Product information
O²T smoke detector

Performance data at a glance

- Reliable detection of fires caused by the combustion of a very wide range of different materials
- False alarms cut to an absolute minimum
- Capable of adapting to individual environments by learning to identify a variety of known interference particles
- Software filter for suppression of eroneous spikes and interference pulses in measured values
- Supports analogue loop/esserbus® configurations
- Self-test function
- Identification of first and subsequent alarms
- Low quiescent power consumption: approx. 45 µA
- Simple installation and programming
- Compatible with the popular 9200 detector series

Fire alarm systems

A new angle on reliability

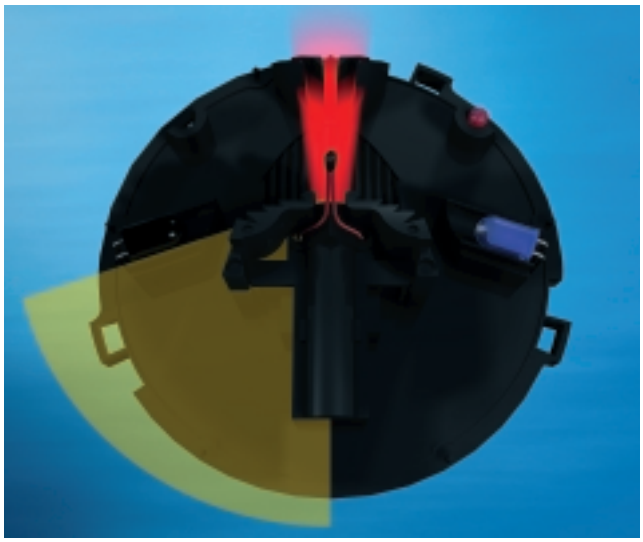
The new O²T smoke detector is yet another milestone in early fire detection performance, building on and extending the technology of the company's successful multisensor detectors. The new design of this detector has two key advantages: firstly, the O²T can detect a very wide range of different burning materials with consistent and reliable sensitivity. And secondly, this detector is uniquely able to differentiate between the genuine products of fire and deceiving interference particles such as fumes and steam.

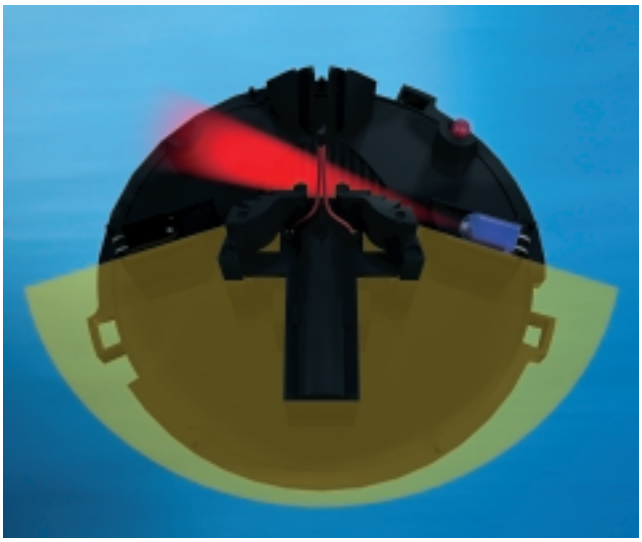
New detector concept featuring innovative twin-angle technology

Traditional scattered-light smoke detectors monitor light scattered at a single angle; because of this they can only reliably identify certain types of smoke—you could say that they are "one-eyed". The new O²T smoke detector uses unique twin-angle technology that effectively gives it "3-D vision", enabling it to identify and differentiate between different particle types in the detection chamber. Interference particles can thus be clearly distinguished from genuine fire products, reducing the number of false alarms to an absolute minimum.

Ordering details	**Part No.**
O²T smoke detector	801374

VdS approval
G 201011
For a full list of approvals please contact your local sales office.





The O²T detector operates with 2 light reflection angles. The detector optimises the measurement of forward and backward reflections identifying without compromise all types of smoke and greatly reduces false alarms.

Greater reliability in the toughest environments

The patented O²T smoke detector opens up new horizons in fire prevention technology. It is ideal for use in buildings with medium and high levels of pollution in the atmosphere. The O²T detector's ability to intelligently eliminate false alarms delivers particularly outstanding performance in environments where high levels of interference particles can be expected, such as big kitchens and paper warehouses (steam and vapours) and manufacturing facilities (dust and fumes of all kinds). In turn, this can prevent expensive and unnecessary deployment of the fire service, saving considerable amounts of money for the operators. For example, 441,000 fire service operations were registered in Germany in one year, of which no fewer than 238,000 turned out to be false alarms. And then there are all the additional consequential costs.

It's all a question of the point of view

Traditional scattered-light detectors respond differently to different types of fires this is dictated by the laws of physics. The intensity of the signals measured from the forward and backward scattered light varies, depending on the type of burning material. The ratio of forward to backward scattered light is greater with dark smoke (e.g. an open diesel fuel fire) than with light-coloured smoke types (e.g. smouldering fires), and the ratio is even larger for solids like flour dust. Detectors that only register a single light-scattering angle cannot calculate this ratio because they are only measuring from one direction, and they are thus unable to classify the smoke type.

