

# DH-PSDW81642S-A360-D425

16 MP Multi-Sensor 360° Panoramic PTZ Mini Hubble Wizmind Network Camera



**WizMind**

Launched by Dahua Technology, Dahua WizMind is a full portfolio of solutions composed of project-oriented products including IPC, 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.

## System Overview

Mini Hubble Panoramic Network Camera brings together the power of the bullet camera and PTZ camera into one powerful design. This all-in-one camera harnesses the expanse of its panoramic view to track targets and detect details in the monitored scene. The bullet camera combines 8 sensors that work in tandem to realize 360° panoramic surveillance. It has a large aperture lens that leverages flowing light technology to detect targets even in poor lighting, and supports image correction and editing video recordings on the platform. The PTZ camera cooperates with the bullet camera to perform smart tracking and quickly detect details in the monitored scene. Advanced algorithms are integrated into the functions of the Bullet camera and PTZ camera, allowing them to perform detection and trigger a variety of alarms such as tripwire, intrusion, face detection and video metadata. The PTZ camera can also be set to automatically or manually track targets, allowing the all-in-one camera to meet the security needs of complex scenes.

## Functions

### Smart Tracking

With advanced algorithm, Dahua network camera can detect targets, track targets with speed dome, and view details.

- Panoramic parameters: 8 × 2 MP 1/1.8" CMOS image sensors.
- PTZ parameters: 1 × 4 MP 1/1.8" CMOS image sensors.
- PTZ camera: Built-in 4 IR LEDs, max. illumination distance: 100 m.
- PTZ camera: 25x optical zoom, 16x digital zoom.
- H.265 codec, high compression rate, ultra-low bit rate.
- 3D NR, HLC, BLC, applicable to various monitoring scenes.
- ROI, SMART H.264+/H.265+, flexible coding, applicable to various bandwidth and storage environments.
- Smart tracking.
- Built-in dual MIC and dual speaker, support two-way talk.
- Intelligent Functions: Panoramic Network Camera: Perimeter Protection; PTZ Camera: Perimeter Protection, Face Detection and Video Metadata.



### Face Detection

Dahua Face Detection technology can detect the face in the image. With deep learning algorithm, the technology supports detecting, tracking, capturing and selecting the best face image, and then outputs face snapshot.

### Video Metadata

With deep learning algorithm, Dahua Video Metadata technology can detect, track, capture vehicle, non-motor vehicle and people, and select the best images, and extract attributes.

### Cyber Security

Dahua network cameras employ a series of security technologies, including security authentication and authorization, access control protocols, trusted protection, encrypted transmission and encrypted storage. These technologies improve the camera's defense against external cyber threats and prevent malicious programs from compromising the device.

### AR Panorama

Dahua AR panorama technology generates wide-field of view through panoramic merging and splicing. The software overlaps the cameras as tags in the image. Click the tag to display the corresponding camera video, which makes monitoring visual and convenient, and improves command efficiency.

## Technical Specification

### Camera

|                            |                                                                                                                                                                                            |
|----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Image Sensor               | Panoramic network camera: 1/1.8"CMOS<br>PTZ camera:1/1.8"CMOS                                                                                                                              |
| Max. Resolution            | Panoramic network camera:8192 × 1800<br>PTZ camera: 2560 × 1440                                                                                                                            |
| ROM                        | Panoramic network camera:4 GB<br>PTZ camera:4 GB                                                                                                                                           |
| RAM                        | Panoramic network camera:4 GB<br>PTZ camera:1 GB                                                                                                                                           |
| Scanning System            | Progressive                                                                                                                                                                                |
| Electronic Shutter Speed   | Panoramic network camera:Auto/Manual 1/3 s-1/100,000 s<br>PTZ Camera:Auto/Manual 1/1 s-1/300,000 s                                                                                         |
| Min. Illumination          | Panoramic network camera:0.001 lux @F1.0(Color, 30 IRE); 0.0001 lux@F1.0(B/W, 30 IRE)<br>PTZ camera:0.001 lux @F1.6(Color, 30 IRE); 0.0001 lux @ F1.6(B/W, 30 IRE); 0 lux (Illuminator on) |
| S/N Ratio                  | Panoramic network camera: >56 dB<br>PTZ camera: >56 dB                                                                                                                                     |
| Illumination Distance      | Panoramic network camera:NA<br>PTZ camera: up to 100 m (328.08 ft) (IR on)                                                                                                                 |
| Illuminator On/Off Control | Auto; Zoomprio; Manual                                                                                                                                                                     |
| Illuminator Number         | Panoramic network camera:NA<br>PTZ camera:4(IR LED)                                                                                                                                        |
| Gradienter                 | The horizontal gradient is visualized, simplifying installation.                                                                                                                           |

