4MP ePoE Starlight+ Network Bullet Camera (Vari-focal)

Ultra Wide Dynamic Range Vari-focal with Analytics+

- 1/1.8-in. 4MP Progressive-scan CMOS Sensor
- Five-stream Encoding
- Smart H.265+ and Smart H.264+ Dual Codec
- 4MP (2688 x 1520) at 60 fps Maximum Resolution
- 2.7 mm to 12 mm P-iris Motorized Vari-focal Lens
- Starlight+ Technolgy for Low-light Applications
- Enhanced Power and Data Transmission Distances (ePoE)
- Analytics+ Functions — People Counting, Face Detection+, PPE Detection, Heat Map, Privacy Protection, Perimeter Protection
- Ultra Wide Dynamic Range (140 dB) and Day/Night IR Cut Filter
- 12 VDC Power Output (maximum current: 165 mA)
- ArcticPro Series Camera - Operational down to –40° C (–40° F)
- IP67 Ingress Protection and IK10 Vandal Resistance
- Five-year Warranty*

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 analytics, 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 Dahua 4MP ePoE Starlight+ Network Bullet Camera (Vari-focal) performs complex real-time Analytics+ functions such as People Counting, Face Detection+, PPE Detection, Heat Map, Privacy Protection and Perimeter Protection. The Dahua Analytics+ algorithms significantly improve accuracy and reliability as compared to standard intelligent features. With its Ultra Wide Dynamic Range, Starlight+ and Smart IR technologies, and IP67 and IK10 ratings, the camera can operate in any lighting condition and in the harshest environments.

Functions

AI-Powered Image

With AI ISP technology, the camera is able to easily adapt to scenes, producing high quality images that reveal the fine details of targets. It is also equipped with Time-Division Exposure technology, which can make the target snapshot clearer.

People Counting

The camera uses complex real-time people counting algorithms to deliver accurate flow statistics from two distinct people counting functions, Line Crossing and Regional. The line crossing function counts the number of people crossing a defined line, and the regional function counts the number of people in a distinct, user-defined area. People counting is ideal for measuring the number of customers entering or exiting a location and to monitor groups of people in a distinct location.

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.

PPE Detection

The camera supports the real-time detection of the wearing state of the personnel in the area, and supports the attribute detection of hats (includ-ing safety helmets), masks, reflective vests, gloves, boots, and overalls.

Privacy Protection

Privacy Protection technology, based on a variety of Analytics+ intelligent algorithms such as People Counting, PPE Detection and IVS, realizes efficient real-time mosaic of human body.

Face Detection+

Face Detection+ technology identifies, tracks, and captures a human face in a digital image and then selects the best image and outputs a snapshot of the face. This technology identifies key facial features and obtains the contours of detected faces.

Heat Map

The camera uses Intelligent Analysis to track and store daily, weekly, monthly, and yearly people flow through a defined scene and produces a configurable report. This data is used to produce a Heat Map, a two-dimensional representation of data that provides an immediate visual summary of activity.

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.

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 applications. The camera uses a set of optical features to balance light throughout the scene, resulting in clear images in dark environments.

Enhanced Power over Ethernet (ePoE) Technology

Dahua's innovative ePoE technology offers a plug-and-play solution to transmit power and data over long distances via Ethernet or coaxial cables, reducing installation time and saving money. ePoE technology encompasses pure IP systems where a single CAT5E cable can carry signals up to 800 m (2624 ft), and IP/Analog hybrid systems where the technology leverages existing analog infrastructure to transmit signals up to 1000 m (3281 ft) over RG59 coaxial cable. This seamless technology offers an effective solution for transmitting over long distances and for upgrading legacy analog system to the latest HD technology.

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 a dvanced features in extremely cold environments, the Dahua ArcticPro S eries offers a camera to satisfy the most demanding requirements.

Environmental

The camera complies with the IK10 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.). 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		1/1.8-in. 4MP CMOS
Effective Pixels		2688 (H) x 1520 (V)
RAM/ROM		4 GB/8 GB
Scanning System		Progressive
Electronic Shutter Speed		1/3 s to 1/100,000 s
Minimum Illumination	Color (30 IRE)	0.0005 lux at F1.2
	B/W (30 IRE)	0.0002 lux at F1.2
	IR On	0 lux at F1.2
IR Distance		Up to 60.0 m (196.85 ft)
IR On/Off Control		Auto
IR LEDs		Four (4)

Lens

Lens Type		Motorized Vari-focal
Lens Mount		M16
Focal Length		2.7 mm to 12 mm
Maximum Aperature		F1.2
Angle of View	Horizontal	107° to 48°
	Vertical	55° to 27°
	Diagonal	130° to 56°
Iris Control		Auto
Iris Control Type		P-iris
Close Focus Distance		1.8 m (5.91 ft)

DORI Distance[1]	Lens	Detect (8 ppf)	Observe (19 ppf)	Recognize (38 ppf)	Identify (76 ppf)
	Wide	60.4 m (198.16 ft)	24.2 m (79.39 ft)	12.1 m (39.70 ft)	6.0 m (19.69 ft)
	Telephoto	128.7 m (422.24 ft)	51.5 m (168.96 ft)	25.7 m (84.32 ft)	12.9 m (42.32 ft)

