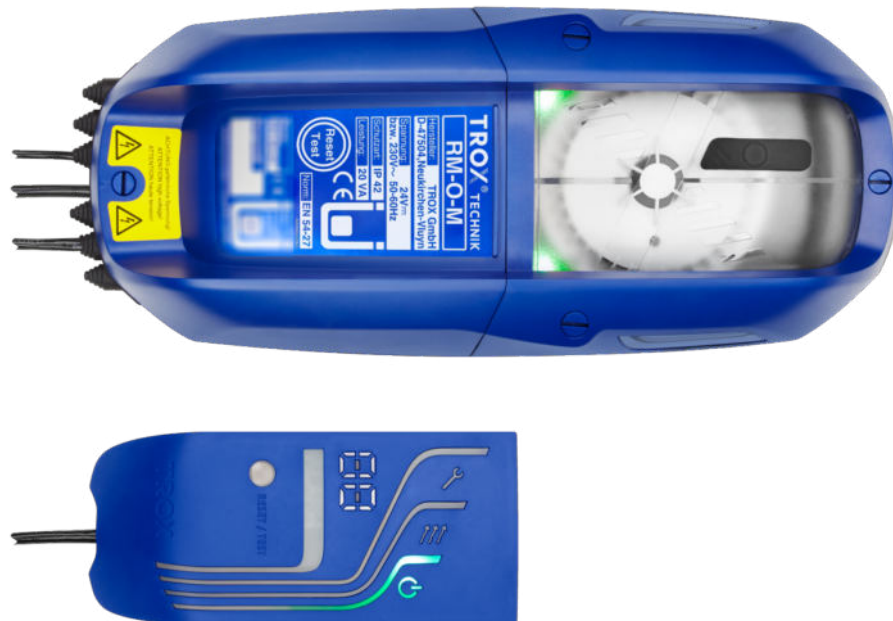


Duct smoke detectors

RM-O-M



Prevents smoke transmission via the air ducts; with integrated airflow monitoring

- For monitoring air ducts and preventing smoke transmission via air ducts of ventilation and air-conditioning systems
- Monitors air ducts in conjunction with a fire alarm system or management and control equipment (MBE)
- Flexible use in round and square air ducts with a diameter or height of 100 mm or more
- to provide the control input signal for fire dampers and smoke protection dampers
- With alarm and fault memory in case of power failure
- Suitable for controlling fans
- Optionally with remote display module for operating and status messages with intuitive operating function
- Display of the degree of pollution in %
- With configurable integrated airflow monitoring
- Functional test of the smoke detector by means of test gas can be carried out without auxiliary means on the unit
- Individual expandability via extensive optional accessories
- Supply voltage 230 V AC or 24 V DC
- Can be integrated into an MBE via interface modules
- Can be individually configured and ordered for every application
- VdS recognition number G223017/EN 54-27:2015
- DIBt approval Z-78.6- ... applied for

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General information

Application

- Prevents smoke transmission via air ducts of ventilation and air conditioning systems
- Monitors ventilation ducts in conjunction with a fire alarm system
- Can be integrated into management and control equipment (MCE) with TROXNETCOM
- To provide control input signals for fans
- For controlling fire dampers with electric or electric-pneumatic release mechanism
- To provide control input signals for smoke protection dampers with electric spring return actuators

Special characteristics

- Smoke detection based on the optical scattered light principle
- For airflow velocities from 1 – 20 m/s
- Integrated flow sensor
- Power supply: 230 V AC or 24 V DC
- Status messages on the smoke detector or optionally via the display and operating module
- Display: Pollution degree in %, LO (low) at airflow < 0.8 m/s, Normal, Fault, Alarm, Test, Reset
- Functional test of the smoke detector by means of test gas can be carried out without auxiliary means on the unit
- Product- and fabrication-independent application
- Annual maintenance

Classification

- EN 54-27:2015-05; Fire detection and fire alarm systems - Part 27: Smoke detectors for monitoring ventilation ducts
- VdS approval G223017
- General building inspectorate licence has been applied for

Material and surfaces

- Casing: plastic, ABS-V0

Variants

- With probe (air guide profile)
- With sensor head in the duct

Installation and commissioning

- The duct smoke detector must be exposed to a uniform airflow
- Screw the casing onto the air duct with the supplied screws
- The smoke detector may only be mounted on the 4 mounting holes in the bottom of the casing
- Fit the duct smoke detector in the upper third of horizontal air ducts (not near a corner).
- 1.5 × H minimum distance between duct smoke detector and any bends, control units etc.
- Establish power supply
- Mount the upper shell of the casing
- Perform functional test

