**alhua** TECHNOLOGY

# DH-SD6AL445GB-HNV

## 4MP 45x Starlight Laser Network PTZ 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 industry verticals.

## System Overview

With its powerful optical zoom and accurate pan, tilt capabilities, the PTZ camera provides an all-in-one solution for long distance video surveillance of outdoor scenes. Together with infrared illumination and Starlight Technology, the camera is a great solution for dark, low light conditions. The series combines a day and night mechanical IR cut filter to produce high quality images in variable lighting conditions during the day, and True WDR for locations with direct sunlight and glare.

## Functions

### Wide Dynamic Range

The camera produces vivid images, even in high-contrast lighting conditions, by using industry-leading wide dynamic range (WDR) technology. For scenes that quickly alternate between bright and low lighting, WDR adjusts to fully capture both the bright and dark areas of a scene, producing superior quality videos.

· 1/2.8" 4Megapixel STARVIS™ CMOS.

· 45x optical zoom.

· Starlight technology.

· Max. 25/30 fps@2560 × 1440.

· The laser illumination distance up to 550 m.

· Auto tracking 3.0.

· Perimeter protection.

· Face detection.

· Video Metadata.

· SMD 4.0.

· IP67.



### Face Detection

Supports 6 attributes and 8 expressions: Gender, age, glasses, face mask, beard and expressions (anger, sadness, disgust, fear, surprise, calm, happiness, and confusion). It also supports face cutout settings: Face, and single inch photo. Three snapshot methods are also featured: Real-time snapshot, priority snapshot, and quality priority.

### 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.

## Technical Specification

### Camera

| | |
|---|---|
| Image Sensor | 1/2.8" CMOS |
| Pixel | 4 MP |
| Max. Resolution | 2560 (H) × 1440 (V) |
| ROM | 4 GB |
| RAM | 1 GB |
| Electronic Shutter Speed | 1 s–1/30,000 s |
| Scanning System | Progressive |
| Min. Illumination | Color: 0.005 lux@F1.6<br>B/W: 0.0005 lux@F1.6<br>0 lux (IR/laser light on) |
| Illumination Distance | 550 m (1804.46 ft) |
| Illuminator On/Off Control | Zoom prio; Manual; Auto; Off |
| Illuminator Number | 2 (IR); 1 (laser) |
| Wiper | Wiper |

### Lens

| | |
|---|---|
| Focal Length | 3.95 mm–177.7 mm |
| Max. Aperture | F1.6–F4.95 |
| Field of View | H: 63.2°–1.8°; V: 37.6°–1.1°; D: 70.8°–2.1° |
| Optical Zoom | 45× |
| Focus Control | Auto; semi-auto; manual |
| Close Focus Distance | 0.1 m–1 m (0.33 ft–3.28 ft) |
| Iris Control | Auto; manual; iris prio |

| DORI Distance | Detect | Observe | Recognize | Identify |
|---|---|---|---|---|
| | 3,555 m (11,663.39 ft) | 1,404.2 m (4,606.96 ft) | 711 m (2,332.68 ft) | 355.5 m (1,166.34 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. | | | |

### PTZ

| | |
|---|---|
| Pan/Tilt Range | Pan: 0° to 360° endless<br>Tilt: −20° to +90°, auto flip 180° |
| Manual Control Speed | Pan: 0.1°/s–200°/s<br>Tilt: 0.1°/s–120°/s |
| Preset Speed | Pan: 240°/s; Tilt: 200°/s |
| Preset | 300 |
| Tour | 8 (up to 32 presets per tour) |
| Pattern | 5 |
| Scan | 5 |
| Power-off Memory | Yes |
| Idle Motion | Pattern; Preset; Scan; Tour |

| | |
|---|---|
| PTZ Protocol | DH-SD<br>Pelco-P/D (Auto recognition) |

### Intelligence

| | |
|---|---|
| Video Metadata | Motor vehicle, non-motor vehicle, face, and human body detection; optimization; capturing pictures; uploading high-quality face snapshots. Attribute extraction of motor vehicle is also supported, where 10 attributes can be detected |
| IVS (Perimeter Protection) | Tripwire; intrusion; crossing fence detection; loitering detection; abandoned/missing object; fast moving; parking detection; people gathering; human alarm classification; linkage tracking |
| Face Detection | Supports face detection, optimization, capturing pictures, uploading high-quality face snapshots and enhancing face images. Attribute Extraction is also supported, where 6 attributes and 8 expressions can be detected. Face cutout is also offered, where you can cutout one face at a time and customize the size to be a one-inch photo. The supported methods for capturing snapshots are real-time capturing, quality first, and selecting a preferred image among a group of snapshots |
| Auto Tracking | Yes |
| SMD | SMD4.0 |
| Quick Pick | Yes |

