# DH-IPC-PDW31259-A180-AS-PV

2x6MP TiOC Duo Splicing Fixed-focal Eyeball WizSense Network Camera



Launched by Dahua Technology, WizSense is a series of AI products and solutions that adopt independent AI chip and deep learning algorithm. It focuses on human and vehicle with high accuracy, enabling users to fast act on defined targets. Based on Dahua's advanced technologies, WizSense provides intelligent, simple and inclusive products and solutions.

## Series Overview

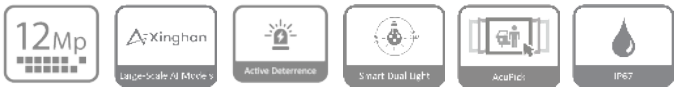
Dahua WizSense 3 Series Network Camera greatly saves on bandwidth and storage space through its AI Coding technology. Driven by its advanced deep learning algorithms, the camera supports intelligent functions such as perimeter protection, smart motion detection (SMD), AcuPick, and AI SSA (AI Scene Self-adaptation), making it easy and convenient to use. Starlight technology and its large aperture lens also allow the camera to produce clear, vivid images even in poor lighting conditions.

## 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.

- 1/2.5" CMOS image sensor, high definition image.
- Outputs max 12 MP (5000 × 2500)@20 fps.
- H.265 codec, high compression rate, ultra-low bit rate.
- Built-in multi-core light, the max IR distance is 30 m and the max warm light distance is 30 m.
- ROI, SMART H.264+/H.265+, AI H.264/H.265, flexible coding, applicable to various bandwidth and storage environments.
- WDR, 3D NR, HLC, BLC, digital watermarking, applicable to various monitoring scenes.
- Intelligent monitoring: Intrusion, tripwire (the two functions support the classification and accurate detection of vehicle and human), stay detection, loitering detection, face detection (full image).
- Abnormality detection: Motion detection, privacy masking, scene changing, audio detection, no SD card, SD card full, SD card error, network disconnection, IP conflict, illegal access, and voltage detection.
- Alarm: 1 in, 1 out; audio: 1 in, 1 out; supports max 512 GB Micro SD card; built-in dual Mic; 1-ch speaker; supports two-way talk.
- 12 VDC/PoE power supply.
- IP67 protection.
- Sound and light alarm (red and blue lights).
- SMD 4.0.
- Supports one-tap arming and disarming.
- SMD area can be set in warm light areas that support triggering alarms.
- EPTZ: Enlarge and track the targets of intelligent alarms.




### Siren and Light Active Deterrence

Dahua siren and light active deterrence network camera supports the light alarm and voice alarm when perimeter event occurs, to realize the deterrence and effective intervention. The camera is built in multiple voices for selection, and supports customized voice importing.

### SMD 4.0

Dahua Smart Motion Detection technology works with intelligent algorithms to classify targets that trigger motion detection alarms. It filters out objects that are not targets, such as small and large animals, to avoid triggering false alarms. With an AI NVR, Quick Pick technology becomes available, allowing you to easily search for and pick out

human and vehicle targets from SMD event videos, prioritizing the highest matches.

### 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.

### Protection (IP67, Wide Voltage)

IP67: The camera passes a series of strict test on dust and soak. It has dust-proof function, and the enclosure can work normally after soaking in 1 m deep water for 30 minutes.

Wide voltage: The camera allows ±30% (for some power supplies) input voltage tolerance (wide voltage range), and it is widely applied to outdoor environment with instable voltage.

