



Fire Alarm Systems

Bosch Security Systems

Intelligent detection. Superior protection.



BOSCH

Invented for life

Keeping people **safe** is our **first priority**

Bosch Milestones – Fire Detection Technology

<p>The first Bosch Fire Panel Tradition, expertise and trust</p> <p>1920</p>	 <p>MAGIC.SENS Detector Series Intelligent signal processing</p> <p>1999</p>	<p>Detector 500 Series The world's first flat-type smoke detector, design award winner</p>  <p>2004</p>	 <p>Smoke Detector 420 Series Groundbreaking Dual Ray technology for first-rate reliability in detection</p> <p>2010</p>
	<p>1992</p>  <p>Local Security Network LSN Field bus (loop) used by fire and intrusion peripherals, no element loss due to short circuits or interruptions</p>	<p>2001</p> <p>MAGIC SENS OTC Detector The world's first smoke detector with an integrated CO sensor</p>	<p>2005</p>  <p>Modular Fire Panel 5000 Series Modularity with first-class flexibility and scalability</p>

Bosch cares about safety. All of our products are designed to assure users that their lives will not only be protected, but quickly and effectively saved. A swift response by the fire detection system is absolutely crucial for alerting services and getting help. And because all our products can be combined, a complete solution can be built from just one source.



Smart Safety Link
Interfacing the Modular Fire Panel 5000 Series and PRAESIDEO voice evacuation system via IP connection

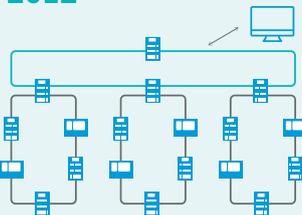
2013

Remote Services
Connect, maintain and service systems via a secure remote connection and receive immediate notifications



2015

2012



Panel Networking over IP
Future-proof IP technology, tailored and prompt customer service, project-specific solutions

2014



AVENAR 4000 Fire Detector
Maximizing detection performance even in the most challenging environments, thanks to eSmog and Dual Ray technology

2016



Video-based Fire Detection
Using intelligent algorithms, video fire detection systems improve response times and reduce false alarms

Clamp down on fire

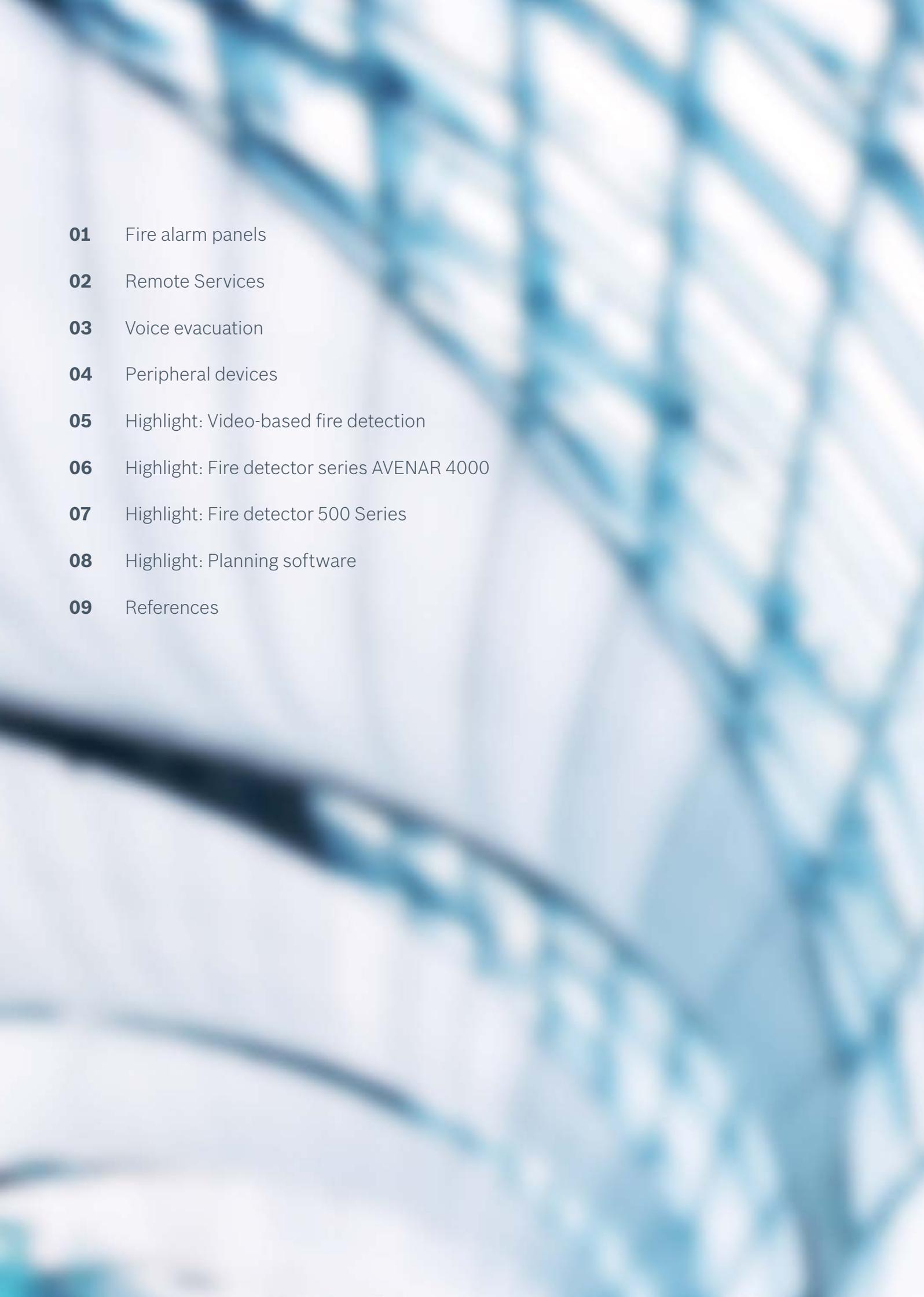
With over 80 years of experience in fire alarm systems, we have products to suit all applications. Our automatic detector series also includes multi-criteria and flush-mount variants that offer nearly invisible detection. We supplement these products with highly-flexible, user-friendly control panels, such as the Modular Fire Panel 5000 Series, for coordinating fire alarms and other event-related messages. Our unique panel design gives you tailor-made protection. Manual call points, sounders, strobes and interface modules complete the solution.

Get the message across

Evacuating a large number of people spread throughout a large site requires trained on-site personnel and a failsafe EVAC (emergency voice alarm communication) system. Bosch offers a range of highly robust EVAC products for sites of all sizes, for faster, more efficient and safer evacuations.

Safety, security and efficiency

Preemptive maintenance is the key to preventing costly false alarms and ensuring fires are detected in time. Remote Connect, Remote Maintenance and Remote Alert enable technicians to be more efficient and effective with their service calls using remote diagnostics – saving costs, assets and lives.

- 
- 01** Fire alarm panels
 - 02** Remote Services
 - 03** Voice evacuation
 - 04** Peripheral devices
 - 05** Highlight: Video-based fire detection
 - 06** Highlight: Fire detector series AVENAR 4000
 - 07** Highlight: Fire detector 500 Series
 - 08** Highlight: Planning software
 - 09** References

A system as individual as you are

Reliable, flexible and customer-specific

A Bosch fire alarm system provides you with the opportunity to retain the value of your equipment, as all new systems designed by Bosch interface with previously installed systems. From reliable fire detection to advanced voice evacuation, Bosch delivers a safe, future-proof investment for any kind of location. In a technology-driven world, Bosch offers you exactly what you need.

Fire alarm system

Reliable – Bosch offers a broad portfolio of EN- and UL-certified products* and systems for accurate, reliable fire detection and notification. Our solutions provide precise, life-saving information at critical moments – you can count on us.

