

# Duct smoke detectors

## Type RM-O-VS-D



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### For smoke detection in ducts with integrated airflow monitoring

Duct smoke detector with airflow monitoring function to prevent smoke from spreading through the ducts of ventilation and air conditioning systems

- To provide the control input signal for fire dampers
- To provide the control input signal for smoke protection dampers
- For airflow velocities up to 20 m/s
- For any airflow direction
- Contamination level indicator
- Automatic adjustment of the alarm threshold, hence long service life and little requirement for maintenance
- Volt-free signal and alarm relays
- Airflow monitor

Optional equipment and accessories

- Integration into the central BMS with TROXNETCOM



With TROXNETCOM  
as an option



Tested to VDI 6022

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### Variant

Product example

### Duct smoke detector RM-O-VS-D



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### Description



Duct smoke detector  
RM-O-VS-D

### Application

- Duct smoke detectors of Type RM-O-VS-D are used to control fire dampers and smoke protection dampers with electric or electric-pneumatic release mechanisms (power off to close)
- Control of smoke protection dampers with electric spring return actuators
- Used to prevent smoke from spreading through the ducts of ventilation and air conditioning systems
- Integration into the central BMS with TROXNETCOM

### Classification

- Building inspectorate licence Z-78.6-67 from the DIBt, Berlin, Germany

### Variants

- RM-O-VS-D: Duct smoke detector

### Special characteristics

- Smoke detection based on the principle of light scattering
- For airflow velocities from 1 to 20 m/s
- Airflow monitoring
- With volt-free signal and alarm relays
- Integral signal lamps
- Choice of four airflow directions (every 90°)
- Easily removable sensor head (simplifies functional testing)
- Contamination level indicator and automatic adjustment of the alarm threshold, hence long service life
- Airflow monitoring unit (warning threshold < 2 m/s)
- Annual maintenance
- Can be used with products of any make or model

### Parts and characteristics

- Duct smoke detectors with power supply unit, sensor electronics, sensor head and airflow monitor
- Reset/Test push button
- Signal lamp, green – operation (system monitoring)
- Signal lamp, red – release (alarm)
- Signal lamp, yellow – pollution (indicates contamination)
- Signal lamp, blue – airflow (airflow monitoring)
- Hinged cover
- 4 cover screws

### Materials and surfaces

- Plastic casing

### Installation and commissioning

- Installation (non-vibrating) in a duct to be monitored
- The duct smoke detector must be exposed to a uniform airflow
- Affix the drill template to the duct and drill the required holes (note the desired installation orientation)
- Screw the casing onto the duct using the supplied screws
- Unscrew the cover screws and open the cover (upper part) of the casing
- Connect the duct smoke detector to the fire damper or smoke protection damper
- Connect any external functions, e.g. remote release (optional)
- Connect the mains
- Close the cover and tighten the cover screws

**Standards and guidelines**

- Building inspectorate licence Z-78.6-67 from the DIBt, Berlin, Germany
- Guideline regarding fire protection requirements on ventilation systems (Lüftungsanlagen-Richtlinie, LüAR)

**Maintenance**

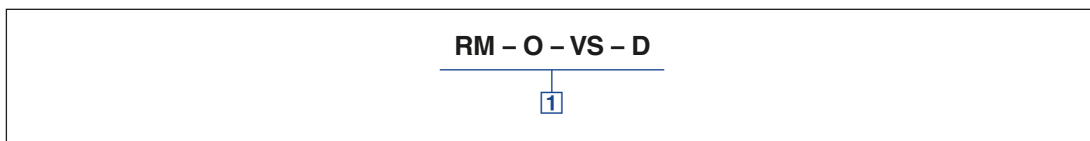
- The functional reliability of the duct smoke detector must be tested at least every 12 months; this has to be arranged by the owner of the ventilation system; functional tests must be carried out in compliance with the basic maintenance principles stated in EN 13306 and DIN 31051.
- Duct smoke detectors must be included in the regular cleaning schedule of the ventilation system
- For details on maintenance and inspection, refer to the installation and operating manual

**Technical data**

<b>EC conformity</b>	Low voltage to 2006/95/EC, EMC to 2004/108/EC
<b>Supply voltage</b>	230 V AC +10/-15 %, 50/60 Hz
<b>Power rating</b>	6 VA max.
<b>Micro fuse</b>	T 100 L 250 V
<b>IP protection level</b>	IP 42
<b>Ambient temperature</b>	0 – 60 °C
<b>Permitted airflow velocity</b>	1 – 20 m/s
<b>Acceptable humidity</b>	≤ 90 % relative humidity, non-condensing
<b>Alarm threshold for volume flow rate</b>	< 2 m/s
<b>Alarm threshold for increased contamination</b>	> 70 %
<b>System monitoring</b>	> 90 %; no smoke detector; smoke detector data transmission error
<b>Alarm relay contact (release, contamination)</b>	250 V 2 A, 24 V DC 100 W
<b>Weight</b>	Approx. 1.5 kg

