BOSCH

Invented for life

NBN-832 DinionHD 1080p Day/Night IP Camera

HD ONVIF

▸ **1/2.7-inch Day/Night CMOS with progressive scan**

▸ **High resolution 1080p, HD format**

▸ **Local Storage for flexible recording options**

▸ **Auto back focus for easy installation**

▸ **Intelligence at the edge**

▸ **ONVIF conformant**

▸ **Quad Streaming**

DinionHD 1080p Day/Night IP cameras are progressive scan CMOS cameras that use the Bosch-designed Dinion digital imaging technology. The camera uses the latest CMOS-based HD sensor for a sharper, more detailed picture with a 16:9 image format.

Features such as multicasting, internet streaming and iSCSI recording are fully supported.

The DinionHD 1080p camera delivers the highest standards of performance and reliability in any security and surveillance scenario, day or night.

Functions

1080p HD Camera

The DinionHD camera is designed to stream a high resolution1080p video image in true HD format (16:9). The camera now brings the unmatched Dinion Image performance to HD-standard video.

Outstanding image quality

With a 1/2.7-inch CMOS HD sensor, the DinionHD Day/ Night IP camera delivers outstanding image quality. The Bosch designed digital video processing system optimally handles the HD image format without compromise. Image performance and color reproduction are superb even under challenging lighting conditions.

Day/Night switching

In night mode, the camera enhances low light viewing by switching the IR (infrared) filter out of the optical path and providing a monochrome image. The camera can switch from color to monochrome mode automatically by sensing the illumination level, manually via the alarm input, or remotely via a web browser.

Privacy masking

Four different privacy zones allow specific parts of a scene to be blocked. A mask for any part of the scene can be pre-programmed.

Efficient bandwidth and storage management

The cameras use H.264 (Main Profile) compression, bandwidth throttling, and multicasting capabilities to manage bandwidth and storage requirements efficiently, while delivering high image quality and resolution.

Bosch's innovative Quad-streaming feature enables the DinionHD to deliver three H.264 streams (a 1080p HD stream, a downscaled resolution stream, and a HD I-frame only stream) together with an M-JPEG stream. These four streams facilitate bandwidth-efficient viewing and recording options as well as integration with third-party video management systems.

DinionHD cameras offer unparalleled recording options. Attached to the network, they can use iSCSI targets directly without needing any recording software. The recording management capabilities of the system can be further enhanced by using the Bosch Video Recording Manager (VRM).

DinionHD supports local storage on a microSD card. This can be used for local alarm recording or for Automatic Network Replenishment (ANR) to improve the overall reliability of video recording.

Standard intelligence

With built-in video content analysis, the camera reinforces the Intelligence-at-the-Edge concept where edge devices become increasingly intelligent. The MOTION+ video motion analysis system that is built into all camera versions, is the perfect solution for applications where standard video content analysis features are required. This motion analysis algorithm is based on pixel change and includes object size filtering capabilities and sophisticated tamper-detection capabilities.

Advanced IVA version

The hardware-enhanced version of the camera upgrades the video content analysis features of the camera with the more advanced Intelligent Video Analysis (IVA) version. This version contains such features as idle object, line crossing, flow detection, crowd detection etc.

ONVIF conformance

The camera conforms to the ONVIF (Open Network Video Interface Forum) specification which guarantees interoperability between network video products regardless of manufacturer. ONVIF conformant devices are able to exchange live video, audio, metadata and control information. They are automatically discovered and connected to network applications such as video management systems.

Unsurpassed flexibility

There are many ways to access the camera's video: on a PC using a web browser, with the Bosch Video Management System (VMS), or with the Bosch Video Client. The Bosch Video Client is provided free of charge with each camera. This easy-to-use software can easily configure and operate up to 16 cameras. A license upgrade adds support for up to 64 cameras.

Cost effective, simple installation

Three power options, PoE (Power-over-Ethernet), 24 VAC and 12 VDC are available. Using PoE makes installation easier and more cost-effective, as cameras do not require a local power source. To increase system reliability, the camera can be simultaneously connected to both PoE and 12 VDC/24 VAC supplies. Additionally, uninterruptible power supplies (UPS) can be used, which will allow continuous operation, even during a power failure.

