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TECHNOLOGY

4MP Starlight Network PTZ
45x PTZ Laser Network Camera with Analytics+

Wiz Mind

ArcticPro

- 1/2.8-in. 4MP Progressive-scan CMOS Sensor
- Powerful 45x Optical Zoom Lens
- Smart H.265+ and Smart H.264+ Dual Codecs
- 4MP at 30 fps Maximum Resolution
- Starlight Technology for Ultra Low-light Sensitivity
- True Wide Dynamic Range (120 dB)
- Predictive Focus Algorithm
- ArcticPro Series Camera - Operational down to −40° C (−40° F)
- IP67 Ingress Protection
- Analytics+ Function – Perimeter Protection, Smart Motion Detection, and Face Detection
- Maximum IR Distance up to 550 m (1,804 ft)
- Supports Dahua Proprietary Hi-PoE Power Source
- Five-year Warranty*

H.265	WDR	0.005 Lux	ICR D/N	IP67	Hi-PoE

WizMind Series devices offer the full complement of Dahua Analytics+ functions for comprehensive, human-oriented analytic solutions. WizMind Series products deliver perimeter protection, vehicle and crowd density statistics, video metadata, and advanced people counting with heat map functionality. WizMind is ideal for complex applications with demanding requirements that need advanced analytic capabilities.

System Overview

The 4MP Laser IR PTZ Dome camera features a 1/2.8-in CMOS imager with a 45x optical zoom lens, and provides an all in one solution for capturing long-distance video security 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.

Starlight Technology
For challenging low-light applications, Dahua's Starlight Ultra-low Light Technology offers best-in-class light sensitivity, capturing 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.

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.

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.

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

Technical Specification

Camera

Image Sensor	1/2.8-in. CMOS
Effective Pixels	2560(H) x 1440(V), 4MP
RAM/ROM	1 GB / 4 GB
Scanning System	Progressive
Electronic Shutter Speed	1/1 s to 1/30,000 s
Minimum Illumination	Color: 0.005 lux at F1.6 B/W: 0.0005 lux at F1.6 0 Lux with IR on
IR Distance	Distance up to 550.0 m (1804.46 ft)
IR On/Off Control	Zoom Priority, Manual, Smart IR,Off
Illuminators	Two (2) IR Illuminators One (1) Laser Module

Lens

Focal Length	3.95 mm to 177.7 mm
Maximum Aperture	F1.6 to F4.9
Angle of View	Horizontal: 70.3° to 1.8° Vertical: 37.0° to 1.0° Diagonal: 63.9° to 2.0°
Optical Zoom	45x
Iris Control	Automatic
Focus Control	Automatic, Semi-automatic, Manual
Close Focus Distance	0.01 m to 3.0 m (0.03 ft to 9.84 ft)

DORI Distance[1]

Detect (8 ppf)	Observe (19 ppf)	Recognize (38 ppf)	Identify (76 ppf)
3554 m (11660 ft)	1421 m (4664 ft)	710 m (2332 ft)	355 m (1166 ft)

PTZ

Pan/Tilt Range	Pan: 0° to 360° endless Tilt: −20° to 90°, Auto Flip 180°
Manual Control Speed	Pan: 0.1° to 200° /s Tilt: 0.1° to 120° /s
Preset Speed	Pan: 240° /s; Tilt: 200° /s
Presets	300
PTZ Mode	5 Pattern, 8 Tour (up to 32 presets per tour), 5 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.264B, H.264, H.264H, MPEG4, 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 380), CIF (352 x 240)
Frame Rate	Main Stream	4MP at 30 fps
	Sub Stream 1	D1 or CIF at 30 fps
	Sub Stream 2	1080p or 720p at 30 fps

Bit Rate Control	CBR, VBR
Bit Rate	Main stream with default resolution: 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, Manual, Aperture Priority, Gain Priority, Shutter Priority
Gain Control	Auto, Manual
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, with 8 areas in the same view

