

# 4MP Enhanced Starlight Network PTZ Camera (25x)

## WizSense Analytics





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 4MP Enhanced Starlight Network PTZ camera offers a comprehensive solution for capturing long-distance video security in outdoor and low-light applications. It uses Smart H.265+ video compression to improve encoding efficiency without compromising video quality. This PTZ camera has advanced Analytics+ functions such as Perimeter Protection and Smart Motion Detection to significantly improve accuracy and reliability compared to standard intelligent features. Infrared illumination and Enhanced Starlight technology make the camera suitable for low-light situations.

### Functions

#### Enhanced 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

#### 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.

#### 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.

- 1/2.8-in STARVIS™ Progressive-scan CMOS Sensor
- Powerful 25x Optical Zoom Lens
- Smart H.265+ and Smart H.264+ Dual Codecs
- Enhanced Starlight Technology for Ultra-low Light Sensitivity
- 4MP (2560 × 1440) at 30 fps
- Maximum IR distance up to 100 m (328.08 ft)
- Predictive Focus Algorithm (PFA) Technology
- Analytics+ Functions — Perimeter Protection, Face Detection, and Smart Motion Detection
- Intelligent Video System with Auto-tracking
- ArcticPro Series Camera - Operational down to  $-40^{\circ}\text{C}$  ( $-40^{\circ}\text{F}$ )
- IP66 Protection
- Five Year Warranty\*



#### 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.

#### 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.

#### 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.

#### Environmental

Subjected to rigorous dust and water immersion tests the camera suitable for the most demanding outdoor applications. The camera carries an IP66 rating that ensures protection from total dust ingress and protection from high pressure water jets from any direction.

#### Arctic Pro (No Heater)

The Dahua ArcticPro Series of extreme-environment cameras combine temperature-tolerant components with a waterproof enclosure to ensure flawless operation in temperatures as low as  $-40^{\circ}\text{C}$  ( $-40^{\circ}\text{F}$ ) without the need for an internal heater. The lack of a heater reduces the camera's power consumption and saves operating costs. 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	
Effective Pixels	4MP (2560 × 1440)	
RAM/ROM	512 MB/128 MB	
Scanning System	Progressive	
Electronic Shutter Speed	1/1 s to 1/30000 s	
Minimum Illumination	Color	0.005 lux at F1.6
	B/W	0.0005 lux at F1.6
	IR On	0 lux
IR Distance	100 m (328.08 ft)	
IR On/Off Control	Zoom Priority, Manual, Smart IR, Off	
Illuminator Number	Six (6)	

Lens				
Focal Length	5 mm to 125 mm			
Maximum Aperture	F1.6 to F3.6			
Field of View	Pan	51.9° to 3.0°		
	Tilt	39.7° to 2.2°		
	Rotation	63.1° to 3.7°		
Optical Zoom	25x			
Focus Control	Auto, Semi-automatic, Manual			
Close Focus Distance	0.5 m to 5 m (1.64 ft to 16.40 ft)			
Iris Control	Auto, Manual, Fixed			
DORI <sup>1</sup> Distance	Detect	Observe	Recognize	Identify
	2500 m (8202.10 ft)	987.5 m (3239.83 ft)	500 m (1640.42 ft)	250 m (820.21 ft)

Pan/Tilt/Zoom		
Pan/Tilt Range	Pan	0° to 360° endless
	Tilt	-5° to +90°, Auto flip 180°
Manual Control Speed	Pan	0.1°/s to 240°/s
	Tilt	0.1°/s to 160°/s
Preset Speed	Pan	240°/s
	Tilt	160°/s
Presets	300	
PTZ Mode	5 Patterns, 8 Tours (Up to 32 Presets per Tour), 5 Scans	
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	

Video		
Video Compression	H.264H, H.264B, Smart H.264+, Smart H.265+, H.264, H.265, MJPEG(Sub Stream)	
Streaming Capability	Three (3) Streams	
Resolution	4MP (2560 × 1440), 3MP (2304 × 1296), 1080P (1920 × 1080), 1.3MP (1280 × 960), 720P (1280 × 720), D1 (704 × 480), VGA (640 × 480), CIF(352 × 288)	
Frame Rate	Main Stream	4MP/3MP/1080p/1.3MP/720p at 1 to 30 fps
	Sub Stream 1	D1/VGA/CIF at 1 to 30 fps
	Sub Stream 2	720p/CIF at 1 to 30 fps
Bit Rate Control	CBR/VBR	
Bit Rate	H.264	2816 kbps to 3056 kbps
	H.265	1024 kbps to 7936 kbps
Day/Night	Auto (ICR), Color, B/W	
Backlight Compensation	BLC, HLC, True WDR (120 dB)	
White Balance	Auto, Iris Priority, Shutter Priority, Gain Priority, Manual	
Gain Control	Auto, Manual	

