

# DH-PTZ85448-HNF-PA

## 4MP 48x Starlight IR WizMind Network Positioning System

The WizMind logo, featuring the word "WizMind" in a stylized font with a red swoosh above the 'i'.

- 1/1.8" 4Megapixel STARVIS™ CMOS
- 48x optical zoom
- Starlight technology
- Max. 25/30 fps@4M
- IR distance up to 400 m
- H.265 encoding
- Two-way audio
- IP67
- Auto-tracking
- Perimeter protection
- face recognition

### System Overview

AI series products adopt the most advanced AI technologies, including deep learning algorithms that primarily target people and vehicles, which provides higher flexibility and accuracy for end-users. This enables the Dahua AI series to offer various advanced applications such as Face Recognition, ANPR, Metadata, People Counting, and traffic data statistics. The complete lineup of Dahua AI includes network (PTZ) cameras, network video recorders, servers, and more devices. Beyond seeing the world, the power of AI allows devices to perceive the environment and understand the world in a better way.



### 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.

### 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.

#### Starlight Technology

For challenging low-light conditions, Dahua's Starlight Ultra-low Light Technology offers the best in light sensitivity, capturing color in vivid detail, even in lighting as low as 0.001 lux. The camera uses a set of optical features to balance light throughout the scene, producing clear images in dark environments.

#### PFA Technology

PFA technology has introduced new methods of judgment that ensure the accuracy and predictability of the direction of subject distance adjustment. The result is a set of advanced focusing algorithms that ensure image clarity when zooming and that shorten focus time. This makes the camera highly advanced in its functions, substantially improving the quality of your experience.

#### Auto-tracking

This feature controls the pan, tilt and zoom actions of the camera to automatically track an object in motion, to keep it in view of the camera. Tracking 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, a flexible multi-frame reference structure and intelligent noise reduction to deliver high-quality videos without straining the network. Smart H.265+ technology outranks standard H.265 video compression, reducing bit rate and storage requirements by up to 70%.

## Scenes

The Dahua PTZ AI network camera adopts advanced CNN deep learning algorithms to support Perimeter Protection. This highly accurate camera possesses a wide monitoring range and the PFA algorithm, allowing it to always present a clear, focused image while zooming. Leveraging the latest in starlight technology, the camera has strong low light performance, smooth controls, high-grade protection, and produces high quality images, meeting most of the requirements of video surveillance applications.

## Technical Specification

### Camera

|                            |                                                                      |
|----------------------------|----------------------------------------------------------------------|
| Image Sensor               | 1/1.8" CMOS                                                          |
| Pixel                      | 4 MP                                                                 |
| Max. Resolution            | 2560 (H) × 1440 (V)                                                  |
| ROM                        | 8 GB                                                                 |
| RAM                        | 2 GB                                                                 |
| Electronic Shutter Speed   | 1/1 s–1/30,000 s                                                     |
| Scanning System            | Progressive                                                          |
| Min. Illumination          | Color: 0.001 lux@F1.4<br>B/W: 0.0001 lux@F1.4<br>0 lux (IR light on) |
| Illumination Distance      | 400 m (1,312.34 ft) (IR)                                             |
| Illuminator On/Off Control | Zoom Prio; Manual; Off                                               |
| Illuminator Number         | 8 (IR)                                                               |
| Wiper                      | Yes                                                                  |

### Lens

|                      |                                                   |                          |                          |                        |
|----------------------|---------------------------------------------------|--------------------------|--------------------------|------------------------|
| Focal Length         | 6.25 mm–300 mm                                    |                          |                          |                        |
| Max. Aperture        | F1.4–F4.5                                         |                          |                          |                        |
| Field of View        | H: 62.36°–1.71°; V: 36.55°–0.99°; D: 69.76°–1.97° |                          |                          |                        |
| Optical Zoom         | 48×                                               |                          |                          |                        |
| Focus Control        | Auto; semi-auto; manual                           |                          |                          |                        |
| Close Focus Distance | 0.5 m–2 m (1.64 ft–6.56 ft)                       |                          |                          |                        |
| Iris Control         | NA                                                |                          |                          |                        |
| DORI Distance        | Detect                                            | Observe                  | Recognize                | Identify               |
|                      | 6,000 m<br>(19,685.04 ft)                         | 2,381 m<br>(7,811.68 ft) | 1,200 m<br>(3,937.01 ft) | 600 m<br>(1,968.50 ft) |

### PTZ

|                      |                                               |
|----------------------|-----------------------------------------------|
| Pan/Tilt Range       | Pan: 0° to 360° endless<br>Tilt: –45° to +90° |
| Manual Control Speed | Pan: 0.1°/s–160°/s<br>Tilt: 0.1°/s–60°/s"     |
| Preset Speed         | Pan: 160°/s; Tilt: 60°/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<br>Pelco-P/D (auto recogniton) |

### Intelligence

|                            |                                                                                                                                                                            |
|----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Video Metadata             | Support human body, human face, motor vehicle and non-motor vehicle image capture and attributes extraction.                                                               |
| IVS (Perimeter Protection) | Tripwire; intrusion; climbing fences; loitering detection; abandoned/missing object; fast moving; parking detection; people gathering; vehicle/human alarm classification. |
| Face Recognition           | Yes                                                                                                                                                                        |

