UniVario –
industrial fire detectors for every job

Cool down.
Fire Protection by

MINIMAX

THE ASSUR

for industrial

Minimax sets the standard in the field of developing custom-made fire protection systems, and these systems have been tried and tested around the world for decades. We have also applied our expertise and experience to developing the UniVario family of heat and flame detectors. This new generation of detectors stands out for its easy installation, its well-conceived construction design and its high integration possibilities, thereby offering solutions for all possible requirements including use in potentially explosion-hazardous areas.

Modular in design – unlimited combinations
The demands made upon industrial fire protection systems are complex. The main tool in combating fires is a superior fire and flame detector which can detect a fire in a specific area and activate an extinguishing system. False alarms and malfunctions can only be avoided when reliable technology is in place. Technology that independently filters out disturbance variables. With this in mind, Minimax has designed a new product line. The detectors are built into a high quality cast aluminum housing incorporating user-friendly installation technology. These intelligent, platform-based microprocessor-controlled detectors can cope with even the toughest conditions.

Thanks to their modular design and modern signal processing technology, the detectors can master demands in an unusually broad field of applications.
Expanding automation in all industrial operations places new challenges on the fire protection industry.

Minimax has accepted this challenge by inventing new products offering a high degree of flexibility in application and installation. This results in tailor-made solutions providing the best possible protection for equipment and facilities. As new requirements occur, our research and development teams will continue to provide viable and efficient technologies as answers to your most difficult fire protection needs. Industrial fire protection is one of our core competencies.

production processes

UniVario – industrial fire detectors for every job
To achieve the best possible protection, different designs and response levels are used to guard the equipment and product in question. These different detectors work indoors as well as outdoors and in potentially explosion-hazardous areas. In close proximity to the equipment, the UniVario WMX5000, and at greater distances the FMX5000 IR, is utilized. Both units function under extremely dirty process conditions as well as in potentially explosion-hazardous areas; for the latter application, detectors that are well adapted for hazard classes Zone 2/22 (3GD) and Zone 1/20,21 (EX) are available. Equipped internally with the very latest advanced technology, they also feature a robust and attractive enclosure design.

This new generation of high-tech fire detectors is substantially prefabricated, is quick and easy to install and can be easily integrated into existing solutions, making them an affordable alternative to conventional systems.
Two major advantages of these detectors are their ability to forward data for the purpose of analysis, statistics, or maintenance and their applicability as loop participants for ease of installation even in explosion hazard zones.

Detector versions for applications which demand the absence of substances (e.g. silicone, Teflon®) to ensure high quality in production processes complete the range.

Engine test room

Hangar

Chemical production

Wood panel production

DETECTORS

UniVario FMX5000 IR
– an extremely robust three-channel infrared flame detector with three-way optical test

Despite the disturbance sources typical for industrial applications, the UniVario FMX5000 IR is extremely fast at detecting flames. Hot machine surfaces, direct sun radiation in exterior surroundings, and welding operations are filtered by a special sensor combination and intelligent processing, while at the same time even the very small flames of an emerging fire are reliably detected and signaled as an alarm.
With its three-way optical test, whereby all three sensors as well as the optical detector window are monitored, the UniVario FMX5000 IR is extremely fail-safe.
All detectors have major international approvals and local listings. The series also includes detector models with VdS and FM approval for use in explosion hazard areas of the zones 2/22 and 1/20,21.

Potential areas of application

- Tank fields and fuel storage sites
- Heating and coal-fired power plants
- Engine test benches
- Large industrial plants
- Plane and helicopter hangars
- chemical storage plants and chemical production
- Pump stations
- Printers
- Wood processing industry

UniVario FMX5000 UV
– a flame detector with spectral responsiveness in the ultraviolet range

The flame detector FMX5000 UV reacts to optical radiation and analyzes specific wavelengths. It is installed wherever open flames are likely to develop quickly.
Its perfect combination of early detection, high sensitivity, reliability, and the lowest possible risk of false alarms caused by thunderstorms, hot surfaces, or strong solar radiation make the UniVario fire detector indispensable for preventing the rapid spread of fires.
The detector is equipped with optical monitoring and is suitable for use in explosion hazard zones 2 and 22 approved by VdS and FM.

Potential areas of application

- Fuel tanks, tank farms
- Plane and helicopter hangars
- Condenser stations (natural gas)
- Chip/semiconductor manufacture (silane)
- Machine tools (Mg/Al/Ti dry processing)
- Printing machines (solvents)

AT A GLANCE

24-hour alert

UniVario WMX5000 – a heat detector with stainless steel heat sensor

The WMX5000 is designed to detect open fires where temperature is increasing rapidly, such as in the case of highly combustible solids, liquids, and gases. It responds instantaneously to any rapid rise in temperature or as soon as a pre-programmed temperature is exceeded. It offers a number of different installation options, making it suitable for monitoring rooms as well as processes.
It has been designed specifically with challenging industrial environments in mind, including indoor and outdoor risks and for potentially explosion-hazardous areas.