For trouble-free network cabling, the cameras support Auto-MDIX which allows the installer to use straight or cross-over network cables.

Automatic back focus

The automatic motorized back focus reduces focusing time by up to 50%. It even allows you to fine tune a specific region of interest. Once done, the camera is focused accurately for both day and night operation.

Intuitive user interface

The DinionHD camera has a very intuitive user interface that allows fast and easy configuration over IP. An auto-focus lens wizard can be activated either from the PC or through the camera buttons. This makes it easy for the installer to choose the workflow that suits best for setting field-of-view and focus with 1:1 pixel mapping.

Easy Upgrade

Remotely upgrade the camera whenever new firmware becomes available. This ensures up-to-date products, thus protecting investment with little effort.

Access Security

Various security levels are available for accessing the network, the camera and the data channels. As well as password protection with three levels, 802.1x authentication using a RADIUS (Remote Authentication Dial In User Service) server is supported. To secure Web browser access, use HTTPS with a SSL certificate stored in the camera. For total data protection, the video and audio communication channels can be independently AES encrypted with 128-bit keys by installing the optional encryption site license.

Bosch Video Client surveillance software

The bundled Bosch Video Client PC surveillance software offers a user-friendly interface to support easy installation and configuration. A wizard allows the configuration of multiple cameras simultaneously using an auto detection device. Multiple cameras can be monitored in one screen and video clips on the SD card can be archived and searched in a single application.

Typical applications

- Retail, banks
- Stadiums
- Schools
- Prisons and correctional facilities
- Traffic monitoring (air, land and sea)
- Hotels, bars and nightclubs
- Commercial and government buildings
- City surveillance and safety
- Border control

Certifications and Approvals

HD standards

Complies with the SMPTE 274M-2008 Standard in:

- Resolution: 1920x1080
- Scan: Progressive
- Color representation: complies with ITU-R BT.709
- Aspect ratio: 16:9
- Frame rate: 25 and 30 frames/s

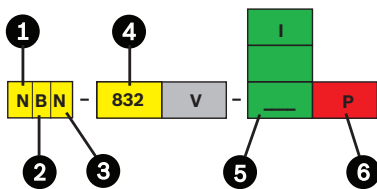Complies with the 296M-2001 Standard in:

- Resolution: 1280x720
- Scan: Progressive
- Color representation: complies with ITU-R BT.709
- Aspect ratio: 16:9
- Frame rate: 25 and 30 frames/s

Region	Certification
Europe	CE
USA	UL
	FCC
Canada	CSA

Electro Magnetic Compatibility

Emission	EN55022 Class B FCC Part 15, class B
Immunity	EN50130-4 (PoE, +12 VDC, 24 VAC)* EN50121-4
Safety	EN60950-1 UL60950-1 (2nd edition) CAN/CSA-C 22.2 No. 60950-1
Vibration	Camera with 500 g (1.1 lb) lens as per IEC60068-2-6 (5 m/s^2, operational)

Chapters 7 and 8 (mains voltage supply requirement) are not applicable to the camera. However, if the system in which this camera is used needs to comply with this standard, then any power supplies used must comply with this standard.
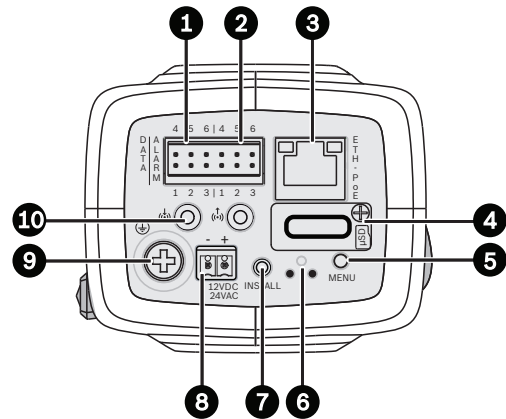
Installation/Configuration Notes

