

# FLEXIDOME IP indoor 5000 HD

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**BOSCH**

Invented for life



- ▶ 1080p resolution for sharp images
- ▶ Easy to install with auto zoom/focus lens, wizard and pre-configured modes
- ▶ Fully configurable quad streaming
- ▶ IR version with 15 m (50 ft) viewing distance
- ▶ Regions of interest and E-PTZ

The HD indoor dome cameras from Bosch are professional surveillance cameras that provide high quality HD images for demanding security and surveillance network requirements. These domes are true day/night cameras offering excellent performance day or night.

There is a version with a built-in active infrared illuminator that provides high performance in extreme low-light environments.

## System overview

### Easy to install stylish indoor dome

Ideal for indoor use, the stylish design is suitable for installations where appearance and flexible coverage are important. The varifocal lens allows you to choose the coverage area to best suit your application. Using the proprietary pan/tilt/rotation mechanism, installers can select the exact field of view. Mounting options are numerous, including surface, wall, and suspended-ceiling mounting.

The automatic zoom/focus lens wizard makes it easy for an installer to accurately zoom and focus the camera for both day and night operation. The wizard is activated from the PC or from the on-board camera push button making it easy to choose the workflow that suits best.

The AVF (Automatic Varifocal) feature means that the zoom can be changed without opening the camera. The automatic motorized zoom/focus adjustment with 1:1 pixel mapping ensures the camera is always accurately focused.

## Functions

### Intelligent Dynamic Noise Reduction reduces bandwidth and storage requirements

The camera uses Intelligent Dynamic Noise Reduction which actively analyzes the contents of a scene and reduces noise artifacts accordingly.

The low-noise image and the efficient H.264 compression technology provide clear images while reducing bandwidth and storage by up to 50% compared to other H.264 cameras. This results in reduced-bandwidth streams that still retain a high image quality and smooth motion. The camera provides the most usable image possible by cleverly optimizing the detail-to-bandwidth ratio.

**Area-based encoding**

Area-based encoding is another feature which reduces bandwidth. Compression parameters for up to eight user-definable regions can be set. This allows uninteresting regions to be highly compressed, leaving more bandwidth for important parts of the scene.

**Bitrate optimized profile**

The average typical optimized bandwidth in kbits/s for various image rates is shown in the table:

IPS	1080p	720p	480p
30	1600	1200	600
15	1274	955	478
12	1169	877	438
5	757	568	284
2	326	245	122

**Multiple streams**

The innovative multi-streaming feature delivers various H.264 streams together with an M-JPEG stream. These streams facilitate bandwidth-efficient viewing and recording as well as integration with third-party video management systems.

Depending on the resolution and frame rate selected for the first stream, the second stream provides a copy of the first stream or a lower resolution stream.

The third stream uses the I-frames of the first stream for recording; the fourth stream shows a JPEG image at a maximum of 10 Mbit/s.

**Regions of interest and E-PTZ**

Regions of Interest (ROI) can be user defined. The remote E-PTZ (Electronic Pan, Tilt and Zoom) controls allow you to select specific areas of the parent image. These regions produce separate streams for remote viewing and recording. These streams, together with the main stream, allow the operator to separately monitor the most interesting part of a scene while still retaining situational awareness.

**Built-in microphone, two-way audio and audio alarm**

The camera has a built-in microphone to allow operators to listen in on the monitored area. Two-way audio allows the operator to communicate with visitors or intruders via an external audio line input and output. Audio detection can be used to generate an alarm if needed.

If required by local laws, the microphone can be permanently blocked via a secure license key.

**Tamper and motion detection**

A wide range of configuration options is available for alarms signaling camera tampering. A built-in algorithm for detecting movement in the video can also be used for alarm signaling.

**Storage management**

Recording management can be controlled by the Bosch Video Recording Manager (VRM) or the camera can use iSCSI targets directly without any recording software.

**Edge recording**

The MicroSD card slot supports up to 2 TB of storage capacity. A microSD card can be used for local alarm recording. Pre-alarm recording in RAM reduces recording bandwidth on the network, or – if microSD card recording is used – extends the effective life of the storage medium.

**Cloud-based services**

The camera supports time-based or alarm-based JPEG posting to four different accounts. These accounts can address FTP servers or cloud-based storage facilities (for example, Dropbox). Video clips or JPEG images can also be exported to these accounts.

Alarms can be set up to trigger an e-mail or SMS notification so you are always aware of abnormal events.

