

DINION IP bullet 5000 HD



BOSCH

Invented for life



- ▶ 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

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.

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 (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 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 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.

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 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

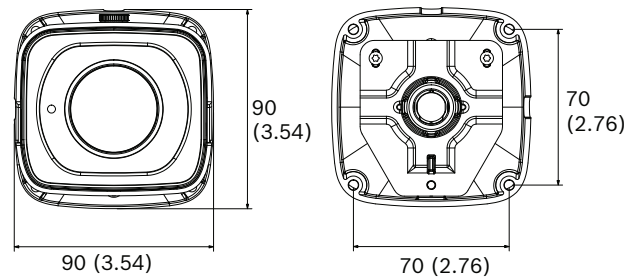
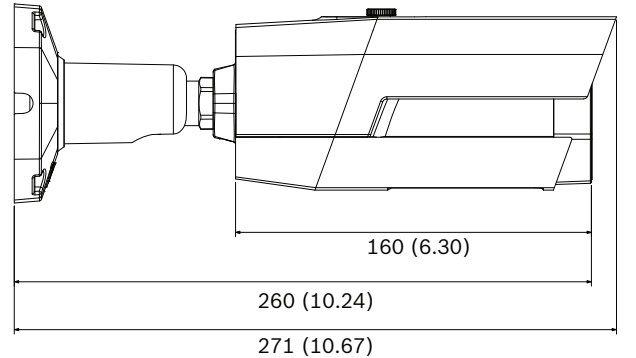
Complies with the SMPTE 296M-2001 Standard in:

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

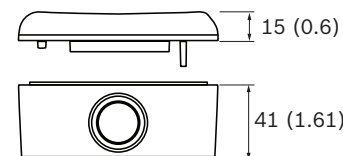
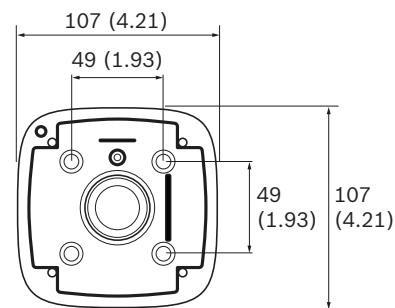
| | |
|-------------------------------|---|
| Standards | IEC 62471 (IR version) |
| | EN 60950-1 |
| | cUL 60950-1 |
| | EN 60950-22 |
| | cUL 60950-22 |
| | CAN/CSA-C22.2 NO. 60950-1-07 |
| | EN 50130-4 |
| | EN 50130-5, Class IV (outdoor in general) |
| | FCC Part15 Subpart B, Class B |
| | EMC directive 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 | Certification |
|--------|---------------|
| Europe | CE |
| USA | UL |
| | UL |
| Canada | CSA |

Installation/configuration notes



NTI-BLC-SMB



mm (in)

Parts included**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) |

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%, F1.3, 30IRE)

| | |
|---------|---------|
| Color | 0.07 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 |
| Encoding interval | 1 to 25 [30] ips |

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; |

Video resolution (H x V)

| | |
|-----------|----------------------|
| | Displayed: 432 x 240 |
| • 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 | Four automatic modes, manual mode and measure |

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, Scheduler |
| Privacy Masking | Eight independent areas, fully programmable |

| Additional functions | |
|--------------------------|---|
| Video authentication | Off / Watermark / MD5 / SHA-1 / SHA-256 |
| Display stamping | Name; Logo; Time; Alarm message |
| Pixel counter | Selectable area |
| 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 |
| 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, IR corrected |
| Lens mount | Board mounted |
| Horizontal field of view | 32° - 100° |
| 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 | |
| Unit discovery | IP Helper |
| Unit configuration | Via web browser or Configuration Manager |

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

Ordering information

DINION IP bullet 5000 HD

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

1080p; surface mount box
Order number **NTI-50022-A3S**

DINION IP bullet 5000 HD

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

1080p
Order number **NTI-50022-A3**