

FireGuard Integral

The most ingenious smoke detector:
simple – safe – reliable



Applications

- Fire/smoke detection in road and rail tunnels

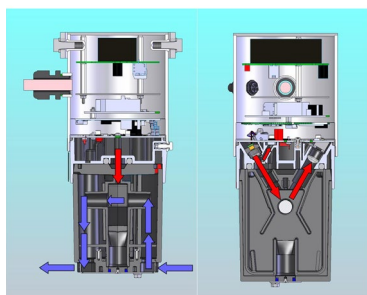
Advantages

- Connection box is integrated in the detector
- Rapid, reliable smoke detection without false alarms
- Fog elimination by optional heating elements
- Compact design, no moving parts
- Flexible system integration
- LED light source, very low power consumption
- Permanent instrument monitoring in the background
- Simple recalibration with checking rod
- Extremely low maintenance costs

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Innovations with tangible benefits



Ingenious design

The sensor uses the available natural air stream in the tunnel. It is very compact and has neither moving parts nor wear parts nor does it need consumables. As a light source, an economical LED is used:

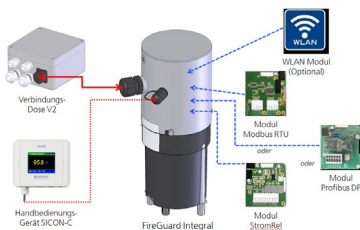
- No risk of failure due to wear.
- Guaranteed operational reliability for years.
- Extremely low operating costs.



Rapid, reliable reaction without false alarms

The sensor detects emerging fires already at their early stages (cold smoke) and thus reacts faster than a fire alarm cable. Any influence caused by fog will be eliminated by optional heating elements. The measurement is not affected by extraneous light, reflexes or other influences as is the case for video detection. Individual setting of parameters allows an optimal object and location related setting of alarms:

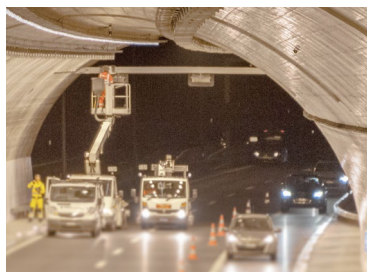
- More time for self-rescue.
- No false alarms.
- Reduction of a possible damage to the object and of subsequent costs.



Flexible mounting – Simple system integration

An adjustable bracket allows mounting at the wall, in the arched section or at the ceiling. The connection box with the various communication interfaces is integrated in the smoke detector:

- Installation is simple and not dependent on the tunnel profile.
- Fast, flexible system integration.



Minimum maintenance and upkeep

Maintenance is limited to occasional cleaning and the automatic adjustment with a checking rod. Soiling monitoring provides information on the state of the instrument:

- Maintenance is only necessary when required, from experience only about every 5 years.
- No special tools required.

The time required per instrument is normally between 15 and 25 minutes at the most.

Technical data

Sensor:

Measuring principle:	Scattered light measurement
Wavelength:	670 nm
Nominal range:	0 .. 3 E/m
Resolution:	0.001 E/m
Reproducibility:	0.001 E/m resp. 2% of measuring range
Response time:	5s (at wind speed of 1.5m/s)
Measuring angle:	120°
Measuring cell material:	PC / ABS
Material housing:	Stainless steel 1.4571 (316L)
Ambient temperature:	-30 .. +55 °C
Ambient humidity:	0 .. 100 % rel. humidity
Protection degree:	IP66 (only electronic part) (protection class in IM)
Service voltage:	100 .. 240 VAC; 47 .. 63 Hz
Power consumption:	Sample heater OFF: 5 W / 14 VA Sample heater ON: 19 W / 33 VA
Weight:	2.1 kg (2.3 kg with sample heater)
Dimensions:	Approx. Ø 150 x 186 x 247 mm
Interfaces (optional):	Profibus-DP, Profinet IO, Modbus RTU mit Repeater, StromRel-Modul, WLAN-Modul

Connection box V2:

Protection degree:	IP66
Weight:	1.6 kg
Dimensions:	Approx. 160 x 198 x 91 mm
Material housing:	Polyester, fibre glass reinforced

SICON-C portable control unit:

Service voltage:	24 VDC
Power consumption:	1.3 W
Display:	1/4 VGA with touchscreen Resolution: 320 x 240 pixels with 3.5" diagonal
Weight:	0.6 kg
Dimensions:	160 x 152 x 60 mm
Material housing:	ABS
Protection degree:	IP66

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SIGRIST
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SIGRIST-PHOTOMETER AG
Hofurlistrasse 1 · CH-6373 Ennetbürgen
Tel. +41 41 624 54 54 · Fax +41 41 624 54 55
www.photometer.com · info@photometer.com