

4MP StereoVision People Counting Camera

Dual-sensor Smart H.265+ IR Network Camera



WizMind

WizMind Series devices offer the full complement of Dahua Analytics+ functions for comprehensive, human-oriented analytic solutions. WizMind Series products deliver perimeter protection, vehicle and crowd density statistics, and advanced people counting with heat map functionality. WizMind is ideal for complex applications with demanding requirements that need advanced analytic capabilities.

System Overview

The DH-IPC-HDW8441X-3D offers cutting-edge Analytics+ that use complex real-time algorithms to deliver accurate people counting and flow statistics. The camera uses an advanced Vision Processor Unit (VPU) for high-performance machine vision and visual awareness. The advanced VPU allows for complex vision applications that are impossible with conventional ISPs.

The dual 4MP sensors work in combination to deliver a single video stream that captures 3D depth in the image, offering improved accuracy as compared to single-sensor cameras. The dual-sensor technology captures an object's height, letting the camera better distinguish between people and other objects.

The camera offers several distinct people counting functions: Line Crossing, Regional Count, and Queue Management. The line crossing function counts the number of people crossing a defined lines, and offers maximum/minimum height detection to help filter objects that are too tall or too small. The Regional function counts the number of people in four (4) distinct, user-defined regions. Finally, the Queue Management function keeps count of the number of people waiting in a defined area and triggers an alert if the number or the wait time exceeds a defined threshold.

Functions

Perimeter Protection

Dahua Analytics+ includes Tripwire and Intrusion functions that offer custom tripwires based on object type for automation in limited access areas. Perimeter Protection requires less pixels to detect an object to deliver improved accuracy and decreased false alarms due to lights, weather, trees, or animals.

- Two (2) 1/2.8-in. 4MP Progressive-scan CMOS Sensors
- Three (3) Stream Encoding
- Smart H.265+ and Smart H.264+ Dual Codecs
- 4MP (2560 X 1440) at 30 fps; 2.8 mm Fixed Lens
- Advanced, Accurate People Counting: Supports Line Crossing, Regional
- People Counting and Queue Management
- Analytics+ Functions — Perimeter Protection with Active Alarm
- ArcticPro Series Camera — Operational down to -40 °C (-40 °F)
- True Day/Night IR Cut Filter
- Built-in Microphone and Speaker
- Maximum IR Length 20 m (66 ft)
- IP67 Ingress Protection and IK10 Vandal Resistance
- Five-year Warranty*

Active Alarm

The camera features active alarm functionality to respond automatically to a triggered alarm. The configurable automatic responses include activation of the white-light illuminator to capture color images of the scene and the broadcast of a built-in message or siren.

Starlight Technology

For challenging low-light applications, Dahua's Starlight Low Light Technology offers light sensitivity that captures details in low light down to 0.005 lux. The camera uses a set of optical features to balance light throughout the scene, resulting in clear images in dark environments.

ArcticPro

The Dahua ArcticPro Series of extreme-environment cameras combine temperature-tolerant components with a waterproof enclosure to ensure flawless operation in temperatures as low as -40°F (-40°C) without the need for an internal heater. The lack of a heater reduces the camera's power consumption and saves operating costs. For applications that demand high-resolution video with advanced features in extremely cold environments, the Dahua ArcticPro Series offers a camera to satisfy the most demanding requirements.

Environmental

Subjected and certified to rigorous dust and water immersion tests, the IP67 rating makes it suitable for demanding outdoor applications.

Technical Specification

Camera

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|--------------------------|---|
| Image Sensor | Two (2) 1/2.8-in. 4MP CMOS Sensors |
| Effective Pixels | 2560 (H) × 1440 (V) |
| RAM/ROM | 1 GB/4 GB |
| Scanning System | Progressive |
| Electronic Shutter Speed | Auto, Manual 1/3 s–1/100,000 s |
| Minimum Illumination | Color: 0.005 lux at F1.6 (30 IRE) B/W: 0.0005 lux at F1.6 (30 IRE) 0 lux (Illuminator on) |
| S/N Ratio | More than 56 dB |
| Illumination Distance | 20.0 m (66.0 ft) (IR LED) |
| IR On/Off Control | Auto, Manual |
| IR LEDs | One (1) LED |

