alhua TECHNOLOGY

DH-IPC-HDW2231T-ZS-S2

2MP Lite IR Vari-focal Eyeball Network Camera

- 2MP, 1/2.8" CMOS image sensor, low illuminance, high image definition
- Outputs 2MP (1920 × 1080)@25/30 fps
- H.265 codec, high compression rate, ultra-low bit rate
- Built-in IR LED, max IR distance: 40 m
- ROI, SMART H.264+/H.265+, flexible coding, applicable to various bandwidth and storage environments
- Rotation mode, WDR, 3D NR, 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 disconnected, IP conflict, illegal access, voltage detection
- Supports max. 256 GB Micro SD card
- 12V DC/PoE power supply
- IP67 protection

| 2Mp | Smart Codec | WDR | Starlight | IVS | IP67 |

Series Overview

With upgraded H.265 encoding technology, Dahua Lite series network camera has efficient video encoding capacity, which saves bandwidth and storage space. This camera adopts the latest starlight technology and displays better color image in the condition of low illumination. It supports SD card storage, dust-proof function, waterproof function and vandal-proof function, complying with the standards of IP67 (Supported by some select models).

Functions

Smart H.265+ & Smart H.264+

With advanced scene-adaptive rate control algorithm, Dahua smart encoding technology realizes the higher encoding efficiency than H.265 and H.264, provides high-quality video, and reduces the cost of storage and transmission.

WDR

With advanced Wide Dynamic Range (WDR) technology, Dahua network camera provides clear details in the environment of strong brightness contrast. The bright and dark area can get clear video even in high brightness environment or with backlight shadow.

Starlight

With advanced image processing technology and optical technology, Dahua Starlight technology can provide clear colorful video in the environment of low illuminance. It widely applies to various environments of low illuminance.

IVS

With advanced video algorithm, Dahua IVS technology supports intelligent functions, such as tripwire and intrusion.

Cyber Security

Dahua network camera is equipped with a series of key security technologies, such as security authentication and authorization, access control, trusted protection, encrypted transmission, and encrypted storage, which improve its security defense and data protection, and prevent malicious programs from invading the device. With UL CAP Certification, TÜV Rheinland Protected Privacy IoT Product Certification, and ETSI EN 303645 Certification, Dahua network camera better meets the demands of cyber security and privacy protection.

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.

Onvif

Technical Specification

Camera

Image Sensor	1/2.8" 2Megapixel progressive CMOS
Max. Resolution	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@F1.5
S/N Ratio	>56 dB
Illumination Distance	40 m (131.23 ft)
Illuminator On/Off Control	Auto/Manual
Illuminator Number	2 (IR LED)
Pan/Tilt/Rotation Range	Pan 0°–360° Tilt: 0°–78° Rotation: 0°–360°

Lens

Lens Type	Motorized vari-focal
Mount Type	φ14
Focal Length	2.7 mm–13.5 mm
Max. Aperture	F1.5
Field of View	Horizontal: 109°–28° Vertical: 57°–16° Diagonal: 131°–33°
Iris Type	Fixed
Close Focus Distance	0.8 m–0.8 m (2.62 ft–2.62 ft)

DORI Distance	Lens	Detect	Observe	Recognize	Identify
	W	44.1 m (144.69 ft)	17.6 m (57.74 ft)	8.8 m (28.87 ft)	4.4 m (14.44 ft)
	T	151.7 m (497.70 ft)	60.6 m (198.82 ft)	30.3 m (99.41 ft)	15.1 m (49.65 ft)

Smart Event

IVS	Tripwire; intrusion

Video

Video Compression	H.265; H.264; H.264B; MJPEG (only supported by the sub stream)
Smart Codec	Smart H.265+/ Smart H.264+
Video Frame Rate	Main stream: 1920 × 1080 (1 fps-25/30 fps) Sub stream: 704 × 576 (1 fps-25 fps) 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 H.265: 12 kbps–6144 kbps
Day/Night	Auto(ICR)/Color/B/W
BLC	Yes
HLC	Yes
WDR	120 dB
White Balance	Auto/natural/street lamp/outdoor/manual/regional custom
Gain Control	Auto/Manual
Noise Reduction	3D NR
Motion Detection	OFF/ON (4 areas, rectangular)
Region of Interest(RoI)	Yes (4 areas)
Smart Illumination	Yes
Image Rotation	0°/90°/180°/270° (Supports 90°/270° with 1080p resolution and lower.)
Mirror	Yes
Privacy Masking	4 areas

Alarm

Alarm Event	No SD card; SD card full; SD card error; network disconnection; IP conflict; motion detection; video tampering; tripwire; intrusion; illegal access; voltage detection; safety exception

Network

Network	RJ-45 (10/100 Base-T)
SDK and API	Yes
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
Protocol	IPv4; IPv6; HTTP; TCP; UDP; ARP; RTP ; RTSP; RTCP; RTMP; SMTP; FTP; SFTP; DHCP; DNS; DDNS; QoS; UPnP; NTP; Multicast; ICMP; IGMP; NFS; PPPoE; Bonjour
Interoperability	ONVIF (Profile S/Profile G/Profile T); CGI; P2P; Milestone; Genetec
User/Host	20
Storage	FTP; Micro SD card (support max. 256 G); NAS; SFTP
Browser	IE Chrome Firefox
Management Software	Smart PSS; DSS; DMSS
Mobile Phone	IOS; Android

Certification

Certifications	CE-LVD: EN62368-1 CE-EMC: Electromagnetic Compatibility Directive 2014/30/EU FCC: 47 CFR FCC Part 15, Subpart B UL/CUL: UL60950-1 CAN/CSA C22.2 No.60950-1-07

Power

Power Supply	12V DC/PoE (802.3af)
Power Consumption	< 6.4W

Environment

Operating Conditions	-30°C to +60°C (-22°F to +140°F)/less than ≤ 95% RH
Storage Temperature	-40°C to +60°C (-40°F to +140°F)
Protection	IP67

Structure

Casing	Metal
Dimensions	108.3 mm × Φ122 mm (4.26" × Φ1.80")
Net Weight	0.69 kg (1.52 lb)
Gross Weight	0.88 kg (1.94 lb)

Ordering Information

Type	Part Number	Description
2MP Camera	DH-IPC-HDW2231TP-ZS-S2	2MP Lite IR Vari-focal Eyeball Network Camera,PAL
	DH-IPC-HDW2231TN-ZS-S2	2MP Lite IR Vari-focal Eyeball Network Camera,NTSC
Accessories (optional)	PFA130-E	Junction Box
	PFB203W	Wall Mount
	PFA106	Mount Adapter
	PFB220C	Ceiling 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	PFA106 Mount Adapter
PFB220C Ceiling 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

Junction Mount	Wall MountC	eiling Mount	Pole Mount
PFA130-EP	FB203W	PFA106+PFB220C	PFB203W+PFA152-E

Dimensions (mm[inch])

∅122.0 [∅4.80]

3-4.5 [∅0.18]

∅84.0 [∅3.31]

108.3 [4.26]