

NBT-8701-F25VF Bullet thermal VGA 17° 30Hz

DINION thermal 8100i - VGA



640 x 480



H.265



IVA

- ▶ Maximum detection range in zero lux condition for large-scale perimeter protection.
- ▶ Thermal imaging and IVA Pro Perimeter help achieve an ultra-low false alarm rate.
- ▶ High resolution VGA thermal imaging.
- ▶ Rugged housing and cybersecure.
- ▶ AI-based (3D) autocalibration resulting in a fast and simple installation.

The DINION thermal 8100i camera is a bullet thermal camera built for mission-critical applications, prioritizing long-distance monitoring and reliable perimeter intrusion detection. By detecting heat emitted by objects and visualizing temperature differences, the camera operates without the need for visible light, making it highly effective in identifying potential threats across large perimeters. It combines thermal imaging with the Intelligent Video Analytics (IVA) Pro Perimeter feature, delivering high-accuracy detection of professional intruders while minimizing false alarms caused by environmental factors. The AI-driven autocalibration simplifies installation, ensuring quick and precise setup.

Designed with a rugged, corrosion-resistant housing, the DINION thermal 8100i camera offers robust reliability in any outdoor environment, enhancing durability and performance in even the most demanding conditions.

Functions

Thermal imager

The DINION thermal 8100i camera incorporates uncooled microbolometer / VOx (Vanadium Oxide) to deliver unparalleled thermal imaging. It detects heat signatures emitted by objects, making it effective in outdoor environments where visual light is absent or compromised, such as complete darkness, smoke, and fog. Its ability to visualize subtle temperature differences ensures exceptional situational awareness in even the most challenging conditions.

The key differentiator of the DINION thermal 8100i camera is its long-range detection capability, enabling reliable identification of people and vehicles at great distances, regardless of environmental distractions like headlights, shadows, or sudden lighting changes. This makes it an ideal solution for critical infrastructure security applications.

The DINION thermal 8100i camera offers a variety of intuitive user-adjustable settings, including contrast, brightness, sharpness, and noise reduction, enabling operators to customize the image for optimal clarity and performance. Additionally, a variety of user-selectable thermal color modes enhances image customization to meet specific operational needs.

Intelligent Video Analytics (IVA) Pro

The camera comes with IVA Pro Buildings and IVA Pro Perimeter pre-installed and brings highly reliable deep-learning based detection and tracking of persons and vehicles to scenes ranging from sterile zones to crowded and congested. Being extremely resistant to false triggers caused by challenging environments with rain, wind (moving trees), snow, and reflection as well as shadows and small animals, it reliably detects, tracks, and classifies objects. A smart set of alarm and counter rules allows to alert you when predefined alarms are triggered, and to forensically search with high efficiency through recordings. Configuration effort is minimized and made easy.

Range performance

Featuring a versatile lens portfolio ranging from telephoto to wide-angle, the DINION thermal 8100i camera easily adapts to a variety of monitoring needs. The detection performance is theoretical, based on the minimal resolution of objects required by Intelligent Video Analytics, and therefore covers only optimal conditions.

Maximum detection range with IVA Pro Perimeter

| Lens horizontal field of view | Upright persons (1.8 m x 0.5 m (5.6 ft x 1.6 ft)) | Crawling persons (0.5 m x 0.5 m (1.6 ft x 1.6 ft)) | Frontal vehicle (1.5 m x 1.5 m (4.9 ft x 4.9 ft)) |
|-------------------------------|---|--|---|
| 17° | 353 m (1053 ft) | 207 m (679 ft) | 622 m (2041 ft) |

For more information, including the DRI criteria (Detection / Recognition / Identification), commonly known as Johnson's Criteria, refer to the Video Analytic and Lens Calculator.

H.265 high-efficiency video encoding

The camera is designed on the most efficient and powerful H.264 and H.265/HEVC encoding platform. The camera is capable of delivering high-quality and high-resolution video with very low network load. With a doubling of encoding efficiency, H.265 is the compression standard of choice for IP video surveillance systems.

Resists rain, dust, and tampering with reliable operation across a wide temperature range

The robust design of the camera is rated according to IP66 / IP67 and IK10 standards, safeguarding the camera against rain and dust while also offering protection against vandalism and tampering. The camera can operate in a wide ambient temperature range between -40 °C (-40 °F) to +55 °C (131°F).

Window defroster and camera heater

The aluminum-constructed housing has two heaters: one for window defrosting and one for the housing interior. The interior heater enables the camera to cold start in temperatures as low as -40 °C (-40 °F). The powered window defroster minimizes condensation in high humidity locations and build-up of snow and ice, ensuring good image details in cold and moist conditions.

