DAHUA TECHNOLOGY

12 MP Box Network Camera
12 MP DWDR Day/Night Box Network Camera

- 1/1.7-in. 12 MP Progressive Scan STARVIS™ CMOS Sensor
- Triple-stream Encoding
- H.265 and H.264 Dual Codecs
- 12 MP (4000 x 3000) at 20 fps and 4K (3840 x 2160) at 30 fps
- Digital WDR, Day/Night (ICR), 3DNR, AWB, AGC, BLC
- Multiple Network Monitoring: Web Viewer, CMS (DSS/PSS) and DMSS
- ArcticPro Series Camera - Operational down to −40° C (−40° F)
- Auto Back Focus (ABF)
- Micro SD Memory, PoE
- Intelligent Video System with Intelligent Business Analysis
- Five-year Warranty*

4K **H.265** **Analysis**

System Overview

The 12 MP day/night box network camera features an advanced 1/1.7-in progressive-scan Sony STARVIS™ CMOS imager. The camera uses the Smart H.265+ video compression standard to improve encoding efficiency while preserving high-quality video, and the camera also features built-in business intelligence algorithms.

Functions

4K Technology
4K resolution is a revolutionary breakthrough in image processing technology. 4K delivers four times the resolution of standard HDTV 1080p cameras 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.

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.

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.

Electronic Pan/Tilt/Zoom (E-PTZ) Functionality
The E-PTZ feature scans a portion of the scene and zooms that scene for improved observation. E-PTZ coupled with ultra-high resolution lets an operator monitor a large area from a single camera, reducing overall security costs.

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.

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.

Cybersecurity
Dahua network cameras are equipped with a series of key cybersecurity technologies including: security authentication and authorization, access control, trusted protection, encrypted transmission, and encrypted storage. These technologies improve the camera's ability to prevent malicious access and to protect data.

ArcticPro
The Dahua ArcticPro Series of extreme-environment cameras combine temperature-tolerant components with a waterproof enclosure to ensure flawless operation in temperatures as low as −40°F (−40°C) without the need for an internal heater. The lack of a heater reduces the camera's power consumption and saves operating costs. For applications that demand high-resolution video with advanced features in extremely cold environments, the Dahua ArcticPro Series offers a camera to satisfy the most demanding requirements.

Technical Specification

Camera

Image Sensor	1/1.7-in. 12 MP STARVIS™ CMOS
Effective Pixels	4000(H) x 3000(V)
RAM/ROM	1024 MB / 128 MB
Scanning System	Progressive
Minimum Illumination	Color: 0.01 Lux at F1.2 B/W: 0.001 Lux at F1.2
S/N Ratio	More than 50 dB
Lens Mount	C, CS

Video

Compression	Smart H.265+, H.265, Smart H.264+, H.264, MJPEG
Streaming Capability	Three (3) Streams
Resolution	12 MP (4000 x 3000), 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: 12 MP at 20 fps or 4K at 30 fps
	Sub Stream: D1 at 30 fps
	Third Stream: 1080p at 30 fps
Bit Rate Control	CBR, VBR
Bit Rate	H.264: 24 to 16384 Kbps H.265: 14 to 9984 Kbps
Day/Night	Auto (ICR), Color, B/W
BLC Mode	BLC, HLC, DWDR, 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)
Electronic Image Stabilization (EIS)	Support
Defog	Support
Digital Zoom	16x
Flip	0°, 90°, 180°, 270°
Mirror	Off, On
Privacy Masking	Off, On (4 Area, Rectangle)

Audio

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

Network

Ethernet	RJ-45 (100/1000 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	NAS Local PC for instant recording Mirco SD card, maximum 128 GB
Web Viewer	IE, Chrome, Firefox, Safari
Management Software	Smart PSS, DSS
Mobile Operating Systems	IOS, Android
Cybersecurity	Video Encryption, Firmware Encryption, Configuration Encryption, Digest, WSSE, Account Lockout, Security Logs, IP/MAC Filtering, Generating and Importing X.509 Certification, Syslog, HTTPS, 802.1x, Trusted Boot, Trusted Execution, Trusted Upgrade

Certifications

Safety	UL60950-1
Electromagnetic Compatibility (EMC)	FCC Part 15 Subpart B

Interface

Video	One (1) port, BNC
Audio	Input: One (1) Channel, plus One (1) Built-in Microphone Output: One (1) Channel
RS485	One (1) port
Alarm	Input: Two (2) Channels Output: One (1) Channel

Electrical

Power Supply	12 VDC, 24 VAC, or PoE (IEEE802.3af, Class 0)
Power Consumption	<8 W

Environmental

Operating Conditions	−40° C to +60° C (−40° F to +140° F), Less than 95% RH
Storage Conditions	−40° C to +60° C (−40° F to +140° F), Less than 95% RH

Construction

Casing	Metal
Dimensions	135.40 mm x 74.40 mm x 65.50 mm (5.33 in. x 2.93 in. x 2.58 in.)
Net Weight	0.66 kg (1.46 lb)
Gross Weight	0.77 kg (1.70 lb)

Intelligence

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

Standard Features	• Tampering with the camera. • Camera loses or changes focus drastically. • 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
12 MP camera	NK8BA4	12 MP Box Network Camera, IVS
Accessories (optional)	PFB110W	Wall/Ceiling mount
	PFB121W	Wall mount
	DH-PLZ20C0-D	12 MP, 3.7 mm to 16 mm Vari-focal Lens
	DH-PLZ21C0-D	12 MP, 10.5 mm to 42 mm Vari-focal Lens

Accessories

Optional:

PFB110W
Wall/Ceiling Mount Bracket

PFB121W
Wall Mount Bracket

DH-PLZ20C0-D
12 MP Fixed Lens

DH-PLZ21C0-D
12 MP Vari-focal Lens

Wall Mount	Wall/Ceiling/Plane Mount
PFB121W	PFB110W

Dimensions (mm/inch)

135.4 [5.33"]
125 [4.92"]
74.4 [2.93"]
65.5 [2.58"]