



Fighting fires before  
they become a fire



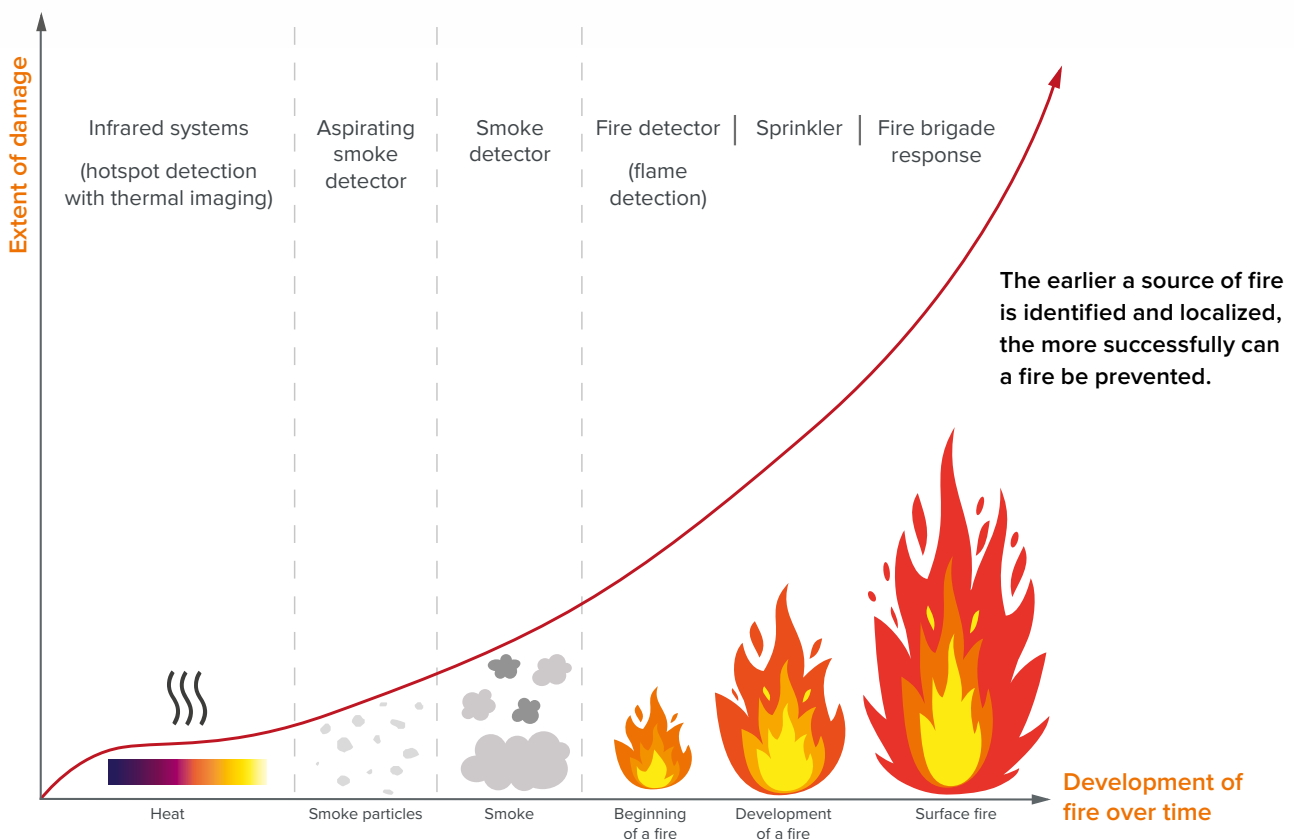
■ **VISUALIZING HEAT SOURCES – FIGHTING THEM IN A TARGETED AND AUTOMATED WAY**  
**INFRARED CAMERA AND FIREFIGHTING MONITORS**

## ■ **SMOULDERING FIRE RISK: RECOGNISING AND COMBATING AT AN EARLY STAGE**

Early fire detection systems using infrared detection enable the early detection of sources of fire and potential sources of fire (hotspots) within minutes, sometimes even before smoke or flames develop. Conventional fire detection systems, such as flame, smoke or heat detectors on the other hand, initiate protective measures much later. They only react to the consequences of a fire, i.e. flames, smoke or heat. In return, the purchase costs are lower.

The combination of automatic early fire detection and an automatic fire extinguishing system allows tailored extinguishing strategies perfect for each application.

