

NUE-3702-F02 Micro dome 2MP HDR 137° IP66 IK10

FLEXIDOME micro 3100i



- ▶ Compact and robust design for discreet use with quick and easy installation and set-up
- ▶ 1080p HD resolution
- ▶ IVA Pro Buildings brings reliable deep-learning based detection of persons and vehicles
- ▶ High Dynamic Range (HDR) to see every detail in both bright and dark areas of the scene
- ▶ Built-in Secure Element with Trusted Platform Module (TPM) to ensure the highest level of security for device access and data transport

The FLEXIDOME micro 3100i is discreet and compact by design, offering high-quality imaging for 24/7 surveillance.

It includes IVA Pro Buildings deep-learning-based video analytics for reliable detection in and around buildings and a built-in Secure Element for the highest level of data security.

This environmental variant leverages IK10 and IP66 ratings, making the housing durable for outdoor and vandal-prone indoor applications.

Unique corner and L-shape wall mounts enable discreet mounting.

Additionally, the cameras are compatible with the Bosch Modular Mounts.

Functions

High Dynamic Range

The camera has High Dynamic Range. This is based on a multiple-exposure process that captures more details in the highlights and in the shadows even in the same scene. The result is that you can easily distinguish objects and features, for example, faces with bright backlight.

Intelligent Video Analytics Pro (IVA Pro Buildings)

The camera comes with the IVA Pro Buildings pre-installed and brings reliable deep-learning based detection and tracking of persons and vehicles. Being resistant to false triggers caused by challenging environments with rain, wind (moving

trees), snow, hail, and water reflections as well as shadows and bugs, it detects, tracks, and classifies objects.

A smart set of alarm and counter rules alerts you when predefined alarms are triggered, and enables forensic search with high efficiency through recordings. Configuration effort is minimized and made easy by removing the need for calibration.

Intelligent Streaming and H.265 encoding

The camera is designed on the most efficient and powerful H.264 and H.265/HEVC encoding platform. Intelligent streaming is capable of delivering high-quality and high-resolution video with very low network load.

With a doubling of encoding efficiency, H.265 adds even more bit-rate saving on top.

Modular accessories

A full line of modular accessories is available, which allows a consistent design across different cameras and a wide range of installation possibilities. Available options include wall or pipe mount, a corner mount box, and an in-ceiling mounting kit.

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. It has advanced edge recording providing a reliable storage solution possible due to the combination of these functions:

- Industrial SD card support allows for extreme lifetime
- Health monitoring of industrial SD cards provide early service indications.

DORI coverage

DORI (Detect, Observe, Recognize, Identify) is a standard system (EN-62676-4) for defining the ability of a person viewing the video to distinguish persons or objects within a covered area. The maximum distance at which a camera/lens combination can meet these criteria is shown below:

1080p camera with 2.49 mm lens

| DORI | DORI definition | Distance 2.49 mm | Horizontal width |
|-----------|------------------------|---------------------|---------------------|
| Detect | 25 px/m (8 px/ft) | 15 m (50 ft) | 77 m (252 ft) |
| Observe | 63 px/m (19 px/ft) | 6 m (20 ft) | 30 m (100 ft) |
| Recognize | 125 px/m (38 px/ft) | 3 m (10 ft) | 15 m (50 ft) |
| Identify | 250 px/m (76 px/ft) | 2 m (5 ft) | 8 m (25 ft) |

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.

Data security

Special measures have been put in place to ensure the highest level of security for device access and data transport. The three-level password protection with security recommendations allows users to customize device access. Web browser access can be protected using HTTPS and firmware updates can also be protected with authenticated secure uploads. The cameras have built-in Secure Element (SE) hardware providing main Trusted Platform Module (TPM) functionality to ensure the highest levels of data security and privacy protection. Together with Public Key Infrastructure (PKI) support, superior protection from malicious attacks is guaranteed. The cameras also support RSA encryption key lengths of up to 4096 bits, ensuring data safety beyond 2030, as well as 802.1x network authentication with EAP/TLS. The advanced certificate handling offers:

- Bosch origin device certificate pre-installed
- 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

Bosch Remote Portal

With the secure cloud infrastructure, Bosch Remote Portal, you can manage your connected Bosch devices. From the Bosch Remote Portal you can:

- Complete initial configuration of your connected Bosch devices (online or offline).
- Update firmware for single or multiple devices.
- Manage certificates.
- Monitor the health of your connected Bosch devices.