Potential areas of application

- Warehouses
- Production halls
- Paint shops
- Hydraulic systems
- Transformers
- Waste incinerating plants
- Printing machines
- Fuel tanks
- Machine tools

UniVario WMX5000 FS – a high-temperature detector with a robust decoupled stainless steel heat sensor

The WMX5000 FS heat detector is specially designed to work in temperatures of up to 850 °C. Its heat sensor enables simple and flexible installation. A microcontroller monitors the function and analyzes temperature values.
With its tough, sealed housing, the WMX5000 FS can be used in all sorts of scenarios. Optimum results are provided even when subjected to extreme temperature fluctuations, heavy soiling and aggressive conditions.
The heat sensor comes in different designs. The alarm temperature and response behavior is programmable, making it suitable for a host of applications. One unique item is the high-temperature heat sensor approved as fire detector with VdS and FM approvals for use in explosion hazard zones 2/22 and 1/20,21.

Potential areas of application

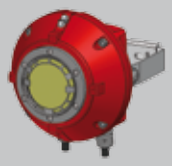
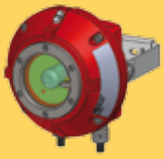
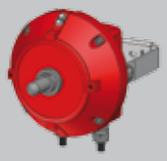
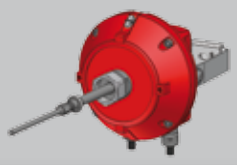
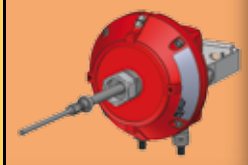
- Exhaust gas ducts
- Engine test benches
- Machine tools
- Chip and semiconductor protection (silane)
- Fiberboard presses (heat tunnels)
- Chemical production
- Dryers

UniVario

The right product for every explosion hazard zone

In many industrial environments, there are varying hazard areas. Therefore, the industrial fire detectors of the UniVario series are available in a number of variants, suited for gas atmospheres as well as dusty areas:

- The standard UniVario variants are suitable for all applications without explosion hazards and can be easily converted to analogue addressable detectors.
- The 3GD series detectors are suitable for applications in zones 2 (gas) and 22 (dust) and can also be converted to ring analogue addressable detectors.
- The UniVario Ex series detectors are suitable for zones 1 (gas) and 20,21 (dust), being “intrinsically safe”. They can be converted into analogue addressable detectors. For this application, an additional electronic safety barrier is employed.

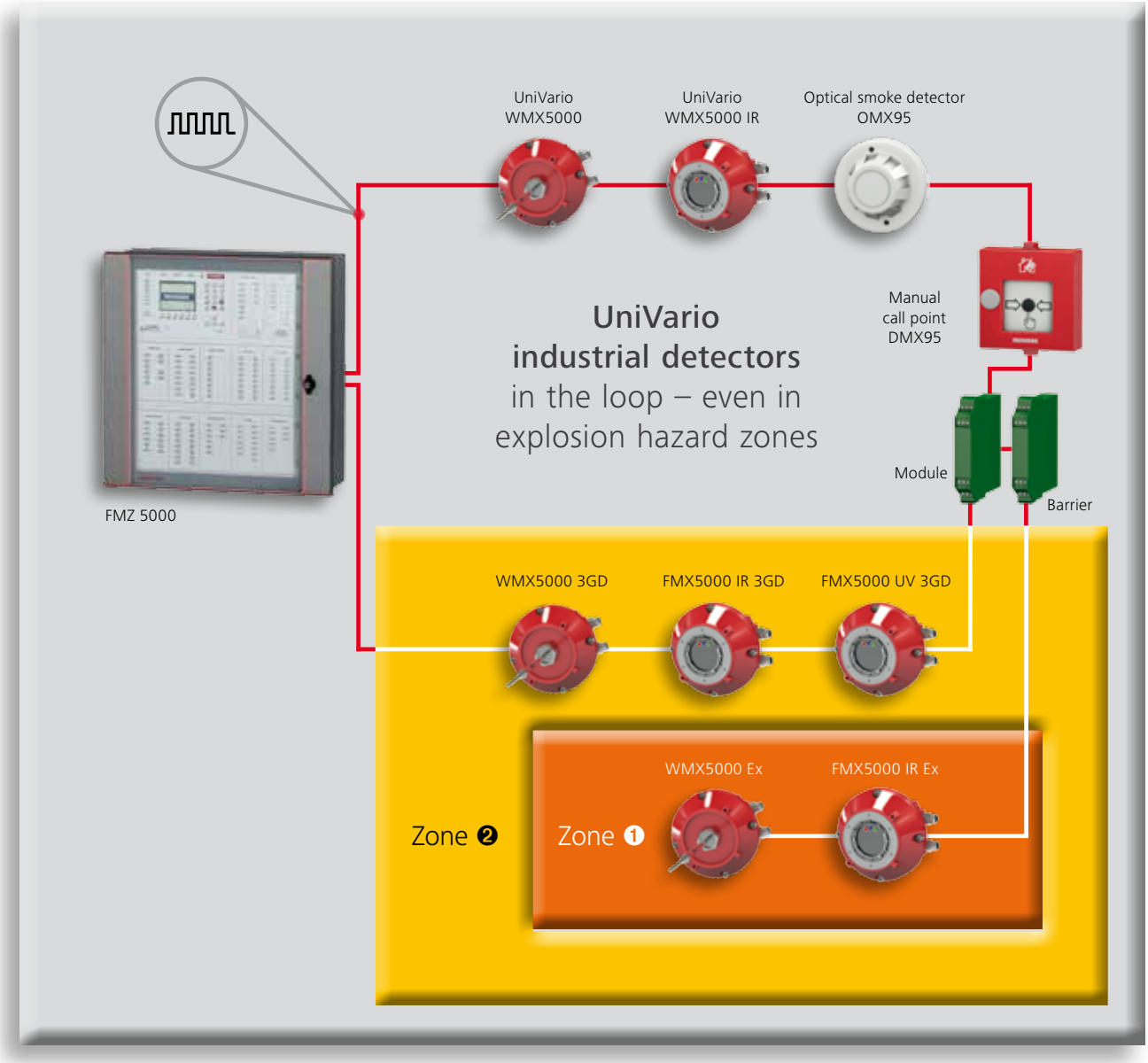
Variant of detector / Type of detector	Standard	3GD (Zone 2/22)	Ex (Zone 1/20,21)
Three-channel infrared flame detector	FMX5000 IR 	FMX5000 IR 3GD 	FMX5000 IR Ex 
Ultraviolet flame detector	FMX5000 UV 	FMX5000 UV 3GD 	
Heat detector	WMX5000 	WMX5000 3GD 	WMX5000 Ex 
High-temperature heat detector	WMX5000 FS 	WMX5000 FS 3GD 	WMX5000 FS Ex 

