

DINION IP bullet 5000 HD



The 1080p infrared bullet from Bosch is a professional surveillance camera that provides high quality HD images for demanding security and surveillance network requirements.

This robust bullet camera is a true day/night camera offering excellent performance day or night. The built-in infrared LEDs provides quality night time monitoring with 30 m (98 ft) viewing distance in darkness.

System overview

Outdoor bullet camera with automatic varifocal lens

The robust aluminum housing provides high installation flexibility. The camera resists both water and dust ingress in tough environments and is rated to IP66 standards. The 2.7 to 12 mm automatic varifocal lens allows you to choose the coverage area remotely.

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.



- ▶ Easy to install with auto zoom/focus lens, wizard and pre-configured modes
- ▶ Built-in IR illuminator with 30 m (98 ft) viewing distance
- ▶ 1080p resolution for sharp images
- ▶ Regions of interest and E-PTZ
- ▶ IP66 surface mount box

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.

Two-way audio and audio alarm

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.

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 (Video Recording Manager) 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 24 VAC or +12 VDC SELV class 2 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 a BNC 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.

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 specifications. Compliance with these standards 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) 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

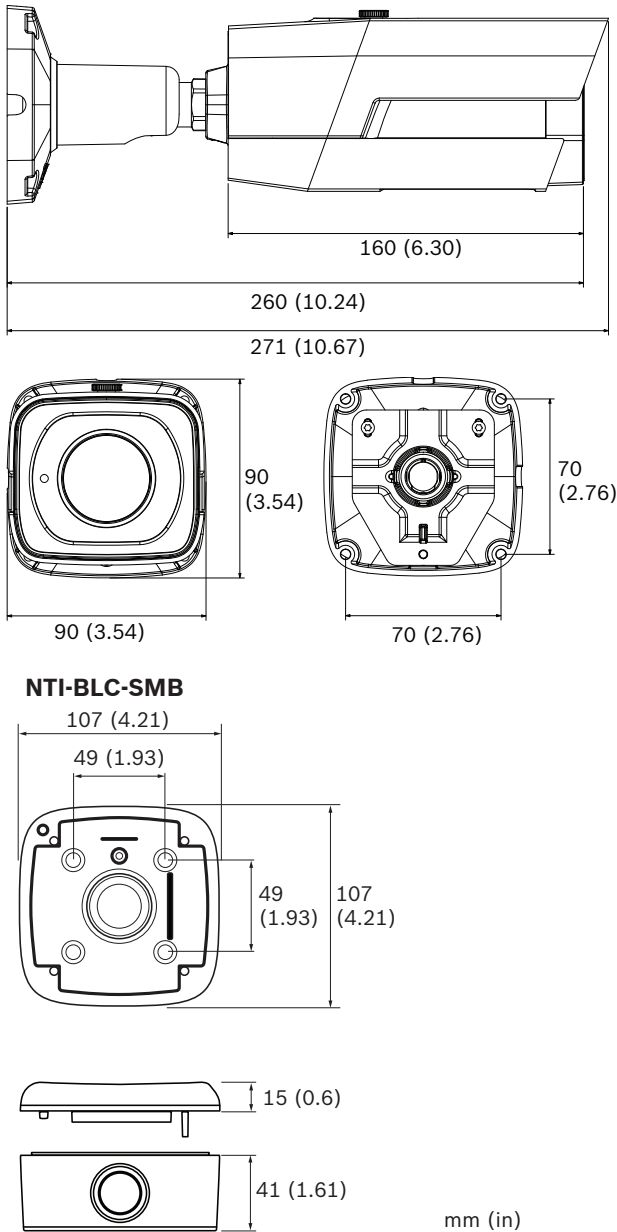
Standards	IEC 62471 (IR version)
	EN 60950-1
	cUL 60950-1
	EN 60950-22
	cUL 60950-22
	CAN/CSA-C22.2 NO. 60950-1-07
	EN 50130-4
	EN 50130-5, Class IV (outdoor in general)

	FCC Part15 Subpart B, Class B
	EMC directive 2004/108/EC
	EN 55022 class B
	EN 61000-3-2
	EN 61000-3-3
	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, C-tick, CB, VCCI, EAC

Ingress protection	IP66
Impact protection	IK08

Region	Regulatory compliance/quality marks	
Europe	CE	DINION IP bullet A3
USA	UL	
	UL	
Canada	CSA	

Installation/configuration notes



Technical specifications

Power	
Input voltage	Power-over-Ethernet (48 VDC nominal); or 24 VAC / +12 VDC
PoE	IEEE 802.3af (802.3at Type 1) Power level: Class 3

Power consumption	PoE (12 W); 24 VAC (12.13 W); +12 VDC (13.2 W)
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Sensor	
Sensor type	1/2.9-inch CMOS
Total sensor pixels	1936 (H) x 1097 (V); 2.12MP (approx.)

