

FLEXIDOME IP micro 5000

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HD ONVIF



- ▶ Compact and stylish outdoor microdome
- ▶ 1080p and 5MP resolutions
- ▶ Regions of interest and E-PTZ
- ▶ Motion and tamper detection
- ▶ FTP, Dropbox and e-mail applications

The HD 1080p and 5M vandal-resistant microdome cameras from Bosch are professional surveillance cameras that provide high quality HD and MP images for demanding security and surveillance network requirements. The camera comes with a choice of lenses including an ultra-wide angle lens which provides outstanding performance without the need for de-warping software.

The cameras are available in 1080p and 5M versions and there is a special version designed for Interior Vehicle Mounting (IVM) using an M12 connector.

System overview

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 average typical optimized bandwidth in kbits/s for various image rates is shown in the table:

IPS	5MP	1080p	720p	480p
30	-	1600	1200	600
15	-	1274	955	478
12	1753	1169	877	438
5	1136	757	568	284
2	489	326	245	122

Compact and stylish, vandal-resistant design

Ideal for indoor or outdoor use, the compact aesthetic design is suitable for installations where housing size and appearance are important. The cast-aluminum housing, polycarbonate window, and hardened inner liner can withstand the equivalent of 55 kg (120 lbs) of force (IK08). The camera is protected against water

and dust to IP66 (NEMA Type 4X) standards. Mounting options are numerous, including surface, wall, and suspended-ceiling mounting.

1080p or 5MP resolutions with multiple streams

The camera is available in a 1080p resolution version at 30 images per second (ips) or a 5MP resolution version at 12 ips. 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.

Motion and tamper 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 internal 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 facilities

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 (IEEE 802.3af) 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 (non-IVM versions) can also be supplied with power from +12/24 VDC power supplies. To increase system reliability, the camera can be simultaneously connected to both PoE and +12/24 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.

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 video features: using a web browser, with the supplied 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, and is supplied completely free-of-charge. It 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

Bosch IP standard definition and high definition cameras, encoders and analytics work seamlessly with a wide range of security software and recording solutions from Bosch and other industry providers. Through ONVIF conformance, the open availability of Bosch video software development kits and a team dedicated to special integration and support projects, it is easy to manage Bosch video products within your system design (for details on the Bosch Integration Partner Program, visit ipp.boschsecurity.com).

Certifications and approvals

Standards

Standards	
	EN 60950-1
	UL 60950-1
	CAN/CSA-C22.2 NO. 60950-1-07
	UL 60950-22 Outdoor UL
	EN 50130-4; EN 50130-5
	FCC Part15 Subpart B, Class B
	EMC directive 2004/108/EC

	EN 55022 class B
	EN 55024
	VCCI J55022 V2/V3
	AS/NZS CISPR 22 (equal to CISPR 22)
	ICES-003 Class B
	EN 50121-4
	EN 50121-3-2
	CE: Automotive environment
	EN 55025
	EN 50155
	ISO16750-3
	EN 50132-5-2; IEC 62676-2-3
Product certifications	CE, FCC, UL, cUL, C-tick, CB, VCCI

Region	Certification
Europe	CE
USA	UL

Technical specifications

Power

Input voltage	+12 VDC, +24 VDC (not present on IVM version) or Power-over-Ethernet (48 VDC nominal)
Power consumption	3.84 W (max)

Video

Sensor type	1/2.7-inch CMOS (NUC-50022) 1/3-inch CMOS (NUC-50051)
Sensor pixels	1920 x 1080 (NUC-50022) 2592 x 1944 (NUC-50051)
1080p Sensitivity (3200 K, reflectivity 89%, 30IRE)	1.0 lx (4.37 mm F2.0 lens) 1.0 lx (2.5 mm F2.8 lens)
5MP Sensitivity (3200 K, reflectivity 89%, 30IRE)	2.0 lx (3.74 mm F2.0 lens) 2.0 lx (2.5 mm F2.8 lens)
Dynamic range	76 dB (NUC-50022) 65 dB (NUC-50051)
Electronic Day/Night	Auto, Color, Monochrome
Shutter speed	Automatic Electronic Shutter (AES) Fixed (1/30 [1/25] to 1/15000 for NUC-50022) Fixed (1/12 to 1/15000 for NUC-50051)

Video resolution	1080p, 720p, 480p, 432p, 240p, 288p, 144p (NUC-50022) 5 Megapixels, 480p (NUC-50051)
Aspect ratio	16:9 (NUC-50022) 4:3 (NUC-50051)
Video compression	H.264 MP (Main Profile); M-JPEG
Max. frame rate	30 ips (NUC-50022) 12 ips (NUC-50051) (M-JPEG frame rate can vary depending on system loading)
Video Settings	Video watermarking, Alarm mode stamping, Image mirror, Image flip, Contrast, Saturation, Brightness, White balance, Sharpness level, Contrast enhancement, Backlight Compensation, Privacy Mask, Motion detection, Tamper alarm, Upright mode, Pixel counter

