dahua TECHNOLOGY

4MP Starlight Network PTZ

25x IR Network Camera with Analytics+

- 1/2.8-in. 4MP Progressive-scan CMOS Sensor
- Powerful 25x Optical Zoom Lens
- Smart H.265+ and Smart H.264+ Dual Codecs
- 4MP at 30 fps Maximum Resolution
- True Wide Dynamic Range (120 dB)
- Starlight Technology for Ultra Low-light Sensitivity
- Predictive Focus Algorithm
- ArcticPro Series Camera - Operational down to −40° C (−40° F)
- Analytics+ Function – Perimeter Protection, Smart Motion Detection, and Face Detection
- Maximum IR Distance up to 100 m (328 ft)
- IP66 Ingress Protection
- Five-year Warranty*

Wiz Sense

ArcticPro

False Alarm Filter	WDR	0.005Lux	ICR D/N	IP66	PoE+

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 security for small to medium size businesses at a sensible price.

System Overview

The 4MP PTZ Dome camera features a 1/2.8-in CMOS imager with a 25x optical zoom lens, and provides an all in one solution for capturing long-distance video security for outdoor 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.

Starlight Technology

For challenging low-light applications, Dahua's Starlight Ultra-low Light Technology offers best-in-class light sensitivity, capturing 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.

PFA 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.

ArcticPro

The Dahua ArcticPro Series of extreme-environment cameras combine temperature-tolerant components, a waterproof enclosure, and an integrated heater to ensure flawless operation in temperatures as low as −40° C (−40° F). 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

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

Technical Specification

Camera

Image Sensor	1/2.8-in. CMOS
Effective Pixels	2560(H) x 1440(V), 4MP
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 F1.6 B/W: 0.0005 lux at F1.6 0 Lux with IR on
IR Distance	Distance up to 100.0 m (328.08 ft)
IR On/Off Control	Zoom Priority, Manual, Smart IR, Off
Illuminators	Four (4)

Lens

Focal Length	4.8 mm to 120 mm
Maximum Aperture	F1.6 to F4.0
Angle of View	Horizontal: 60.0° to 2.5° Vertical: 30.8° to 2.2° Diagonal: 66.7° to 2.9°
Optical Zoom	25x
Iris Control	Automatic, Manual
Focus Control	Automatic, Semi-automatic, Manual
Close Focus Distance	0.1 m to 1.5 m (0.33 ft to 4.92 ft)

DORI Distance[1]

Detect (8 ppf)	Observe (19 ppf)	Recognize (38 ppf)	Identify (76 ppf)
2540 m (8333 ft)	1016 m (3333 ft)	508 m (1667 ft)	254 m (833 ft)

PTZ

Pan/Tilt Range	Pan: 0° to 360° endless Tilt: −15° to 90°, Auto Flip 180°
Manual Control Speed	Pan: 0.1° to 200° /s Tilt: 0.1° to 120° /s
Preset Speed	Pan: 240° /s; Tilt: 200° /s
Presets	300
PTZ Mode	5 Pattern, 8 Tour (up to 32 presets per tour), 5 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, MJPEG (sub-stream only)
Streaming Capability	Three (3) Streams
Resolution	4MP (2560 X 1440), 3MP (2048 X 1536), 1080p (1920 x 1080), 1.3MP (1280 x 960), 720p (1280 x 720), D1 (704 x 380), CIF (352 x 240)

Frame Rate	Main Stream	4MP at 30 fps
	Sub Stream 1	D1, CIF at 30 fps
	Sub Stream 2	1080p, 1.3 MP, 720p at 30 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	Ultra DNR (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, with 8 areas in the same view

Audio

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

Network

Ethernet	RJ45 (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 and G), CGI
Streaming Method	Unicast / Multicast
Max. User Access	19 users
Edge Storage	Network Attached Storage Local PC for Instant Recording Micro SD Card Slot, maximum 256 GB
Web Viewer	IE 7 and later Firefox version 52 and later Chrome version 42 and later
Management Software	Smart PSS, DSS Express S, 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
CE	EN 55032, EN 55024, EN 50130-4
Electromagnetic Compatibility (EMC)	47 CFR FCC Part 15 Subpart B ANSI C63.4:2014

