**Dahua** TECHNOLOGY

# DH-SD52C225U-HNI
## 2MP 25x Starlight PTZ Network Camera

- 1/2.8" 2Megapixel STARVIS™ CMOS
- Powerful 25x optical zoom
- H.265 Encoding
- Starlight technology
- Max. 50/60fps@1080P
- Auto-tracking and IVS
- Support PoE+
- IK10

H.265 | WDR | 0.005Lux | ICR D/N | Vandal-proof | PoE+

## System Overview

Featuring powerful optical zoom and accurate pan/tilt/zoom performance, this camera can provide large monitoring range and great detail. 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 0.005lux. 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.

### Auto-tracking
This feature controls the pan/tilt/zoom actions of the camera to automatically track an object in motion and to keep it in the scene. The tracking action can be triggered manually or automatically by defined rules. Once a rule is triggered, the camera can zoom in and track the defined target automatically.

### Smart H.265+
Smart H.265+ is the optimized implementation of the H.265 codec that uses a scene-adaptive encoding strategy, dynamic GOP, dynamic ROI, flexible multi-frame reference structure and intelligent noise reduction to deliver high-quality video without straining the network. Smart H.265+ technology reduces bit rate and storage requirements by up to 70% when compared to standard H.265 video compression.

### 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.

### Environmental
Dahua cameras operate in extreme temperature environments, rated for use in temperatures from -30°C ~ 60°C (-22°F ~ +140°F) with 95% humidity. The camera complies with the IK10 Vandal Resistance impact rating.

### Protection
The camera allows for ±10% input voltage tolerance, suitable for the unstable conditions for outdoor applications. Its 6KV lightning rating 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.

ONVIF

## Technical Specification

### Camera

| | |
|---|---|
| Image Sensor | 1/2.8" STARVIS™ CMOS |
| Effective Pixels | 1920(H) x 1080(V), 2 Megapixels |
| RAM/ROM | 1024M/128M |
| Scanning System | Progressive |
| Electronic Shutter Speed | 1/1s~1/30,000s |
| Minimum Illumination | Color: 0.005Lux@F1.6; B/W: 0.0005Lux@F1.6 |
| IR Distance | N/A |
| IR On/Off Control | N/A |
| IR LEDs | N/A |

### Lens

| | |
|---|---|
| Focal Length | 4.8mm~120mm |
| Max. Aperture | F1.6 ~ F4.4 |
| Angle of View | H: 62.8° ~ 2.6° |
| Optical Zoom | 25x |
| Focus Control | Auto/Manual |
| Close Focus Distance | 100mm~ 1000mm |

### DORI Distance

*Note: The DORI distance is a "general proximity" of distance which makes it easy to pinpoint the right camera for your needs. The DORI distance is calculated based on sensor specification and lab test result according to EN 62676-4 which defines the criteria for Detect, Observe, Recognize and Identify respectively.

| Detect | Observe | Recognize | Identify |
|---|---|---|---|
| 1613m(5292ft) | 646m(2119ft) | 323m(1060ft) | 161m(528ft) |

### PTZ

| | |
|---|---|
| Pan/Tilt Range | Pan: 0° ~ 360° endless; Tilt: 0° ~ 90°,auto flip 180° |
| Manual Control Speed | Pan: 0.1° ~350° /s; Tilt: 0.1° ~250° /s |
| Preset Speed | Pan: 500° /s; Tilt: 500° /s |
| Presets | 300 |
| PTZ Mode | 5 Pattern, 8 Tour, Auto Pan ,Auto Scan |
| Speed Setup | Human-oriented focal Length/ speed adaptation |
| Power up Action | Auto restore to previous PTZ and lens status after power failure |
| Idle Motion | Activate Preset/ Scan/ Tour/ Pattern if there is no command in the specified period |
| Protocol | DH-SD |

### Intelligence

| | |
|---|---|
| Event Trigger | Motion detection, Video tampering , Scene changing, Network disconnection, IP address conflict, Illegal Access, Storage anomaly |
| Auto Tracking | Support |
| IVS | Tripwire, Intrusion, Abandoned/Missing |
| Advanced Intelligent Functions | Face Detection, Heat Map |

