BOSCH

NBN-80052-BA Fixed camera 5MP
DINION IP starlight 8000 MP

H.264   5MP   PoE   SDXC   WDR

▶ Remarkable low-light performance (0.0121 lx)

▶ 5MP (3K) high detail at fast speeds (30 fps)

▶ Built-in Intelligent Video Analytics to trigger relevant alerts and quickly retrieve data

▶ Low network strain and storage costs

▶ Outstanding wide dynamic range (97+16 dB)

The DINION IP starlight 8000 MP offers a new standard in round-the-clock video surveillance. Regardless of lighting conditions, time-of-day or object movement, the camera delivers relevant IP video 24/7. Capturing 16:9 images at 5 megapixel resolution (3K) even under extreme low-light conditions, it gives amazing images in fine detail. The camera produces multi-megapixel full-color video in near darkness, and delivers detailed monochrome images where other cameras show no image at all.

System overview

Advanced image processing techniques take the DINION IP starlight 8000 MP to the next level. Intelligent Video Analytics tracks and focuses on relevant situations and adds sense and structure to stored video, allowing you to quickly retrieve the correct data.
Intelligent Auto Exposure gives superb front and back light compensation, providing the perfect picture every time.
Intelligent Dynamic Noise Reduction saves bitrate at the source and only uses bandwidth when needed. This results in up to 50% less bitrate which significantly reduces storage costs and network strain without compromising on video quality.

Functions

Exceptional low-light performance
The latest sensor technology, combined with the sophisticated noise suppression, results in a sensitivity of 0.0121 lx at full 5MP resolution in color and even 0.00825 lx at 1080p resolution. The low-light

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

Measured dynamic range
The dynamic range of the camera is outstanding and is obvious in real-world performance comparisons — 97 dB wide dynamic range for 5MP mode (plus an extra 16 dB when combined with Intelligent Auto Exposure).
The actual dynamic range of the camera is measured using Opto-Electronic Conversion Function (OECF) analysis with a standardized test chart based on ISO standards. This method provides more realistic and verifiable results in comparison with the theoretical approximations sometimes used.
The system is also extremely robust and is able to reduce false alarms, for example from foliage or shaking objects, even in harsh weather conditions.

Intelligent Video Analytics
The built-in video analytics is both robust and intelligent. The Intelligence-at-the-Edge concept now delivers even more powerful features:
• False alarm reduction
• Extended range identification
• Crowd and queue management
• Density and flow counting
The mission critical video analytics reliably detects, tracks, and analyzes objects, and alerts you when predefined alarms are triggered. A smart set of alarm rules, together with object filters and tracking modes, makes complex tasks easy.
The system is also extremely robust and is able to reduce false alarms, for example from foliage or shaking objects, even in harsh weather conditions.

The next step in video analytics is taken with the incorporation of machine learning capabilities. With Camera Trainer you can tailor the built-in Intelligent Video Analytics to detect new user-defined moving or stationary objects and situations, or any subsequent changes.

Metadata is attached to your video to add sense and structure. This enables you to quickly retrieve the relevant images from hours of stored video. Metadata can also be used to deliver irrefutable forensic evidence or to optimize business processes based on people counting or crowd density information.

Intelligent Auto Exposure

Fluctuations in backlight and front light can ruin your images. To achieve the perfect picture in every situation, Intelligent Auto Exposure automatically adjusts the exposure of the camera. It offers superb front light compensation and incredible backlight compensation by automatically adapting to changing light conditions.

Intelligent Dynamic Noise Reduction

Quiet scenes with little or no movement require a lower bitrate. By intelligently distinguishing between noise and relevant information, Intelligent Dynamic Noise Reduction reduces bitrate by up to 50%. Because noise is reduced at the source during image capture, the lower bitrate does not compromise on video quality.

Intelligent Dynamic Noise Reduction adjusts spatial and temporal filtering (3DNR) based on intelligent analysis of the scene content. Motion compensated temporal filtering (MCTF) reduces motion blur normally associated with standard temporal filtering. This maintains image quality of fast moving objects while still optimizing bitrate.

With Intelligent Dynamic Noise Reduction, our focus is to significantly reduce storage costs, and lessen network strain by only using bandwidth when needed.

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 bitrate in kbits/s for various frame rates is shown in the table:

fps	5.5MP (4:3)	5MP (16:9)	1080p
30	2475	2195	800
25	2342	2075	757
15	1971	1786	637
10	1676	1519	541

fps	5.5MP (4:3)	5MP (16:9)	1080p
5	1171	1063	379
2	502	458	163

Selectable resolution and aspect ratio

The camera has three basic application variants that can be chosen at start-up to provide the best possible performance for typical applications:

- 5MP (16:9)
- 5.5MP (4:3)
- 1080p

The 5MP variants can be used in applications where the highest resolution possible is required. The 1080p30 (16:9) variant is for applications that require extra sensitivity and dynamic range.

