# DH-IPC-HUM8441-E1-L4

## 4MP Covert Pinhole WizMind Network Camera-KIT

• Starlight 4MP 1/2.7" CMOS image sensor, excellent low luminance performance and high definition of images.

• Outputs max. 4MP (2688 × 1520)@25/30 fps.

• H.265 codec, high compression ratio, and ultra-low bit rate.

• ROI, SMART 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, fast moving (the three functions support the classification and accurate detection of vehicle and human); abandoned object, missing object, loitering detection, people gathering, and face detection.

• Abnormality detection: Motion detection, privacy masking, scene changing, audio detection, no SD card, SD card space warning, SD card error, network disconnection, IP conflict, illegal access, and voltage detection.

• Alarm: 2 in, 2 out; audio: 1 in, 1 out; RS-232; max. 256 G Micro SD card.

• 12V DC/PoE power supply facilitates installation.

• Power on after connecting the lens to the back-end device; otherwise the device might be damaged.

Launched by Dahua Technology, Dahua WizMind is a full portfolio of solutions composed of project-oriented products including IPC, NVR, PTZ, XVR, Thermal and software platform which adopts industry-leading deep learning algorithms. Focusing on customer's requirements, WizMind provides precise, reliable and comprehensive AI solutions for verticals.

**WizMind**

| 4Mp | Smart Codec | Perimeter Protection | Face Detection | Face Attributes | WDR |
|---|---|---|---|---|---|

## Series Overview

With deep learning algorithm, the separate pinhole camera supports functions such as perimeter protection and face recognition. Working with different types of lenses, the camera is widely applied to hidden or small scenes such as banks and advertising screens, meeting requirements in different installation scenes.

detection based on target type (such as tripwire, intrusion, fast moving, parking detection, loitering detection and gathering detection) are largely reduced.

## Functions

### 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.

### Face Detection

Dahua Face Detection technology can detect the face in the image. With deep learning algorithm, the technology supports detecting, tracking, capturing and selecting the best face image, and then outputs face snapshot.

### WDR

With advanced Wide Dynamic Range (WDR) technology, Dahua network camera provides clear details in the environment of strong brightness contrast. The bright and dark area can get clear video even in high brightness environment or with backlight shadow.

### Face Attributes

With deep learning algorithm, the network camera can recognize face attributes, such as gender, age, expression, glasses, mouth mask, and beard.

### 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.

### 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

## Technical Specification

### Camera

| | |
|---|---|
| Image Sensor | 1/2.7" CMOS |
| Max. Resolution | 2688 (H) × 1520(V) |
| ROM | 128 MB |
| RAM | 1 GB |
| Scanning System | Progressive |
| Electronic Shutter Speed | Auto/Manual 1/3 s–1/100,000 s |
| Min. Illumination | 0.005 Lux@F2.0 (Color,30 IRE)<br>0.0005 Lux@F2.0 (B/W,30 IRE) |
| S/N Ratio | ＞56 dB |

### Lens

| | |
|---|---|
| Lens Type | Fixed-focal |
| Lens Mount | M12 |
| Focal Length | 2.8 mm |
| Max. Aperture | 2.8 mm: F2.0 |
| Field of View | Horizontal: 101°;<br>Vertical: 57°;<br>Diagonal: 115° |
| Iris Control | Fixed |
| Close Focus Distance | 0.8 m |

| DORI Distance | Len | Detect | Observe | Recognize | Identify |
|---|---|---|---|---|---|
| | IPC-HUM8441-L4 | 61 m (200.1 ft) | 24.4 m (80.1 ft) | 12.2 m (40.0 ft) | 6.1 m (20.0 ft) |

### Intelligence

| | |
|---|---|
| IVS (Perimeter Protection) | Tripwire, intrusion, fast moving (the three functions support the classification and accurate detection of vehicle and human); loitering detection, people gathering, and parking detection |
| Face Detection | Face detection; track; snapshot; snapshot optimization; optimal face snapshot upload; face enhancement; face exposure; face attribute extraction including 6 attributes (gender, age, glasses, expressions, mask and beard) and 8 expressions (anger, calm, happiness, sadness, disgust, surprise, confusion and fear); face snapshot set as face or one-inch photo; 3 snapshot strategies (real-time snapshot, optimization snapshot, and quality priority); face angle filter; optimization time setting |
| 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+ |
| Video Frame Rate | Main stream: 2688 × 1520 @25/30 fps<br>Sub stream: 704 × 576 @25 fps; 704 × 480 @30 fps<br>Third stream: 1920 × 1080 @25/30 fps |
| Stream Capability | 3 streams |
| Resolution | 4M (2688 × 1520); 3.6M (2560 × 1440); 3M (2048 × 1536);1080p (1920 × 1080); 960p (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–20480 kbps<br>H.265: 3 kbps–20480 kbps |
| Day/Night | 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 | Manual; auto |
| Noise Reduction | 3D NR |
| Motion Detection | OFF/ON (4 areas, rectangular) |
| Region of Interest (RoI) | Yes (4 areas) |
| Defog | Yes |
| Image Rotation | 0°/90°/180°/270° (Support 90°/270° with 1080p resolution and lower) |
| Mirror | Yes |
| Privacy Masking | 4 areas |

