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.

**System Overview**

Dahua PTZ WizSense network camera adopts advanced CNN deep learning algorithms to support Perimeter Protection with high accuracy. This camera possess wide monitor range, PFA algorithm that can always present a clear, focused image while zooming. The camera has very excellent low light performance due to adopting the latest starlight technology. The camera is equipped with smooth control, high quality image and good protection, which make it can meet most of the requirements of video surveillance applications.

**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.

**Perimeter Protection**

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

**Environmental**

Dahua cameras operate in extreme temperature environments, rated for use in temperatures from -40 °C to +70 °C (-40 °F to +158 °F) with 95% humidity. Subjected to rigorous dust and water immersion tests and certified to the IP66 Ingress Protection rating makes it suitable for demanding outdoor applications.

**Protection**

The camera allows for 6KV lightning rating, which provides effective protection for both the camera and its structure against lightning.

**Interoperability**

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

**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.

**SMD PLUS**

With Deep-Learning Algorithm, Dahua SMD PLUS Pfilters the motion detection alarm triggered by non-concerned target and recognizes human and vehicle effectively, sending alarms when human and vehicle intrude.
## Technical Specification

### Camera
- **Image Sensor**: 1/2.8" STARVIS™ CMOS
- **Pixel**: 4MP
- **Max. Resolution**: 2560 (H) × 1440 (V)
- **ROM**: 4GB
- **RAM**: 1GB
- **Electronic Shutter Speed**: 1/1 s–1/30,000 s
- **Scanning System**: Progressive
- **Min. Illumination**: Color: 0.005Lux@F1.6, B/W: 0.0005Lux@F1.6, 0Lux@F1.6 (IR light on)
- **Illumination Distance**: 100 m (328.08 ft)
- **Illuminator On/Off Control**: Zoom Prio/Manual/SmartIR
- **Illuminator Number**: 4

### Lens
- **Focal Length**: 4.8 mm–120 mm
- **Max. Aperture**: F1.6–F4.0
- **Field of View**: H: 60.0°–2.5°; V: 30.8°–2.2°; D: 66.7°–2.9°
- **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/Manual

### DORI Distance
- **Detect**: 2540 m (8333.33 ft)
- **Observe**: 1016 m (3333.33 ft)
- **Recognize**: 508 m (1666.67 ft)
- **Identify**: 254 m (833.33 ft)

### PTZ
- **Pan/Tilt Range**: Pan: 0°–360° (endless), Tilt: -15°–90° (auto flip 180°)
- **Manual Control Speed**: Pan: 0.1°–200%/s, Tilt: 0.1°–120%/s
- **Preset Speed**: Pan: 240°/s, Tilt: 200%/s
- **Presets**: 300
- **Tour**: 8 (up to 32 presets per tour)
- **Pattern**: 5
- **Scan**: 5
- **Speed Adjustment**: Support
- **Power-off Memory**: Support
- **Idle Motion**: Preset/Tour/Pattern/Scanning
- **Protocol**: DH-SD, Pelco-P/D (auto recognition)

## General Intelligence

### Event Trigger
- Motion detection, Video tampering, Scene changing, Network disconnection, IP address conflict, Illegal Access, Storage anomaly

### IVS
- Object Abandoned/Missing

## Artificial Intelligence

### Perimeter Protection
- Tripwire and intrusion. Support alarm triggering by target types (human and vehicle). Support filtering false alarms caused by animals, rustling leaves, bright lights, etc.

### SMD PLUS
- Support

### Face Detection
- Support

### Smart Capture
- Support human, motor vehicle and non-motor vehicle image capture.

## Video

### Compression

### Streaming Capability
- 3 streams

### Resolution
- 4M (2560 × 1440); 3M (2048 × 1536); 1080P (1920 × 1080); 1.3M (1280 × 960); 720P (1280 × 720); D1 (704 × 576/704 × 480); CIF (352 × 288/352 × 240)

### Frame Rate
- Main stream: 4MP/3MP/1080P/1.3MP/720P (1–25fps)
- Sub stream 1: D1/CIF (1–25fps)
- Sub stream 2: 1080P/1.3MP/720P (1–25fps)

