

DH-IPC-HDW2449T-S-IL

4MP Smart Dual Light Fixed-focal Eyeball WizSense Network Camera



Wiz Sense

Launched by Dahua Technology, WizSense is a series of AI products and solutions that adopt independent AI chip and deep learning algorithm. It focuses on human and vehicle with high accuracy, enabling users to fast act on defined targets. Based on Dahua's advanced technologies, WizSense provides intelligent, simple and inclusive products and solutions.

Series Overview

With advanced deep learning algorithm, Dahua WizSense 2 Series network camera supports intelligent functions, such as perimeter protection and smart motion detection. With starlight technology, this series camera provides a better image effect in the condition of low illuminance.

Functions

Smart Dual Light

Dahua Smart Dual Light technology adopts smart algorithm to detect targets. Usually, the IR illuminator is on at night; when the target appears in the monitoring area, the white light is on, and the camera records the full-color video and information of key events. That is, the camera links snapshot and video with full-color image. When the target is out of the monitoring area, the white light is off and the IR illuminator is on, which reduces light pollution efficiently.

SMD Plus

With intelligent algorithm, Dahua Smart Motion Detection technology can categorize the targets that trigger motion detection and filter the motion detection alarm triggered by non-concerned targets to realize effective and accurate alarm.

Perimeter Protection

With deep learning algorithm, Dahua Perimeter Protection technology can recognize human and vehicle accurately. In restricted area (such as pedestrian area and vehicle area), the false alarms of intelligent detection based on target type (such as tripwire, intrusion) are largely reduced.

- 4-MP 1/2.9" CMOS image sensor, low luminance, and high definition image.
- Outputs max. 4 MP (2688 × 1520)@20 fps, and supports 2560 × 1440 @25/30 fps
- H.265 codec, high compression rate, ultra-low bit rate.
- Built-in warm light/IR LED, the max. illumination distance is 30 m and the max. warm light distance is 30 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 monitoring: Intrusion, tripwire (the two functions support the classification and accurate detection of vehicle and human).
- Supports max. 256 G Micro SD card; built in MIC.
- 12 VDC/PoE power supply, easy for installation.
- IP67 protection.
- SMD Plus.



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.

Full-color

With high-performance sensor and large aperture lens, Dahua Full-color technology can display clear colorful image in the environment of ultra-low illuminance. With this photosensitivity technology, the camera can capture more available light, and display more colorful image details.

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.

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 work normally after soaking in 1 m deep water for 30 minutes.

Wide voltage: The camera allows ±30% (for some power supplies) input voltage tolerance (wide voltage range), and it is widely applied to outdoor environment with instable voltage.

Technical Specification

Camera

Image Sensor	1/2.9" CMOS
Max. Resolution	2688 (H) × 1520 (V)
ROM	128 MB
RAM	128 MB
Scanning System	Progressive
Electronic Shutter Speed	Auto/Manual 1/3 s–1/100,000 s
Min. Illumination	0.006 lux@F1.6 (Color, 30 IRE) 0.0006 lux@F1.6 (B/W, 30 IRE) 0 lux (Illuminator on)
S/N Ratio	>56 dB
Illumination Distance	up to 30 m (98.43 ft) (IR); up to 30 m (98.43 ft) (Warm light)
Illuminator On/Off Control	Auto; Manual
Illuminator Number	1 (IR LED); 1 (Warm light)
Pan/Tilt/Rotation Range	Pan: 0°–360° Tilt: 0°–78° Rotation: 0°–360°

Lens

Lens Type	Fixed-focal				
Lens Mount	M12				
Focal Length	2.8 mm; 3.6 mm				
Max. Aperture	F1.6				
Field of View	2.8 mm: H: 95°; V: 52°; D: 114° 3.6 mm: H: 78°; V: 41°; D: 94°				
Iris Control	Fixed				
Close Focus Distance	2.8 mm: 0.9 m (2.95 ft); 3.6 mm: 1.6 m (5.25 ft)				
DORI Distance	Lens	Detect	Observe	Recognize	Identify
	2.8 mm	63.6 m (208.66 ft)	25.4 m (83.33 ft)	12.7 m (41.67 ft)	6.4 m (20.99 ft)
	3.6 mm	85.4 m (280.18 ft)	34.2 m (112.20 ft)	17.1 m (56.10 ft)	8.5 m (27.89 ft)

Intelligence

IVS (Perimeter Protection)	Intrusion, tripwire (the two functions support the classification and accurate detection of vehicle and human)
Smart Search	Work together with Smart NVR to perform refine intelligent search, event extraction and merging to event videos

Video

Video Compression	H.264H; 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: 2688 × 1520@(1–20 fps)/2560 × 1440@(1–25/30 fps) Sub stream: 704 × 576@(1–25 fps)/704 × 480@(1–30 fps) *The values above are the max. frame rates of each stream; for multiple streams, the values will be subjected to the total encoding capacity.

