

DINION IP starlight 8000 MP

www.boschsecurity.com



BOSCH

Invented for life



HD ONVIF



- ▶ Unprecedented low-light performance for 5MP camera (0.022 lx in color)
- ▶ Superior 5 MP image capture at 30fps, both in 4:3 and 16:9 aspect ratio
- ▶ Intelligent noise reduction reduces bandwidth and storage requirements by up to 30%
- ▶ Outstanding wide dynamic range (88 dB)

The DINION IP starlight 8000 MP camera provides clear images 24/7 – even at night or under low-light conditions.

High sensitivity in color (0.022 lx at 5MP and even 0.013 lx at 1080p) enables this camera to work with a minimum of ambient light. This exceptional light sensitivity combined with Content-Based Imaging Technology (C-BIT) ensures crisp, clear, detailed images in all lighting conditions.

System overview

Compared to HD cameras, the DINION IP starlight 8000 MP offers much higher resolution, best-in-class sensitivity, highest frame rates for MP cameras in the industry, and highly usable images even in low-light and HDR scenes. And yet the camera is bandwidth efficient due to the state-of-the-art sensor, the intelligent noise reduction and advanced compressor.

Functions

Exceptional low-light performance

The latest sensor technology combined with the sophisticated noise suppression results in a sensitivity of 0.022 lx at full 5MP resolution in color. The low-light

performance is so good that the camera continues to provide excellent color performance even with a minimum of ambient light.

The camera is a true day/night camera with a mechanical filter for truly outstanding nighttime performance. The filter can be switched remotely, or automatically via a light level sensor or contact input.

Content-Based Imaging Technology

Content-Based Imaging Technology (C-BIT) is used to radically improve image quality in all lighting conditions and to identify areas for enhanced processing. The camera examines the scene using intelligent video analytics and provides feedback to re-tune the image processing. This provides better detail in the areas that matter and better all-round performance. In IVA versions, the intelligent Automatic Exposure (iAE) technology, for example, allows you to view moving objects in bright and dark areas of a scene.

iDNR reduces bandwidth and storage requirements

The camera uses intelligent Dynamic Noise Reduction (iDNR) 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 30% 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 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. The noise reduction uses motion compensated Temporal Filtering to reduce motion blur normally associated with temporal filtering. 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.

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.

The IVA-based Intelligent Tracking can also follow objects within the defined regions of interest. The Intelligent tracker can autonomously detect and track moving objects, or the user can click on an object which the tracker will then follow.

Simple set-up

The camera has a very intuitive user interface that allows fast and easy configuration. Nine configurable user modes are provided with the best settings for a variety of applications:

- **Indoor** – general day-to-night changes without sun highlights and street lighting (e.g. office environments)
- **Outdoor** – general day-to-night changes with sun highlights and street lighting
- **Night optimized** – optimized for sufficient details at low light (at the cost of a lower frame rate and more motion judder)
- **Low bit rate** – optimized bandwidth (at the cost of reduced contrast, less detail and less sharpness)

- **Intelligent AE** – optimized for scenes with moving objects against bright lights (this mode will switch to BLC if no IVA is available)
- **Vibrant** – similar to **Indoor** mode with enhanced contrast, sharpness and saturation (at the cost of a higher bit rate and less details visible in darker areas)
- **Sports and Gambling** – enhanced color and sharpness (for use in casinos)
- **Traffic** – for monitoring traffic movement at roads, highways and parking lots (also for fast moving objects in industrial applications). This mode is optimized for less motion blur (at the cost of spatial resolution and noise)
- **Retail** – enhanced color and reduced bandwidth (for use in shopping centers)

Different user modes can be selected for day or night situations.

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.

Video analytics

With built-in video content analysis, the camera reinforces the Intelligence-at-the-Edge concept where edge devices become increasingly intelligent. The latest generation of the Bosch Intelligent Video Analysis (IVA) software is the guard-assistant system of choice when reliable indoor or outdoor video analytics is needed. The state-of-the-art system reliably detects, tracks, and analyzes moving objects while suppressing unwanted alarms from spurious sources in the image.

The face detection feature detects faces in the scene and forwards a high quality JPEG image of the best shot of each face when the face disappears from the scene.

Retrospective forensic search capabilities are available remotely from the web browser or the Bosch Video Client.

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.

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 Bosch Recording System, with the free-of-charge Bosch Video Client, or with the video security mobile App.

The Bosch Video Client PC surveillance software offers a user-friendly interface to support easy installation and configuration. It also provides easy live viewing of multiple cameras, playback, forensic search and export.

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 (Open Network Video Interface Forum) Profile S specification. This guarantees interoperability between network video products regardless of manufacturer. For trouble-free network cabling, the camera supports Auto-MDIX which allows the use of straight or cross-over cables. 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.

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.

