ahua
TECHNOLOGY

4 MP PTZ Network Camera

32x Starlight In-ceiling PTZ Network Camera with Analytics+

Wiz Sense

WizSense Series devices combine Dahua's powerful Analytics+ with an intuitive and easy to use interface. WizSense devices offer Smart Motion Detection and Perimeter Protection functions that focus on human and vehicular images and ignore irrelevant images to capture important video while reducing false alarms. WizSense Series devices provide powerful general surveillance for small to medium size businesses at a sensible price.

System Overview

The 4 MP Starlight PTZ Dome camera features a 1/2.8-in. STARVIS™ CMOS imager with a 32x optical zoom lens, and provides an all in one solution for capturing long-distance video surveillance for indoor applications. The camera uses the Smart H.265+ video compression standard to improve encoding efficiency while preserving high-quality video. The PTZ camera is equipped with quick and accurate pan/tilt/zoom control and True WDR for applications with direct sunlight or glare.

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.

Smart Motion Detection+
Smart Motion Detection+, a component of Dahua's Analytics+ technology, improves alarm accuracy and decreases the number of false alarms. The advanced SMD+ algorithm analyzes a scene for human or vehicle motion, while filtering out other motion due to trees, leaves, animals, weather, and triggers an alarm when detected. SMD+ also saves time when searching recorded video by filtering false alarms and allowing quick retrieval of an alarm due to a person or vehicle.

Face Detection
The camera detects and captures a snapshot of human face in a defined area within a scene. This technology supports detecting, tracking, capturing and selecting the best face image, and then outputs a face snapshot.

- 1/2.8-in. 4 MP STARVIS™ CMOS Sensor
- 4 MP (2560 x 1440) at 30 fps Maximum Resolution
- Triple-stream Encoding
- Smart H.265+ and Smart H.264+ Dual Codec
- Powerful 32x Optical Zoom
- Starlight Technology for Ultra-low Light Sensitivity
- True Wide Dynamic Range (120 dB)
- Analytics+ Function – Perimeter Protection, Smart Motion Detection
- Predictive Focus Analysis (PFA) Technology
- IK10 Vandal Resistance
- Auto-tracking
- Five-year Warranty*

H.265	WDR	0.005 Lux	ICR D/N	Vandal-proof	PoE+

Predictive Focus Analysis Technology
The camera uses innovative PFA Technology to improve zoom accuracy and to decrease focus time. A series of advanced algorithms more accurately judge the direction and the distance to a subject, improving picture clarity throughout the zooming process.

Starlight Technology
For challenging low-light applications, Dahua's Starlight Ultra-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.

Auto-tracking
This feature controls the pan/tilt/zoom actions of the camera to automatically track an object in motion and to keep it in the scene. The tracking action can be triggered manually or automatically by defined rules. Once a rule is triggered, the camera can zoom in and track the defined target automatically.

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.

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
With a temperature range of −30° C to +60° C (−22° F to 140° F), the camera is designed for extreme temperature environments. The camera complies with the IK10 Vandal Resistance impact rating making it capable of withstanding the equivalent of 5 kg (11.02 lbs) of force dropped from a height of 40 cm (15.75 in.).

Technical Specification

Camera

Image Sensor	1/2.8-in. STARVIS™ CMOS Sensor
Effective Pixels	2560(H) x 1440(V), 4 MP
RAM/ROM	1 GB / 4 GB
Scanning System	Progressive
Electronic Shutter Speed	1/1 s to 1/30,000 s
Minimum Illumination	Color: 0.005 lux at F1.35 B/W: 0.0005 lux at F1.35
S/N Ratio	≥ 55 dB

Lens

Focal Length		4.9 mm to 156.0 mm
Maximum Aperture		F1.35 to F4.4
Angle of View	Horizontal	61.6° to 2.1°
	Vertical	35.1° to 1.3°
	Diagonal	68.2° to 2.5°
Optical Zoom		32x
Focus Control		Auto, Semi-automatic, Manual
Close Focus Distance		1000.0 mm to 1500.0 mm (3.28 ft to 4.92 ft)

DORI Distance[1]

Detect (8 ppf)	Observe (19 ppf)	Recognize (38 ppf)	Identify (76 ppf)
3120.0 m (10236.22 ft)	1232.0 m (4041.99 ft)	624.0 m (2047.24 ft)	312.0 m (1023.62 ft)

PTZ

Pan/Tilt Range	Pan: 0° to 360° endless, Tilt: 0° to 90° Auto Flip 180°
Manual Control Speed	Pan: 0.1° to 350° /s Tilt: 0.1° to 250° /s
Preset Speed	Pan: 500° /s Tilt: 500° /s
Presets	300
PTZ Mode	5 Pattern, 8 Tour, Auto Pan, Auto Scan
Speed Setup	Human-oriented Focal Length, Speed Adaptation
Power up Action	Auto restore to previous PTZ and lens status after power failure
Idle Motion	Activate Preset, Scan, Tour, Pattern if there is no command in the specified period
Protocol	DH-SD, Pelco-P/D (Auto-recognition)

