

# 2MP Starlight Network PTZ Camera

## 32x IR 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 2 MP Starlight IR 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 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.



- 1/2.8-in. 2 MP STARVIS™ CMOS Sensor
- 1080p 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 and Smart Motion Detection
- ArcticPro Series Camera - Operational down to  $-40^{\circ}\text{C}$  ( $-40^{\circ}\text{F}$ )
- IP66 Ingress Protection
- Intelligent Video System with Auto-tracking
- Maximum IR Distance up to 150 m (492 ft)
- Five-year Warranty\*



#### 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.

#### 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 conditions. 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.

#### 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  $-40^{\circ}\text{C}$  ( $-40^{\circ}\text{F}$ ). 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.



## Technical Specification

### Camera

Image Sensor	1/2.8-in. STARVIS™ CMOS Sensor
Effective Pixels	1920(H) x 1080(V), 2 MP
RAM/ROM	1 GB / 4 GB
Scanning System	Progressive
Electronic Shutter Speed	1/3 s to 1/30,000 s
Minimum Illumination	Color: 0.005 lux at F1.3 B/W: 0.0005 lux at F1.3 0 lux at F1.3 with IR on
IR Distance	Distance up to 150.0 m (492.13 ft)
IR On/Off Control	Zoom Priority, Manual, Smart IR
IR LEDs	Four (4)

### Lens

Focal Length	4.9 mm to 156 mm	
Max. Aperture	F1.3 to F4.4	
Angle of View	Horizontal	68.3° to 2.2°
	Vertical	38.9° to 1.3°
	Diagonal	68.3° to 1.4°
Optical Zoom	32x	
Focus Control	Auto, Semi-auto, Manual	
Close Focus Distance	100 mm to 1500 mm (0.33 ft to 4.92 ft)	

### DORI Distance<sup>1</sup>

Detect (8 ppf)	Observe (19 ppf)	Recognize (38 ppf)	Identify (76 ppf)
2092 m (6863 ft)	836 m (2742 ft)	418 m (1371 ft)	209 m (685 ft)

### PTZ

Pan/Tilt Range	Pan: 0° to 360° endless Tilt: -15° to 90°
Manual Control Speed	Pan: 0.1° to 300° /s Tilt: 0.1° to 200° /s
Preset Speed	Pan: 400° /s Tilt: 300° /s
Presets	300
PTZ Mode	5 Pattern, 8 Tour (up to 32 presets per 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, 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 30 fps
	Sub Stream 1	D1 or CIF at 30 fps
	Sub Stream 2	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	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, AAC, G.722.1, G.726, G.723, G.729, MPEG2-L2
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### Network

Ethernet	RJ-45 (10/100 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 & G, CGI
Streaming Method	Unicast / Multicast
Max. User Access	19 users (total bandwidth 48 Mbps)
Edge Storage	FTP, P2P Micro SD Card Slot, up to 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
Smart Phone	iOS, Android

### Certifications

CE	EN 55032, EN 55024, EN 50130-4
Electromagnetic Compatibility (EMC)	47 CFR FCC Part 15 Subpart B ANSI C63.4-2014

### Interface

Audio	Input: One (1) Channel Output: One (1) Channel
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 VAC, 3 A (± 25%), PoE+ (IEEE802.3at, Class 4)
Power Consumption	Basic: 13 W Maximum: 24 W with IR on

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	∅186.0 mm x 309.0 mm (∅ 7.32 in. x 12.16 in.)
Net Weight	3.90 kg (8.60 lb)
Gross Weight	7.01 kg (15.45 lb)

Analytics+ Functions

Perimeter Protection	<ul style="list-style-type: none"> <li>Detects human or vehicle violations using the following methods:                             <ul style="list-style-type: none"> <li><b>Tripwire:</b> a target crosses a defined line.</li> <li><b>Intrusion:</b> a target enters or exits a defined perimeter.</li> </ul> </li> <li>Monitors a combination of ten (10) detection methods.</li> <li>Search and retrieve video based on target type.</li> </ul>
Smart Motion Detection?	<ul style="list-style-type: none"> <li>Differentiates between and classify human and vehicle objects.</li> <li>Filters false alarms due to leaves, lights, animals, and other inconsequential objects.</li> <li>Extracts human or vehicle objects from recorded video for quick target search and retrieval.</li> </ul>
Face Detection	<ul style="list-style-type: none"> <li>Detects and captures a snapshot of a human face within a scene.</li> </ul>

Intelligence

IVS triggers an alarm and takes a defined action for the following events:

Standard Features	<ul style="list-style-type: none"> <li>Tampering with the camera.</li> <li>Error writing to an onboard Micro SD card.</li> <li>Error sending or receiving data over the network.</li> <li>Unauthorized access to the camera.</li> </ul>
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
2 MP PTZ Camera	59232XANR	2 MP 32x Starlight IR PTZ Network Camera, True WDR, Analytics+
Accessories, included	AC24V/3A	Power Adapter
	PFA110	Mount Adapter
	PFB300S	Wall Mount
Accessories, optional	PFA120	Water-proof Junction Box
	PFA140	Power Box
	PFA150	Pole Mount
	PFA151	Corner Mount
	PFB300C	Ceiling Mount
	PFB303S	Parapet Mount

Accessories

Included:



PFB300S  
Wall Mount



PFA110  
Mount Adapter



AC24V/3A  
Power Supply

Optional:



PFA140  
Power Box



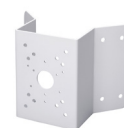
PFB300C  
Ceiling Mount



PFA120  
Junction Box



PFA150  
Pole Mount

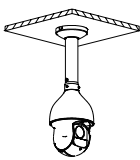
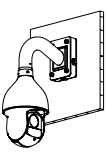
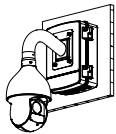

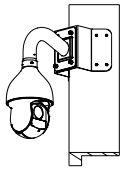
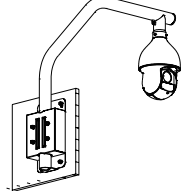


PFA151  
Corner Mount



PFB303S  
Parapet Mount

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
PFA110 + PFB300C	PFA110 + PFB300S + PFA120
	
Power Box Mount	Pole Mount
PFA110 + PFB300S + PFA140	PFA110 + PFB300S + PFA150
	
Corner Mount	Parapet Mount
PFA110 + PFB300S + PFA151	PFA110 + PFB303S
	

Dimensions (mm/in.)