### Lens

|                      |                                                                                                                                                                                                                                                                                                                                                                                  |                     |                    |                    |                   |
|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|--------------------|--------------------|-------------------|
| Lens Type            | Panoramic network camera: Fixed-focal<br>PTZ camera: Motorized vari-focal                                                                                                                                                                                                                                                                                                        |                     |                    |                    |                   |
| Lens Mount           | Panoramic network camera: M16<br>PTZ camera: Module                                                                                                                                                                                                                                                                                                                              |                     |                    |                    |                   |
| Focal Length         | Panoramic network camera 2.8 mm<br>PTZ camera: 5.3 mm–134 mm, optical zoom (25times)                                                                                                                                                                                                                                                                                             |                     |                    |                    |                   |
| Max. Aperture        | Panoramic network camera: F1.0<br>PTZ camera: F1.6–F4.0                                                                                                                                                                                                                                                                                                                          |                     |                    |                    |                   |
| Field of View        | Panoramic network camera: H: 360°; V: 103°;<br>PTZ camera:H: 3.5°–58°; V: 2°–35°; D: 2°–64°                                                                                                                                                                                                                                                                                      |                     |                    |                    |                   |
| Iris Control         | Panoramic network camera: Fixed<br>PTZ camera: Auto                                                                                                                                                                                                                                                                                                                              |                     |                    |                    |                   |
| Close Focus Distance | Panoramic network camera:1.4 m (4.59 ft)<br>PTZ camera:0.5 m–7 m (1.64 ft–22.96 ft)                                                                                                                                                                                                                                                                                              |                     |                    |                    |                   |
| DORI Distance        | Lens                                                                                                                                                                                                                                                                                                                                                                             | Detect              | Observe            | Recognize          | Identify          |
|                      | Panoramic network camera                                                                                                                                                                                                                                                                                                                                                         | 57.9 m (189.96 ft)  | 23.2 m (76.11 ft)  | 11.6 m (38.05 ft)  | 5.8 m (19.02 ft)  |
|                      | PTZ camera                                                                                                                                                                                                                                                                                                                                                                       | 1688 m (5538.05 ft) | 675 m (2214.56 ft) | 337 m (1105.64 ft) | 168 m (551.18 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) | Panoramic network camera: Intrusion, tripwire<br>PTZ camera:Tripwire, intrusion, fast moving (the three functions support the classification and accurate detection of vehicle and human); parking detection, loitering detection, and people gathering |
|----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

### Face Detection

PTZ camera: Face detection; track; snapshot; snapshot optimization; optimal face snapshot upload; face enhancement; face exposure; face attributes extraction including 6 attributes (gender, age, glasses, expressions, mask, and beard) and 8 expressions (angry, sad, disgusted, scared, surprised, calm, happy, confused); face snapshot set as face or one-inch photo; snapshot strategies (real-time snapshot, quality priority and optimization snapshot); face angle filter; optimization time setting

### Video Metadata

PTZ camera: Motor vehicle, non-motor vehicle, face, human body detection; track; snapshot; snapshot optimization; optimal face snapshot upload.  
Motor vehicle attributes: license plate, vehicle type, vehicle color, vehicle logo and other attributes : seatbelt, smoking, calling.  
Non-motor vehicle attributes: type, color, number of people, top type and color, helmet.  
Human body attributes: gender, top/bottom type and color, bag, hat and umbrella.  
Face attributes: gender, age, expressions, glasses, face mask and beard

