2MP Network PTZ Camera

32x Starlight PTZ Network Camera with Analytics+

WizSense

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.

ArcticPro

System Overview

The 2MP 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 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.

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. 2MP STARVIS™ CMOS Sensor
- 1080p at 60 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
- ArcticPro Series Camera - Operational down to –40° C (–40° F)
- IP67 Ingress Protection and IK10 Vandal Resistance
- Intelligent Video System with Auto-tracking
- Five-year Warranty*

| H.265 | WDR | 0.005Lux | ICR D/N | IP67 | 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.

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. 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.).

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

Technical Specification

Camera

Image Sensor	1/2.8-in. STARVIS™ CMOS Sensor
Effective Pixels	1920(H) x 1080(V), 2MP
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	62.8° to 2.2°
	Vertical	36.7° to 1.3°
	Diagonal	69.2° to 2.6°
Optical Zoom		32x
Focus Control		Auto, Manual, Fixed
Close Focus Distance		100.0 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)
2152.0 m (7060.37 ft)	850.0 m (2788.71 ft)	430.0 m (1410.76 ft)	215.0 m (705.38 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		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	1080p, 1.3 MP or 720p at 60 fps
	Sub Stream 1	D1 or CIF at 30 fps
	Sub Stream 2	720p at 30 fps

Bit Rate Control / Network column

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, 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

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, PSIA, 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 128 GB
Web Viewer	IE 7 and later, Firefox 52 and later, Chrome 42 and later, Safari
Management Software	DSS Express, 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

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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	−40° C to 60° C (−40° F to 140° F), Less than 95% RH
Ingress Protection	IP67
Vandal Resistance	IK10
Surge Protection	6 KV, lightning proof; surge protection; voltage transient protection

Construction

Casing	Metal
Dimensions	Ø186.0 mm x 253.0 mm (Ø7.32 in. x 9.96 in.)
Net Weight	2.50 kg (5.51 lb)
Gross Weight	4.50 kg (9.92 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	• Differentiates between and classify 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	
Face Detection	Detects and captures a snapshot of a human face within a scene.
Alarm Track	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
2MP PTZ Camera	50232XANR	2MP 32x Starlight PTZ Network Camera, True WDR, Analytics+
Accessories, included	DC24V/2.5A	Power Adapter
	PFA110	Mount Adapter
	PFB300S	Wall Mount (use with PFA110 mount adapter)
Accessories, optional	PFA110-N	Mount Adapter (NPT 1-1/2 in.)
	PFA120	Water-proof Junction Box
	PFA140	Power Box
	DH-PFA143	Outdoor Security Junction Box
	PFA150	Pole Mount
	PFA151	Corner Mount
	DH-PFA153	Heavy-duty Pole Mount Bracket
	PFB300C	Ceiling Mount (use with PFA110 mount adapter)
	PFB303S	Parapet Mount (use with PFA110 mount adapter
	PC-H84.5-147	Polycarbonate Smoke Tinted Bubble

Accessories

Included:

PFB300S
Wall Mount

PFA110
Mount Adapter

DC24V/2.5A
Power Adapter

Optional:

PFA140
Power Box

PFB300C
Ceiling Mount

PFA120
Junction Box

PFA150
Pole Mount

PFA151
Corner Mount

PFB303S
Parapet Mount
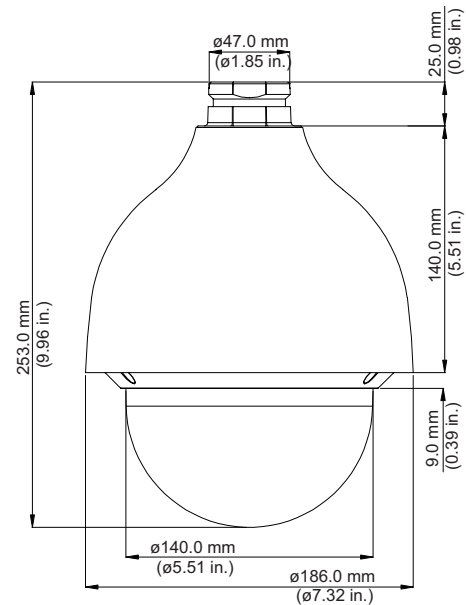
DH-PFA143
Outdoor Security Junction Box

DH-PFA153
Heavy Duty Pole Mount Bracket

PC-H84.5-147
Polycarbonate Smoke Tinted Bubble

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Dimensions (mm/in.)

ø47.0 mm
(ø1.85 in.)

25.0 mm
(0.98 in.)

140.0 mm
(5.51 in.)

253.0 mm
(9.96 in.)

9.0 mm
(0.39 in.)

ø140.0 mm
(ø5.51 in.)

ø186.0 mm
(ø7.32 in.)

Mounting Diagram

Camera	Adapter	Wall Mount	Ceiling Mount	Junction Box	Pole/Corner Mount

PFA112   PFA113

PFB300C

PFA150

PFA110

PFB300S

PFA120

PFB302S

PFA140

PFB303S

PFA151

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