- Smart software and analysis of individual characteristics are used to screen the surroundings, distinguishing between hot engines, exhaust pipes and hotspots that may indicate an actual or possible fire.
- Integrated with the automatic extinguishing system, the FireDos firefighting monitors are controlled electronically. The required extinguishing agent flow rate can be adjusted automatically during operation and achieve maximum reach and optimum accuracy thanks to the flow-optimized Oval Flat Design.



### **QUICK RESPONSE, LESS SYSTEM DOWN-TIMES**

In case of a fire, infrared detection systems with heat detection and automated extinguishing systems outclass other technologies. Fires are identified quickly and reliably before professional intervention becomes necessary.

## ■ SMART MONITORING, AUTOMATED EXTINGUISHING

Below we present selected systems in more detail that can be coupled with extinguishing monitors from FireDos for automatic extinguishing.

### ■ EARLY FIRE DETECTION SYSTEM ORGLMEISTER PYROSMART PRO

Using state-of-the-art infrared and video cameras, PYROsmart® pro continuously scans large areas and objects, measures temperatures and creates seamless, clear panoramic thermographs. If a critical temperature pattern is detected, the pan/tilt system locates the hotspot, triggers an alarm and reports this to the fire alarm control centre. At the same time, PYROsmart controls the targeted, automatic cooling and targeted extinguishing using special extinguishing software, even in harsh environments (dust, very high humidity).

### ■ EARLY FIRE DETECTION SYSTEM DIAS PYROVIEW FDS

PYROVIEW FDS from DIAS Infrared revolutionises fire protection with its pioneering infrared camera technology. Even under extreme conditions, it recognises the smallest embers and hotspots at an early stage and initiates an efficient extinguishing attack to ensure the safety of stored goods in any situation. Thanks to intelligent special functions, PYROVIEW FDS enables early detection of critical situations. For 20 years, DIAS Infrared has been a pioneer in developing and distributing not only reliable but also affordable products. PYROVIEW FDS sets standards in fire protection – a well-balanced solution for companies looking for safety, efficiency and innovation in equal measure.

### ■ FLAME DETECTOR FGD FLAMESPEC-IR3

IR flame detectors detect fires by detecting the IR energy generated during combustion. FGD FlameSpec-IR3 detects fires extremely quickly so that extinguishing measures can be initiated immediately and the consequences minimised. By utilising proprietary sensor design and detection algorithms, FGD offers the fastest detection and best false alarm suppression in its class. With the optional integrated HD quality video camera technology, FGD also offers AI for confirmation and localisation of flames.

## ■ YOUR ADVANTAGES



### MINIMUM RESPONSE TIMES

Fighting fires before  
smoke appears



### SAVING COSTS

Less system down-times  
and false alarms



### MAXIMUM RELIABILITY

Smart surveillance,  
pinpoint extinguishing



## ■ A KEY ELEMENT OF THE AUTOMATED FIRE EXTINGUISHING SYSTEM

For remote-controlled operation in stationary extinguishing systems, our monitors can be equipped with functional controls. Integration into existing thermal imaging systems is possible. Users benefit from minimum reaction times and maximum reliability.

### ■ FOR ALL TYPES OF ELECTRICAL DRIVES

We offer control systems for all types of electrical drives: Direct or three-phase current, regardless of voltage or frequency.

### ■ PORTABLE AND STATIONARY OPERATING PANELS

Controlled using wired mobile or permanently installed operating panels. Portable remote controls can also be implemented.

### ■ NUMEROUS CONTROL FUNCTIONS

Remote control of all monitor functions is possible - from traveling to park or working position, oscillating movement and automatic self-testing.

