Dahua
TECHNOLOGY

Corrosion-resistant Network Positioning System

2 MP 40x Starlight IR Network Positioning System

- 1/2.8-in. 2 MP STARVIS™ CMOS
- Powerful 40x Optical Zoom
- Starlight Technology for Low Light Sensitivity
- Predictive Focus Algorithm
- Triple-stream Encoding
- Smart H.265+ and H.264 Dual Compression
- 1080p at 60 fps
- Ultra Wide Dynamic Range (140 dB) and Day/Night IR Cut Filter
- Designed for Extreme Temperature Environments
- Maximum IR Distance 300 m (984 ft)
- IP68 Ingress Protection, NEMA 4X Enclosure Rating
- Hi-PoE Support
- Five-year Warranty*

| H.265 | WDR | 0.005 Lux | ICR D/N | IP68 | Hi-PoE |

System Overview

The Dahua positioning system features a powerful optical zoom lens and accurate pan/tilt/zoom performance to capture long distance video surveillance. The rugged camera is certified to the IP68 and to the NEMA 4X standards, so it can withstand harsh environments. The camera combines infrared illumination and Starlight Technology to produce crisp and clear images in low-light and no light applications.

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-light conditions that change quickly, True 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 supports face detection to quickly capture a face and upload the image to a server. The camera also offers tamper detection by recognizing a dramatic scene change and generating a warning message to inspect the camera. The built-in IVS features people counting and heat map functionality, advanced features that add business intelligence to your security system.

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 target automatically.

Smart Wiper

The camera uses Dahua smart wiper technology and a built-in rain sensor to automatically start and stop the wiper depending on the weather. This technology ensures optimal surveillance performance in any weather and without the need to manually start the wiper.

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.

Environmental

With a built-in heater and a temperature range of −50 °C to +70 °C (−58 °F to +158 °F), the camera is designed for extreme temperature environments. Subjected and certified to rigorous dust and water immersion tests, the IP68 rating makes it suitable for demanding outdoor applications.

Protection

The camera allows for ±25% input voltage tolerance, suitable for the most unstable conditions for outdoor applications. Its 8KV lightning rating provides effective protection for both the camera and its structure against lightning.

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*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), 2 MP
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 55 dB
IR Distance	Up to 300.0 m (984.25 ft)
IR On/Off Control	Auto, Manual
IR LEDs	Eight (8)

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 (3.94 in. x 39.37 in.)

DORI Distance[1]

Detect	Observe	Recognize	Identify
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: 0° to 360° endless Effective Tilt Angle: −55° to 223° Auto Flip: 180°
Manual Control Speed	Pan: 0.1° to 120° /s; Tilt: 0.1° to 60° /s
Preset Speed	Pan: 120° /s; Tilt: 60° /s
Presets	300
PTZ Mode	5 Patterns, 8 Tours, Auto Pan, Auto Scan
Speed Setup	Proportional Pan/Tilt Speed to Zoom Ratio
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.264
Streaming Capability	Three (3) Streams
Resolution	1080p (1920 x 1080), 1.3 MP (1280 x 960), 720p (1280 x 720), D1 (704 x 480), CIF (352 x 240)
Frame Rate	Main Stream: 1080p, 1.3 MP, or 720p at 60 fps
	Sub Stream 1: D1 or CIF at 30 fps
	Sub Stream 2: 1080p, 1.3 MP, or 720p at 30 fps
Bit Rate Control	CBR/VBR
Bit Rate	H.265/H.264: 256 K to 8192 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, Smart Wiper
Digital Zoom	16x
Flip	180°
Privacy Masking	Up to 24 areas

Audio

Compression	G.711a. G.711mu, PCM, G.726, AAC, G722.1, G.729, MPEG2-Layer2

Network

Ethernet	RJ-45 (100 Base-TX/1000 Base-T)
Protocol	IIPv4/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	Network Attached Storage (NAS), Local PC for Instant Recording, Micro SD Card Slot, maximum 128 GB
Web Viewer	IE, Chrome, Firefox, Safari
Management Software	SmartPSS, DSS
Mobile Operating System	IOS, Android

Certifications

Safety	UL 60950-1 + CAN/CSA C22.2, No.60950-1
Electromagnetic Compatibility (EMC)	EN55032, EN55024, EN50130-4 FCC Part 15 Subpart B ANSI C63.4- 2014

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.

Interface

Video	One Port, BNC (1 Vp-p, 75 Ω)
Audio	Three-pole External Cable: Input: One (1) Channel (White cable) Output: One (1) Channel (Red cable)
RS485	One (1) Port
Alarm	Input: Seven (7) Channels Output: Two (2) Channels

Electrical

Power Supply	24 VAC, 5 A (±25%) or Hi-PoE
Power Consumption	35 W, 60 W with IR and Heater on

Environmental

Operating Temperature	24 VAC	−50° C to 70° C (−58° F to +158° F), Less than 95% RH
	Hi-PoE	−40° C to 70° C (−40° F to +158° F), Less than 95% RH
Ingress Protection		IP68
Enclosure Rating		NEMA 4X

Construction

Casing	Metal
Dimensions	234.0 mm x 205.0 mm x 405.50 mm (9.21 in. x 8.07 in. x 15.96 in.)
Net Weight	9.80 kg (21.61 lb)
Gross Weight	15.50 kg (34.17 lb)

Intelligence

IVS triggers an alarm and takes a defined action for the following events:

Standard Features	• Tampering with the camera. • Camera loses or changes focus drastically. • 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
2 MP Positioning System	DH-PTZ19240VN-IRB-N	2 MP 40x Starlight IR Network Positioning System, Ultra WDR, Side Outlets
Accessory, included	AC24V/5A	Power Adapter
Accessories, optional	DH-PFB731W	Wall Mount
	DH-PFA120A	Junction Box

Accessories

Included:

AC24V/5A
Power Adapter

Optional :

DH-PFB731W
Wall Mount

PFA120A
Junction Box

Dimensions (mm/in.)

234.0 mm
(9.21 in.)

405.50 mm
(15.96 in.)

205.0 mm
(8.07 in.)

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