System integration and ONVIF conformance

The camera conforms to the ONVIF Profile S, ONVIF Profile G, ONVIF Profile M, and ONVIF Profile T specifications. For H.265 configuration, the camera supports Media Service 2, which is part of ONVIF Profile T. 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.

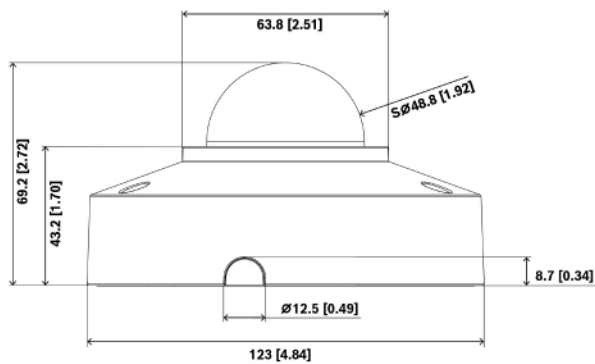
Regulatory information

| Standard | Type |
|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Emission | EN 55032 (Class A) CFR 47 FCC part 15 (Class A) VCCI (Class A) AS/NZS CISPR32 (Class A) |
| Immunity | EN 55035 EN 61000-6-1 EN 61000-6-2 |
| Environmental | IEC 60068-2-1 IEC 60068-2-2 IEC 60068-2-6 IEC 60068-2-14 IEC 60068-2-27 EN IEC 63000: 2018 RoHS EU, 2011/65/EU and 2015/863/EU WEEE EU, 2012/19/EU Packaging EU, 94/62/EU N2580-1 (Bosch standard) N33.6 (Bosch standard) |
| Safety | EN IEC 62368-1 IEC 62368-1 UL 62368-1 |

| Standard | Type |
|----------------------|---------------------------------------------------------------------------|
| | EN/IEC/UL 60950-22 |
| Ingress protection | EN 60529 (IP66) |
| Image performance | IEC 62676-5 |
| Color representation | ITU-R BT.709-6 |
| ONVIF conformance | EN 50132-5-2, EN 62676-2 |
| Impact protection | EN 62262 (IK10): 2002 |
| Marks | CE, FCC, UL, WEEE, RCM, VCCI, UKCA, BIS, KCC, SASO, CMIM, Sweden PVC free |
| Compliance | NDA compliant |

| Region | Regulatory compliance/quality marks |
|---------------|-------------------------------------|
| Europe | CE |
| Great Britain | UKCA |

Installation/configuration notes



Dimensions in mm (inch)

Parts included

| Quantity | Component |
|----------|---------------------------------|
| 1 | FLEXIDOME micro 3100i device |
| 1 | TR15 key |
| 1 | Mounting sticker |
| 1 | Quick installation guide |
| 1 | Safety and security information |
| 3 | Installer UX label |
| 1 | RJ45 guider |

Technical specifications

Electrical

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|-----------------------------------------------|--------------------------------------------|
| PoE input | PoE IEEE 802.3af / 802.3at Type 1, Class 3 |
| Power consumption PoE (W) (typical – maximum) | 3.2 W – 4.5 W |

Sensor

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|--------------------------|-----------------|
| Total sensor pixels | 2 MP approx. |
| Sensor type | 1/2.8 inch CMOS |
| Effective pixels (H x V) | 1,920 x 1,080 |

Sensitivity

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|-----------------------------------------------------------------|--------|
| Color (lx) (sensitivity measured according to IEC 62676 Part 5) | 0.1 lx |
|-----------------------------------------------------------------|--------|

