Multi-criteria Detector
2251CTLE – COPTIR

- **ADM loop technology with System Sensor/200 protocol**
- **Combines optical smoke sensor, heat detector, infrared sensor and carbon monoxide sensor**
- **Highest false alarm immunity**
- **Several sensitivity levels and thermal-only mode selectable**
- **Constant response sensitivity**

Description

The Multi-criteria Detector 2251CTLE incorporates four separate detection units, allowing to determine the four essential characteristics of fire:

- **C** – carbon monoxide
- **OP** – optically visible smoke
- **T** – temperature
- **IR** – infrared radiation

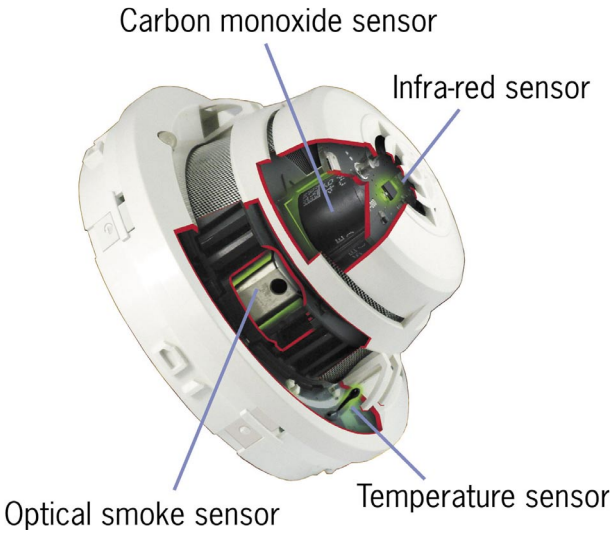
The typical patterns of fire are recognised by means of intelligent analysis of the measured values of all four detection units. That way on the one hand the detector shows an especially high insensitiveness to unwanted alarms, on the other hand fires are recognised quickly and safely.

The multi-criteria detector can operate in difficult fields of application, for instance

- workshops – e.g., welding shops, paint shops
- hotel rooms with steam formation in the bathroom
- smoking areas in bars or restaurants
- discotheques with fog generators
- garages or loading ramps

and is therefore suitable for virtually universal use.

The optical measurement chamber uses the scattered light principle to detect visible smoke particles. The thermal unit responds to temperature changes within defined time intervals (rate-of-rise principle according to class A1R) up to a maximum temperature of 58°C.
Smouldering fires which spread out slowly can also be detected early and safely by using the durable carbon monoxide sensor. The infrared sensor responds to the flickering of flames and supports the detection of fires with low smoke development (e.g., alcoholic fires).
The two LEDs with 360° visibility indicate the activated condition of the detector.



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The influence of contamination on the optical measurement system is compensated for by using intelligent evaluation algorithms. With that, the response sensitivity of the detector is kept constant for a long time – a further effective step to avoid false alarms.

The response sensitivity of the detector can be individually adjusted in 5 steps between 1.5%/m and 4.2%/m according to the application. In addition, the detector adjusts the response thresholds of the individual detection units dynamically, depending on their measured values, changes the evaluation of the criteria, or speeds up respectively delays the alarm activation. This evaluation logic allows the multi-criteria detector to reliably distinguish between emerging fire and noise variables.

A thermal-only operation of the detector is also possible. In that case the application of the detector is limited to rooms which are not higher than 7.5m.

The proven ADM loop technology with System Sensor/200 protocol establishes a permanent communication between the fire detection control panel and the detector. That ensures a periodical function testing of the detector.
The detector address is selected with two decadic rotary switches. Therefore the detector can be changed quickly and without additional tools.
A detector function test can be conveniently conducted using a magnet. The detector can be attached to different types of bases and it can be protected against theft.

Specifications

Operating voltage	Supply through loop voltage
Current consumption	max. 300µA (quiescent)
Alarm temperature	58°C (maximum principle)
Infrared sensor Optical wavelength Measurement range	 800 – 1200nm 0 – 450µW/cm^2
Measurement range CO-sensor	0 – 500ppm
Operating temperature	max. +45°C
Ambient temperature	-20°C to +55°C (no condensation or icing)
Relative humidity	15 – 90% (no condensation)
Dimensions ø × H	102 × 60 (mm)
Colour	cream
Weight	130g
Approvals	VdS G207054 0832-CPD-0518
Order number	241051
Order name	Optical Thermal CO IR Detector/Anal./200/SS 2251CTLE

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