Flexible – Bosch gives you the opportunity to configure your own system according to your specific needs based on the modular principle. The system adapts to the nature and size of your facility's application, so you are provided with flexibility in your buying decisions.

Customer-specific – Bosch offers you the unique software development kit (SDK) suite, containing all the tools to design customer-specific fire safety management systems and software modifications.

* We offer a portfolio of fire systems dedicated to the UL market

01 Supreme modularity provides superior fire protection



Bosch provides you with the unique opportunity to configure your own system according to the modular principle and your specific needs. The reusable “click-and-go” modules, the interchangeable housings, the practical CAN bus mounting and the “hot plug” feature make this possible.

Remote control

The FMR 5000 remote control unit gives full command of the control panel or the panel network by means of a CAN bus. It offers a high degree of functionality, without the need for additional training, together with an attractive design.

A variety of interfaces

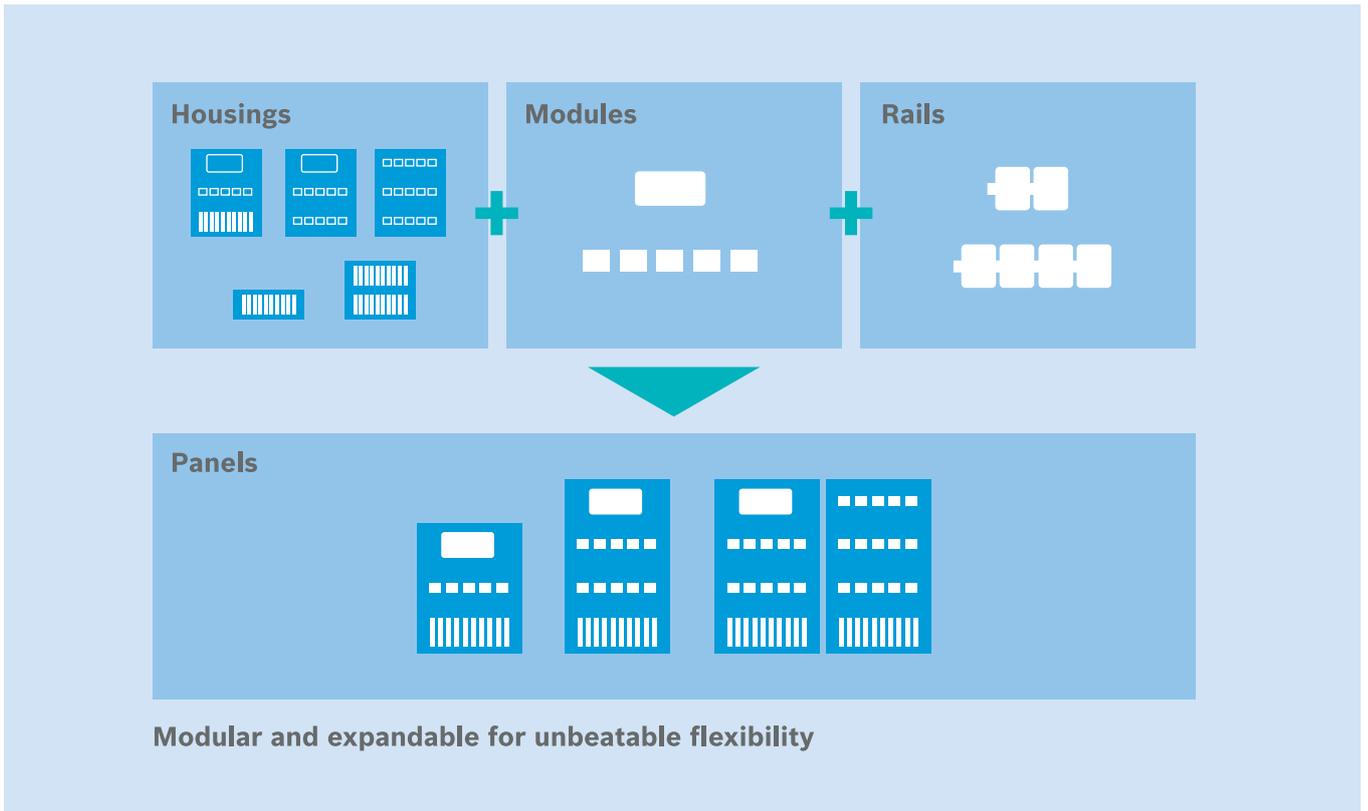
Various interfaces make it possible to smartly connect PLENA, PAVIRO and PRAESIDEO voice alarm systems to the Modular Fire Panels of the 1200 and 5000 Series, while greatly reducing the number of hardware interfaces.

Panel networking

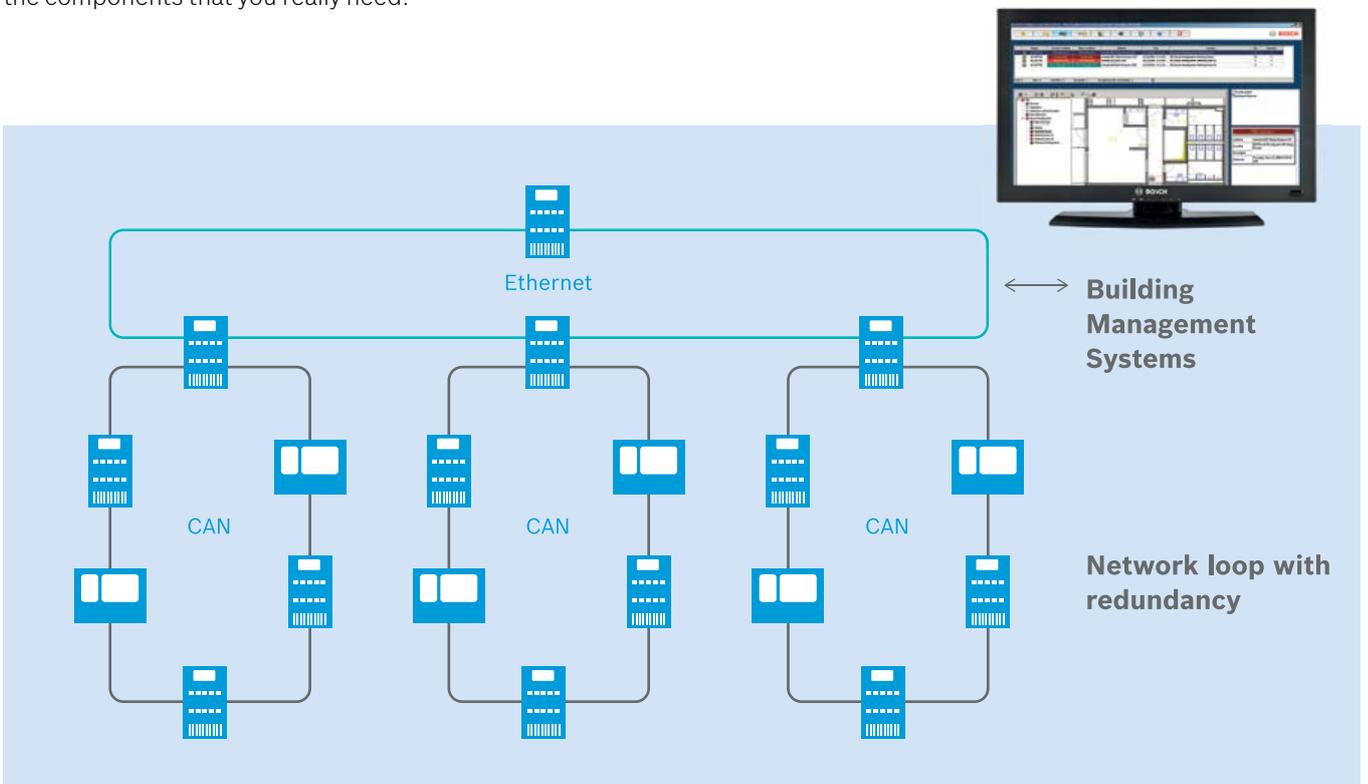
The CAN bus technology operates on a peer-to-peer basis ensuring reliable functionality even if an error occurs. The different loops of the network provide flexibility and allow the system to be adapted to personal requirements. Setting up zones within the network connections, provided by either standard copper or fiber-optic cables, as well as Ethernet, facilitates smooth administration.