Each of these variants selects the best possible tuning parameters for the application so that you get the best performance possible from your camera.

Scene modes

The camera has a very intuitive user interface that allows fast and easy configuration. Nine configurable modes are provided with the best settings for a variety of applications. Different scene modes can be selected for day or night situations.

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, plus easy 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.

Intelligent Tracking continuously analyses the scene for moving objects. If a moving object is detected, the camera automatically adjusts its settings, including field of view, to optimally capture details of the object of interest.

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 to ensure continuous operation, even during a power failure.

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

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.

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

Insert a memory card into the card slot to store up to 2 TB of local alarm recording. Pre-alarm recording in RAM reduces recording bandwidth on the network, and extends the effective life of the memory card.

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.

Data security

Special measures are necessary to ensure the highest level of security for device access and data transport. On initial setup, the camera is only accessible over secure channels. You must set a service-level password in order to access camera functions. Web browser and viewing client access can be protected using HTTPS or other secure protocols that support state-of-the-art TLS 1.2 protocol with updated cipher suites including AES encryption with 256 bit keys. No software can be installed in the camera, and only authenticated firmware can be uploaded. A three-level password protection with security recommendations allows users to customize device access. Network and device access can be protected using 802.1x network authentication with EAP/TLS protocol. Superior protection from malicious attacks is guaranteed by the Embedded Login Firewall, on-board Trusted Platform Module (TPM) and Public Key Infrastructure (PKI) support.

The advanced certificate handling offers:

- Self-signed unique certificates automatically created when required
- Client and server certificates for authentication
- Client certificates for proof of authenticity
- Certificates with encrypted private keys

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, with the video security mobile app, or via third-party software.

System integration and ONVIF conformance

The camera conforms to the ONVIF Profile S, ONVIF Profile G,ONVIF Profile M, and ONVIF Profile T specifications.

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

Regulatory information

Standards	Type
Emission	EN 55032:2010 / AC:2013, Class B
	CFR 47 FCC part 15:2010-10-1, Class B
Immunity	EN 50130-4:2011* / A1:2014
	EN 50121-4 (2016), +AC: (2008)
Environmental	EN 50130-5 Class II (2011)
Safety	EN 60950-1:2006 / A11:2009 / A1:2010 / A12:2011 / A2:2013
	IEC 60950-1:2005 (Second Edition); Am1:2009 + Am2:2013
	UL 60950-1, 2nd edition, 2011
	CAN/CSA-C22.2 No. 60950-1-07, 2nd edition
	EN 62368-1 :2014 /AC:2015
	IEC 62368-1:2014 (Second Edition)
	UL 62368-1, Ed. 2, 2014
	CSA C22.2 NO. 62368-1-14
Vibration	Camera with 500 g (1.1 lb) lens as per IEC 60068-2-6 (5 m/s^2, operational)
HD	SMPTE 296M-2001 (Resolution: 1280 × 720)
	SMPTE 274M-2008 (Resolution: 1920 × 1080)
Color representation	ITU-R BT.709

| Standards	Type
ONVIF conformance	EN 50132-5-2; IEC 62676-2-3

* All systems where this camera is used must comply with this standard as well.

Marks	CE, cULus, WEEE, RCM, EAC and China RoHS, KCC (South Korea), BIS (India)

Region	Regulatory compliance/quality marks	
Great Britain	UKCA	NBN-80052-BA; NBN-80122-CA
Europe	CE	NBN-80052-BA; NBN-80122-CA

Installation/configuration notes

Controls
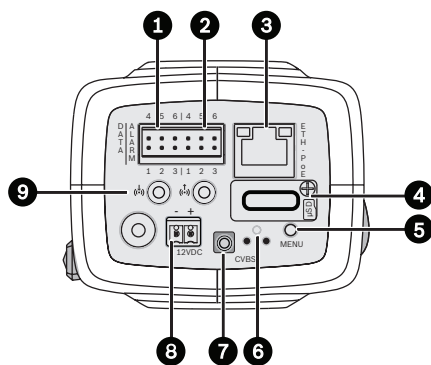
1	Data (RS485/422/232)	6	Reset button
2	Alarm in, alarm out	7	Video out (SMB connector)
3	10/100 Base-T Fast Ethernet	8	Power supply input (12 VDC only)
4	MicroSD card slot	9	Audio in / Audio out
5	Menu button		

Dimensions

66 (2.60)

78 (3.07)   mm (in)

60 (2.35)

