# DH-IPC-HDW5459T-ZE-IL

4MP Smart Dual Light Vari-focal Eyeball WizMind Network Camera



Launched by Dahua Technology, Dahua WizMind is a full portfolio of solutions composed of project-oriented products including IPC, IVSS,NVR, PTZ, XVR, Thermal and software platform which adopts industry-leading deep learning algorithms. Focusing on customer's requirements, WizMind provides precise, reliable and comprehensive AI solutions for verticals.

## Series Overview

With its deep learning algorithms, the WizMind 5 Series camera offers advanced analytical capabilities for both audio and video. It integrates intelligent features such as video metadata, AcuPick, face detection, perimeter protection, and people counting. Powered by the Xinghan Large-Scale AI Models-Vision, the camera excels in object detection, recognition, and scene adaptation. Equipped with AI-ISP imaging technology, it offers enhanced night vision performance. The series is designed for durability, being dust-proof, waterproof, and vandal-proof, in compliance with IP67 and IK10 standards, though support for these certifications may vary across models.

## Functions

### Xinghan Large-Scale AI Models-Vision

Xinghan Large-Scale AI Models-Vision seamlessly expands the storage and operational capacity of algorithmic models through the powerful integration of edge AI model algorithms and NPU computing power. Engineered with a lightweight transformer architecture and enhanced by model distillation and quantization techniques, it optimizes the computing power consumption of ViT operators. This enables the system to collaborate on multiple tasks simultaneously through joint inference between small and large models optimized for edge devices.

- 4-MP 1/1.8" CMOS image sensor, low luminance, and high definition image.
- Outputs max. 4 MP (2688 × 1520) @25/30 fps.
- Built-in multi-core light, the max. IR distance is 50 m and the max. warm light distance is 40 m.
- ROI, SVC, SMART H.264+/H.265+, AI H.264/H.265, encoding after filter, flexible coding, applicable to various bandwidth and storage environments.
- Rotation mode, WDR, 3D NR, HLC, BLC, digital watermarking, applicable to various monitoring scenes.
- Powered by the Xinghan Large-Scale AI Models-Vision, the camera outstandingly delivers on its object detection, recognition, and scene adaptation functions.
- With deep learning algorithm, it supports: AcuPick, video metadata, IVS, face detection, and people counting, etc.
- Supports max. 1 TB Micro SD card; built-in Mic
- 12 VDC/PoE power supply; ePoE
- IP67 protection.




### Self-Learning

Empowered by deep learning technology, the device recognizes different types of targets and their statuses through learning and analyzing target features to detect targets and filter out false alarms.

### Smart Dual Light

Dahua Smart Dual Light technology adopts smart algorithm to detect targets. Usually, the IR illuminator is on at night; when the target appears in the monitoring area, the white light is on, and the camera records the full-color video and information of key events. That is, the camera links snapshot and video with full-color image. When the target is out of the monitoring area, the white light is off and the IR illuminator is on, which reduces light pollution efficiently.

### AcuPick

This industry-leading search technology effectively utilizes both front-end and back-end intelligence to help with searching through massive video data to quickly and conveniently locate targets with greater precision.

## Technical Specification

### Camera

| | |
|---|---|
| Image Sensor | 1/1.8" CMOS |
| Max. Resolution | 2688 (H) × 1520 (V) |
| ROM | 4 GB |
| RAM | 2 GB |
| Scanning System | Progressive |
| Electronic Shutter Speed | Auto/Manual 1/3 s–1/100,000 s |
| Min. Illumination | 0.0007 lux@F1.8 (Color, 30 IRE)<br>0.0004 lux@F1.8 (B/W, 30 IRE)<br>0 lux (Illuminator on) |
| S/N Ratio | >56 dB |
| Illumination Distance | Up to 50 m (164.04 ft) (IR)<br>Up to 40 m (131.23 ft) (Warm light) |
| Illuminator On/Off Control | Auto;Manual |
| Illuminator Number | 2 (Multi-core (IR + warm) light) |
| Angle Adjustment | Pan: 0°–360°<br>Tilt: 0°–78°<br>Rotation: 0°–360° |

### Lens

| | |
|---|---|
| Lens Type | Motorized vari-focal |
| Lens Mount | ϕ14 |
| Focal Length | 2.7 mm-12 mm |
| Max. Aperture | F1.8 |
| Field of View | H: 115°–47°; V: 62°–27°; D: 137°–54° |
| Iris Control | Auto |
| Close Focus Distance | 0.13 m (0.43 ft) |

| | Lens | Detect | Observe | Recognize | Identify |
|---|---|---|---|---|---|
| DORI Distance | W | 57.5 m ( 188.65 ft) | 23.0 m ( 75.46 ft) | 11.5 m ( 37.73 ft) | 5.8 m ( 19.03 ft) |
| | T | 130.8 m ( 429.13 ft) | 52.3 m ( 171.59 ft) | 26.2 m ( 85.96 ft) | 13.1 m ( 42.98 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. | | | | |

