# DH-IPC-HDW2231T-AS-S2

## 2MP WDR IR Eyeball Network Camera

- 2MP, 1/2.8” CMOS image sensor, low illuminance, high image definition
- Outputs max. 2MP (1920 × 1080) @25/30 fps
- H.265 codec, high compression rate, ultra-low bit rate
- Built-in IR LED, max. IR distance: 30 m
- ROI, SMART H.264/H.265, flexible coding, applicable to various bandwidth and storage environments
- Rotation mode, WDR, 3D DNR, HLC, BLC, digital watermarking, applicable to various monitoring scenes
- Intelligent detection: Intrusion, tripwire
- Abnormality detection: Motion detection, video tampering, no SD card, SD card full, SD card error, network disconnection, IP conflict, illegal access, voltage detection
- Supports max. 256 GB Micro SD card, built-in Mic
- 12V DC/PoE power support
- IP67 protection

## System Overview

With upgraded H.265 encoding technology, Dahua Lite series camera has efficient video encoding capacity, which saves bandwidth and storage space. This camera adopts the latest starlight technology and displays better colorful image in the environment of low illumination. It supports SD card storage, waterproof function, dust-proof function, complying to the standards of IP67.

## Functions

**Smart ( H.265+ & H.264+ )**

Adopting advanced algorithm of auto stream control according to the environment, Dahua smart encoding technology realizes the higher efficiency than (H.265 & H.264 ), providing high-quality video, and reducing the cost of storage and transmission.

**Wide dynamic range (WDR)**

Dahua adopts advanced Wide Dynamic Range (WDR) technology. You can get clear details in the environment of strong brightness contrast. In high brightness and back- light environment, bright region and dark region with strong light source, you can also get clear images.

**Starlight**

Dahua Starlight technology mainly applies to the environment of low illumination, and it can provide clear colorful video. Even in the environment of min. illumination, the technology can guarantee the good image effect.

**Intelligent Video Analysis (IVS)**

With advanced video algorithm, Dahua camera supports intelligent detection, such as tripwire and intrusion and so on.

**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 works normal after soaking in 1 m deep water for 30 minutes.
Wide voltage: The camera allows ±30% input voltage tolerance (wide voltage range), and it is widely applied to outdoor environment with instable voltage.

## Technical Specification

### Camera

| | |
|---|---|
| Image Sensor | 1/2.8”2Megapixel progressive CMOS |
| Effective Pixels | 1920 (H) ×1080 (V) |
| ROM | 128 MB |
| RAM | 128 MB |
| Scanning System | Progressive |
| Electronic Shutter Speed | Auto/Manual 1/3 s–1/100000 s |
| Min. Illumination | 0.002 Lux @F1.6 |
| IR Distance | 30 m (98.4 ft) |
| IR On/Off Control | Auto/Manual |
| IR LEDs Number | 2 |
| Pan/Tilt/Rotation Range | Horizontal: 0°–360°<br>Vertical: 0°–78°<br>Rotation: 0°–360° |

### Lens

| | |
|---|---|
| Lens Type | Fixed focal |
| Mount Type | M12 |
| Focal Length | 2.8 mm<br>3.6 mm |
| Max. Aperture | F1.6<br>F1.6 |
| Field of View | 2.8 mm:<br>Horizontal:106°<br>Vertical: 56°<br>Diagonal: 126°<br>3.6 mm:<br>Horizontal:87°<br>Vertical: 46°<br>Diagonal: 104° |
| Iris Type | Fixed aperture |
| Close Focus Distance | 2.8 mm: 0.6 m (2.0 ft)<br>3.6 mm: 1.2 m (3.9ft) |

| | Lens | Detect | Observe | Recognize | Identify |
|---|---|---|---|---|---|
| DORI Distance | 2.8 mm | 38.6 m (126.6 ft) | 15.4 m (50.5 ft) | 7.7 m (25.3 ft) | 3.9 m (12.8 ft) |
| | 3.6 mm | 55.2 m (181.1 ft) | 22.1 m (72.5 ft) | 11.0 m (36.1 ft) | 5.5 m (18.0 ft) |

