DH-PTZ1A225-HNR-XA

2MP 25x Starlight IR Network WizSense Positioning System

- 1/2.8" 2Megapixel CMOS
- 25x optical zoom, and 16x digital zoom
- Starlight technology
- Max. 50/60 fps@1080P
- IR distance up to 150 m
- Auto-tracking, perimeter protection, and face detection
- SMD Plus, video metadata
- Pan: 360° endless; Tilt: –90°to 90°, auto flip 180°; no blind zone

H.265 | Metadata | WDR | ICR D/N | IP67 | PoE+

Dahua WizSense is a series of AI products and complete end-to-end solution based on deep-learning. focuses on human and vehicle, benefiting everyone with intelligent functions, simple configuration and inclusive products.

System Overview

The product is equipped with neural network processor; it supports WizSense intelligent functions to effectively improve the detection accuracy, supports people, motor vehicle and non-motor vehicle image capture, and supports perimeter protection.

Functions

Video Metadata
Supports detection of motor vehicles, non-motor vehicles, human faces and human bodies. Supports tracking, capturing pictures, and uploading high-quality snapshots.

Perimeter Protection
Automatically filters out false alarms caused by animals, rustling leaves, bright lights, etc. Enables system to act secondary recognition for the targets to improve alarm accuracy.

Face Detection
Supports 6 attributes and 8 expressions, face enhancement, and attributes extraction.

Starlight Technology
For challenging low-light applications, Dahua's Starlight Ultra-low Light Technology offers best-in-class light sensitivity, capturing color 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
PFA technology has innovatively introduced new methods of judgment to ensure the accuracy and predictability of the direction of subject distance adjustment. The result is a set of advanced focusing algorithms. PFA ensures clarity of the image throughout the process of zooming and shortens focus time. The realization of PFA technology substantially improves user experience and increases product value.

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.

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Technical Specification

Camera

Image Sensor	1/2.8" CMOS
Pixel	2MP
Max. Resolution	1920 (H) × 1080 (V)
ROM	4 GB
RAM	1 GB
Electronic Shutter Speed	1/1 s–1/30000 s
Scanning System	Progressive
Min. Illumination	Color: 0.005 Lux@F1.6 B/W: 0.0005 Lux@F1.6 0 Lux (IR light on)
Illumination Distance	150 m (492.13 ft)
Illuminator On/Off Control	Zoom Prio/Manual/Off
Illuminator Number	4 IR lights

Lens

Focal Length	4.8 mm–120 mm			
Max. Aperture	F1.6–F3.5			
Field of View	H: 61°–2.8°; V: 33.2°–1.7°; D: 67.3°–3.9°			
Optical Zoom	25x			
Focus Control	Auto/Semi-Auto/Manual			
Close Focus Distance	0.1 m–1.5 m (0.33 ft–4.92 ft)			
Iris Control	Auto			
DORI Distance	Detect	Observe	Recognize	Identify
	1655.2 m (5430.45 ft)	656.8 m (2154.86 ft)	331 m (1085.96 ft)	165.5 m (542.98 ft)

PTZ

Pan/Tilt Range	Pan: 0°–360° endless Tilt: –90° to +90° auto flip 180°
Manual Control Speed	Pan: 0.1°/s–120°/s Tilt: 0.1°/s–75°/s
Preset Speed	Pan: 160°/s; Tilt: 110°/s
Presets	300
Tour	8 (up to 32 presets per tour)
Pattern	5
Scan	5
Power-off Memory	Support
Idle Motion	Preset/Tour/Pattern/Scanning
Protocol	DH-SD Pelco-P/D (auto recognition)

Artifical Intelligence

Video Metadata	Supports detecting motor vehicles, non-motor vehicles, human faces and human bodies. Supports tracking, capturing pictures, and uploading high-quality snapshots.
Perimeter Protection	Tripwire, intrusion, abandoned object and missing object. Supports triggering alarms based on human and vehicle classification and tracking linkage.
Face Detection	Support

Video

Compression	H.264; H.265; H.264B; H.264H; MJPEG (Sub Stream); H.265+; H.264+
Streaming Capability	3 streams
Resolution	1080P (1920 × 1080); 1.3M (1280 × 960); 720P (1280 × 720); D1 (704 × 576); CIF (352 × 288)
Frame Rate	Main stream: 1080P/960P/720P (1–50/60 fps) Sub stream 1: D1/CIF (1–50/60 fps) Sub stream 2: 1080P/960P/720P/D1/CIF (1–50/60 fps)
Bit Rate Control	Variable/constant
Bit Rate	H.264: 3 Kbps–20480 Kbps H.265: 3 Kbps–20480 Kbps
Day/Night	Auto (ICR)/Color/B/W
BLC	Support
WDR	120 dB
HLC	Support
White Balance	Auto/Indoor/Outdoor/Tracking/Manual/Sodium lamp/Natural light/Street lamp
Gain Control	Auto/Manual
Noise Reduction	2D/3D
Motion Detection	Support
Region of Interest (RoI)	Support
Image Stabilization	Electronic
Defog	Electronic
Digital Zoom	16x
Flip	180°
Privacy Masking	Up to 24 areas, and up to 8 areas in the same view
S/N Ratio	≥ 55 dB

