

dahua
TECHNOLOGY
**DH-PTZ4M231-
HNR-GA-GHW**
Portable Network
Positioning System



Dahua Technology DH-PTZ4M231-HNR-GA-GHW Portable Network Positioning System Owner's Manual

[Home](#) » [Dahua Technology](#) » Dahua Technology DH-PTZ4M231-HNR-GA-GHW Portable Network Positioning System Owner's Manual 

Contents

- [1 Dahua Technology DH-PTZ4M231-HNR-GA-GHW Portable Network Positioning System](#)
- [2 Product Usage Instructions](#)
- [3 System Overview](#)
- [4 Functions](#)
- [5 Accessories](#)
- [6 Dimensions \(mm\[inch\]\)](#)
- [7 FAQs](#)
- [8 Documents / Resources](#)
 - [8.1 References](#)



Dahua Technology DH-PTZ4M231-HNR-GA-GHW Portable Network Positioning System



Product Information

Model: DH-PTZ4M231-HNR-GA-GHW

Description: 2MP 31x IR Wizmind Portable Network Positioning System (Without Battery)

Manufacturer: Dahua Technology

Overview:

Dahua WizMind is a full portfolio of solutions composed of project-oriented products including IPC, IVSS, 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 verticals.

Specifications

Camera

- **Image Sensor:** 1/1.8 CMOS
- **Pixel Max. Resolution:** 2MP
- **Electronic Shutter Speed:** Progressive
- **Min. Illumination:** 0.001 lux@F1.6 (Color, 30 IRE)
- **Field of View:** 2565.5 m
- **Optical Zoom:** Yes
- **PTZ Pan/Tilt Range:** Auto; Manual

Functions

- **Smart H.265+ & Smart H.264+:** Advanced scene-adaptive rate control algorithm for higher encoding efficiency.
- **Wide Dynamic Range:** Produces vivid images in high-contrast lighting conditions.
- **Starlight+ Technology:** Offers excellent light sensitivity in low-light conditions.
- **Construction Monitoring:** Includes helmet detection, color recognition, workwear detection, lone working

detection, and absence detection.

Intelligence

- **Video Metadata:** Supports detection of motor vehicles, faces, human bodies, and more.
- **IVS (Perimeter Protection):** Includes various intelligent video analytics features.
- **Face Detection:** Detects faces accurately.
- **Auto Tracking:** Automatically tracks moving objects.

Product Usage Instructions

Installation

1. Mount the camera securely in the desired location.
2. Connect the necessary cables following the provided instructions.

Configuration

1. Access the camera's interface using the provided login credentials.
2. Configure settings such as resolution, frame rate, and intelligent features based on your requirements.

Maintenance

1. Regularly clean the camera lens and housing to ensure optimal performance.
2. Check for software updates and install them as needed to keep the system up to date.

Launched by Dahua Technology, Dahua WizMind is a full portfolio of solutions composed of project-oriented products including IPC, IVSS,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 verticals.

System Overview

Designed for convenience, PTZ4M Series cameras are portable and can be deployed in a wide variety of scenes. The PTZ can also be rotated and zoomed to focus on targets over a long distance. It displays visuals in 2MP, has an optical zoom up to 31×, and supports various functions such as face detection, video metadata, construction site monitoring, perimeter protection and tracking.

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.

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.

- 1/1.8" 2Megapixel STARVIS™ CMOS.
- 31x optical zoom.
- Starlight+ technology.
- Max. 25/30fps@1080P.
- IR distance up to 100 m.
- Two-way talk.
- Auto tracking 3.0.
- Perimeter protection.
- Face detection.
- Video Metadata.
- SMD 4.0.
- IP66.
- Dual 4G (SIM 1/SIM 2).
- Dual SD card expansion (TF1/TF2).
- Bluetooth.
- Wi-Fi (2.4GHz/5GHz).
- AP (2.4GHz/5GHz).
- 1.3" OLED screen.



Starlight+ Technology

For challenging low-light conditions, Dahua's Starlight Ultra-low Light Technology offers the best in light sensitivity, capturing color in vivid detail, even in lighting as low as 0.001 lux. The camera uses a set of optical features to balance light throughout the scene, producing clear images in dark environments.

Construction Monitoring

Helmet detection; helmet color recognition; workwear detection; lone working detection; absence detection.

Environment (–20 °C to +55 °C, IP66)

Developed to operate in extreme conditions, the camera can function in temperatures ranging from –20 °C to +55 °C (–4 °F to +131 °F) at 95% humidity. It was subjected to rigorous dust and water immersion tests, gaining its IP66 Ingress Protection certification, making it suitable for demanding outdoor applications.