Interface

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

Electrical

Power Supply	12 VDC, 3 A or PoE+ (IEEE802.3at Class 4)
Power Consumption	Basic: 13 W Maximum: 21 W with IR on

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1. The DORI distance is a general proximity of distance helping to pinpoint the correct camera for your needs. The DORI distance is calculated based on sensor specifications and lab test results according to EN 62676-4 which defines the criteria for Detect, Observe, Recognize and Identify.

Environmental

Operating Conditions	−40° C to 70° C (−40° F to +158° F) Less than 95% RH
Ingress Protection	IP66
Surge Protection	TVS 6000V

Construction

Casing	Metal
Dimensions	ø160.0 mm x 295.0 mm (ø6.30 in. x 11.61 in.)
Net Weight	3.0 kg (6.61 lb)
Gross Weight	4.80 kg (10.58 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.

Smart Motion Detection[2]	• 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.
Face Detection	• Detects and captures a snapshot of a human face within a scene.

Intelligent Video System Functions

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.

Ordering Information

Type	Part Number	Description
4MP PTZ Camera	49425XBNR	4MP 25x Starlight IR PTZ Network Camera, True WDR, Analytics+
Accessories, Included	PFB305W	Wall Mount
Accessories, Optional	PFA111	Mount Adapter
	PFA120	Water-proof Junction Box
	PFA140	Power Box
	PFA150	Pole Mount
	PFA151	Corner Mount
	PFB300C	Ceiling Mount
	PFB303S	Parapet Mount
	S042-1A120300HU	Power Adapter

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Optional:

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Mount Adapter

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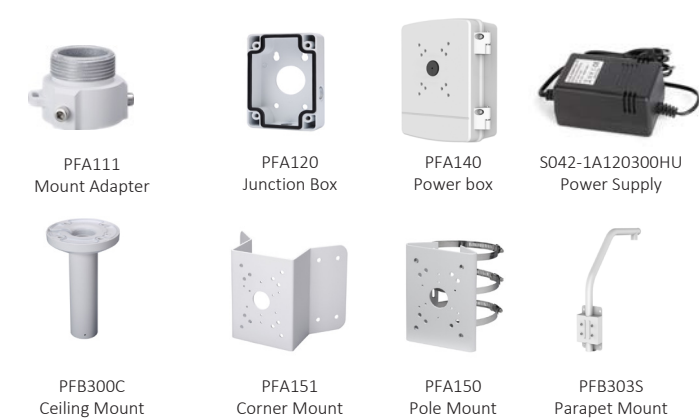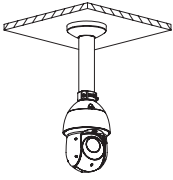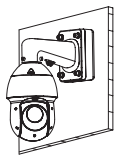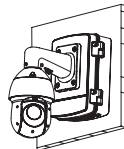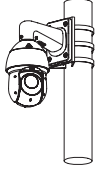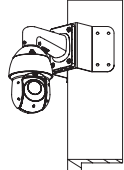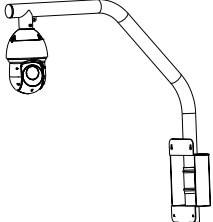
2. Pair a Smart Motion Detection camera with a Dahua recording device that also offers SMD functionality to take advantage of SMD alarm filtering and object classification when searching and playing back recorded video.

Ceiling Mount	Junction Mount
PFA111 + PFB300C	PFB305W + PFA120

Power Box Mount	Pole Mount
PFB305W + PFA140	PFB305W + PFA150

Corner Mount	Parapet Mount
PFB305W + PFA151	PFA111+ PFB303S

Dimensions (mm/in.)

50.0 mm (1.97 in.)

109.30 mm (4.30 in.)

295.40 mm (11.63 in.)

139.50 mm (5.49 in.)

ø160.0 mm (ø6.30 in.)