### ■ INDIVIDUAL INTEGRATION INTO EXISTING SYSTEMS

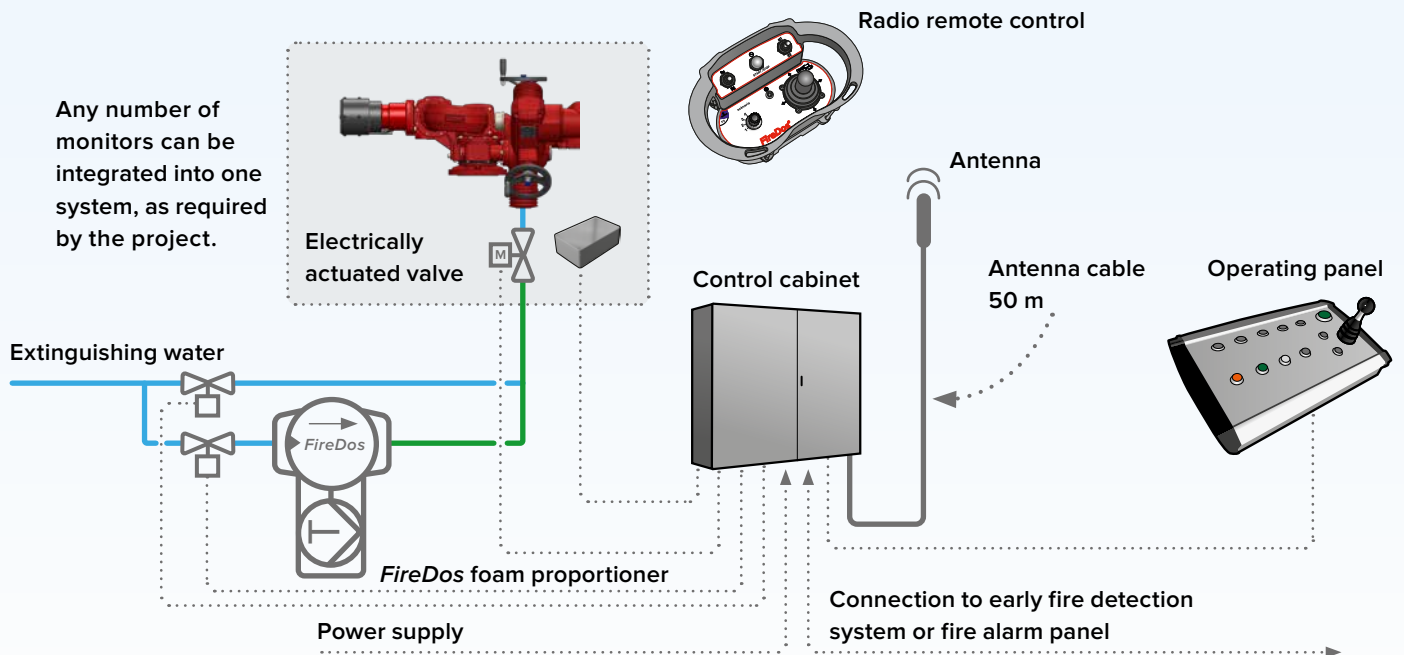
FireDos monitors process signals from early fire detection systems by various manufacturers. In addition, they support the signal exchange with superior control systems and fire alarm panels. Integration into CCTV monitoring solutions is also possible.



- Interfaces: Modbus TCP/IP, Modbus RTU, Ethernet/IP, Profibus, other interfaces on request.
- Up-to-date operating elements (touch panels) with visualization.
- Operating unit monitoring, sensor monitoring for wire breakage, short circuits and plausibility as well as functionality of the system by self-testing.
- Also Ex-protection available for use in zones 1, 2, 21 and 22.



# MINIMUM REACTION TIMES, MAXIMUM SAFETY





## ■ MAXIMUM FLEXIBILITY BETWEEN AUTOMATIC SOLUTION AND INDIVIDUAL INTERVENTION

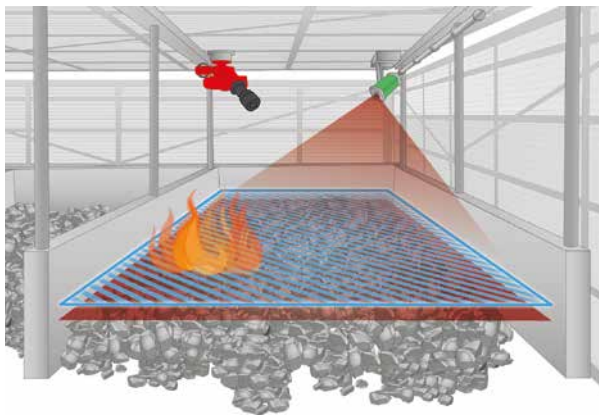
Once a fire has been detected, the pre-programmed extinguishing scenario is activated and automatic extinguishing begins. When using remote controls, however, the system operator or the fire brigade can take command at any time and interrupt the extinguishing activities from a safe distance or take over control.

Whether direct current or three-phase current - our extinguishing monitors are available with different drives. The devices are extremely robust and suitable for use in harsh environments. Simple installation and low maintenance requirements save users time and money.

Below we show you various possible combinations of cameras and monitors.

