

DH-IPC-HF5231E-E

2MP WDR Box 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.264&H.265 triple-stream encoding
- · 50/60fps@1080P(1920×1080)
- · Smart Detection supported
- · WDR(120dB), Day/Night(ICR), 3DNR, AWB, AGC, BLC
- · Multiple network monitoring: Web viewer, CMS(DSS/PSS) & DMSS
- · 2/1 Alarm in/out, 1/1 audio in/out(Built-in Mic)
- · Auto back focus(ABF)
- · Micro SD memory, 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

The camera allows for $\pm 30\%$ 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.



Scanning System Progressive Electronic Image Stabilization N/A	Technical Specification		White Balance	Auto/Natural/Street Lamp/Outdoor/Manu
	Camera		Gain Control	Auto/Manual
Add	Image Sensor	1/2.8" 2Megapixel progressive scan CMOS	Noise Reduction	3D DNR
Scanning System	Effective Pixels	1920(H) x 1080(V)	Motion Detetion	Off / On (4 Zone, Rectangle)
	RAM/ROM	256MB/32MB	Region of Interest	Off / On (4 Zone)
Smart IR N/A Delog Delog Delog Delog N/A Delog Del	Scanning System	Progressive	_	N/A
Minimum	Electronic Shutter Speed	Auto/Manual, 1/3~1/100000s		NI/A
Filip 0'980'180'1200'*	Minimum Illumination	0.04Lux/F1.2(Color,1/30s,30IRE)		
REDISTANCE N/A			Digital Zoom	16x
R ChyOff Control N/A	S/N Ratio	More than 50dB	Flip	0°/90°/180°/270°
Audio	IR Distance	N/A	Mirror	Off/On
Lens Lens Type N/A Network Ethernet RJ-45 (10/1008ase-T) Network Ethernet RJ-45 (10/1008ase-T) Network Ethernet RJ-45 (10/1008ase-T) HTTP, HTTP; TCP, ARP, RTSP, RTP, LDP, SA, FTSP, DDP, SD, DNS, PPPOE, IFWIVE, OUT, DPP, STSP, SD, DNS, PPPOE, IFWIVE, OUT, DPP, SA, CGI Protocol RTTP, DHCP, DNS, DDNS, PPPOE, IFWIVE, OUT, DPP, SA, CGI Protocol RMA Angle of View N/A Interoperability ONVIE, PSIA, CGI Streaming Method Unicast / Multicast Max. User Access 10 Users / 20 Users Local PC for instant recording Micro SD card 1286B Web Viewer IE, Chrome, Firefox, Safari Management Software Smart PSS, DSS, Easy4ip Smart Phone IOS, Android Certifications Video Certifications Certifications Et INTEROSO-20000 ULJUL60950-1 Certifications Interface Video Interface Interface Interface Video Interface Interface Video Interface Interface Interface Video Interface Iport(BNC, IVp-p, 75G) Adarm 2 channel Int Out, 1 Built-in Mic Interface Interface Interface Video Interface Video Interface Video Interface Interface Video Interface Video Interface Video Interface Video Interface Video Interface	IR On/Off Control	N/A	Privacy Masking	Off / On (4 Area, Rectangle)
Network	IR LEDs	N/A	Audio	
Network Ethernet RJ-45 (10/1008ase-T) Focal Length N/A Max. Aperture N/A Angle of View N/A Optical Zoom N/A Optical Zoom N/A Interoperability ONVIP, PSIA, CGI Streaming Method Unicast / Multicast (CMI Max. User Access 10 Users / 20 Users Max. User Ac	Lens		Compression	G.711a/ G.711Mu/ AAC/ G.726
Mount Type C/CS Ethernet RJ-45 (10/1008ase-T) Focal Length N/A Max. Aperture N/A Angle of View N/A Optical Zoom N/A Optical Zoom N/A Close Focus Distance N/A Pan/Tilt/Rotation Pan/Tilt/Rotation Pan/Tilt/Rotation Pan/Tilt/Rotation Pan/Tilt/Rotation Face Detection Tripwire, Intrusion, Object Abandoned/Missing Advanced Intelligent Functions Face Detection Video Compression H_265+/H_265/H_264+/H_264 Streaming Capability 3 Streams 1080P(1920x1080)/1.3M(1280x960)/ 720P(1280x720)/D1(704x57/04x480)/ 720P(1280x720)/D1(704x57/04x480)/ 720P(1280x720)/D1(704x57/04x480)/ Tibrid Stream: 1080P(1-25/30fps) Third Stream: 1080P(1-25/30fps) Third Stream: 1080P(1-25/30fps) Third Stream: 1080P(1-25/30fps) Ethernet RHTP; HTTPs, TCP, ARP, RTSP, RTP; UDP, SM FTP; DHCP; DNS, DDNS; PPROFE; IP-v4/v5c, Qu FTP; DHCP, DNS, DDNS; PPROFE; DDNS; PRES, ETC, DNS, PRIS, ETC, DNS, PRIS	Lens Type	N/A	Network	