140 (5.51)
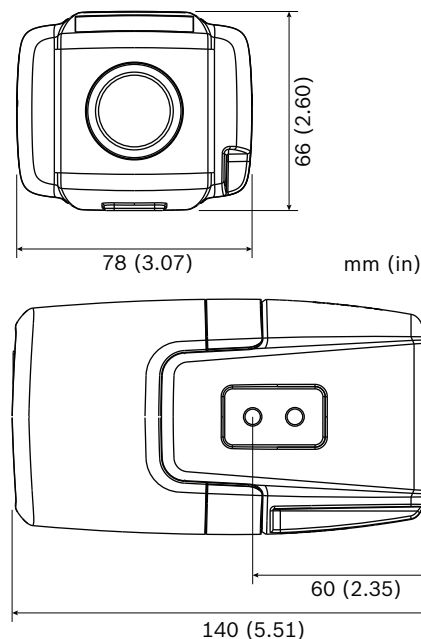
Parts included

Quantity	Component
1	DINION IP 8000 camera
1	Quick install instructions
1	Power connector
1	Data/Alarm connector
1	Identification labels
1	C/CS mount adapter ring for mounting a lens with a C-mount (not supplied for factory fitted lenses)

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

Sensor

Total sensor pixels	6.1 MP

Video performance - Dynamic range

5.5MP (4:3) mode	97 dB WDR (97+16 dB with IAE)
5MP (16:9) mode	97 dB WDR (97+16 dB with IAE)
1080p mode	103 dB WDR (103+16 dB with IAE)

Video performance – Sensitivity (3200K, 89% reflectivity, 30% IRE, F1.2)

Color 5MP mode	0.0121 lx
Color 1080p mode	0.00825 lx
Mono 5MP mode	0.004 lx
Mono 1080p mode	0.00275 lx

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

5MP (16:9)	2992 X 1680
5.5MP (4:3)	2704 X 2032
1080p HD	1920 X 1080
720p HD	1280 x 720
Upright 9:16 (cropped)	400 x 720
D1 4:3 (cropped)	704 x 480
480p SD	Encoding: 704 x 480;

Video resolution

	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

Camera installation

Base frame rate	25/30 fps (PAL/NTSC for analog output)
Camera LED	Enable/disable
Menu button	Enable/disable
Mirror image	On / Off
Flip image	On / Off
Analog output	Off, 4:3, 16:9 pillar box, 16:9 crop
Positioning	Coordinates
Lens wizard	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

ALC level	Adjustable
Saturation	Adjustable from peak to average
Shutter	Automatic Electronic Shutter (AES); Fixed shutter (1/25[30] to 1/15000) selectable; Default shutter
Day/Night	Auto (adjustable switch points), Color, Monochrome

Video functions - enhance

Sharpness	Sharpness enhancement level selectable
Backlight compensation	On / off / Intelligent Auto Exposure (IAE)

Video functions - enhance

Contrast enhancement	On/off
Noise reduction	Intelligent Dynamic Noise Reduction Intelligent Streaming
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	IVA / IVA flow / MOTION+
Tamper detection	Maskable

Additional functions

Scene modes	Nine default modes, Scheduler
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

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

Input/output

Analog video out	SMB connector, CVBS (PAL/NTSC), 1 Vpp, 75 Ohm
Audio line in	1 Vrms max, 18 kOhm typical,
Audio line out	0.85 Vrms at 1.5 kOhm typical,
Audio connectors	3.5 mm mono jack
Alarm input	2 inputs
Alarm input activation	+5 VDC nominal; +40 VDC max. (DC-coupled with 50 kOhm pull-up resistor to +3.3 VDC)

Input/output

	(< 0.5 V is low; > 1.4 V is high)
Alarm output	1 output
Alarm output voltage	30 VAC or +40 VDC max. Maximum 0.5 A continuous, 10VA (resistive load only)
Ethernet	RJ45
Data port	RS-232/422/485

Local storage

Internal RAM	10 s pre-alarm recording
Memory card slot	Supports up to 32 GB microSDHC / 2 TB microSDXC card. Extreme lifetime and health monitoring support that provides early service indication. Recommended: Industrial microSD cards with health monitoring
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, 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 1.0, SSL, DES, 3DES
Ethernet	10/100 Base-T, auto-sensing, half/full duplex
Connectivity	Auto-MDIX
Interoperability	ONVIF Profile S, ONVIF Profile G, ONVIF Profile M, ONVIF Profile T

Optical

Lens mount	CS mount (C-mount with adapter ring)
Lens connector	Standard 4-pin DC-iris connector / P-iris* connector
Focus control	Motorized back-focus adjustment
Iris control	DC-iris and P-iris* control

