ahua
TECHNOLOGY

2 MP Fixed HDCVI Wedge Camera
2 MP HDCVI IR Wedge Camera

HDCVI

- 1/2.8-in Progressive-scan CMOS Sensor
- 1080p at 30 fps Maximum Resolution
- Aviation Connector for HDCVI Output
- 2.8 mm or 3.6 mm Fixed Lens Options
- Starlight Technology for Low-light Applications
- Built-in Microphone
- Maximum IR Distance 20 m (66 ft) with Smart IR
- IP67 and IP6K9K Ingress Protection and IK10 Vandal Resistance
- Five-year Warranty*

System Overview

Dahua Mobile Solutions offers a durable mobile video surveillance solution that provides reliable security for transit agencies. The Mobile Solution cameras operate across different transportation networks. The fixed dome camera provides Full HD 1080p image quality in real-time. The camera features Smart IR technology to deliver clear images in near total darkness and is suitable for interior or exterior applications.

Functions

Design for Mobile Surveillance

The compact, black housing blends in with most vehicle interiors and minimizes interference with other installed devices. The design also minimizes vibration and shock from normal driving situations. The hardware of the mobile camera is certified to EN50155 to avoid image distortions or connection failures. The camera uses an M12 aviation connector to connect to an MVR as an added level of stability.

Four Signals over a Single Coaxial Cable

HDCVI technology simultaneously transmits four signals (audio, video, power, and data) over a single coaxial cable. Dual-way data transmission allows the HDCVI camera to communicate with an HCVR to send control signals or to trigger alarms. Moreover, HDCVI technology supports PoC for construction flexibility.

Long Distance Transmission

HDCVI technology guarantees real-time transmission over long distances without loss of video quality. HDCVI cameras provide the same resolution as most IP network camera systems using existing RG-59, RG-6, or CAT 6 UTP cabling.

Starlight Technology

For challenging low-light applications, Dahua's Starlight low light Technology offers best-in-class light sensitivity, capturing details in low light applications. The camera uses a set of optical features to balance light throughout the scene, resulting in clear images in dark environments.

Simplicity

HDCVI technology seamlessly integrates traditional analog surveillance systems with upgraded, high-quality HD video, making it the best choice to protect security investments. The plug and play approach enables full HD video surveillance without the hassles of configuring a network.

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 camera's infrared LEDs to compensate the distance of an object. Smart IR technology prevents IR LEDs from whitening out images as they come closer to the camera. The camera's integrated infrared illumination provides high performance in extreme low-light environments up to 20 m (66 ft).

Multi-format Support

The camera supports multiple video formats including, HDCVI, CVBS, AHD, and TVI. The camera can switch between these four formats via the OSD menu or the switch located on the video output cable, making the camera compatible with not only HDCVI DVRs but also most existing HD/ SD DVRs.

Environmental

With a working a temperature range of –40 °C to +60 °C (–40 °F to +140 °F), the camera is designed for extreme temperature environments. The camera complies with an IK10 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

The camera allows for ±30% input voltage tolerance, suitable for the most unstable conditions for outdoor applications. Its 4KV lightning rating provides effective protection for both the camera and its structure against lightning.

Technical Specification

Camera

Image Sensor	1/2.8-in. CMOS
Effective Pixels	1920(H) x 1080(V), 2 MP
Scanning System	Progressive
Electronic Shutter Speed	1/3 s to 1/100,000 s
Minimum Illumination	0.004 lux at F1.6, 30 IRE 0 Lux with IR on
S/N Ratio	More than 65 dB
IR Distance	Up to 20 m (66 ft)
IR On/Off Control	Auto, Manual
IR LEDs	Eight (8)

Lens

Lens Type	Fixed Lens / Fixed Iris
Mount Type	Board-in
Focal Length	2.8 mm or 3.6 mm
Max Aperture	F1.6
Angle of View, Horizontal	2.8 mm Lens: 110.0° 3.6 mm Lens: 86.9°
Close Focus Distance	2.8 mm Lens: 500 mm (19.68 in.) 3.6 mm Lens: 1200 mm (47.24 in.)