### 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; MJPEG (Only supported by the sub stream)                                                                                                                                                                                                                                                                         |
| Smart Codec       | Smart H.265+; Smart H.264+                                                                                                                                                                                                                                                                                                             |
| Video Frame Rate  | Panoramic network camera:<br>Main stream: 8192 × 1800@(1-25/30fps)<br>Sub stream: 2048 × 452@(1-25/30fps)<br>Third stream: 3840 × 832@(1-25/30fps)<br>PTZ camera:<br>Main stream: 2688 × 1520@(1-25/30fps)<br>Sub stream: 704 × 480@(1-25/30fps)<br>Third stream: 1920 × 1080@(1-25/30fps)                                             |
| Stream Capability | 3 streams                                                                                                                                                                                                                                                                                                                              |
| Resolution        | Panoramic network camera:<br>Main stream: 8192 × 1800; 7680 × 1680; 5760 × 1264; 4096 × 900<br>Sub Stream: 2048 × 452<br>Third Stream: 3840 × 832; 2560 × 560<br>PTZ camera:<br>Main stream: 2560 × 1440; 1920 × 1080; 1280 × 960; 1280 × 720<br>Sub Stream: 704 × 576; 352 × 288<br>Third Stream: 1920 × 1080; 1280 × 960; 1280 × 720 |
| Bit Rate Control  | CBR/VBR                                                                                                                                                                                                                                                                                                                                |
| Video Bit Rate    | Panoramic network camera:<br>H.264: 3584 Kbps –18176 Kbps<br>H.265: 1280 Kbps –11008 Kbps<br>PTZ camera:<br>H.264: 2816 Kbps – 13056 Kbps<br>H.265: 1024 Kbps – 7936 Kbps                                                                                                                                                              |
| Day/Night         | Auto (ICR)/Color/B/W                                                                                                                                                                                                                                                                                                                   |
| BLC               | Yes                                                                                                                                                                                                                                                                                                                                    |
| HLC               | Yes                                                                                                                                                                                                                                                                                                                                    |
| WDR               | Panoramic network camera: DWDR<br>PTZ camera: WDR (120 dB )                                                                                                                                                                                                                                                                            |
| White Balance     | Panoramic network camera: Auto/Natural/street lamp/ outdoor/manual/regional Custom<br>PTZ camera: Auto/indoor/outdoor/tracking/manual/ sodium lamp/natural/street lamp                                                                                                                                                                 |

|                          |                                                                                  |
|--------------------------|----------------------------------------------------------------------------------|
| Gain Control             | Auto; Manual                                                                     |
| Noise Reduction          | 3D NR                                                                            |
| Motion Detection         | OFF/ON (4 areas, rectangular)                                                    |
| Region of Interest (RoI) | Yes (4 areas)                                                                    |
| Image Stabilization      | Panoramic network camera: NA<br>PTZ camera: Electronic Image Stabilization (EIS) |
| Smart Illumination       | Panoramic network camera:NA<br>PTZ camera:Yes                                    |
| Defog                    | Panoramic network camera: NA<br>PTZ camera: Yes                                  |
| Image Rotation           | 0°/180° (PTZ camera)                                                             |
| Privacy Masking          | Panoramic network camera: 4 areas<br>PTZ camera: 8 areas                         |

## Audio

|                   |                                    |
|-------------------|------------------------------------|
| Built-in MIC      | Yes, built-in dual Mic             |
| Built-in Speaker  | Yes, built-in dual speaker         |
| 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; parking detection; scene changing; audio detection; voltage detection; external alarm; video metadata; safety 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                                                                                                   |
| Cyber Security      | Video encryption; Firmware encryption; Configuration encryption; 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 |
| Interoperability    | ONVIF (Profile S/Profile G); CGI; Milestone                                                                                                                                                                                                               |
| User/Host           | 9 (Total bandwidth: 176 M)                                                                                                                                                                                                                                |
| Storage             | Micro SD card (support max. 512GB); FTP; SFTP; NFS; SMB                                                                                                                                                                                                   |
| Browser             | IE: IE11;<br>Chrome;<br>Firefox                                                                                                                                                                                                                           |
| Management Software | DSS                                                                                                                                                                                                                                                       |

## Certification

|                |                                                                                                                                                                       |
|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Certifications | CE-LVD:EN62368-1<br>CE-EMC:Electromagnetic Compatibility Directive 2014/30/EU<br>FCC:47 CFR FCC Part 15, Subpart B<br>UL/CUL:UL62368-1 & CAN/CSA C22.2 No. 62368-1-14 |
|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## PTZ Dome

|                |                                                              |
|----------------|--------------------------------------------------------------|
| Pan/Tilt Range | Pan: 0° to 360° endless<br>Tilt: -10° to 90°, auto flip 180° |
|----------------|--------------------------------------------------------------|

|                               |                                          |
|-------------------------------|------------------------------------------|
| Manual Control Speed          | Pan: 0.1°/s–120°/s<br>Tilt: 0.1°/s–50°/s |
| Positioning Accuracy          | Pan: 0.1°<br>Tilt: 0.1°                  |
| Remote PTZ Reset              | Yes                                      |
| Preset                        | 300                                      |
| Tour                          | 8 (up to 32 presets per tour)            |
| Pattern                       | 5                                        |
| Scan                          | 5                                        |
| Power-off Memory              | Yes                                      |
| Idle Motion                   | Preset/Pattern/Tour/Scan                 |
| Time Task                     | Yes                                      |
| Three-dimensional Positioning | Yes                                      |
| PTZ Limit                     | Yes                                      |
| Position Display              | Yes                                      |
| Information Display           | Yes                                      |
| Time Display                  | Yes                                      |