Audio

Compression	G.711A; G.711Mu; G.726; AAC; MPEG2-Layer2; G.722.1; G.729; G.723

Network

Ethernet	RJ-45 (10/100Base-T)
Protocol	IPv4; IPv6; HTTP; HTTPS; 802.1x; Qos; FTP; SMTP; UPnP; SNMP; DNS; DDNS; NTP; RTSP; RTP; TCP; UDP; IGMP; ICMP; DHCP; PPPoE; ARP; SNMPv1/v2c/v3 (MIB-2); RTCP; RTMP
Interoperability	ONVIF (Profile S/Profile G); CGI
Streaming Method	Unicast/Multicast
User/Host	20 (total bandwidth 64M)
Storage	FTP; Micro SD card (256G); NAS
Browser	IE7 and later versions Chrome 42 and earlier versions Firefox 52 and earlier versions Safari

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Management Software	Smart PSS; DSS; DMSS; Easy4ip; IVSS
Mobile Phone	iOS; Android

Certification

Certifications	CE: EN55032/EN55024/EN50130-4 FCC: Part15 subpartB, ANSI C63.4-2014

Port

Audio In	1 (LINE IN; bare wire)
Audio Out	1 (LINE OUT; bare wire)
Two-way Audio	Support
Alarm In	2 digital inputs (0–5V DC)
Alarm Out	1
Alarm Linkage	Capture; preset; tour; pattern; SD card record; trigger digital output; client electronic map; send email
Alarm Event	Motion/tampering detection; audio detection; network disconnection detection; IP conflict detection; encoder state detection; memory card state detection; memory space detection

Power

Power Supply	DC 12V/4A ± 10% PoE+ (802.3at)
Power Consumption	Basic: 14W Max: 23W (IR light on, PTZ operations)

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

Dimensions	161.0 mm × 135.3 mm × 291.5 mm (6.34" × 5.32" × 11.48")
Net Weight	3.6 kg (7.93 lb)
Gross Weight	6.4 kg (14.11 lb)

Ordering Information

Type	Model	Description
2MP WizSense Positioning System	DH-PTZ1A225-HNR-XA	2MP 25x Starlight IR Network WizSense Positioning System, WDR, PAL
	DH-PTZ1A225N-HNR-XA	2MP 25x Starlight IR Network WizSense Positioning System, WDR, NTSC
	PTZ1A225-HNR-XA	2MP 25x Starlight IR Network WizSense Positioning System, WDR, PAL
	PTZ1A225N-HNR-XA	2MP 25x Starlight IR Network WizSense Positioning System, WDR, NTSC
Accessories	DC12V/4A	Power Adapter
	PFA730	Junction
	PFB730W	Wall Mount Bracket

Accessories

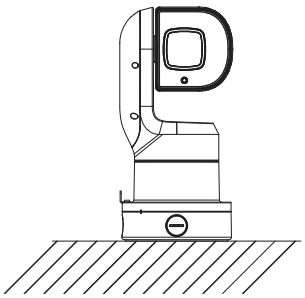
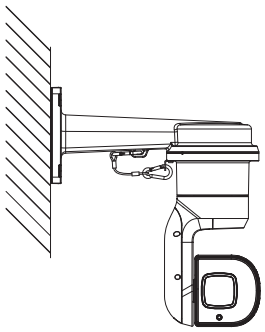
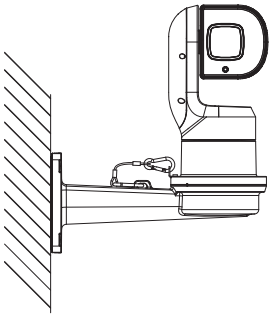
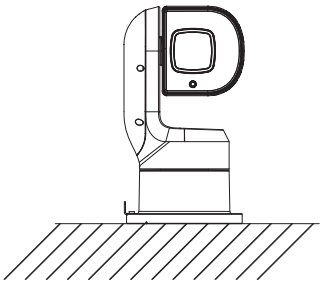
Included:

DC12V/4A
Power Adapter

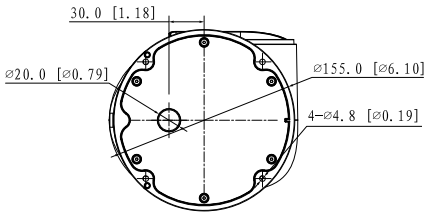
PFA730
Junction

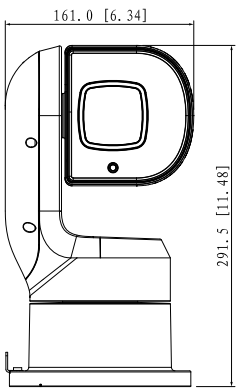
Optional:

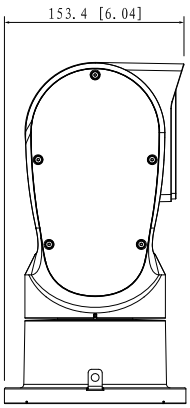
PFB730W
Wall Mount Bracket

Junction Mount	Wall Mount
PFA730	PFB730W
	
Wall Mount	**Plane Mount**
PFB730W	
	

Dimensions (mm[inch])







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