DH-SD8A440GA-HNV

4MP 40x Starlight IR Network PTZ Camera



- 1/1.8" 4Megapixel STARVIS™ CMOS.
- 40× optical zoom.
- Starlight technology.
- IR distance up to 500 m.
- Auto-tracking.
- Perimeter protection.
- Face Detection.
- Metadata.
- SMD.
- IP67.



System Overview

Embedded with an advanced AI chip, this series of cameras provides an all-in-one solution for video surveillance of large areas. Outranking conventional cameras with its extended monitoring range, it automatically tracks targets. It also produces vivid images whether day or night, using infrared technology. It is suitable for a wide variety of scenarios, such as advanced defense areas that require high levels of control. You can also have the camera custom-made with an anti-corrosion structure and IK10.

Functions

Perimeter Protection

Automatically filters out false alarms caused by animals, rustling leaves, bright lights, and more, and uses secondary recognition during target detection to improve alarm accuracy.

Face Detection

Supports 6 attributes and 8 expressions: Gender, age, glasses, face mask, beard and expressions (anger, sadness, disgust, fear, surprise, calm, happiness, and confusion). It also supports face cutout settings: Face, and single inch photo. Three snapshot methods are also featured: Real-time snapshot, priority snapshot, and quality priority.

Smart H.265+ & Smart H.264+

With advanced scene-adaptive rate control algorithm, Dahua smart encoding technology realizes the higher encoding efficiency than H.265 and H.264, provides high-quality video, and reduces the cost of storage and transmission.

Environment (–40 °C to +70 °C, IP67)

Developed to operate in extreme conditions, Dahua camera can function in temperatures ranging from –40 °C to +70 °C (–40 °F to +158 °F) at 95% humidity. It was subjected to rigorous dust and water immersion tests, gaining its IP67 Ingress Protection certification, making it suitable for demanding outdoor applications.

Video Metadata (Vehicles)

Metadata is information on the attributes of vehicles that is extracted during monitoring. It can be used for data retrieval. Vehicle information includes plate number, plate color, type, vehicle color, sun visor, ornament, calling, seatbelt, smoking, annual inspection sticker, and more.

Technical Specification

Camera

Image Sensor	1/1.8" CMOS
Pixel	4 MP
Max. Resolution	2560 (H) × 1440 (V)
ROM	4 GB
RAM	1 GB
Electronic Shutter Speed	1/1 s–1/30,000 s
Scanning System	Progressive
Min. Illumination	Color: 0.001 lux@F1.6 B/W: 0.0001 lux@F1.6 0 lux (IR light on)
Illumination Distance	500 m (1,640.41 ft) (IR)
Illuminator On/Off Control	Zoom Prio; Manual; Auto; Off
Illuminator Number	10 (IR)
Wiper	Smart wiper

Lens

Focal Length	5.6 mm–223 mm
Max. Aperture	F1.6–F4.9
Field of View	H: 63.9°–2.1°; V: 37.3°–1.2°; D: 71.2°–2.4°
Optical Zoom	40×
Focus Control	Auto; semi-auto; manual
Close Focus Distance	1 m–5 m (3.28 ft–16.40 ft)
Iris Control	Auto

DORI Distance	Detect	Observe	Recognize	Identify
	3,034.5 m (9,955.71 ft)	1,198.6 m (3,932.41 ft)	606.9 m (1,991.14 ft)	303.4 m (995.41 ft)

*DORI (Detect, Observe, Recognize, Identify) is a standard system (EN-62676-4) for defining the ability of a person viewing the video to distinguish persons or objects within a covered area. The numbers in this table do not reflect intelligent function distances. For intelligent function distances, refer to installation and commissioning manual/project design tool.

