dahua
TECHNOLOGY

4MP Enhanced Starlight Network PTZ Camera (45x)
Low-light PTZ Camera with WizSense Analytics

Wiz Sense

ArcticPro

- 1/2.8-in. 4MP Progressive-scan STARVIS™ CMOS Sensor
- Powerful 45x Optical Zoom Lens
- AI Coding, Smart H.265+ and Smart H.264+ Dual Codecs
- 4MP at 30 fps Maximum Resolution
- Analytics+ Functions — Perimeter Protection, Upgraded Smart Motion Detection+, Face Detection, Auto-tracking, PFA Technology
- Maximum IR Distance up to 150 m (492.13 ft)
- Enhanced Starlight Technology for Ultra-low Light Sensitivity
- IP67 Ingress Protection and IK10 Vandal Resistance
- Five-year Warranty*

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

Dahua's 4MP Enhanced Starlight Network PTZ Camera (45x) has powerful optical zoom and accurate pan, tilt, and zoom capabilities to provide an all-in-one solution for long distance video security of outdoor scenes. The infrared illumination and Enhanced Starlight technology makes the camera a great solution for dark, low light conditions. The camera combines a day-and -night mechanical IR cut filter to produce high quality images in variable lighting conditions during the day and True WDR for location with direct sunlight and glare.

Functions

Enhanced Starlight Technology
For challenging low-light applications, Dahua's Starlight Technology offers best-in-class light sensitivity, capturing details in low light applications. The camera uses a set of optical features to balance light throughout the scene, resulting in clear images in dark environments.

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 fewer pixels to detect an object to deliver improved accuracy and decreased false alarms due to lights, weather, trees, or animals.

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.

Upgraded Smart Motion Detection+
Upgraded Smart Motion Detection+, a component of Dahua's Analytics+ technology, improves alarm accuracy and decreases the number of false alarms. The advanced Upgraded 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. Upgraded 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.

Predictive Focus Algorithm (PFA) Technology
The camera uses innovative PFA Technology to improve zoom accuracy and 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.

ArcticPro
The Dahua ArcticPro Series of extreme-environment cameras combine temperature-tolerant components with a waterproof enclosure to en-sure 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 cam-era'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.

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 stor-age. These technologies improve the camera's ability to prevent mali-cious access and to protect data.

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

Technical Specification

Camera

Image Sensor	1/2.8-in. CMOS
Effective Pixels	2560 (H) × 1440 (V)
RAM/ROM	1 GB/4 GB
Electronic Shutter Speed	1/1 s to 1/30,000 s
Scanning System	Progressive
Minimum Illumination	Color: 0.005 lux at F1.6 B/W: 0.0005 lux at F1.6 IR Light: 0 lux
Illumination Distance	150 m (492.13 ft)
Illuminator On/Off Control	Zoom Priority, Smart IR, Manual, Off
Illuminator Number	Four (4) IR LEDs

Lens

Focal Length	3.95 mm to 177.75 mm
Maximum Aperature	F1.6 to F4.95
Field of View	Horizontal: 65.7° to 1.9° Vertical: 39.4° to 1.1° Diagonal: 73.1° to 2.1°
Optical Zoom	45x
Focus Control	Automatic, Semi-automatic, Manual
Close Focus Distance	0.1 m to 1.0 m (0.33 ft to 3.28 ft)
Iris Control	Automatic, Manual

DORI Distance[1]	Detect	Observe	Recognize	Identify
	2451.7 m (8043.64 ft)	972.9 m (3191.93 ft)	490.3 m (1608.60 ft)	245.2 m (804.46 ft)

Pan/Tilt/Zoom

Pan/Tilt Range	Pan: 0° to 360° endless Tilt: −15° to +90°, auto flip 180°
Manual Control Speed	Pan: 0.1°/s to 300°/s Tilt: 0.1°/s to 200°/s
Preset Speed	Pan: 400°/s Tilt: 300°/s
Presets	300
PTZ Mode	5 Patterns, 8 Tours (Up to 32 Presets per Tour), 5 Scans
Power-off Memory	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
PTZ Protocol	DH-SD Pelco-P/D (Automatic Recognition)

Video

Video Compression	AI Coding, H.264H, H.264B, Smart H.265+, H.264, H.265, MJPEG (Sub Stream), Smart H.264+
Streaming Capability	Three (3) Streams
Resolution	4MP (2560 × 1440), 3.1MP (2048 × 1536), 3MP (2304 × 1296), 1080p (1920 × 1080), 720p (1280 × 720), D1 (704 × 576), VGA (640 × 480), CIF (352 × 288)
Video 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: 1080p/1.3MP/720p at 1 to 30 fps
Bit Rate Control	CBR/VBR
Video Bit Rate	H.264: 96 kbps to 14848 kbps H.265: 38 kbps to 8960 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 Light, Street Lamp