### Intelligence

| | |
|---|---|
| IVS (Perimeter Protection) | Intrusion, tripwire, fast moving (the three functions support the classification and accurate detection of vehicle, animal and human); loitering detection, people gathering, parking detection, stay detection. Offers Perimeter Protection Large-Scale AI Models to extend the target detection range and reduce the rate of false alarm. Supports self-learning, it filters out false alarms. |
| SMD | SMD 4.0 |
| AcuPick | Uses deep learning algorithms and works with back-end devices to accurately match targets, such as people, animal and motor vehicles, and search through live and recorded videos to quickly locate targets. |
| Face Detection | Face detection; snapshot; snapshot optimization; optimal face snapshot upload; face enhancement; face exposure; face attributes extraction including 6 attributes and 8 expressions; face snapshot set as face, one-inch photo or custom; snapshot strategies (real-time snapshot, quality priority and optimization snapshot); face angle filter; optimization time setting. |
| People Counting | Tripwire people counting, generating and exporting report (day/week/month/year); people counting in area and queue management, generating and exporting report (day/week/month); 4 rules can be set for tripwire, people counting in area and queue management. |
| Heat Map | Yes |
| Video Metadata | Motor vehicle, non-motor vehicle, face, and human body detection; snapshot; snapshot optimization; optimal face snapshot upload.<br>Extraction of motor vehicle and non-motor vehicle attributes: extracts 6 attributes for motor vehicle and 6 attributes for non-motor vehicle.<br>Extraction of face and human body attributes: extracts 6 attributes for face and 8 attributes for human body. |
| Smart Search | Work together with Smart NVR to perform refine intelligent search, event extraction and merging to event videos |

### Video

| | |
|---|---|
| Video Compression | H.265; H.264; H.264H; H.264B; MJPEG (Only supported by the sub stream) |
| AI Coding | AI H.265; AI H.264<br>*Includes smart codec technology, Smart H.265+ and Smart H.264+. |
| Video Frame Rate | Main stream: 2688 × 1520@ (1–25/30 fps)<br>Sub stream: 704 × 576@(1–25 fps)/704 × 480@(1–30 fps)<br>Third stream: 1920 × 1080@(1–25/30 fps)<br>Fourth stream: 1280 × 720@(1–25/30 fps)<br>*The values above are the max. frame rates of each stream; for multiple streams, the values will be subjected to the total encoding capacity. |
| Streaming Capability | 4 streams |
| Resolution | 4M (2688 × 1520/2560 × 1440); 3M (2048 × 1536/2304 × 1296); 1080p (1920 × 1080); 1.3M (1280 × 960); 720p (1280 × 720); D1 (704 × 576/704 × 480); VGA (640 × 480); CIF (352 × 288/352 × 240) |
| Bit Rate Control | VBR;CBR |
| Video Bit Rate | H.264: 3 kbps–16384 kbps;<br>H.265: 3 kbps–16384 kbps |
| Day/Night | Auto(ICR)/Color/B/W |
| BLC | Yes |
| HLC | Yes |
| WDR | 140 dB |
| Scene Self-adaptation (SSA) | Yes |
| White Balance | Auto; natural; street lamp; outdoor; manual; regional custom |
| Gain Control | Auto/Manual |

| | |
|---|---|
| Noise Reduction | 3D NR |
| Motion Detection | OFF/ON (4 areas, rectangular) |
| Region of Interest (RoI) | Yes (4 areas) |
| Image Stabilization | Electronic Image Stabilization (EIS) |
| Smart Illumination | Yes |
| Smart Dual Light | Yes |
| Defog | Yes |
| Image Rotation | 0°/90°/180°/270° (Support 90°/270° with 4M (2688 × 1520) resolution and lower) |
| Mirror | Yes |
| Privacy Masking | 4 mosaics or 8 color blocks |
| LDC | Yes |

## Audio

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|---|---|
| Built-in MIC | Yes, built-in Mic |
| Audio Compression | G.711a; G.711Mu; PCM; G.726; G.723 |

## Alarm

| | |
|---|---|
| Alarm Event | No SD card; SD card full; SD card error; network disconnection; IP conflict; illegal access; motion detection; video tampering; tripwire; intrusion; fast moving; loitering detection; people gathering; parking detection; scene changing; audio detection; voltage detection; external alarm; face detection; video metadata; SMD; people counting in area; stay detection; people counting; people number error detection; queue people number alarm; queue time alarm; security exception; defocus detection |

## Network

| | |
|---|---|
| Network Port | RJ-45 (10/100 Enhancement Base-T) |
| SDK and API | Yes |
| Network Protocol | IPv4; IPv6; HTTP; TCP; UDP; ARP; RTP; RTSP; RTCP; RTMP; SMTP; FTP; SFTP; DHCP; DNS; DDNS; QoS; UPnP; NTP; Multicast; ICMP; IGMP; NFS; SAMBA; PPPoE; SNMP; P2P; Auto Registration |
| Interoperability | ONVIF (Profile S & Profile G & Profile T & Profile M); CGI |
| User/Host | 20 (Total bandwidth: 80 M) |
| Storage | FTP; SFTP; Micro SD card (support max. 1 TB); NAS |
| Browser | IE: IE 11 and later;<br>Chrome: Chrome 102 and later;<br>Firefox: Firefox 88 and later |
| Management Software | DSS; DMSS; DoLynk Care |
| Mobile Client | iOS;Android |
| Security | Digest;WSSE;Account lockout;Security logs;IP/MAC filtering;Generation and importing of X.509 certification;syslog;HTTPS;802.1x;Trusted boot;Trusted execution;Trusted upgrade;Session security;Security warning |