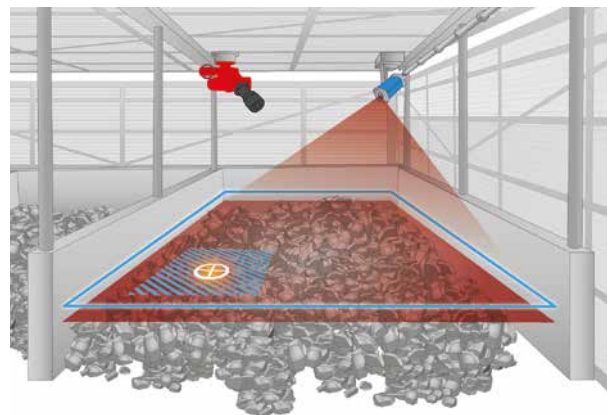


### ■ 1 X FLAME DETECTION, 1 X MONITOR



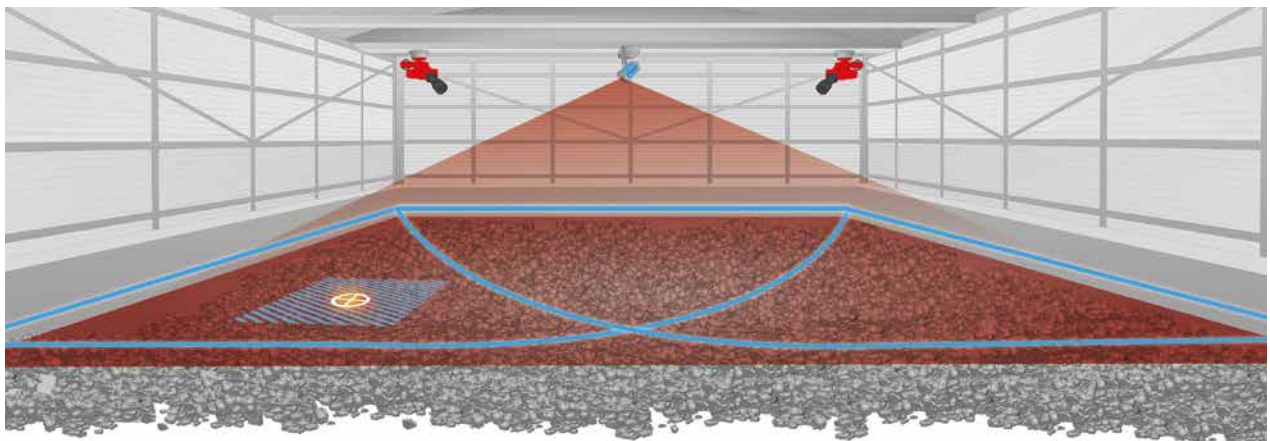
In case of flame detection, the whole area is extinguished.

### ■ 1 X HOTSPOT DETECTION, 1 X MONITOR



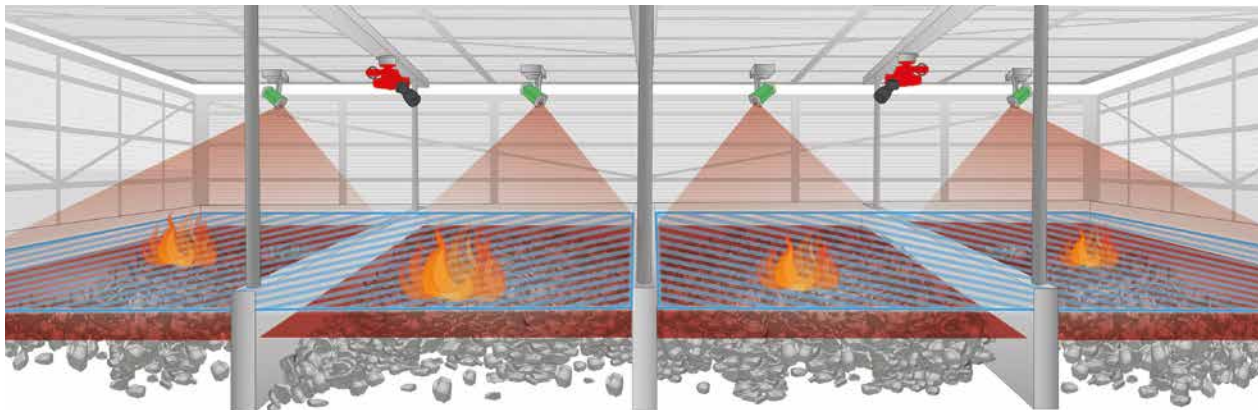
If a hotspot is detected extinguishing takes place in the hotspot area.

