BOSCH

NCN-90022-F1 Corner camera 1.5MP 121° IP65 940nm IR
FLEXIDOME IP corner 9000 MP

- ▶ Corner-mount, no-grip design for maximum safety
- ▶ 1.5 MP resolution for sharp images
- ▶ Views an entire small room, including directly beneath
- ▶ 940 nm illuminator for covert night vision to 9 m (30 ft)
- ▶ IP65 water resistance

The FLEXIDOME corner 9000 MP is a vandal-resistant, corner-mount camera featuring a no-grip, anchor-free design. The high resolution 1440 x 1080p images and the integrated infrared illumination allow 24/7 effective professional networked surveillance in high risk, vandal-prone applications under any ambient lighting conditions, even completely dark rooms.

System overview

Corner-mount, vandal-resistant design
The innovative design allows a perfectly flush fit into the corner of a room that protects against even the most brutal attempt to destroy, detach or disable the camera. The sharp 45º angle hides all wiring and delivers complete coverage of a 4.5 x 4.5 m (15 x 15 ft) room, including below the camera itself. The anti-ligature design has no anchor points for maximum safety in environments with at-risk individuals.

Infrared illumination
The camera harnesses the power of infrared illumination to deliver outstanding images day or night. Infrared-emitting LEDs achieve covert, effective night vision for the most advanced level of night vision performance available today. With the intensity-adjustable infrared LEDs, foreground hotspots and underexposed backgrounds are eliminated.

True day/night switching
The camera incorporates mechanical filter technology for vivid daytime color and exceptional night-time imaging under infrared illumination while maintaining sharp focus under all lighting conditions. The camera

also features outstanding spectral response in the near infrared field for excellent active-infrared night vision.

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.
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 (for firmware 5.8) in kbits/s for various image rates is shown in the table:

IPS	1080p	VGA
30	1200	600
15	955	478
7.5	711	355

5	568	284
3	388	194

1440 x 1080p resolution with multiple streams
The camera has a 1440 x 1080p resolution 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.

Regions of interest and e-PTZ
Two Regions of Interest (ROI) can be user defined.
The remote electronic pan, tilt and zoom (e-PTZ)
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.

Easy installation
No focus or pan/tilt adjustments are required as the
camera, with its wide angle lens, provides complete
coverage of a 4.5 x 4.5 m (15 x 15 ft) room.
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 VDC or 24 VAC power supplies. To increase
system reliability, the camera can be simultaneously
connected to both PoE and +12 VDC/24 VAC 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.

Two-way audio and audio alarm
Two-way audio allows the operator to communicate
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 internal MicroSD card slot supports up to 2 TB
(SDXC) 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.

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 iPad 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 iPad App has been
developed to fully utilize our Dynamic Transcoding
features and enable **Anywhere** access to HD
surveillance images, even over low-bandwidth
connections. The App, together with the separately
available Bosch transcoder, is configured to give you
complete control of your camera.

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
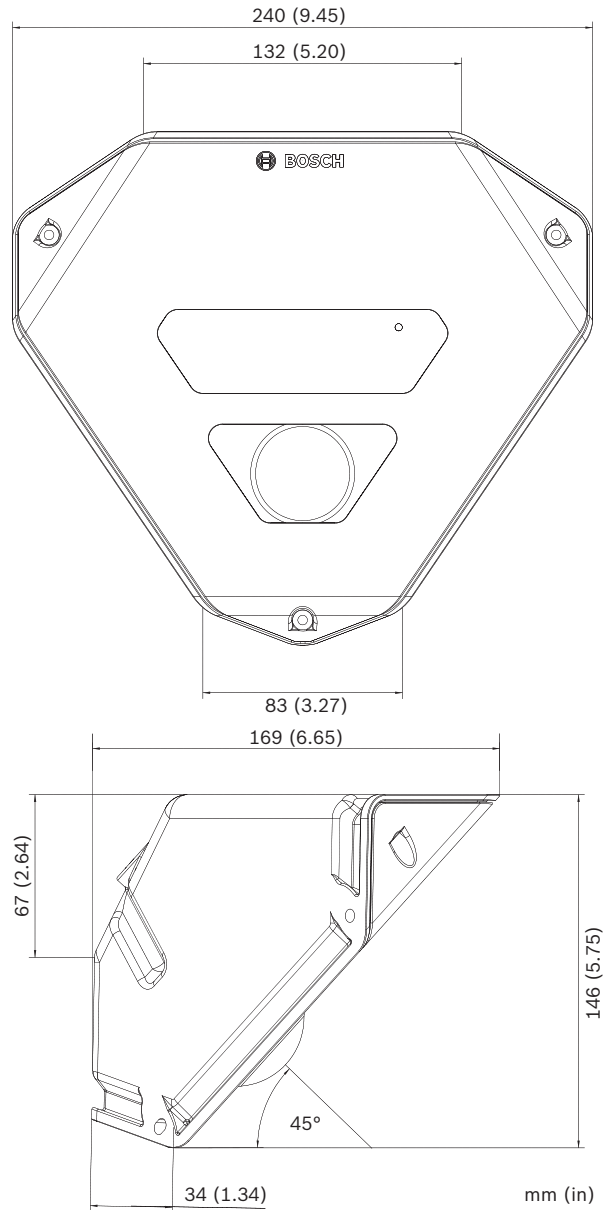Partner Program, visit ipp.boschsecurity.com).