Stream Capability	2 streams
Resolution	4M (2688 × 1520); 3.6M (2560 × 1440); 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)
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)
Image Rotation	0°/90°/180°/270° (Support 90°/270° with 2688 × 1520 resolution and lower)
Mirror	Yes
Privacy Masking	4 areas

Audio

Built-in MIC	Yes
Audio Compression	G.711a; G.711Mu; PCM; G.726

Alarm

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

Network Port	RJ-45 (10/100 Base-T)
SDK and API	Yes
Network Protocol	IPv4; IPv6; HTTP; TCP; UDP; ARP; RTP; RTSP; RTCP; RTMP; SMTP; FTP; SFTP; DHCP; DNS; DDNS; NTP; Multicast; ICMP; IGMP
Interoperability	ONVIF (Profile S/Profile T); CGI; P2P; Milestone
User/Host	6 (Total bandwidth: 36 M)
Storage	FTP; SFTP; Micro SD card (support max. 256 GB)
Browser	IE; Chrome; Firefox
Management Software	DSS; DMSS
Mobile Client	iOS; Android
Cyber Security	Configuration encryption; Trusted execution; Digest; Security logs; WSSE; Account lockout; syslog; Video encryption; 802.1x; IP/MAC filtering; HTTPS; Trusted upgrade; Trusted boot; Generation and importing of X.509 certification

Certification

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

Power Supply	12 VDC/PoE (802.3af)
Power Consumption	Basic: 2.1 W (12 VDC); 2.5 W (PoE) Max. (H.265 + intelligence + WDR + warm light): 4.4 W (12 VDC); 5.2 W (PoE)

Environment

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

Structure

Casing Material	Inner core: Metal ; Cover: Plastic
Product Dimensions	100.9 mm × Φ109.9 mm (3.97" × Φ4.33")
Net Weight	0.37 kg (0.82 lb)
Gross Weight	0.51 kg (1.12 lb)

Ordering Information

Type	Model	Description
4MP camera	DH-IPC-HDW2449T-S-IL	4MP Smart Dual Light Fixed-focal Eyeball WizSense Network Camera
Accessories (Optional)	PFA13G	Junction Box
	PFB205W-E	Wall Mount Bracket
	PFA152-E	Pole Mount Bracket
	PFA109	Mount Adapter
	PFB220C	Ceiling Mount Bracket
	PFM321D	12 VDC 1A Power Adapter
	PFM900-E	Integrated Mount Tester
	TF-P100	MicroSD Memory Card

Accessories

Optional:



PFA13G
Junction Box



PFB205W-E
Wall Mount Bracket



PFA152-E
Pole Mount Bracket



PFA109
Mount Adapter



PFB220C
Ceiling Mount Bracket



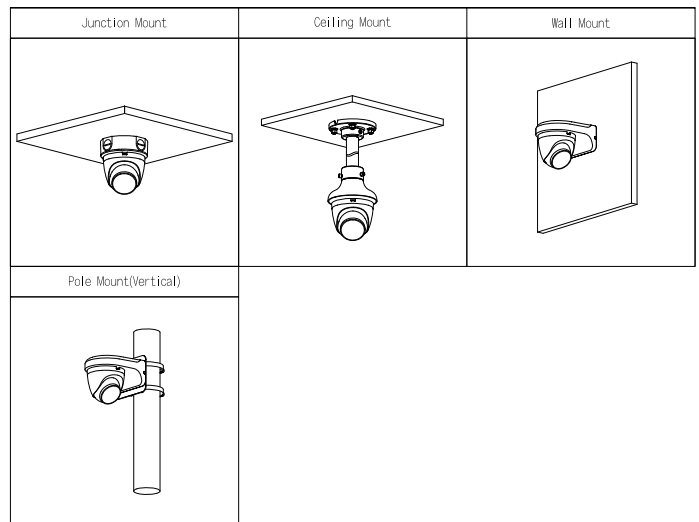
PFM321D
12 VDC 1A Power Adapter



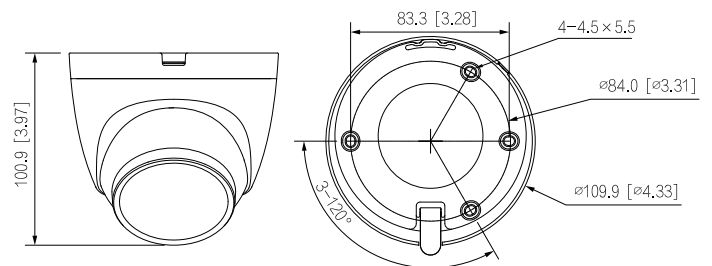
PFM900-E
Integrated Mount Tester



TF-P100
MicroSD Memory Card



Dimensions (mm[inch])



DHI-NVR5208-8P-EI2

8CH 1U 8PoE 2HDDs WizSense Network Video Recorder



Launched by Dahua Technology, WizSense is a series of AI products and solutions that adopt independent AI chip and deep learning algorithm. It focuses on human and vehicle with high accuracy, enabling users to fast act on defined targets. Based on Dahua's advanced technologies, WizSense provides intelligent, simple and inclusive products and solutions.

Series Overview

The NVR5000-EI2 delivers superior performance and advanced recording technology for IP surveillance systems. Featuring a powerful processor with high-speed data processing and robust decoding capabilities, it ensures smooth video streaming. The device incorporates an intuitive modular GUI NVR NEXT that simplifies workflows and enhances operational efficiency. Equipped with an integrated AI chip and Dahua's deep learning algorithms, it enables precise detection, efficient analytics, and reduced false alarms. Its AcuPick technology provides industry-leading one-click accuracy search. Supporting seamless integration with third-party devices and Video Management Software (VMS), the NVR5000-EI2 offers a versatile and scalable surveillance solution.

Functions

AcuPick

This industry-leading search technology effectively utilizes both front-end and back-end intelligence to help with searching through massive video data to quickly and conveniently locate targets with greater precision.

- Supports Smart H.265+, H.265, Smart H.264+, H.264 and MJPEG decoding formats.
- Max. decoding capability: 40 × 1080p@30 fps or 8 × 8MP@30 fps.
- Max. 448/448/448 Mbps incoming/recording/outgoing bandwidth.
- Supports IP cameras with a resolution up to 32 MP.
- Supports 8K HDMI output.
- Provides access to remote storage devices via iSCSI to expand storage capacity.
- AI by Recorder supports 4-channel face detection and recognition, up to 20 face databases and 30,000 face images; 4-channel video metadata; 8-channel perimeter protection; 8-channel SMD Plus; 4-channel AcuPick.
- AI by Camera supports face detection and recognition, perimeter protection, SMD, metadata, AcuPick, ANPR, stereo analysis, heat map, people counting, PPE detection, smart object detection and smart sound detection.
- Supports EPTZ, and one-click arming and disarming.



NVR NEXT

With its enhanced system, the NVR introduces NVR NEXT, a user-friendly GUI featuring a modular design to improve operation efficiency and streamline workflows, catering to the needs of small and medium-sized businesses.

AI Features

Embedded with deep-learning algorithms, the NVR offers advanced AI capabilities, delivering precise detection, efficient analytics, and reduced false alarms.

PPE Detection by Camera

With the PPE Detection function, the camera can detect attributes including face masks, helmets, glasses, safety vests, and the color of tops and bottoms, and determine whether PPE requirements are met. PPE compliance or non-compliance alarms can be triggered according to the alarm settings.