Focal Length Max. Aperture N/A Max. Aperture N/A Angle of View N/A Optical Zoom N/A Optical Zoom N/A Close Focus Control N/A Close Focus Distance N/A Pan/Tilt/Rotation Pan/Tilt/Rotation Pan/Tilt/Rotation N/A Interoperability N/A Max. User Access 10 Users /20 Users NAS Local PC for instant recording Mirco 5D card 12866 Web Viewer IE, Chrome, Firefox, Safari Management Software Smart PSo, DSS, Easy4lp Smart Phone IOS, Android Certifications Video Certifications Teres (ER 60950-2000) ULUL06950-1 FCC: FCC Part 15 Subpart B Thereface 10 Users /20 Users NAS Local PC for instant recording Mirco 5D card 12866 Web Viewer IE, Chrome, Firefox, Safari Management Software Smart PSo, DSS, Easy4lp Smart Phone IOS, Android Certifications Certifications Certifications Certifications CE (EN 60950-2000) ULUL06950-1 FCC: FCC Part 15 Subpart B Interface 10 Users /20 Users Audio Interface 1 port(BNC,1Vp-p.750) Audio Interface 1 port (BNC,1Vp-p.750) Audio Interface 1 port (BNC,1Vp-p.750) Audio Interface 1 port (BNC,1Vp-p.750) Alarm 2 channel In: SmA SVDC 1 channel In: SmA SVDC 1 channel Out; 300m A 12VDC Bit Rate H.264: 24-9472Kbps H.265: 14-5632Kbps Day/Night Autol(CR) / Color / B/W	Mount Type	C/CS		RJ-45 (10/100Base-T)
Max. Aperture Max. Aperture N/A Angle of View N/A Optical Zoom N/A Optical Zoom N/A Optical Zoom N/A Optical Zoom N/A Interoperability ONVIF, PSIA, CGI Unicast / Multicast Max. User Access 10 Users /20 Users NAS Local PC for instant recording Mircs 50 and 128GB Web Viewer IE, Chrome, Firefox, Safari Management Software Smart PSS, DSS, Easy4ip Smart Phone IOS, Android Certifications Video Compression H.265+/H.265+/H.264+/H.264 Streaming Capability 3 Streams Interface Inte	Focal Length	N/A		
Optical Zoom N/A Interoperability ONVIF, PSIA, CGI Optical Zoom N/A Streaming Method Unicast / Multicast N/A Max. User Access 10 Users / 20 Users N/A Max. User Access 10 Users / 20 Users N/A Max. User Access 10 Users / 20 Users N/A Stocal PC for instant recording Mirco SD card 1286B Web Viewer IE, Chrome, Firefox, Safari Management Software Smart PSS, DSS, Easy4ip Smart Phone IOS, Android Certifications Video Compression H.265+/H.265+H.264+/H.264 Certifications Streaming Capability 3 Streams Interface N/A CEE (EN 60950-2000) UE-U60950-1 FCC: FCC Part 15 Subpart B Interface Video Interface 1 port(BNC, IVp-p,75C) Addio Interface 1/1 channel In/Out, 1 Built-in Mic RS485 1 port RS485 1 port Alarm 2 channel Ins. SMA SVIC Learnel In			Protocol	FTP; DHCP; DNS; DDNS; PPPOE; IPv4/v6; Qo UPnP;NTP; Bonjour; 802.1x; Multicast; ICMP;
Focus Control N/A Focus Control N/A Close Focus Distance N/A Pan/Tilt/Rotation Pan/Tilt/Rotation Pan/Tilt/Rotation Range N/A Intelligence IVS Tripwire, Intrusion, Object Abandoned/Missing Advanced Intelligent Functions Face Detection Video Compression H.265+/H.265/H.264+/H.264 Streaming Capability 3 Streams Interface Main Stream: 1080P(1920x1080)/1.3M(1280x960)/ VZAGA(40x4x80/L(F(1532x88)2532x440) Frame Rate Main Stream: 1080P(1-50/60fps) Bit Rate Control CBR/VBR Bit Rate Day/Night Autol(CR) / Color / B/W Streaming Method Unicast / Multicast Interfocs 10 Users /20 Users NAS Local PC for instant recording Mirco SD card 128GB Management Software IE, Chrome, Firefox, Safari Management Software Smart PSo, DSS, Easy4ip Smart Phone IOS, Android Certifications CE (EN 60950:2000) ULJULG9950-1 FCC: FCC Part 15 Subpart B Interface Video Interface 1 port(BNC,1Vp-p.75C) Video Interface 1/1 channel In/Out, 1 Built-in Mic RS485 1 port Alarm 2 channel In: 5mA SVDC 1 channel In: 5mA SVDC 1 channel Out: 300mA 12VDC Bit Rate H.265: 14-5632Kbps Power Supply DC12V, AC24V, PoE(802.3af)(Class 0) Power Consumption < SW			Interoperability	
Close Focus Distance N/A Pan/Tilt/Rotation Pan/Tilt/Rotation Pan/Tilt/Rotation Range N/A Intelligence IVS Tripwire, Intrusion, Object Abandoned/Missing Advanced Intelligent Functions Face Detection Video Compression H.265+/H.265/H.264+/H.264 Streaming Capability 3 Streams Interface Interface Interface Main Stream: 1080P(1920x1080)/1.3M(1280x960)/ 720P(1280x20)/DIYO4x576/704x480)/ VoA(640+Asso)/CFE352x28845352x240) Main Stream: 1080P(1-50/60fps) Third Stream: 1080P(1-50/60fps) Rit Rate Control Certifications Interface Interface Video Interface 1 port(BNC,1Vp-p,750) Addio Interface 1 port RS485 1 port Alarm 2 channel In: SmA 5VDC 1 channel Out: 300mA 12VDC Bit Rate H.265: 14-5632Kbps H.265: 14-5632Kbps H.265: 14-5632Kbps Day/Night Auto(ICR) / Color / B/W Auto(ICR) / Color / B/W Max. User Access 10 Users / 20 Users Local PC for instant recording Mirco SD User				Unicast / Multicast