Integration in business management systems

Connected to the building management system (BIS) and interfaced with the panel controller through an Ethernet interface and the OPC protocol, no additional interface module is required.



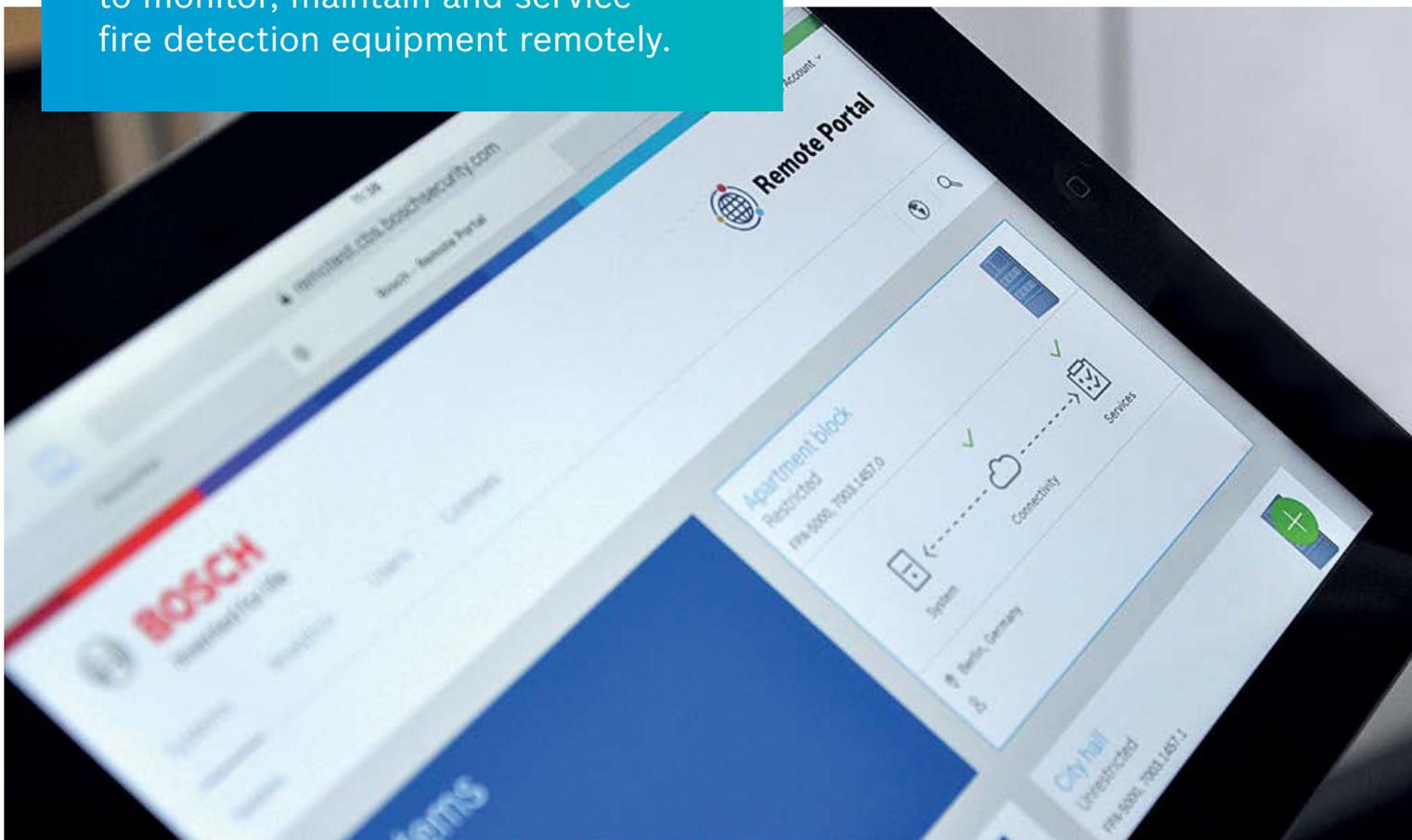
The various housings, modules and rails result in a tailored system that you can economically extend as your business needs grow. You only buy the components that you really need!



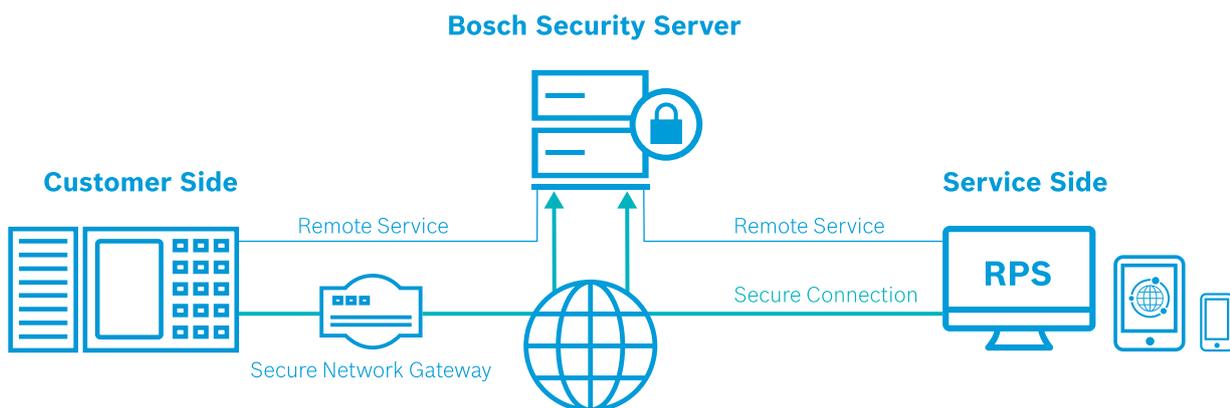
Panel networking via CAN or Ethernet network. Combined CAN networks with high-performance IP Ethernet backbone.

02 Intelligent service that's always available

Innovative technology from Bosch allows system integrators to provide seamless remote support and enhanced performance. Bosch Remote Services are a secure, efficient way to monitor, maintain and service fire detection equipment remotely.



Remote Services



Remote Connect

The secure and protected connection to the panel via internet optimized for use with FSP-5000-RPS configuration software. It facilitates 24/7 remote access to support troubleshooting whenever and wherever necessary. Specialized technicians can now support the site remotely optimizing efficiency and staff allocation.



Remote Alert

To solve service queries preemptively and faster than ever before, integrators, business owners and technicians can receive immediate SMS and email notifications on alarms and faults directly from their installed systems. The powerful user management on the Remote Portal ensures that relevant notifications reach the right person reliably.