Lens

Lens type	4.37 mm fixed, F2.0 (NUC-50022-F4) 3.74 mm fixed, F2.0 (NUC-50051-F4) 2.5 mm fixed, F2.8 (NUC-50022-F2, NUC-50051-F2)
Lens mount	Board mounted
View angle (H x V)	67.4° x 40.8° (NUC-50022-F4) 62.6° x 48.8° (NUC-50051-F4) 135° x 75° (NUC-50022-F2[M]) 105° x 79° (NUC-50051-F2[M])

Connection

Analog video out (not for IVM version)	2.5 mm jack for installation only (NTSC)
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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

Software Control

Unit configuration	Via web browser or PC surveillance software
Software update	Remotely programmable

Network

Protocols	IPv4, IPv6, UDP, TCP, HTTP, HTTPS, RTP/RTCP, IGMP V2/V3, ICMP, ICMPv6, RTSP, FTP, Telnet, ARP, DHCP, SNMP, 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
Ethernet	10/100 Base-T, auto-sensing, half/full duplex
Ethernet connector	RJ45 M12 D-coded female (IVM version)
PoE	IEEE 802.3af (802.3at Type 1) Power level: Class 1
Connectivity	ONVIF Profile S, Auto-MDIX

Mechanical

2-axis adjustment (pan/tilt)	350° / 70° (NUC-50022-F4, NUC-50051-F4) 350° / 55° (NUC-50022-F2, NUC-50051-F2)
Dimensions	Diameter: 110 mm (4.33 in) Height: 55 mm (2.17 in)
Weight	320 g (11.28 oz) approx.
Color	RAL 9017, RAL 9003

Environmental

IP protection	IP66
Impact protection	IK08
Operating temperature	-30 °C to +50 °C (-22 °F to +122 °F)
Storage temperature	-30 °C to +70 °C (-22 °F to +158 °F)
Humidity	0% to 95% relative humidity (non condensing)

Ordering information**FLEXIDOME IP micro 5000 HD**

Compact and stylish outdoor HD microdome camera. IP66; IK08; iDNR; ROI; day/night; tamper/motion detection; cloud services; free viewing Apps; fixed 4.37 mm f2.0 lens; 1080p
Order number **NUC-50022-F4**

FLEXIDOME IP micro 5000 MP

Compact and stylish outdoor MP microdome camera. IP66; IK08; iDNR; ROI; day/night; tamper/motion detection; cloud services; free viewing Apps; fixed 3.74 mm f2.0 lens; 5MP
Order number **NUC-50051-F4**

FLEXIDOME IP micro 5000 HD

Compact and stylish outdoor microdome camera. IP66; IK08; iDNR; ROI; day/night; tamper/motion detection; cloud services; free viewing Apps; fixed 2.5 mm f2.8 lens; 1080p
Order number **NUC-50022-F2**

FLEXIDOME IP micro 5000 MP

Compact and stylish outdoor MP microdome camera. IP66; IK08; iDNR; ROI; day/night; tamper/motion detection; cloud services; free viewing Apps; fixed 2.5 mm f2.8 lens; 5MP
Order number **NUC-50051-F2**

FLEXIDOME IP micro 5000 HD

Compact and stylish outdoor microdome camera. IP66; IK08; iDNR; ROI; day/night; tamper/motion detection; cloud services; free viewing Apps; fixed 2.5 mm f2.8 lens; 1080p; IVM (M12)
Order number **NUC-50022-F2M**

FLEXIDOME IP micro 5000 MP

Compact and stylish outdoor MP microdome camera. IP66; IK08; iDNR; ROI; day/night; tamper/motion detection; cloud services; free viewing Apps; fixed 2.5 mm f2.8 lens; 5MP; IVM (M12)
Order number **NUC-50051-F2M**

Accessories

NDA-WMT-MICDOME Microdome Pendant Wall Mount
Order number **NDA-WMT-MICDOME**

NDA-WMT4S-MICDOME Microdome 4S Mount
Order number **NDA-WMT4S-MICDOME**

NDA-PMT-MICDOME Microdome Pipe Mount
Order number **NDA-PMT-MICDOME**

LTC 9213/01 Pole Mount Adapter

Flexible pole mount adapter for camera mounts. Max. 9 kg (20 lb); 3 to 15 inch diameter pole; stainless steel straps
Order number **LTC 9213/01**

Software Options**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**

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