Accessories

- RM-KIT/DISP-L: Retrofit kit display module DISP, including 8 m connection cable with RJ45 connector
- RM-KIT/DISP-S: Retrofit kit display module DISP, including 0.2 m connection cable with connector RJ45
- RM-KIT/CONSOLE: Mounting console for round air duct
- RM-KIT/TESTER: Test gas spray can, non-flammable
- RM-KIT/EM-RELAY: Expansion module EM-RELAY

Maintenance

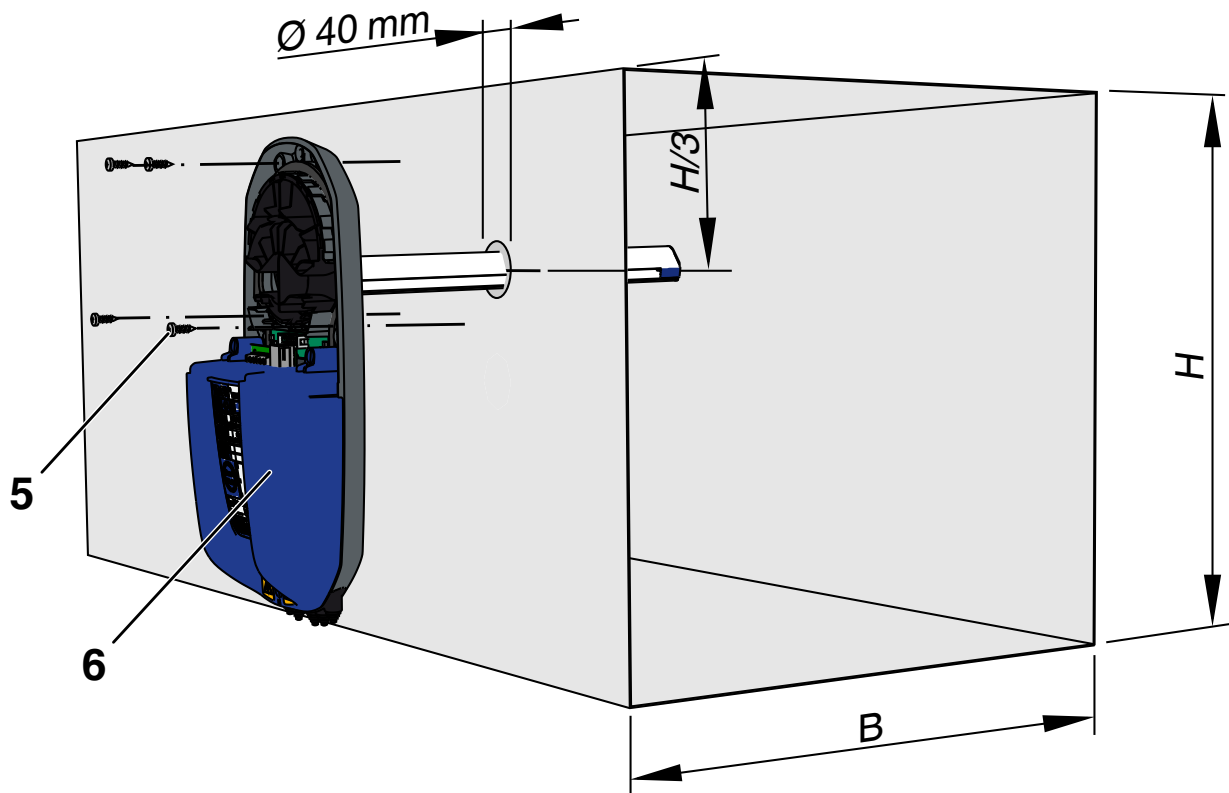
- The operator is responsible for the functional safety of a ventilation system
- The operator has the duty of care:
 - Smoke detectors, including all connected components, must be ready for operation at all times
 - Smoke detectors, including all connected components, must be maintained at all times
 - Check the function of smoke detectors at least once a year
 - Smoke detectors must be included in the regular cleaning of the ventilation and air conditioning system
 - For further information on maintenance, inspection and servicing, please refer to the operating and installation instructions

Replacement parts

- RM-KIT/RM-SRD3000: TROX sensor head
- RM-KIT/COVER: Replacement casing
- RM-KIT/GROMMET: sealing grommet cable bushing
- RM-KIT/TUBE SCREW: Replacement screw for mounting the probe (air guide profile) into mounting plate
- RM-KIT/DISP BRACKET: Replacement bracket for display module DISP-L

