**alhua**
TECHNOLOGY

# 4MP Starlight Corner Network Dome Camera
## Ultra Wide Dynamic Range Fixed-lens Network Camera with Analytics+

- 1/1.8-in. 4 MP Progressive-scan CMOS Sensor
- Triple-stream Encoding
- Smart H.265+ and Smart H.264+ Dual Codec
- 4 MP (2688 x 1520) at 30 fps, 2.5 mm Fixed Lens
- Starlight+ Technology for Low-light Applications
- Analytics+ Functions — Perimeter Protection and People Counting
- Ultra Wide Dynamic Range (140 dB) and Day/Night IR Cut Filter
- Built-in Microphone
- Maximum IR LED Distance 10 m (32.81 ft), 940 nm Wavelength
- ArcticPro Series Camera - Operational down to −40° C (−40° F)
- IP67 Ingress Protection and IK10+50J Vandal Resistance
- Five-year Warranty*

**WizMind**

**ArcticPro**

| 4Mp | H.265 | Starlight | Perimeter | 50J |

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, video metadata, 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 Dahua 4 MP Corner Network camera offers Analytics+ functions at the edge – performing complex real-time perimeter protection surveillance and people counting. The camera uses fisheye lens and on-device distortion correction to deliver a wide-angle view. The camera is ideal for a host of diverse applications — Starlight+, Ultra Wide Dynamic Range, and covert IR technologies allow the camera to operate in any lighting condition, while the IP67 and IK10+50J rating protect the camera from environmental elements and vandalism making the camera ideal for use in prisons, hospitals, and other challenging applications.

## Functions

### Analytics+ Functionality

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. In addition, The camera uses complex real-time people counting algorithms to deliver accurate flow statistics from two distinct people counting functions, Line Crossing and Regional. People counting is ideal for measuring the number of customers entering or exiting a location and to monitor groups of people in a distinct location.

### Covert IR Illumination

The corner camera offers 940 nm wavelength IR illumination for covert illumination. 940 nm wavelength IR illumination LEDs do not produce any visible glow; they are completely invisible and are ideal for applications that require discrete and covert surveillance such as law enforcement or military uses.

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

### On-Device Distortion Correction

On-device lens distortion correction (LDC) digitally corrects optical distortion common with ultra-wide angle lenses. Enabled by default, the camera displays a 135° Horizontal and 90° Vertical field of view. Other modes are available to increase field of view with greater amount of optical distortion.

### 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.

### 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

The camera complies with the enhanced IK10+50J impact rating making it capable of withstanding twice the impact (50 joules) of the standard IK10 rating. Subjected to rigorous dust and water immersion tests and certified to the IP67 Ingress Protection rating makes it suitable for demanding outdoor applications.

**ONVIF**

## Technical Specification

### Camera

| | |
|---|---|
| Image Sensor | 1/1.8-in. 4 MP CMOS |
| Effective Pixels | 2688(H) x 1520(V) |
| RAM/ROM | 512 MB/128 MB |
| Scanning System | Progressive |
| Electronic Shutter Speed | Auto, Manual, 1/3 s to 1/100,000 s |
| Minimum Illumination | Color: 0.004 lux at F2.0 (1/3 s, 30 IRE)<br>0 lux at F2.0 (IR on) |
| IR Distance | Up to 10 m (32.81 ft) |
| IR On/Off Control | Auto, Manual |
| IR LEDs | Two (2), 940 nm Wavelength |
| Installation Angle | Vertical: −10° to +10°<br>Rotation: 0° to 355° |

### Lens

| | |
|---|---|
| Lens Type | Fixed |
| Mount Type | M12 |
| Focal Length | 2.5 mm |
| Maximum Aperture | F2.0 |
| Angle of View | Horizontal: 135°<br>Vertical: 90° |
| Focus Control | Fixed |
| Close Focus Distance | 0.40 m (1.31 ft) |

| DORI[1] Distance | Lens | Detect | Observe | Recognize | Identify |
|---|---|---|---|---|---|
| | 2.5 mm | 34.50 m<br>(113.19 ft) | 13.80 m<br>(45.28 ft) | 6.90 m<br>(22.64 ft) | 3.40 m<br>(11.15 ft) |