### Bit Rate Control
- Variable/Constant

### Bit Rate
- H.265/H.264: 3 kbps–20480 kbps

### Day/Night
- Auto(ICR)/Color/B/W

### BLC
- Support

### WDR
- 120 dB

### HLC
- Support

### White Balance
- Auto/Indoor/Outdoor/Track/Manual/Sodium lamp/Natural light/Street lamp

### Gain Control
- Auto/Manual

### Noise Reduction
- Ultra DNR (2D/3D)

### Motion Detection
- Support

### Region of Interest
- Support

### Electronic Image Stabilization
- Support

### Electronic Defog
- Support

### Digital Zoom
- 16x

### Flip
- 180°

### Privacy Masking
- Up to 24 areas, and up to 8 areas in the same view

## Audio

### Compression
- G.711a; G.711Mu; AAC; G.722.1; G.726; MPEG2-Layer2; G.729

## Network

### Ethernet
- RJ-45 [10/100Base-T]
### Protocol
- IPv4; IPv6; HTTP; HTTPS; SSL; TCP/IP; UDP; UPnP; IGMP; SNMPv1/v2c/v3(MIB-2); ARP; RTCP; RTSP; RTP; SMTP; NTP; DHCP; DNS; PPOP; DDNS; FTP; IP Filter; QoS; Bonjour; 802.1x

### Interoperability
- ONVIF Profile S&G&T; CGI

### Streaming Method
- Unicast/Multicast

### User/Host
- 20

### Storage
- NAS; Local PC; Micro SD card (256G)

### Browser
- IE7 and newer versions
- Chrome 45 and earlier versions
- Firefox 52 and earlier versions
- Safari (no version restrictions)

### Management Software
- Smart PSS; DSS; DMSS

### Mobile Phone
- IOS/Android

### Certification
- CE: EN55032/EN55024/EN50130-4
- FCC: Part15 subpartB, ANSI C63.4-2014
- UL: UL62368-1+CAN/CSA C22.2,No. 62368-1

### Port
- Audio Input: 1
- Audio Output: 1
- Alarm I/O: 2/1

### Power
- Power Supply: DC 12V/3A PoE+ (802.3at)
- Power Consumption: 13W 21W (IR on)

### Environment
- Operating Temperature: -40°C to +70°C (-40°F to +158°F)
- Operating Humidity: ≤95%
- Protection: IP66; TVS 6000V lightning proof; Surge protection

### Structure
- Dimensions: Ø160 mm × 295 mm (6.30” × 11.61”)
- Net Weight: 3 kg (6.61 lb)
- Gross Weight: 4.8kg (10.58lb)

### Accessories

#### Included:
- PFB305W: Wall Mount Bracket
- PFA111: Mount Adapter
- DC12V/3A: Power Adapter
- PFA140: Power Box
- PFB300C: Ceiling Mount Bracket
- PFA120: Water-proof Junction Box
- PFA150: Pole Mount Bracket
- PFA151: Corner Mount Bracket
- PFB303S: Parapet Mount Bracket

#### Optional:
- PFA111: Mount Adapter
- DC12V/3A: Power Adapter
- PFA140: Power Box
- PFB300C: Ceiling Mount Bracket
- PFA120: Water-proof Junction Box
- PFA150: Pole Mount Bracket
- PFA151: Corner Mount Bracket
- PFB303S: Parapet Mount Bracket

### Ordering Information

<table>
<thead>
<tr>
<th>Type</th>
<th>Model</th>
<th>Description</th>
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<tbody>
<tr>
<td>4MP WizSense PTZ Camera</td>
<td>DH-SD49425XB-HNR</td>
<td>4MP 25x Starlight IR WizSense Network PTZ Camera, WDR, PAL</td>
</tr>
<tr>
<td></td>
<td>DH-SD49425XBN-HNR</td>
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<table>
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<tr>
<th>Mounting Type</th>
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<th>Junction Mount</th>
<th>Power Box Mount</th>
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<tr>
<td></td>
<td>PFA111+PFB300C</td>
<td>PFB305W + PFA120</td>
<td>PFB305W + PFA140</td>
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<td>Pole Mount</td>
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</table>

**Dimensions (mm [inch])**

- **Ceiling Mount**
  - Height: 169.0 (6.63)
  - Diameter: 160.0 (6.30)
  - Length: 139.5 (5.49)

- **Junction Mount**
  - Height: 109.3 (4.30)
  - Diameter: 50.0 (1.97)
  - Length: 295.4 (11.63)

- **Power Box Mount**
  - Height: 169.0 (6.63)
  - Diameter: 160.0 (6.30)
  - Length: 139.5 (5.49)