### ■ 1 X HOTSPOT DETECTION, 2 X MONITOR



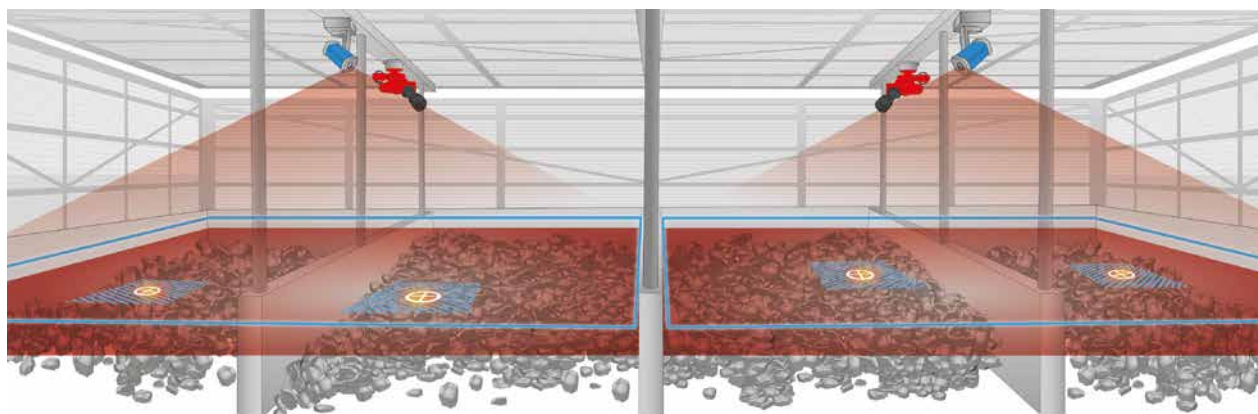
If a hotspot is detected in one of the sectors, extinguishing takes place in the hotspot area. (The camera controls the corresponding monitor).

## ■ 4 X FLAME DETECTION, 2 X MONITOR



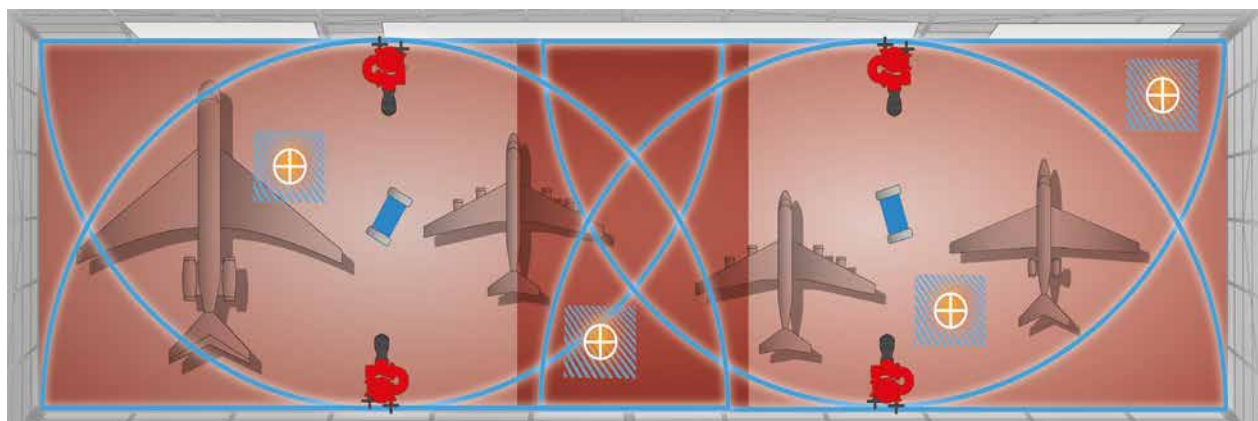
If a flame is detected in one of the sectors, the sector is extinguished.  
 (A monitor can cover several sectors as long as there is no shadowing by e.g. walls or pillars)

## ■ 2 X HOTSPOT DETECTION, 2 X MONITOR



If a hotspot is detected in one of the sectors, it is extinguished in the hotspot area.  
 (A monitor can cover several sectors as long as there is no shadowing by e.g. walls or pillars)

## ■ 2 X HOTSPOT DETECTION, 4 X MONITOR



If a hotspot is detected in one of the sectors, extinguishing takes place in the hotspot area.  
 (The camera controls the corresponding monitor).