Video performance - Sensitivity	
Sensitivity – (3200K, reflectivity 89%, F1.4, 30IRE)	
Color	0.07 lx
Mono	0.05 lx
With IR	0.0 lx

Video performance - Dynamic range	
Dynamic range	76 dB WDR

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
Encoding interval	1 to 25 [30] ips

Video resolution (H x V)	
• 1080p HD	1920 X 1080
• 720p HD	1280 x 720
• SD upright (cropped)	400 x 720
• 432p SD	768 x 432
• 288p SD	512 x 288
• 144p SD	256 x 144

Camera installation	
Base frame rate	25/30 fps (PAL/NTSC for analog output)
Camera LED	Enable/disable
Analog output	Off, 4:3 letterbox, 4:3 crop, 16:9
Positioning	Coordinates
Lens wizard	Zoom, Autofocus

Video functions - color	
Adjustable picture settings	Contrast, Saturation, Brightness
White Balance	2500 to 10000K, 4 automatic modes (Basic, Standard, Sodium lamp, Dominant color), Manual mode and Hold mode

Video functions - ALC	
Day/Night	Auto (adjustable), Color, Monochrome
Shutter	Automatic Electronic Shutter (AES); Fixed shutter (1/25[30] to 1/15000) selectable; Default shutter
IR intensity	Adjustable

Video functions - enhance	
Sharpness	Sharpness enhancement level selectable
Backlight compensation	On/off
Contrast enhancement	On/off
Noise reduction	Intelligent Dynamic Noise Reduction with separate temporal and spatial adjustments
Intelligent defog	Intelligent Defog automatically adjusts parameters for best picture in foggy or misty scenes (switchable)

Video analysis	
Configurations	Silent VCA / Profile1/2 / Scheduled / Event triggered
Analysis type	MOTION+
Tamper detection	Maskable

Additional functions	
Scene modes	Nine default modes with scheduler: Standard, Sodium lighting, Fast movement, Sensitivity boost, Dynamic backlight, Vibrant, Color only, Sports & gaming, Retail
Privacy Masking	Eight independent areas, fully programmable
Video authentication	Off / Watermark / MD5 / SHA-1 / SHA-256
Display stamping	Name; Logo; Time; Alarm message
Pixel counter	Selectable area

Local storage	
Internal RAM	5 s pre-alarm recording
Memory card slot	Supports up to 32 GB microSDHC / 2 TB microSDXC card. (A memory card of Class 6 or higher is recommended for HD recording)
Recording	Continuous recording, ring recording, alarm/events/schedule recording

Night vision	
Distance	30 m (98 ft)
LED	4 LED high efficiency array, 850 nm

Lens	
Lens type	Automatic Varifocal 2.7 to 12 mm, DC Iris F1.4 – 360
Lens mount	Board mounted
Horizontal field of view	32° - 100°

Lens	
Vertical field of view	18° - 53°

Input/output connections	
Analog video output	CVBS, 1 Vpp, BNC connector, 75 Ohm Selectable standard
Alarm input	Short or DC 5V activation
Alarm out	Input rating Maximum 0.5 A, 30 VAC / 40 VDC
Audio input	Flying leads; 10 kOhm typ. 0.707 Vrms
Audio output	Flying leads; 16 Ohm typ. 0.707 Vrms
Network connector	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

Software	
Common product platform	CPP4
Unit discovery	Project Assistant
Unit configuration	Via web browser or Configuration Manager
Firmware update	Remotely programmable
Software viewing	Web browser; Video Security Client; Video Security App;

Software	
	BVMS; Bosch Video Client; or third party software
Latest firmware and software	http://downloadstore.boschsecurity.com/

Network	
Protocols	IPv4, IPv6, UDP, TCP, HTTP, HTTPS, RTP/RTCP, IGMP V2/V3, ICMP, ICMPv6, RTSP, FTP, ARP, DHCP, APIPA (Auto-IP, link local address), NTP (SNTP), SNMP (V1, V3, 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 1.2, SSL, DES, 3DES
Ethernet	10/100 Base-T, auto-sensing, half/full duplex
Connectivity	Auto-MDIX
Interoperability	ONVIF Profile S; GB/T 28181

Mechanical	
3-axis adjustment (pan/tilt/rotation)	360° / 90° / 360°
Dimensions (H x W x D)	271 x 90 x 90 mm (10.7 x 3.5 x 3.5 in)
Weight	1.3 kg (2.9 lb)
Color	RAL 9006

Environmental	
Operating temperature	-30 °C to +60 °C (-22 °F to +148 °F) for continuous operation; -34 °C to +74 °C (-30 °F to +165 °F) according to NEMA TS 2-2003 (R2008), para 2.1.5.1 using fig. 2.1 test profile

Environmental	
Storage temperature	-30 °C to +70 °C (-22 °F to +158 °F)
Humidity	20% to 90% relative humidity (non condensing)

Ordering information

NTI-50022-A3S Bullet 2MP 2.8-12mm auto IP66 surface

Robust IP bullet camera with infrared illumination for outdoor HD surveillance applications.

Surface mount box

Order number **NTI-50022-A3S | F.01U.316.554**

NTI-50022-A3 Bullet 2MP 2.8-12mm auto IP66

Robust IP bullet camera with infrared illumination for outdoor HD surveillance applications.

Order number **NTI-50022-A3 | F.01U.312.070**

Accessories

NTI-BLC-SMB Surface mount box for bullet camera

Surface mount box for bullet camera.

Order number **NTI-BLC-SMB | F.01U.315.261**

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 | F.01U.009.291**

VDA-POMT-PTZDOME Pole mount adapter

Pole mount adapter for use with the appropriate wall mount for indoor and outdoor applications.

Order number **VDA-POMT-PTZDOME | F.01U.288.069**

VDA-CMT-PTZDOME Corner mount adapter

Corner (270°) mount adapter for use with the appropriate wall mount

Order number **VDA-CMT-PTZDOME | F.01U.288.068**

NPD-5001-POE Power over ethernet , 15.4W, 1-port

Power-over-Ethernet midspan injector for use with PoE enabled cameras; 15.4 W, 1-port

Weight: 200 g (0.44 lb)

Order number **NPD-5001-POE | F.01U.305.288**

NPD-5004-POE Power over ethernet, 15.4W, 4-port

Power-over-Ethernet midspan injectors for use with PoE enabled cameras; 15.4 W, 4-ports

Weight: 620 g (1.4 lb)

Order number **NPD-5004-POE | F.01U.305.289**

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