## Technical Specification

### Camera

| | |
|---|---|
| Image Sensor | 1/2.5" CMOS |
| Max. Resolution | 5000 (H) × 2500 (V) |
| ROM | 256 MB |
| RAM | 2 GB |
| Scanning System | Progressive |
| Electronic Shutter Speed | Auto/Manual 1/3 s–1/100,000 s |
| Min. Illumination | 0.0008 lux@F1.0 (Color, 30 IRE)<br>0.0003 lux@F1.0 (B/W, 30 IRE)<br>0 lux (Illuminator on) |
| S/N Ratio | >56 dB |
| Illumination Distance | 2.8 mm: Up to 30 m (98.43 ft) (IR)<br>Up to 30 m (98.43 ft) (Warm light) |
| Illuminator On/Off Control | Auto;Manual |
| Illuminator Number | 4 (Multi-core (IR + warm) light) |
| Angle Adjustment | Pan: 0° to 355°<br>Tilt: 0° to 77°<br>Rotation: 0° to 355° |

### Lens

| | |
|---|---|
| Lens Type | Fixed-focal |
| Lens Mount | M12 |
| Focal Length | 2.8 mm |
| Max. Aperture | F1.0 |
| Field of View | 2.8 mm: H: 180°; V: 78° |
| Iris Control | Fixed |
| Close Focus Distance | 2.8 mm: 1.4 m (4.59 ft) |

| DORI Distance | Lens | Detect | Observe | Recognize | Identify |
|---|---|---|---|---|---|
| | 2.8 mm | 59.6 m ( 195.54 ft) | 23.8 m ( 78.08 ft) | 11.9 m ( 39.04 ft) | 6.0 m ( 19.69 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 (the two functions support the classification and accurate detection of vehicle and human), stay detection, loitering detection |
| SMD | SMD 4.0 |
| AcuPick | Uses deep learning algorithms and works with back-end devices to accurately match targets, such as people, animals and motor vehicles, and search through live and recorded videos to quickly locate targets. |
| Face Detection (Full Image) | Face detection; snapshot; snapshot optimization; optimal face snapshot upload; face exposure; face snapshot set as face or one-inch photo; snapshot strategies (real-time snapshot, quality priority and optimization snapshot); face angle filter; optimization duration setting. |
| Smart Search | Works 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 sub stream) |
| AI Coding | AI H.264; AI H.265<br>*Includes smart codec technology, Smart H.264+ and Smart H.265+. |
| Video Frame Rate | Main stream: 5000 × 2500@(1–20 fps)<br>Sub stream: 1200 × 536@(1–20 fps)<br>Third stream: 1920 × 860@(1–20 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 | 3 streams |
| Resolution | 12M (5000 × 2500); 1920 × 860; 1200 × 536; 960 × 432; D1 (704 × 576/704 × 480) |
| Bit Rate Control | VBR;CBR;ABR |
| Video Bit Rate | H.264: 6 kbps–32768 kbps;<br>H.265: 6 kbps–32768 kbps |
| Day/Night | Auto(ICR)/Color/B/W |
| BLC | Yes |
| HLC | Yes |
| WDR | 120 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) |
| Smart Illumination | Yes |
| Smart Dual Light | Yes |
| Defog | Yes |
| Privacy Masking | 8 areas |

## Audio

| | |
|---|---|
| Built-in MIC | Yes, built-in dual Mic |
| Built-in Speaker | Yes, built-in dual speaker;Max power consumption: 2 W; max sound level at 10 cm: 110 dB<br>* Test results from laboratory |
| Audio Compression | PCM; G.711a; G.711Mu; 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; loitering detection; stay detection; face detection (full image); scene changing; audio detection; voltage detection; defocus detection; SMD; security exception |

## Network

| | |
|---|---|
| Network Port | RJ-45 (10/100/1000 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; Bonjour; Auto Registration |
| Interoperability | ONVIF (Profile S & Profile G & Profile T & Profile M); CGI |
| User/Host | 20 (Total bandwidth: 64 M) |
| Storage | FTP; SFTP; Micro SD card (support max 512 GB); NAS |
| Browser | IE<br>Chrome<br>Firefox |
| Management Software | Smart PSS Lite; 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 |

## Function

| | |
|---|---|
| Light Warning | Light Warning: Red and blue light warning<br>Flash/Solid on duration: 5 s–30 s<br>Flash frequency: high, medium, low |
| Sound Warning | Sound Warning: |
| Sound Warning | Offers 11 sound alarms and supports importing custom sound alarms<br>Sound: 0-100<br>Play times can be set from 1 to 10 |