Easy installation

The DINION thermal 8100i camera follows a proven 3-step installation process for UX and efficiency. The mounting plate has multiple hole patterns for installation on electrical boxes and with our universal accessories. Designed with a focus on robustness and stability, the camera has a compact housing and a large swivel for maximum stability. The patented swivel includes a large ball joint that makes positioning easy. While adjusting the camera with one hand, a locking ring can be secured with

the other hand, without the need for tools. The camera remains in place while the swivel is locked with a locking screw.

Power can be supplied through Power-over-Ethernet (PoE). With this configuration, only a single cable is required for viewing, power, and control. Using PoE simplifies installation and is more cost effective, as the camera does not require a local power source.

The camera features a punch-down connector for network connections, catering to the preference of IT professionals for streamlined and reliable installations. This connector allows direct integration of larger cables, such as CAT-7, eliminating the need for external cabinets or patch cables typically required to bridge large-diameter cables to the camera.

Data security

Special measures ensure the highest level of security for device access and data transport. On initial setup, the camera is only accessible over secure channels and enforces a password. Web browser and viewing client access can be protected using HTTPS or other secure protocols that support state-of-the-art TLS 1.2 with updated cipher suites including AES encryption with 256 bit keys. No software can be installed in the camera, and only authenticated firmware can be uploaded. A three-level password protection with security recommendations allows users to customize device access.

Network and device access can be protected using 802.1x network authentication with EAP/TLS. Superior protection from malicious attacks is guaranteed by the Embedded Login Firewall, on-board Trusted Platform Module (TPM) and Public Key Infrastructure (PKI) support.

The advanced certificate handling offers:

- 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
- 4096 key length

Advanced edge recording

Advanced edge recording provides the reliable storage solution possible due to the combination of the following functionalities:

- Dual microSD cards that can be set up as either:
 - Mirrored, for redundant storage
 - Failover, for extended service intervals
 - Extended, for maximum retention time
- Industrial microSD card support allows for extreme lifetime
- Health monitoring on industrial microSD card (slot 1) provides early service indication

Cloud-based services

Using the Bosch Security Cloud, you can configure, troubleshoot, and update supported devices using the browser-based interface or standard tools. With one click on Remote Portal, you can activate additional value-added services, such as Alarm Management in Cloud VMS, or VideoView+.

VideoView+ provides an easy-to-use and cost-effective solution to remotely connect to your device from anywhere, at any time. Leverage the power of the Bosch cloud to monitor your premises and get notified about any incident. VideoView+ also enables live streaming, locally and from remote, of up to 8 concurrent devices via Video Security Client, or of up to 4 concurrent devices on the Android and iOS app clients. This includes replay and export functionality, as well as forensic search to define and perform search criteria for recorded events.

Bosch Remote Portal

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

Project Assistant app

As the camera is equipped with a USB-C port for a Wireless installation dongle (sold separately: NCA-WLAN-EU, NCA-WLAN-NA), the installer can easily perform the initial configuration wirelessly. Using a mobile device with the Bosch Project Assistant app, you can do initial set-up to find the right scene. Simply connect the wireless installation dongle and go to the Bosch Project Assistant app, available for iOS, Windows, or Android.

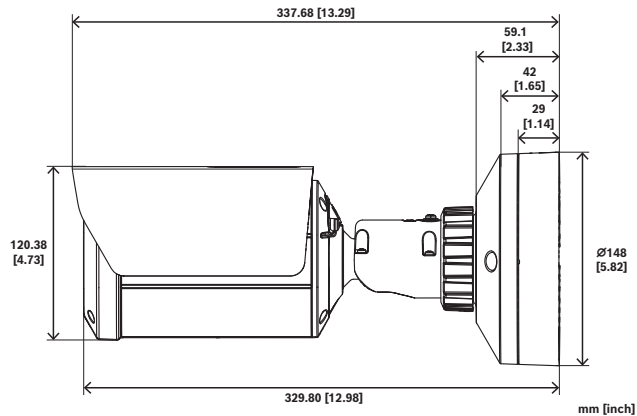
Regulatory information

| Type | Standard |
|----------|---|
| Emission | EN 55032 (Class A) CISPR32 (Class A) ICES-003 (Class A) FCC Part 15 Subpart B Class A RSS-Gen, Issue 5 ICES-003 (Issue 7), Class A VCCI-CISPR 32 IEC 61000-6-4 EN IEC 61000-6-4 |
| Immunity | EN 55035 CISPR35 IEC 61000-6-2 |