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. To increase system reliability, the camera can be simultaneously connected to both PoE and +12 VDC 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.

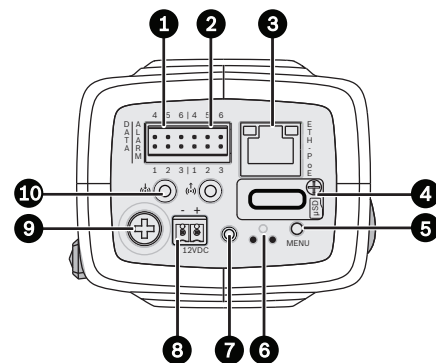
Certifications and approvals

Standards	
Emission	EN 55022 Class B FCC Part 15, class B
Immunity	EN 50130-4 (PoE, +12 VDC)* EN 50121-4
Alarm	EN 50130-5 (2011) Class II
Safety	EN 60950-1 UL 60950-1 (2nd edition) CAN/CSA-C 22.2 No. 60950-1
Vibration	Camera with 500 g (1.1 lb) lens as per IEC 60068-2-6 (5 m/s ² , operational)
HD	296M-2001 (Resolution: 1280x720)
Color representation	ITU-R BT.709

* 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.

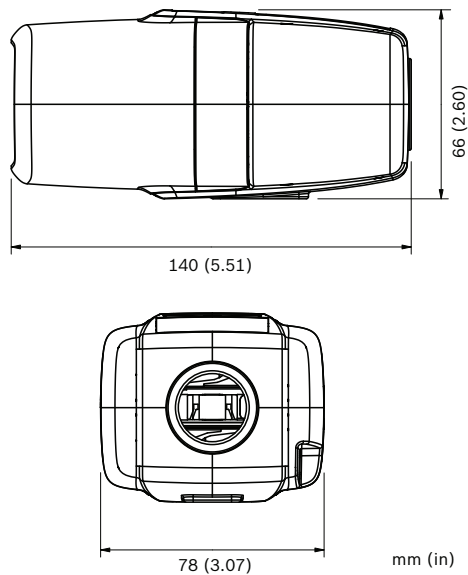
Installation/configuration notes

Controls



1	Data (RS485/422/232)	6	Reset button
2	Alarm in, relay out	7	Service video out (SMB connector)
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

Dimensions



Technical specifications

Power	
Power Supply	12 VDC Power-over-Ethernet 48 VDC nominal
Current Consumption	750 mA (12 VDC) 200 mA (PoE 48 VDC)
Power Consumption	9 W
PoE	IEEE 802.3af (802.3at Type 1) Class 3
Sensor	
Type	1/1.8" CMOS
Total sensor pixels	5.5 MP
Video performance	
Sensitivity – Color (3100K, 50% video, max gain, 1/30 sec exposure, F1, 20 dB SNR)	0.022lx (5MP mode) 0.013 lx (1080p mode)
Sensitivity – Mono (3100K, 50% video, max gain, 1/30 sec exposure, F1, 20 dB SNR)	tbd
Dynamic range (5MP mode)	76 (+12) dB Wide Dynamic Range (WDR)
Dynamic range (1080p mode)	80 (+12) dB Wide Dynamic Range (WDR)

Video streaming	
Video compression	H.264 (ISO/IEC 14496-10); M-JPEG, 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 ips
Video resolution	
5MP (16:9)	2992 X 1680
5MP (4:3)	2704 X 2032
1080p HD	1920 X 1080
720p HD	1280 x 720
D1 4:3 (cropped)	704 x 480
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
White Balance	ATW (2500 to 10000K), ATWhold and manual Indoor and Outdoor ATW
Shutter	Automatic Electronic Shutter (AES) Fixed (1/25[30] to 1/15000) selectable Default shutter
Backlight compensation (IVA)	Off, Auto, IntelligentAE (iAE)
Backlight compensation (non IVA)	Off, Auto, BLC
Noise reduction	Intelligent Dynamic Noise Reduction (iDNR) with separate temporal and spatial adjustments
Contrast enhancement	On/off
Sharpness	Sharpness enhancement level selectable
Privacy Masking	Four independent areas, fully programmable
Video Motion Analysis	Intelligent Video Analysis