Technical Specification

System

Main Processor	Industrial-grade processor
Operating System	Embedded Linux
Operating Interface	Web, Local GUI

AI

AI by Recorder	Face detection; face recognition; video metadata (human, motor vehicles, and non-motor vehicles); perimeter protection; ANPR; SMD Plus; AcuPick
AI by Camera	Face detection; face recognition; video metadata (human, motor vehicles, and non-motor vehicles); perimeter protection; SMD; stereo analysis; crowd distribution; people counting; ANPR; vehicle density; heat map; PPE detection; smart object detection; smart sound detection; AcuPick
AcuPick Performance of AI by Recorder (1080P) (Number of Channels)	4 channels
AcuPick Performance of AI by Camera (1080P) (Number of Channels)	Max. 8-channel, 1 combined event per channel/s

Perimeter Protection

Perimeter Performance AI by Recorder (Number of Channels)	8 channels, 10 IVS rules for each channel
Perimeter Performance of AI by Camera (Number of Channels)	All channels (8 targets/s)

Face Detection

Face Attributes	Gender; age group; glasses; expressions; face mask; beard
Face Detection Performance of AI by Recorder (Number of Channels)	4 channels (up to 12 face images/s each channel)
Face Detection Performance of AI by Camera (Number of Channels)	All channels (8 targets/s)

Face Recognition

Face Database Capacity	Up to 20 face databases with 30,000 images, with a total capacity of 3.75 GB. Name, gender, birthday, address, credential type, credential No., countries & regions and state can be added to each face image.
Face Recognition Performance of AI by Recorder (Number of Channels)	1. 8-channel FD (by camera) + FR (by recorder), image stream: 8 face images/s 2. 4-channel FD (by recorder) + FR (by recorder), video stream: 24 face images/s
Face Recognition Performance of AI by Camera (Number of Channels)	All channels (8 targets/s)

SMD

SMD Plus by Recorder	8 channels: Secondary filtering for human and motor vehicle, reducing false alarms caused by leaves, rain and lighting condition change
SMD by Camera	All channels (16 targets/s)

Video Metadata

Metadata Performance of AI by Recorder (Number of Channels)	4 channels, 22 attributes extraction.
Metadata Performance of AI by Camera (Number of Channels)	All channels (8 targets/s)
People Attributes	Top color, top type, bottom color, bottom type, hat, bag, age, gender and umbrella
Motor Vehicle Attributes	License plate, plate color, vehicle body, vehicle model, vehicle logo, calling, seatbelt, vehicle interior, vehicle registration location
Non-motor Vehicle Attributes	Vehicle model, vehicle color, number of persons, helmet

Vehicle License Plate Comparison

ANPR by Camera (Number of Channels)	All channels (8 targets/s)
License Plate Database Capacity	1. Create up to 20,000 plate numbers. 2. Blocklist and allowlist

Audio and Video

Access Channel	8 channels
Network Bandwidth	AI disabled: 448 Mbps incoming, 448 Mbps recording and 448 Mbps outgoing AI enabled: 200 Mbps incoming, 200 Mbps recording and 200 Mbps outgoing
Resolution	32 MP;24 MP;16 MP;12 MP;8 MP;6 MP;5 MP;4 MP;3 MP;1080p;720p;960p;D1;CIF;QCIF
Decoding Capability	AI disabled: 2-channel 32 MP@25 fps; 2-channel 24 MP@25 fps; 5-channel 16 MP@30 fps; 6-channel 12 MP@30 fps AI enabled: 1-channel 32 MP@25 fps; 2-channel 24 MP@25 fps; 4-channel 16 MP@30 fps; 5-channel 12 MP@30 fps; 8-channel 8 MP@30 fps
Video Output	1 VGA, 1 HDMI VGA: 1920 × 1080, 1280 × 1024, 1280 × 720 HDMI: 7680×4320, 3840 × 2160, 1920 × 1080, 1280 × 1024, 1280 × 720 Heterogeneous video source output for HDMI and VGA
Multi-screen Display	Main Screen: 1/4/8/9 Sub Screen: 1/4/8/9
Third-party Camera Access	ONVIF; Panasonic; Sony; Axis; Arecont; Pelco; Canon; Hanwha

Compression Standard

Video Compression	Smart H.265+; H.265; Smart H.264+; H.264; MJPEG
Audio Compression	G.711a; G.711u; PCM; G726

Network

Network Protocol	HTTP; HTTPS; TCP/IP; IPv4; IPv6; UDP; NTP; FTP; SFTP; DHCP; DNS; SMTP; UPnP; DDNS; SNMP; Alarm Server; IP Search (Supports IP camera, DVR, NVS, etc.); Multicast; P2P; Auto Registration; iSCSI
Mobile Phone Access	iOS; Android
Interoperability	ONVIF 24.12(Profile T; Profile S; Profile G; Profile M); CGI; SDK
Browser	Chrome; IE; Safari; Edge; Firefox

