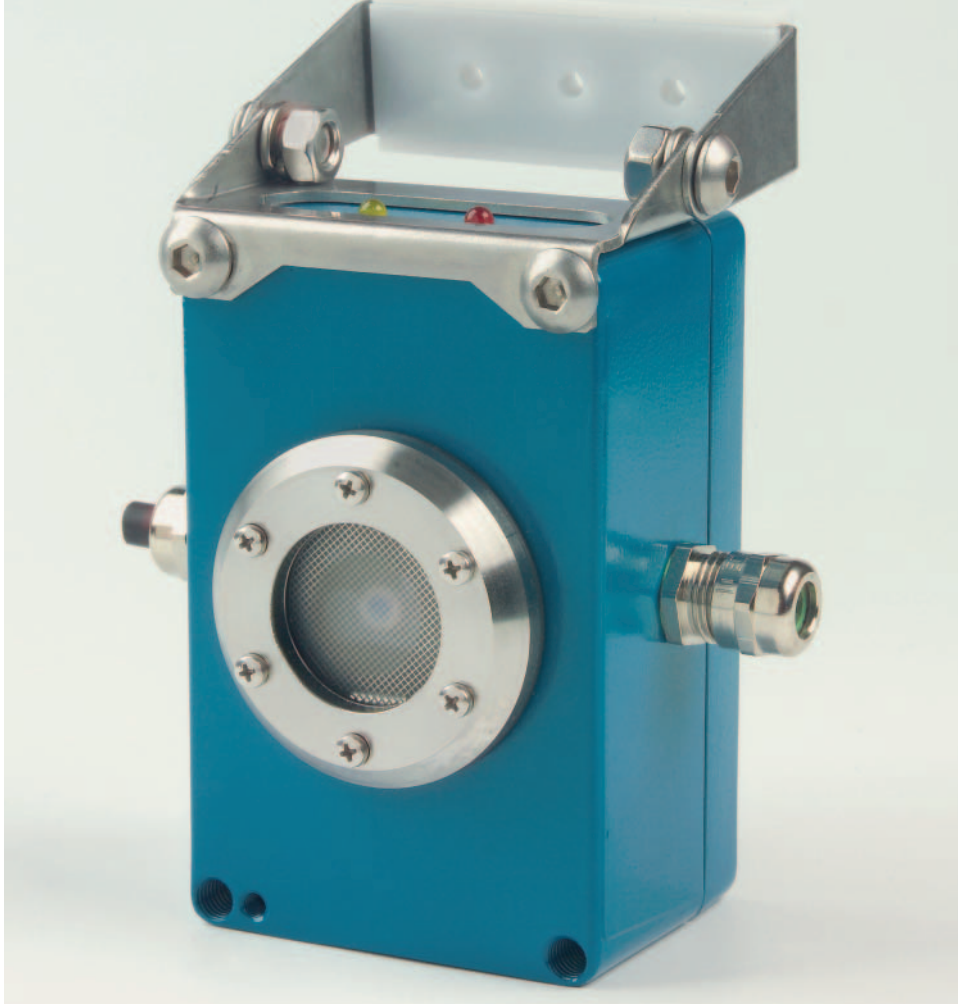


Flame detectors
FMX 3511
FMX 3501 Ex

Cool down.
Fire Protection by

MINIMAX

► Product ► Use ✚ Advantages

► FMX 3511 and FMX 3501 Ex flame detectors evaluate three physical measured variables in the infrared range of the optical spectrum. Complex integrated electronics record specific fire signals, process these and transmit a signal to the fire control panel.

► The detector window is continuously monitored against contamination and function, which are signalled to the fire control panel. Minimax holds a patent for this monitoring circuit.

► The entire detector structure is designed for heavy-duty industrial applications so as to satisfy the most varied application conditions.

► A variety of installation devices are available for different on-site applications.

► Specific customer solutions can be realised at short notice, as Minimax develops and manufactures the products itself.

► The FMX 3511 and FMX 3501 Ex flame detector range is designed for detecting open, smokeless and smoke-forming flames caused by solid or liquid organic materials (e.g. gases, oil products, plastics, wood, etc.).

► Typical applications include:
- heating and coal-fired power stations
- motor test benches
- industrial plants
- airplane and helicopter hangars
- chemical stores and chemical production plants
- fuel stores and pump stations
- print shops

► Special detectors for machine tools with rapid flame detection in the millisecond range

► Special detectors for gas turbines and industrial presses tuned to this particular application with brief detection times

► Special detectors for tank areas designed to suit environmental conditions outdoors

► Ex-detectors conforming to ATEX 94/9/EC for areas in industrial plants and the timber industry where explosion hazards exist due to gas and dust

✚ Continuous monitoring of the function of windows, sensors, soft and hardware as well as of the microcontroller

✚ Extensively tested safety concept to prevent false alarms

✚ For monitoring objects, reaction times can be achieved in the millisecond range

✚ Specific customer evaluation algorithms and special applications for extreme IR radiation

✚ Special versions, such as oil-tight, chemical-resistant and silicone-free models for special applications

