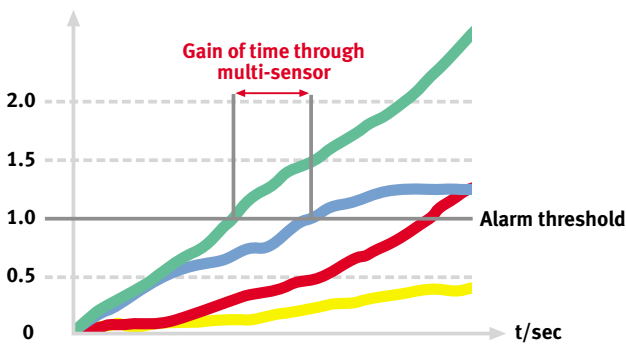


Full protection means protection by multi-sensor technology

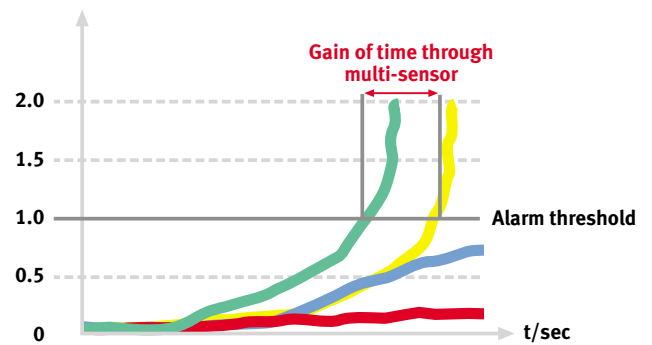


Fire detection technology

Safe and economical



■ Multi-sensor detector
 ■ Ionisation detector



■ Rate-of-rise thermal detector
 ■ Optical detector

Three detection principles as well as the integrated microprocessor allow the detection of fires at their earliest stage.

Far beyond the applicable regulations, the multi-sensor detector thus guarantees an optimum of safety. The microprocessor differentiates between fire-related and disturbance-related parameters and reliably prevents false alarms. Despite increased safety the multi-

sensor detector is not much more expensive than a single-sensor detector.

The ongoing self-diagnosis delivers high operational safety with low maintenance expenses. And if the object is to be used for other purposes, the conversions otherwise necessary, which are often very costly, will not be required.



Advantages at a glance

- Patented technology
- Most early detection through three detection principles in one detector
- High safety against false alarms
- Excellent price-performance ratio
- Remote diagnosis

Our multi-sensor detectors.
 Always the right decision.

Every second counts



❖ Even today a fire is an incalculable quantity. External environmental conditions such as open windows and the quality of the burning materials such as wooden or synthetic materials determine the progress and the speed of spreading. The earlier a fire is detected, the faster it can be controlled. And the damage to persons and property will be accordingly lower.

Therefore the early and reliable detection of a fire by means of suitable detectors is a top priority in fire protection.

Products of combustion			
Energy		Material	
Conduction/convection	Radiation	Effluent	Non-effluent
Heat	Ultraviolet radiation	Conflagration gases, invisible aerosols	
	Infrared radiation	Steam, CO, CO ₂	
		Smoke, black smoke	
Sound	Visible radiation		Ashes
Flow			Melted mass
 Suitable for early detection		 Less suitable/not suitable for early detection	

The material and energy composition is different with each burning material and fire progress; therefore different detection principles are required.

Every fire is different

Test fire according to EN 54

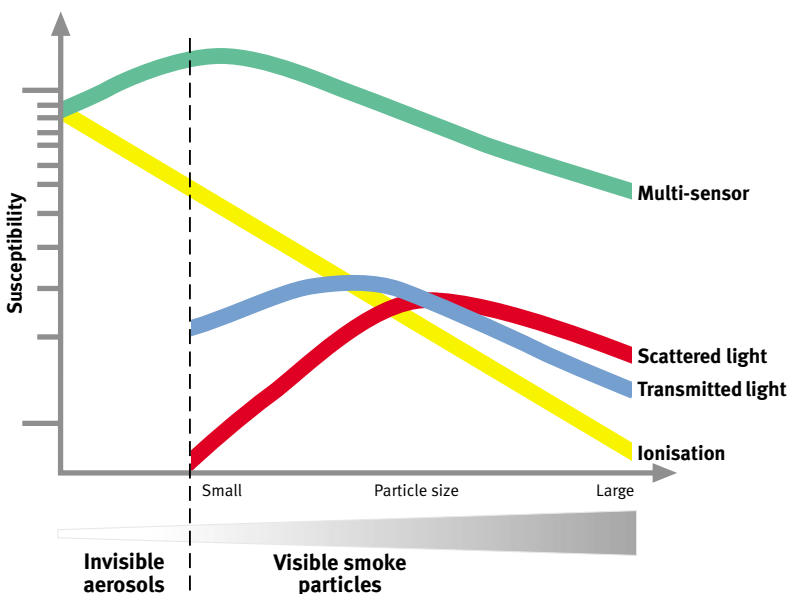
	Scattered light optical detector	Ionisation smoke detector	Rate-of-rise thermal detector	Multi-sensor detector (with O and T-part)	Multi-sensor detector (with O, T and I-part)
TF1, open fire of wood	●	●	●	●	●
TF2, smouldering of wood	●	●	●	●	●
TF3, smouldering fire (cotton)	●	●	●	●	●
TF4, open fire of synthetic materials (PU)	●	●	●	●	●
TF5, fire of liquids (n-heptane)	●	●	●	●	●
TF6, fire of liquids (spirit)	●	●	●	●	●