### Video

| | |
|---|---|
| Compression | Smart H.265+, H.265, Smart H.264+, H.264, H.264B, H.264H, MJPEG |
| Streaming Capability | Three (3) Streams |
| Resolution | 2688 x 1520; 2560 x 1440; 2304 x 1296; 2016 x 1512; 1080p (1920 x 1080); UXGA (1600 x 1200); 1.3 MP (1280 x 960); 720p (1280 x 720); D1 (704 x 480); VGA (640 x 480); CIF (352 x 240) |
| Frame Rate | Main Stream: 4 MP (2688 x 1520) at 30 fps |
| | Sub Stream 1: D1 at 30 fps |
| | Sub Stream 2: D1 at 12 fps |
| Bit Rate Control | CBR/VBR |
| Bit Rate | H.264: 32 Kbps to 8192 Kbps<br>H.265: 19 Kbps to 8192 Kbps |
| Day/Night | Auto (ICR), Color, B/W |
| BLC Mode | BLC, HLC, SSA, WDR |
| Wide Dynamic Range | Ultra WDR (140 dB) |

| | |
|---|---|
| White Balance | Auto, Natural, Street Lamp, Outdoor, Manual, Regional Custom |
| Gain Control | Auto, Gain Priority, Shutter Priority, Manual |
| Noise Reduction | 3D DNR |
| Motion Detection | Off, On (4 Zones, Rectangular) |
| Region of Interest | Off, On (4 Zones) |
| Advanced Features | Smart IR, Defog, Electronic Image Stabilization (EIS) |
| Flip | 0°, 90°, 180°, 270° |
| Mirror | Off, On |
| Privacy Masking | Off, On (4 Areas, Rectangular) |

### Audio

| | |
|---|---|
| Compression | G.711a, G.711Mu, AAC, G.726 |

### Network

| | |
|---|---|
| Ethernet | RJ-45 (10/100 Base-T) |
| Protocol | HTTP, HTTPS, TCP, ARP, RTSP, RTP, UDP, SMTP, FTP, DHCP, DNS, DDNS, PPPOE, IPv4/v6, QoS, UPnP, NTP, ICMP, IGMP, 802.1x |
| Interoperability | ONVIF Profile S and G, CGI, Milestone, Genetec, P2P |
| Scene Self-adaptation | Support |
| Streaming Method | Unicast / Multicast |
| Maximum User Access | 20 Users |
| Edge Storage | Network Attached Storage (NAS)<br>FTP<br>Micro SD Slot, maximum 256 GB |
| Web Viewer | IE (Version 8 and higher), Chrome, Firefox, Safari (Version 12 and higher) |
| Mobile Operating System | IOS, Android |

### Certifications

| | |
|---|---|
| Safety | EN 60950-1:2006+A11:2009+A1:2010+A12:2011+A2:2013 |
| Electromagnetic Compatibility (EMC) | 47 CFR FCC Part 15, Subpart B, Class B EN 55032:2015, Class B; EN 61000-3-2:2014; EN 61000-3-3:2013; EN 55024:2010+A1:2015; EN 55035:2017; EN 50130-4:2011+A1:2014 |

### Interface

| | |
|---|---|
| Audio | Input: One (1) Channel plus a Built-in Microphone<br>Output: One (1) Channel |
| Alarm | Input: One (1) Channel (5 mA, 5 VDC)<br>Output: One (1) Channel (300 mA, 12 VDC) |
| RS485 | One (1) port<br>(Baud rate range: 1200 bps to 115200 bps) |

### Electrical

| Power Supply | Input | 12 VDC or PoE (IEEE 802.3af, Class 0) |
|---|---|---|
| | Output | 12 VDC, 165 mA |
| Power Consumption | 12 VDC | Standard: 3.0 W<br>with IR ON: 9.5 W |
| | PoE | Standard: 3.6 W<br>with IR ON: 11.5 W |

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.