Gain Control	Automatic, Manual
Noise Reduction	2DNR, 3DNR
Motion Detection	Supported
Region of Interest (RoI)	Supported
Advanced Features	Electronic Image Stabilization (EIS), Electronic Defog
Digital Zoom	16x
Image Rotation	180°
Privacy Masking	Up to 24 Areas (Up to 8 Areas in the Same View)
S/N	≥ 55 dB

Audio

Compression	PCM, G.711a, G.711Mu, G.726, MPEG2-Layer2, G.722.1, G.729, G.723, AAC

Network

Protocol	FTP, RTMP, IPv6, Bonjour, IPv4, DNS, RTCP, PPPoE, NTP, RTP, 802.1x, HTTPS, SNMP, TCP/IP, DDNS, UPnP, NFS, ICMP, UDP, IGMP, HTTP, SSL, DHCP, SMTP, Qos, RTSP, ARP
Interoperability	CGI, SDK, ONVIF (Profile S/G/T), P2P
Streaming Method	Unicast/Multicast
User/Host	20 (Total Bandwidth: 64 M)
Storage	MicroSD card (Up to 512 GB), FTP, NAS
Browser	Edge, Chrome 41 or Later, Firefox 50 or Later, Safari 10 or Later
Management Software	DSS, DMSS
Mobile Client	iOS, Android

Interface

Network	One (1) RJ-45 (10/100 Base-T) Port
Audio	Input: One (1) Channel Output: One (1) Channel
Alarm	Input: Two (2) Channel Output: One (1) Channel
Alarm Linkage	Capture, Recording, Send Email, Preset, Tour, Pattern, Alarm Digital Output
Alarm Event	Motion/Tampering Detection, Audio Detection, Network Disconnection Detection, IP Conflict Detection, Memory Card State Detection, Memory Space Detection

Electrical

Power Supply	24 VDC, 2.5 A ± 25% PoE+ (802.3at)
Power Consumption	Basic: 10 W Maximum: 22 W (Illuminator On)

Environment

Operating Temperature	−40 °C to +70 °C (−40 °F to +158 °F)
Operating Humidity	≤ 95% (RH)
Ingress Protection	IP67
Vandal Resistance	IK10
Surge Protection	TVS 6000 V

Construction

Product Dimensions	332 mm × 190 mm (13.07 in. × 7.48 in.)
Net Weight	4.7 kg (10.36 lb)
Gross Weight	8.0 kg (17.64 lb)

Certification

Certifications	CE: EN55032/EN55024/EN50130-4 FCC: Part15 subpartB,ANSI C63.4- 2014 UL: UL60950-1+CAN/CSA 22.2,No.60950-1

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
Upgraded Smart Motion Detection+	• 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.
Face Detection	Detects and captures a snapshot of a human face in a defined area within a scene

Intelligent Video System

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.
Abandoned/Missing Object	A target leaves an object is designated area, or a target removes an object from the same designated area.
Advanced Features	
Auto-track	Controls the pan/tilt/zoom actions of the camera to automatically track an object in motion and to keep it in the scene.
Facial Detection	Detects and captures a snapshot of a human face in a defined area within a scene.

Ordering Information

Type	Part Number	Description
Camera	5A445GBNR	4MP 45x Starlight IR WizSense Network PTZ Camera
Accessories (Included)	PFB305W	Wall Mount Bracket
	DH-PFM321D-US	12 VDC, 1 A Power Adapter
Accessories (Optional)	PFA111	Mount Adapter
	PFA120	Waterproof Junction Box
	PFB300C	Ceiling Mount Bracket
	PFA150	Pole Mount Bracket
	PFA151	Corner Mount Bracket
	PFB301C	Ceiling Mount Bracket

Accessories

Included:

PFB305W
Wall Mount Bracket

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

Optional:

PFA111
Mount Adapter

PFA120
Waterproof Junction Box

PFB300C
Ceiling Mount Bracket

PFA150
Pole Mount Bracket

PFA151
Corner Mount Bracket

PFB301C
Ceiling Mount Bracket

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

Installation

Wall Mount	Ceiling Mount	Ceiling Mount
PFB305W+PFA120	PFA111+PFB300C	PFA111+PFB301C
Pole Mount(Vertical)	Corner Mount	Pole Mount(Horizontal)
PFB305W+PFA150	PFB305W+PFA151	PFA111+PFB300C+PFA150

Dimensions

mm [in.]

Φ46.8 [Φ1.84]

331.9 [13.07]

Φ190.4 [Φ7.50]

SR77.0 [SR3.03]