Only the multi-sensor technology provides perfect protection for all cases

● Especially suitable ● Suitable ● Not suitable

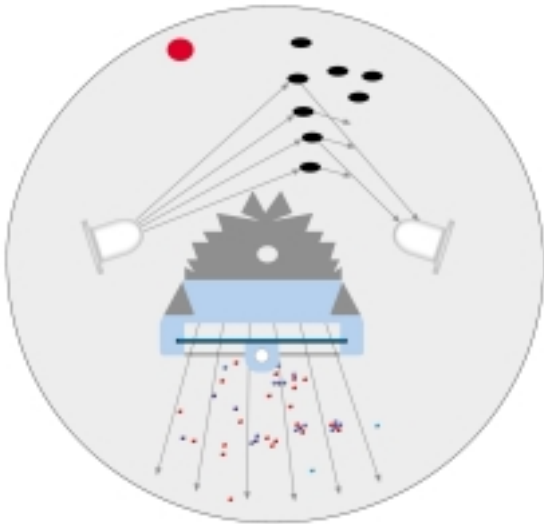
❖ The products of combustion arising with a fire are the crucial criteria for fire detection. Optical detectors detect visible smoke particles as produced in the smouldering stage of PVC. Thermal detectors detect open, quickly progressing fires such as fires of liquids. And ionisation detectors register dark, finest smoke particles as well as the invisible aerosols, which develop with fires of synthetic materials.

That means: every single sensor has a detection spectrum, in which it works optimally. However, due to the different composition of the materials applied in objects it cannot be predicted which products of combustion have to be detected in case of emergency.



Only the multi-sensor detector can detect in the visible and invisible area at a constantly high level.

Highest safety for all cases



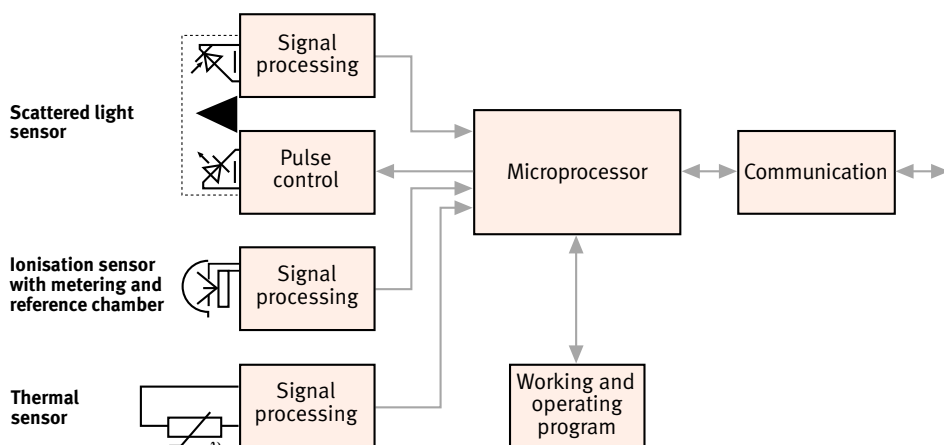
Technological advantage in detail: by combining the three detection principles all products of combustion are detected as early as possible and reliably.



The multi-sensor detector has a timeless and elegant design.

❖ The patented multi-sensor detector combines three detection principles in one detector. The correlation of optical, thermal and ionisation-based sensors ensures that all fire types are detected reliably. The integrated microprocessor automatically analyses the fire parameters of the single sensors. Fires will be detected earlier and more reliably and differentiated from disturbance

parameters, which prevents false alarms. Long-term processes such as pollution and ageing are detected and compensated for by the multi-sensor detector.



The microprocessor bundles the various information and communicates with the central fire alarm system.

Proven in practice



Reference objects: Zürich-Kloten airport, hotel complex of Sheraton Miramar El Gouna, Imhoff-Stollwerck Chocolate Museum, printing company of maul-belser

❖ The multi-sensor technology has proven its superiority not only in numerous test fires, but has been reliably protecting a variety of objects for years.

It is in all areas that experts rely upon the patented multi-sensor technology, as a great many reference objects show:

- The spacious hotel complex of Sheraton Miramar El Gouna in Egypt
- The largest gravure printing plant in Europe in Nuremberg
- The extensive Imhoff-Stollwerck Chocolate Museum in Cologne
- Several internationally important business enterprises and numerous precious cultural monuments

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