Dahua TECHNOLOGY

4MP Starlight Network Eyeball Camera
True Wide Dynamic Network Camera with Smart Motion Detection

- 1/3 in. 4 MP Progressive-scan CMOS Sensor
- Triple-stream Encoding
- Smart H.265+ and Smart H.264+ Dual Codec
- 4 MP (2688 x 1520) at 30 fps, 2.8 mm Fixed Lens
- Starlight Technology for Low-light Applications
- Analytics+ Function – Perimeter Protection and Smart Motion Detection
- True Wide Dynamic Range (120 dB) and Day/Night IR Cut Filter
- Maximum IR LED Distance 50 m (164.04 ft)
- Built-in Microphone
- ArcticPro Series Camera - Operational down to −40° C (−40° F)
- IP67 Ingress Protection
- Five-year Warranty*

WizSense

ArcticPro

| 4Mp | SMD | Smart Codec | Starlight | Perimeter Protection | IP67 |

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.

ArcticPro
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° C (−40° 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.

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.

System Overview

The Dahua 4 MP Starlight camera offers Smart Motion Detection for improved alarm accuracy from intrusion and tripwire functions. The camera is ideal for a host of diverse applications — Starlight, True Wide Dynamic Range, and IR illumination allow the camera to operate in any lighting condition. The camera is a component of the Dahua ArcticPro series and is rated to IP67 allowing the camera to deliver high-quality and reliable video in the harshest environments.

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.
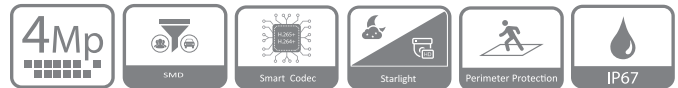
Functions

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.

Environmental
Subjected to rigorous dust and water immersion tests and certified to the IP67 Ingress Protection rating makes it suitable for demanding outdoor applications. The camera offers a wide voltage range, with a 30% input voltage tolerance, suitable for external applications with unstable power sources.

Onvif

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

Technical Specification

Camera

Image Sensor	1/3-in. 4 MP CMOS
Effective Pixels	2688(H) x 1520(V)
RAM/ROM	512 MB/128 MB
Scanning System	Progressive
Electronic Shutter Speed	Auto, Manual, 1/3 s to 1/100,000 s
Minimum Illumination	Color: 0.005 lux at F1.6 0 lux at F1.6 (IR on)
IR Distance	Up to 50.0 m (164.04 ft)
IR On/Off Control	Auto, Manual
IR LEDs	Two (2)

Lens

Lens Type	Fixed Focal
Iris Type	Fixed Aperture
Mount Type	M12
Focal Length	2.8 mm
Maximum Aperture	F1.6
Angle of View	Horizontal: 103° Vertical: 55° Diagonal: 122°
Close Focus Distance	0.90 m (2.95 ft)

DORI Distance[1]	Lens	Detect	Observe	Recognize	Identify
	2.8 mm	56.0 m (183.73 ft)	22.40 m (73.49 ft)	11.20 m (36.75 ft)	5.60 m (18.37 ft)

Installation Angle

Range	Pan: 0˚ to 360˚ Tilt: 0˚ to 78˚ Rotation: 0˚ to 360˚

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	4 MP (2688 x 1520), 3 MP (2304 x 1296), 1080p (1920 x 1080), 1.3 MP (1280 x 960), 720p (1280 x 720), D1 (704 x 480), VGA (640 x 480), CIF (352 x 240)
Frame Rate	Main Stream: 4 MP (2688 x 1520) at 30 fps
	Sub Stream 1: D1 (704 x 480) at 30 fps
	Sub Stream 2: 720p (1280 x 720) at 30 fps
Bit Rate Control	CBR/VBR
Bit Rate	H.264: 3 Kbps to 8192 Kbps H.265: 3 Kbps to 8192 Kbps
Day/Night	Auto (ICR), Color, B/W
BLC Mode	BLC, HLC, True WDR (120 dB), SSA