## ■ THERMAL IMAGING CAMERAS



| Manufacturer<br>System                      | Orglmeister<br>PYROsmart FS pro  |
|---|--|
| Kind of detection                           | IR autofocus with automatic object distance focussing (therefore earliest possible detection), very early detection based on heat pattern  |
| Detection                                   | Hotspot in three-dimensional space (3D data)   |
| Recognition                                 | 0.3x0.3 m at 110 m distance (standard)   |
| Reaction time                               | Usually less than 1 minute for large monitoring areas  |
| False alarm analysis                        | Integrated; coupled with video analysis  |
| Data recording                              | Ring memory for 60 days, unlimited alarm memory  |
| Area coverage                               | Standard: Large areas up to 5,000 m <sup>2</sup>   |
| Integrated video camera                     | Yes (light sensitive with zoom)  |
| Fault message handling                      | Active reporting to the service centre in the event of functional problems with PYROsmart or the extinguishing monitor   |
| Lense cleaning                              | Yes  |
| Flame simulator / reference emitter         | Integrated, daily automatic check of measurement accuracy  |
| Maximum recommended distance                | Up to 110 m with standard optics, larger with special design   |
| Axes of movement                            | Rotating-swivelling  |
| Image display                               | IR and video panoramic image, with live window in scan mode, repeatable scanning process in lanes. Direct travel mode to any point in the monitoring area for manual analysis  |
| Fire-alarm-panel-compatible outputs         | Yes  |
| Monitor control                             | Yes, also for multiple monitors in a detection area  |
| Approvals                                   | VdS, FM  |
| ATEX  | No, protection class IP67, ATEX possible   |
| Price indication                            | \$\$\$\$ (2nd device in the system considerably cheaper)   |
| Operating temperature                       | -25 – +70 °C   |
| Additional functions / unique selling point | <ul style="list-style-type: none"> <li>- Autofocus of the IR camera enables faster and more accurate measurement</li> <li>- Differentiation between day and night due to vehicle activity</li> <li>- Redundant extinguishing control with increased operational reliability</li> <li>- Permanent function check including extinguishing monitor with direct reporting to external service centre in the event of faults</li> <li>- Tested spare device with cloned configuration ready for dispatch within 24 hrs for replacement without specialist personnel</li> <li>- Increased reliability, as each PYROsmart works independently.</li> </ul> |
| Response to faulty hotspots                 | *****  |
| Exclusive with FireDos                      | <ul style="list-style-type: none"> <li>- Monitor control repeat accuracy of under 2%</li> <li>- Manual, precise control of the extinguishing jet to any position in the monitoring/extinguishing area by clicking the mouse in the IR panorama</li> </ul>  |



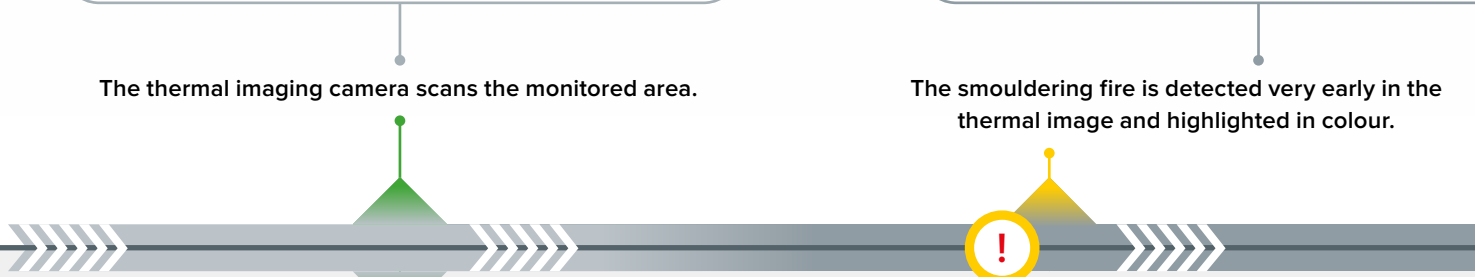
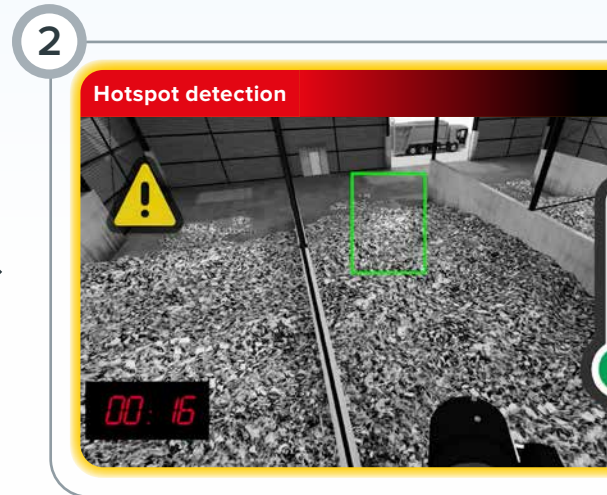
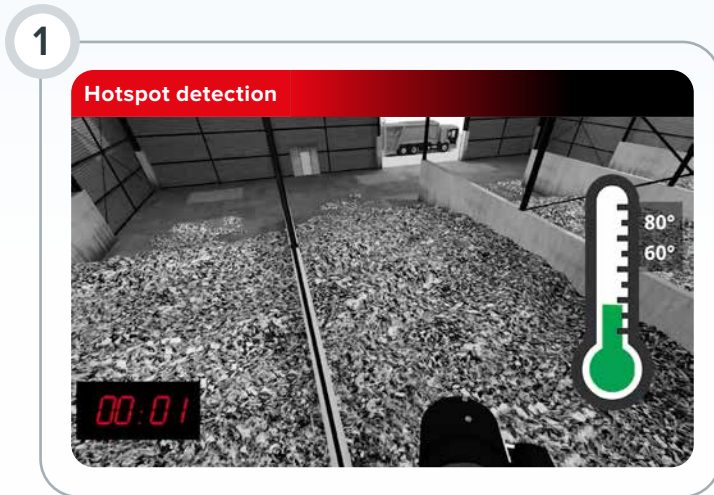