Video

Compression		Smart H.265+, H.265, Smart H.264+, H.264, H.264B, H.264H, MJPEG (sub stream only)
Streaming Capability		Three (3) Streams
Resolution		4 MP (2560 x 1440), 3 MP (2048 x 1536), 1080p (1920 x 1080), 1.3 MP (1280 x 960), 720p (1280 x 720), D1 (704 x 480), CIF (352 x 240)
Frame Rate	Main Stream	4 MP at 30 fps
	Sub Stream 1	D1 or CIF at 30 fps
	Sub Stream 2	720p at 17 fps

Bit Rate Control	CBR, VBR
Bit Rate	H.265/H.264: 3 Kbps to 20480 Kbps
Day/Night	Auto (ICR), Color, B/W
Backlight Compensation	BLC, HLC, True WDR (120 dB)
White Balance	Auto, Indoor, Outdoor, ATW, Manual, Sodium Lamp, Natural, Street Lamp
Gain Control	Auto, Manual, Aperture Priority, Gain Priority, Shutter Priority
Noise Reduction	2D/3D
Advanced Features	Motion Detection, Region of Interest, Electronic Image Stabilization (EIS), Defog
Digital Zoom	16x
Flip	180°
Privacy Masking	Up to 24 areas, up to eight (8) areas in same view

Audio

Compression	G.711a, G.711Mu, G.722.1, G.726,G.729, MPEG2-L2, G.723

Network

Ethernet	RJ-45 (10/100 Base-T)
Protocol	IPv4/IPv6, HTTP, HTTPS, SSL, TCP/IP, UDP, UPnP, ICMP, IGMP, SNMP, RTSP, RTP, SMTP, NTP, DHCP, DNS, PPPOE, DDNS, FTP, IP Filter, QoS, Bonjour, 802.1x
Interoperability	ONVIF Profile S, G, T; CGI
Streaming Method	Unicast / Multicast
Maximum User Access	20 Users (Total Bandwidth: 64 Mbps)
Edge Storage	Network Attached Storage (NAS), FTP, Micro SD Card, up to 256 GB
Web Viewer	IE 7 and later, Firefox 52 and later, Chrome 42 and later, Safari
Management Software	DSS, DMSS
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	UL 62368-1 + CAN/CSA C22.2, No.62368-1
Electromagnetic Compatibility (EMC)	CF4 47 FCC Part 15 Subpart B ANSI C63.4-2014 EN 55032, EN 55024, EN 50130-4

Interface

Audio	Input: One (1) Channel Output: One (1) Channel
RS485	One (1) Port
Alarm	Input: Two (2) Channels Output: One (1) Channel

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.

Electrical

Power Supply	24 VDC, 2.5 A; PoE+ (IEEE802.3at Class 4)
Power Consumption	Basic: 10 W Maximum: 16 W

Environmental

Operating Conditions	−30° C to 60° C (−22°F to 140° F), Less than 95% RH
Vandal Resistance	IK10
Surge Protection	6 KV, lightning proof; surge protection; voltage transient protection

Construction

Casing	Metal
Dimensions	⌀198.0 mm x 177.0 mm (⌀7.80 in. x 7.0 in.)
Net Weight	2.20 kg (4.85 lb)
Gross Weight	3.70 kg (8.16 lb)

Analytics+ Functions

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.
Face Detection	• Detects and captures a snapshot of a human face within a scene.
Smart Motion Detection+	• Differentiates between and classifies human and vehicle objects. • Filters false alarms due to leaves, lights, animals, and other inconsequential objects. • Extracts human or vehicle objects from recorded video for quick target search and retrieval.

Intelligence

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.
Abandoned/Missing Object	A target leaves an object in designated area, or a target removes an object from the same designated area.

Advanced Features

Auto-tracking	Controls the pan/tilt/zoom actions of the camera to automatically track an object in motion and to keep it in the scene.

Ordering Information

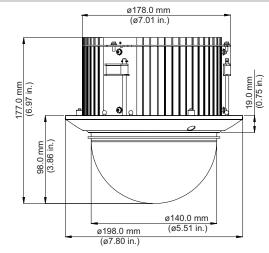| Type	Part Number	Description
4 MP PTZ Camera	52C432XANR	4 MP 32x Starlight PTZ Network Camera, WDR, Analytics+
Accessory, included	DC24V/2.5A	Power Adapter
Accessory, optional	PC-H84.5-147	Polycarbonate Smoke Tinted Bubble

Accessories

Included:

DC24V/2.5A
Power Adapter

Optional :

PC-H84.5-147
Polycarbonate Smoke
Tinted Bubble

Dimensions (mm/in.)