Lens

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|----------------------------|--|-----------------------|----------------------|----------------------|---------------------|
| Lens Type | Fixed-focal | | | | |
| Mount Type | M12 | | | | |
| Focal Length | 2.8 mm | | | | |
| Maximum Aperture | F1.6 | | | | |
| Angle of View | Horizontal: 95° Vertical: 52° Diagonal: 114° | | | | |
| Iris Control | Fixed | | | | |
| Close Focus Distance | 1.1 m (3.61 ft) | | | | |
| DORI Distance ¹ | Lens | Detect | Observe | Recognize | Identify |
| | 2.8 mm | 63.6 m (126.64 ft) | 25.4 m (50.52 ft) | 12.7 m (25.26 ft) | 6.4 m (12.80 ft) |

Pan/Tilt/Rotation

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|-------|-------------------|
| Range | Tilt: -10° to 70° |
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Video

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|----------------------|--|-------------------------------|
| Video Encoding | Smart H.265+, Smart H.264+ H.265, H.264, MJPEG (Sub Stream Only) | |
| Streaming Capability | Three (3) Streams | |
| Resolution | 4MP (2560 × 1440), 3MP (2048 × 1536/2304 × 1296), 1080p (1920 × 1080), 1.3MP (1280 × 960), 720p (1280 × 720), D1 (704 × 480), VGA (640 × 480), CIF (352 × 240) | |
| Frame Rate | Main Stream | 4MP (2560 × 1440) at 30 fps |
| | Sub Stream 1 | D1 (704 × 480) at 30 fps |
| | Sub Stream 2 | 1080p (1920 × 1080) at 30 fps |
| Bit Rate Control | CBR, VBR | |
| Bit Rate | H.264: 32 kbps to 8192 kbps H.265: 12 kbps to 8192 kbps | |
| Day/Night | Auto (ICR), Color, B/W | |
| BLC Mode | HLC, BLC, True WDR (120 dB) | |
| White Balance | Auto, Natural, Street Lamp, Outdoor, Manual, Regional Custom | |
| Gain Control | Auto | |
| Noise Reduction | 3D DNR | |
| Motion Detection | Off, On (4 Zones, Rectangular) | |
| Region of Interest | Off, On (4 Zones) | |
| Advanced Features | Self-scene Adaption (SSA), Smart IR, Defog | |
| Digital Zoom | 16x | |
| Privacy Masking | Off, On (4 Areas, Rectangular) | |

Audio

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|---------------------|---|
| Built-in Microphone | Yes |
| Built-in Speaker | Yes |
| Compression | PCM, G.711a, G.711Mu, G.726, G.723, AAC |

Network

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|-------------------------|--|
| Ethernet | RJ-45 (10/100/1000 Base-T) |
| Protocol | IPv4, IPv6, HTTP, TCP, UDP, ARP, RTP, RTSP, RTCP, RTMP, SMTP, DHCP, DNS, DDNS, QoS, UPnP, NTP, Multicast, ICMP, IGMP, NFS, PPPoE, SNMP |
| Interoperability | ONVIF (Profile S/Profile G/Profile T), CGI, P2P, SDK, API |
| Maximum User Access | 20 Users (Total bandwidth: 64 Mbps) |
| Edge Storage | Micro SD Card, maximum 512 GB |
| Web Viewer | IE, Chrome, Safari |
| Management Software | SmartPSS, DSS, DMSS |
| Mobile Operating System | iOS, Android |
| Cybersecurity | Video Encryption, Firmware Encryption, Configuration Encryption, Digest, WSSE, Account Lockout, Security Logs, IP/MAC Filtering, Generating/Importing X.509 Certification, Syslog, HTTPS, 802.1x, Trusted Boot, Trusted Execution, Trusted Upgrade |

Certifications

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|-------------------------------------|---|
| Safety | EN 62368-1 UL62368-1 CAN/CSA C22.2 No. 62368-1-14 |
| Electromagnetic Compatibility (EMC) | Electromagnetic Compatibility Directive 2014/30/EU 47 CFR FCC Part 15, Subpart B |

