4MP StereoVision People Counting Camera

Dual-sensor Smart H.265+ IR Network Camera

Wiz Mind

- 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*

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.

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.

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.

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.

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.

Onvif

*Warranty applies to products sold through an authorized Dahua Dealer.

Technical Specification

Camera

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

Lens Type	Fixed-focal
Mount Type	M12
Focal Length	2.8 mm
Maximum Aperature	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

Range	Tilt: -10° to 70°

Video

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 Adapation (SSA), Smart IR, Defog
Digital Zoom	16x
Privacy Masking	Off, On (4 Areas, Rectangular)

Audio

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

Network

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

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

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

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

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

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

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	• 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	• Configurable automatic response when an alarm is triggered: Built-in or custom pre-recorded message. Siren activation.
Perimter 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 detection methods. • Search and retrieve video based on target type.

Intelligent Video System

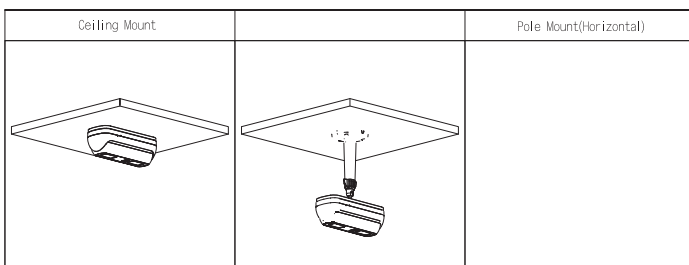| IVS triggers an alarm and takes a defined action for the following events:	
Standard Features	Tampering with the camera. Error writing to an onboard Micro SD card. Error sending or receiving data over the network. Unauthorized access to the camera.
Premium Features	
Motion	An object moves through any 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.