| Type | Standard |
|------------------------------|---|
| | EN IEC 61000-6-2 EN 50130-4 EN 50121-4 |
| Basic standards | EN 61000-4-2 EN 61000-4-3 EN 61000-4-4 EN 61000-4-5 EN 61000-4-6 EN 61000-4-8 |
| Environmental | DIN EN 62321:2012-10 |
| Reliability | EN 60068-2-1 EN 60068-2-2 EN 60068-2-6 EN 60068-2-18 EN 60068-2-27 EN 60068-2-30 EN 60068-2-42 EN 60068-2-52 EN 60068-2-75 EN 60068-2-78 |
| Corrosion resistance | ISO 14993 |
| Safety | AS/NZS 62368.1 CSA C22.2 No. 62368-1 EN IEC 62368-1 IEC 62368-1 J62368-1 SASO-IEC 62368-1 UL 62368-1 |
| Impact protection | EN 62262 (IK10) (excluding front window) |
| Ingress protection | EN 60529 (IP66/67) UL50E Type 4X |
| Shock / vibration protection | NEMA TS2 (section 2.2.8 - section 2.2.9) |
| Marks | CE, FCC, UL, RCM, Cmm, BIS, VCCI, China RoHS |
| Compliance | NDAA compliant, TAA compliant |
| Region | Regulatory compliance/quality marks |
| Global | IEC 62443-4-1 Industrial Cyber Security Capability |

| Region | Regulatory compliance/quality marks | |
|--------|-------------------------------------|---------------------------------|
| Europe | CE | |
| USA | UL CAP | Cybersecurity Assurance Program |

Installation/configuration notes



Dimensions in mm (inch)

Parts included

| Quantity | Component |
|----------|---------------------------------|
| 1 | DINION thermal 8100i camera |
| 1 | TR20 key |
| 1 | Mini screwdriver |
| 1 | Grommet (IP66) |
| 1 | Grommet (IP67) |
| 1 | Quick installation guide |
| 1 | Safety and security information |
| 3 | Installer UX labels |

Technical specifications

Thermal sensor

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|--------------------------|--|
| Sensor type | Uncooled microbolometer / VOx (vanadium oxide) |
| Spectral response (µm) | 8 µm – 14 µm |
| Effective pixels (H x V) | 640 x 480 |
| Pixel pitch (µm) | 12 µm |
| Frequency (Hz) | 30 Hz |

Thermal sensitivity

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|--------------------|------------------|
| Sensitivity (NETD) | < 30 mK at 25 °C |
|--------------------|------------------|

Thermal lens

| | |
|------------------------------|---------------------------|
| Lens focal length (mm) | 25 mm |
| Lens aperture (/F) | 0.8 /F |
| Focus | Fixed focus, athermalized |
| Minimum focus distance (m) | 32.0 m |
| Horizontal field of view (°) | 17° |
| Vertical field of view (°) | 13° |

Platform

| | |
|-------------------------|--------------------------|
| Common Product Platform | CPP14 |
| Memory (MB) | 2048MB RAM; 8192MB Flash |

Video streaming

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|-------------------|---|
| Resolution | 640 x 480 |
| Video compression | H.264 (ISO/IEC 14496-10); M-JPEG; H.265/HEVC |
| Frame rate (fps) | 1 fps – 30 fps |
| GOP structure | IP; IBP; IBBP |
| Streaming | 4 configurable streams in H.265; H.264 and M-JPEG; Configurable framerate and bandwidth |

Video functions

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|-------------------------|--|
| Camera functionality | Brightness; Contrast; Sharpness; Histogram equalization; Contrast region; Noise filter; Image rotation |
| Number of privacy masks | 8 |
| Thermal color mapping | 12 selectable modes |

Video content analysis

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|---------------|---|
| Analysis type | MOTION+; Intelligent Video Analytics Pro: IVA Pro Buildings; Intelligent Video Analytics Pro: IVA Pro Perimeter |
|---------------|---|

| | |
|----------------------------|--|
| Alarm triggers | Any object; Object in field; Line crossing; Enter / leave field; Loitering; Follow route; Idle / removed object; Occupancy; Objects stopping or starting to move |
| Object filters | Size; Aspect ratio; Speed; Direction; Object classes (4) |
| Object classes | Person; Bike; Car; Truck |
| Calibration | Map-based; Measurement-based; Autocalibration |
| Additional functionalities | Tamper detection |

Storage

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|----------------------------------|--|
| Internal storage | 5-s-pre-alarm-recording |
| Memory card slot | 2 slots: Micro SDHC; Micro SDXC, up to 2 TB |
| Industrial SD cards | Extreme lifetime and health monitoring support that provides early service indication |
| Dual SD-card slot configurations | Mirror (redundant storage); Failover (extended service interval); Extend (maximum retention time); Automatic Network Replenishment |

Inputs and outputs

| | |
|----------------|---|
| Ethernet | RJ45; Punch down connector |
| Audio line in | 10 kOhm typical; maximum 1 Vrms |
| Audio line out | 1.5 kOhm typical; 1 Vrms |
| Alarm inputs | 2; Dry contact; 5 - 40 VDC; 2.2 K end-of-line resistor |
| Alarm outputs | 1; maximum 30 VAC; +40 VDC; 0.5 A; continuous 10 VA |
| Power output | + 12VDC 50mA (switchable) |
| USB | USB 2.0 Type C, for use with Wireless installation dongle for setup and commissioning (sold separately) |
| Fiber optics | Fiber Optic Ethernet Media Converter kit (VG4-SFP SCKT) (sold separately) |