## Environmental

| | |
|---|---|
| Operating Conditions | −40° C to +60° C (−40° F to +140° F), ≤ 95% RH |
| Storage Conditions | −40° C to +60° C (−40° F to +140° F), |
| Ingress Protection | IP67 |
| Vandal Resistance | IK10+50J |

## Construction

| | |
|---|---|
| Casing | Metal |
| Dimensions | 209.40 mm x 212.0 mm x 103.10 mm (8.24 in. x 8.35 in. x 4.06 in.) |
| Net Weight | 1.37 kg (3.02 lb) |
| Gross Weight | 1.47 kg (3.24 lb) |

## Analytics+ Functions[2,3]

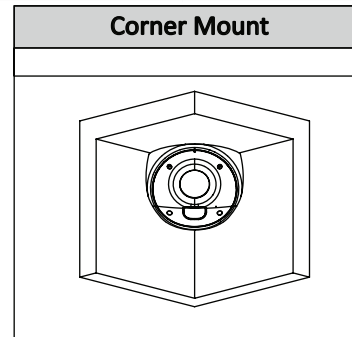| | |
|---|---|
| Perimeter Protection | • Detects human or vehicle violations using the following methods:<br>  **Tripwire**: a target crosses a defined line.<br>  **Intrusion:** a target enters or exits a defined perimeter.<br>• Monitors a combination of ten (10) detection methods.<br>• Search and retrieve video based on target type. |
| People Counting[4] | • Delivers accurate flow statistics from the following methods:<br>  **Line Crossing:** counts a person as they cross a threshold in a defined direction.<br>  **Region:** counts the number of people in a defined area.<br>• Counts people simultaneously entering and exiting an area.<br>• **Queue Management** counts number of people standing in line and tracks the waiting time. |

## Intelligent Video System Functions[2]

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

| | |
|---|---|
| Standard Features | • Tampering with the camera.<br>• Error writing to an onboard Micro SD card.<br>• Error sending or receiving data over the network.<br>• Unauthorized access to the camera.<br>• IP Address Conflict |
| **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. |
| Abandoned/Missing Object | A target leaves an object in designated area, or a target removes an object from the same designated area. |
| Fast Moving | Triggers an alarm when the speed of an object exiting a defined area exceeds a specified sensitivity setting. |
| Parking Detection | Monitors a defined area for the presence of a vehicle that remains in the area without motion. |
| Crowd Gathering | Monitors a defined area for a set number of people gathering and remaining inside the defined area. |
| Loitering Detection | Monitors a defined area for the presence of an object that remains in the area longer than a specified amount of time. |
| **Advanced Feature** | |
| Heat Map | Generates a visual representation of data. |

2. Only Perimeter Protection, People Counting, or an IVS function can be used at one time, only one Analytics+ or IVS function can be used at a time. In addition, the Smart H.265+ and the Smart H.264+ cannot be used simultaneously with either an Analytics+ or an IVS feature.
3. The camera's Analytics+ and IVS functions work with Dahua 5 series NVRs, but experience limited functionality with other Dahua NVRs.
4. People Counting and Queue Management must be configured via the camera's Web GUI.

## Ordering Information

| Type | Part Number | Description |
|---|---|---|
| Corner Camera | DH-IPC-HCBW8442N | 4 MP Starlight Fixed-lens Corner Camera with Analytics+ |
| Accessories, optional | DH-PFM320D-US | 12 VDC, 2 A Power Adapter |
| | DH-PFM321D-US | 12 VDC, 1 A Power Adapter |

### Corner Mount



## Dimensions (mm/in.)