## Certification

| | |
|---|---|
| Certifications | CE-LVD: EN62368-1;<br>CE-EMC: Electromagnetic Compatibility Directive 2014/30/EU |

## Power

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|---|---|
| Power Supply | 12 VDC (±30%); PoE+ (802.3at); ePoE |
| Dual Power Backup | When the power adapter and PoE provide power at the same time, disconnect one of them. The device will continue to work, but will not restart. |
| Power Consumption | Basic: 5.9 W (12 VDC); 6.6 W (PoE)<br>Max. (Focus + WDR+ warm light + intelligence on): 15.2 W (12 VDC); 15.9 W (PoE) |
| ePoE | Yes |

## Environment

| | |
|---|---|
| Operating Temperature | –40 °C to +60 °C (–40 °F to +140 °F) |
| Operating Humidity | ≤95% (RH), non-condensing |
| Storage Temperature | –40 °C to +60 °C (–40 °F to +140 °F) |
| Storage Humidity | ≤95% (RH), non-condensing |
| Protection | IP67 |

## Structure

| | |
|---|---|
| Casing Material | Metal |
| Product Dimensions | 108.3 mm × Φ122.0 mm (4.26" × Φ4.80") |
| Net Weight | 0.70 kg (1.54 lb) |
| Gross Weight | 0.96 kg (2.12 lb) |

## Ordering Information

| Type | Model | Description |
|---|---|---|
| IP CAMERA | DH-IPC-HDW5459T-ZE-IL | 4MP Smart Dual Light Vari-focal Eyeball WizMind Network Camera |
| Accessories (Optional) | DH-PFA117 | Ceiling Mount Bracket |
| | DH-PFA106 | Mount Adapter |
| | DH-PFB220C | Ceiling Mount Bracket |
| | DH-PFA151 | Corner Mount Bracket |
| | DH-PFB305W | Wall Mount Bracket |
| | DH-PFA150 | Pole Mount Bracket |
| | DH-PFB2203W | Wall Mount Bracket |
| | DH-PFA152-E | Pole Mount Bracket |
| | DH-PFA137 | Junction Box |
| | DH-PFM320D-EN | DC12V2A power adapter |
| | PFM900-E | Integrated Mount Tester |
| | DHI-TF-P100/1TB | MicroSD Card |

## Accessories

Optional:



DH-PFA106
Mount Adapter



DH-PFA117
Ceiling Mount Bracket



DH-PFA137
Junction Box



DH-PFA150
Pole Mount Bracket



DH-PFA151
Corner Mount Bracket



DH-PFA152-E
Pole Mount Bracket



DH-PFB2203W
Wall Mount Bracket



DH-PFB220C
Ceiling Mount Bracket



DH-PFB305W
Wall Mount Bracket



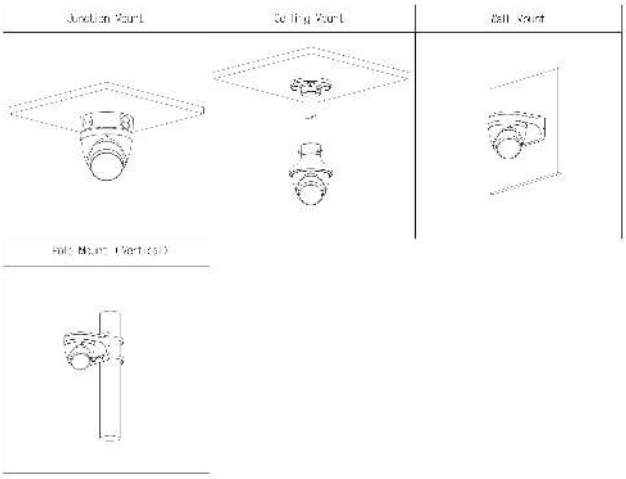
DH-PFM320D-EN
DC12V2A power adapter



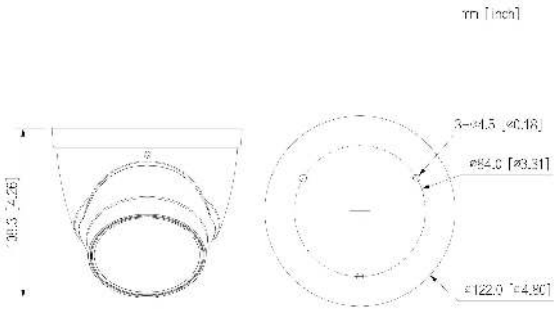

DHI-TF-P100/1TB
MicroSD Card



PFM900-E
Integrated Mount Tester



## Dimensions (mm[inch])





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