4-Channel Video Doorbell Security System

Three (3) 4 MP Eyeball Network Cameras, One (1) WiFi Video Doorbell, One (1) 4-channel 4K NVR

4 MP Network Cameras

- 4 MP 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

2 MP WiFi Video Doorbell

- 2 MP at 30 fps Maximum Resolution, 1.9 mm Fixed Lens
- 2.4 GHz, IEEE 802.11b/g/n, 100 m (328 ft) Open Field WiFi
- Built-in Microphone and Speaker for Real-time Communication
- PIR Detection

4K Network Video Recorder

- 2 TB Pre-installed Hard Disk Drive
- Embedded Quad-core Processor
- Smart H.265+ and Smart H.264+ Dual Codec
- 80 Mbps Incoming Bandwidth

System Overview

The Dahua Video Doorbell Network Security System provides all the components to quickly install, configure, and employ a complete video surveillance solution. The Video Doorbell offers 2 MP video and two-way communication, 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 Video Doorbell and the network cameras connect easily to the NVR for total system recording. In addition, the Video Doorbell and the NVR are compatible with the Dahua DMSS mobile application to view live video, configure and acknowledge alarms, and share video with authorized users.

Functions

WiFi Video Doorbell

The DHI-DB11 WiFi Video Doorbell offers Passive IR motion detection and transmits video and audio to a mobile phone for remote visual confirmation and communication with visitors. The DHI-DB11 offers high-resolution video ideal for surveillance at homes and in small retail or dining establishments.

DMSS Compatibility

DMSS is a mobile surveillance application that includes alarm push functions and P2P discovery. The application is available for IOS devices (in the Apple App Store) and for Android devices (in the Google Play Sore). DMSS offers an easy to use interface to quickly add Dahua devices, including network cameras, NVRs, HDCVI DVRs, Video Intercom, and alarms.

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 for intrusion violations where a target enters or exits a defined perimeter. 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).

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.

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)

DORI[1] 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°

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 ×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, AAC

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 × 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	• 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.
Intrusion	A target enters or exits a defined perimeter.

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

DHI-DB11 2MP WiFi Video Doorbell

Camera

Image Sensor		1/2.7-in. 2 MP CMOS
Effective Pixels		1920 x 1080, 2 MP
Scanning System		Progressive
IR Distance		5.0 m (16.50 ft)

Lens

Lens Type		Fixed
Focal Length		1.9 mm
Angle of View, Horizontal		140°

Video and Audio

Video Compression		H.264
Resolution		2 MP at 30 fps
PIR		Configurable area and distance: Coverage: up to 120° Distance: up to 5.0 m (16.50 ft)
Audio	Input	Built-in Microphone
	Output	Built-in Speaker
Audio Compression		G.711

Network

WiFi	2.4 GHz WiFi (IEEE 802.11b/g/n)
Antenna	Internal Dual Antennae, 2 x 2 MIMO
Interoperability	CGI
Mobile Operating System	IOS, Android
Edge Storage	Micro SD Card Slot, maximum 64 GB (unit ships with a 16 GB Micro SD card)
Compatibility	• Any Dahua NVR • Dahua X5, X7, X82 Series HDCVI DVRs • Dahua DMSS Mobile Application

Certifications

Safety	EN 60950-1:2006 + A11:2009 + A1:2010 + A12:2011 + A2:2013 IEC 60950-1:2005 (2nd Ed.); Am1:2009 + Am2:2013
Electromagnetic Compatibility (EMC)	CFR 47 FCC Part 15 subpart B , 201 8 EN 55032:2015; EN 55024:2010; EN 50130-4:2011/A1:2014; EN 61000-3-2:2014; EN 61000-3-3:2013

Electrical

Power Supply[2]	16 VAC to 24 VAC, 0.04 A or 16 VDC to 24 VDC, 0.04 A
Power Consumption	< 9 W

Environmental

Operating Temperature	–20° C to +50° C (–4° F to 122° F), Less than 95% RH
Ingress Protection	IP55

Construction

Casing	Plastic
Dimensions	118.94 mm x 47.0 mm x 29.30 mm (4.68 in. x 1.85 in. x 1.15 in.)
Net Weight	0.14 kg (0.31 lb)
Gross Weight	0.47 kg (1.03 lb)
Installation	Surface-mount

2. Do not supply power to the DHI-DB11 via the USB port. Use only the Power Input Ports, as detailed in the Quick Installation Guide, to supply power to the device.

