

4MP Starlight Network Security System

Four (4) 4 MP Eyeball Network Cameras with One (1) 4-channel 4K NVR



System Overview

The Dahua Network Security System provides all the components to quickly install, configure, and employ a complete video surveillance solution. The IP cameras offer the clarity of 4 MP video, and the NVR offers built-in motion detection algorithms, alarm triggers, and customized recording modes. The NVR also features Plug and Play technology to connect quickly to cameras on the same network. Each component accepts a PoE power supply to facilitate installation.

Functions

Starlight Technology

For challenging low-light applications, Dahua's Starlight low light Technology offers best-in-class light sensitivity, capturing details in low light applications. The camera uses a set of optical features to balance light throughout the scene, resulting in clear images in dark environments.

Intelligent Video System

IVS is a built-in video analytic algorithm that delivers intelligent functions to monitor a scene for Tripwire violations, where a target crosses a user-defined line and the camera quickly and accurately responds by triggering an alarm. Working with IVS-enabled IP cameras, the NVR recognizes and records video that contains IVS data on all IP channels.

Smart IR

With IR illumination, detailed images can be captured in low light or total darkness. The camera's Smart IR technology adjusts the intensity of camera's infrared LEDs to compensate the distance of an object. Smart IR technology prevents IR LEDs from whitening out images as they come closer to the camera. The camera's integrated infrared illumination provides high performance in extreme low-light environments up to 30 m (98 ft).

4 MP Network Cameras

- 4 MP (2560 x 1440) at 30 fps Maximum Resolution
- 2.8 mm Fixed Lens
- Maximum IR Length 30 m (98 ft) with Smart IR
- Starlight Technology for Ultra Low-light Applications
- Built-in Microphone
- Intelligent Video System
- IP67 Environmental Protection

4K Network Video Recorder

- 2 TB Pre-installed Hard Disk Drive
- Embedded Quad-core Processor
- H.265 and H.264 Dual Codec
- Up to 8 MP Resolution for Preview and Playback
- 80 Mbps Incoming Bandwidth

Flexible Recording

The NVR offers a variety of configurable recording options and schedules that saves disk space and active monitoring time. The NVR monitors incoming video and can be programmed to record if motion is detected or if an alarm is triggered. The NVR can also be programmed to record on a schedule or at different intervals. The recording options and schedules can be set for each individual camera or copied to all cameras.

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.

Environmental

With a temperature range of -40°C to $+60^{\circ}\text{C}$ (-40°F to $+140^{\circ}\text{F}$), the cameras are designed for extreme temperature environments. The cameras, subjected to rigorous dust and water immersion tests, are certified to the IP67 rating making them suitable for demanding outdoor applications.

The NVR features an operating temperature of -10°C to $+55^{\circ}\text{C}$ ($+14^{\circ}\text{F}$ to $+131^{\circ}\text{F}$).

Interoperability

The camera and NVR conform to the ONVIF (Open Network Video Interface Forum) specification, ensuring interoperability between network video products regardless of manufacturer.

Technical Specification**N42BJ62 4 MP Network Camera**

Camera

Image Sensor	1/3-in. CMOS
Effective Pixels	2688 (H) x 1520 (V), 4 MP
ROM/RAM	128 MB / 128 MB
Scanning System	Progressive
Electronic Shutter Speed	Auto, Manual: 1/30 s to 1/100000 s
Minimum Illumination	Color: 0.008 lux at F1.6 0 Lux with IR on
IR Distance	Up to 30.0 m (98.43 ft)
IR On/Off Control	Auto, Manual
IR LEDs	Two (2)

Lens

Lens Type	Fixed-focal
Mount Type	M12
Focal Length	2.8 mm
Max Aperture	F1.6
Angle of View	Horizontal: 102° Vertical: 55° Diagonal: 121°
Iris	Fixed Aperture
Close Focus Distance	0.90 m (2.95 ft)

DORI¹ Distance

Detect (8 ppf)	Observe (19 ppf)	Recognize (38 ppf)	Identify (76 ppf)
56.0 m (183.73 ft)	22.40 m (73.49 ft)	11.20 m (36.75 ft)	5.60 m (18.37 ft)

Installation Angle

Range	Pan: 0° to 360° Tilt: 0° to 78° Rotation: 0° to 360°
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Video

Compression	Smart H.265+, H.265, Smart H.264+, H.264, H.264B MJPEG (sub stream only)	
Streaming Capability	Two (2) Streams	
Resolution	4 MP (2688 x 1520), 2560 x 1440, 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	2688 x 1520 at 20 fps or 2560 x 1440 at 30 fps
	Sub Stream	D1 (704 x 480) at 30 fps
Bit Rate Control	CBR, VBR	
Day/Night	Auto (ICR), Color, B/W	
BLC Mode	BLC, HLC, True WDR (120 dB)	
White Balance	Auto, Natural, Street Lamp, Outdoor, Manual, Regional Custom	
Gain Control	Auto, Gain Priority, Shutter Priority, Manual	
Noise Reduction	3D DNR	

