DAHUA
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 4MP Corner Network camera offers Analytics+ functions at the edge – performing complex real-time perimeter protection security 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.

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 security 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.

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.

Cybersecurity
Dahua network cameras are equipped with a series of key cybersecurity technologies including: security authentication and authorization, access control, trusted protection, encrypted transmission, and encrypted storage. These technologies improve the camera's ability to prevent malicious access and to protect data.

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.

Technical Specification

Camera

Image Sensor	1/1.8-in. 4MP 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) 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° 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° 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 (113.19 ft)	13.80 m (45.28 ft)	6.90 m (22.64 ft)	3.40 m (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); 1.3MP (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 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, 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, P2P
Scene Self-adaptation	Support
Streaming Method	Unicast / Multicast
Maximum User Access	20 Users
Edge Storage	Network Attached Storage (NAS) FTP 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
Cybersecurity	Video Encryption, Firmware Encryption, Configuration Encryption, Digest, WSSE, Account Lockout, Security Logs, IP/MAC Filtering, Generating and Importing X.509 Certification, Syslog, HTTPS, 802.1x, Trusted Boot, Trusted Execution, Trusted Upgrade

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 Output: One (1) Channel
Alarm	Input: One (1) Channel (5 mA, 5 VDC) Output: One (1) Channel (300 mA, 12 VDC)
RS485	One (1) port (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 with IR ON: 9.5 W
	PoE	Standard: 3.6 W 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]

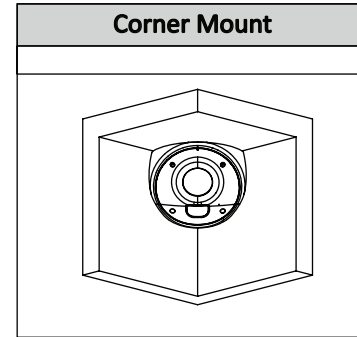| Perimeter Protection	• Detects human or vehicle violations using the following methods:
	  Tripwire: a target crosses a defined line.
	  Intrusion: a target enters or exits a defined perimeter.
	• Monitors a combination of ten (10) detection methods.
	• Search and retrieve video based on target type.

People Counting[4]	• Delivers accurate flow statistics from the following methods:
	  Line Crossing: counts a person as they cross a threshold in a defined direction.
	  Region: counts the number of people in a defined area.
	• Counts people simultaneously entering and exiting an area.
	• **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. • Error writing to an onboard Micro SD card. • Error sending or receiving data over the network. • Unauthorized access to the camera. • 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	4MP 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.)

212.0 [8.35]

209.4 [8.24]

103.1 [4.06]

89.5 [3.52]

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