Remote Maintenance

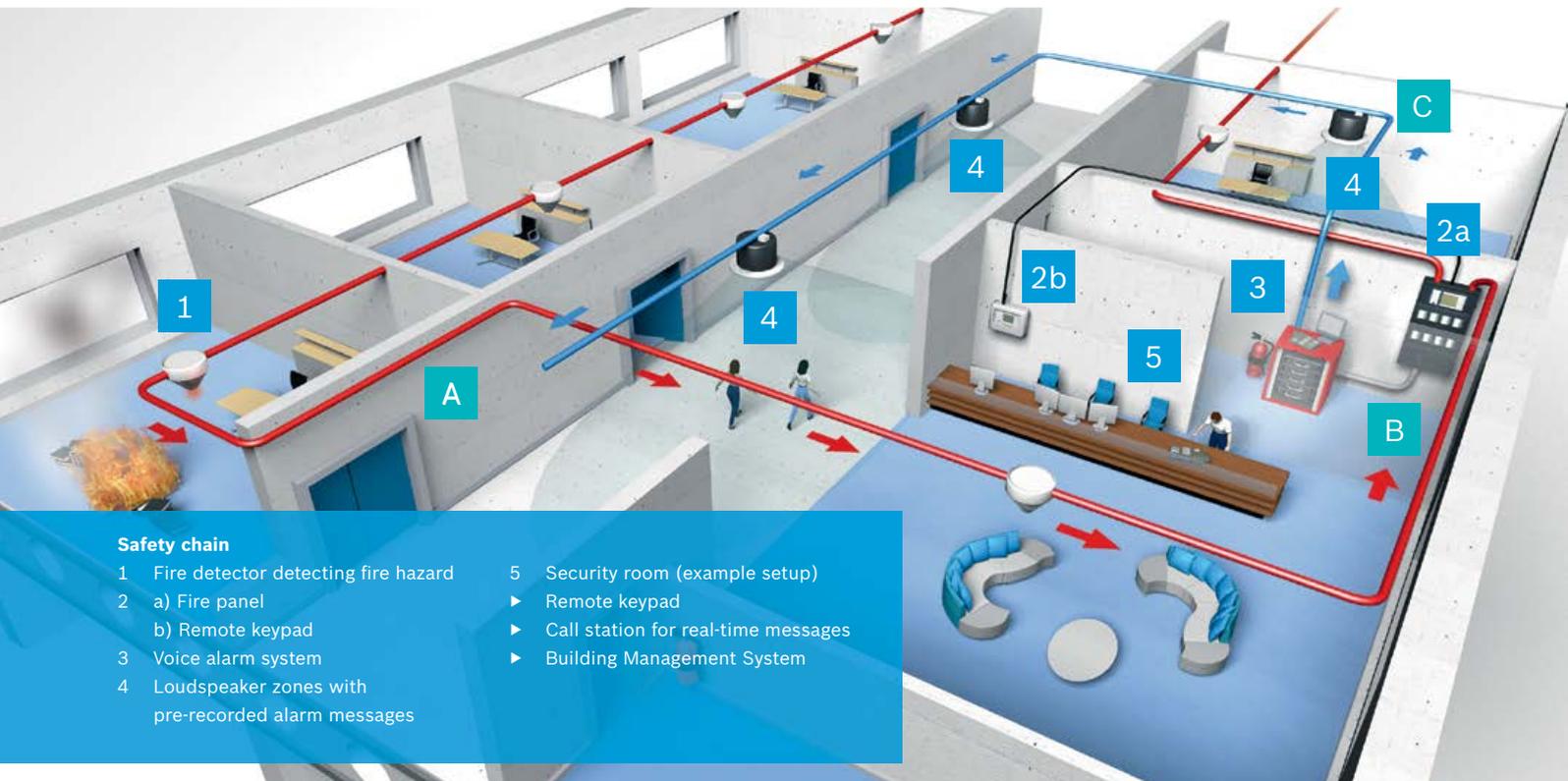
Real-time fire system data can be analyzed on the Bosch Remote Portal to assess replacement efforts and investigate trouble sources before reaching the customer site. On site, the integrated walk test feature supports and simplifies system maintenance with its intuitive tablet and mobile computer interface. Store comprehensive documentation of maintenance activities with one click in automated reports to save valuable time.

> 25%
more efficient



03 Fire alarm and voice evacuation with Smart Safety Link

All-in-one protection



Safety chain

- | | |
|--|---------------------------------------|
| 1 Fire detector detecting fire hazard | 5 Security room (example setup) |
| 2 a) Fire panel | ▶ Remote keypad |
| b) Remote keypad | ▶ Call station for real-time messages |
| 3 Voice alarm system | ▶ Building Management System |
| 4 Loudspeaker zones with pre-recorded alarm messages | |

A → Detector signals to fire panel

B → Fire panel signals to voice alarm system

C → Voice alarm messages to supervised loudspeaker zones

Interfaced fire detection and voice alarm

Having the right building protection system gives everyone peace of mind – from property owners and security personnel to employees and visitors. When safety is at stake, the system has to respond immediately, specifically, reliably and with clear messages that keep everyone calm, no matter what.

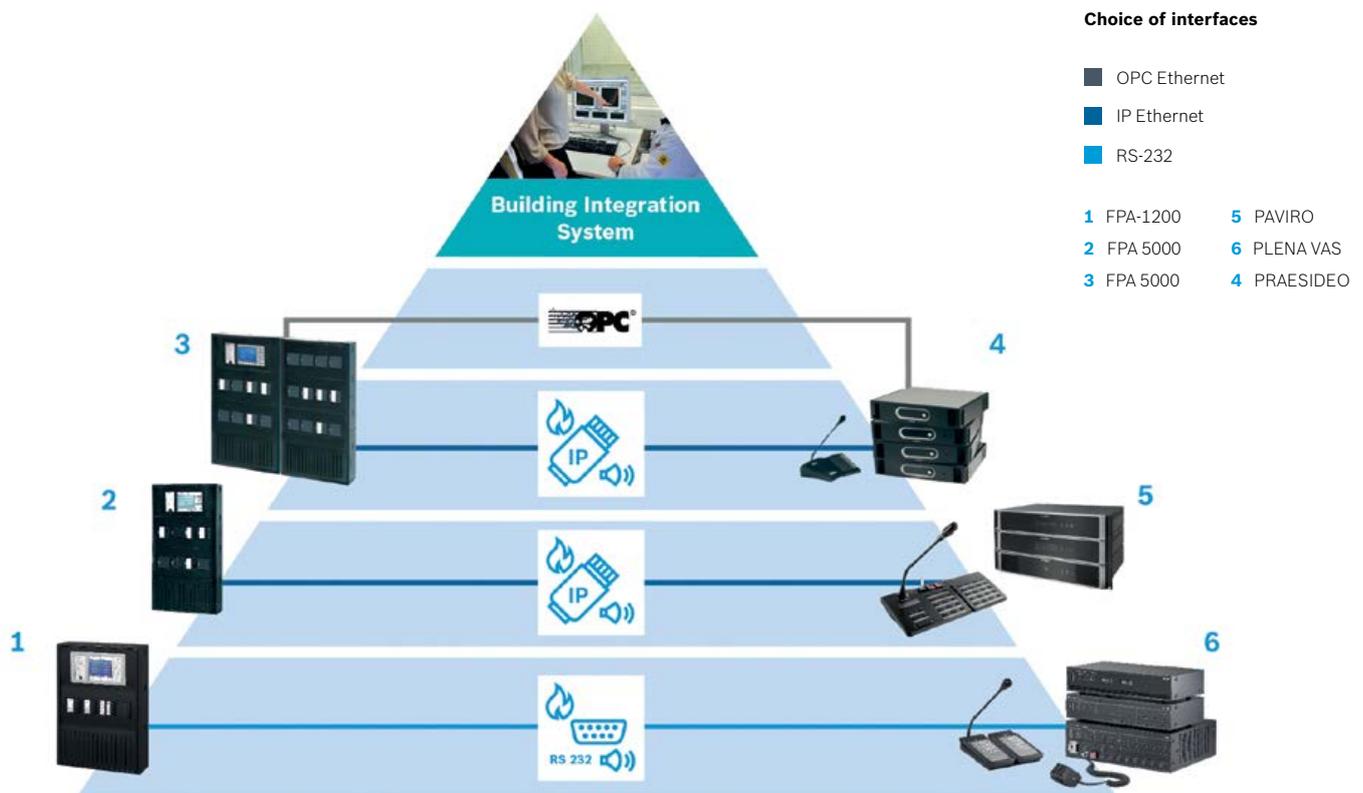
Bosch takes an interfaced approach to building protection, offering a combination of proven systems that deliver ultimate performance. From reliable fire detection to advanced voice evacuation, Bosch delivers a safe, future-proof investment for any kind of venue.