Order code

RM-O-VS-D



**1** Type

RM-O-VS-D Duct smoke detector

Order example

RM-O-VS-D

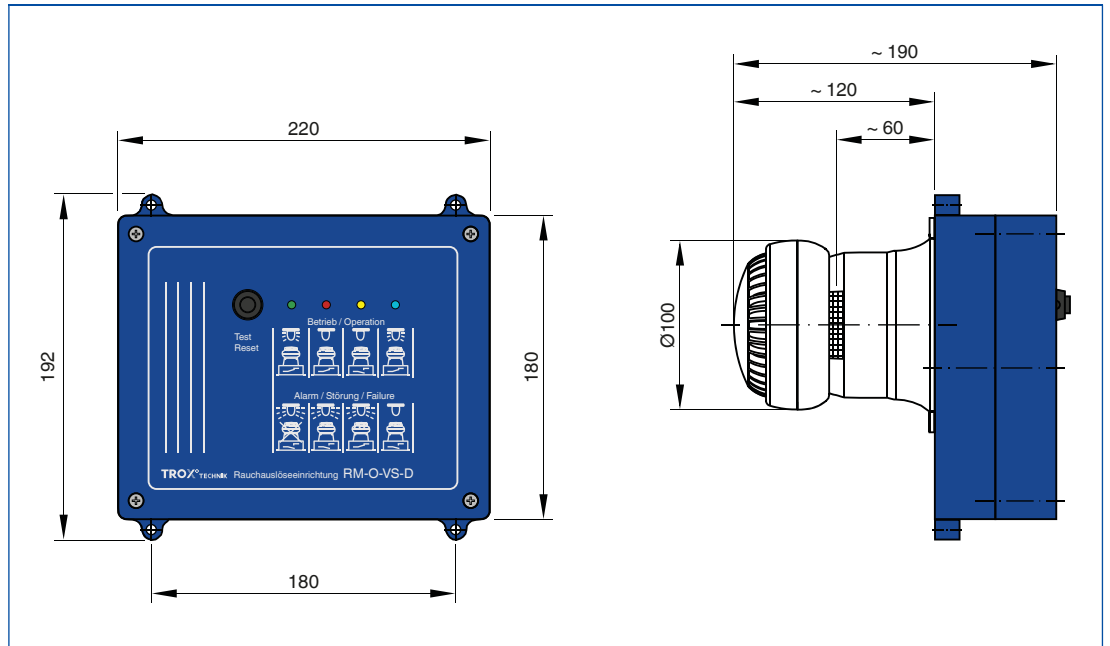
Make	TROX
Type	RM-O-VS-D
Item	5

Dimensions



Duct smoke detector  
RM-O-VS-D

Dimensional drawing of RM-O-VS-D



### Description

This specification text describes the general properties of the product. Texts for variants can be generated with our Easy Product Finder design programme.

Duct smoke detector (smoke detection based on the principle of light scattering) to prevent smoke from spreading through the ducts of ventilation and air conditioning systems. For controlling and releasing fire dampers and smoke protection dampers with general building inspectorate licence and fitted with an electric or electric-pneumatic release mechanism (power off to close).

### Special characteristics

- Smoke detection based on the principle of light scattering
- For airflow velocities from 1 to 20 m/s
- Airflow monitoring
- With volt-free signal and alarm relays
- Integral signal lamps
- Choice of four airflow directions (every 90°)
- Easily removable sensor head (simplifies functional testing)
- Contamination level indicator and automatic adjustment of the alarm threshold, hence long service life
- Airflow monitoring unit (warning threshold < 2 m/s)
- Annual maintenance
- Can be used with products of any make or model

### Materials and surfaces

- Plastic casing

### Technical data

- EC conformity: Low voltage to 2006/95/EC, EMC to 2004/108/EC
- Supply voltage: 230 V AC +10/-15 %, 50/60 Hz
- Power rating: max. 6 VA
- Micro fuse: T 100 L 250 V
- IP protection level: IP 42
- Ambient temperature: 0 – 60 °C
- Airflow velocity: 1 – 20 m/s
- Humidity: ≤ 90 % relative humidity, non-condensing
- Alarm threshold for volume flow rate: < 2 m/s
- Alarm threshold for increased contamination: > 70 %
- System monitoring: > 90 %; no smoke detector; smoke detector data transmission error
- Alarm relay contact (release, contamination): 250 V 2 A, 24 V DC 100 W
- Weight: approx. 1.5 kg

### Sizing data

- $\dot{V}$  \_\_\_\_\_ [m<sup>3</sup>/h]
- $\Delta p_{st}$  \_\_\_\_\_ [Pa]
- $L_{WA}$  Air-regenerated noise \_\_\_\_\_ [dB(A)]

### Order options

#### Type

- RM-O-VS-D** Duct smoke detector

# Duct smoke detectors

## Basic information and nomenclature



- Product selection
- Colour codes according to IEC 60757

# Duct smoke detectors

## Basic information and nomenclature

### Product selection

#### Duct smoke detectors

	Duct smoke detectors	
	RM-O-VS-D	RM-O-3-D
Annual inspection	●	●
Volume flow rate monitoring	●	
Supply voltage: 24 V DC		●
Installation onto FK-EU		●
Integral LON bus interface	●	
Connection to TNC-EASYCONTROL	●	●
Connection to TROXNETCOM-AS-i	●	●
●	Possible	
	Not possible	

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### Wiring

#### Colour codes according to IEC 60757

Code	Colour
BK	black
BN	brown
RD	red
OG	orange
YE	yellow
GN	green
BU	blue

#### Colour codes according to IEC 60757

Code	Colour
VT	violet
GY	grey
WH	white
PK	pink
TQ	turquoise
GNYE	green-yellow