### Video

|                          |                                                                                                                                                   |
|--------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| Video Compression        | H.265; H.264M; H.264H; MJPEG; Smart H.265; Smart H.264                                                                                            |
| Streaming Capability     | 3 streams                                                                                                                                         |
| Resolution               | 4M (2560 × 1440); 1080p (1920 × 1080); 960p (1280 × 960); 720p (1280 × 720); D1 (704 × 576/704 × 480); VGA (640 × 480); CIF (352 × 288/352 × 240) |
| Video Frame Rate         | Main stream: 4M/1080p/960p/720p (1–25/30 fps)<br>Sub stream 1: D1/VGA/CIF (1–25/30 fps)<br>Sub stream 2: 1080p/960p/720p (1–25/30 fps)            |
| Bit Rate Control         | CBR; VBR                                                                                                                                          |
| Video Bit Rate           | H264: 512–13056 kbps<br>H265: 204–7936 kbps                                                                                                       |
| Day/Night                | Auto (ICR); Color; B/W                                                                                                                            |
| BLC                      | Yes                                                                                                                                               |
| WDR                      | Yes                                                                                                                                               |
| 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                                                                                                                                               |
| Region of Interest (RoI) | Yes                                                                                                                                               |
| Defog                    | Optical                                                                                                                                           |
| Digital Zoom             | 16×                                                                                                                                               |
| Image Rotation           | 180°                                                                                                                                              |
| Privacy Masking          | Up to 24 areas can be set, with up to 8 areas in the same view                                                                                    |
| S/N Ratio                | ≥55 dB                                                                                                                                            |

### Audio

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

## Network

|                     |                                                                                                                                 |
|---------------------|---------------------------------------------------------------------------------------------------------------------------------|
| Network Port        | RJ-45 (10/100 Base-T)                                                                                                           |
| Network Protocol    | HTTP; HTTPS; IPv4; RTSP; UDP; SMTP; NTP; DHCP; DNS; DDNS; IPv6; 802.1x; QoS; FTP; UPnP; ICMP; SNMP; IGMP; RTP; PPPoE; RTMP; TCP |
| Interoperability    | ONVIF (Profile S&G&T); GB/T28181; CGI                                                                                           |
| Streaming Method    | Unicast; Multicast                                                                                                              |
| User/Host           | 20 (total bandwidth: 64 M)                                                                                                      |
| Storage             | FTP; Micro SD card (512 GB); NAS                                                                                                |
| Browser             | IE 7 and later versions<br>Chrome 45 and later versions<br>Firefox 52ESR and earlier versions<br>Safari                         |
| Management Software | Smart PSS; DSS; IVSS                                                                                                            |
| Mobile Client       | iOS; Android                                                                                                                    |

## Port

|               |                                                                                                                                                                                                              |
|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Analog Output | 1 channel (CVBS output, BNC)                                                                                                                                                                                 |
| RS-485        | 1 (baud rate: 1200 bps–115200 bps)                                                                                                                                                                           |
| Audio Input   | 1 channel (LINE IN, bare wire)                                                                                                                                                                               |
| Audio Output  | 1 channel (LINE OUT, bare wire)                                                                                                                                                                              |
| Two-way Audio | Yes                                                                                                                                                                                                          |
| Alarm Input   | 7 (on-off value input: 0–5 VDC)                                                                                                                                                                              |
| Alarm Output  | 2                                                                                                                                                                                                            |
| Alarm Linkage | Capture; preset; tour; pattern; recordings on SD card; alarm digital input; client E-map; send email                                                                                                         |
| Alarm Event   | Motion/tampering detection; audio detection; network disconnection detection; IP conflict detection; decoder state detection; memory card state detection; memory space detection; power exception detection |

## Power

|                   |                                                       |
|-------------------|-------------------------------------------------------|
| Power Supply      | 36 VDC, 5 A (± 25%)                                   |
| Power Consumption | Basic: 22 W<br>Max.: 63 W (illuminator + wiper + PTZ) |

## Environment

|                       |                                                                                  |
|-----------------------|----------------------------------------------------------------------------------|
| Operating Temperature | –40 °C to +70 °C (–40 °F to 158 °F)                                              |
| Operating Humidity    | ≤95%                                                                             |
| Protection            | IP67; TVS 6000 V lightning proof; surge protection; voltage transient protection |

## Structure

|                    |                                                                      |
|--------------------|----------------------------------------------------------------------|
| Casing             | ADC12                                                                |
| Product Dimensions | 344.6 mm × 252.2 mm × 499.8 mm (13.57" × 9.93" × 19.68") (L × W × H) |
| Net Weight         | 15.4 kg (33.95 lb)                                                   |
| Gross Weight       | 23.7 kg (52.25 lb)                                                   |

## Ordering Information

| Type        | Part Number        | Description                                             |
|-------------|--------------------|---------------------------------------------------------|
| 4M Camera   | DH-PTZ85448-HNF-PA | 4MP 48x Starlight IR WizMind Network Positioning System |
|             | PTZ85448-HNF-PA    | 4MP 48x Starlight IR WizMind Network Positioning System |
| Accessories | DC36V/5A           | Power Adapter                                           |
|             | DH-PFB741W         | Wall Mount Bracket                                      |

## Accessories

Included:



DC36V/5A  
Power  
Adapter

Optional:



DH-PFB741W  
Wall Mount  
Bracket

| Plane Mount | Plane Mount | Wall Mount |
|-------------|-------------|------------|
| DH-PFB741W  |             |            |
|             |             |            |

Dimensions (mm[inch])