Effective fire safety

The addressable fire alarm system includes high-quality panels and peripherals, designed for prompt detection. Advanced detectors, interface modules, manual call points, sounders and other peripherals add flexibility and support special applications. Maintenance is easy, with permanent supervision of all system functions and peripherals for added reliability.

Sound performance that's easy to expand

Functional interaction



Advanced voice evacuation

Bosch provides everything required for an advanced voice evacuation system. Voice messages have excellent speech intelligibility, and signals are clear and easy to understand. The system can route pre-recorded messages and signals, and can provide background music and commercial announcements during everyday operation. Permanent supervision of system functions and loudspeaker lines adds extra reliability. The PLENA voice alarm system supports smaller applications, the PAVIRO is perfect for mid-sized tasks, while the PRAESIDEO is a leading choice for larger venues.

Bringing it all together

The system is designed for expandability, and all the devices and peripherals work seamlessly together. In smaller applications, the PLENA voice alarm system can be interfaced with the Modular Fire Panel 1200 or 5000 Series by using an RS-232 interface. For larger-scale applications, an intelligent IP interface connects our fire panel series with the PRAESIDEO or PAVIRO public address and emergency sound systems. All of these systems can be connected to a superior building management system via OPC or using a software development kit (SDK).

04 Peripherals: Superior in each element of the system

Bosch has an extensive range of addressable and conventional products in the fields of fire detection, voice alarm and risk management. These products allow you to realize a tailor-made and comprehensive concept for almost any project, without neglecting aesthetics, standards or market requirements.

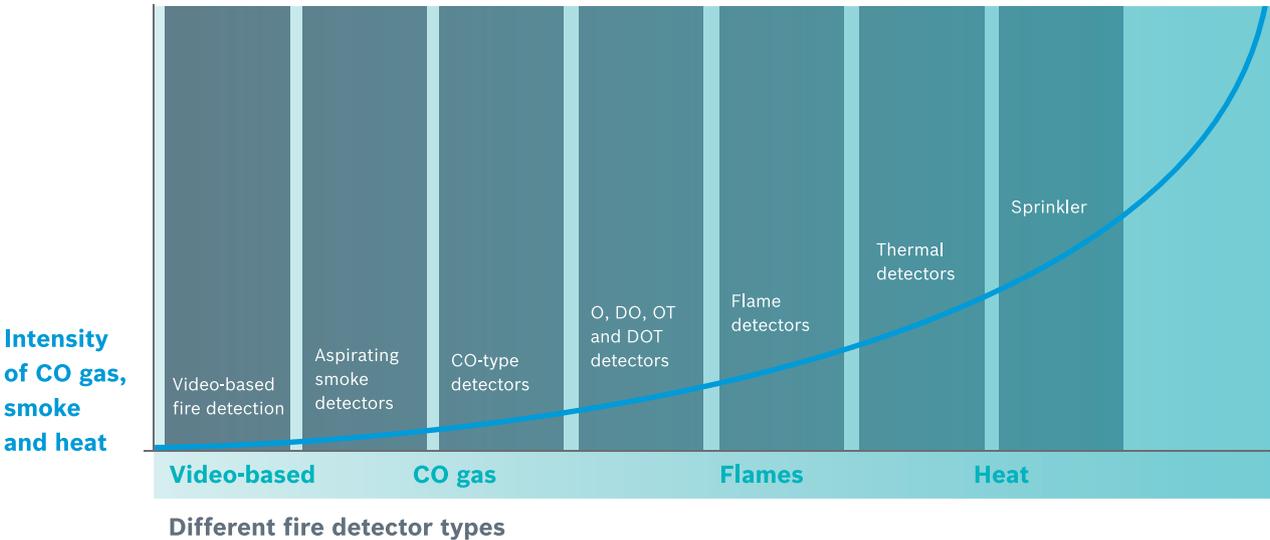


Not all fires are the same

From the moment a fire begins, a number of changes occur in the surrounding environment. These changes in ambient conditions are termed “fire signatures” and manifest in the form of smoke, heat, light and gas. Consequently, you will need detection which is in line with your specific situation. This is why we offer a wide range of automatic detectors for different sensitivities and fire types.

Equipped with eSmog, Dual Ray Technology and Intelligent Signal Processing (ISP), the AVENAR 4000 fire detector recognizes fires faster than ever and minimizes the number of false alarms, achieving the highest levels of protection and reliability in any environment. Bosch’s LSNi bus technology can be used to connect the AVENAR 4000, along with all the other fire peripherals.

Reaction time of different fire detector types



All you need to detect, report and visualize a fire



Automatic fire detectors

We offer a broad range of intelligent automatic detectors with high reliability, used for premises and items with a medium or high concentration of valuable assets. Various detection technologies ensure early, state-of-the-art fire detection with practically no false alarms.



Sounders and strobes

When every second counts, sounders and strobes for local alarm actuation will signal the occurrence of a fire. Indoor and outdoor variants as well as uninterruptible versions complete the range. Alarm indicators for fire detectors in false floors and ceilings are also part of the portfolio. They have a low power consumption and will give you distinct advantages.



Uninterruptible Sounders

The FNM-42OU Series, available in indoor and outdoor variants, never fail to perform with their low power consumption and high volume, significantly reducing operating costs. With their own high performance energy source, they ensure non-stop notification, and enable fast responsiveness and steadfast operation.



Special detectors

In buildings that do not allow the installation of point-type detectors, e.g. linear heat detectors, aspirating smoke systems, flame detectors and beam detectors provide customized protection.



Manual call points

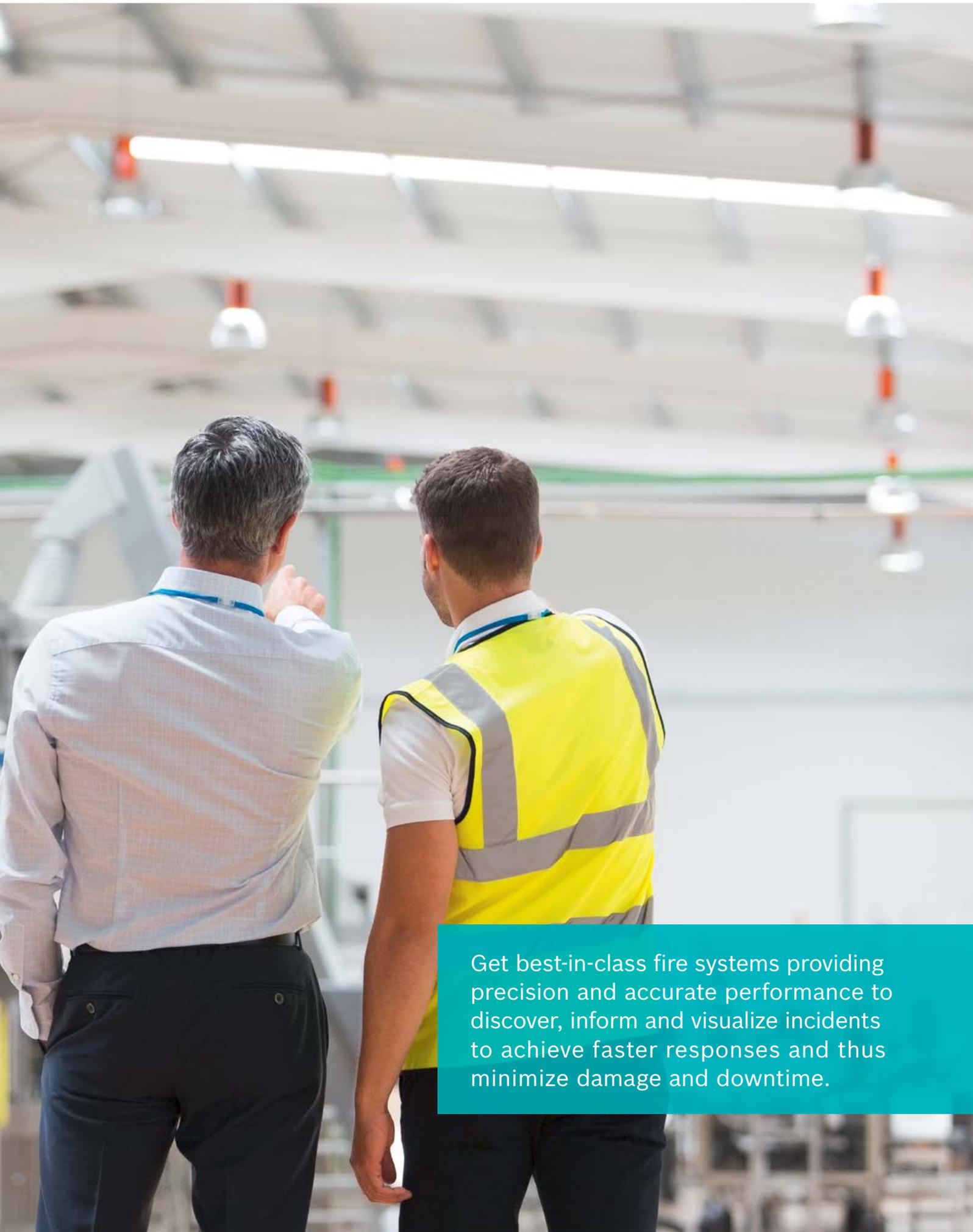
Our range includes single-action and double-action manual call points which can be employed in our addressable LocalSecurityNetwork (LSN) as well as in conventional technology. Both large and small design types are available for different applications.