* P-iris control supported in combination with Bosch LVF-8008C-P0413 lens

Mechanical

Dimensions (W × H × L)	78 × 66 × 140 mm (3.07 × 2.6 × 5.52 inch) without lens
Weight	840 g (1.85 lb) without lens
Color	RAL 9007 Metallic Titanium
Tripod Mount	Bottom (isolated) and top 1/4-inch 20 UNC
Sustainability	PVC free

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

NBN-80052-BA Fixed camera 5MP
High-performance 5MP box camera with exceptional low-light imaging. 5MP; PoE; IAE; IDNR; ROI (E-PTZ); IVA; H.264 quad-streaming; free viewing apps; cloud services; audio/motion detection
NDAA compliant
Order number **NBN-80052-BA | F.01U.285.362 F.01U.363.614**

Accessories

LVF-5005C-S4109 Varifocal lens, 4.1-9mm, 5MP, CS mount
Varifocal SR megapixel IR corrected lens with 1/1.8" sensor and CS-mount
Order number **LVF-5005C-S4109 | F.01U.297.770**

LVF-5005N-S1250 Varifocal lens, 12-50mm, 5MP, C mount
Varifocal megapixel IR corrected lens with 1/1.8" sensor max and C-mount
Order number **LVF-5005N-S1250 | F.01U.305.567**

NBN-MCSMB-03M Cable, SMB to BNC, camera-cable, 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 | F.01U.291.564**

NBN-MCSMB-30M Cable, SMB to BNC, camera-monitor/DVR
3 m (9 ft) analog cable, SMB (female) to BNC (male) to connect camera to monitor or DVR
Order number **NBN-MCSMB-30M | F.01U.291.565**

UPA-1220-60 Power supply, 120VAC 60Hz,12VDC 1A out
Power supply for camera. 100-240 VAC, 50/60 Hz In; 12 VDC, 1 A Out; regulated.
Input connector: 2-prong, North American standard (non-polarized).
Order number **UPA-1220-60 | F.01U.076.155**

UPA-1220-50 Power supply, 220VAC 50Hz, 12VDC 1A out
Power supply for camera. 110-240 VAC, 50/60 Hz In; 12 VDC, 1 A Out; regulated.
Input connector: 2-prong, European Europlug standard (4 mm / 19 mm).
Order number **UPA-1220-50 | F.01U.076.158**

TC9210U Camera mount, 6", indoor
A universal 6-inch wall/ceiling grid with off-white finish for 4.5 kg (10 lb) max load, incl. T-Bar ceiling clip and wall/ceiling mount flange.
Order number **TC9210U | F.01U.143.373**

UHO-HBGS-51 Outdoor housing, blower, 230VAC/35W
Outdoor housing for (230 VAC / 12 VDC) camera with 230 VAC power supply, blower and feed-through cabling.
Order number **UHO-HBGS-51 | F.01U.302.310**

UHO-HBGS-61 Outdoor housing, blower, 120VAC/35W
Outdoor housing for (120 VAC / 12 VDC) camera.
120 VAC power supply; blower; feed-through cabling
Order number **UHO-HBGS-61 | F.01U.302.311**

UHO-HBGS-11 Outdoor housing, 24VAC, feed-through
Outdoor housing for (24 VAC / 12 VDC) camera with 24 VAC power supply, blower and feed-through cabling.
Order number **UHO-HBGS-11 | F.01U.302.304**

UHO-POE-10 Outdoor housing, POE + power supply
Outdoor camera housing with PoE+ power supply.
Order number **UHO-POE-10 | F.01U.300.502**

LTC 9215/00 Wall mount with cable feed through, 12"
Wall mount for camera housing, cable feed-through, 30 cm (12 in); for outdoor use.
Order number **LTC 9215/00 | 4.998.137.651**

LTC 9215/00S Wall mount for UHI/UHO
Wall mount for camera housing, cable feed-through, 18 cm (7 in); for indoor use.
Order number **LTC 9215/00S | F.01U.503.621**

LTC 9219/01 Feed through J mount
J-mount for camera housing, 40 cm (15 in); for indoor use.
Order number **LTC 9219/01 | F.01U.503.623**

LTC 9210/01 Column mount, 8", 9KG/20lb load
Feed-through column mount for 20 cm (8 in), 5 kg (11 lb) maximum load; light gray finish; for indoor use.
Order number **LTC 9210/01 | F.01U.027.057**

LTC 9213/01 Pole mount adapter for LTC9210,9212,9215
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**

NPD-5001-POE Midspan, 15W, single port, AC in
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 Midspan, 4 port x 15W, AC in
Power-over-Ethernet midspan injector 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**

LVF-8008C-P0413 Varifocal lens, 4-13mm, 12MP, CS mount
Varifocal megapixel lens; P-iris; CS-mount; 1/1.8" ; F1.5; 4-13mm
Order number **LVF-8008C-P0413 | F.01U.319.331**