

# DH-IPC-HFW5231E-ZE

2MP WDR IR Bullet Network Camera



## System Overview

With upgraded H.265 encoding technology, Eco-savvy series brings high efficient video compression capability. It can save bandwidth and storage. Meanwhile, the series features starlight, smart IR technology and intelligent image analysis techniques. This series supports reminder function, meanwhile fully protected from dust and water, certified to IP67 and vandal resistant to IK10 standard.

## Functions

### ePoE technology

The ePoE technology of Dahua, designed internally, adopts advanced 2D-PAM3 coding modulation from physical layer, and realizes full duplex transmission over 800 meters at the speed of 10Mbps, or 300 meters at the speed of 100Mbps via Cat 5 or coaxial cable media. Besides, it supports PoE and PoC power supply technology which has greatly simplified construction and wiring. Dahua ePoE technology offer a new way to accomplish long distance transmission between IP camera and network switch. It allows more flexible surveillance system design, improves reliability and saves construction and wiring cost.

### Starlight Technology

For challenging low-light applications, Dahua's Starlight Ultra-low Light Technology offers best-in-class light sensitivity, capturing color details in low light down to 0.006lux. The camera uses a set of optical features to balance light throughout the scene, resulting in clear images in dark environments.

### Wide Dynamic Range

The camera achieves vivid images, even in the most intense contrast lighting conditions, using industry-leading wide dynamic range (WDR) technology. For applications with both bright and low lighting 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.

- 1/2.8" 2Megapixel progressive scan STARVIS™ CMOS
- H.265&H.264 triple-stream encoding
- 50/60fps@1080(1920×1080)
- Smart Detection supported
- WDR(120dB), Day/Night(ICR), 3DNR, AWB, AGC, BLC
- Multiple network monitoring: Web viewer, CMS(DSS/PSS) & DMSS
- 2.7mm ~13.5mm motorized lens
- 2/1 Alarm in/out, 1/1 audio in/out
- Max. IR LEDs Length 100m
- Micro SD memory, IP67, IK10, PoE



### Intelligent Video System (IVS)

IVS is a built-in video analytic algorithm that delivers intelligent functions to monitor a scene for Tripwire violations, intrusion detection, and abandoned or missing objects. A camera with IVS quickly and accurately responds to monitoring events in a specific area. In addition to scene analytics, the camera supports face detection to quickly capture a face and upload the image to a server. The camera also offers tamper detection by recognizing a dramatic scene change and generating a warning message to inspect the camera.

### Protection(IP67, IK10, wide voltage)

The camera allows for ±30% input voltage tolerance, suitable for the most unstable conditions for outdoor applications. Its 6KV lightning rating provides effective protection for both the camera and its structure against lightning. Subjected and certified to rigorous dust and immersion tests (IP67) and impact tests (IK10), the camera is the choice for installation in even the most unforgiving environments.

