**alhua** TECHNOLOGY

# DH-IPC-HDBW5241E-ZE

## 2MP WDR IR Dome AI Network Camera

· 1/2.8" 2Megapixel progressive scan STARVIS™ CMOS

· H.265&H.264 triple-stream encoding

· 25/30fps@1080P(1920×1080)

· WDR(120dB), Day/Night(ICR), 3D DNR, AWB, AGC, BLC

· Multiple network monitoring: Web viewer, CMS(DSS/PSS) & DMSS

· 2.7mm ~13.5mm motorized lens

· 1/1 Alarm in/out, 1/1 audio in/out

· Max. IR LEDs Length 40m

· Micro SD memory, IP67, IK10

2Mp | Face Capture | Perimeter | People Counting | Metadata | Starlight

Dahua AI series products adopt the most advanced AI technologies, including deep learning algorithms that primarily target people and vehicles, which provides higher flexibility and accuracy for end-users. This enables the Dahua AI series to offer various advanced applications such as Face Recognition, ANPR, Metadata, People Counting, traffic data statistics, etc. The complete lineup of Dahua AI includes network (PTZ) cameras, network video recorders, servers, and platform management products. Beyond seeing the world, the power of AI allows devices to perceive the environment and understand the world in a better way.

### System Overview

Pro AI series contains Face Capture, Perimeter Protection and People Counting functions.Powered by deep-learning Artificial Intelligence algorithms, significantly improved accuracy. Meanwhile, the series features starlight and smart IR technology. This series fully protected from dust and water, certified to IP67 and vandal resistant to IK10 standard.

### Functions

#### Face Capture

Face capture is a software application that automatically captures faces from within a digital image or a video frame from a video source. Dahua cameras use advanced deep learning algorithms and are trained by a large number of face data sources, enabling the camera to locate faces quickly and accurately from the video source and capture facial images.

#### Face Attributes

Through the use of deep learning algorithms to analyze facial images, Dahua cameras can extract six facial attributes from each frame, including Age, Gender,Expression(Jolly/Surprise/Normal/Rage/Sad/Disgusted/Confused/Frightened), Glasses,Mouth Mask, Moustache & Beard. Customers can acquire data of interest via face attributes statistics.

#### Perimeter Protection

Dahua's Perimeter Protection functions significantly improved accuracy. Perimeter Protection reduces false alarms and decreases pixel count requirements for object detection. Perimeter Protection features custom tripwires based on object type for automation in limited access areas such as pedestrian or vehicle-only zones. This combination of advanced AI analytics and real-time alerts to a desktop or to a mobile

client reduces system requirements and resources resulting in greater surveillance system efficiency.

### 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.

### Metadata

Metadata is feature attribute information extracted from a target object which can be used for data retrieval. Dahua face detection camera can extract six facial attributes and output the metadata for analysis.

### 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.

### 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.

**ONVIF**

## Technical Specification

### Camera

| | |
|---|---|
| Image Sensor | 1/2.8" 2Megapixel progressive scan STARVIS™ CMOS |
| Effective Pixels | 1920(H) x 1080(V) |
| RAM/ROM | 512MB/128MB |
| Scanning System | Progressive |
| Electronic Shutter Speed | Auto/Manual, 1/3~1/100000s |
| Minimum Illumination | 0.0028Lux/F1.5 ( Color,1/3s,30IRE)<br>0.0217Lux/F1.5 ( Color,1/30s,30IRE)<br>0Lux/F1.5 (IR on) |
| IR Distance | Distance up to 40m (131ft) |
| IR On/Off Control | Auto/ Manual |
| IR LEDs | 3 |

### Lens

| | |
|---|---|
| Lens Type | Motorized |
| Mount Type | Board-in |
| Focal Length | 2.7mm~13.5mm |
| Max. Aperture | F1.5 |
| Angle of View | H: 109°~30°, V:57°~17° |
| Optical Zoom | 5x |
| Aperture Type | Auto |
| Close Focus Distance | 0.8m(2.62ft) |

| DORI Distance | Lens | Detect | Observe | Recognize | Identify |
|---|---|---|---|---|---|
| | W | 44m(144ft) | 18m(59ft) | 9m(30ft) | 4m(13ft) |
| | T | 146m(479ft) | 58m(190ft) | 29m(95ft) | 15m(49ft) |

### Pan/Tilt/Rotation

| | |
|---|---|
| Pan/Tilt/Rotation Range | Pan:0˚~355˚; Tilt:0˚~65˚; Rotation:0˚~355˚ |

### Artificial Intelligence

| | |
|---|---|
| Face Capture | Support face image capture |
| Face Attributes | Support 6 kinds of face attributes extraction: Age, Gender,Expression(Jolly/Surprise/Normal/Rage/Sad/Disgusted/Confused/Frightened), Glasses,Mouth Mask, Moustache & Beard |
| Perimeter Protection | Tripwire, Intrusion(Human & Vehicle classification) |
| People Counting | Line crossing people counting, Region people counting |

### General Intelligence

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

### Video

| | |
|---|---|
| Compression | H.265+/H.265/H.264+/H.264/H.264B/H.264H/MJPEG(sub stream) |
| Streaming Capability | 3 Streams |

| | |
|---|---|
| Resolution | 1080P(1920×1080)/1.3M(1280×960)/720P(1280×720)/D1(704×576/704×480)/VGA(640×480)/CIF(352×288/352×240) |
| Frame Rate | Main Stream: 1080P(1~25/30fps)<br>Sub Stream: D1(1~25/30fps)<br>Third Stream: 1080P(1~6fps) |
| Bit Rate Control | CBR/VBR |
| Bit Rate | H.264: 32~ 8192Kbps<br>H.265: 19~ 7424Kbps |
| 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) | Support |
| Smart IR | Support |
| Defog | Support |
| Digital Zoom | N/A |
| Flip | 0°/90°/180°/270° |
| Mirror | Off / On |
| Privacy Masking | Off / On (4 Area, Rectangle) |

