FLEXIDOME IP micro 2000

www.boschsecurity.com

BOSCH

Invented for life

- ▶ Compact and stylish indoor IP microdome
- ▶ 720p or VGA resolutions at 30 images per second
- ▶ MicroSD card slot for edge recording
- ▶ Motion, tamper and audio detection
- ▶ FTP, Dropbox and e-mail applications

HD ONVIF

The 720p and VGA indoor microdome cameras from Bosch are ready-to-use, complete network video surveillance systems inside a compact microdome. These cameras bring 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

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	720p	VGA
30	1200	600
15	955	478
5	568	284
2	245	122

Compact and stylish design
Ideal for indoor use, the compact aesthetic design is suitable for installations where housing size and appearance are important. Mounting options are numerous, including surface, wall, and suspended-ceiling mounting.

720p or VGA resolutions with multiple streams
The camera is available in 720p or VGA resolutions at 30 images per second (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.

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.

Motion, tamper and audio 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.

The camera has a built-in microphone to allow operators to listen in on the monitored area. Audio detection can be used to generate an alarm if needed.

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 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
	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
	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 or Power-over-Ethernet (48 VDC nominal)
Power consumption	3.84 W max. (720p version) 2.8 W max. (VGA version)
PoE	IEEE 802.3af (802.3at Type 1) Power level: Class 1

Video

Sensor type	1/4-inch CMOS
Effective pixels	1280 x 720 (720p version) 640 x 480 (VGA version)
Sensitivity (3200 K, reflectivity 89%, F2.8, 30IRE)	1.0 lx
Dynamic range	69 dB
Electronic Day/Night	Auto, Color, Monochrome
Shutter speed	Automatic Electronic Shutter (AES) Fixed (1/30 [1/25] to 1/15000)
Video resolution	720p, 480p, 432p, 288p, 240p, 144p (NUC-20012) 480p, 240p (NUC-20002)
Video compression	H.264 MP (Main Profile); M-JPEG
Max. frame rate	30 ips (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, Backlight Compensation, Privacy Mask, Motion detection, Tamper alarm, Pixel counter

Lens

Lens type	2.5 mm fixed, F2.8
Lens mount	Board mounted
View angle (H x V)	89° x 50° (NUC-20012) 75° x 56° (NUC-20002)

Audio

Audio input	Built-in microphone
Audio compression	AAC, G.711, L16 (live and recording)

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

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

Mechanical

2-axis adjustment (pan/tilt)	350º / 55º
Dimensions	Diameter: 105 mm (4.13 in) Height: 55 mm (2.17 in)
Weight	250 g (8.81 oz) approx.
Color	RAL 9017, RAL 9003

Environmental

Operating temperature	-20 ºC to +50 ºC (-4 ºF to +122 ºF)
Storage temperature	-20 ºC to +70 ºC (-4 ºF to +158 ºF)
Humidity	0% to 95% relative humidity (non condensing)

Ordering information

FLEXIDOME IP micro 2000 HD
Cost-effective indoor IP microdome camera for ready-to-use surveillance. MicroSD card slot; microphone; 2.5 mm lens; iDNR; motion/tamper/audio detection; cloud services; free viewing Apps; 720p
Order number **NUC-20012-F2**

FLEXIDOME IP micro 2000
Cost-effective indoor IP microdome camera for ready-to-use surveillance. MicroSD card slot; microphone; 2.5 mm lens; iDNR; motion/tamper/audio detection; cloud services; free viewing Apps; VGA
Order number **NUC-20002-F2**

Accessories

NDA-WMT-DOME Dome Wall Mount
Sturdy wall mount bracket for microdome/minidome cameras.
Order number **NDA-WMT-DOME**

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

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

NDA-MBR-DOME Microdome Adapter Bracket
Sturdy adapter bracket for IP MicroDome cameras. RAL 9003 signal white; SECC
Order number **NDA-MBR-DOME**

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**