Applications
• Waiting rooms
• Hospital recovery rooms
• Psychiatric care rooms
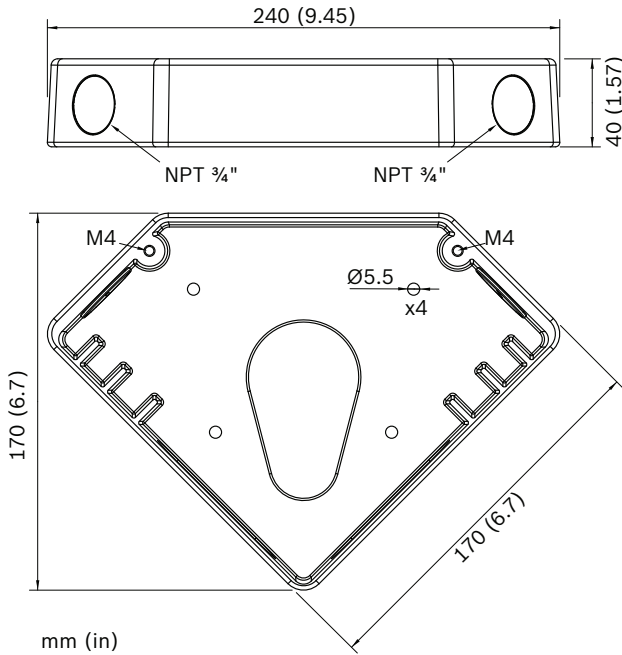• Vandal-prone areas

Regulatory information

Standards	IEC 62471
	EN 60950-1
	UL 60950-1
	CAN/CSA-C22.2 NO. 60950-1
	EN 50130-4
	EN 50130-5
	FCC Part15 Subpart B, Class B
	EMC directive 2004/108/EC
	EN 55022/24 class B
	VCCI J55022 V2 / V3
	AS/NZS CISPR 22 (equal to CISPR 22)
	ICES-003 class B
	EN 50121-4
	EN 50132-5-2; IEC 62676-2-3
Product certifications	CE, FCC, UL, cUL, C-tick, CB, VCCI
Ingress protection	IP65
Impact protection	IK10

Region	Regulatory compliance/quality marks
Europe	CE

Installation/configuration notes

Dimensions

Corner mount box dimensions

mm (in)

Parts included

Quantity	Component
1	NCN-90022-F1 camera

Technical specifications

Power

Input voltage	+12 VDC / 24 VAC or Power-over-Ethernet (48 VDC nominal)
Power consumption	8.4 W max. (12 VDC, PoE) 10.8 VA max. (+24 VAC)
PoE	IEEE 802.3af (802.3at Type 1) Power level: Class 3

Video

Sensor type	1/2.7-inch CMOS
Pixels	1952 x 1092 (2.03 MP)
Resolution	1440 x 1080
Sensitivity (3200 K, reflectivity 89%, 30IRE, F2.0)	0.3 lx (color) 0.0 lx (IR)
Dynamic range	69 dB
True Day/Night	Auto, Color, Monochrome

Shutter speed	Automatic Electronic Shutter (AES) Fixed 1/30 (1/25) to 1/15000
SD Video resolution	VGA, QVGA
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, Sharpness level, Contrast enhancement, Backlight Compensation, Privacy Mask, Motion detection, Tamper alarm, Upright mode, Pixel counter

Night vision

IR LEDs	3 high efficiency LEDs, 940 nm
IR coverage	9 m (30 ft)

Lens

Lens type	Fixed 2.0 mm, F2.0
Lens mount	Board mounted
Horizontal field of view	121°
Vertical field of view	91°

Connection

Analog video out (for installation only)	2.5 mm jack connector (1 Vpp CVBS, NTSC)
Alarm input	0 to 3.3 VDC, low active
Alarm output	60 VDC or 60 VAC (max), load current: 1 A (max)

Audio

Audio input	Line in 3.5 mm mono connector 0.707 Vrms, impedance 20k Ohm (typical)
Audio output	Line out 3.5 mm mono connector 0.707 Vrms, impedance 10k Ohm (typical)
Audio communication	Two-way, full duplex

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

Dimensions (W x H x D)	240 x 146 x 169 mm (9.45 x 5.75 x 6.65 in.)
Weight	1840 g (4.06 lb) approx.

Environmental

Operating temperature	-10 ºC to +50 ºC (14 ºF to +122 ºF)
Storage temperature	-30 ºC to +60 ºC (-22 ºF to +140 ºF)

Humidity	20% to 90% relative humidity (non condensing)

Ordering information

NCN-90022-F1 Corner camera 1.5MP 121° IP65 940nm IR
High-performance integrated infrared IP corner-mount day/night camera with fixed 2 mm lens for audio/motion detection.
NDAA compliant
Order number **NCN-90022-F1 | F.01U.273.907**

Accessories
NCA-CMT-GF Faceplate, LED window, bubble, grey
Gray faceplate (RAL 9006) with LED window and transparent bubble
Order number **NCA-CMT-GF | F.01U.288.227**

NDA-SMB-CMT Corner mount surface mount box, aluminum
Corner mount surface mount box. Aluminum; white
Order number **NDA-SMB-CMT | F.01U.303.508**

S1460 Service monitor cable, 2.5mm jack to BNC
2.5 mm jack to BNC video connector cable. 1 m
Order number **S1460 | F.01U.500.418**

UPA-2420-50 PSU, 220VAC 50Hz, 24VAC 20VA out
Power supply unit for cameras.
Order number **UPA-2420-50 | F.01U.076.160**

UPA-2430-60 PSU, 120VAC,60Hz, 24VAC, 30VA out
Power supply unit for cameras.
Order number **UPA-2430-60 | F.01U.075.079**

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**