UniVario – accessories for an easy and …

- **Communication module**
  The UniVario KMX5000 AP communication module allows this series of fire detectors to be used in conjunction with fire alarm and control systems.
- **Relay module**
  The UniVario KMX5000 RK relay module allows usage in either stand-alone mode or in combination with any hazard detection and control system.

UniVario – the communicative detector in the loop

UniVario industrial fire detectors are conventional detectors which can be converted into full-blown analogue addressable detectors by use of the KMX5000 AP communication module. Thanks to their low power consumption the detectors can be powered directly by the alarm line or loop. This way, reported events can be assigned to precisely one detector and are immediately identifiable at the fire detection and control panel.
UniVario fire detectors are the only industrial fire detectors which can be used directly as loop participants, even in explosion hazard zones. Separate loop couplers are not necessary.



… dependable installation and operation

- **Service tool SMX5000**
  A service tool for simple configuration, diagnosis, and function tests. It also reads the internal memory of the detector.

- **Detector installation options and components**
  (Installation bracket, console, single-hole installation with UniVario MX5000 LCD-base)
- **Isolator, safety barrier, and much more**

ADVANTAGES

for our clients

- **Fast fire detection with a very low risk of false alarms**
  Highly responsive sensors, application-specific configuration of signal processing. Protection against typical disturbance variables using intelligent evaluation algorithms, high electromagnetic tolerance.

- **Highly reliable**
  High degree of protection (IP 67/NEMA 6), oil-tight, impact and vibration-resistant, microcontroller monitors functionality, optical test (FMX5000 IR and FMX5000 UV), sensor test (all detectors).

- **Broad field of application**
  Disturbances such as cosmic radiation and lightning are masked (FMX5000 IR and FMX5000 UV), response temperatures of up to 850 °C / 1,562 °F (WMX5000 FS) can be adjusted down to the degree (WMX5000 and WMX5000 FS), use in potentially explosion hazardous areas.

- **Easy to adapt to changes in conditions**
  Signal processing can be configured to suit the application, highly modular (single base for different detector types, different communication modules), optional temperature display, inexpensive fire alarm wiring can be used.
  With their low power consumption, more detectors can be applied per group or loop. As a result, there is a potential for cutting costs when it comes to conventional line modules and loop modules and when setting up the power supply and emergency power supply.

- **Flexible connection technologies, simple installation**
  Detector variants with conventional line technology, addressable ring bus or relay connection. Separate base for easy installation and commissioning.

- **Worldwide approvals**
  Depending on detector variant and type, e.g. VdS, FM, CCC, conformity to Russian standards, MOE, CPD, CSFM, ATEX, IECEx, NEC.

Photo credits

Page 3 Engine test room: © obs/AVL List GmbH
Page 3 Hangar: © dpa/Matthias Hiekel

Minimax GmbH & Co. KG
Industriestraße 10/12
D-23840 Bad Oldesloe
Phone.: +49 (0) 45 31 8 03-0
Fax: +49 (0) 45 31 8 03-248
E-Mail: detection@minimax.de
www.minimax.de

VdS •ISO 9001

ÜP10Fe_03/09.12/1/09.12/HA/31.312
Printed in Germany

Detailed information can be found in the appropriate operating manuals.