Dahua TECHNOLOGY

4MP Starlight PTZ Network Camera

45x IR PTZ Network Camera with Analytics+

Wiz Sense

ArcticPro

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 Starlight PTZ Dome camera features offers Analytics+ functions at the edge – performing complex real-time perimeter protection security. The Dahua Analytics+ algorithms significantly improve accuracy and reliability as compared to standard intelligent features. The camera features a 1/2.8-in. CMOS STARVIS™ imager with a 45x optical zoom lens, and provides an all-in-one solution for capturing long-distance video security for outdoor applications. The camera uses the 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.

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 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.

- 1/2.8-in. 4MP Progressive-scan CMOS STARVIS™ Sensor
- Powerful 45x Optical Zoom
- Smart H.265+ and Smart H.264+ Dual Codec
- 4MP at 30 fps Maximum Resolution
- True Wide Dynamic Range
- Starlight Technology for Ultra-low Light Sensitivity
- Analytics+ Functions — Perimeter Protection
- Intelligent Video System (IVS) with Auto-tracking
- Maximum IR distance up to 250.0 m (820.21 ft)
- ArcticPro Series Camera - Operational down to –40° C (–40° F)
- IP67 Ingress Protection and IK10 Vandal Resistance Rating
- Five-year Warranty*

| False Alarm Filter | H.265 | WDR | 0.005Lux | ICR D/N | IP67 | Vandal-proof |

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.

Wide Dynamic Range

The camera achieves vivid images, even in the most intense contrast lighting conditions, using industry-leading wide dynamic range (WDR) technology. For applications with both bright and low lighting conditions that change quickly, True WDR (120 dB) optimizes both the bright and dark areas of a scene at the same time to provide usable video.

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

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

Onvif

Technical Specification

Camera

Image Sensor	1/2.8-in. STARVIS™ CMOS
Effective Pixels	2560(H) x 1440(V), 4MP
RAM/ROM	1024 MB / 128 MB
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 at F1.6 with IR on
IR Distance	Distance up to 250.0 m (820.21 ft)
IR On/Off Control	Zoom Priority, Auto, Manual
IR LEDs	Six (6)

Lens

Focal Length	3.95 mm to 177.75 mm
Max. Aperture	F1.6 to F4.95
Angle of View	Horizontal: 1.8° to 70.3° Vertical: 1° to 37° Diagonal: 2° to 69.3°
Optical Zoom	45x
Focus Control	Auto, Manual
Close Focus Distance	100 mm to 3000 mm (3.94 in. x 118.11 in.)

DORI[1] Distance

Detect (8 ppf)	Observe (19 ppf)	Recognize (38 ppf)	Identify (76 ppf)
3176 m (10420 ft)	1271 m (4170 ft)	635 m (2083 ft)	318 m (1043 ft)

PTZ

Pan/Tilt Range	Pan: 0° to 360° endless Tilt: −20° to 90°, Auto Flip 180°
Manual Control Speed	Pan: 0.1° to 260° /s Tilt: 0.1° to 120° /s
Preset Speed	Pan: 300° /s Tilt: 200° /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, or 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), 1280 x 960, 720p (1280 x 720), D1 (704 x 480), CIF (352 x 240)
Frame Rate	Main Stream	4MP, 3MP, 1080p, 1.3MP, or 720p at 30 fps
	Sub Stream 1	D1, CIF at 30 fps
	Sub Stream 2	1080p or 720p at 30 fps

Bit Rate / Image

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, ATW, Indoor, Outdoor, Manual, Sodium Lamp, Natural, Street Lamp
Gain Control	Auto, Manual, Gain Priority, Shutter Priority, Aperture 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

Audio

Compression	G.711a, G.711Mu, G.722, G.726, G.729, MPEG2-L2

Network

Ethernet	RJ-45 (10 Base-T/100 Base-TX)
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, API
Streaming Method	Unicast / Multicast
Max. User Access	20 users
Edge Storage	NAS (Network Attached Storage) Local PC for instant recording Micro SD Card Slot, maximum 256 GB
Web Viewer	IE 10, Firefox
Management Software	Smart PSS, 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