Noise Reduction	2DNR, 3DNR
Advanced Features	Electronic Image Stabilization (EIS), Electronic Defog
Digital Zoom	16x
Image Rotation	180°
Privacy Masking	Up to 24 areas with up to 8 areas in the same view
S/N	≥ 55 dB
Motion Detection	Supported
Region of Interest (RoI)	Supported (8 Regions)

Audio	
Compression	G.711a, G.711Mu, G.726, MPEG2-Layer2, G722.1, PCM, AAC

Network	
Ethernet	RJ-45 (10/100 Base-T)
Protocol	TCP, FTP, RTMP, IPv6, Bonjour, IPv4, DNS, RTCP, PPPoE, NTP, RTP, 802.1x, HTTPS, SNMP, TCP/IP, DDNS, UPnP, NFS, ICMP, UDP, IGMP, IP Filter, HTTP, SSL, DHCP, SMTP, SNMPv1/v2c/v3(MIB-2), Qos, RTSP, ARP
Interoperability	CGI, SDK, ONVIF (Profile S, G, T), P2P
Streaming Method	Unicast/Multicast
Maximum User Access	20 (Total Bandwidth: 64 Mbps)
Edge Storage	MicroSD Card (Max 64 GB), FTP, SFTP, NAS
Browser	Edge, Chrome (Version 86 or later)
Management Software	DSS, DMSS, Smart PSS
Mobile Client	iOS, Android

Certification	
CE	EN55032/EN55024/EN50130-4
Electromagnetic Compatibility (EMC)	Part 15 Subpart B, ANSI C63.4-2014

Interface		
Audio	Input	One (1) Channel (LINE IN, bare wire)
	Output	One (1) Channel (LINE OUT, bare wire)
Alarm	Input	Two (2) Channel
	Output	One (1) Channel
Alarm Linkage	Capture, Preset, Tour, Pattern, Recordings On Sd Card, Alarm Digital Input, Send Email, Wake	
Alarm Event	Motion/Tampering Detection, Audio Detection, Network Disconnection Detection, IP Conflict Detection, Memory Card State Detection, Memory Space Detection, Power Exception Detection	

Electrical		
Power Supply	12 VDC/2 A ± 10% (included), PoE+ (802.3at)	
Power Consumption	Basic	9.5 W
	Maximum	21.5 W (Illuminator + Fan + PTZ)

Environmental	
Operating Temperature	-40 °C to +65 °C (-40 °F to +149 °F)
Operating Humidity	≤ 95%
Storage Temperature	-40 °C to +65 °C (-40 °F to +149 °F)
Storage Humidity	≤ 95%
Protection	IP66
Surge Protection	TVS 6000 V

Construction	
Product Dimensions	168.0 mm × Φ171.1 mm (6.61" × Φ6.74")
Net Weight	2.5 kg (5.51 lb)
Gross Weight	3.2 kg (7.05 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> </ul>
Smart Motion Detection	<ul style="list-style-type: none"> <li>Differentiates between and classifies 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>

## Intelligent Video System

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	
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.
Fast Moving	Target exceeds a set speed when exiting a defined area
Parking Detection	Vehicle remains in a defined area without motion for a set period of time.
Crowd Gathering	Specified number of people remain inside a defined area for a set time.
Vehicle/Human Alarm Classification	Detects human or vehicle violations using Tripwire or Intrusion detection methods.

## Ordering Information

Type	Part Number	Description
Camera	4A425DBNR	4MP 25x Starlight IR WizSense Network PTZ Camera
Accessories (Included)	DH-PFM320D-US	12 VDC, 2 A Power Adapter
Accessories (Optional)	PFA101	Mount Adapter
	PFB303W	Wall Mount Bracket
	PFB300C	Ceiling Mount Bracket
	PFA150	Pole Mount Bracket
	PFA151	Corner Mount Bracket
	PFB303S	Parapet Mount Bracket
	DHI-TF-P100 Series	MicroSD Memory Card

## Accessories

Included:



DH-PFM320D-US  
12 VDC, 2 A Power Adapter

Optional:



PFA101  
Mount Adapter



PFB303W  
Wall Mount Bracket



PFB300C  
Ceiling Mount Bracket



PFA150  
Pole Mount Bracket



PFA151  
Corner Mount Bracket



PFB303S  
Parapet Mount Bracket



DHI-TF-P100 Series  
MicroSD Memory Card

For all possible accessory combinations for this camera, please scan or click the QR code below to go to our accessory selector.



## Installation

Ceiling Mount	Ceiling Mount	Wall Mount
No Accessory	PFB300C	PFB303W
Pole Mount (Vertical)	Corner Mount	Parapet Mount
PFB150 + PFB303W	PFA151 + PFB303W	PFB303S

## Dimensions

mm [in.]

