Dahua
TECHNOLOGY

12 MP Vari-focal Bullet Network Camera
12 MP IR Bullet 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
- 4.1 mm to 16.4 mm Motorized Lens
- Max. IR LED Length 50 m (164 ft)
- Micro SD Memory, IP67, IK10, PoE+
- Intelligent Video System with Intelligent Business Analysis
- Five-year Warranty*

4K	H.265	Analysis	IP67	Vandal-proof

System Overview

The 12 MP day/night bullet network camera features an advanced 1/1.7-in progressive-scan CMOS Sony STARVIS™ imager with a motorized zoom lens. 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. The IP67 environmental protection rating and the IK10 vandal resistance ensure the camera operates in the harshest environments.

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.

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.

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.

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.

Environmental
With a built-in heater and a temperature range of-40 °C to +60 °C (-40 °F to +140 °F), the camera is designed for extreme temperature environments. The camera complies with the IK10 impact rating making it capable of withstanding the equivalent of 55 kg (120 lbs) of force. Subjected and certified to rigorous dust and water immersion tests, the IP67 rating makes it suitable for demanding outdoor applications.

Onvif PSIA

*Warranty applies to products sold through an authorized Dahua Dealer.

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: 0.02 Lux at F1.53, 0 Lux at F1.53 with IR on
S/N Ratio	More than 50 dB
IR Distance	Distance up to 50 m (164.04 ft)
IR On/Off Control	Auto, Manual
IR LEDs	Four (4)

Lens

Lens Type	Motorized Auto Iris (HALL)
Mount Type	Board-in
Focal Length	4.1 mm to 16.4 mm Motorized
Max. Aperture	F1.53
Angle of View	Horizontal: 85° to 35° Vertical: 63° to 26°
Optical Zoom	4x
Focus Control	Motorized
Close Focus Distance	0.50 m (1.64 ft)

DORI[1] Distance

Lens	Detect (8 ppf)	Observe (19 ppf)	Recognize (38 ppf)	Identify (76 ppf)
Wide	115 m (377 ft)	46 m (151 ft)	23 m (75 ft)	11 m (36 ft)
Tele	227 m (909 ft)	111 m (364 ft)	55 m (180 ft)	28 m (92 ft)

Pan/Tilt/Rotation

Range	Pan: 0˚ to 360˚ Tilt: 0˚ to 90˚ Rotation:0˚ to 360˚

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
Smart IR	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, AAC, 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

Certifications

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

Interface

Audio	Input: One (1) Channel Output: One (1) Channel
Alarm	Input: Two (2) Channels Output: One (1) Channel

Electrical

Power Supply	12 VDC, PoE+ (802.3at, Class 4)
Power Consumption	< 13 W

1. The DORI distance is a measure of the general proximity for a specific classification to help pinpoint the right camera for your needs. The DORI distance is calculated based on sensor specifications and lab test results according to EN 62676-4 , the standard that defines the criteria for the Detect, Observe, Recognize and Identify classifications.

Environmental

Operating Conditions	-40° C to +60° C (-40° F to +140° F), with built-in heater Less than 95% RH
Storage Conditions	-40° C to +60° C (-40° F to +140° F) Less than 95% RH
Ingress Protection	IP67
Vandal Resistance	IK10

Construction

Casing	Metal
Dimensions	273.20 mm x 95.0 mm x 96.40 mm (10.76 in. x 3.74 in. x 3.79 in.)
Net Weight	1.12 kg (2.47 lb)
Gross Weight	1.52 kg (3.35 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	NK8BB7Z	12 MP IR Bullet Network Camera, Built-in Heater, IVS
Accessories (optional)	PFA121	Junction Box
	PFA152	Pole Mount

Accessories

Optional:

PFA121
Junction box

PFA152
Pole mount

Junction Mount	Pole Mount
PFA121	PFB121 + PFA152

Dimensions (mm/inch)

273.2 [10.76"]
174.7 [6.88"]
95.0 [3.74"]
96.4 [3.79"]