Pan/Tilt/Rotation Pan/Tilt/Rotation Pan/Tilt/Rotation Pan/Tilt/Rotation Range N/A				10 Users /20 Users
Pan/Tilt/Rotation Pan/Tilt/Rotation Range N/A Intelligence IVS Tripwire, Intrusion, Object Abandoned/Missing Advanced Intelligent Functions Face Detection Video Compression H.265+/H.265/H.264+/H.264 Streaming Capability 3 Streams 1080P(1920x1080)/1.3M(1280x960)/ YZ20P(1280x720)/D1(704x576/704x480)/ VGA(640x480)/CIF(532x288/3532x240) Main Stream: 1080P(1-50/60fps) Third Stream: 1080P(1-25/30fps) Third Stream: 1080P(1-25/30fps) Bit Rate H.264: 24-947ZKbps H.265: 14-563ZKbps Day/Night Auto(ICR) / Color / B/W Web Viewer IE, Chrome, Firefox, Safari II, Channel Software Smart Pbo, Despate Smart Phone ID, Android Smart Pbo, Despate Smart Pbo, Despate Smart		N/A		
Intelligence IVS Tripwire, Intrusion, Object Abandoned/Missing Advanced Intelligent Functions Face Detection Video Compression H.265+/H.265/H.264+/H.264 Compression H.265+/H.265/H.264+/H.264 Streaming Capability 3 Streams Interface IOSO, Android Certifications CE (EN 60950.2000) UI:	Pan/Tilt/Rotation		Edge Storage	Local PC for instant recording
Management Software Smart PSS, DSS, Easy4ip IOS, Android Certifications CE (EN 60950:2000) UL:UL60950-1 FCC: FCC Part 15 Subpart B Interface Interface Video Interface Video Interface 1 port(BNC,1Vp-p,75Ω) Audio Interface 1/1 channel In/Out, 1 Built-in Mic RS485 1 port Alarm 2 channel In: 5mA 5VDC 1 channel Out: 300mA 12VDC Bit Rate Control CBR/VBR Electrical Bit Rate H.264: 24~9472Kbps H.265: 14~5632Kbps Day/Night Auto(ICR) / Color / B/W	-	N/A	Web Viewer	IE, Chrome, Firefox, Safari
Smart Phone IOS, Android	Intelligence		Management Software	Smart PSS, DSS, Easy4ip
Advanced Intelligent Functions Face Detection Video Certifications CE (EN 60950:2000) UL:UL60950-1 FCC: FCC Part 15 Subpart B Interface Interface 1080P(1920x1080)/1.3M(1280x960)/ 720P(1280x20)/D1(704x576/704x480)/ VGA(640x480)/CIF(352x288/352x240) Video Interface 1 port(BNC,1Vp-p,75Ω) Audio Interface 1/1 channel In/Out, 1 Built-in Mic Frame Rate Sub Stream: 1080P(1~50/60fps) RS485 1 port Bit Rate Control CBR/VBR Electrical Bit Rate H.264: 24~9472Kbps H.265: 14~5632Kbps Power Supply DC12V, AC24V, PoE(802.3af)(Class 0) Day/Night Auto(ICR) / Color / B/W Power Consumption <8W	IVS	Tripwire, Intrusion, Object Abandoned/Missing	Smart Phone	IOS, Android
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Streaming Capability 3 Streams Interface		H.265+/H.265/H.264+/H.264		UL:UL60950-1
1080P(1920x1080)/1.3M(1280x960)/ 720P(1280x720)/D1(704x576/704x480)/ VGA(640x480)/ VGA(64	Streaming Capability	3 Streams	Interface	FCC: FCC Part 15 Suppart B
Main Stream: 1080P(1~50/60fps) Frame Rate Sub Stream:D1(1~50/60fps) Third Stream: 1080P(1~25/30fps) Bit Rate Control CBR/VBR H.264: 24~9472Kbps H.265: 14~5632Kbps Day/Night Auto(ICR) / Color / B/W Audio Interface 1/1 channel In/Out, 1 Built-in Mic RS485 1 port 2 channel In: 5mA 5VDC 1 channel Out: 300mA 12VDC Electrical Power Supply Power Supply Power Consumption 	Resolution	720P(1280×720)/D1(704×576/704×480)/		1 port(BNC,1Vp-p,75Ω)
Frame Rate Sub Stream:D1(1~50/60fps) Third Stream: 1080P(1~25/30fps) Bit Rate Control CBR/VBR Electrical Bit Rate H.264: 24~9472Kbps H.265: 14~5632Kbps Day/Night Auto(ICR) / Color / B/W RS485 1 port 2 channel In: 5mA 5VDC 1 channel Out: 300mA 12VDC Electrical Power Supply DC12V, AC24V, PoE(802.3af)(Class 0) <			Audio Interface	1/1 channel In/Out, 1 Built-in Mic
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Bit Rate H.264: 24~9472Kbps H.265: 14~5632Kbps Power Supply Power Consumption Auto(ICR) / Color / B/W Day/Night DC12V, AC24V, PoE(802.3af)(Class 0) Power Consumption			Alarm	
Day/Night Auto(ICR) / Color / B/W H.265: 14~5632Kbps Power Consumption <8W	Bit Rate Control	CBR/VBR	Electrical	
Day/Night Auto(ICR) / Color / B/W	Bit Rate		Power Supply	DC12V, AC24V, PoE(802.3af)(Class 0)
BLC Mode BLC / HLC / WDR(120dB)	Day/Night	Auto(ICR) / Color / B/W	Power Consumption	<8W
	BLC Mode	BLC / HLC / WDR(120dB)		

