                                                             |              |             |            | Audio                                |  |                                                                                                                                                |  |
| Focal Length                   |      | 5.3mm~64mm                                                                                           |              |             |            | Compression                          |  | G.711a/ G.711Mu/ AAC/ G.726                                                                                                                    |  |
| Max. Aperture                  |      | F1.4                                                                                                 |              |             |            | Network                              |  |                                                                                                                                                |  |
| Angle of View                  |      | H: 59°~5°, V:34°~3°                                                                                  |              |             |            | Ethernet                             |  | RJ-45 (10/100Base-T)                                                                                                                           |  |
| Optical Zoom                   |      | 12x                                                                                                  |              |             |            | 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; SNMP |  |
| Focus Control                  |      | Motorized                                                                                            |              |             |            | Interoperability                     |  | ONVIF, PSIA, CGI                                                                                                                               |  |
| Close Focus Distance           |      | 1.5m(4.9ft)                                                                                          |              |             |            | Streaming Method                     |  | Unicast / Multicast                                                                                                                            |  |
| DORI Distance                  | Lens | Detect                                                                                               | Observe      | Recognize   | Identify   | Max. User Access                     |  | 10 Users /20 Users                                                                                                                             |  |
|                                | W    | 73m(236ft)                                                                                           | 29m(95ft)    | 14m(46ft)   | 7m(23ft)   | Edge Storage                         |  | NAS<br>Local PC for instant recording<br>Mirco SD card 128GB                                                                                   |  |
|                                | T    | 882m(2893ft)                                                                                         | 353m(1158ft) | 176m(577ft) | 88m(288ft) | Web Viewer                           |  | IE, Chrome, Firefox, Safari                                                                                                                    |  |
| Pan/Tilt/Rotation              |      |                                                                                                      |              |             |            | Management Software                  |  | Smart PSS, DSS, Easy4ip                                                                                                                        |  |
| Pan/Tilt/Rotation Range        |      | Pan:0°~360°; Tilt:0°~90°; Rotation:0°~360°                                                           |              |             |            | Smart Phone                          |  | IOS, Android                                                                                                                                   |  |
| Intelligence                   |      |                                                                                                      |              |             |            | Certifications                       |  |                                                                                                                                                |  |
| IVS                            |      | Tripwire, Intrusion, Object Abandoned/Missing                                                        |              |             |            | Certifications                       |  | CE (EN 60950:2000)<br>UL:UL60950-1<br>FCC: FCC Part 15 Subpart B                                                                               |  |
| Advanced Intelligent Functions |      | Face Detection                                                                                       |              |             |            | Interface                            |  |                                                                                                                                                |  |
| Video                          |      |                                                                                                      |              |             |            | Video Interface                      |  | 1 Port(For adjustment only)                                                                                                                    |  |
| Compression                    |      | H.265+/H.265/H.264+/H.264                                                                            |              |             |            | Audio Interface                      |  | 1/1 channel In/Out                                                                                                                             |  |
| Streaming Capability           |      | 3 Streams                                                                                            |              |             |            | RS485                                |  | N/A                                                                                                                                            |  |
| Resolution                     |      | 1080P(1920x1080)/1.3M(1280x960)/720P(1280x720)/D1(704x576/704x480)/VGA(640x480)/CIF(352x288/352x240) |              |             |            | Alarm                                |  | 2 channel In: 5mA 5VDC<br>1 channel Out: 300mA 12VDC                                                                                           |  |
| Frame Rate                     |      | Main Stream: 1080P(1~50/60fps)                                                                       |              |             |            | Electrical                           |  |                                                                                                                                                |  |
|                                |      | Sub Stream: D1(1~50/60fps)                                                                           |              |             |            | Power Supply                         |  | DC12V, PoE (802.3af)(Class 0)                                                                                                                  |  |
|                                |      | Third Stream: 1080P(1~25/30fps)                                                                      |              |             |            | Power Consumption                    |  | <12.95W                                                                                                                                        |  |
| Bit Rate Control               |      | CBR/VBR                                                                                              |              |             |            |                                      |  |                                                                                                                                                |  |
| Bit Rate                       |      | H.264: 24~9472Kbps<br>H.265: 14~5632Kbps                                                             |              |             |            |                                      |  |                                                                                                                                                |  |

## Environmental

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

## Construction

|              |                                            |
|--------------|--------------------------------------------|
| Casing       | Metal                                      |
| Dimensions   | 273.2mm×95.0mm×95.0mm (10.76"×3.74"×3.74") |
| Net Weight   | 1.11Kg (2.44lb)                            |
| Gross Weight | 1.51Kg (3.33lb)                            |

## Ordering Information

| Type                   | Part Number           | Description                           |
|------------------------|-----------------------|---------------------------------------|
| 2MP camera             | DH-IPC-HFW5231EP-Z12E | 2MP IR Bullet Network Camera,WDR,PAL  |
|                        | DH-IPC-HFW5231EN-Z12E | 2MP IR Bullet Network Camera,WDR,NTSC |
|                        | IPC-HFW5231EP-Z12E    | 2MP IR Bullet Network Camera,WDR,PAL  |
|                        | IPC-HFW5231EN-Z12E    | 2MP IR Bullet Network Camera,WDR,NTSC |
| Accessories (optional) | PFA121                | Junction box                          |
|                        | PFA152-E              | Pole Mount                            |
|                        | LR1002                | ePoE Over Coax Converter              |

## Accessories

## Optional:



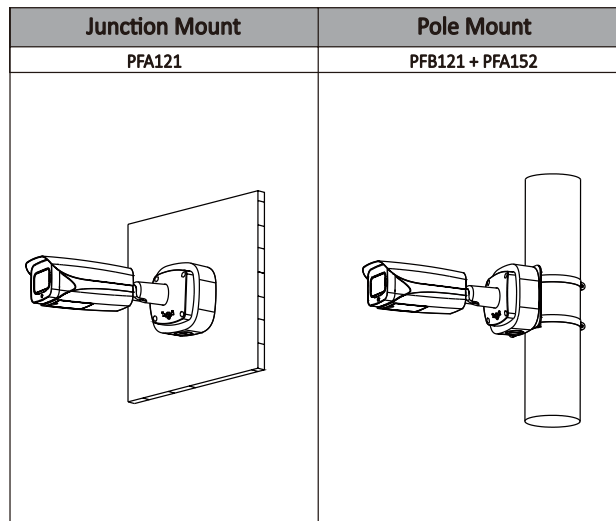
PFA121  
Junction box



PFA152-E  
Pole Mount



LR1002  
ePoE Over Coax Converter



## Dimensions (mm/inch)

