4K Network Box Camera

4K (8MP) Micro Four Thirds Starlight+ Box Network Camera

- Micro Four Thirds 8MP Progressive-scan CMOS Sensor
- M43 Lens Interface
- 4K (3840 × 2160) at 30 fps
- Smart H.265+ and H.264 Dual Codec
- Triple-stream Encoding
- Starlight+ Technology for Ultra-low Light Sensitivity
- Ultra Wide Dynamic Range (140 dB) and True Day/Night (ICR)
- Intelligent Video System with Business Analytics
- PoE Support
- Five-year Warranty*

System Overview

The Dahua Ultra Series network box camera uses a high-performance Digital Signal Processor (DSP) and a Sony advanced image sensor to provide superior images. The camera features Starlight Technology and Ultra Wide Dynamic Range to produce crisp, clear images with minimal ambient light. Ultra Series cameras utilize Dahua's advanced software algorithm that supports intelligent business analysis, including people counting and heat maps.

Functions

Micro Four Thirds System

This Dahua camera takes advantage of the The Micro Four Thirds System, an interchangeable-lens photography system that offers superior picture quality from a smaller lens. This system offers nine times the surface area and pixel size of the standard 1/3-in. sensor commonly used in video surveillance applications. The larger surface area and pixel size increases the light gathering capability of the sensor to deliver color images in ultra-low light conditions in the 8MP camera class when other cameras have switched to monochrome.

4K Resolution

4K resolution is a revolutionary breakthrough in image processing technology. 4K delivers four times the resolution of standard HDTV 1080p devices and offers superior picture quality and image details. 4K resolution improves the clarity of a magnified scene to view or record crisp forensic video from large areas.

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 0.0005 lux. The camera uses a large pixel sensor, smart imaging algorithms and a set of optical features to balance light throughout the scene, resulting in clear images in dark environments.

M43 Lens Interface

The lens is a key component of any security camera and one that directly effects the quality of the image. The Dahua 4K HDCVI box camera features the M43 lens interface, typically found on most SLR cameras. This camera is compatible with all type of M43 lenses, including fixed and motorized vari-focal lenses.

Ultra Wide Dynamic Range

For applications with both bright and low lighting conditions that change quickly, Ultra WDR (140 dB) optimizes both the bright and dark areas of a scene at the same time to provide usable video.

Intelligent Business Analysis

The built-in IVS features people counting and heat map functionality, advanced features that add business intelligence to your security system. Intelligent Analysis tracks and stores daily, weekly, monthly, and yearly people flow through a defined scene and produces a configurable report. The system uses this data to produce a Heat Map, a two-dimensional representation of data that provides an immediate visual summary of information. People Counting and Heat Maps can identify the most active areas of a retail space providing valuable data analysis for commercial applications.

Smart Scene Adaptive (SSA) Technology

Smart Scene Adaptive (SSA) is an intelligent image technology, developed by Dahua that automatically evaluates and compensates for changes in the luminance of a scene. SSA automatically regulates the exposure parameters to improve image quality in a backlit scene, especially in scenes with traffic lights or headlights.

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

Camera

Image Sensor	Micro Four Thirds 4/3-in. 8MP Progressive-scan CMOS
Effective Pixels	3840(H) x 2160(V)
RAM/ROM	2048 MB / 4096 MB
Scanning System	Progressive
Electronic Shutter Speed	Auto, Manual; 1/3 s to 1/100,000 s
Minimum Illumination	Color: 0.0005 lux at F0.95 (1/3 s, 30 IRE) Color: 0.003 lux at F0.95 (1/30 s, 30 IRE) B/W: 0.0003 lux at F0.95 (1/3 s, 30 IRE) B/W: 0.002 lux at F0.95 (1/30 s, 30 IRE)
S/N Ratio	More than 50 dB