## Port

|               |                                               |
|---------------|-----------------------------------------------|
| Audio Input   | 2 channels (terminal)                         |
| Audio Output  | 1 channel (terminal)                          |
| Alarm Input   | 3 channels in: 5 mA 3V–5 VDC                  |
| Alarm Output  | 2 channels out: 1,000 mA 30 VDC/500 mA 50 VAC |
| Analog Output | 1 channel (CVBS output: BNC)                  |

## Power

|                   |                                                                                                                        |
|-------------------|------------------------------------------------------------------------------------------------------------------------|
| Power Supply      | DC 36V                                                                                                                 |
| Power Consumption | Basic: 35 W (36 VDC)<br>Max. (Basic power consumption + WDR + intelligence on + IR on + PTZ operation ): 45 W (36 VDC) |

## Environment

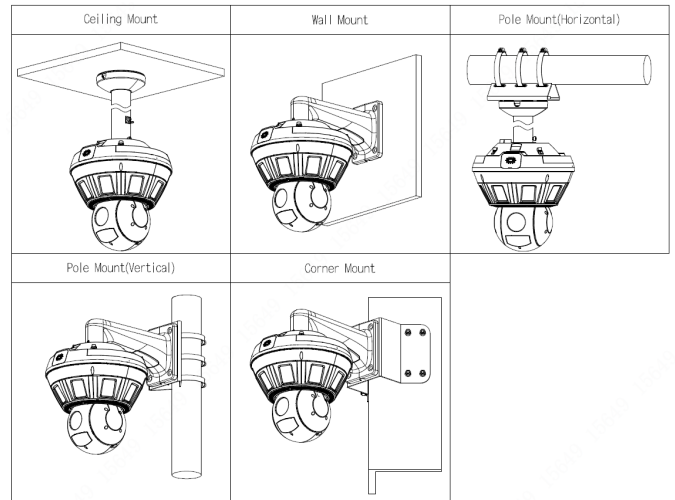
|                       |                                      |
|-----------------------|--------------------------------------|
| Operating Temperature | –40 °C – +60 °C (–104 °F to +140 °F) |
| Operating Humidity    | ≤95%                                 |
| Storage Temperature   | –40 °C – +70 °C (–104 °F to +158 °F) |
| Protection            | IP67                                 |

## Structure

|                      |                                                     |
|----------------------|-----------------------------------------------------|
| Casing Material      | Metal + plastic                                     |
| Product Dimensions   | 326 mm × Φ280 mm (12.83" × Φ11.02")                 |
| Packaging Dimensions | 394 mm × 352 mm × 468 mm (15.51" × 13.86" × 18.43") |
| Net Weight           | 7 kg (15.43 lb)                                     |
| Gross Weight         | 10.4 kg (22.93 lb)                                  |

## Ordering Information

| Type                   | Model                   | Description                                                              |
|------------------------|-------------------------|--------------------------------------------------------------------------|
| Panoramic + PTZ camera | DH-PSDW81642S-A360-D425 | 16 MP Multi-Sensor 360° Panoramic PTZ Mini Hubble Wizmind Network Camera |
|                        | PSDW81642S-A360-D425    | 16 MP Multi-Sensor 360° Panoramic PTZ Mini Hubble Wizmind Network Camera |
| Accessories            | 36 VDC 5A Power Adapter | 36 VDC 5A Power Adapter                                                  |
|                        | PFB303W-SG              | Wall Mount Bracket                                                       |
|                        | PFB300C-S               | Ceiling Mount Bracket                                                    |
|                        | PFA150-SG               | Pole Mount Bracket                                                       |
|                        | PFA151                  | Corner Mount Bracket                                                     |
|                        | TF-P100                 | MicroSD Memory Card                                                      |



## Accessories

Included:



36 VDC 5A  
Power Adapter

Optional:



PFB303W-SG  
Wall Mount  
Bracket



PFB300C-S  
Ceiling Mount  
Bracket



PFA150-SG  
Pole Mount  
Bracket



PFA151  
Corner Mount  
Bracket



TF-P100  
MicroSD  
Memory Card

## Dimensions (mm[inch])

