Eco Savvy 3.0 | DH-IPC-HDW4431M

DH-IPC-HDW4431M
4MP IR Eyeball Network Camera

System Overview
Eco-savvy products by upgrading H.265 encoding technology, bringing high efficient video compression. It saves bandwidth and storage, energy-saving design to enhance the monitoring system. Meanwhile, the series offers features such as starlight, Smart IR technology, intelligent image analysis techniques. It provides excellent image quality and intelligent and efficient event reminders. Give customers more value.

Functions
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.

Intelligent Video System (IVS)
With built-in intelligent video analytics, the camera has the ability to detect and analyze moving objects for improved video surveillance. The camera provides optional standard intelligence at the edge allowing detection of multiple object behaviors such as abandoned or missing objects. IVS also supports Tripwire analytics, allowing the camera to detect when a pre-determined line has been crossed, People Counting, ideal for business intelligence, and Facial Detection, for searching or identification of individuals.

Environmental
With a temperature range of -40 °C to +60 °C (-40 °F to +140 °F), the camera is designed for extreme temperature environments. Subjected and certified to rigorous dust and water immersion tests, the IP67 rating makes it suitable for demanding outdoor applications. For environments with rain, sleet, snow and fog, an integrated wiper provides users with clear visibility at all times.

Protection
Supporting ±30% input voltage tolerance, this camera suits even the most unstable conditions for outdoor applications. Its 6KV lightning rating provides protection against the camera and its structure from the effects of lightning.

Smart H.265+
Deliver high quality video without straining the network, Smart H.265+ is the optimized implementation of H.265. The Smart H.265+ encoding technology includes a scene adaptive encoding strategy, dynamic GOP, dynamic ROI, flexible multi-frame reference structure and intelligent noise reduction, providing saving of up to 70% of bandwidth and storage when compared with standard H.265.

HEVC (H.265)
H.265 ITU-T VCEG is a new video coding standard. H.265 Following standard developed around the existing video coding standard H.264, some retain the original technology, while some of the relevant technology to improve the new technology uses advanced technology to improve the relationship between the code stream, encoding quality, and the delay between algorithm complexity, optimize settings specific contents include: improve compression efficiency, improve the robustness and error recovery capabilities, real-time to reduce the delay, reduce channel acquisition time and a random access delay, reduce complexity, etc.
## Technical Specification

### Camera

- **Image Sensor**: 1/3” 4Megapixel progressive scan CMOS
- **Effective Pixels**: 2688(H)x1520(V)
- **RAM/ROM**: 512MB/32MB
- **Scanning System**: Progressive
- **Minimum Illumination**: 0.08Lux/F2.0 (Color), 0Lux/F2.0 (IR on)
- **S/N Ratio**: More than 50dB
- **IR Distance**: Distance up to 30m (98.4ft)
- **IR On/Off Control**: Auto/ Manual
- **IR LEDs**: 12

### Lens

- **Lens Type**: Fixed
- **Mount Type**: Board-in
- **Focal Length**: 3.6mm (2.8mm, 6mm optional)
- **Max. Aperture**: F2.0 (F2.0, F2.0)
- **Angle of View**: H: 87° (104°, 55°), V: 48° (57°, 31°)
- **Optical Zoom**: N/A
- **Focus Control**: Fixed
- **Close Focus Distance**: N/A

### Pan/Tilt/Rotation

- **Pan/Tilt/Rotation Range**: Pan:0~360˚; Tilt:0~90˚; Rotation:0~360˚

### Intelligence

- **IVS (optional)**: Tripwire, Intrusion, Object Abandoned/Missing
- **Advanced Intelligent Functions**: Face Detection

### Video

- **Compression**: H.265+/H.265/H.264+/H.264
- **Streaming Capability**: 3 Streams
- **Resolution**: 4M(2688×1520)/3M(2304×1296)/1080P(1920×1080)/1.3M(1280x960)/720P(1280×720)/D1(704×576)/704×480)/VGA(640×480)/CIF(352×288/352×240)
- **Frame Rate**: Main Stream: 4M(1~25/30fps)
  - Sub Stream: D1(1~25/30fps)
  - Third Stream: 720P(1~25/30fps)
- **Bit Rate Control**: CBR/VBR
- **Bit Rate**: H.264: 24~10240Kbps
  - H.265: 14~9984Kbps
- **Day/Night**: Auto(CRI) / 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 Detection

- **Off / On (4 Zone, Rectangle)

### Region of Interest

- **Off / On (4 Zone)

### Electronic Image Stabilization (EIS)

- **N/A

### Smart IR

- **Support

### Defog

- **N/A

### 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/Av; QoS; UPnP; AT; Bonjour; 802.1x; Multicast; ICMP; IGMP; SNMP
- **Interoperability**: ONVIF, PSIA, CGI
- **Streaming Method**: Unicast / Multicast
- **Max. User Access**: 10 Users / 20 Users
- **Edge Storage**: NAS
- **Local PC for instant recording**: N/A
- **Web Viewer**: IE, Chrome, Firefox, Safari
- **Management Software**: Smart PSS, DSS, Easy4ip
- **Smart Phone**: iOS, Android

### Certifications

- **CE (EN 60950:2000)**
- **UL60950-1**
- **FCC: FCC Part 15 Subpart B**
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### 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**: <6W
## Environmental

<table>
<thead>
<tr>
<th>Operating Conditions</th>
<th>-30°C ~ +60°C (-22°F ~ +140°F) / Less than 95% RH</th>
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</thead>
<tbody>
<tr>
<td>Storage Conditions</td>
<td>-30°C ~ +60°C (-22°F ~ +140°F) / Less than 95% RH</td>
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<tr>
<td>Ingress Protection</td>
<td>IP67</td>
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<tr>
<td>Vandal Resistance</td>
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## Construction

<table>
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<tr>
<th>Casing</th>
<th>Metal</th>
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<tbody>
<tr>
<td>Dimensions</td>
<td>Φ93.4mm×79.4mm (3.68&quot;×3.13&quot;)</td>
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<tr>
<td>Net Weight</td>
<td>0.3Kg (0.66lb)</td>
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<tr>
<td>Gross Weight</td>
<td>0.42Kg (0.93lb)</td>
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## Ordering Information

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<th>Part Number</th>
<th>Description</th>
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<tbody>
<tr>
<td>4MP camera</td>
<td>DH-IPC-HDW4431MP-0360B</td>
<td>4MP IR Eyeball Network Camera, PAL</td>
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<tr>
<td></td>
<td>DH-IPC-HDW4431MN-0360B</td>
<td>4MP IR Eyeball Network Camera, NTSC</td>
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<td>DH-IPC-HDW4431MP-0280B</td>
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<td>Accessories</td>
<td>PFB204W</td>
<td>Wall mount</td>
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<tr>
<td></td>
<td>PFA13A</td>
<td>Junction box</td>
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<tr>
<td></td>
<td>PFA152</td>
<td>Pole Mount</td>
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</tbody>
</table>

## Accessories

- **Optional:**
  - PFA152 Pole Mount
  - PFB204W Wall Mount
  - PFA13A Junction Box

## Junction Box
- PFA13A

## Pole Mount
- PFB204W + PFA152

## Dimensions (mm/inch)

- Φ93.4 [3.68"]
- Φ68 [2.68"]
- 4.045 [0.18"]