Dynamic range

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| High Dynamic Range (HDR) (dB) | 120 dB |
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Optical

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|------------------------------|---------|
| Lens focal length (mm) | 2.49 mm |
| Lens aperture (/F) | 1.7 /F |
| Horizontal field of view (°) | 137° |
| Vertical field of view (°) | 72.8° |

Video functions

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|----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Day/night modes | Auto (adjustable switch points); Color; Monochrome |
| Camera functionality | Mirror image; Rotation 90°; Rotation 180°; Rotation 270° including up-right mode; Backlight compensation (BLC); Sharpness enhancement; Intelligent defog; Pixel counter; Saturation; Brightness; Video watermarking; Display stamping; Location |
| White balance (K) | 2,000 K – 10,000 K |
| White balance modes | Basic; Standard; Manual mode; Hold mode; 3 automatic modes; Sodium lamp auto |
| Shutter modes | Automatic Electronic Shutter (AES); 1/15,000 max; Default shutter; 1/25 [30] min |

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|-------------------------|---|
| Number of privacy masks | 8 |
|-------------------------|---|

Video streaming

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|----------------------------------|-----------------------------------------------------------------------------------------------------------------------------|
| Video compression | H.264 (ISO/IEC 14496-10); M-JPEG; H.265/HEVC |
| Streaming | Multiple configurable streams in H.265; H.264 and M-JPEG; Configurable framerate and bandwidth; Bosch Intelligent Streaming |
| Camera processing latency | <120ms |
| GOP structure | IP |
| Frame rate (fps) | 1 fps – 30 fps |
| Video signal-to-noise ratio (dB) | >55 dB |
| Video resolution (H x V) | HD 1080p (16:9), 1920 x 1080 to 0.1MP (16:9), 512 x 288 |

Video content analysis

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|-------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Analysis type | Intelligent Video Analytics Pro: IVA Pro Buildings |
| Alarm triggers | Any object; Object in field; Line crossing; Enter / leave field; Loitering; Follow route; Counting; Occupancy; Condition change; Similarity search; Objects stopping or starting to move |
| Object classes | Person; Vehicle |
| Object filters | Duration; Size; Aspect ratio; Direction; Color |
| Tracking modes | Base tracking (2D) |
| Number of possible alarm rules (simultaneously) | 16 |
| Additional functionalities | Tamper detection |

Inputs and outputs

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|----------|---------------|
| Ethernet | Shielded RJ45 |
|----------|---------------|

Storage

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|------------------|-------------------------|
| Internal storage | 5-s-pre-alarm-recording |
|------------------|-------------------------|

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|---------------------------|---------------------------------------------------------------------------------------------|
| Memory card slot | Micro SDHC; Micro SDXC (a memory card of Class 6 or higher is recommended for HD recording) |
| Memory card capacity (GB) | 32 GB for Micro SDHC; 2 TB for Micro SDXC card |
| Industrial SD cards | Extreme lifetime and health monitoring support that provides early service indication |

Data security

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|--------------------------|------------------------------------|
| Secure element | RSA 4096 bit; AES/CBC 256 bit |
| PKI | X.509 certificates |
| End-to-end encryption | Full end-to-end with supported VMS |
| Encryption | TLS 1.2; AES 256; AES 128; TLS 1.3 |
| Local storage encryption | XTS-AES |
| Video authentication | MD5; SHA-1; SHA-256; Checksum |
| Firmware protection | Signed firmware; Secure boot |

Platform

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|-------------------------|---------|
| Common Product Platform | CPP14.3 |
|-------------------------|---------|

Network

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|---------------|--------------|
| Ethernet type | 10/100BASE-T |
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System integration

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|-----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Protocols / standards | 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, MIBII); SNMP (V3, MIBII); DNS; DNSv6; DDNS (DynDNS.org, selfHOST.de, no-ip.com); SMTP; iSCSI; UPnP (SSDP); DiffServ (QoS); LLDP; SOAP; CHAP; Digest authentication |
| Conformity | ONVIF Profile S; ONVIF Profile G; ONVIF Profile T; ONVIF Profile M |