### Video

| | |
|---|---|
| Compression | H.265+/H.265/H.264+/H.264/MJPEG(Sub Stream) |
| Streaming Capability | 3 Streams |
| Resolution | 1080P(1920×1080)/1.3M(1280×960)/720P(1280×720)/D1(704×576/704×480)/CIF(352×288/352×240) |
| Frame Rate | Main stream: 1080P/1.3M/720P(1~50/60fps) |
| | Sub stream1: D1/CIF(1 ~ 25/30fps) |
| | Sub stream2: 1080P/1.3M/720P/D1/CIF (1~25/30fps) |
| Bit Rate Control | CBR/VBR |
| Bit Rate | H.265/H.264: 448K ~ 8192Kbps |
| Day/Night | Auto(ICR) / Color / B/W |
| Backlight Compensation | BLC / HLC / WDR (120dB) |
| White Balance | Auto, ATW, Indoor, Outdoor, Manual |
| Gain Control | Auto / Manual |
| Noise Reduction | Ultra DNR (2D/3D) |
| Motion Detection | Support |
| Region of Interest | Support |
| Electronic Image Stabilization (EIS) | Support |
| Defog | Support |
| Digital Zoom | 16x |
| Flip | 180° |
| Privacy Masking | Up to 24 areas |

### Audio

| | |
|---|---|
| Compression | G.711a/G.711Mu/AAC/G.722 / G.726/G.729/ MPEG2-L2 |

### Network

| | |
|---|---|
| Ethernet | RJ-45 (10Base-T/100Base-TX) |
| Protocol | IPv4/IPv6, HTTP, HTTPS, SSL, TCP/IP, UDP, UPnP, ICMP, IGMP, SNMP, RTSP, RTP, SMTP, NTP, DHCP, DNS,PPPOE,DDNS,FTP, IP Filter,QoS,Bonjour,802.1x |
| Interoperability | ONVIF Profile S&G, API |
| Streaming Method | Unicast / Multicast |
| Max. User Access | 20 users |
| Edge Storage | NAS (Network Attached Storage),Local PC for instant recording, Micro SD card 256GB |
| Web Viewer | IE, Chrome, Firefox, Safari |
| Management Software | Smart PSS, DSS, DMSS |
| Smart Phone | IOS, Android |

## Certifications

| | |
|---|---|
| Certifications | CE: EN55032/EN55024/EN50130-4<br>FCC: Part15 subpartB,ANSI C63.4- 2014<br>UL: UL60950-1+CAN/CSA C22.2,No.60950-1 |

### Interface

| | |
|---|---|
| Video Interface | N/A |
| RS485 | N/A |
| Audio I/O | 1/1 |
| Alarm I/O | 2/1 |

### Electrical

| | |
|---|---|
| Power Supply | DC24V/2.5A(±25%), PoE+(802.3at) |
| Power Consumption | 13W |

### Environmental

| | |
|---|---|
| Operating Conditions | -30°C ~ 60°C (-22°F ~ +140°F) / Less than 95% RH |
| Ingress Protection | N/A |
| Vandal Resistance | IK10 |

### Construction

| | |
|---|---|
| Casing | Metal |
| Dimensions | Φ198(mm) x 177(mm) |
| Net Weight | 2.2kg(4.85lb) |
| Gross Weight | 3.7kg(8.16lb) |

## Dimensions (mm)



## Ordering Information

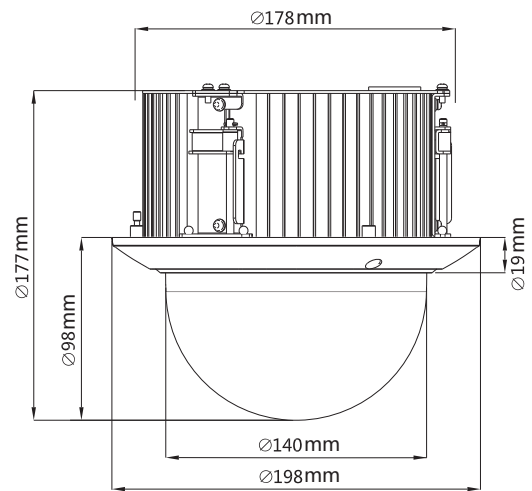| Type | Part Number | Description |
|---|---|---|
| 2MP PTZ Camera | DH-SD52C225U-HNI | 2MP 25x Starlight PTZ Network Camera, WDR, PAL |
| | DH-SD52C225UN-HNI | 2MP 25x Starlight PTZ Network Camera, WDR, NTSC |
| | SD52C225U-HNI | 2MP 25x Starlight PTZ Network Camera, WDR, PAL |
| | SD52C225UN-HNI | 2MP 25x Starlight PTZ Network Camera, WDR, NTSC |
| Accessories | DC24V/2.5A | Power Adapter |

## Accessories

Included:



DC24V/2.5A
Power Adapter

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