Ordering chart

1	N: Network camera	4	832: DinionHD performance
2	B: Fixed body	5	-: Motion+ I: IVA enabled
3	N: Day/Night	6	P: PoE

Controls

1	Data (RS485/422/232)	6	Reset button
2	Alarm in, relay out	7	Service video out
3	10/100 Base-T Fast Ethernet	8	Power supply input
4	MicroSD card slot	9	Earth
5	Menu button	10	Audio in / Audio out

Parts Included

Quantity	Components
1	NBN-832 Series DinionHD Day/Night IP Camera
1	Spare lens connector
1	Sensor protection cap (mounted on camera)
1	Quick Install Guide and Safety Instructions
1	Optical disk with Bosch Video Client, manual, and system requirements
1	Power connector
1	Alarm I/O connector
1	Data connector
1	C/CS lens mount adapter

Technical Specifications

Electrical

Power Supply	24 VAC ±10% 50/60 Hz 12 VDC ±10% Power-over-Ethernet 48 VDC nominal
Current Consumption	400 mA | 500 mA IVA (12 VDC) 350 mA | 450 mA IVA (24 VAC) 150 mA | 175 mA IVA (PoE 48 VDC)
Power Consumption	4.8 W | 6 W IVA (12 VDC) 8.4 W | 10.8 W IVA (24 VAC) 7.2 W | 8.4 W IVA (PoE 48 VDC)

Sensor

Type	1/2.7-inch CMOS
Active Pixels	1920 x 1080

Video

Video compression	H.264 (ISO/IEC 14496-10); M- JPEG, JPEG
Streaming	Four individually configurable streams in H. 264 and M-JPEG, configurable frame rate and bandwidth.
Two independently configurable H.264 streams	**Stream 1**: H.264 Main Profile (MP) 1080p 25/30, H.264 Main Profile (MP) 720p 25/30 or H.264 MP Standard Definition (SD) **Stream 2**: Copy of stream 1 (when 1080p), H.264 Main Profile (MP) 720p 25/30 (when stream 1 is 720p) or H.264 MP Standard Definition (SD)
Two additional streams	M-JPEG stream and High Definition (HD) I-frame only stream.
HD Resolution (H x V)	1080p: 1920 x 1080 720p: 1280 x 720
480p Resolution (H x V)	Encoding: 704 x 480 Displayed: 854 x 480
240p Resolution (H x V)	Encoding: 352 x 240 Displayed: 432 x 240
Overall IP Delay	Min. 120 ms, Max. 240 ms
GOP structure	IP, IBP, IBBP

Sensitivity (3200 K, scene reflectivity 89%, F1.2)

	Minimum illumination (30 IRE)
Color	0.22 lx (0.022 fc)
Monochrome	0.05 lx (0.005 fc)

Day/Night	Color, Mono, Auto
White Balance	ATW (2500 to 10000K), ATWhold and manual
Shutter	Auto (1/50 [1/60] to 1/50000) automatic Fixed selectable
Contrast enhancement	On/off
Backlight compensation	On/off
Sharpness	Sharpness enhancement level selectable
Dynamic Range	Digital WDR: 76 dB
Privacy Masking	Four independent areas, fully programmable
Video Motion Analysis	Motion+ or IVA option

Lens

Lens Mount	CS (max lens protrusion 5 mm, 0.2 inch), C-mount compatible with supplied adapter ring
Lens Types	Manual and DC-Iris auto-detect with override DC-iris drive: max. 50 mA continuous
Lens Controls	Wizard from web page or camera button

Audio

Standard	G.711, 8kHz sampling rate AAC
Signal-to-noise ratio	> 50 dB
Audio Streaming	Full duplex / half duplex

Input/output

Audio	1 x mono line in, 1 x mono line out
• connector	3.5 mm stereo jack
• signal line in	12 kOhm typical, 1 Vrms max
• signal line out	1 Vrms at 1.5 kOhm typical,
Alarm	2 inputs
• connector	Clamp (non-isolated closing contact)
• activation voltage	+5 VDC to +40 VDC (+3.3 VDC with DC-coupled 22 kOhm pull-up resistor)
Relay	1 output
• connector	Clamp
• voltage	30 VAC or +40 VDC Maximum 0.5 A continuous, 10VA
Data port	RS-232/422/485