Lens

Lens Type	External
Mount Type	M43

Video

Compression	Smart H.265+, H.265, Smart H.264+, H.264
Streaming Capability	Three (3) Streams
Resolution	4K (3840 x 2160), 6 MP (3072 x 2048), 5 MP (2560 x 1920), 3 MP (2048 x 1536), 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 (342 x 240)
Frame Rate	Main Stream: 4K at 30 fps
	Sub Stream 1: D1 at 30 fps
	Sub Stream 2: 1080p at 30 fps
Bit Rate Control	CBR/VBR
Bit Rate	H.264: 32 to 16384 Kbps H.265: 12 to 9984 Kbps
Day/Night	Auto (ICR), Color, B/W
BLC Mode	BLC, HLC , Ultra WDR (140 dB), SSA
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)
Advanced Features	Electronic Image Stabilization (EIS), Defog
Digital Zoom	16x
Flip	0°, 90°, 180°, 270°
Mirror	Off, On
Privacy Masking	Off, On (4 Area, Rectangle)

Audio

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

Network

Ethernet	RJ-45 (100/1000 Base-T)
Protocol	IPv4/IPv6, HTTP, HTTPS, SSL, TCP/IP, UDP, UPnP, ICMP, IGMP, SNMP, RTSP, RTP, SMTP, NTP, DHCP, DNS, PPPOE, DDNS, FTP, IP Filter, QoS, Bonjour, 802.1x
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, maximum 128 GB
Web Viewer	IE, Firefox, Safari
Management Software	Smart PSS, DSS
Mobile Operating System	IOS, Android

Certifications

Safety	UL60950-1
Electromagnetic Compatibility (EMC)	FCC CFR 47 Part 15 subpart B

Interface

Video	One (1) BNC Port (1 Vp-p, 75 Ω)
Audio	Input: Two Channels plus a Built-in Microphone Output: One (1) Channel
RS485	One (1) Port
RS232	One (1) Serial Port
Alarm	Input: Two (2) Channels (5 mA, 5 VDC) Output: Two (2) Channels (1 A, 30 VDC; 0.5 A, 50 VAC)

Electrical

Power Supply	12 VDC, 1 A; 24 VAC, 1 A; or PoE (802.3af Class 0)
Power Consumption	< 10.5 W

Environmental

Operating Temperature	−30° C to +60° C (−22° F to +140° F) Less than 95% RH
Storage Temperature	−30° C to +60° C (−22° F to +140° F) Less than 95% RH

Construction

Casing	Metal
Dimensions	167.80 mm x 86.80 mm x 74.0 mm (6.61 in. x 3.42 in. x 2.91 in.)
Net Weight	0.81 kg (1.78 lb)
Gross Weight	0.97 kg (2.13 lb)

Intelligence

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

Standard Features	• Tampering with the camera. • Error writing to an onboard Micro SD card. • Error sending or receiving data over the network. • Unauthorized access to the camera.
Premium Features	
Motion	An object moves through any part of the scene.
Tripwire	A target crosses a user-defined line.
Intrusion	A target enters or exits a defined perimeter.
Scene Change	A person or object moves the camera to change the scene or covers the camera to obscure the scene.
Abandoned/Missing Object	A target leaves an object in designated area, or a target removes an object from the same designated area.
Advanced Features	
Facial Detection	Detects and captures a snapshot of a human face in a defined area within a scene.
People Counting	Measure the number of customers, visitors or passengers in a surveillance scene.
Heat Map	Generates a visual representation of data.

Ordering Information

Type	Part Number	Description
8MP Camera	DH-IPC-HF8835FN	8MP Starlight Box Network Camera, IVS
Accessories, Optional	PFB110W	Wall/Ceiling Mount
	PFB121W	Wall Mount
	PFM321	12 VDC, 1 A Power Adapter

Accessories

Optional:

PFB110W
Wall/Ceiling Mount
Bracket

PFB121W
Wall Mount Bracket

PFM321
Power Adapter

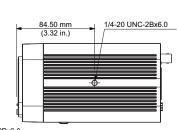|	Wall Mount	Wall/Ceiling/Plane Mount
	PFB121W	PFB110W

Dimensions (mm/inch)

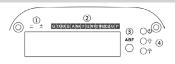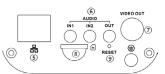## Rear Panel

1	Power Input	6	Audio I/O
2	Alarm I/O RS232 RS485	7	Video Out (for installation adjustment
3	Auto Back Focus	8	Micro SD Card Slot
4	Indicator Lights	9	Reset Button
5	Ethernet Port		