DAHUA TECHNOLOGY

2MP PTZ Network Camera
40x Starlight IR PTZ Network Camera

- 1/2.8-in. 2MP STARVIS™ CMOS Sensor
- Powerful 40x Optical Zoom
- Starlight Technology for Ultra-low Light Sensitivity
- Triple-stream Encoding
- H.265 and H.264 Dual Codec
- 1080p at 60 fps Maximum Resolution
- Simultaneous SD Analog Video Output
- Ultra Wide Dynamic Range (140 dB)
- Maximum IR Distance up to 200 m (656 ft)
- ArcticPro Series Camera - Operational down to −40° C (−40° F)
- IP67 Ingress Protection and IK10 Vandal Resistance
- Intelligent Video System (IVS) Analytics with Auto-tracking
- Supports Dahua Proprietary Hi-PoE Power Source
- Five-year Warranty*

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

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 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.

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.

System Overview

The 2MP IR PTZ Dome camera features a 1/2.8-in. CMOS imager with a 40x 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 a day/ night mechanical IR cut filter and ultra-wide dynamic range to deliver crystal clear images in challenging lighting conditions.

Functions

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.

Ultra-Wide Dynamic Range
For applications with both bright and low lighting conditions that change quickly, Ultra WDR (140 dB) optimizes both the bright and dark areas of a scene at the same time to provide usable video.

Intelligent Video System (IVS)
IVS is a built-in video analytic algorithm that delivers intelligent functions to monitor a scene for Tripwire violations, intrusion detection, and abandoned or missing objects. A camera with IVS quickly and accurately responds to monitoring events in a specific area. In addition to scene analytics, the camera offers tamper detection by recognizing a dramatic scene change and generating a warning message to inspect the camera.

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

Technical Specification

Camera

Image Sensor	1/2.8-in. STARVIS™ CMOS
Effective Pixels	1920(H) x 1080(V), 2MP
Scanning System	Progressive
Electronic Shutter Speed	1/1 s to 1/30,000 s
Minimum Illumination	Color: 0.005 lux at F1.2 0 lux at F1.2 (IR on)
S/N Ratio	More than 56 dB
IR Distance	Distance up to 200 m (656.17 ft)
IR On/Off Control	Zoom Priority, Auto, Manual
IR LEDs	Ten (10)

Lens

Focal Length	4.5 mm to 180 mm
Max. Aperture	F1.2 to F3.5
Angle of View	Horizontal: 67.5°to 1.7°
Optical Zoom	40x
Focus Control	Auto, Manual
Close Focus Distance	100 mm to 1000 mm

DORI Distance[1]

Detect (8 ppf)	Observe (19 ppf)	Recognize (38 ppf)	Identify (76 ppf)
2469 m (8100 ft)	988 m (3241 ft)	494 m (1621 ft)	247 m (810 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, Auto Pan, Auto 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, or 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.264
Streaming Capability		Three (3) Streams
Resolution		1080p (1920 x 1080), 720p (1280 x 720), D1 (704 x 480), CIF (352 x 240)
Frame Rate	Main Stream	1080p at 60 fps, or 1.3 MP or 720p at 30 fps
	Sub Stream 1	D1 or CIF at 30 fps
	Sub Stream 2	1080p, 720p, or D1 at 30 fps

Bit Rate Control / Bit Rate

Bit Rate Control	CBR, VBR
Bit Rate	H.265/H.264: 256 K to 8192 Kbps MJPEG: 4096 K to 20480 Kbps
Day/Night	Auto (ICR), Color, B/W
Backlight Compensation	BLC, HLC, Ultra WDR (140 dB)
White Balance	Auto, ATW, Indoor, Outdoor, Manual
Gain Control	Auto, Manual
Noise Reduction	Ultra DNR (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