**Easy installation**

Power for the camera can be supplied via a Power-over-Ethernet compliant network cable connection. With this configuration, only a single cable connection is required to view, power, and control the camera. Using PoE makes installation easier and more cost-effective, as cameras do not require a local power source.

The camera can also be supplied with power from +12 VDC power supplies.

For trouble-free network cabling, the camera supports Auto-MDIX which allows the use of straight or cross-over cables.

**True day/night switching**

The camera incorporates mechanical filter technology for vivid daytime color and exceptional night-time imaging while maintaining sharp focus under all lighting conditions.

**Hybrid mode**

An analog video output enables the camera to operate in hybrid mode. This mode provides simultaneous high resolution HD video streaming and an analog video output via an SMB connector. The hybrid functionality offers an easy migration path from legacy CCTV to a modern IP-based system.

**Access security**

Password protection with three levels and 802.1x authentication is supported. To secure Web browser access, use HTTPS with a SSL certificate stored in the camera. The video and audio communication channels can be independently AES encrypted with 128-bit keys by installing the optional encryption site license.

### Complete viewing software

There are many ways to access the camera's features: using a web browser, with the Bosch Video Management System, with the free-of-charge Bosch Video Client or Video Security Client, with the video security mobile app, or via third-party software.

### Video security App

The Bosch video security mobile App has been developed to enable **Anywhere** access to HD surveillance images allowing you to view live images from any location. The App is designed to give you complete control of all your cameras, from panning and tilting to zoom and focus functions. It's like taking your control room with you.

This App, together with the separately available Bosch transcoder, will allow you to fully utilize our dynamic transcoding features so you can play back images even over low-bandwidth connections.

### System integration

The camera conforms to the ONVIF Profile S specification. Compliance with this standard guarantees interoperability between network video products regardless of manufacturer.

Third-party integrators can easily access the internal feature set of the camera for integration into large projects. Visit the Bosch Integration Partner Program (IPP) website ([ipp.boschsecurity.com](http://ipp.boschsecurity.com)) for more information.

### 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 SMPTE 296M-2001 Standard in:

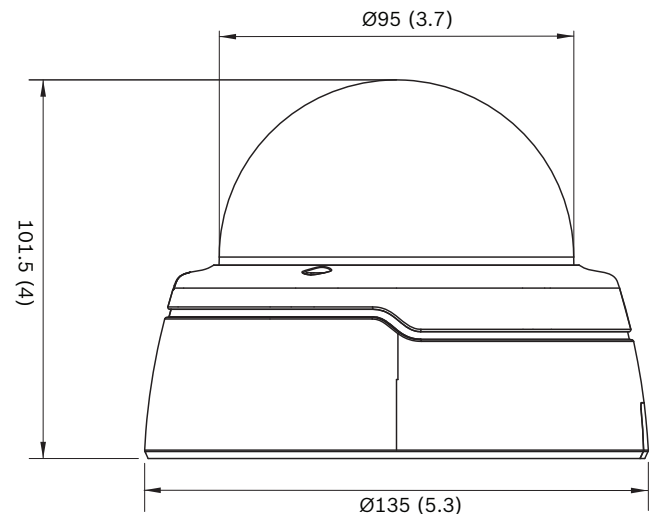
- Resolution: 1280x720
- Scan: Progressive
- Color representation: complies with ITU-R BT.709
- Aspect ratio: 16:9
- Frame rate: 25 and 30 frames/s

Standards	IEC 62471 (IR version)
	EN 60950-1
	UL 60950-1
	CAN/CSA-C22.2 NO. 60950-1-03
	EN 50130-4
	EN 50130-5, Class II (indoor in general, fixed equipment)
	FCC Part15 Subpart B, Class B
	EMC directive 2004/108/EC
	EN 55022 class B

	EN 55024
	AS/NZS CISPR 22 (equal to CISPR 22)
	ICES-003 Class B
	VCCI J55022 V2/V3
	EN 50121-4
ONVIF compliance	EN 50132-5-2; IEC 62676-2-3
Product certifications	CE, FCC, UL, cUL, RCM, CB, VCCI

Region	Certification	
Europe	CE	Indoor 4000_5000
USA	UL	Indoor 4000_5000

### Installation/configuration notes



Dimensions mm (inch)

### Parts included

- Camera
- Screw kit
- Installation documentation

### Technical specifications

Power	
Input voltage	+12 VDC or Power-over-Ethernet (48 VDC nominal)
Power consumption	3.8 W max. 6.3 W max. (IR version)
PoE	IEEE 802.3af (802.3at Type 1) Power level: Class 2