Recording Playback

Multi-channel Playback	Up to 8 channels
Record Mode	General, motion detection; intelligent; alarm; POS
Backup Method	USB device and network
Playback Mode	Instant playback, general playback, event playback, target Video, video clip, tag playback, smart playback (face and motion detection)

Storage

Disk Group	Yes
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Alarm

General Alarm	Motion detection; local alarm; alarm box; camera external alarm; network alarm; scene changing; PIR alarm; thermal alarm
Anomaly Alarm	Camera offline; storage error; disk full; IP conflict; MAC conflict; login lock; abnormal behavior of fan; cybersecurity exception
Intelligent Alarm	Face detection; perimeter protection; face recognition; video metadata (human, motor vehicles, and non-motor vehicles); SMD Plus; stereo analysis; crowd distribution; people counting; ANPR; vehicle density; heat map; PPE detection; smart object detection; smart sound detection
Alarm Linkage	Record; snapshot (panoramic); local alarm output; IPC external alarm output; audio; buzzer; log, preset; email

Port

Audio Input	1-channel RCA
Audio Output	1-channel RCA
Alarm Input	4 channels
Alarm Output	2 channels
Disk Interface	2 SATA ports, each disk can contain up to 20TB. This limit varies depending on the environment temperature.
RS-232	1
RS-485	1
USB	2 (1 front USB 2.0 port, 1 rear USB 3.0 port)
HDMI	1
VGA	1
Network Port	1 (10/100/1000 Mbps Ethernet port, RJ-45)
PoE Port	8 ports, 10/100 Mbps, IEEE 802.3 af/at, 1-8 ports support ePoE

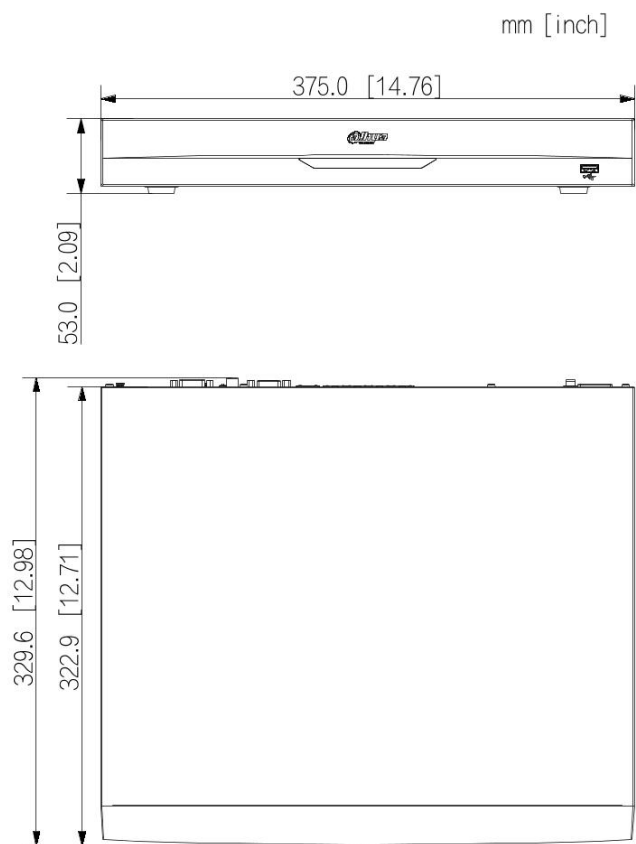
General

Power Supply	100–240 VAC, 50/60 Hz
Power Consumption	Total output of NVR is ≤ 10 W (without HDD) Total output power of PoE is 130 W, the maximum output power of a single port is 25.5 W
Net Weight	2.50 kg (5.51 lb)
Gross Weight	3.96 kg (8.73 lb)
Product Dimensions	375.0 mm × 329.6 mm × 53.0 mm (14.76" × 12.98" × 2.09") (W × D × H)
Packaging Dimensions	451.0 mm × 147.0 mm × 425.0 mm (17.76" × 5.79" × 16.73") (W × D × H)
Operating Temperature	–10 °C to +55 °C (+14 °F to +131 °F)
Storage Temperature	–20 °C to +60 °C (–4 °F to +140 °F)
Operating Humidity	10%–93% (RH), non-condensing
Certifications	CE-EMC: EN 55032:2015+A1:2020; EN IEC 61000-3-2:2019+A1:2021; EN 61000-3-3:2013+A1:2019+A2:2021; EN 55035:2017+A11:2020; EN 50130-4:2011+A1:2014 CE-LVD: EN 62368-1:2014

