DINION IP 5000 MP

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BOSCH
Invented for life

- ► Stylish indoor network camera
- ► 5MP for highly detailed images
- ► Intelligent noise reduction reduces bandwidth and storage requirements by up to 50%
- ► SD card slot for local recording
- ► FTP, Dropbox and e-mail alarms

The 5MP indoor camera is a ready-to-use, complete network video surveillance system inside a compact and stylish housing. This camera brings Bosch's high-performance technology into the realm of homes, small office and retail businesses by offering a cost-effective solution for a broad range of applications.

System overview

The elegant, compact box design is ideal for homes, offices, businesses or shops where camera size and appearance is important. The camera has a 1/3-inch CMOS sensor and is a true day/night camera offering excellent performance day or night.

Functions

Content Based Imaging Technology

Content Based Imaging Technology (CBIT) 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.

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.

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

fps	5MP	480p
12	1753	438
5	1136	284
2	489	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.

Simultaneous analog and IP video outputs
A surge-protected analog video output ensures that high resolution IP video streaming and an analog video output are available simultaneously. This means, for example, that a confrontation monitor can easily be connected directly to the camera while still maintaining full IP functionality.

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.

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.

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

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.

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. 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.

Simple set-up
The camera has a very intuitive user interface that allows fast and easy configuration. Configurable scene modes are provided with the best settings for a variety of applications.
- **Indoor** – general day-to-night changes in an indoor environment without sun highlights or street lighting effects.
- **Outdoor** – general day-to-night changes in an outdoor environment with sun highlights and street lighting effects.
- **Traffic** – for monitoring traffic movement on roads or parking lots. It can also be used in industrial applications where fast moving objects are to be monitored. Motion artifacts are minimized.
- **Night-optimized** – optimized for details in low light environments.
- **BLC** – optimized for scenes with people moving in front of a bright background.
- **Vibrant** – enhanced contrast, sharpness and saturation.

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.

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

System integration

The camera conforms to the ONVIF Profile S, ONVIF Profile Q and ONVIF Profile G 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.
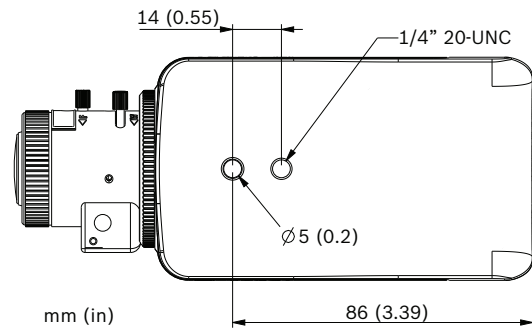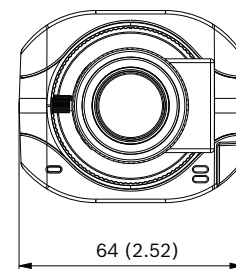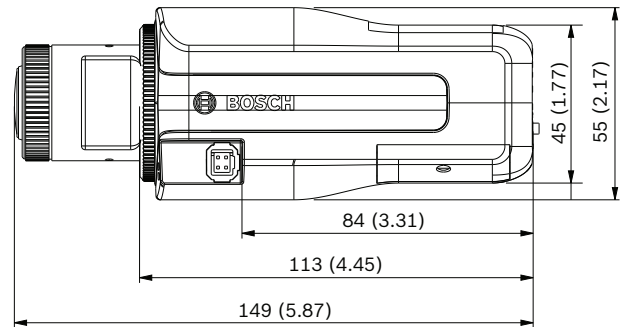
Certifications and approvals

Standards	
	EN 60950-1
	UL 60950-1
	CAN/CSA-C22.2 NO. 60950-1-07
	EN 50130-4
	EN 50130-5 Class II
	FCC Part15 Subpart B, Class B
	EMC directive 2004/108/EC
	EN 55022 class B
	EN 55024
	C-tick AS/NZS CISPR 22 (equal to CISPR 22)
	ICES-003 Class B
	VCCI J55022 V2/V3
	EN 50121-4
ONVIF conformance	EN 50132-5-2; IEC 62676-2-3
Product certifications	CE, FCC, UL, cUL, C-tick, CB, VCCI

Region	Certification
Europe	CE
USA	UL
	FCC
Canada	CSA

Installation/configuration notes

Dimensions

Technical specifications

Power

Power Supply	12 VDC Power-over-Ethernet 48 VDC nominal
Current Consumption	300 mA (12 VDC) 75 mA (PoE 48 VDC)
Power Consumption	3.6 W
PoE	IEEE 802.3af (802.3at Type 1) Power level: Class 1

Sensor

Type	1/3-inch CMOS
Total sensor pixels	2592 x 1944

Video performance

Sensitivity – (3200K, reflectivity 89%, F1.4, 30IRE)	
• Color	0.35 lx
• Mono	0.05 lx
Dynamic range	81 dB Wide Dynamic Range (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.
Overall IP Delay	Min. 300 ms, Max. 850 ms
GOP structure	IP
Encoding interval	1 to 12 fps

Video resolution

5MP (4:3)	2592 x 1944
1.5MP (4:3)	1440 x 1080
0.8MP (4:3)	1024 x 768
VGA	640 x 480
QVGA	320 x 240