Sensor	
Sensor type	1/2.7-inch CMOS
Total sensor pixels	1952 x 1092 (2MP)
Video performance - Sensitivity	
Sensitivity – (3200K, reflectivity 89%, F1.3, 30IRE)	
Color	0.24 lx
Mono	0.05 lx
With IR	0.0 lx
Video performance - Dynamic range	
Dynamic range	76 dB
Video streaming	
Video compression	H.264 (MP); M-JPEG
Streaming	Multiple configurable streams in H.264 and M-JPEG, configurable frame rate and bandwidth. Regions of Interest (ROI)
Overall IP Delay	Min. 120 ms, Max. 340 ms
GOP structure	IP, IBP, IBBP
Encoding interval	1 to 30 [25] fps
Encoder regions	Up to 8 areas with encoder quality settings per area
Video resolution (H x V)	
• 1080p HD	1920 X 1080
• 720p HD	1280 x 720
• D1 4:3 (cropped)	704 x 480
• SD upright (cropped)	400 x 720
• 480p SD	Encoding: 704 x 480; Displayed: 854 x 480
• 432p SD	768 x 432
• 288p SD	512 x 288
• 240p SD	Encoding: 352 x 240; Displayed: 432 x 240
• 144p SD	256 x 144
Video functions	
Day/Night	Color, Monochrome, Auto
Adjustable picture settings	Contrast, Saturation, Brightness
White Balance	4 automatic modes, manual mode and measure

Video functions	
Shutter	Automatic Electronic Shutter (AES); Fixed (1/12 to 1/15000) selectable; Default shutter
Backlight compensation	On/off
Noise reduction	Intelligent Dynamic Noise Reduction with separate temporal and spatial adjustments
Contrast enhancement	On/off
Sharpness	Sharpness enhancement level selectable
Intelligent defog	Intelligent Defog automatically adjusts parameters for best picture in foggy or misty scenes (switchable)
Privacy Masking	Eight independent areas, fully programmable
Video Analysis	MOTION+
Other functions	Image mirror, Image flip, Pixel counter, Video watermarking, Display stamping, Scene modes, Location
Night vision (IR version only)	
Distance	15 m (50 ft)
LED	10 LED high efficiency array, 850 nm
IR intensity	Adjustable
Optical	
Lens type	3 to 10 mm Varifocal, DC Iris F1.3 – 360, IR corrected 3 to 10 mm Automatic Varifocal (AVF), DC Iris F1.3 – 360, IR corrected
Lens mount	Board mounted
Horizontal field of view	36° - 117°
Vertical field of view	20° - 61°
Adjustment	Motorized zoom/focus (AVF version)
Iris control	Automatic iris control
Day/Night	Switched mechanical IR filter
Input/output	
Analog video out	SMB connector, CVBS (PAL/NTSC), 1 Vpp, 75 Ohm
Audio line in	0.707 Vrms max, 10 kOhm typical, jack connector
Audio line out	0.707 Vrms at 16 Ohm typical, jack connector
Audio input	Built-in microphone (can be permanently disabled)

Input/output	
Alarm input	1 input
Alarm input activation	Short or DC 5V activation
Alarm output	1 output
Alarm output voltage	30 VDC, max. load 0.5 A
Ethernet	RJ45
Audio streaming	
Standard	G.711, 8 kHz sampling rate L16, 16 kHz sampling rate AAC-LC, 48 kbps at 16 kHz sampling rate AAC-LC, 80 kbps at 16 kHz sampling rate
Signal-to-Noise Ratio	>50 dB
Audio Streaming	Full-duplex / half duplex
Local storage	
Internal RAM	10 s pre-alarm recording
Memory card slot	Supports up to 32 GB microSDHC / 2 TB microSDXC card. (An SD card of Class 6 or higher is recommended for HD recording)
Recording	Continuous recording, ring recording, alarm/events/schedule recording
Software	
Unit discovery	IP Helper
Unit configuration	Via web browser or Configuration Manager
Firmware update	Remotely programmable
Software viewing	Web browser; Video Security Client; Video Security App; Bosch Video Management System; Bosch Video Client; or third party software
Latest firmware and software	<a href="http://downloadstore.boschsecurity.com/">http://downloadstore.boschsecurity.com/</a>
Network	
Protocols	IPv4, IPv6, UDP, TCP, HTTP, HTTPS, RTP/RTCP, IGMP V2/V3, ICMP, ICMPv6, RTSP, FTP, Telnet, ARP, DHCP, APIPA (Auto-IP, link local address), NTP (SNTP), SNMP (V1, MIB-II), 802.1x, DNS, DNSv6, DDNS (DynDNS.org, selfHOST.de, no-ip.com), SMTP, iSCSI, UPnP (SSDP), DiffServ (QoS), LLDP, SOAP, Dropbox, CHAP, digest authentication
Encryption	TLS 1.0, SSL, DES, 3DES
Ethernet	10/100 Base-T, auto-sensing, half/full duplex