PTZ

Pan/Tilt Range	Pan: 0° to 360° endless Tilt: –30° to +90°, auto flip 180°
Manual Control Speed	Pan: 0°/s–180°/s Tilt: 0°/s–100°/s
Preset Speed	Pan: 0°/s–180°/s Tilt: 0°/s–100°/s
Preset	300
Tour	8 (up to 32 presets per tour)
Pattern	5
Scan	5
Power-off Memory	Yes
Idle Motion	Preset; Pattern; Tour; Scan
PTZ Protocol	DH-SD Pelco-P/D (Auto recognition)

Intelligence

Video Metadata	Motor vehicle, non-motor vehicle, face, and human body detection; bounding box; optimization; capturing pictures; uploading high-quality face snapshots Motor vehicle attributes: License plate, plate color, vehicle type, vehicle color, vehicle logo, vehicle model/year, sun visor, seatbelt, smoking, calling, ornament, and annual inspection sticker
IVS (Perimeter Protection)	Tripwire; intrusion; climbing fences; loitering detection; abandoned/missing object; fast moving; parking detection; people gathering; vehicle/human alarm classification; linkage tracking
Face Detection	Supports face detection, face bounding box, optimization, capturing snapshots, uploading high-quality face snapshots, and enhancing face images. Attribute extraction is also supported, where 6 attributes and 8 expressions can be detected. Face cutout is also offered, where you can cutout one face at a time and customize the size to be a one-inch photo. The supported methods for capturing snapshots are real-time capturing, quality first, and selecting a preferred image among a group of snapshots
Auto Tracking	Yes
SMD	Yes

Video

Video Compression	Smart H.265+; H.265; Smart H.264+; H.264; H.264B; H.264H; MJPEG (Sub Stream)
Streaming Capability	3 streams
Resolution	4M (2560 × 1440); 3M (2048 × 1536); 1080p (1920 × 1080); 1.3M (1280 × 960); 720p (1280 × 720); D1 (704 × 576/704 × 480); VGA (640 × 480); CIF (352 × 288/352 × 240)
Video Frame Rate	Main stream: 4M/3M/1080p/1.3M/720p (1–25/30 fps) Sub stream 1: D1/VGA/CIF (1–25/30 fps) Sub stream 2: 1080p/1.3M/720p (1–25/30 fps)
Bit Rate Control	CBR/VBR
Video Bit Rate	H264: 96 Kbps–14,848 Kbps H265: 38 Kbps–8,960 Kbps
Day/Night	Auto (ICR)/Color/B/W
BLC	Yes
WDR	140 dB
HLC	Yes
White Balance	Auto; indoor; outdoor; tracking; manual; sodium lamp; natural light; street lamp
Gain Control	Auto; manual
Noise Reduction	2D NR; 3D NR
Motion Detection	Yes
Image Stabilization	Electronic Image Stabilization (EIS)
Region of Interest (RoI)	Yes
Defog	Electronic
Digital Zoom	16×
Image Rotation	180°

Privacy Masking	Up to 24 areas can be set, with up to 8 areas in the same view; multiple colors available
S/N Ratio	≥ 55 dB

Audio

Audio Compression	PCM; G.711a; G.711Mu; G.726; MPEG2-Layer2; G722.1; G729; G723

Network

Network Port	RJ-45 (10/100 Base-T)
Network Protocol	HTTP;HTTPS;TCP/IP;IPv4;RTSP;UDP;SMTP;NTP;DHCP;DNS;DDNS;IPv6;802.1x;SSL;Qos;FTP;UPnP;ICMP;SNMP;IGMP;ARP;RTCP;RTP;PPPoE;RTMP;Bonjour;NFS
Interoperability	ONVIF(Profile S&G&T);CGI;SDK
Streaming Method	Unicast/Multicast
User/Host	20 (total bandwidth: 64 M)
Storage	Micro SD card (512 GB); FTP/SFTP; NAS
Browser	IE 9 and later versions Chrome 42 and later versions Firefox 50 and later versions Safari 10 and later versions
Mobile Client	iOS; Android

Port

RS-485	1 (baud rate: 1,200 bps–9,600 bps)
Audio Input	1 channel (LINE IN, bare wire)
Audio Output	1 channel (LINE OUT,bare wire)
Alarm Linkage	Capture; preset; tour; pattern; recording; alarm digital input; audio; send email
Alarm Event	Motion/tampering detection; audio detection; network disconnection detection; IP conflict detection; memory card status detection; memory space detection; power exception detection
Alarm I/O	7/2
Audio I/O	1/1