Technical Specification				
Camera		IVS (Perimeter Protection)	Tripwire; intrusion; crossing fence detection; loitering detection; abandoned/missing object; fast moving; parking detection; people gathering; human alarm classification; linkage tracking	
Image Sensor	1/1.8" CMOS			
Pixel	2 MP			
			Supports face detection, optimization, capturing pi	

Field of View	H: 59.8°–2.8°; V: 33.7°–1.9°; D: 63.3°–4°				Monitoring		not the person is wearing a mask and wearing shoe covers. An alarm will be triggered when the target is detected as not meeting the set requirements. It also detects and triggers alarms when only one person is in the construction site, and when no one is present in the detection area such as when a worker leaves their post or an area is left unmanned.	
Optical Zoom	31 ×				Auto Tracking		Yes	
Focus Control	Auto; Semi-Auto; Manual				SMD		SMD4.0	
Iris Control	Auto; Manual				Quick Pick		Yes	
DORI Distance	Detect	Observe	Recognize	Identify	Active Deterrence			
	2565.5 m (8416.99 ft)	1013.4 m (3324.80 ft)	513.3 m (1684.06 ft)	256.6 m (841.86 ft)		Sound Warning	Offers 27 types of sound alarms, and supports importing custom sound alarms. The sound level is high, medium and low, and the alarm duration is 5 s–30 s.	
PTZ								
Pan/Tilt Range	Pan: 0° to 360° endless; Tilt: -90 ° to +30°				Video			
Manual Control Speed	Pan: 0.1°/S–120°/s; Tilt: 0.1°/S–70°/s				Video Compression		H.264H; H.264B; Smart H.265+; H.264; H.265; MJPEG (Sub Stream); Smart H.264+	
Preset Speed	Pan: 0.1°/S–169°/s Tilt: 0.1°/S–160°/s						1080p (1920 × 1080); 1.3 M (1280 × 960); 720p (1280 × 720); D1 (704 × 576/704	

Preset	300	Resolution	× 480); VGA (640 × 480); CIF (352 × 288/352 × 240)	
Tour	8 (up to 32 presets per tour)	Video Frame Rate	Main stream: 1080p/1.3M/720p @(1-25/30 fps) Sub stream 1: D1/CIF@ (1-25/30 fps) Sub stream 2: 1080p/1.3M/720p/CIF @(1-25/30 fps)	
Pattern	5	Bit Rate Control	CBR/VBR	
Scan	5	Video Bit Rate	H264: 64 Kbps–10,496 Kbps H265: 25 Kbps–6,400 Kbps	
Power-off Memory	Yes	Day/Night	Auto (ICR)	
Idle Motion	Pattern; Preset; Scan; Tour	BLC	Yes	
PTZ Protocol	DH-SD Pelco-P/D (Auto recognition)	WDR	140 dB	
Intelligence		HLC	Yes	
Video Metadata	Supports detection of motor vehicles, non-motor vehicles, faces and human bodies, optimization, capturing pictures, and uploading high-quality face snapshots. It extracts attributes from motor vehicles, detecting up to 10 attributes for them.	White Balance	Auto; indoor; outdoor; tracking; manual; sodium lamp; natural light; street lamp	
		Gain Control	Auto; manual	

Noise Reduction	2D NR; 3D NR
Motion Detection	Yes
Region of Interest (RoI)	Yes
Image Stabilization	Electronic (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; Multiple colors available
S/N Ratio	≥55 dB

Audio

Audio Compression	PCM; G.711a; G.711Mu; G.726; MPEG2-Layer2; G722.1; G729; G 723
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Network

Network Port	RJ-45 (10/100 Base-T)
Wi-Fi	Yes
Wi-Fi Standard	IEEE802.11a; IEEE802.11b; IEEE802.11g; IEEE802.11ac; IEEE802.11n
Wi-Fi Frequency Range	2.4 GHz;5 GHz
Wi-Fi Transmission Rate	433.3 Mbps
Carrier Network System	LTE-FDD/LTE-TDD/WCDMA/GSM
Wireless Carrier Frequency Band	LTE-TDD: Tri-band Band 38/40/41 LTE-FDD: Hepta-band Band 1/3/5/7/8/20/28 WCDMA: Tri-band Band 1/5/8 GSM: Tri-band 850/900/1800
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	ONVIF (Profile S & Profile G & Profile T); CGI; SDK; P2P
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; Chrome 41 and later versions; Firefox 52 and later versions; Safari 10 and later versions
Management Software	DMSS; DSS Pro
Mobile Client	iOS; Android

Port

RS-485	1 (baud rate: 1200 bps–9600 bps)
Audio Input	1 channel (LINE IN, bare wire,built-in mic (mutually exclusive))
Audio Output	1 channel (LINE OUT,bare wire;built-in speaker (mutually exclusive))
Alarm Input	1 (on-off value input: 0–5 VDC)
Alarm Output	1 channel
Alarm Linkage	Capture; recording; send email; preset; tour; pattern; alarm digital output; audio

Alarm Event	Motion/tampering detection; network disconnection detection; IP conflict detection; audio detection; memory card state detection; memory space detection
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Power

Power Supply	12 VDC, 5 A \pm 10% (included)
Power Output	5 V, 1 A
Battery Life on a Full Charge	10 h, The PTZ is set to not move by default, videos can be stored on the SD card, and Bluetooth, Wi-Fi, AP, Mic, speaker and SIM1/2 are disabled by default.
Power Consumption	Basic: 8 W; Max: 38 W (illuminator + PTZ + battery)

