Product story
FLEXIDOME multi 7000i (IR)

A multi-directional overview offering highly detailed insights

Bosch is expanding its AIoT portfolio with the introduction of the FLEXIDOME multi 7000i and FLEXIDOME multi 7000i IR cameras. These brand-new, intelligent multi-directional cameras combine four independent 3- or 5-megapixel image sensors in one solution, and can provide 360-degree overviews. They are ideal for wide area coverage in locations like intersections and building corners, where detailed insights of a multi-directional scene are a must. They are also highly flexible and convenient: although each camera houses four independent image sensors, it has a single IP address and only needs one Video Management System license. It can also be connected via a single cable.

Draw valuable insights from captured video footage – even before situations occur
In addition, built-in artificial intelligence takes data usage to a whole new level. FLEXIDOME multi 7000i and FLEXIDOME multi 7000i IR cameras include Intelligent Video Analytics and Camera Trainer, both forms of built-in AI, which use metadata to add sense and structure to video footage. This generates actionable insights that help operators react before a possible threat or unwanted situation occurs, by giving them a clearer sense of what's about to happen. This elevates video data from mere images to an integral tool in a business and security strategy.

Being multi-directional, these cameras allow each of their four image sensors to be configured independently. They can run up to 16 alarm rules, allowing customers to decide what to focus on per scene. The set-up and calibration of Intelligent Video Analytics on each image sensor is simplified due to the built-in gyro sensor. With Camera Trainer, these cameras can even be programmed to detect objects or situations that matter most to customers. It is this ability to identify new, user-defined parameters, combined with existing alarm rules and filters, that improves both accuracy and flexibility.

Built-in AI can enable high-security facilities and critical infrastructure premises to strengthen their perimeter security while reducing the cost of security personnel. In retail applications, it can recognize customer footfall hotspots to inform the positioning of high-margin products to increase sales. Or it can help city planners improve experiences by identifying bottlenecks that compromise the flow of people and/or cars through public spaces or at intersections.

Four image sensors, one flexible and convenient solution
The new FLEXIDOME multi 7000i (IR) portfolio comprises four models:

- FLEXIDOME multi 7000i (12MP)
- FLEXIDOME multi 7000i (20MP)
- FLEXIDOME multi 7000i IR (12MP)
- FLEXIDOME multi 7000i IR (20MP)

Being multi-directional, all camera models have four independent, high-resolution AVF lenses that each capture excellent images from four individual scenes simultaneously with high pixel density. Each lens has 3 or 5 megapixels, depending on the camera model. When the lenses are positioned at the correct angle, the cameras can provide 360-degree overviews. Additionally, the zoom capability allows detailed coverage for more distant or critical areas.

Each image sensor offers a multi-exposure high dynamic range (HDR) of 120dB, ensuring details are captured even in challenging light scenes. All IR models have an integrated 360-degree infrared feature which enables image capture in pitch-dark conditions over a distance of up to 30m / 98ft.[1]

These cameras can also detect loud noises via an integrated MEMS microphone. Additionally, external audio devices or microphones can be connected via the camera's integrated audio I/O functionality. In the future, Bosch will add audio AI functionality to automatically recognize events such as smoke alarms or breaking glass.

Ease of installation
One of the main advantages of Bosch security cameras is ease of installation, and the FLEXIDOME multi 7000i (IR) portfolio is no exception. These flexible and convenient cameras house four image sensors, yet have a single IP address, only require a single Video Management System license (depending on the VMS, valid for most common systems) and can be installed with just one cable. Each of the four image sensors can be independently set up using three-axis movement along a circular track, allowing the capturing of images from practically every angle. Furthermore, the camera has a built-in USB-C port that accepts a Wi-Fi dongle to allow configuration via the Project Assistant when no local network is available. This results in less cabling, shorter installation and set-up time and therefore reduced costs. The cameras are also compatible with all Bosch modular accessories, and have one of the smallest footprints in their segment, making them less obtrusive.

The FLEXIDOME multi 7000i (IR) cameras are ideal for wide area coverage from multiple directions in locations such as intersections and railway stations, but are also ideal for city surveillance and retail applications. Similarly, where planning or design restrictions discourage the use of multiple installations, such as protected heritage sites, one camera can be installed to provide excellent situational awareness without compromising aesthetics. Four scenes can be captured independently, offering a high resolution multi-directional view of a large area by a single camera.

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[1] IR cameras available as of July 2021

The Green Way promise – supporting sustainable practices
The Green Way promise is a unique approach that ensures our solutions are designed not only to maximize convenience, but also to minimize costly on-site visits, which reduces travel and CO_2 emissions. System integrators can work with customers remotely to perform services such as changing configuration settings or installing firmware updates, ensuring the system meets the highest reliability standards. By enabling integrators to commute less, save time and reduce harmful environmental emissions, Bosch supports sustainable business practices.

A secure solution
Of course, the new FLEXIDOME multi 7000i and FLEXIDOME multi 7000i IR cameras offer the exceptional Bosch quality customers expect, including data security. This includes a suite of special measures to ensure best-in-class security for device access and data exchange.

The cameras have built-in Secure Element (SE) hardware, which provides Trusted Platform Module (TPM) functionality. All data is encrypted at capture, using a cryptographic key that is safely stored in the TPM to ensure the highest levels of security and privacy protection. The Secure Element also supports RSA encryption key lengths of up to 4096 bits, ensuring data safety well beyond 2030.