### Audio

| | |
|---|---|
| Compression | G.711a/ G.711Mu/ AAC/ G.726/G.723 |

### Network

| | |
|---|---|
| Ethernet | RJ-45 (10/100Base-T) |
| Protocol | HTTP;  TCP; ARP; RTSP; RTP; UDP; RTCP;SMTP; FTP; DHCP; DNS; DDNS; PPPoE; IPv4/v6; SNMP;QoS; UPnP;NTP |
| Interoperability | ONVIF(Profile S/Profile G), CGI,Milstone,Genetec,P2P |
| Streaming Method | Unicast / Multicast |
| Max. User Access | 20 Users |
| Edge Storage | NAS<br>FTP<br>Mirco SD card 256GB |
| Web Viewer | IE(versions newer than IE8), Chrome, Firefox, Safari(versions newer than Safari 12) |
| Management Software | Smart PSS, DSS, P2P |
| Smart Phone | iOS, Android |

### Certifications

| | |
|---|---|
| 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/CUL:<br>UL60950-1<br>CAN/CSA C22.2 No.60950-1-07 |

## Interface

| | |
|---|---|
| Video Interface | 1 Port(For adjustment only) |
| Audio Interface | 1/1 channel In/Out |
| RS485 | N/A |
| Alarm | 1 channel In: 5mA 5VDC<br>1 channel Out: 300mA 12VDC |

## Electrical

| | |
|---|---|
| Power Supply | DC12V(±30%), AC24V(±30%), PoE(802.3af)(Class 0) |
| Power Consumption | DC12V:4.6W 11.8W(IR on)<br>AC24V: 4.9W 11.5W(IR on)<br>PoE:4.9W 11.3W(IR on) |

## Environmental

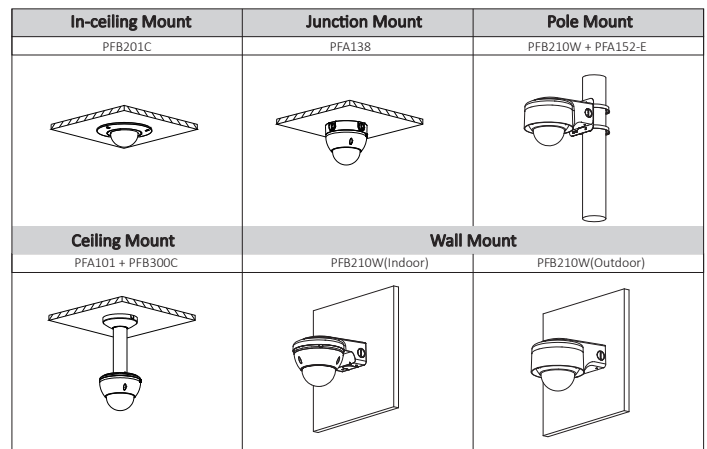| | |
|---|---|
| Operating Conditions | -30° C ~ +60° C (-22° F ~ +140° F) / 10%RH~95% RH |
| Strorage Conditions | +5° C ~ +40° C (+41° F ~ +104° F) (daily temperature difference within 15° C/59° F ) / 10%RH~95% RH |
| Ingress Protection | IP67 |
| Vandal Resistance | IK10 |

## Construction

| | |
|---|---|
| Casing | Metal,plastic |
| Dimensions | Φ159mm×117.9mm (6.26"×4.64") |
| Net Weight | 0.95kg (2.09lb) |
| Gross Weight | 1.20kg (2.65lb) |

## Ordering Information

| Type | Part Number | Description |
|---|---|---|
| 2MP camera | DH-IPC-HDBW5241EP-ZE | 2MP WDR IR Dome AI Network Camera,PAL |
| | DH-IPC-HDBW5241EN-ZE | 2MP WDR IR Dome AI Network Camera, NTSC |
| | IPC-HDBW5241EP-ZE | 2MP WDR IR Dome AI Network Camera,PAL |
| | IPC-HDBW5241EN-ZE | 2MP WDR IR Dome AI Network Camera, NTSC |
| Accessories (optional) | PFA138 | Junction Box |
| | PFB210W | Wall mount |
| | PFB300C | Ceiling mount |
| | PFA152-E | Pole mount |
| | PFA101 | Mount adapter |
| | PFB201C | In-ceiling mount |

## Accessories

**Optional:**

| | | | |
|---|---|---|---|
| PFB210W<br>Wall mount | PFA138<br>Juntion Box | PFB201C<br>In-ceiling mount | LR1002<br>ePoE Over Coax Converter |
| PFB300C<br>Ceiling mount | PFA152-E<br>Pole mount | PFA101<br>Mount adapter | |

| In-ceiling Mount | Junction Mount | Pole Mount |
|---|---|---|
| PFB201C | PFA138 | PFB210W + PFA152-E |
| | | |
| **Ceiling Mount** | **Wall Mount** | |
| PFA101 + PFB300C | PFB210W(Indoor) | PFB210W(Outdoor) |
| | | |

## Dimensions (mm/inch)

159.1 [6.26"]

117.9 [4.64"]

∅159.1 [∅6.26"]

∅140.0 [∅5.51"]

3-∅4.7 [∅0.19"]

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