

# DH-PTZ1A225U-IRA-N

## 2MP 25x Starlight IR Network Positioning System



- 1/2.8" 2Megapixel STARVIS™ CMOS
- Powerful 25x optical zoom
- Starlight technology
- Max. 50/60fps@1080P
- Auto-tracking and IVS
- Support PoE+
- IR distance up to 150m
- IP67, IK10



### System Overview

Featuring powerful optical zoom and accurate pan/tilt/zoom performance, this camera provides an all-in-one solution for capturing long distance video surveillance for outdoor applications. Together with infrared illumination and Starlight technology, the camera is the perfect solution for dark, lowlight applications. The series combines a day/night mechanical IR cut filter for the highest image quality in variable lighting conditions during the day, and True WDR for applications with direct sunlight or glare.

### Functions

#### 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.

#### Wide Dynamic Range

The camera achieves vivid images, even in the most intense contrast lighting conditions, using industry-leading wide dynamic range (WDR) technology. For applications with both bright and low lighting conditions that change quickly, True WDR (120 dB) optimizes both the bright and dark areas of a scene at the same time to provide usable video.

#### 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.

#### 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. Smart H.265+ technology reduces bit rate and storage requirements by up to 70% when compared to standard H.265 video compression.

#### 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.

#### Environmental

Dahua cameras operate in extreme temperature environments, rated for use in temperatures from -40°C ~ 70°C (-40°F ~ +158°F) with 95% humidity. The camera complies with the IK10 Vandal Resistance impact rating making it capable of withstanding the equivalent of 55 kg (120 lbs) of force. Subjected to rigorous dust and water immersion tests and certified to the IP67 Ingress Protection rating makes it suitable for demanding outdoor applications.

#### Protection

The camera allows for 8KV lightning rating to provide effective protection for both the camera and its structure against lightning.

#### Interoperability

The camera conforms to the ONVIF (Open Network Video Interface Forum) and PSIA (Physical Security Interoperability Alliance) specifications, ensuring interoperability between network video products regardless of manufacturer.

## Technical Specification

### Camera

Image Sensor	1/2.8" STARVIS™ CMOS
Effective Pixels	1920(H) x 1080(V), 2 Megapixels
RAM/ROM	1024M/128M
Scanning System	Progressive
Electronic Shutter Speed	1/1s~1/30,000s
Minimum Illumination	Color: 0.005Lux@F1.6; 0Lux@F1.6 (IR on)
S/N Ratio	More than 55dB
IR Distance	Distance up to 150m (492ft)
IR On/Off Control	Auto/Manual
IR LEDs	4

### Lens

Focal Length	4.8mm~120mm
Max. Aperture	F1.6 ~ F4.4
Angle of View	H: 62.8° ~ 2.6°
Optical Zoom	25x
Focus Control	Auto/Manual
Close Focus Distance	100mm~ 1500mm

### DORI Distance

\*Note: The DORI distance is a "general proximity" of distance which makes it easy to pinpoint the right camera for your needs. The DORI distance is calculated based on sensor specification and lab test result according to EN 62676-4 which defines the criteria for Detect, Observe, Recognize and Identify respectively.

Detect	Observe	Recognize	Identify
1613m(5292ft)	646m(2119ft)	323m(1060ft)	161m(528ft)

### PTZ

Pan/Tilt Range	Pan: 0° ~ 360° endless; Tilt: -90° ~ 90°, effective angle: -51° ~ 90°, auto flip 180°
Manual Control Speed	Pan: 0.1° ~120° /s; Tilt: 0.1° ~75° /s
Preset Speed	Pan: 120° /s; Tilt: 75° /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/ Pattern if there is no command in the specified period
Protocol	DH-SD

### Intelligence

Auto Tracking	Support
IVS	Tripwire, Intrusion, Abandoned/Missing, Face Detection, Heat Map

### Video

Compression	H.265+/H.265/H.264+/H.264
Streaming Capability	3 Streams
Resolution	1080P(1920×1080)/1.3M(1280×960)/720P(1280×720)/D1(704×576/704×480)/CIF(352×288/352×240)
Frame Rate	Main stream: 1080P/1.3M/720P(1~50/60fps) Sub stream1: D1/CIF(1 ~ 25/30fps) Sub stream2: 1080P/1.3M/720P/D1/CIF(1~25/30fps)
Bit Rate Control	CBR/VBR
Bit Rate	H.265/H.264: 448K ~ 8192Kbps
Day/Night	Auto(ICR) / Color / B/W
Backlight Compensation	BLC / HLC / WDR (120dB)
White Balance	Auto, ATW, Indoor, Outdoor, Manual
Gain Control	Auto / Manual
Noise Reduction	Ultra DNR (2D/3D)
Motion Detection	Support
Region of Interest	Support
Electronic Image Stabilization (EIS)	Support
Defog	Support
Digital Zoom	16x
Flip	180°
Privacy Masking	Up to 24 areas

### Audio

Compression	G.711a/G.711Mu/AAC/G.722 / G.726/G.729/ MPEG2-L2
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### Network

Ethernet	RJ-45 (10Base-T/100Base-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
Max. User Access	20 users
Edge Storage	NAS (Network Attached Storage),Local PC for instant recording, Micro SD card 128GB
Web Viewer	IE, Chrome, Firefox, Safari
Management Software	Smart PSS, DSS
Smart Phone	IOS, Android

### Certifications

Certifications	CE: EN55032/EN55024/EN50130-4 FCC: Part15 subpartB,ANSI C63.4- 2014 UL: UL60950-1+CAN/CSA C22.2.No.60950-1
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**Interface**

Video Interface	N/A
RS485	N/A
Audio I/O	1/1
Alarm I/O	2/1

**Electrical**

Power Supply	DC12V/4A, PoE+(802.3at)
Power Consumption	22W (IR on)

**Environmental**

Operating Conditions	-40°C ~ 70°C (-40°F ~ +158°F) / Less than 95% RH
Ingress Protection	IP67
Vandal Resistance	IK10

**Construction**

Casing	Metal
Dimensions	Ø291.5(mm) x 161(mm) x 153.4(mm)
Net Weight	3.6kg(7.94lb)
Gross Weight	6.35kg(14.00lb)

**Ordering Information**

Type	Part Number	Description
2MP Positioning System	DH-PTZ1A225U-IRA-N	2MP 25x Starlight IR Network Positioning System, WDR, PAL
	DH-PTZ1A225UN-IRA-N	2MP 25x Starlight IR Network Positioning System, WDR, NTSC
	PTZ1A225U-IRA-N	2MP 25x Starlight IR Network Positioning System, WDR, PAL
	PTZ1A225UN-IRA-N	2MP 25x Starlight IR Network Positioning System, WDR, NTSC
Accessories	DH-PFA730	Junction Box
	DC12V/4A	Power Adapter
	DH-PFB730W	Wall Mount

**Accessories**

Included:



PFA730  
Junction Box



DC12V/4A  
Power Adapter

Optional:



PFB730W  
Wall Mount

**Dimensions (mm)**