CE	EN 55032, EN 55024, EN 50130-4
Electromagnetic Compatibility (EMC)	FCC Part 15 Subpart B ANSI C63.4-2014

Interface

Audio	Input: One (1) Channel Output: One (1) Channel
RS485	One (1)
Alarm	Input: Seven (7) Channels Output: Two (2) Channels

Electrical

Power Supply	PoE+ (IEEE802.3at) or one of the following power inputs. Refer to the product label for specific power information: 24 VAC (±25%), 3 A 24 VDC (25%), 3 A
Power Consumption	13 W, 26 W (IR On, Heater On)

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 70° C (−40° F to +158° F), Less than 95% RH
Ingress Protection	IP67
Vandal Resistance	IK10

Construction

Casing	Metal
Dimensions	∅209.0 mm x 337.4 mm (∅8.23 in. x 13.28 in.)
Net Weight	5.90 kg (13.01 lb)
Gross Weight	9.60 kg (21.16 lb)

Analytics+ Functions[2]

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.
Video Structuralization	• Distinguishes between motor vehicle, non-motor vehicle, and human targets. • Optimizes images and takes a snapshot of each target.

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.
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.
Tripwire	A target crosses a user-defined line.
Intrusion	A target enters or exits a defined perimeter.
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
4MP PTZ Camera	6CE445XANR	4MP 45x Starlight IR PTZ Network Camera, WDR, IVS
Accessories, included	PFB305W	Wall Mount
	DC24V/2.5A	Power Adapter
Accessories, optional	PFA111	Mount Adapter
	PFA120	Junction Box (use with PFB303W or PFB305W)
	PFA140	Power Box (use with PFB303W or PFB305W)
	PFA150	Pole Mount (use with PFA120, PFA140, PFB303W or PFB305W)
	PFA151	Corner Mount (use with PFA120, PFA140, PFB303W or PFB305W)
	PFB300C	Ceiling Mount (use with PFA111 mount adapter)
	PFB303S	Parapet mount (use with PFA111 mount adapter)
	PFB303W	Wall Mount (use with PFA111 mount adapter)

Accessories

Included:

PFB305W
Wall Mount

DC24V/2.5A
Power Adapter

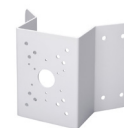Optional :

PFA111
Mount Adapter

PFA120
Junction Box

PFA140
Power Box

PFA150
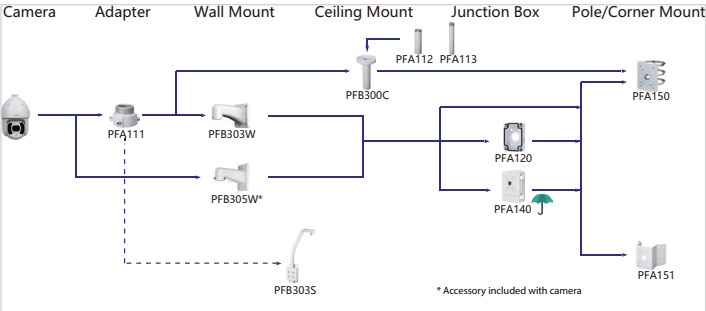Pole Mount

PFA151
Corner Mount

PFB300C
Ceiling Mount

PFB303S
Parapet Mount

2. The Perimeter Protection and the IVS functions cannot be used at the same 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.

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Mounting Diagram

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

PFA112   PFA113

PFB300C

PFA150

PFA111   PFB303W

PFA120

PFB305W*

PFA140

PFB303S

PFA151

* Accessory included with camera

Dimensions (mm/in.)

46.70 mm
(1.84 in.)

21.0 mm
(0.83 in.)

25.0 mm
(0.98 in.)

146.0 mm
(5.75 in.)

337.40 mm
(13.28 in.)

166.40 mm
(6.55 in.)

189.0 mm
(7.44 in.)

209.0 mm
(8.23 in.)

154.20 mm
(6.07 in.)

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