Interface

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|--------------|--|---|
| Video Output | One (1) Port (Baud Rate Range: 1200 bps to 115200 bps) | |
| Audio | Input | Two (2) RCA Channels One (1) Built-in Microphone |
| | Output | One (1) RCA Channel One (1) Built-in Speaker |
| Alarm | Input | Two (2) Channels (5 mA 3 V to 5 VDC) |
| | Output | Two (2) Channels (300 mA 12 VDC) |

Electrical

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|-------------------|---|
| Power Supply | 12 VDC, PoE (802.3af) |
| Power Consumption | Basic: 4 W (12 VDC), 6.4 W (PoE) Max. (H.265+ Main Stream/IR Intensity + IR on): 11.3 W (12 VDC); 12.9 W (PoE) |

Environmental

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|----------------------|--|
| Operating Conditions | -40° C to +60° C (-40° F to +140° F) Equal to or less than 95% RH |
| Storage Temperature | -40° C to +60° C (-40° F to +140° F) |
| Protection | IP67, IK10 |

Construction

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| Casing | Metal |
| Dimensions | 204.0 mm x 78.0 mm x 62.0 mm (8.03 in. x 3.07 in. x 2.44 in.) |
| Net Weight | 0.80 kg (1.76 lb) |
| Gross Weight | 1.09 kg (2.40 lb) |

Analytics+ People Counting

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|------------------|--|
| People Counting | Built-in Calibration Function Dual-lens Design for Depth of Information |
| Line Crossing | Maximum/Minimum Height Detection Sensitivity Control |
| Regional | Counts Number of People in a Defined Area Ten (10) Separate Regions |
| Queue Management | <ul style="list-style-type: none"> Counts the number of people in line in a defined area Keeps track of wait times Triggers an alert when the number of people in line or the wait time exceeds a set threshold |

Analytics+ Functions

| | |
|----------------------|---|
| Active Alarm | <ul style="list-style-type: none"> Configurable automatic response when an alarm is triggered: <ul style="list-style-type: none"> Built-in or custom pre-recorded message. Siren activation. |
| Perimeter Protection | <ul style="list-style-type: none"> Detects human or vehicle violations using the following methods: <ul style="list-style-type: none"> Tripwire: a target crosses a defined line. Intrusion: a target enters or exits a defined perimeter. Monitors a combination of detection methods. Search and retrieve video based on target type. |

Intelligent Video System

IVS triggers an alarm and takes a defined action for the following events:

| | |
|--------------------------|---|
| Standard Features | <ul style="list-style-type: none"> Tampering with the camera. Error writing to an onboard Micro SD card. Error sending or receiving data over the network. Unauthorized access to the camera. |
| Premium Features | |
| Motion | An object moves through any part of the scene. |
| Scene Change | A person or object moves the camera to change the scene or covers the camera to obscure the scene |
| Advanced Features | |
| Facial Detection | Detects and captures a snapshot of a human face in a defined area within a scene |

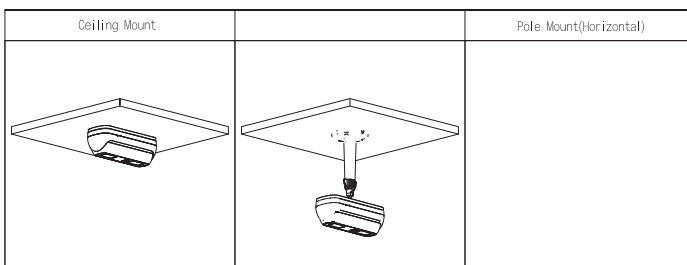
Ordering Information

| Type | Part Number | Description |
|----------------------|--------------------|---|
| 4MP Camera | DH-IPC-HDW8441X-3D | 4MP Dual-sensor StereoVision People Counting Camera with Analytics+ |
| Accessory (Optional) | PFB110W | Ceiling/Wall Mount |
| | PFA152-E | Pole Mount |

Accessories (Optional)

PFB110W
Ceiling/Wall Mount

PFA152-E
Pole Mount



1. The DORI distance is a measure of the general proximity for a specific classification to help pinpoint the right camera for your needs. The DORI distance is calculated based on sensor specifications and lab test results according to EN 62676-4, the standard that defines the criteria for the Detect, Observe, Recognize and Identify classifications.