### 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.

Technical Specification						Day/Night		Auto(ICR) / Color / B/W	
Camera						BLC Mode		BLC / HLC / WDR(120dB)	
Image Sensor		1/2.8" 2Megapixel progressive scan CMOS				White Balance		Auto/Natural/Street Lamp/Outdoor/Manual	
Effective Pixels		1920(H) x 1080(V)				Gain Control		Auto/Manual	
RAM/ROM		256MB/32MB				Noise Reduction		3D DNR	
Scanning System		Progressive				Motion Detetion		Off / On (4 Zone, Rectangle)	
Electronic Shutter Speed		Auto/Manual, 1/3(4)~1/100000s				Region of Interest		Off / On (4 Zone)	
Minimum Illumination		0.006Lux/F1.4 ( Color,1/3s,30IRE) 0.05Lux/F1.4 ( Color,1/30s,30IRE) 0Lux/F1.4 (IR on)				Electronic Image Stabilization (EIS)		N/A	
S/N Ratio		More than 50dB				Smart IR		Support	
IR Distance		Distance up to 100m (164ft)				Defog		N/A	
IR On/Off Control		Auto/ Manual				Digital Zoom		16x	
IR LEDs		4				Flip		0°/90°/180°/270°	
Lens						Mirror		Off / On	
Lens Type		Motorized/ Auto Iris(DC)				Privacy Masking		Off / On (4 Area, Rectangle)	
Mount Type		Board-in				Audio			
Focal Length		2.7mm~13.5mm				Compression		G.711a/ G.711Mu/ AAC/ G.726	
Max. Aperture		F1.4				Network			
Angle of View		H: 101°~31°, V:54°~17°				Ethernet		RJ-45 (10/100Base-T)	
Optical Zoom		5x				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; RTCP	
Focus Control		Motorized				Interoperability		ONVIF, PSIA, CGI	
Close Focus Distance		0.3m				Streaming Method		Unicast / Multicast	
DORI Distance	Lens	Detect	Observe	Recognize	Identify	Max. User Access		10 Users /20 Users	
	W	44m(144ft)	18m(59ft)	9m(29ft)	4m(13ft)	Edge Storage		NAS Local PC for instant recording Mirco SD card 128GB	
	T	143m(469ft)	57m(187ft)	28m(92ft)	14m(46ft)	Web Viewer		IE, Chrome, Firefox, Safari	
Pan/Tilt/Rotation						Management Software		Smart PSS, DSS, Easy4ip	
Pan/Tilt/Rotation Range		Pan:0°~360°; Tilt:0°~90°; Rotation:0°~360°				Smart Phone		IOS, Android	
Intelligence						Certifications			
IVS		Tripwire, Intrusion, Object Abandoned/Missing				Certifications		CE (EN 60950:2000) UL:UL60950-1 FCC: FCC Part 15 Subpart B	
Advanced Intelligent Functions		Face Detection				Interface			
Video						Video Interface		1 Port(For adjustment only)	
Compression		H.265+/H.265/H.264+/H.264				Audio Interface		1/1 channel In/Out	
Streaming Capability		3 Streams				RS485		N/A	
Resolution		1080P(1920x1080)/1.3M(1280x960)/720P(1280×720)/D1(704×576/704×480)/VGA(640×480)/CIF(352×288/352×240)				Alarm		2 channel In: 5mA 5VDC 1 channel Out: 300mA 12VDC	
Frame Rate		Main Stream: 1080P(1~50/60fps)				Electrical			
		Sub Stream: D1(1~50/60fps)				Power Supply		DC12V, PoE (802.3af)(Class 0)	
		Third Stream: 1080P(1~25/30fps)				Power Consumption		<12.95W	
Bit Rate Control		CBR/VBR							
Bit Rate		H.264: 24~9472Kbps    H.265: 14~5632Kbps							

Environmental

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

Construction

Casing	Metal
Dimensions	273.2mm×95.0mm×95.0mm (10.76"×3.74"×3.74")
Net Weight	1.11Kg (2.44lb)
Gross Weight	1.51Kg (3.33lb)

Ordering Information

Type	Part Number	Description
2MP camera	DH-IPC-HFW5231EP-ZE	2MP IR Bullet Network Camera,WDR,PAL
	DH-IPC-HFW5231EN-ZE	2MP IR Bullet Network Camera,WDR,NTSC
	IPC-HFW5231EP-ZE	2MP IR Bullet Network Camera,WDR,PAL
	IPC-HFW5231EN-ZE	2MP IR Bullet Network Camera,WDR,NTSC
Accessories (optional)	PFA121	Junction box
	PFA152-E	Pole Mount
	LR1002	ePoE Over Coax Converter

Accessories

Optional:



PFA121  
Junction box



PFA152-E  
Pole Mount



LR1002  
ePoE Over Coax Converter

Junction Mount	Pole Mount
PFA121	PFB121 + PFA152