## Certification

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

## Port

| | |
|---|---|
| Audio Input | 1 channel (RCA port) |
| Audio Output | 1 channel (RCA port) |
| Alarm Input | 1 channel in: supports wet contact connection (max load 5 mA 3–5 VDC); supports dry contact connection |
| Alarm Output | 1 channel out: dry contact, max load 1,000 mA 30 VDC/500 mA 50 VAC |

## Power

| | |
|---|---|
| Power Supply | 12 VDC (±30%); PoE+ (802.3at) |
| 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: 4.9 W (12 VDC); 6.8 W (PoE);<br>Max.: 13.3 W (12 VDC); 16.1 W (PoE) (H.265 + WDR + warm light + sound and light active deterrence + intelligence on) |

## 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 |
| Anti-corrosion Level | Basic Protection<br>*The products are designed for general use and are applicable even in areas with no specific requirements for anti-corrosion protection. |

## Structure

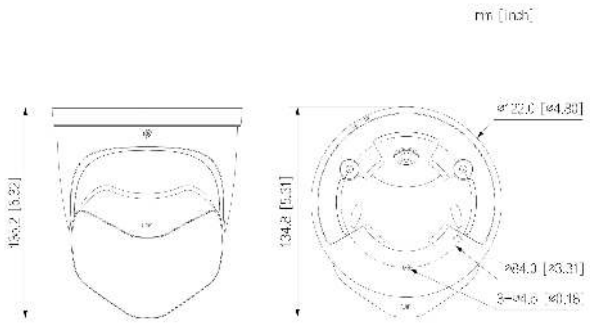
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|---|---|
| Casing Material | Metal |
| Product Dimensions | 135.2 mm × Φ122.0 mm (5.32" × Φ4.80") |
| Net Weight | 0.99 kg (2.18 lb) |
| Gross Weight | 1.15 kg (2.54 lb) |

## Ordering Information

| Type | Model | Description |
|---|---|---|
| IP CAMERA | DH-IPC-PDW31259-A180-AS-PV | 2x6MP TiOC Duo Splicing Fixed-focal Eyeball WizSense Network Camera |

| Type | Model | Description |
|---|---|---|
| Accessories (Optional) | DH-PFB220C | Ceiling Mount Bracket |
| | DH-PFA109 | Mount Adapter |
| | DH-PFB305W | Wall Mount Bracket |
| | DH-PFA151 | Corner Mount Bracket |
| | DH-PFA150 | Pole Mount Bracket |
| | DH-PFA156 | Pole Mount Bracket |
| | DH-PFB2203W | Wall Mount Bracket |
| | DH-PFA137 | Junction Box |
| | PFM900-E | Integrated Mount Tester |

## Dimensions (mm[inch])



## Accessories

Optional:



DH-PFB220C
Ceiling Mount Bracket



DH-PFA109
Mount Adapter



DH-PFB305W
Wall Mount Bracket



DH-PFA151
Corner Mount Bracket



DH-PFA150
Pole Mount Bracket



DH-PFA156
Pole Mount Bracket



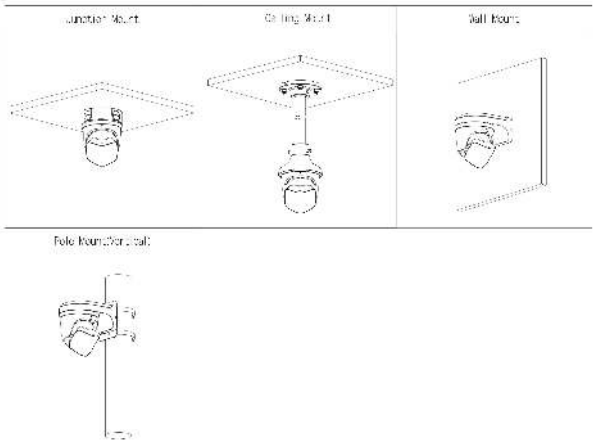
DH-PFB2203W
Wall Mount Bracket



DH-PFA137
Junction Box



PFM900-E
Integrated Mount Tester



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