

# 4MP Covert Network Pinhole Camera System

Processing Unit for IPC-HUM8431-L3 Network Covert Pinhole Camera



- Triple-stream Encoding
- Smart H.265+ and Smart H.264+ Dual Codecs
- 4 MP at 30 fps Maximum Resolution
- True Wide Dynamic Range (120 dB)
- Intelligent Video System
- Micro SD Memory Card Support, up to 128 GB
- PoE Support
- Requires IPC-HUM8431-L3 Covert Network Pinhole Camera
- Five-year Warranty\*



## System Overview

The Dahua DH-IPC-HUM8431N-E1 processing unit handles all of the power, network, and video processing requirements for the IPC-HUM8431-L3 Pinhole Network Camera. These two devices combine to create a covert camera system suitable for banks, offices and any application that requires discrete video surveillance. The DH-IPC-HUM8431N-E1 features audio and alarm inputs and outputs, a Micro SD card slot for local recording, and offers such advanced features as True Wide Dynamic Range, Smart H.265+ video compression, and Dahua's Intelligent Video System (IVS).

## Functions

### 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.

### Wide Dynamic Range (WDR)

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.

### Intelligent Video System

IVS is a built-in video analytic algorithm that delivers intelligent functions to monitor a scene for Tripwire violations and intrusion detection. A camera with IVS quickly and accurately responds to monitoring events in a specific area and offers tamper detection by recognizing a dramatic scene change and generating a warning message to inspect the camera.

### Advanced 3DNR

3DNR is noise reduction technology that detects and eliminates random noises by comparing two sequential frames. Dahua's advanced 3DNR technology delivers remarkable noise reduction with little impact to sharpness, especially under limited lighting condition. 3DNR, in addition, effectively decreases the bandwidth and saves storage space.

### Interoperability

The camera conforms to the ONVIF (Open Network Video Interface Forum) specifications, ensuring interoperability between network video products regardless of manufacturer.

### Technical Specification

#### Camera

RAM/ROM	512 MB / 32 MB
S/N Ratio	More than 50 dB

#### Video (in conjunction with IPC-HUM8431-L3)

Compression	Smart H.265+, H.265, Smart H.264+, H.264
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 1: D1 at 30 fps
	Sub Stream 2: 720p at 30 fps
Bit Rate Control	CBR/VBR
Bit Rate	H.264: 24 Kbps to 10240 Kbps H.265: 14 Kbps to 9984 Kbps
Day/Night	Electronic
BLC Mode	BLC, HLC, WDR (120 dB)
White Balance	Auto, Natural, Street Lamp, Outdoor, Manual
Gain Control	Auto, Manual
Noise Reduction	3D DNR
Motion Detection	Off, On (4 Zones, Rectangle)
Region of Interest	Off, On (4 Zones)
Digital Zoom	16x
Flip	0°, 90°, 180°, 270°
Mirror	Off, On
Privacy Masking	Off, On (4 Areas, Rectangle)

#### Audio

Compression	G.711a, G.711Mu, AAC, G.726
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#### Network

Ethernet	RJ-45 (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
Max. User Access	10 Users /20 Users
Edge Storage	Network Attached Storage (NAS) Local PC for instant recording Micro SD Card Slot, 128 GB maximum
Web Viewer	IE, Chrome, Firefox, Safari
Management Software	Smart PSS, DSS
Mobile Operating System	iOS, Android

#### Certifications

Safety	UL60950-1 EN 60950:2000
Electromagnetic Compatibility (EMC)	FCC CFR 47 Part 15 Subpart B

#### Interface

Audio	In: One (1) Channel, RCA Out: One (1) Channel, RCA
Sensor	USB, for IPC-HUM8431-L3 Cable Input
RS232	One (1) Port
Alarm	In: Two (2) Channels Out: Two (2) Channels

#### Electrical

Power Supply	12 VDC or PoE (802.3af, Class 0)
Power Consumption	< 6 W, with IPC-HUM8431-L3 connected

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

Construction

Casing	Metal
Dimensions	110.10 mm x 82.74 mm x 24.0 mm (4.33 in. x 3.26 in. x 0.95 in.)
Net Weight	0.21 kg (0.46 lb)
Gross Weight	0.30 kg (0.66 lb)

Intelligence

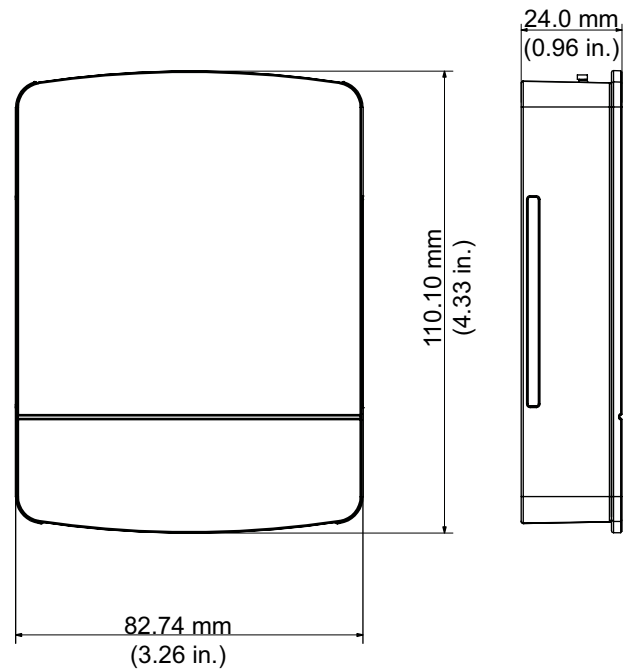
IVS triggers an alarm and takes a defined action for the following events:

Standard Features	<ul style="list-style-type: none"> <li>• Tampering with the camera.</li> <li>• Error writing to an onboard Micro SD card.</li> <li>• Error sending or receiving data over the network.</li> <li>• Unauthorized access to the camera.</li> </ul>
Premium Features	
Tripwire	A target crosses a user-defined line.
Intrusion	A target enters or exits a defined perimeter.
Abandoned/Missing Object	A target leaves an object in designated area, or a target removes an object from the same designated area.

Ordering Information

Type	Part Number	Description
4 MP Camera Processing Unit	DH-IPC-HUM8431N-E1	4 MP H.265 True WDR Processing Unit with IVS for IPC-HUM8431-L3
Required Camera Unit	IPC-HUM8431-L3	4 MP Covert Pinhole Network Camera
Hardware Included	1 x Processing Unit 1 x Instruction CD 1 x Quick Install Guide 1 x Mounting Template 1 x Mounting Bracket 3 x Screws 3 x Wall Anchors	

Dimensions (mm/inch)



Rear Panel