Installation

Range	Pan	0˚ to 360˚
	Tilt	0˚ to 90˚
	Rotation	0˚ to 360˚

Installation

Compression		Smart H.265+, H.265, Smart H.264+, H.264, H.264B, H.264H, MJPEG (sub stream only)
Streaming Capabilities		Five (5) Streams
Resolution		4MP (2688 x 1520), 3MP (2304 x 1296), 1080p (1920 x 1080), 1.3MP (1280 x 960), 720p (1280 x 720), D1 (704 x 480), CIF (352 x 240)
Frame Rate	Main Stream	4 MP (2688 x 1520) at 60 fps
	Sub Stream 1	704 x 480 at 30fps
	Sub Stream 2	1080p (1920 x 1080) at 30 fps
	Sub Stream 3	1080p (1920 x 1080) at 30 fps
	Sub Stream 4	704 x 480 at 30 fps
Bit Rate Control		CBR/VBR
Bit Rate	H.264	32 Kbps to 10240 Kbps
	H.265	12 Kbps to 10240 Kbps
Day/Night		Auto (ICR), Color, B/W
BLC Mode		BLC, HLC, Ultra WDR (140 dB), SSA
White Balance		Auto, Natural, Street Lamp, Outdoor, Manual, Regional Custom
Gain Control		Auto, Gain Priority, Shutter Priority, Manual
Noise Reduction		3D DNR
Motion Detection		Off, On (4 Zones, Rectangular)
Region of Interest		Off, On (4 Zones)
Flip		0°, 90°, 180°, 270°
Mirror		Off, On
Privacy Masking		Off, On (8 Areas, Rectangular)
Advanced Features		Electronic Image Stabilization (EIS), Smart IR, Defog

Audio

Compression	G.711a, G.711Mu, G.726, G.723, PCM, AAC

Network

Ethernet	RJ-45 (10/100/1000 Base-T)
Protocol	HTTP, HTTPS, TCP, ARP, RTSP, RTP, UDP, SMTP, FTP, DHCP, DNS, DDNS, PPPOE, IPv4/v6, QoS, UPnP, NTP, ICMP, IGMP, 802.1x
Interoperability	ONVIF (Profile S, T and G), CGI, P2P, RTMP
Auto Register	Support
Maximum User Access	20 Users
Edge Storage	Network Attached Storage (NAS), FTP, SFTP, Micro SD Slot (Max. 512 GB)
Web Viewer	Microsoft Edge (Version 11 and higher), Chrome (Version 88.0.4324.190 and higher), Firefox (Version 47.0.2 or higher)
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

Safety	UL62368-1, CAN/CSA C22.2 No. 62368-1-14
Electromagnetic Compatibility (EMC)	FCC CFR 47 Part 15 Subpart B Electromagnetic Compatibility Directive 2014/30/EU

Interface

Audio	Input	One (1) Channel
	Output	One (1) Channel
Alarm	Input	Three (3) Channels (5 mA, 3 to 5 VDC)
	Output	Two (2) Channels 1000 mA, 30 VDC 500 mA, 50 VAC
RS-485		One (1) Port (Bitrate: 1200 bps to 115200 bps)
BNC		One (1) Channel (CVBS Output)

Interface

Power Supply		12 VDC, 24 VAC, PoE+ or PoE (IEEE 802.3af, Class 0)
Power Consumption	Basic	7.3 W (12 VDC); 10.2 Basic W (24 VAC); 10.6 W (PoE)
	Maximum (ICR Switch + IR Intensity)	18.2 W (12 VDC); 24.2 W (24 VAC); 24.3 W (PoE)
	Heating	3 W (12 VDC); 4.6 W (24 VAC); 5.47 W (PoE)
Power Output		12 VDC, 165 mA Maximum Current

Environmental

Operating Temperature	–40° C to +65° C (–40° F to +149° F), ≤ 95% RH
Storage Temperature	–40° C to +65° C (–40° F to +149° F), ≤ 95% RH
Ingress Protection	IP67
Vandal Resistance	IK10

Environmental

Casing	Metal and Plastic
Product Dimensions	345.6 mm x 134.2 mm x 135.1 mm (13.61 in. x 5.28 in. x 5.32 in.)
Net Weight	1.65 kg (3.64 lb)
Gross Weight	2.73 kg (6.02 lb)

Analytics+

People Counting	• Delivers accurate flow statistics from the following methods: **Line Crossing**: counts a person as they cross a threshold in a defined direction. **Region**: counts the number of people in a defined area. • Produces daily, monthly, and annual reports for both methods. • Counts people simultaneously from four (4) threshold lines and four (4) defined regions.