Network	
Connectivity	Auto-MDIX
Interoperability	ONVIF Profile S; GB/T 28181
Mechanical	
3-axis adjustment (pan/tilt/rotation)	350° / 130° / 330°
Dimensions	Diameter: 135 mm (5.32 in) Height: 102 mm (4 in)
Weight	450 g (0.99 lb) approx.
Color	RAL 9004, RAL 9010
Environmental	
Operating temperature	-20 °C to +50 °C (-4 °F to +122 °F)
Storage temperature	-30 °C to +70 °C (-22 °F to +158 °F)
Humidity	20% to 90% relative humidity (non condensing)

### Ordering information

#### FLEXIDOME IP indoor 5000 HD

Professional IP dome camera for indoor HD surveillance. Varifocal 3 to 10 mm f1.3 lens; IDNR; day/night; H.264 quad-streaming; cloud services; motion/tamper/audio detection; microphone; 1080p  
Order number **NIN-51022-V3**

#### FLEXIDOME IP indoor 5000 IR

Professional IP dome camera for indoor HD surveillance. Varifocal 3 to 10 mm f1.3 lens; IDNR; day/night; H.264 quad-streaming; cloud services; motion/tamper/audio detection; microphone; 1080p; infrared  
Order number **NII-51022-V3**

#### FLEXIDOME IP indoor 5000 HD

Professional IP dome camera for indoor HD surveillance. Automatic Varifocal 3 to 10 mm f1.3 lens; DC iris; IDNR; day/night; H.264 quad-streaming; cloud services; motion/tamper/audio detection; microphone; 1080p  
Order number **NIN-50022-A3**

#### FLEXIDOME IP indoor 5000 IR

Professional IP dome camera for indoor HD surveillance. Automatic Varifocal 3 to 10 mm f1.3 lens; DC iris; IDNR; day/night; H.264 quad-streaming; cloud services; motion/tamper/audio detection; microphone; 1080p; infrared  
Order number **NII-50022-A3**

#### Accessories

##### NDA-LWMT-DOME Dome Wall Mount

Sturdy wall L-shaped bracket for dome cameras  
Order number **NDA-LWMT-DOME**

**NDA-ADTVEZ-DOME Dome Adapter Bracket**

Adapter bracket (used together with appropriate wall or pipe mount, or surface mount box)

Order number **NDA-ADTVEZ-DOME**

**VEZ-A2-WW Wall Mount**

Wall mount (Ø145/149 mm) for dome cameras (use together with appropriate dome adapter bracket); white

Order number **VEZ-A2-WW**

**VEZ-A2-PW Pipe Mount**

Pendant pipe mount (Ø145/149 mm) for dome cameras (use together with appropriate dome adapter bracket); white

Order number **VEZ-A2-PW**

**LTC 9213/01 Pole Mount Adapter**

Flexible pole mount adapter for camera mounts (use together with the appropriate wall mount bracket). Max. 9 kg (20 lb); 3 to 15 inch diameter pole; stainless steel straps

Order number **LTC 9213/01**

**NDA-FMT-DOME In-ceiling mount**

In-ceiling flush mounting kit

Order number **NDA-FMT-DOME**

**NDA-ADT4S-MINDOME 4S Surface Mount Box**

Surface mount box (Ø145 mm / Ø5.71 in) for dome cameras (use together with the appropriate dome adapter bracket).

Order number **NDA-ADT4S-MINDOME**

**Monitor/DVR Cable SMB 0.3M**

0.3 m (1 ft) analog cable, SMB (female) to BNC (female) to connect camera to coaxial cable

Order number **NBN-MCSMB-03M**

**Monitor/DVR Cable SMB 3.0M**

3 m (9 ft) analog cable, SMB (female) to BNC (male) to connect camera to monitor or DVR

Order number **NBN-MCSMB-30M**

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