Interface modules

Input, output or combined high- and low-voltage relays for the controlled activation of a group of signaling devices and for the connection of conventional peripherals: The interface modules in the 420 Series have been specifically developed for connecting to the LocalSecurityNetwork improved version, which will help you optimize your fire detection scenario.

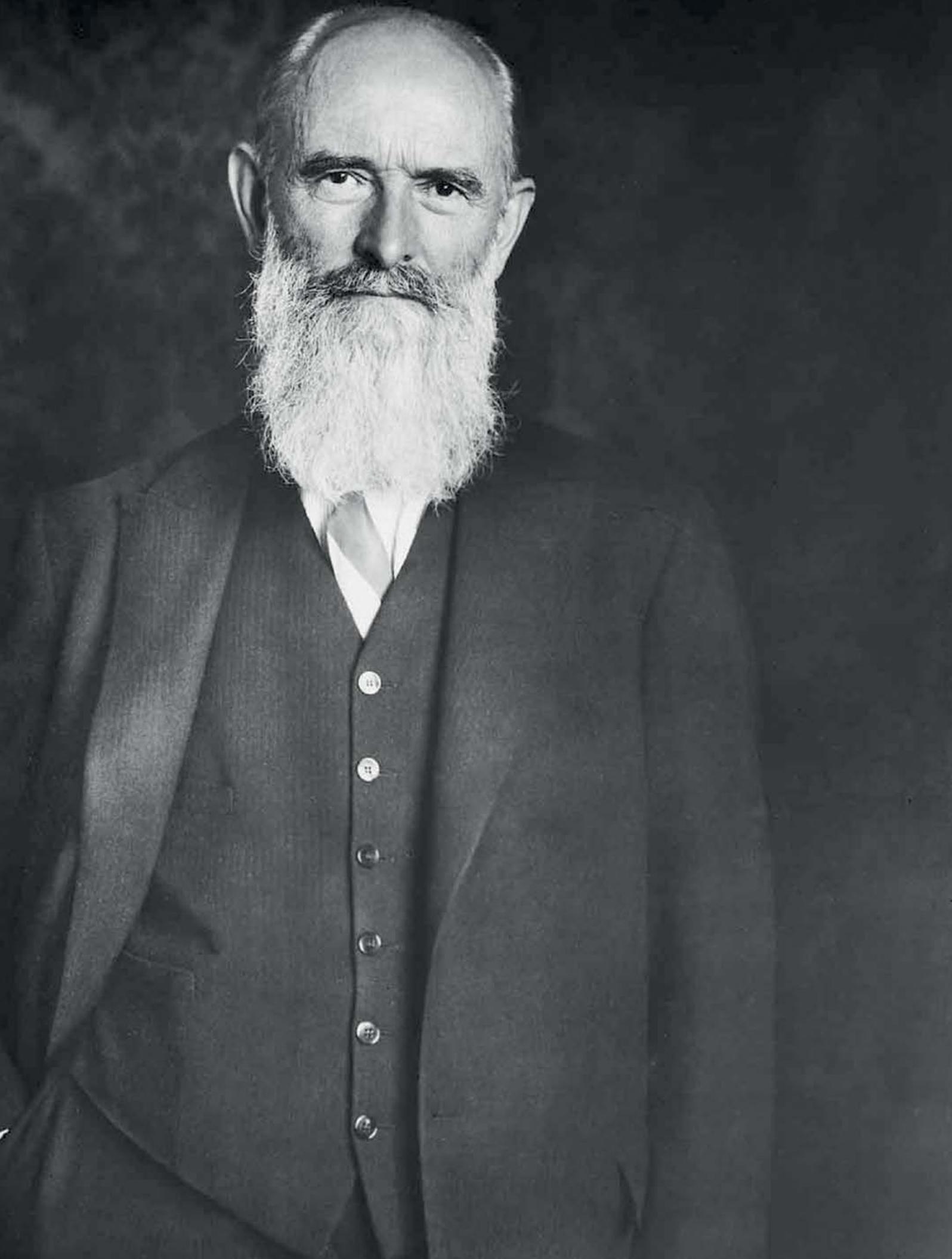




Get best-in-class fire systems providing precision and accurate performance to discover, inform and visualize incidents to achieve faster responses and thus minimize damage and downtime.

“It has always been an unbearable thought to me that someone could inspect one of my products and find it inferior in any way. For that reason I have constantly tried to produce products which withstand the closest scrutiny – products which prove themselves superior in every respect.”

Robert Bosch, 1919



05 See it before it spreads

Award winner AVIOTEC: Video-based fire detection

For additional safety and security in sensitive environments, sometimes you need more than one pair of eyes. The latest technology ensures early detection, even when conditions are not ideal.

Faster and more accurate:

Bosch's video-based fire detection systems represent the next generation in threat-detection capabilities. Utilizing a unique, scientifically tested physical detection model, Bosch technology spots fires and disturbances, predicts behavior to reduce false alarms and speeds up reaction times – helping you stop threats before they spread.

AVIOTEC IP starlight 8000, which has won several awards over the last two years, is VdS-certified and the perfect answer for facilities used for industry, transportation, warehousing and utilities such as energy to minimize detection time with low false alarm rates.

Improving the rescue chain through fast detection and situational awareness protects lives and minimizes damage.