**DIAS**  
PYROVIEW FDS

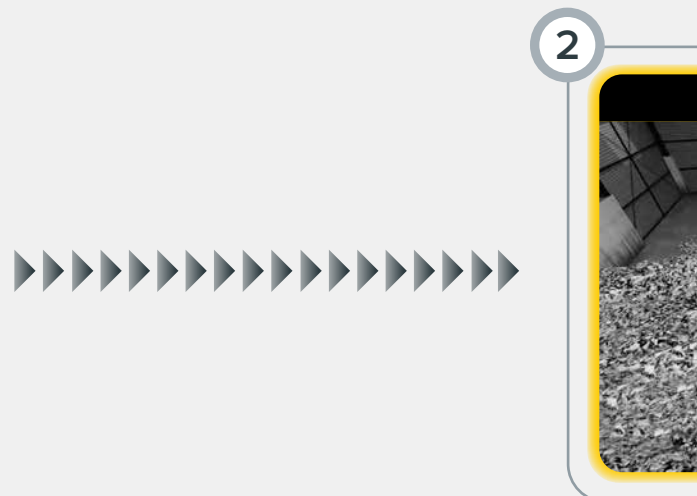
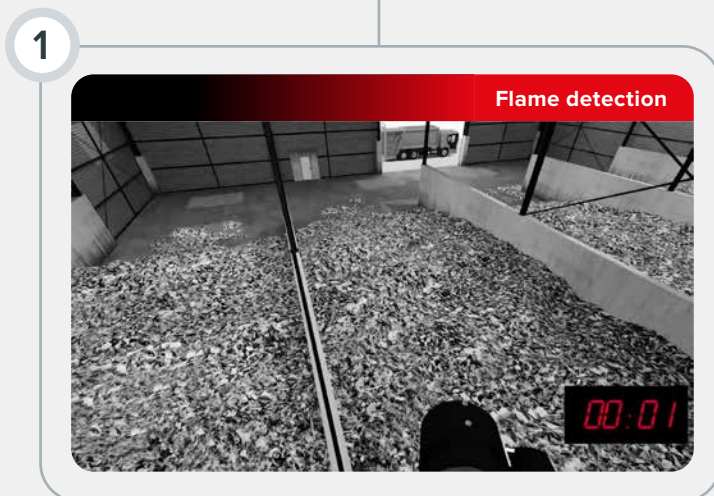
**FGD**  
Flamespec IR3