### Audio

| | |
|---|---|
| Audio Compression | G.711a; G.711Mu; PCM; G.726; G.723 |

### Alarm

| | |
|---|---|
| Alarm Event | No SD card, SD card full, SD card error, network disconnection, IP conflict, illegal access, motion detection, video tampering, tripwire, intrusion, fast moving, missing object, abandoned object, parking detection, loitering detection, people gathering; scene changing, audio detection, voltage detection, external alarm, face detection , and security 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; SAMBA; PPPoE; SNMP |
| Interoperability | ONVIF (Profile S/Profile G/Profile T); CGI; P2P; Milestone; Genetec |
| User/Host | 20 (Total bandwidth: 64 M) |
| Storage | FTP; SFTP; Micro SD card (support max. 256 G); NAS |
| Browser | IE: IE8, IE9, and IE11<br>Chrome<br>Firefox |
| Management Software | Smart PSS; DSS; DMSS |
| Mobile Client | IOS; Android |
| 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 |

## Certification

| Certifications | CE-LVD:EN62368-1;<br>CE-EMC:Electromagnetic Compatibility Directive 2014/30/EU;<br>FCC:47 CFR FCC Part 15, Subpart B |
|---|---|

## Port

| Audio Input | 1 channel (3.5 mm JACK port) |
|---|---|
| Audio Output | 1 channel (3.5 mm JACK port) |
| Alarm Input | 2 channels in: 5 mA 3V–5V DC |
| Alarm Output | 2 channels out: 1,000 mA 30V DC/500mA 50V DC |

## Power

| Power Supply | 12V DC/PoE (802.3af) |
|---|---|
| Power Consumption | Basic: 2.4W (12V DC); 3W (PoE)<br>Max. (Intelligence + WDR): 3.9W (12V DC); 4.8W (PoE) |

## Environment

| Operating Temperature | −40°C to +60°C (−40°F to 140°F) |
|---|---|
| Operating Humidity | ≤95% |
| Storage Temperature | −40°C to +60°C (−40°F to 140°F) |

## Structure

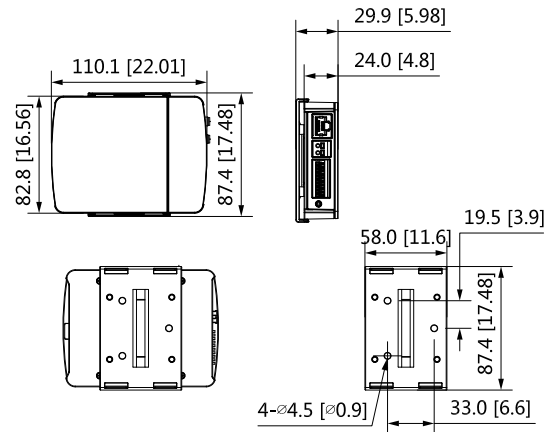| Casing | Metal |
|---|---|
| Product Dimensions | E1: 110 mm × 83 mm × 24 mm (4.33" × 3.27" × 0.94")<br>L4: 35 mm × 35 mm × 26.7 mm  (1.38" × 1.38" × 1.05") |
| Net Weight | 210 g (0.5 lb) |
| Gross Weight | 376 g (0.8 lb) |

## Ordering Information

| Type | Model | Description |
|---|---|---|
| Main Box | DH-IPC-HUM8441-E1 | 4MP Covert Pinhole WizMind Network Camera-Main Box |
| Len | IPC-HUM8441-L4 | 4MP Covert Pinhole WizMind Network Camera-Len Unit |

## Installation

| Junction Mount | Plane Mount | Ceiling Mount |
|---|---|---|

## Dimensions (mm[inch])

### DH-IPC-HUM8441-E1

29.9 [5.98]
110.1 [22.01]
24.0 [4.8]
82.8 [16.56]
87.4 [17.48]
19.5 [3.9]
58.0 [11.6]
87.4 [17.48]
4-⌀4.5 [⌀0.9]
33.0 [6.6]

### IPC-HUM8441-L4

38.6 [1.52]
37.2 [1.46]
15.9 [0.62]
22.3 [0.88]
51.0 [2.01]
26.7 [1.05]
35.0 [1.38]
⌀17.0 [⌀0.67]
18.0 [0.71]
7.5 [0.3]
4-⌀2.5 [⌀0.1]
35.0 [1.38]