Motion Detection	Off, On (4 Zones, rectangular)
Region of Interest	Off, On (4 Zones)
Smart IR	Auto, Manual
Digital Zoom	16x
Flip	0°, 90°, 180°, 270°
Mirror	Off, On
Privacy Masking	Off, On (4 Areas, rectangular)

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 (Profile S, G, T), CGI, P2P, Milestone, Genetec
Auto Register	Support
Streaming Method	Unicast, Multicast
Maximum User Access	20 Users /20 Hosts
Edge Storage	Network Attached Storage (NAS), FTP, SFTP, Micro SD Card slot (maximum 256 GB)
Web Viewer	IE, Chrome, Firefox
Management Software	Smart PSS, DSS, DMSS
Mobile Operating System	IOS, Android

Audio

Input	Built-in Microphone
Audio Compression	G.711A, G.711Mu, G.726

Certifications

Safety	EN 60950-1
Electromagnetic Compatibility (EMC)	FCC CFR 47 Part 15 Subpart B Electromagnetic Compatibility Directive 2014/30/EU

Electrical

Power Supply	12 VDC or PoE (IEEE 802.3af, Class 0)
Power Consumption	< 6.6 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)
Ingress Protection	IP67

Construction

Casing	Metal
Dimensions	ø121.90 mm x 99.10 mm (ø4.80 in. x 3.90 in.)
Net Weight	0.48 kg (1.10 lb)
Gross Weight	0.65 kg (1.40 lb)

Intelligence

IVS triggers an alarm and takes a defined action for the following events:	
Standard Features	<ul style="list-style-type: none"> 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	
Tripwire	A target crosses a user-defined line.

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.

Technical Specification**N41B1P2 4K NVR**

System

Main Processor	Quad-core Embedded Processor
Operating System	Embedded LINUX

Audio and Video

IP Camera Input	Four (4) Channels	
Audio	Input	One (1) Microphone, RCA
	Output	One (1) Channel, RCA, from Camera or Microphone

Recording

Compression	H.265, H.264
Supported IP Camera Resolution	8 MP, 6 MP, 5 MP, 4 MP, 3 MP, 1080p, 1.3 MP, 720p, 960H, D1, CIF
Maximum Recording Rate	80 Mbps
Bit Rate	16 Kbps to 20 Mbps per Channel
Record Mode	Manual, Schedule (Regular, Continuous), Motion Detection, Tampering, Video Loss, Stop
Record Interval	1 to 120 minutes (default: 60 minutes), Pre-record: 1 s to 30 s, Post-record: 10 s to 300 s

Display

Interface	One (1) HDMI	
	One (1) VGA	
Native Output Resolution	HDMI	3840 x 2160, 2560 x 1440, 1920 x 1080, 1280 x 1024, 1280 x 720
	VGA	1920 x 1080, 1280 x 1024, 1280 x 720
Maximum Decoding	Two (2) Channels of 8 MP at 30 fps Four (4) Channels of 4 MP at 30 fps	
Multi-screen Display	1/4	
On-screen Display	Camera Title, Time, Video Loss, Camera Lock, Motion Detection, Recording	

Network

Interface	One (1) RJ45 (10/100 Mbps) Port
PoE	Four (4) Ports (IEEE 802.3af/at)
Network Function	HTTP, HTTPS, TCP/IP, IPv4/IPv6, UPnP, RTSP, UDP, SMTP, NTP, DHCP, DNS, IP Filter, PPPoE, DDNS, FTP, SNMP, IP Search (Support Dahua IP camera, DVR, NVS)
Maximum User Access	128 Users
Mobile Operating System	IOS, Android
Interoperability	ONVIF 2.4, SDK, CGI

Video Detection and Alarm

Trigger Events	Recording, PTZ, Tour, Video Push, Email, Snapshot, Buzzer and Screen Tips
Video Detection	Motion Detection, MD Zones: 396 (22 x 18), Video Loss, and Tampering

Playback and Backup

Playback	1/4
Search Mode	Time/Date, Alarm, MD and Exact Search (accurate to 1 second), Smart Search
Playback Function	Play, Pause, Stop, Rewind, Fast Play, Slow Play, Next File, Previous File, Next Camera, Previous Camera, Full Screen, Repeat, Shuffle, Backup Selection, and Digital Zoom
Backup Mode	USB Device/Network