|  |  |
|--|--|
| - Very early detection via temperature, size and time thresholds<br>- Infrared thermography (surface temperature, alarm typically 90°C)  | Flame detection, later detection, only when flames form  |
| Hotspot in three-dimensional space (3D data)   | Flame in two-dimensional space   |
| 0.3x0.3 m at 110 m (depending on the aperture angle of the IR camera)  | 0.3m <sup>2</sup> flame at a distance of 80m   |
| Max. 2 minutes turnaround time according to VdS 3189, switching to monitoring mode when the pre-alarm threshold is exceeded  | 1 - 10 s after a flame occurs  |
| Integrated   | Integrated   |
| Ring memory for 7 days, alarm memory 365 days  | Basic sensor data and event recording  |
| 30° horizontal x 23° vertical  | 90° horizontal, 75° vertical, standard 20 - 80 m   |
| Optionally available   | Optional   |
| Fault report to service centre via email and app   |  |
| Efficient air purging of the lens  | Optional   |
| Integrated self-test function  | Optional   |
| Up to 110m, further with telephoto lens  | 100 m  |
| Rotating-swivelling  | Stationary (fixed image section)   |
| Multi-camera view, live image of the IR camera (also in motion mode), additional panoramic image and map display   | IR still image   |
| Yes  | Yes  |
| Yes, position of IR camera and extinguishing monitor independent of each other   | No, only zonal extinguishing via signal from alarm control panel   |
| VdS  | FM   |
| Optional for stationary monitoring   | Yes (IECEX)  |
| \$\$\$\$   | \$   |
| -10 – +50 °C   | -55 – +85 °C   |
| - Intelligent special functions for the prevention of false alarms and early detection of developing fires.<br>- Time-controlled switching of alarm thresholds and by external access control (e.g. traffic light switching)<br>- Smartphone app (IOS and Android) | - Automatic self-test (lens contamination, detector function)<br>- Integrated heating for ice prevention |
| ***** Determination of disturbance variables in the autonomous learning phase  | ****   |
| - Monitor control repeat accuracy of under 2%<br>- Monitoring of communication with extinguishing system   |  |

## ■ INFRARED CAMERA OR FLAME DETECTOR? TWO EXTINGUISHING SCENARIOS OVER TIME



The flame detector monitors the waste bunker.



Concept 2: Flame detector + monitor



## Concept 1: Infrared camera + monitor



Fighting fires before they become a fire

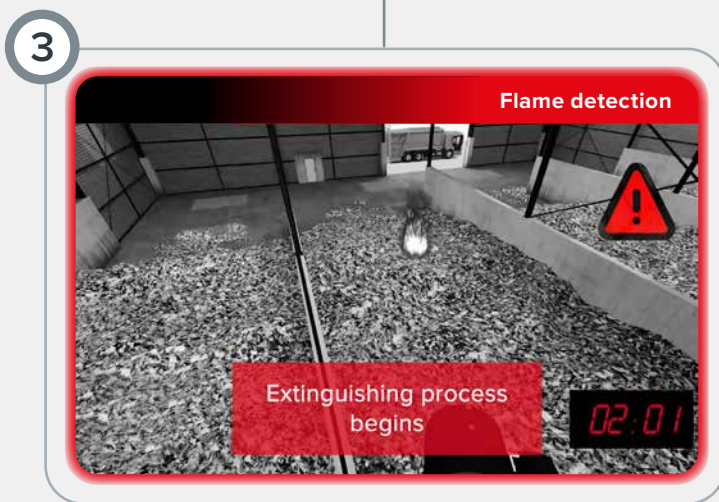


The extinguishing process starts automatically.



The flame is recognised by the flame detector.

The extinguishing process starts automatically.







## ■ PLAY IT SAFE WITH FIREDOS!

### ■ WELL-PLANNED IS HALF THE BATTLE.

*FireDos* support during the planning phase assists in developing the perfect application solution. When commissioning onsite, *FireDos* service technicians and factory-trained personnel will be pleased to do the job for you.

### ■ OUR SERVICE PROMISE

*FireDos* won't let you down in case of a breakdown. We guarantee quick service through our teams and rapid availability of spare parts.

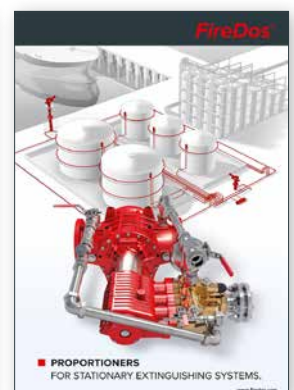
### ■ SAFETY PAYS OFF.

Regular maintenance of the extinguishing technology guarantees fault-free functioning in an emergency. Take advantage of our international maintenance service and play it safe!

### ■ KNOW-HOW

Only those who know their way around can react correctly in an emergency. We train your employees – at one of our service and training locations.

#### Further brochures:



**FireDos** GmbH  
Auf der Kaulbahn 6  
61200 Woelfersheim, Germany  
Ph. +49 (0) 6036 9796-0  
Email: [info@firedos.de](mailto:info@firedos.de)  
[www.firedos.com](http://www.firedos.com)