### Smart event

| | |
|---|---|
| General IVS Analytics | Intrusion; tripwire |

### Video

| | |
|---|---|
| Video Compression | H.265; H.264; H.264B; MJPEG |
| Smart Codec | H.264: Yes<br>H.265: Yes |
| Video Frame Rate | Main stream:<br>1920 × 1080 (1 fps-25/30 fps)<br>Sub stream:<br>704 × 576 (1 fps-25 fps)<br>704 × 480 (1 fps-30 fps) |
| Stream Capability | 2 streams |
| Resolution | 1080p (1920 × 1080); 1.3M (1280 × 960); 720p (1280 × 720); D1 (704 × 576/704 × 480); VGA (640 × 480); CIF (352 × 288/352 × 240) |
| Bit Rate Control | CBR/VBR |
| Video Bit Rate | H.264: 32 Kbps–6144 Kbps<br>H.265: 12 Kbps–6144 Kbps |
| Day/Night | ICR switch |
| BLC | Yes |
| WDR | 120 dB |
| White Balance | Auto/natural/street lamp/outdoor/manual/regional custom |
| Gain Control | Auto/Manual |
| Noise Reduction | 3D DNR |
| Motion Detection | OFF/ON (4 areas, rectangular) |
| Region of Interest(RoI) | Yes (4 areas) |
| Smart IR | Yes |
| Image Rotation | 0°/90°/180°/270° (Support 90°/270° with 1080p resolution.) |
| Mirror | Yes |
| Privacy Masking | 4 areas |

### Audio

| | |
|---|---|
| Built-in MIC | Yes |
| Audio Compression | G.711A; G.711Mu; G.726; AAC |

### Network

| | |
|---|---|
| Network | RJ-45 (10/100 Base-T) |
| Protocol | HTTP; TCP; ARP; RTSP; RTP; UDP; RTCP; SMTP; FTP; DHCP; DNS; DDNS; PPPoE; IPv4/v6; QoS; UPnP; NTP; RTMP; Multicast; HTTPS; SFTP; 802.1x; ICMP; IGMP |
| Interoperability | ONVIF (Profile S/Profile G); CGI; Milestone; Genetec |
| User/Host | 20 |
| Edge Storage | Dahua Cloud; FTP; Micro SD Card (support max. 256 GB); NFS |
| Browser | IE<br>Chrome<br>Firefox |
| Management Software | Smart PSS; DSS; DMSS |
| Mobile Phone | IOS; Android |

### Certification

| | |
|---|---|
| Certifications | CE-LVD: EN60950-1<br>CE-EMC: Electromagnetic Compatibility Directive 2014/30/EU<br>FCC: 47 CFR FCC Part 15, Subpart B<br>UL/CUL: UL60950-1 CAN/CSA C22.2 No.60950-1-07 |

### Power

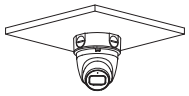
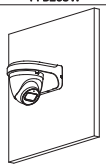
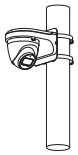
| | |
|---|---|
| Power Supply | 12V DC/PoE |
| Power Consumption | < 6.5W |

## Environment

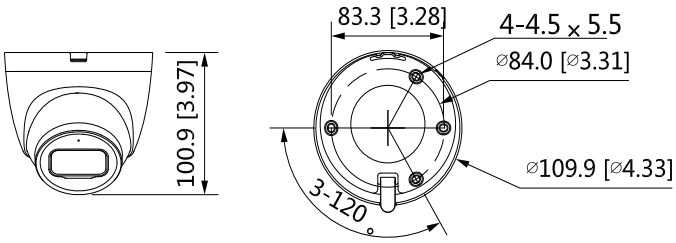
| | |
|---|---|
| Operating Conditions | -40°C to +60°C (-40°F to +140°F)/ less than ≤ 95% |
| Strorage Conditions | -40°C to +60°C (-40°F to +140°F) |
| Ingress Protection | IP67 |

## Structure

| | |
|---|---|
| Casing | Metal + plastic |
| Dimensions | 100.9 mm × Φ109.9 mm (4.0" × Φ4.3") |
| Net Weight | 0.39 kg (0.9 lb) |
| Gross Weight | 0.56 kg (1.2 lb) |

| Junction Mount | Wall Mount | Pole Mount |
|---|---|---|
| PFA130-E | PFB203W | PFA152-E+PFB203W |
|  |  |  |

## Dimensions (mm[inch])




## Ordering Information

| Type | Part Number | Description |
|---|---|---|
| 2MP Camera | DH-IPC-HDW2231TP-AS-S2 | 2MP WDR IR Eyeball Network Camera,PAL |
| | DH-IPC-HDW2231TN-AS-S2 | 2MP WDR IR Eyeball Network Camera, NTSC |
| Accessories (optional) | PFA130-E | Junction Box |
| | PFB203W | Wall mount |
| | PFA152-E | Pole mount |
| | PFM321D | DC12V1A Power adapter |
| | LR1002-1ET/1EC | Single-port long reach ethernet over coax extender |
| | PFM900-E | Integrated mount tester |
| | PFM114 | TLC SD card |

## Accessories

### Optional:

PFA130-E
Junction Box

PFB203W
Wall mount

PFA152-E
Pole Mount

PFM321D
DC12V1A
Power adapter

LR1002-1ET/1EC
Single-port long reach ethernet over coax extender

PFM900-E
Integrated mount tester

PFM114
TLC SD card



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