Storage

Internal HDD	One (1) SATA III Port, up to 10 TB Unit ships with a pre-installed 2 TB HDD
HDD Mode	Single

Auxiliary Interface

USB	Two (2) USB 2.0 Ports (1 front panel, 1 rear panel)
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Electrical

Power Supply	48 VDC, 1.5 A
Power Consumption, NVR	< 7.5 W, without HDD
Total PoE Power	25.5 W single port, 50 W total

Construction

Dimensions	204.60 mm x 204.60 mm x 45.60 mm (8.10 in. x 8.10 in. x 1.80 in.)
Net Weight	0.45 kg (0.99 lb), without HDD
Gross Weight	1.50 kg (3.31 lb), without HDD

Environmental

Operating Conditions	-10° C to +55° C (+14° F to +131° F), 86 kpa to 106 kpa
Storage Conditions	0° C to +40° C (32° F to +104° F), 0% to 90% RH

Certifications

Safety	UL 60950-1, EN 60950-1
Electromagnetic Compatibility (EMC)	FCC CFR 47 Part 15 Subpart B, ANSI C63.4-2014 EN 55032, EN 50130-4
Immunity	EN 55024

Ordering Information

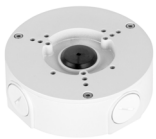
Type	Part Number	Description
4 MP Network Security System	N444E42S	
	• N42BJ62	4 MP IR Eyeball Network Cameras (x4)
	• N41B1P2	4-channel 4K NVR, 2 TB (x1)
Camera Accessories, optional	PFA130-E	Junction Box (For use alone)
	PFA152-E	Pole Mount (For use with PFB203W wall mount)
	PFB203W	Wall Mount (For use alone or with PFA152-E)
	DH-PFM321D-US	12 VDC, 1 A Power Adapter

Package Contents (individual devices ship with the following:)

Product	Material
Network Cameras	Printed Manual Printed Regulatory Guide Plastic Wall Anchors with Screws (x3) Mounting Template Waterproof Ethernet Connector
Storage Device	Quick Network Guide Printed Manual Printed Regulatory Guide Mouse Power Adapter with Power Cord Ethernet Cable, RJ45 Rubber Feet (x4)

Camera Accessories

Optional:



PFA130-E
Junction Box



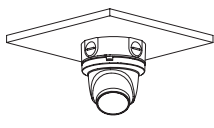
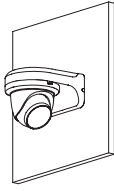

PFB203W
Wall Mount



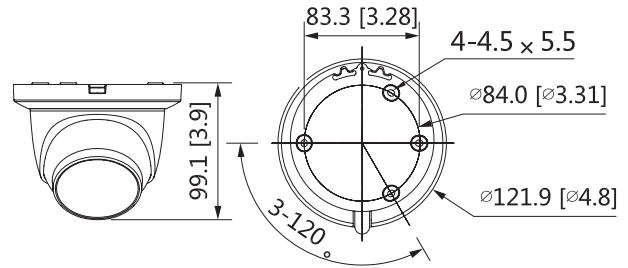
PFA152-E
Pole Mount



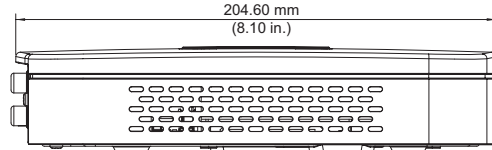
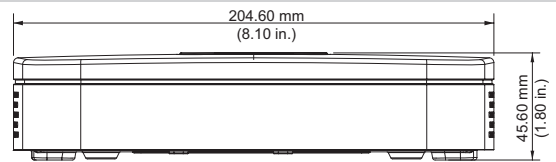
DH-PFM321D-US
Power Adapter

Junction Mount	Wall Mount	Pole Mount
PFA130-E	PFB203W	PFB152-E+PFA203W
		

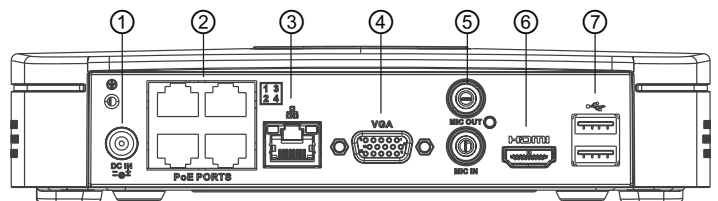
Dimensions (mm/in.) - 4 MP Network Camera



Dimensions (mm/in.) - 4K NVR



Rear Panel - 4K NVR



1	Power Input	5	Audio Output MIC Input
2	PoE Ports, RJ-45 (x4)	6	HDMI Output
3	Network Port, RJ-45	7	USB Ports (x2)
4	VGA Output		