Electronics with "learning ability" eliminate interference factors

Every building environment has its own specific interference factors that can cause traditional scattered-light smoke detectors to trigger false alarms. For example water vapour from rolls of paper in printing works and paper mills and from shower cubicles in hotel rooms, microparticles from humidifiers in museums or dust in sawmills, bakeries and other manufacturing facilities. The sensor electronics of the O²T detector can "learn" the parameters of interference factors and store them as signal patterns, which it can then identify and discount when it is analysing real signals.

This makes it possible to distinguish reliably between genuine smoke and deceptive particles like water vapour—even in intensities that are similar to those of fires. This makes it very easy to configure the O²T detector precisely for all individual environmental conditions a pioneering advance in scattered-light smoke detector technology.

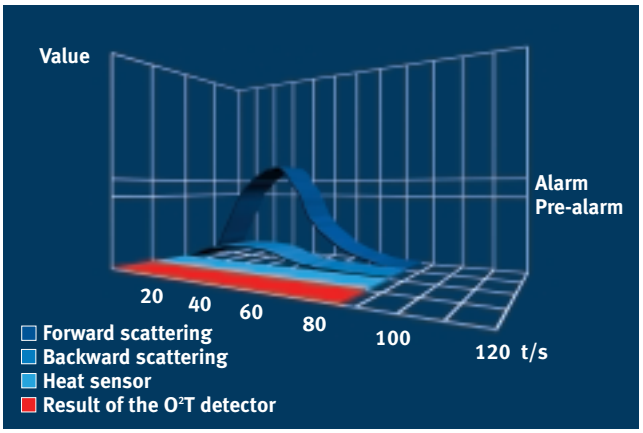
Simple installation and programming

As you would expect from our product, installing the new O²T detector is very easy. It has a simple click-in fitting, and programming and configuration on the esserbus® loop are just as straightforward. And it goes almost without saying that the unit is fully compatible with the popular 9200 detector series. This means that you can simply replace existing detectors with new O²T units. You can also make use of all the benefits of the programming software tools 8000 which includes the application of 92Tool and 92Graf.

Performance demonstrated in test fires

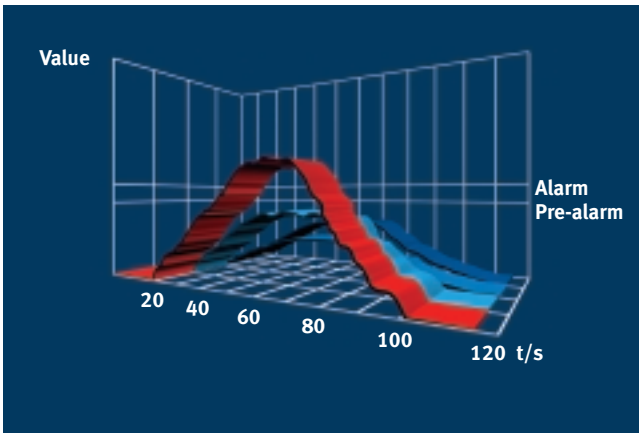
The superior performance of the O²T detector has been reliably demonstrated in test fires. The test graphs document this conclusively.

Test fire: steam



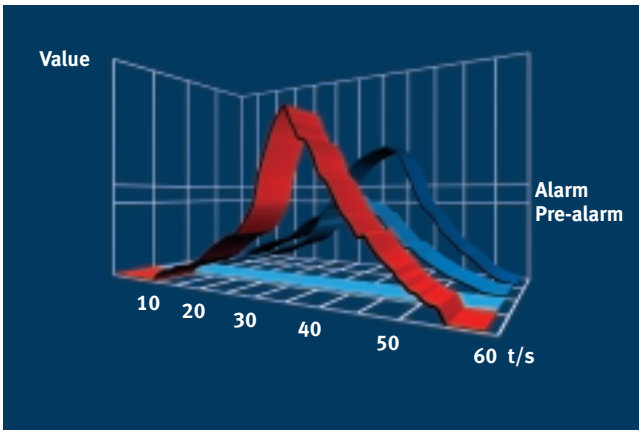
Unlike normal scattered-light detectors the O²T gives no alarm with steam

Test fire: n-heptane



Reliable detection of dark smoke by the O²T triggers an alarm earlier than other detectors

Test fire: wool



With light smoke the O²T detector triggers an alarm sooner than normal scattered-light detectors

Technical data

O²T smoke detector	
Detector specification	DIN EN 54 T7, T5 Class A2S
Monitored area	max. 120 m²
Monitored height	max. 12 m
Rated supply voltage	19 V
Operating supply voltage	max. 42 V
Quiescent power consumption	approx. 45 µA
Alarm power consumption	typically 9 mA, pulsed
Emergency alarm consumption	typically 18 mA
Indicators	red LED/light pipe
Storage temperature	-25 to +75 °C
Ambient temperature	-20 to +72 °C
Ambient humidity	≤ 95% relative humidity, non-condensing
Housing unit	ABS plastic, white (similar to RAL 9010)
Dimensions	Ø = 90 mm, H = 72 mm
Weight	90 g
Protection rating	IP 40, IP 43 with base adapter 781498

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