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
PPE Detection	Triggers alarms when the detected object matches or does not match all of the confgured atributes: hat, face mask, boots, safety vest, privacy protecton
Heat Map	Supports two-dimensional analysis, displays a visual representation of data for number of people or average wait time in a defined area over a given time.
Face Detection+	• Supports five group libraries that store up to 200,000 faces on the camera. • Captures faces, compares to stored images, and produces match statistics. • Extracts six attributes and eight expressions from a face capture. • Offers face enhancement, face exposure, and a face angle filter for clear facial images.
Privacy Protection	Generates a real-time mosaic of the human body based on a variety of Analytics+ algorithms

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	
Missing Object	An object is missing from a designated area.
Abandoned Object	An object is placed in a designated area where no object should be.
Scene Change	A person or object moves the camera to change the scene or covers the camera to obscure the sce
Fast Moving	Target exceeds a set speed when exiting a defined area
Parking Detection	Vehicle remains in a defined area without motion for a set period of time.
Crowd Gathering	Specified number of people remain inside a defined area for a set time.
Loitering Detection	Target is in motion inside a defined area longer than a specified amount of time.
Advanced Features	
Facial Detection	Detects and captures a snapshot of a human face in a defined area within a scene.

ePoE Transmission Distances

Via CAT5E/CAT6 Ethernet Cable

ePoE supply voltage 48 V
Maximum DC resistance < 10 Ω/100 m

Cable Length	Bandwidth	PoE Load Capacity	Hi-PoE Load Capacity	Working Mode
100 m (328 ft)	100 Mbps	25.5 W	53 W	IEEE/E100
200 m (656 ft)	100 Mbps	25.5 W	33 W	E100
300 m (984 ft)	100 Mbps	19 W	19 W	E100
400 m (1312 ft)	10 Mbps	17 W	17 W	E10
500 m (1640 ft)	10 Mbps	13 W	13 W	E10
800 m (2625 ft)	10 Mbps	7 W	7 W	E10

Via CAT5E/CAT6 Ethernet Cable

ePoE supply voltage 53 V
Maximum DC resistance < 10 Ω/100 m

Cable Length	Bandwidth	PoE Load Capacity	Hi-PoE Load Capacity	Working Mode
100 m (328 ft)	100 Mbps	25.5 W	53 W	IEEE/E100
200 m (656 ft)	100 Mbps	25.5 W	47 W	E100
300 m (984 ft)	100 Mbps	25.5 W	32 W	E100
400 m (1312 ft)	10 Mbps	23 W	26 W	E10
500 m (1640 ft)	10 Mbps	20 W	20 W	E10
800 m (2625 ft)	10 Mbps	13 W	13 W	E10

Via RG-59 Coaxial Cable

ePoE supply voltage 48 V
Maximum DC resistance < 5 Ω/100 m

Cable Length	Bandwidth	PoE Load Capacity	Hi-PoE Load Capacity	Working Mode
100 m (328 ft)	100 Mbps	25.5 W	50 W	IEEE/E100
200 m (656 ft)	100 Mbps	25.5 W	30 W	E100
300 m (984 ft)	100 Mbps	18 W	18 W	E100
400 m (1312 ft)	100 Mbps	15 W	15 W	E100
500 m (1640 ft)	10 Mbps	12 W	12 W	E10
800 m (2625 ft)	10 Mbps	6 W	6 W	E10
1000 m (3281 ft)	10 Mbps	5 W	5 W	E10

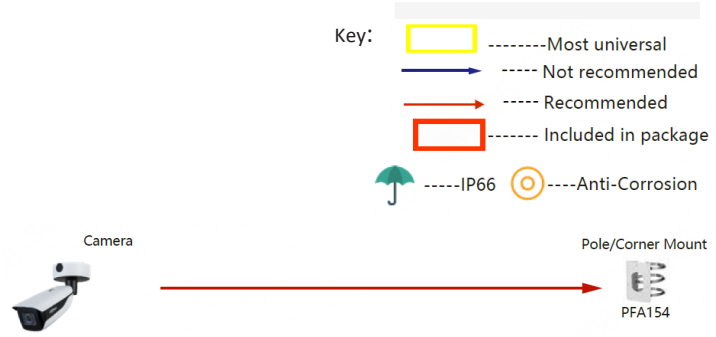
Via RG-59 Coaxial Cable

ePoE supply voltage 53 V
Maximum DC resistance < 5 Ω/100 m

Cable Length	Bandwidth	PoE Load Capacity	Hi-PoE Load Capacity	Working Mode
100 m (328 ft)	100 Mbps	25.5 W	52 W	IEEE/E100
200 m (656 ft)	100 Mbps	25.5 W	48 W	E100
300 m (984 ft)	100 Mbps	25.5 W	30 W	E100
400 m (1312 ft)	100 Mbps	20 W	23 W	E100
500 m (1640 ft)	10 Mbps	16 W	16 W	E10
800 m (2625 ft)	10 Mbps	10 W	10 W	E10
1000 m (3281 ft)	10 Mbps	8 W	8 W	E10

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.
2. The video frame rates listed are the maximum rates for each stream. The actual video rates are subjected to the total encoding capacity.

Mounting Diagram



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

Dimensions