Eco Savvy 3.0 | DH-IPC-HF5231E-E

Environmental

Operating Conditions	-30° C \sim +60° C (-22° F \sim +140° F) / Less than 95% RH
Strorage Conditions	-30° C \sim +60° C (-22° F \sim +140° F) / Less than 95% RH
Ingress Protection	N/A
Vandal Resistance	N/A

Construction

Casing	Metal
Dimensions	135.4mm×74.4mm×65.5mm (5.33"×2.93"×2.58")
Net Weight	0.66Kg (1.46lb)
Gross Weight	0.77Kg (1.7lb)

Ordering Information				
Туре	Part Number	Description		
2MP camera	DH-IPC-HF5231EP-E	2MP Box Network Camera, WDR, PAL		
	DH-IPC-HF5231EN-E	2MP Box Network Camera, WDR, NTSC		
	IPC-HF5231EP-E	2MP Box Network Camera, WDR, PAL		
	IPC-HF5231EN-E	2MP Box Network Camera, WDR, NTSC		
Accessories (optional)	PFB110W	Wall mount		
	PFB121W	Wall mount		
	LR1002	ePoE Over Coax Converter		

Accessories

Optional:



Wall Mount	Wall/Ceiling/Plane Mount
PFB121W	PFB110W

Dimensions (mm/inch)