Video functions

Day/Night	Color, Monochrome, Auto
Adjustable picture settings	Contrast, Saturation, Brightness
White Balance	3 automatic modes, manual mode and measure
Shutter	Automatic Electronic Shutter; Fixed shutter 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
Privacy Masking	Four independent areas, fully programmable
Video Analysis	MOTION+
Other functions	Image mirror, Image flip, Pixel counter, Video watermarking, Display stamping, Scene modes

Audio streaming

Audio Streaming	Full duplex / half duplex
Signal-to-noise ratio	> 50 dB
Audio compression	AAC-LC, G.711, L16 (live and recording)

Optical

Lens mount	CS mount (C-mount with adapter ring)
Lens connector	Standard 4-pin DC-iris connector
Focus control	Manual adjustment
Iris control	Automatic iris control
Lens type (V3 version)	Varifocal 3.3 to 12 mm, DC Iris F1.4 – 360, IR corrected
Viewing angle (wide 3.3 mm)	82º x 60º (H x V)
Viewing angle (tele 12 mm)	25º x 19º (H x V)

Input/output

Analog Video out	CVBS, 1 Vpp, 2.5 mm jack, 75 Ohm Selectable standard
Audio	Built-in microphone, 1 x mono line in, 1 x mono line out
• connectors	3.5 mm mono jack
• signal line in	0.707 Vrms , 20 kOhm typical
• signal line out	0.707 Vrms, 10 kOhm typical,
Alarm input	1 input
• activation	Short to activate
Alarm output	1 output
• voltage	24 VAC or +30 VDC max. Load current 1 A max.

Local storage

Internal RAM	10 s pre-alarm recording
Memory card slot	Supports up to 32 GB SDHC / 2 TB SDXC card. (An SD card of Class 6 or higher is recommended for HD recording)
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, 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 1.2, 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 Q GB/T 28181

Software

Unit Configuration	Via web browser or Configuration Manager
Firmware update	Remotely programmable
Software viewer	Web browser, Bosch Video Client, or third party software

Mechanical

Dimensions (H x W x D)	55 x 64 x 113 mm (2.17 x 2.52 x 4.45 in) without lens
Dimensions (H x W x D)	55 x 64 x 149 mm (2.17 x 2.52 x 5.87 in) with lens
Weight	550 g (1.21 lb) without lens 590 g (1.30 lb) with lens
Color	RAL 9017 Traffic black
Tripod Mount	Bottom and top 1/4-inch 20 UNC

Environmental

Operating Temperature	-30 ºC to +50 ºC (-22 ºF to +122 ºF)
Storage Temperature	-40 ºC to +70 ºC (-40 ºF to +158 ºF)
Humidity	0% to 90% relative humidity (non condensing)

Ordering information

DINION IP 5000 MP
Indoor 5MP IP box design camera.IDNR; day/night; H. 264 quad-streaming; cloud services; ROI; motion/tamper/audio detection; 5MP
Order number **NBN-50051-C**

DINION IP 5000 MP
Indoor 5MP IP box design camera. IDNR; day/night; H. 264 quad-streaming; cloud services; ROI; motion/tamper/audio detection; 5MP; varifocal 3.3 to 12 mm, DC Iris, F1.4 lens, IR corrected
Order number **NBN-50051-V3**

Accessories

Varifocal SR Megapixel Lens
Varifocal SR megapixel IR corrected lens. 1/2.5" sensor; CS-mount; 4-pin SR-iris; 5 MP; 9 to 40 mm; F1.5 to F8
Order number **LVF-5005C-S0940**

Varifocal SR Megapixel Lens
Varifocal SR megapixel IR corrected lens. 1/2.5" sensor; CS-mount; 4-pin SR-iris; 5 MP; 1.8 to 3 mm; F1.8 to F8
Order number **LVF-5005C-S1803**

Varifocal SR Megapixel Lens
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 F8
Order number **LVF-5005C-S4109**

Varifocal Megapixel Lens
Varifocal megapixel IR corrected lens. 1/1.8" sensor max; C-mount; 4-pin DC-iris; 5 MP; 12 to 50 mm; F1.6 to T360
Order number **LVF-5005N-S1250**

S1460 Service/Monitor Cable
2.5 mm jack to BNC video connector cable. 1 m
Order number **S1460**

EX12LED-3BD-8M Infrared Illuminator
Mini IR 850 nm illuminator. LED array; 3D Diffuser; black; 17 m HFOV; 30º beam pattern
Order number **EX12LED-3BD-8M**

EX12LED-3BD-8W Infrared Illuminator
Mini IR 850 nm illuminator. LED array; 3D Diffuser; black; 16 m HFOV; 60º beam pattern
Order number **EX12LED-3BD-8W**

EX12LED-3BD-9M Infrared Illuminator
Mini IR 940 nm illuminator. LED array; 3D Diffuser; black; 17 m HFOV; 30º beam pattern
Order number **EX12LED-3BD-9M**

EX12LED-3BD-9W Infrared Illuminator
Mini IR 940 nm illuminator. LED array; 3D Diffuser; black; 16 m HFOV; 60º beam pattern
Order number **EX12LED-3BD-9W**

NPD-5001-POE Midspan PoE Injector
Power-over-Ethernet midspan injector for use with PoE enabled cameras; 15.4 W, 1-port
Order number **NPD-5001-POE**

NPD-5004-POE Midspan PoE Injector
Power-over-Ethernet midspan injectors for use with
PoE enabled cameras; 15.4 W, 4-ports
Order number **NPD-5004-POE**