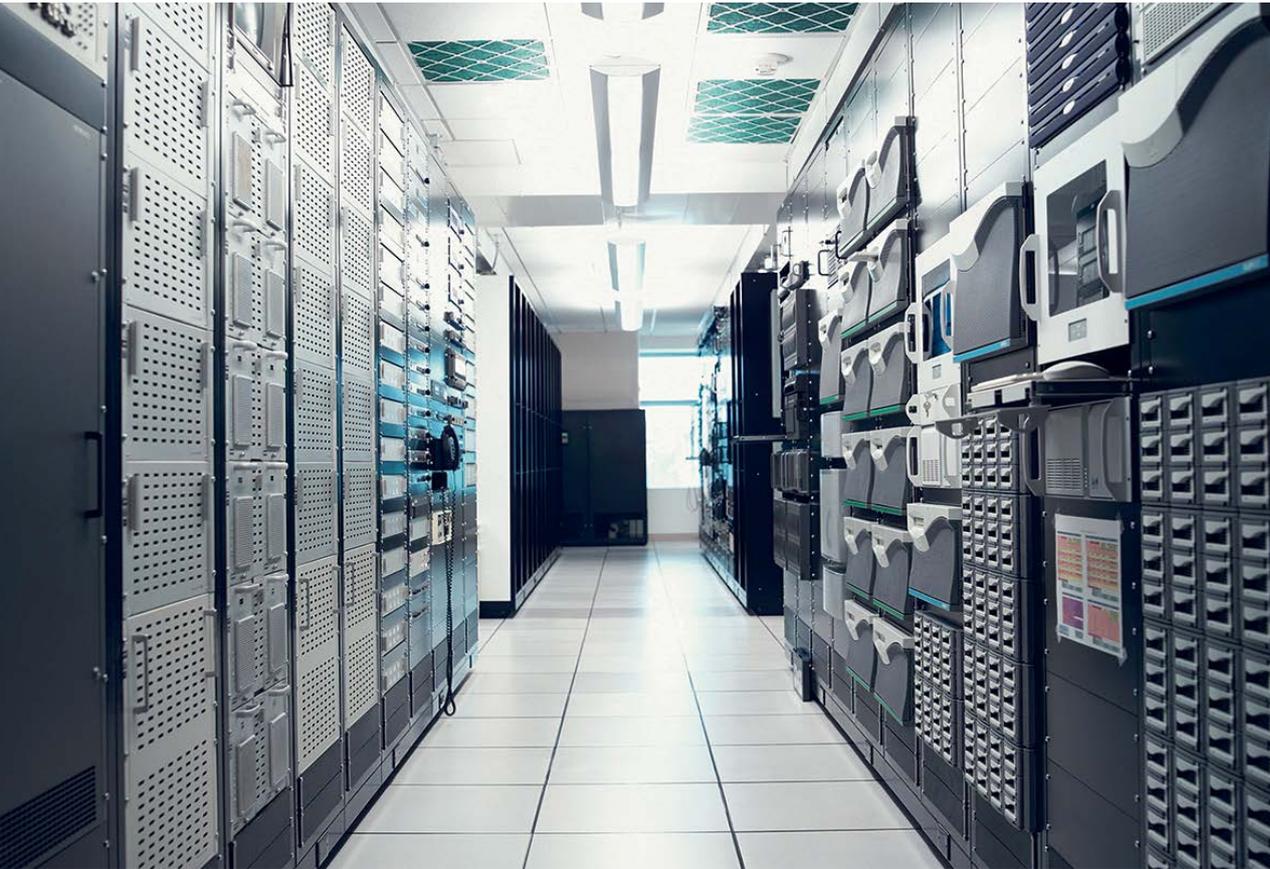




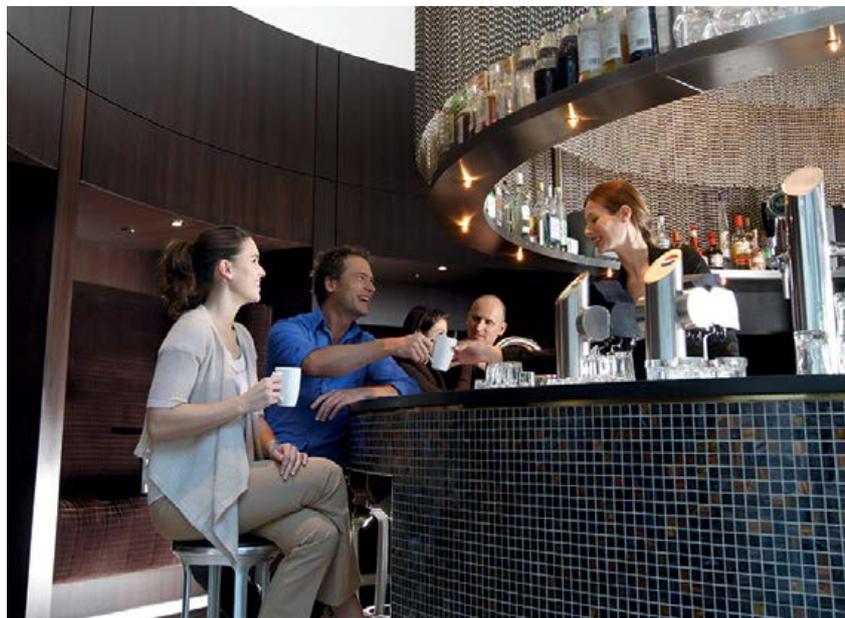
At a glance

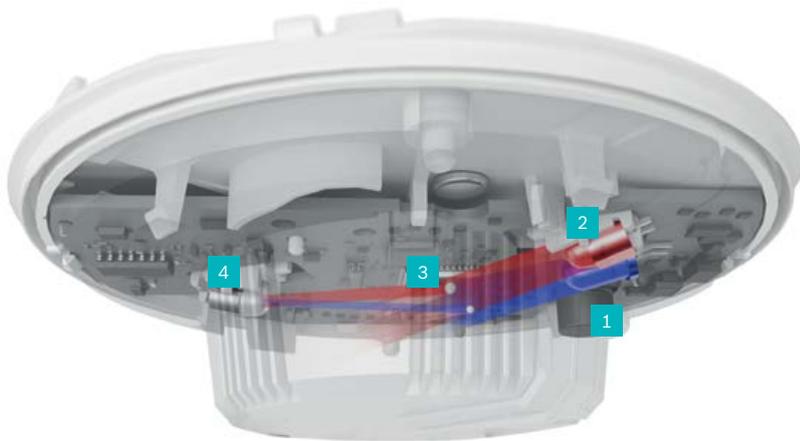
- ▶ **Detection of flames and smoke**
Identify even hidden fires, smoldering fires and burning liquids.
- ▶ **Fast detection at the source**
Detect fires where they start, speeding up reaction times, improving rescue response and minimizing damage at the site.
- ▶ **No masking necessary**
Detect fires using the camera's entire field of view in most cases.
- ▶ **Intelligence in camera**
Detect disturbances using raw data with no transmission or compression.
- ▶ **Live streaming**
Monitor environments live and speed up rescue response times.
- ▶ **Video storage**
Perform root-cause analyses with recorded videos.

06 Intelligent detection for superior protection



Bosch Security Systems offers a series of fire detectors which combine unsurpassed reliability with outstanding detection performance.





Dual Ray Technology

Detectors equipped with Dual Ray Technology are precise enough to detect the smallest visible disturbance values, such as steam or smoke, resulting in fewer false alarms.

- 1 | Blue LED
- 2 | Infrared LED
- 3 | Scattered light
- 4 | Photodiode

Early detection even in most challenging conditions

In the world of fire detection, precision and reliability are essential. The AVENAR 4000 fire detectors offer eight automatic fire detectors with different kinds of sensors. They include optical and dual-optical detectors, some of which also provide multi-criteria detection including thermal and/or chemical detection. The combination of these three specific types of sensors is an approach invented by Bosch.

The AVENAR 4000 uses Bosch's own Intelligent Signal Processing (ISP) technology, which achieves the highest level of intelligent fire detection. A heat detector is also part of the range. Some models include rotary switches for manual addressing in stub topologies, while models without such switches allow cost savings in ring topologies, where addressing is automated.

Protect people, property and premises

For the next step in precision, the detector series also includes four variants with the innovative Dual Ray Technology for even more accurate and early fire detection everywhere. It distinguishes visible disturbance values, such as dust, steam and cigarette smoke, by determining smoke density and particle sizes. It does this by comparing the intensity of scattered light from the differing wavelengths of two LED sources, one infrared and one blue. These technologies offer customers early detection in even the most challenging environments, including night clubs, parking garages and computer rooms.