Audio

Compression	G.711a, G.711Mu, G.726, G.722.1, G.729, G.723, MPEG2-L2

Network

Ethernet	RJ45 (10/100 Base-T)
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 and G), CGI
Streaming Method	Unicast / Multicast
Max. User Access	19 users
Edge Storage	FTP, P2P Micro SD Card Slot, maximum 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, DMSS, IVSS
Mobile Operating System	IOS, Android
Cybersecurity	Video Encryption, Firmware Encryption, Configuration Encryption, Digest, WSSE, Account Lockout, Security Logs, IP/MAC Filtering, Generating and Importing X.509 Certification, Syslog, HTTPS, 802.1x, Trusted Boot, Trusted Execution, Trusted Upgrade

Certifications

CE	EN 62368-1, EN 55032, EN 61000-3-2, EN 61000-3-3, EN 55024, EN 55035, EN 50130-4
Electromagnetic Compatibility (EMC)	47 CFR FCC Part 15 Subpart B ANSI C63.4:2014

Interface

Audio Interface	Input: One (1) Channel Output: One (1) Channel
RS485	One (1)
Alarm	Input: Seven (7) Channels Output: Two (2) Channels

Electrical

Power Supply	36 VDC, 2.23 A or via Dahua proprietary Hi-PoE power source
Power Consumption	Basic: 20 W Maximum: 36 W with IR on

1. The DORI distance is a general proximity of distance helping to pinpoint the correct camera for your needs. The DORI distance is calculated based on sensor specifications and lab test results according to EN 62676-4 which defines the criteria for Detect, Observe, Recognize and Identify.

Environmental

Operating Conditions	−40° C to 70° C (−40° F to +158° F) Less than 95% RH
Ingress Protection	IP67
Surge Protection	TVS 8000V

Construction

Casing	Metal
Dimensions	ø239.80mm x 382.0 mm (ø9.44 in. x 15.04 in.)
Net Weight	6.80 kg (14.99 lb)
Gross Weight	9.20 kg (20.28 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.
Face Detection	• Detects and captures a snapshot of a human face within a scene.

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.
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
4MP PTZ Camera	6AL445AXNR	4MP 45x Laser PTZ Network Camera
Accessories, Included	PFA111	Mount Adapter
	PFB303W	Wall Mount
	DC36V/2.23A	Power Adapter
Accessories, Optional	PFA120	Junction Box
	PFA140	Power Box
	PFA150	Pole Mount
	PFA151	Corner Mount
	PFB300C	Ceiling Mount
	PFB303S	Parapet Mount
Accessories, Optional Dahua Hi-PoE Power Source	PFT1200	Hi-PoE Midspan
	DH-LR2110-8ET-120	8-port ePoE Layer 2 Switch

Accessories

Included:

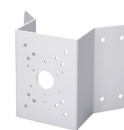| PFB303W
Wall Mount | PFA111
Mount Adapter | DC36V/2.23A
Power Adapter |

Optional :

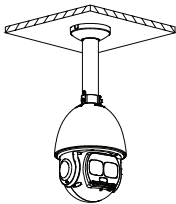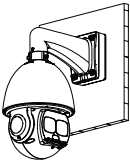| PFA140
Power Box | PFB300C
Ceiling Mount | PFA120
Junction Box |

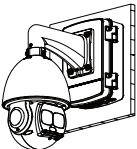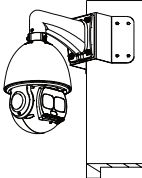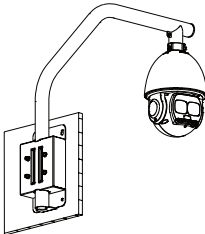

| PFA150
Pole Mount | PFA151
Corner Mount | PFB303S
Parapet Mount |

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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.

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Ceiling Mount	Junction Mount
PFA111 + PFB300C	PFA111 + PFB303W + PFA120

Power Box Mount	Pole Mount
PFA111 + PFB303W + PFA140	PFA111 + PFB303W + PFA150

Corner Mount	Parapet Mount
PFA111 + PFB303W + PFA151	PFA111+ PFB303S

Dimensions (mm/in.)

50.0 mm (1.97 in.)

174.0 mm (6.85 in.)

382.0 mm (15.04 in.)

213.60 mm (8.41 in.)

ø239.80 mm (ø9.44 in.)