alhua TECHNOLOGY

4MP TiOC Network PTZ Camera
25x Starlight with Analytics+

Wiz Sense

ArcticPro

- 1/2.8-in. 4MP STARVIS™ CMOS Sensor
- 4MP (2560 x 1440) at 30 fps Maximum Resolution
- Smart H.265+ and Smart H.264+ Dual Codec
- Powerful 25x Optical Zoom
- Starlight Technology for Ultra-low Light Sensitivity
- True Wide Dynamic Range (120 dB)
- Analytics+ Function – Perimeter Protection, Smart Motion Detection+
- Predictive Focus Analysis (PFA) Technology
- ArcticPro Series Camera - Operational down to –40° C (–40° F)
- IP66 Ingress Protection
- Auto-tracking
- Dual Smart Illumination — IR and White Light
- Active Alarm with Red/Blue Lights and Siren or Voice Prompt
- Five-year Warranty*

4Mp	Starlight	Perimeter Protection	Video Metadata	Face Detection	IP66

System Overview

The 4MP TiOC Network PTZ camera features a 1/2.8-in. STARVIS™ CMOS imager with a 25x optical zoom len and provides an all -in-one solution for capturing long-distance outdoor video. The camera uses Smart H.265+ and Smart H.264+ video compression 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.

As a Dahua Three-in-One Camera (TiOC), the 4MP TiOC Network PTZ camera offers multiple features working in tandem to assist with deterrence and low-light detection while delivering high-resolution video images. The camera also features Perimeter Protection and Smart Motion Detection that offer accurate analytics. The camera is ideal for a host of diverse applications —Enhanced Starlight Technology, True Wide Dynamic Range, and Smart Dual illuminators allow the camera to operate in any lighting condition and the IP67 rating makes the camera suitable for the harshest environments.

Functions

Active Alarm
The camera features an active alarm to respond automatically to a trigger. The configurable automatic responses include activation of red and blue lights and the broadcast of a built-in message or siren to stop an incident before it happens.

Smart Illuminators
The camera offers both IR and white-light illuminators and intelligently employs each depending on the situation. Typically, the camera enters the IR mode as ambient light decreases. When the camera detects a person entering the monitoring area, it activates the white-light illuminator to capture full-color details. Once the person leaves the area, the camera switches back to IR illumination.

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.

Face Detection
The camera detects and captures a snapshot of human face in a defined area within a scene. This technology supports detecting, tracking, capturing and selecting the best face image, and then outputs a face snapshot.

Predictive Focus Analysis 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 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.

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.

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

Technical Specification

Camera

Image Sensor	1/2.8-in. STARVIS™ CMOS Sensor
Effective Pixels	2560(H) x 1440(V), 4MP
RAM/ROM	1 GB / 4 GB
Electronic Shutter Speed	1/1 s to 1/30,000 s
Minimum Illumination	Color: 0.005 Lux @ F1.6 B/W: 0.0005 Lux @ F1.6 IR: 0 lux
Illumination Distance	150 m (492.13 ft) (IR) 50 m (164.04 ft) (White Light, Smart Illumination)
Illuminators	Two (2) IR Lights Two (2) Dual Light Fusions Two (2) White LED Lights

Lens

Focal Length		4.8 mm–120 mm
Maximum Aperture		F1.6–F3.5
Angle of View	Horizontal	55.8° to 2.9°
	Vertical	31.6° to 1.6°
	Diagonal	63.7° to 3.3°
Optical Zoom		25x
Focus Control		Automatic, Semiautomatic, Manual
Iris Type		Fixed
Close Focus Distance		0.8 m–5.0 m (2.62 ft–16.40 ft)

	Detect	Observe	Recognize	Identify
DORI[1] Distance	1,655 m (5,429.79 ft)	653 m (2,142.39 ft)	331 m (1,085.96 ft)	165 m (541.34 ft)

PTZ

Pan/Tilt Range	Pan: 0° to 360° endless Tilt: −20° to +90° Auto flip 180°
Manual Control Speed	Pan: 0.1°/s–160°/s Tilt: 0.1°/s–60°/s
Preset Speed	Pan: 240°/s Tilt: 150°/s
Presets	300
PTZ Mode	5 Patterns, 5 Scans, 8 Tour (Up to 32 Presets/Tour)
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.264B, H.264H, H.264M, MJPEG (sub stream only)
Streaming Capability		Three (3) Streams
Resolution		4MP (2560 x 1440), 3MP (2048 x 1536), 1080p (1920 x 1080), 1.3MP (1280 x 960), 720p (1280 x 720), D1 (704 x 480), VGA (640 x 480), CIF (352 x 240)
Frame Rate	Main Stream	4MP/3MP/1080p/1.3MP/720p at 1–30 fps
	Sub Stream 1	D1/VGA/CIF at 1–30 fps
	Sub Stream 2	1080p/1.3M/720p at 1–8 fps