Mechanical

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|----------------|-----------|
| Pan range (°) | 0° - 355° |
| Tilt range (°) | 0° – 75° |

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|-------------------------|-----------------------------------------------------------------------------------|
| Roll range (°) | 0° – 355° |
| Dimensions (Ø x H) (mm) | 123 mm x 69.2 mm |
| Dimensions (Ø x H) (in) | 4.84 in x 2.72 in |
| Weight (g) | 480 g |
| Weight (lb) | 1.06 lb |
| Color | White |
| Color in RAL | RAL 9003 Signal white |
| Bubble material | Clear polycarbonate |
| Coating type | Clear with anti-scratch coating |
| Material | Aluminum Alloy housing with dehumidifying membrane and waterproof connection area |
| Mounting type | Surface-mounted |

Environmental

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|-------------------------------------------------|---------------|
| Operating temperature (°C) | -30°C – 50°C |
| Operating temperature (°F) | -22°F – 122°F |
| Cold start temperature (°C) | -20°C |
| Cold start temperature (°F) | -4°F |
| Storage temperature (°C) | -50°C – 70°C |
| Storage temperature (°F) | -58°F – 158°F |
| Operating relative humidity, non-condensing (%) | 5% – 93% |
| Operating relative humidity, condensing (%) | 5% – 100% |
| Storage relative humidity (%) | 5% – 95% |
| Impact protection | IK10 |
| IP rating | IP66 |
| Sustainability | PVC free |
| Country of origin | Thailand |

Ordering information

NUE-3702-F02 Micro dome 2MP HDR 137° IP66 IK10
Fixed dome camera for outdoor 30 fps surveillance with H.264/H.265 and IVA Pro Buildings, 2MP, 137° lens, IP66, IK10, NDAA compliant
Order number **NUE-3702-F02**

Accessories

NDA-3082-PIP Pendant interface plate, 123mm
Pendant interface plate for FLEXIDOME micro 3100i outdoor
Order number **NDA-3082-PIP**

NDA-5081-PLEN In-ceiling plenum rated kit, 110mm
Plenum-rated in-ceiling mount kit for FLEXIDOME panoramic 5100i and FLEXIDOME micro 3100i
Order number **NDA-5081-PLEN**

NDA-5080-CMB Corner mount box 45°, 110mm
Corner mount box for FLEXIDOME panoramic 5100i indoor and FLEXIDOME micro 3100i, 45° tilt angle
Order number **NDA-5080-CMB**

NDA-U-WMT Pendant wall mount
Universal wall mount for dome cameras, white
Order number **NDA-U-WMT**

NDA-U-PMT Pendant pipe mount, 12" (31cm)
Universal pipe mount for dome cameras, 31 cm, white
Order number **NDA-U-PMT**

NDA-U-PMTE Pendant pipe extension, 20" (50cm)
Extension for universal pipe mount, 50 cm, white
Order number **NDA-U-PMTE**

NDA-U-PSMB Pendant wall/ceiling mount SMB
Surface mount box (SMB) for wall mount or pipe mount.
Order number **NDA-U-PSMB**

NDA-U-WMP Wall mount plate
Back plate for universal wall mount, corner mount and pole mount, white, IP66
Order number **NDA-U-WMP**

NDA-U-PMAS Pole mount adapter small
Pole mount adapter small
Universal pole mount adapter, white; small.
Order number **NDA-U-PMAS**

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**

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**

NDA-U-PMTS Pendant pipe mount, 4" (11 cm)
Universal pendant pipe mount for dome cameras, 11 cm (4"), white
Order number **NDA-U-PMTS**

NDA-U-WMTG Pendant wall mount, gang box

Universal wall mount, compatible with gang box installation for fixed dome cameras only, white
Order number **NDA-U-WMTG**

NDA-U-PMTG Pendant pipe mount, gang box

Universal pipe mount, compatible with gang box installation for fixed dome cameras only, white
Order number **NDA-U-PMTG**