Audio streaming	
Audio Streaming	Full duplex / half duplex
Signal-to-noise ratio	> 50 dB
Audio compression	AAC-LC, G.711, L16 (live and recording)
Input/output	
Analog Video out (service only)	CVBS (PAL/NTSC), 1 Vpp, SMB connector, 75 Ohm
Audio	1 x mono line in, 1 x mono line out
• connector	3.5 mm stereo jack
• signal line in	18 kOhm typical, 1 Vrms max
• signal line out	0.85 Vrms at 1.5 kOhm typical,
Alarm	2 inputs
• activation voltage	Tolerant from -40 VDC to +40 VDC (+3.3 VDC with DC-coupled 50 kOhm pull-up resistor) (Input voltage < 0.5 V is considered low, > 1.4 V is considered high.)
Alarm	1 output
• voltage	30 VAC or +40 VDC max. Maximum 0.5 A continuous, 10VA (resistive load only)
Local storage	
Internal RAM	10 s pre-alarm recording
Memory card slot	Supports SDHC and SDXC microSD cards
Recording	Continuous recording, ring recording, alarm/events/schedule recording
Network	
Protocols	IPv4, IPv6, UDP, TCP, HTTP, HTTPS, RTP/RTCP, IGMP V2/V3, ICMP, ICMPv6, RTSP, FTP, Telnet, ARP, DHCP, SNTP, SNMP (V1, MIB-II), 802.1x, DNS, DNSv6, DDNS, SMTP, iSCSI, UPnP (SSDP), DiffServ (QoS), LLDP, SOAP, Dropbox, CHAP, Digest Authentication.
Encryption	TLS 1.0, SSL, DES, 3DES, AES (optional)
Ethernet	10/100 Base-T, auto-sensing, half/full duplex
Ethernet connector	RJ45
Connectivity	ONVIF Profile S, Auto-MDIX
Software	
Unit Configuration	Via web browser or Configuration Manager
Firmware update	Remotely programmable
Software viewer	Bosch Video Client

Optical	
Lens mount	CS mount (C-mount with adapter ring)
Lens connector	Standard 4-pin DC-iris connector
Focus control	Motorized back-focus adjustment
Iris control	Automatic iris control
Mechanical	
Dimensions (W x H x L)	78 x 66 x 140 mm (3.07 x 2.6 x 5.52 in) without lens
Weight	690 g (1.52 lb) without lens
Color	RAL 9006 Metallic Titanium
Tripod Mount	Bottom and top 1/4-inch 20 UNC
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)
Operating Humidity	20% to 93% RH
Storage Humidity	up to 98% RH

Ordering information

DINION IP starlight 8000 MP

High-performance IP box camera for intelligent MP surveillance in low light. 5MP; PoE; iDNR; ROI; day/night; H.264 quad-streaming; free viewing Apps; cloud services; audio/motion detection; 1/1.8" CMOS
Order number **NBN-80052-BA**

BVIP AES 128 Bit Encryption

Single installation licence for BVIP AES 128-bit encryption site. Enables encrypted communication between BVIP devices and management stations.
Order number **MVS-FENC-AES**

UPA-1220-60 Power Supply

Power supply for camera. 120 VAC, 60 Hz In; 12 VDC, 1 A Out; regulated
Order number **UPA-1220-60**

UPA-1220-50 Power Supply

Power supply for camera. 220 VAC, 50 Hz In; 12 VDC, 1 A Out; regulated
Order number **UPA-1220-50**

Varifocal SR Megapixel Lens

Rugged varifocal SR megapixel IR corrected lens. 1/1.8" sensor; CS-mount; 4-pin SR-iris; 5MP; 4.1 to 9 mm; F1.6 to F2.4
Order number **LVF-5005C-S4109**

Accessories

Monitor Cable SMB 0.3M

Analog monitor cable SMB (female) to BNC (female).

0.3 meter

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

Monitor Cable SMB 3.0M

Analog monitor cable SMB (female) to BNC (male).

3 meter

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

Preliminary - For internal use only

Represented by:

Americas:

Bosch Security Systems, Inc.
130 Perinton Parkway
Fairport, New York, 14450, USA
Phone: +1 800 289 0096
Fax: +1 585 223 9180
security.sales@us.bosch.com
www.boschsecurity.us

Europe, Middle East, Africa:

Bosch Security Systems B.V.
P.O. Box 80002
5617 BA Eindhoven, The Netherlands
Phone: + 31 40 2577 284
Fax: +31 40 2577 330
emea.securitysystems@bosch.com
www.boschsecurity.com

Asia-Pacific:

Robert Bosch (SEA) Pte Ltd, Security Systems
11 Bishan Street 21
Singapore 573943
Phone: +65 6571 2808
Fax: +65 6571 2699
apr.securitysystems@bosch.com
www.boschsecurity.asia

China:

Bosch (Shanghai) Security Systems Ltd.
201 Building, No. 333 Fuquan Road
North IBP
Changning District, Shanghai
200335 China
Phone +86 21 22181111
Fax: +86 21 22182398
www.boschsecurity.com.cn

America Latina:

Robert Bosch Ltda Security Systems Division
Via Anhanguera, Km 98
CEP 13065-900
Campinas, Sao Paulo, Brazil
Phone: +55 19 2103 2860
Fax: +55 19 2103 2862
latam.boschsecurity@bosch.com
www.boschsecurity.com