Installation Angle

Range	Pan: 0° to 60° Tilt: 0° to 90° Rotation: 0° to 360°

DORI[1] Distances

	Detect (8 ppf)	Observe (19 ppf)	Recognize (38 ppf)	Identify (76 ppf)
2.8 mm	39 m (128 ft)	15 m (49 ft)	8 m (26 ft)	4 m (13 ft)
3.6 mm	55 m (180 ft)	22 m (72 ft)	11 m (36 ft)	6 m (20 ft)

Video

Resolution	1080p (1920 x 1080)
Frame Rate	1080p at 30 fps 720p at 30/60 fps
Video Output	One (1) Channel BNC HDCVI Output, M12 A-coded Aviation Connector
Video Transmission[2]	RG-59/U Coax 720p: 800 m (2624.67 ft) 1080p: 500 m (1640.42 ft) RG-6/U Coax 720p: 1200 m (3937.01 ft) 1080p: 800 m (2624.67 ft) CAT 6 UTP (balun required) 720p: 450 m (1476.38 ft) 1080p: 300 m (984.25 ft)
Day/Night	Auto (ICR), Manual
OSD Menu	Multi-language
BLC Mode	BLC, HLC, WDR
WDR	True WDR (120 dB)
Gain Control	AGC
Noise Reduction	2D/3D
White Balance	Auto, Manual
Smart IR	Auto, Manual

Certifications

Safety	UL60950-1+CAN/CSA C22.2 No.60950-1
Mobile Applications	EN 50155 (EN50121-3-2, IEC61373)
Electromagnetic Compatibility (EMC)	FCC CFR 47 FCC Part 15 Subpart B ANSI C63.4-2014 EN55032, EN55024, EN50130-4

Interface

Audio	Input: One (1) Channel plus a Built-in Microphone
Aviation Connector	1: Power 2: Video Ground 3: Power Ground 4: Video

Electrical

Power Supply	12 VDC ±30%
Power Consumption	Maximum 3.6 W

Environmental

Operating Conditions	-40° C to +60° C (-40° F to +140° F), Less than 90% RH Initiate startup above -30°C (-22°F)
Storage Conditions	-40° C to +60° C (-40° F to +140° F), Less than 90% RH
Ingress Protection	IP67, IP6K9K
Vandal Resistance	IK10

Construction

Casing	Aluminium
Dimensions	ø106.0 mm x 50.30 mm (ø4.17 in. x 1.98 in.)
Net Weight	0.31 kg (0.68 lb)
Gross Weight	0.45 kg (0.99 lb)

1. The DORI distance is a measure of the general proximity for a specific classification to help pinpoint the right camera for your needs. The DORI distance is calculated based on sensor specifications and lab test results according to EN 62676-4 , the standard that defines the criteria for the Detect, Observe, Recognize and Identify classifications.
2. Transmission distance results verified by real-scene testing in Dahua's test laboratory. Actual transmission distances may vary due to external influences, cable quality, and wiring structures.

Ordering Information

Type	Part Number	Description
2 MP Camera	DH-HAC-HDBW2241FN-M-A-0280B	2 MP HDCVI IR Mobile Wedge Camera, 2.8 mm, M12 (A-coded)
	DH-HAC-HDBW2241FN-M-A-0360B	2 MP HDCVI IR Mobile Wedge Camera, 3.6 mm, M12 (A-coded)
Accessory, optional	PFA201W	Camera Shroud

Accessories

Camera Shroud, optional:

Front View   Top View   Side View

Dimensions (mm/inch)

50.3 [1.98"]

106 [4.17"]

⌀106 [⌀4.17"]
⌀91 [⌀3.58"]
36°
⌀4.5 [⌀0.18"]