Bit Rate Control	CBR, VBR
Bit Rate	H264: 2816 kbps–8192 kbps H265: 1024 kbps–7936 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, Aperture Priority, Iris Priority, Gain Priority, Shutter Priority, Manual
Noise Reduction	2D/3D
Advanced Features	Motion Detection, Region of Interest, Electronic Image Stabilization (EIS), Electric Defog
Digital Zoom	16x
Flip	180°
Privacy Masking	Up to 24 Areas (Up to 8 areas in Same View), Multiple Colors and Mosaic Blocks
S/N Ratio	≥ 55 dB

Audio

Input/Output	Input: One (1) Channel (LINE IN, Bare Wire) Output: One (1) Channel (LINE OUT, Bare Wire, Built-in Speaker (Mutually Exclusive))
Compression	G.711a, G.711Mu, G.726, G722.1, G.729, MPEG2-Layer2, G723, PCM

Network

Ethernet	RJ-45 (10/100 Base-T)
Protocol	HTTP, HTTPS, TCP/IP, IPv4, RTSP, UDP, SMTP, NTP, DHCP, DNS, DDNS, IPv6, 802.1x, SSL, QoS, FTP, UPnP, ICMP, SNMP, SNMP v1/v2c/v3 (MIB-2), IGMP, ARP, RTCP, RTP, PPPoE, IP Filter, RTMP, Bonjour, TCP, SMB, NFS
Interoperability	ONVIF (Profile S&G&T)
Maximum User Access	20 Users (Total Bandwidth: 64 Mbps)
Edge Storage	FTP, MicroSD Card (256 GB), NAS
Web Viewer	IE 7 or Later Chrome 42 or Earlier Firefox 52 or Earlier Safari
Management Software	DSS, DMSS
Mobile Operating System	Android, iOS

Certifications

CE	EN55032/EN55024/EN50130-4
FCC	Part15 Subpart B, ANSI C63.4-2014

Alarm

Input/Output	Input: Two (2) Channels (Digital Input (0–5 VDC)) Output: One (1) Channel
Linkage	Capture, Preset, Tour, Pattern, Recording, Alarm Digital Input, Send Email
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%) (Included) PoE+ (802.3at)
Power Consumption	Basic: 13 W Max.: 23 W (Illuminator + Red/Blue Warning Lights + Speaker + PTZ)

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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 + 70 °C (−40 °F to + 158 °F) Less than 95% RH
Ingress Protection	IP66
Surge Protection	TVS 6000 V Lightning Proof, Surge Protection, Voltage Transient Protection

Construction

Casing	Metal
Dimensions	325.3 mm × Φ202.0 mm (12.81 in. × Φ7.95 in.)
Net Weight	4.6 kg (10.14 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.

Face Detection	• Detects and captures a snapshot of a human face within a scene.
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.

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.
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-track	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 WizSense PTZ Camera	6C3425XBPV	4MP 25x Starlight IR PTZ AI Network Camera
Accessories	DC24V/2.5A	Power Adapter
	PFB305W	Wall Mount Bracket
	PFA151	Corner Mount Bracket
	PFA111	Mount Adapter
	PFB300C	Ceiling Mount Bracket
	PFB303S	Parapet Mount Bracket
	PFA301S-E	Plane Mount Bracket
	PFA150	Pole Mount Bracket

Accessories

Included:

DC24V/2.5A
Power Adapter

PFB305W
Wall Mount

Optional:

PFA111
Mount
Adapter

PFB300C
Ceiling Mount
Bracket
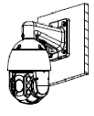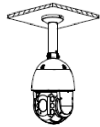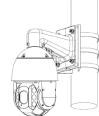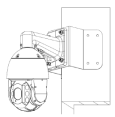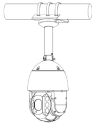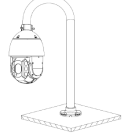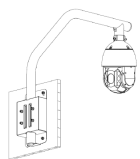

PFB303S
Parapet Mount
Bracket

PFB301S-E
Plane Mount
Bracket

PFA150
Pole Mount
Bracket

PFA151
Corner Mount
Bracket

Wall Mount	Ceiling Mount	Pole Mount(Vertical)
PFB305W	PFA111+PFB300C	PFB305W+PFA150
Corner Mount	Pole Mount(Horizontal)	Plane Mount
PFB305W+PFA151	PFA111+PFB300C+PFA150	PFB301S-E
Parapet Mount		
PFA111+PFB303S		

Dimensions

mm [in.]

φ46.8 [φ1.84]

325.0 [12.80]

300.0 [11.81]

φ202.0 [φ7.95]