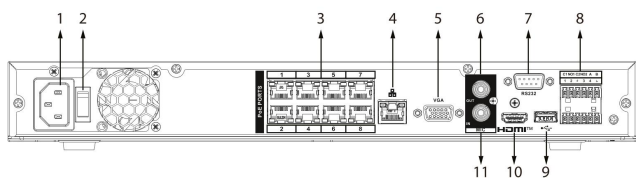
Ordering Information

Type	Model	Description
NETWORK VIDEO RECORDER	DHI-NVR5208-8P-EI2	8CH 1U 8PoE 2HDDs WizSense Network Video Recorder

Dimensions (mm[inch])



Panels



- | | |
|----------------------------|----------------------------|
| 1 Power Input | 2 Power Switch |
| 3 PoE Ports | 4 Network Port |
| 5 VGA Port | 6 AUDIO OUT, RCA Connector |
| 7 RS-232 Port | 8 Alarm In/Out |
| 9 USB Port | 10 HDMI Port |
| 11 AUDIO IN, RCA Connector | |

DHI-LM22-H200

Dahua 21.45 inch FHD Monitor



- Suitable for continuous 24/7 operation
- Narrow bezel design, elegant appearance, ultra-light base
- 6ms response time for no motion blur, judder or ghosting
- 178°/178° extra-wide viewing angle for overall viewing performance
- Support multiple signal inputs including HDMI and VGA
- Low energy consumption, long service life



Technical Specification

Display

Model	DHI-LM22-H200
LCD Technology	VA
Backlight	ELED
Screen Size	21.45 inch
Aspect Ratio	16:9
Viewing Size	478.656 (H) × 260.28 (V) mm
Viewing Angle	178° (H) / 178° (V)
Display Mode	Horizontal
Pixel Pitch	0.2493 mm × 0.241 mm
Pixels Per Inch	102.69
Resolution	1920 (H) × 1080 (V)
Refresh Rate	100 Hz
Display Color	10 bit (8 bits+FRC)
Color Gamut	72% NTSC (typ.)
Brightness	250 cd/m ² (typ.)
Contrast Ratio	3000:1
Response Time	OD 6 ms
Operation Hours	7 × 24 h
Lifespan	30,000 hrs

Device Ports

Input Port	1 × VGA (1920 × 1080@60 Hz), 1 × HDMI 1.4 (1920 × 1080@100 Hz), 1 × Audio
Speaker	2 × 1.5 W

Power & Environmental Conditions

Power Supply	12 VDC, 2 A
Power Type	Power adapter
Power Consumption	11 W (basic), 17 W (typ.), 21 W (max)
Standby Power Consumption	<0.5 W
Operating Temperature	0 °C to +40 °C (+32 °F to +104 °F)
Operating Humidity	10% – 85% (RH)
Storage Temperature	–20 °C to +60 °C (–4 °F to +140 °F)
Storage Humidity	5%–90% (RH)

General

Product Dimensions	491.7 mm × 285.1 mm × 38.9 mm (19.36" × 11.22" × 1.53") (W × H × D) without base
Package Size	553 mm × 365 mm × 112 mm (21.77" × 14.37" × 4.41") (W × H × D)
Frame Width	U/L/R/D: 1.6 mm/1.6 mm/1.6 mm/16.8 mm
Net Weight	2.3 kg (5.07 lb)
Gross Weight	3.3 kg (7.28 lb)
Casing Color	Black
Control Mode	Five-button
Wall Mount VESA	75 mm × 75 mm (2.95" × 2.95")
Accessory	Power adapter, base, HDMI cable, user's manual (QR code), QSG, legal and regulatory information, etc.
Certifications	CE EMC, CE LVD, CE ERP

Ordering Information

Type	Model	Description
LED Monitor	DHI-LM22-H200	Dahua 21.45 inch FHD Monitor

