dahua
TECHNOLOGY

4 MP IR Fixed Wedge Network Camera
True WDR Wedge Network Camera , M12 D-coded Connector

- 1/3-in. 4 MP Progressive-scan CMOS
- Triple-stream Encoding
- Smart H.265+ and H.264 Dual Codec
- 4 MP (2688 x 1520) at 30 fps
- 2.8 mm Fixed Lens
- Smart Detection Support
- True Wide Dynamic Range (120 dB) and True Day/Night
- Built-in Microphone
- Maximum IR LED Distance 20 m (65 ft)
- IP67 Ingress Protection and IK10 Vandal Resistance
- Five-year Warranty*

4Mp | H.265 | WDR | Temperature | IP67 | Vandal-proof

System Overview

Dahua's Mobile series of cameras offers high-resolution video and cutting-edge technology in a compact and accessible package. The cameras feature H.265 video compression, reducing bandwidth and storage requirements without sacrificing video quality. The camera series incorporates True Wide Dynamic Range, and Smart IR, features typically found on high-end security systems. This series provides a rugged enclosure rated to IP67 Ingress Protection to protect your security investment.

Functions

Wide Dynamic Range
For applications with both bright and low-light 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.

High Efficiency Video Coding (H.265)
The H.265 (ITU-T VCEG) video compression standard offers double the data compression ratio at the same level of video quality, or substantially improved video quality at the same bit rate, as compared to older video compression technologies. H.265 offers such impressive compression by expanding the pattern comparison and difference-coding, improving motion vector prediction and motion region merging, and incorporating an additional filtering step called sample-adaptive offset filtering.

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.

Smart IR
With IR illumination, detailed images can be captured in low light or total darkness. The camera's Smart IR technology adjusts the intensity of the camera's infrared LEDs to compensate for the distance of an object. Smart IR technology prevents IR LEDs from whitening out images as they come closer to the camera.

Cybersecurity
Dahua network cameras are equipped with a series of key cybersecurity technologies including: security authentication and authorization, access control, trusted protection, encrypted transmission, and encrypted storage. These technologies improve the camera's ability to prevent malicious access and to protect data.

Environmental
With a temperature range of-30 °C to +60 °C (-22 °F to +140 °F), the camera is designed for extreme temperature environments. The camera complies with the IK10 Vandal Resistance impact rating making it capable of withstanding the equivalent of 5 kg (11.02 lbs) of force dropped from a height of 40 cm (15.75 in.). Subjected and certified to rigorous dust and water immersion tests, the IP67 rating makes it suitable for demanding outdoor applications.

Protection
Supporting ±30% input voltage tolerance, this camera suits even the most unstable conditions for outdoor applications. Its 6KV lightning rating provides protection against the camera and its structure from the effects of lightning.

Technical Specification

Camera

Image Sensor	1/3-in. 4 MP Progressive Scan CMOS
Effective Pixels	2688(H) x 1520(V)
RAM/ROM	512 MB / 32 MB
Scanning System	Progressive
Minimum Illumination	Color: 0.08 lux at F2.0 0 lux at F2.0 with IR on
S/N Ratio	More than 50 dB
IR Distance	Distance up to 20.0 m (65.60 ft)
IR On/Off Control	Auto, Manual
IR LEDs	10

Lens

Lens Type	Fixed
Mount Type	Board-in
Focal Length	2.8 mm
Maximum Aperture	F2.0
Angle of View	Horizontal	104°
	Vertical	57°
Focus Control	Fixed

Pan/Tilt/Rotation

Range	Pan: 0˚ to 60˚ Tilt: 0˚ to 80˚ Rotation: 0˚ to 360˚

Video

Compression	Smart H.265+, H.265, Smart H.264+, H.264, MJPEG
Streaming Capability	Three (3) Streams
Resolution	4 MP (2688 x 1520) 3 MP (2304 x 1296) 1080p (1920 x 1080) 1.3 MP (1280 x 960) 720p (1280 x 720) D1 (704 x 480) VGA (640 x 480) CIF (352 x 240)
Frame Rate	Main Stream: 4 MP at 30 fps
	Sub Stream: D1 at 30 fps
	Third Stream: 720p at 30 fps
Bit Rate Control	CBR, VBR
Bit Rate	H.264: 24 to 10240 Kbps H.265: 14 to 9984 Kbps
Day/Night	Auto (ICR), Color, B/W
BLC Mode	BLC, HLC, True WDR (120 dB)

White Balance	Auto, Natural, Street Lamp, Outdoor, Manual
Gain Control	Auto, Manual
Noise Reduction	3D DNR
Motion Detection	Off, On (4 Zone, Rectangle)
Region of Interest	Off, On (4 Zone)
Smart IR	Support
Digital Zoom	16x
Flip	0°, 90°, 180°, 270°
Mirror	Off, On
Privacy Masking	Off, On (4 Area, Rectangle)

Audio

Compression	G.711a, G.711Mu, G.726
Audio Interface	Built-in Microphone

Network

Ethernet	M12 D-coded Connector (10/100 Base-T)
Protocol	HTTP, HTTPs, TCP, ARP, RTSP, RTP, UDP, SMTP, FTP, DHCP, DNS, DDNS, PPPOE, IPv4/v6, QoS, UPnP, NTP, Bonjour, 802.1x, Multicast, ICMP, IGMP, SNMP
Interoperability	ONVIF, PSIA, CGI
Streaming Method	Unicast, Multicast
Maximum User Access	10 Users / 20 Users
Edge Storage	NAS Local PC for Instant Recording MicroSD Card Slot, maximum 128 GB
Web Viewer	IE, Firefox, Safari
Management Software	Smart PSS, DSS
Mobile Operating System	IOS, Android
Cybersecurity	Video Encryption, Firmware Encryption, Configuration Encryption, Digest, WSSE, Account Lockout, Security Logs, IP/MAC Filtering, Generating and Importing X.509 Certification, Syslog, HTTPS, 802.1x, Trusted Boot, Trusted Execution, Trusted Upgrade

Certifications

Safety	EN 60950:2000 UL60950-1
Mobile Applications	EN 50155 E-mark (ECE-Regulation No.10)
Electromagnetic Compatibility	FCC Part 15 Subpart B

Electrical

Power Supply	PoE (802.3af, Class 0)
Power Consumption	< 4.5 W

Environmental

Operating Conditions	-30° C to +60° C (-22° F to +140° F), Less than 95% RH
Storage Conditions	-30° C to +60° C (-22° F to +140° F), Less than 95% RH
Ingress Protection	IP67
Vandal Resistance	IK10

Construction

Casing	Metal
Dimensions	ø106.0 mm x 50.30 mm (ø4.17 in. x 1.98 in.)
Net Weight	0.40 kg (0.88 lb)
Gross Weight	0.44 kg (0.97 lb)

Ordering Information

Type	Part Number	Description
4 MP Camera	DH-IPC-HDBW4431FN-M12 2.8 mm	4 MP IR Wedge Network Camera, 2.8 mm, True WDR, M12 D-coded Connector
Accessory, optional	PFA201W	Camera Shroud
	MC-DF4-DM4-18	M12 (D-Coding) Network Cable 18.0 m (59.06 ft)
	MC-DF4-DM4-6	M12 (D-Coding) Network Cable 6.0 m (19.68 ft)

Accessories

Camera Shroud, optional:

Front View   Top View   Side View

Dimensions (mm/inch)

ø106 [ø4.17"]
ø91 [ø3.58"]
36°
ø4.5 [ø0.18"]
50.3 [1.98"]
106 [4.17"]