Audio

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|------------------------------------|--------------------------------------|
| Audio input | Line-in; Mic-level input, switchable |
| Audio output | Line-out |
| Compression and sampling rate | AAC-LC 48kbps 16 kHz |
| Minimum signal-to-noise ratio (dB) | 50 dB |
| Audio streaming | Full duplex; Half duplex |

Network

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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); 802.1x, EAP/TLS; DNS; DNSv6; DDNS (DynDNS.org, selfHOST.de, no-ip.com); SMTP; iSCSI; DiffServ (QoS); LLDP; SOAP; CHAP; Digest authentication |
| Ethernet type | 10/100BASE-T |
| Conformity | ONVIF Profile S; ONVIF Profile G; ONVIF Profile T; ONVIF Profile M |

Data security

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|--------------------------|------------------------------------|
| Crypto coprocessor (TPM) | RSA 4096 bit; AES/CBC 256 bit |
| PKI | X.509 certificates; SCEP |
| 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 |

Electrical

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|---|---|
| PoE input | PoE IEEE 802.3af / 802.3at Type 1, Class 3; PoE and auxiliary power can be connected simultaneously for redundant operation |
| Input voltage (VAC) | 24 VAC ±10% |
| Input voltage (VDC) | 12 VDC – 26 VDC ±10% |
| Power consumption PoE (W) (typical – maximum) | 12.9 W |

| | |
|---|--|
| Power consumption VAC (VA) (typical – maximum) | 31 VA |
| Power consumption VDC (W) (typical – maximum) | 16 W |
| Mechanical | |
| Dimensions (Ø x D) (mm) | 148 mm x 352 mm |
| Dimensions (Ø x D) (in) | 5.82 in x 13.85 in |
| Weight (kg) | 2.95 kg |
| Weight (lb) | 6.50 lb |
| Material | Housing: Aluminum with dehumidifying membrane and waterproof connection area |
| Window material | Germanium glass |
| Color (RAL) | RAL 9003 Signal white |
| Mounting type | Surface-mounted |
| Environmental | |
| Operating temperature (°C) | -40 °C – 55 °C, up to 74 °C according to NEMA TS2 (section 2.2.7) |
| Operating temperature (°F) | -40 °F – 131 °F, up to 165 °F according to NEMA TS2 (section 2.2.7) |
| Storage temperature (°C) | -40 °C – 70 °C |
| Storage temperature (°F) | -40 °F – 158 °F |
| Operating relative humidity, non-condensing (%) | 5% – 95% |
| Operating relative humidity, condensing (%) | 5% – 100% |
| IP rating | IP66; IP67 |
| Impact protection | IK10 excluding front window |
| Degree of protection | UL50 Type 4X |
| Windows defroster | Auto |
| Interior heater | Auto |

Ordering information

NBT-8701-F25VF Bullet thermal VGA 17° 30Hz

Fixed bullet thermal camera, VGA, IVA Pro Perimeter, IP66, IP67, 4X, IK10, H265, 25 mm lens, 17°

NDAA and TAA compliant.

Order number **NBT-8701-F25VF**

Accessories

NDA-U-PMAL Pole mount adapter large

Universal pole mount adapter, white; large

Order number **NDA-U-PMAL**

NDA-U-CMT Corner mount adapter

Universal corner mount, white

Order number **NDA-U-CMT**

NDA-U-CBB Conduit back box, 148mm

Outdoor conduit back box, 148mm

Order number **NDA-U-CBB**

NBA-7070-PA0 Direct-mount surveillance cabinet 24VAC

Direct-mount surveillance cabinet, 24 VAC

Order number **NBA-7070-PA0**

NBA-7070-PA1 Direct-mount surveillance cabinet 120VAC

Direct-mount surveillance cabinet, 120 VAC

Order number **NBA-7070-PA1**

NBA-7070-PA2 Direct-mount surveillance cabinet 230VAC

Direct-mount surveillance cabinet, 230 VAC

Order number **NBA-7070-PA2**

VG4-SFPSCKT Ethernet to SFP interface kit

Ethernet media converter video transmitter/data receiver fiber optic kit

Order number **VG4-SFPSCKT**

NCA-WLAN-EU Wireless installation dongle EU

Wireless installation dongle for wireless commissioning

Order number **NCA-WLAN-EU**

NCA-WLAN-NA Wireless installation dongle NA

Wireless installation dongle for wireless commissioning for North America

Order number **NCA-WLAN-NA**



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