Power

Power Supply	36 VDC/2.23 A ± 25%; Hi-PoE
Power Consumption	Basic: 17 W Max.: 32 W (illuminator + heater + PTZ)

Environment

Operating Temperature	–40 °C to +70 °C (–40 °F to +158 °F)
Operating Humidity	≤ 95%
Protection	IP67, TVS 8000V lightning proof; surge protection; voltage transient protection

Structure

Product Dimensions	415.9 mm × Φ262.0 mm (16.37" × Φ10.31")
Net Weight	8.5 kg (18.74 lb)
Gross Weight	13.1 kg (28.88 lb)

Ordering Information

Type	Part Number	Description
4M Camera	DH-SD8A440GA-HNV	4MP 40X Starlight IR NETWORK PTZ CAMERA
Accessories	DC36V/2.23A	Power Adapter
	PFB306W	Wall Mount Bracket
	PFB710C + PFA118	Ceiling Mount Bracket
	PFB301C + PFA118	Ceiling Mount Bracket
	PFA150 + PFB306W	Vertical Pole Mount Bracket
	PFA150 + PFB301C + PFA118	Horizontal Pole Mount Bracket

Accessories

Included:



DC36V/2.23A
Power Adapter



PFB306W
Wall Mount Bracket

Optional:



PFB710C + PFA118
Ceiling Mount
Bracket



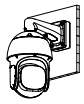
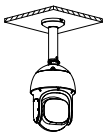
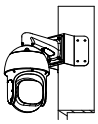
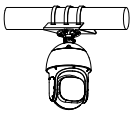
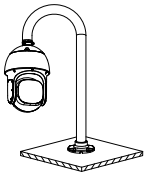
PFB301C + PFA118
Ceiling Mount
Bracket



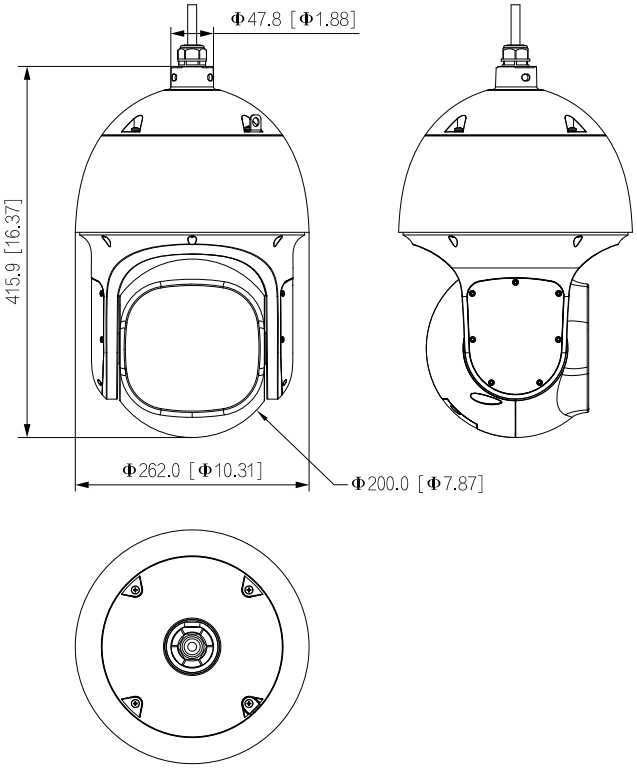
PFA150 + PFB306W
Ceiling Mount
Bracket



PFA150 + PFB301C +
PFA118
Corner mount Bracket

Wall Mount	Ceiling Mount	Ceiling Mount
PFB306W+PFA120	PFA118+PFB710C	PFA118+PFB301C
		
Pole Mount(Vertical)	**Corner Mount**	**Pole Mount(Horizontal)**
PFB306W+PFA150	PFB306W+PFA151	PFA118+PFB301C+PFA150
		
Plane Mount		
PFA118+PFB301S-E		
		

Dimensions (mm[inch])



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