Audio

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

Network

Ethernet	RJ-45 (10 Base-T/100 Base-TX)
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, PSIA, CGI
Streaming Method	Unicast / Multicast
Maximum User Access	20 users
Edge Storage	NAS (Network Attached Storage) Local PC for Instant Recording Micro SD Card, maximum 128 GB
Web Viewer	IE 10, Firefox, Safari
Management Software	Smart PSS, DSS
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 55032, EN 55024, EN 50130-4
UL	UL: UL60950-1 + CAN/CSA C22.2, No.60950-1
Electromagnetic Compatibility (EMC)	FCC Part 15 Subpart B ANSI C63.4-2014

Interface

Video Output	One (1) BNC (1.0 Vp-p, 75 Ω)
Audio	Input: One (1) Channel Output: One (1) Channel
RS485	One (1)
Alarm	Input: Seven (7) Channels Output: Two (2) Channels

Electrical

Power Supply	24 VAC, 3 A (± 25%) or via Dahua proprietary Hi-PoE power source
Power Consumption	24 W, 38 W with IR on

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	IP67
Vandal Resistance	IK10
Lightning Protection Rating	8 kV

Construction

Casing	Metal
Dimensions	Ø239.80 mm x 382.0 mm (Ø9.44 in. x 15.04 in.)
Net Weight	6.75 kg (14.88 lb)
Gross Weight	10.10 kg (22.27 lb)

Intelligence

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.
Tripwire	A target crosses a user-defined line.
Intrusion	A target enters or exits a defined perimeter.
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	
Facial Detection	Detects and captures a snapshot of a human face in a defined area within a scene.
Heat Map	Generates a visual representation of data.
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
2MP PTZ Camera	6AE240VNI	2MP 40x Starlight PTZ Network Camera, Built-in Heater WDR, IVS
Accessories, included	PFA111	Mount Adapter
	PFB303W	Wall Mount
	AC24V/3A	Power Adapter
Accessories, optional	PFA120	Junction Box (use with PFB303W or PFB306W)
	PFA140	Power Box (use with PFB303W or PFB306W)
	PFA150	Pole Mount (use with PFA120, PFA140, PFB303W, or PFB306W)
	PFA151	Corner Mount (use with PFA120, PFA140, PFB303W, or PFB306W)
	PFB300C	Ceiling Mount (use with PFA111 mount adapter)
	PFB303S	Parapet Mount (use with PFA111 mount adapter)
	PFB306W	Wall Mount (use with PFA111 mount adapter)
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
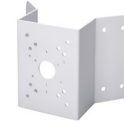
AC24V/3A
Power Adapter

Optional :

PFA140
Power Box

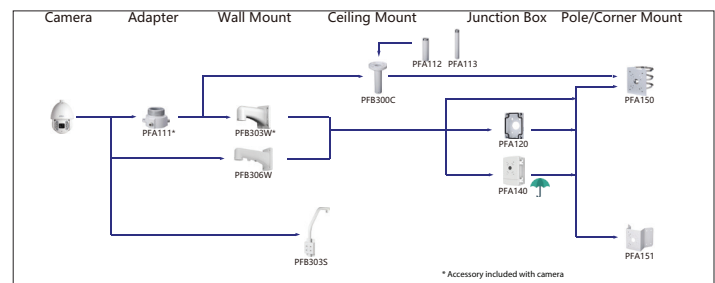PFB300C
Ceiling Mount

PFA120
Junction Box

PFA150
Pole Mount

PFA151
Corner Mount

PFB303S
Parapet Mount

Mounting Diagram

Camera   Adapter   Wall Mount   Ceiling Mount   Junction Box   Pole/Corner Mount

PFA112 PFA113
PFB300C
PFA150
PFA111*   PFB303W*
PFA120
PFB306W
PFA140
PFB303S
PFA151

* Accessory included with camera

Dimensions (mm/in.)

46.30 mm
(1.82 in.)

50.0 mm
(1.97 in.)

174.0 mm
(6.85 in.)

382.0 mm
(15.04 in.)

214.0 mm
(8.43 in.)

ø239.80 mm
(ø9.44 in.)