Technical Specification

N41C1P2 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

Video Compression		Smart H.265+, H.265, Smart H.264+, H.264
Audio Compression		G.711A, G.711Mu, PCM, G726
Supported IP Camera Resolution		8 MP, 5 MP, 4 MP, 3 MP, 1080p, 720p, D1, CIF
Bit Rate		16 Kbps to 20 Mbps per Channel
Record Mode		Manual, Alarm, Motion Detection, Timed
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 Simultaneous video output
Native Output Resolution	HDMI	3840 x 2160,1920 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) 10/100 Mbps Port, RJ-45
PoE		Four (4) Ports (IEEE 802.3af/at), RJ-45
Network Function		HTTP, HTTPS, TCP/IP, IPv4, RTSP, UDP, NTP, DHCP, DNS, P2P
Bandwidth	Recording	80 Mbps
	Storage	80 Mbps
	Forwarding	60 Mbps
Maximum User Access		128 Users
Mobile Operating System		IOS, Android
Browser		IE 9 or later, Chrome, Firefox
Interoperability		ONVIF Profile S, CGI, SDK, RTSP

Video Detection and Alarm

Trigger Events	Video Recording, Snapshot, Log, Preset Point, Tour
Video Detection	Motion Detection, Privacy Masking, Video Loss, IPC Alarm
Device Alarm	Front-end Offline, Storage Error, Full Storage, IP Address Conflict, MAC Conflict, Login Locked, Network Security Anomaly

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 Port, up to 6 TB Unit ships with a pre-installed 2 TB HDD
HDD Mode	Single

Auxiliary Interface

USB	Two (2) USB 2.0 Ports (rear panel)

Electrical

Power Supply	100 VAC to 240 VAC, 48 V, 1.25 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 +50° C (+14° F to +122° F), 10% to 90% RH
Storage Conditions	0° C to +40° C (32° F to +104° F), 30% to 85% RH

Certifications

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

Ordering Information

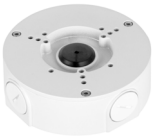
Type	Part Number	Description
Network Security System	N444E42A	
	• N42BJ62	4 MP IR Eyeball Network Cameras (x3)
	• DHI-DB11	2 MP WiFi camera, 1.9 mm, Two-way Talk, 16 GB SD Card
	• DB11-BK-US	Horizontal and Vertical Angled Brackets for DHI-DB11 WiFi Video Doorbell
	• N41C1P2	4-channel 4K NVR, 2 TB (x1)
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
Doorbell Accessory, optional	DS11-USA	Chime Kit

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
WiFi Video Doorbell	Hardware for Installation Wires for integration for with existing doorbell chime DB11-BK-US Angled Mounting Brackets
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

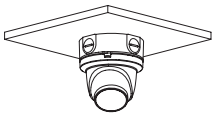
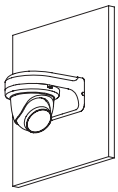
DH-PFM321D-US
Power Adapter

Doorbell Accessory

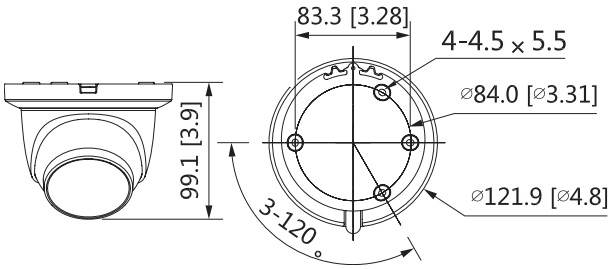
Optional:

DS11-USA
Chime Kit

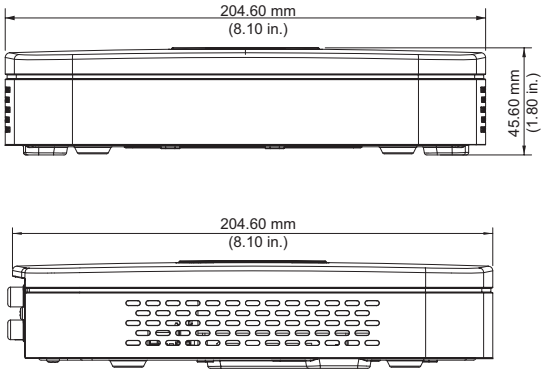
Camera Installation Options

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

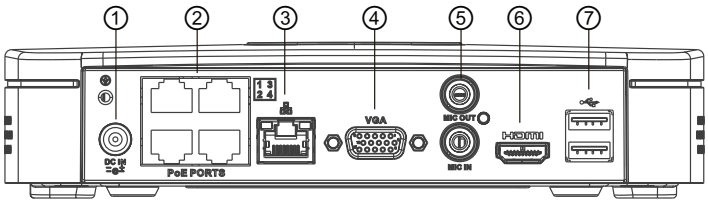
Dimensions (mm/in.) - 4 MP Network Camera



Dimensions (mm/in.) - 4K NVR

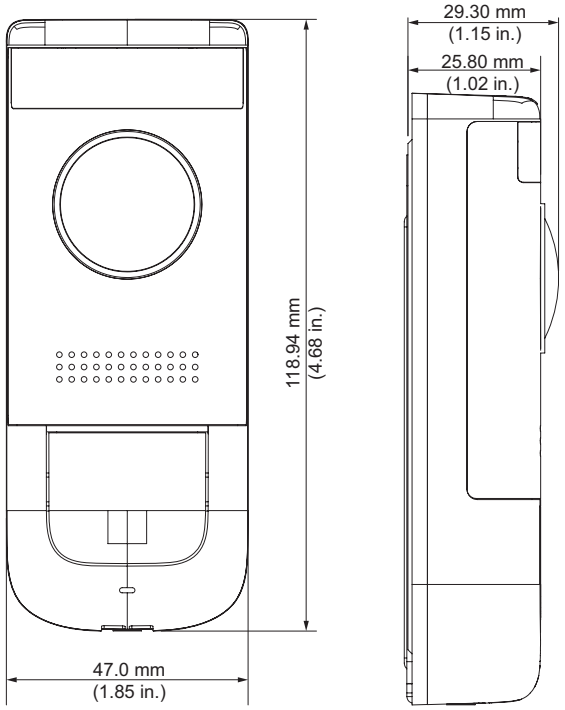


Rear Panel - 4K NVR

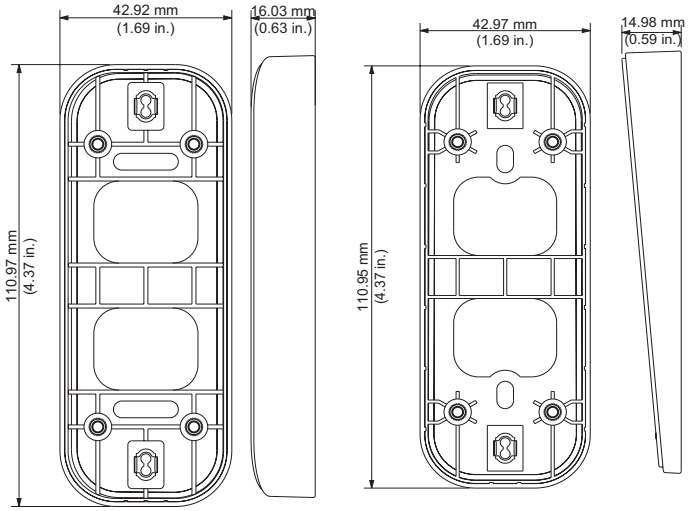


1	Power Input	5	Audio Output MIC Input
2	PoE Ports, RJ-45 (x4)	6	HDMI Output
3	Network Port, RJ-45	7	USB Ports (x2)
4	VGA Output		

Dimensions (mm/in.) - 2 MP WiFi Video Doorbell



Dimensions (mm/in.) - DB11-BK-US, Horizontal/Vertical



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