Added together, these many features result in the highest reliability, and the assurance that an alarm is only signaled in a true emergency.

eSmog: The next level of precision

Decrease invisible false alarm causes

Bosch fire detectors maximize detection performance

Modern buildings are increasingly equipped with complex technical infrastructure. This trend leads to a tendency of increased electromagnetic pollution, which creates challenges for any installed electrical equipment. It is estimated that between 20%-30% of today's false alarms have undetermined causes. It is hard for technicians to prevent the situations if the root cause is not clarified.

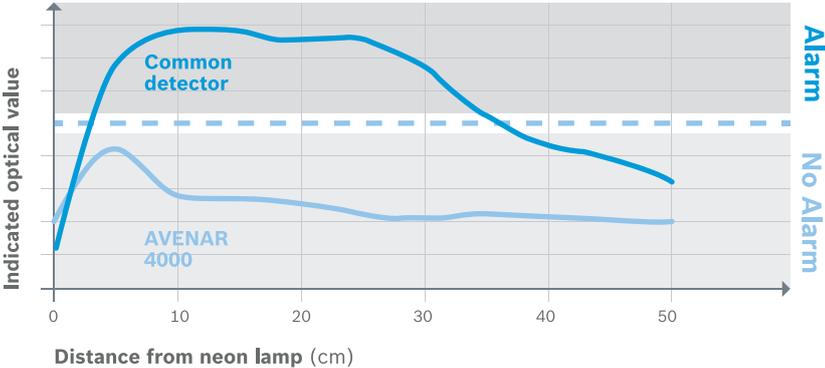
With its eSmog feature, AVENAR 4000 takes these new circumstances into account. Its robustness against electromagnetic pollution and its information about invisible disturbance values, such as escalators, mobile phones and routers, allow the system integrator to identify and resolve critical conditions even quicker, saving time and money.

In addition, stability and detection performance are further enhanced during operation and maintenance by constantly measuring the electromagnetic exposure of each detector and calculating mid- and long-term averages. These are used to predict the exceeding of threshold values even before possible false alarms can occur.



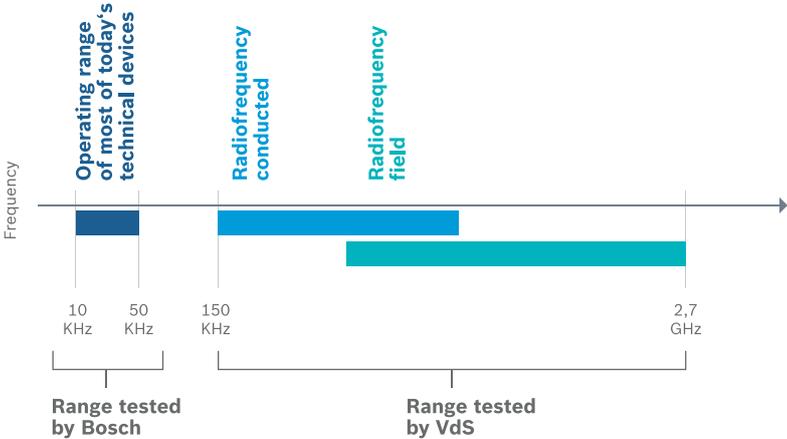
~20%
of false alarm causes remain unidentified

Increased electromagnetic robustness



The graph shows the optical value of the detector which varies because of the influence of electromagnetic fields when no smoke is detected (as a function of the distance).

Electromagnetic indication and monitoring



Common electronic devices are emitting electromagnetic fields with a frequency that is not tested by standards and norms. Changing technical environments require high electromagnetic robustness to operate absolutely impeccably.

07 Invisible protection on any ceiling, ultra slim and easy to clean

The 500 Series is totally different, because it uses a virtual optical chamber. It is ultra-slim and lies flush with the ceiling – a distinct advantage which does not detract from the appearance of attractive rooms. Color rings that can be mounted in the detector also allow the units to be perfectly coordinated with the color of the surrounding ceiling.

Discreet styling outside, Bosch know-how inside

The 500 Series has style built in. Inside it is packed full of proven know-how from Bosch. And that is something you can rely on. The unique technological approach ensures that you have made the right investment for the future.

Award collection – not dust collection

The fact that there is a virtual optical chamber inside the Smoke Detector 500 Series means that it does not stick out of the ceiling. The smooth surface does not gather the usual visible dirt in rooms with high dust build-up. So it offers high reliability and it is easy to clean. On top of that, it saves service time and costs. The level of dirt build-up is continuously measured. A trouble signal indicates when a unit needs to be cleaned.

Powerful technology

The 500 Series is a scattered-light fire detection system with a dual detection area. Because the sensors monitor two independent light areas in open space, the detector is extremely reliable. The invisible detector is also available as a multi-sensor detector with a carbon monoxide (CO) gas sensor. This combination of scattered-light sensor and CO gas sensor allows alarms to be evaluated using intelligent signal processing methods. This greatly decreases the likelihood of false alarms and increases the number of possible applications since this detector even works well in environments that are unsuitable for standard photoelectric detectors.

Giving architects more freedom

The low mounting profile of the 500 Series makes it invisible on any ceiling. The unique mounting method blends in easily with decor, allowing architects to focus even more on design and the general appearance.

When dust challenges – we respond with style

With the 500 Series' sensor detection, inflammable materials and dust are no longer an issue. False alarms due to attraction of fibers are now replaced by guaranteed fail-safe operation.



The modern way – to secure aesthetics

Reliable fire detection with a touch of style: Bosch presents the invisible fire detector. A completely different concept combining a pleasing design with up-to-date technology.



08 Monitored planning: Transparent and close to reality

New Safety Systems Designer – your fire planning tool covering the full chain

Planning fire alarm projects – A challenging task

This demanding business requires the inclusion of different parties at various planning stages along the complete value chain. Hence, we offer a solution that is perfectly adaptable to your daily business. In addition it provides quick answers when it comes to initial budgeting and calculation. All features combined, Bosch provides an unmatched platform for your business. In the future, the Safety Systems Designer will be the only software you need to plan and calculate fire alarm systems.

Project planning for fire protection on the next level

Bosch's newest planning and support tool enables users a precise design according to EN-54 regulations, including the allocation of peripherals on different loops. Taking into consideration the actual topology, the Safety Systems Designer ensures that every project detail is taken into account. This is made possible through a complete plausibility check and the automatized as well as customized provision of a comprehensive documentation, fitted precisely to your needs.



The Safety Systems Designer – an easy-to-use tool

Thanks to generic terminology and intuitive navigation, there is no training needed – saving you costs and time.

09 Solutions that go beyond the expected

All around the world, Bosch security solutions exceed customer expectations. The expertise and know-how of our system integrators and the quality of our technology make even the most complex environments safer.



Union Square shopping mall, Warsaw **They enjoy the latest trends.**

The new Union Square shopping mall in Warsaw features the PRAESIDEO digital public address and voice evacuation system linked to eight networked Modular Fire Panels from the 5000 Series, ensuring safety and protection.



Etisalat Headquarters, Abu Dhabi **They provide telecommunications without limits.**

The Etisalat headquarters in Abu Dhabi is equipped with five Modular Fire Panels from the 5000 Series, as well as 800 smoke and heat detectors. Additionally, the centralized Building Integration System (BIS) and Bosch Fire Telephone and Voice Evacuation (EVAX) system are integrated.



Hilton Bursa hotel **They enjoy their luxurious vacation.**

The Hilton Bursa hotel is equipped with a Modular Fire Panel from the 5000 Series and flush-mount fire detectors from the 500 Series to minimize the impact on the stylish architecture.

A Tradition of Quality and Innovation

For over 125 years, the name Bosch has stood for quality and reliability. Bosch is the global supplier of choice for innovative technology, backed by the highest standards in service and support.

Bosch Security Systems proudly offers a wide range of security, safety, communications and sound solutions that are relied upon every day in applications around the world, from government facilities and public venues to businesses, schools and homes.

Bosch Security Systems

Visit www.boschsecurity.com to learn more about our product offering or send an e-mail to emea.securitysystems@bosch.com

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