Environment

Operating Temperature	–20 °C to +55 °C (–4 °F to +131 °F)
Operating Humidity	≤95%
Protection	TVS 6000 V lightning proof; IP66; surge protection; voltage transient protection

Structure

Casing Material	Aluminum alloy ADC12, magnesium alloy AZ91D
Product Dimensions	Φ160 mm × 265 mm (bare machine) 480 mm × 350 mm × 220 mm (L × W × H) (aluminum trolley case)
Net Weight	3.8 kg (8.38 lb)
Gross Weight	12.5 kg (27.56 lb)

Ordering Information		
Type	Model	Description
2MP WizMind PTZ Camera	DH-PTZ4M231-HNR-GA- GHW	2MP 31x IR Wizmind Portable Network Positioning System (Without Battery), PAL
Accessories (Optional)	18650/2S4P (1.0.99.56.10068)	Lithium Battery (14Ah/7.2V)
	SDPH002	8-core Aviation Connector Cable (audio, alarm, power supply)
	SDPH003	Tripod
	SDPH004	Base Charger

Accessories



Aluminum Trolley Case



Mounting Plate



Power Adapter



Power Cord



12-core Aviation
Connector Cable



Steel Wire Rope

Optional:



18650/2S4P
Lithium Battery
(14Ah/7.2V)



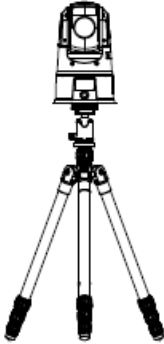
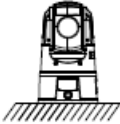
SDPH002
8-core Aviation
Connector Cable (audio,
alarm, power supply)



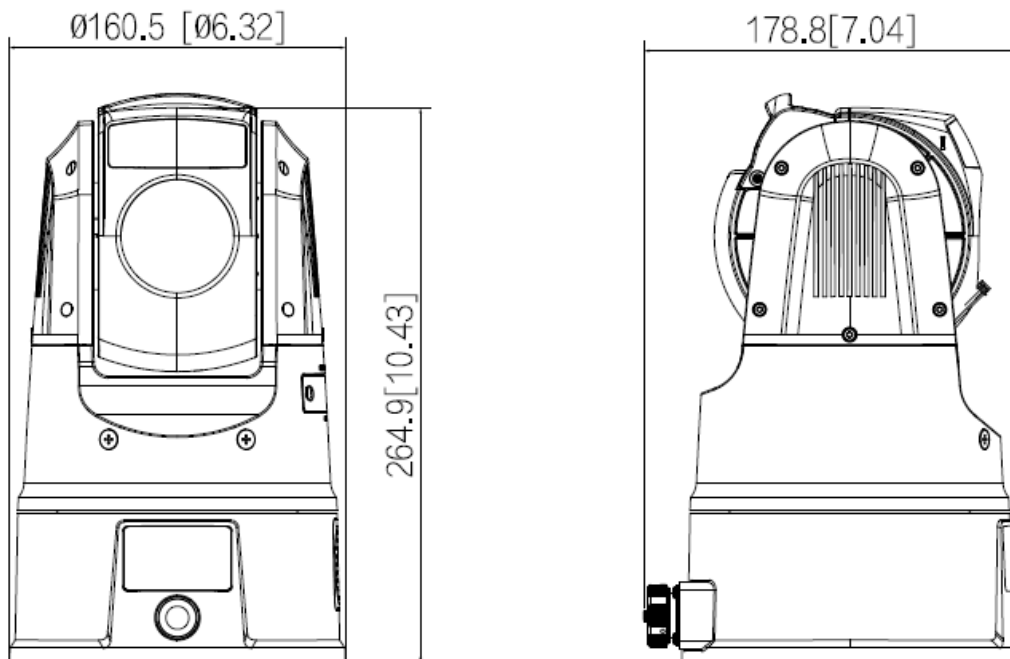
SDPH003
Tripod



SDPH004
Base Charger

Plane Mount	Plane Mount
	

Dimensions (mm[inch])



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- The images, specifications and information mentioned in the document are only for reference, and might differ from the actual product.
- www.dahuasecurity.com

FAQs


Q: How can I adjust the PTZ settings?

A: You can adjust the PTZ settings through the camera's interface or dedicated software provided by Dahua Technology.

Q: Does the camera support remote monitoring?

A: Yes, the camera supports remote monitoring through a secure connection over the network.

Documents / Resources

	<p>Dahua Technology DH-PTZ4M231-HNR-GA-GHW Portable Network Positioning System [pdf] Owner's Manual</p> <p>DH-PTZ4M231-HNR-GA-GHW Portable Network Positioning System, DH-PTZ4M231-HNR-GA-GHW, Portable Network Positioning System, Network Positioning System, Positioning System, System</p>
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References

- [Dahua Technology - World Leading Video-Centric AIoT Solution & Service Provider](#)
- [User Manual](#)

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