### Video

| | |
|---|---|
| Video Compression | H.264H; H.264B; Smart H.265+; H.264; H.265; MJPEG (Sub Stream); Smart H.264+ |
| Streaming Capability | 3 streams |
| Resolution | 4M (2560 × 1440); 3M (2048 × 1536); 3M (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) |
| Video Frame Rate | Main stream: 4M/3M/1080p/1.3M/720p@(1-25/30 fps)<br>Sub stream 1: D1/VGA/CIF@(1-25/30 fps)<br>Sub stream 2: 1080p/1.3M/720p@(1-25/30 fps) |
| Bit Rate Control | CBR/VBR |
| Video Bit Rate | H.264: 96 kbps–14848 kbps<br>H.265: 38 kbps–8960 kbps |
| Day/Night | Color; B/W; Auto; Electronic |
| BLC | Yes |
| WDR | 120 dB |
| HLC | Yes |
| White Balance | Auto; indoor; outdoor; tracking; manual; sodium lamp; natural light; street lamp |
| Gain Control | Auto; manual; gain prio |
| Noise Reduction | 2D NR; 3D NR |
| Motion Detection | Yes |
| Region of Interest (RoI) | Yes |
| Image Stabilization | EIS |
| Defog | Electronic |
| Digital Zoom | 16 × |
| Image Rotation | 180° |
| Privacy Masking | Up to 24 areas can be set, with up to 8 areas in the same view;<br>multiple colors available |

| S/N Ratio | ≥ 55 dB |
|---|---|

## Audio

| Audio Compression | PCM; G.711a; G.711Mu; G.726; MPEG2-Layer2; G722.1; G729; G723 |
|---|---|

## Network

| Network Port | RJ-45 (10/100 Base-T) |
|---|---|
| Network Protocol | FTP; RTMP; IPv6; Bonjour; IPv4; DNS; RTCP; PPPoE; NTP; RTP; 802.1x; HTTPS; SNMP; TCP/IP; DDNS; UPnP; NFS; ICMP; UDP; IGMP; HTTP; SSL; DHCP; SMTP; Qos; RTSP; ARP |
| Interoperability | CGI; SDK; ONVIF (Profile S&G&T) |
| Streaming Method | Unicast/Multicast |
| User/Host | 20 (total bandwidth: 64 M) |
| Storage | Micro SD card (512 GB); FTP/SFTP; NAS |
| Browser | IE 9 and later versions<br>Chrome 41 and later versions<br>Firefox 50 and later versions<br>Safari 10 and later versions |
| Management Software | DMSS; DSS Pro |
| Mobile Client | iOS; Android |

## Certification

| Certifications | CE: CN211FB1 001 and 4789976478-2.5-1<br>FCC: 4790130386-2 |
|---|---|

## Port

| Alarm I/O | 7/2 |
|---|---|
| Audio I/O | 1/1 |
| 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) |
| Alarm Linkage | Capture; Recording; send email; preset; tour; pattern; alarm digital input |
| Alarm Event | Motion/tampering detection; audio detection; network disconnection detection; IP conflict detection; memory card state detection; memory space detection |

## Power

| Power Supply | 36 VDC, 2.23 A ± 25%<br>HI-PoE |
|---|---|
| Power Consumption | Basic: 15 W<br>Max: 45 W (illuminator+PTZ) |

## Environment

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

## Structure

| Product Dimensions | 382 mm × Φ239.8 mm (15.04" × Φ9.44") |
|---|---|
| Net Weight | 6.8 kg (14.99 lb) |
| Gross Weight | 9.2 kg (20.28 lb) |

## Ordering Information

| Type | Model | Description |
|---|---|---|
| SD6AL Series | DH-SD6AL445GB-HNV | 4MP 45x Starlight Laser Network PTZ Camera |
| Accessories | DC36V/2.23A | Power Adapter |
| | PFA111 | Mount adapter |
| | PFB303W | Bracket |
| | PFB300C | Ceiling Mount |
| | PFA150 | Vertical pole mount |
| | PFA151+PFB303W | Corner Mount |
| | PFA150+DH-PFB300C | Horizontal Pole Mount |
| | PFB301C | Ceiling Mount |
| | PFB301S-E | Plane Mount |
| | PFB303S | Parapet Mount |

## Accessories

Included:

| | | |
|---|---|---|
| DC36V/2.23A Power Adapter | PFA111 Mount adapter | PFB303W Bracket |

Optional:

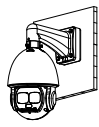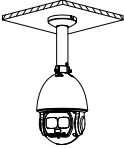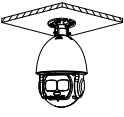| | | |
|---|---|---|
| PFB300C Ceiling Mount Bracket | PFA150 Pole Mount Bracket | PFA151+PFB303W Corner Mount Bracket |
| PFA150+PFB300C Horizontal Pole Mount | PFB301C Ceiling Mount | PFB301S-E Plane Mount |
| PFB303S Parapet Mount | | |

| Wall Mount | Ceiling Mount | Ceiling Mount |
|---|---|---|
| PFA111+PFB303W+PFA120 | PFA111+PFB300C | PFA111+PFB301C |
| | | |
| Pole Mount(Vertical) | Corner Mount | Pole Mount(Horizontal) |
| PFA111+PFB303W+PFA150 | PFA111+PFB303W+PFA151 | PFA111+PFB300C+PFA150 |
| | | |
| Plane Mount | Parapet Mount | |
| PFB301S−E | PFA111+PFB303S | |
| | | |
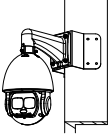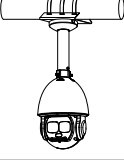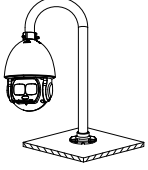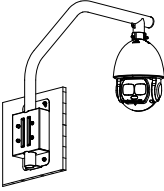
## Dimensions (mm[inch])

Φ46.9 [Φ1.85]

382.0 [15.04]

Φ239.8 [Φ9.44]

Φ190.0 [Φ7.48]