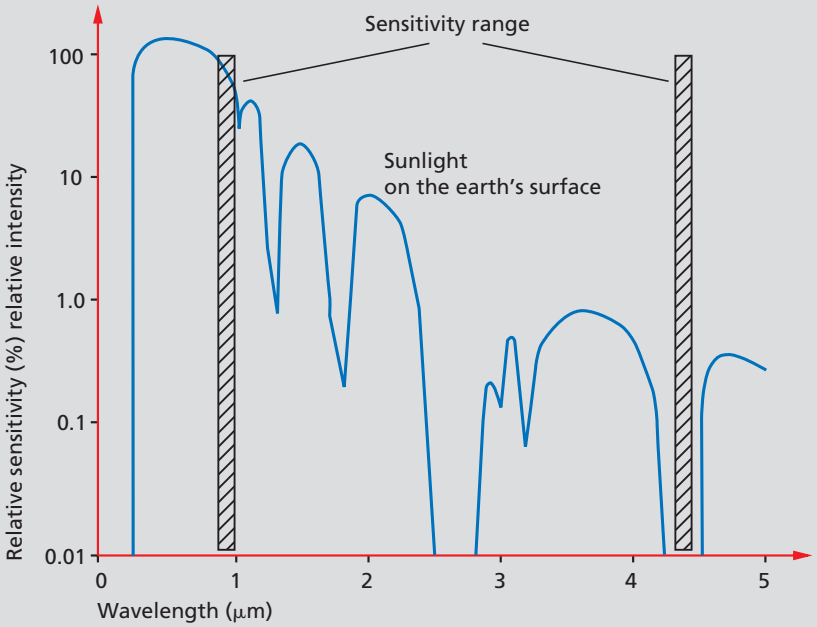
✚ Minimum maintenance required due to the automatic detection of impurities on the window

✚ Fast response version for special applications

✚ Ex-classification in accordance with ATEX 94/9/EC Categories 2G, 3G, 3D for Zones 1, 2 and 22

✚ Optical alarm and fault display for rapid detector identification

Function



- Flame detectors are mainly used in monitored areas where fires with open flames can be expected. Flame detection is also possible if the detector window is concealed by smoke.
- The three physical measured variables for efficient flame detection are the evaluation of the 950 nm and the 4260 nm IR-spectral ranges, as well as the 3 to 15 Hz flicker flare-up frequency of flames. Alarm evaluation still occurs in the case of fade-over, due to the background radiation of the flame.
- Detector design and construction based on 30 years of experience. Results of this include transmission and contamination monitoring of the detector window.
- Flame detectors react to open flames as soon as they occur. The FMX 3511 and FMX 3501 Ex in the 0.2 sec version are specially designed for applications where a rapid reaction time is required, even in the millisecond range.
- The extremely short reaction time and emergency-stop procedures of subsequent systems can negate the ignition potential of a fire as it occurs, meaning that the extinguishing system needs not be activated. This results in extremely short shutdown periods and is a substantial advantage to customers, especially where machine tools are involved.
- All detector types are resistant to seawater, IP 65 rated and are suitable for applications in areas involving aggressive materials (e.g. in machine tools, paint shops, MDF, chipboard and OSB presses and for object protection, both outdoors and indoors).
- Explosion-hazard detectors are intrinsically safe and are connected via an associated resource.

Technical data

Type	Features	Spectral sensitivity	Operating temperature °C	IP rating	Ext. display adaptable	Approval	Monitoring surface (VdS) rel. to risk m²
FMX 3511	Current increase technique, red LED for alarm and yellow LED for fault, detector status identification (ZIDV)	950 nm and 4300 nm Flare-up frequency 3 to 25 Hz	–25 to +80	IP65	yes	VdS G296016 EN 54/10 Kl.3 FM 1D1A7.AY VKF/AEAI No.11022, *	max. 500
FMX 3511 0,2 sec	As FMX 3511, but Fast response version	950 nm and 4300 nm	–25 to +80	IP65	yes	VdS G296016 EN 54/10 Kl.3 FM 1D1A7.AY VKF/AEAI No.11022, *	max. 500
FMX 3501 Ex	As FMX3511 without detector status identification (ZIDV), intrinsically safe version for operation in explosion-hazard areas (Zone 1). 2 and 22 (Ex)II 2G/3D EEx ib II C T6/T4)	950 nm and 4300 nm Flare-up frequency 3 to 25 Hz	–25 to +80	IP65	yes (intrinsically safe connection via Zener barrier)	VdS G296016 EN 54/10 Kl.3 DMT 02 ATEX E224 China, Russia Austria, Hungary	max. 500
FMX 3501 Ex 0,2 sec	As FMX 3501 Ex, but Fast response versions	950 nm and 4300 nm	–25 to +80	IP65	yes (intrinsically safe connection via Zener barrier)	VdS G296016 EN 54/10 Kl.3 DMT 02 ATEX E224	max. 500
FMX 3501 Ex T 0,2 sec	As FMX 3501 Ex 0.2 sec, but with self-resetting alarm (e.g. for Flare-up frequency use on spark lines)	950 nm and 4300 nm	–25 to +80	IP65	yes (intrinsically safe connection via Zener barrier)	VdS G296016 EN 54/10 Kl.3 DMT 02 ATEX E224	max. 500

* other approval: Russia, Switzerland, Poland

Subject to technical alterations.

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