White Balance	Auto, Natural, Street Lamp, Outdoor, Manual, Regional Custom
Gain Control	Auto, Manual, Shutter Priority, Gain Priority
Noise Reduction	3D DNR
Motion Detection	Off, On (4 Zones, Rectangular)
Region of Interest	Off, On (4 Zones)
Advanced Features	Smart IR
Image Rotation	0°, 90°, 180°, 270° (supports 90°, 270° at 1920 x 1080 resolution)
Mirror	Off, On
Privacy Masking	Off, On (4 Areas, Rectangular)

Audio

Compression	G.711a, G.711Mu, AAC, G.726

Network

Ethernet	RJ-45 (10/100 Base-T)
Protocol	IPv4, IPv6, HTTP, HTTPS, TCP, UDP, ARP, RTP, RTSP, RTCP, RTMP, SMTP, FTP, SFTP, DHCP, DNS, DDNS, QoS, UPnP, NTP, Multicast, ICMP, IGMP, NFS, PPPoE, 802.1x, SNMP
Interoperability	ONVIF Profile S and G, CGI, Milestone, Genetec, P2P
Self-adaptive Scene	Support
Streaming Method	Unicast / Multicast
Maximum User Access	20 Users (total bandwidth: 64 Mbps)
Edge Storage	Network Attached Storage (NAS) FTP, SFTP, Micro SD Card Slot, maximum 256 GB
Web Viewer	IE (Version 8 and higher), Chrome, Firefox,
Management Software	Smart PSS, DSS, DMSS
Mobile Operating System	IOS, Android

Certifications

Safety	UL 60950-1 & CAN/CSA C22.2 No. 60950-1-07 EN 60950-1:2006 + A11:2009 + A1:2010 + A12:2011 + A2:2013 IEC 60950-1:2005 (Second Edition)
Electromagnetic Compatibility (EMC)	47 CFR FCC Part 15, Subpart B, Class B EN 55032:2015, Class B; EN 61000-3-2:2014; EN 61000-3-3:2013; EN 55024:2010+A1:2015; EN 55035:2017; EN 50130-4:2011+A1:2014

Interface

Audio Input	Built-in Microphone

Electrical

Power Supply	12 VDC or PoE (IEEE 802.3af, Class 0)
Power Consumption	< 7.7 W

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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.

Environmental

Operating Conditions	−40° C to +60° C (−40° F to +140° F), Less than 95% RH
Storage Conditions	−40° C to +60° C (−40° F to +140° F)
Ingress Protection	IP67

Construction

Casing	Metal
Dimensions	∅121.90 mm x 99.10 mm (4.80 in. x 3.90 in.)
Net Weight	0.48 kg (1.06 lb)
Gross Weight	0.66 kg (1.45 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.

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.

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.

Ordering Information

Type	Part Number	Description
4 MP Camera	N43AJ52	5 MP Starlight Fixed Lens Eyeball Camera with Smart Motion Detection
Accessories, optional	PFA106	Mount Adapter
	PFA130-E	Junction Box
	PFA150	Pole Mount (Use with PFA106 and PFB305W)
	PFA151	Corner Mount (Use with PFA106 and PFB305W)
	PFA152-E	Pole Mount (Use with PFB203W Wall Mount)
	PFA200G	Gang Box Adapter
	PFB203W	Wall Mount
	PFB220C	Ceiling Mount (Use with PFA106 Mount Adapter)
	PFB305W	Wall Mount (Use with PFA106 Mount Adapter)
	DH-PFM321D-US	12 VDC, 1 A Power Adapter

Accessories

Optional:

PFA106
Mount Adapter

PFA130-E
Waterproof
Junction Box

PFA151
Corner Mount

PFA152-E
Pole Mount

PFA200G
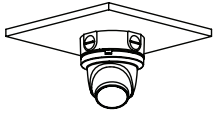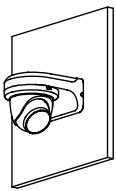Gang Box Adapter

PFB203W
Wall Mount

PFB220C
Ceiling Mount

PFB305W
Wall Mount

DH-PFM321D-US
12 VDC, 1 A
Power Adapter

Junction Mount	Wall Mount	Pole Mount
PFA130-E	PFB203W	PFB152-E+PFA203W

Dimensions

83.3 [3.28]

4-4.5 × 5.5

∅84.0 [∅3.31]

99.1 [3.9]

∅121.9 [∅4.8]

3-120°