Local Storage

Memory card slot	Supports SDHC and SDXC microSD cards up to 2 TB
Recording	Continuous recording, ring recording. alarm/events/schedule recording

Software Control

Unit Configuration	Via web browser or Configuration Manager
Software update	Flash ROM, remote programmable

Network

Protocols	RTP, RTSP, Telnet, UDP, TCP, IP, HTTP, HTTPS, FTP, DHCP, IGMP V2/V3, ICMP, ARP, SMTP, SNTP, SNMP, 802.1x, UPnP
Encryption	TLS 1.0, SSL, AES (optional)
Ethernet	STP, 10/100 Base-T, auto-sensing, half/full duplex, RJ45
PoE supply	IEEE 802.3at compliant

Mechanical

Dimensions (H x W x L)	78 x 66 x140 mm (3.07 x 2.6 x 5.52 inch) without lens
Weight	690 g (1.52 lb) without lens
Color	RAL 9007 Metallic Titanium
Tripod Mount	Bottom (isolated) and top 1/4-inch 20 UNC

Environmental

Operating Temperature	-20℃ to +55℃ (-4℉ to 131℉)
Operating Temperature (IVA)	-20℃ to +50℃ (-4℉ to 122℉)
Storage Temperature	-30℃ to +70℃ (-22℉ to +158℉)
Operating Humidity	20% to 93% RH
Storage Humidity	up to 98% RH

Ordering Information

NBN-832V-P DinionHD D/N IP Camera 1/2.7-inch CMOS, 1080p HD, H.264 dual stream, Motion+, PoE	**NBN-832V-P**
NBN-832V-IP DinionHD D/N IP Camera 1/2.7-inch CMOS, 1080p HD, H.264 dual stream, IVA enabled, PoE	**NBN-832V-IP**
VLG-4V0940-MP5 Varifocal Megapixel Lens 5 Megapixel, 9-40 mm varifocal, f1.5, 1/2.5-inch lens, DC iris, IR corrected	**VLG-4V0940-MP5**
VLG-2V1803-MP5 Varifocal Megapixel Lens 5 Megapixel, 1.8-3 mm varifocal, f1.8, 1/2.5-inch lens, DC iris, IR corrected	**VLG-2V1803-MP5**
VLG-3V3813-MP3 Varifocal Megapixel Lens 3 Megapixel, 3.8-13 mm varifocal, f1.4, 1/2-inch lens, DC iris	**VLG-3V3813-MP3**
Accessories	
EX12LED-3BD-8M Infrared Illuminator EX12LED IR Illuminator, 850 nm, 30 deg beam	**EX12LED-3BD-8M**
EX12LED-3BD-8W Infrared Illuminator EX12LED, IR Illuminator, 850 nm, 60 deg beam	**EX12LED-3BD-8W**
EX12LED-3BD-9M Infrared Illuminator EX12LED IR Illuminator, 940 nm, 30 deg beam	**EX12LED-3BD-9M**
EX12LED-3BD-9W Infrared Illuminator EX12LED, IR Illuminator, 940 nm, 60 deg beam	**EX12LED-3BD-9W**
UPA-2410-60 Power Supply 120 VAC, 60 Hz, 24 VAC, 10 VA Out	**UPA-2410-60**
UPA-2430-60 Power Supply 120 VAC, 60 Hz, 24 VAC, 30 VA Out	**UPA-2430-60**

Ordering Information

UPA-2450-60 Power Supply 120 VAC, 60 Hz, 24 VAC, 50 VA Out	**UPA-2450-60**
UPA-2450-50 Power Supply 220 VAC, 50 Hz, 24 VAC, 50 VA Out For use with certain 24 VAC camera models.	**UPA-2450-50**
S1374 Adapter converts C mount lens to CS mount camera	**S1374**
Software Options	
MVC-FENC-AES BVIP AES 128 Bit Encryption BVIP AES 128-bit encryption site license. This license is required only once per installation. It enables encrypted communication between BVIP devices and management stations.	**MVC-FENC-AES**