Application

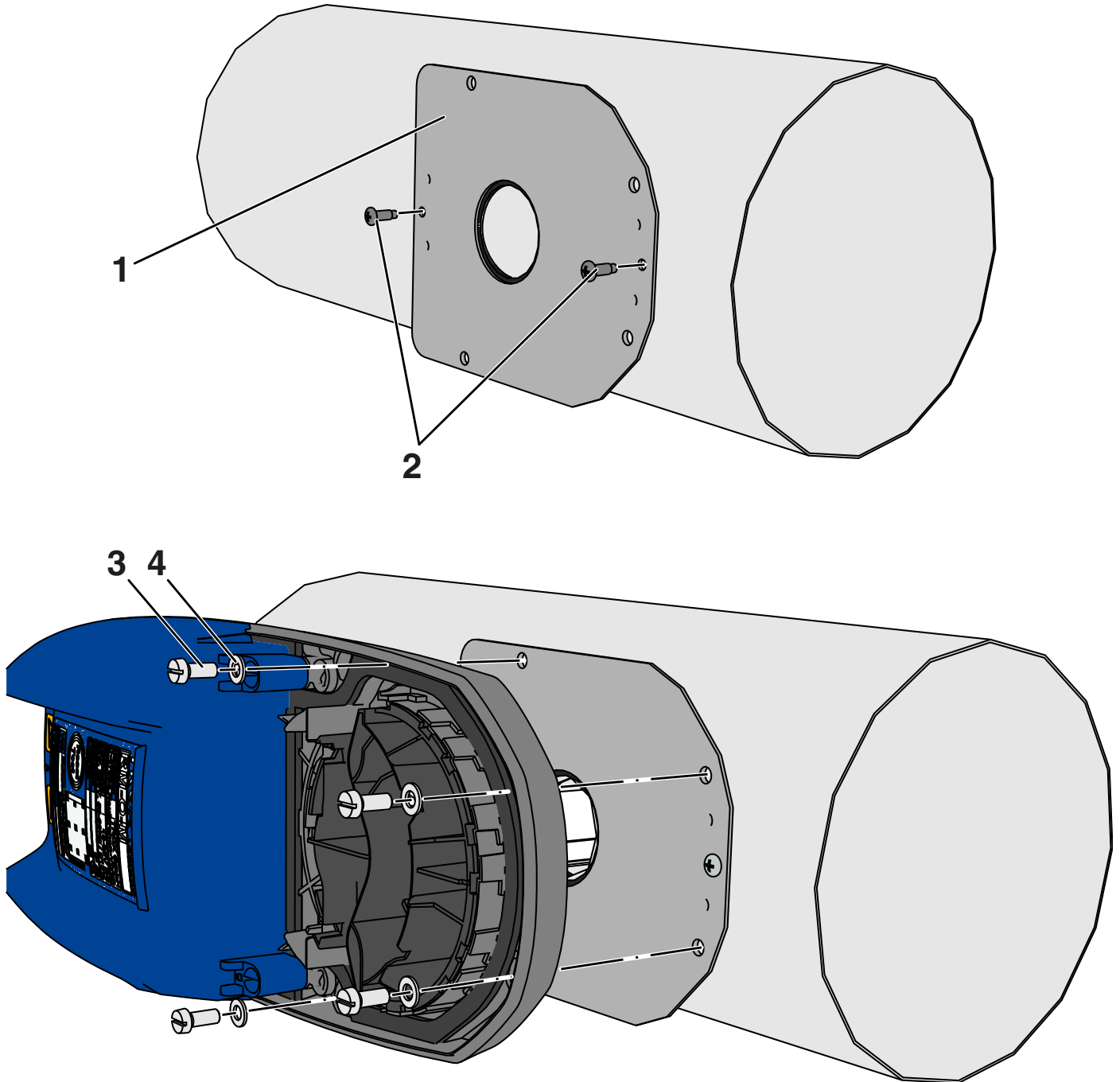
RM-O-M with lance (air guide profile) on angular air duct



5 Fastening screws

6 Casing

RM-O-M with lance (air guide profile) on round air duct



- 1 Mounting bracket
- 2 Fastening screws console
- 3 Mounting screws smoke detector
- 4 Washers

Technical data

Internal fuse	500 mA, slow-blow
maximum cross-section of connection cable	2.5 mm ²
Relay contact FD Alarm (fire alarm), motherboard	230 V AC/24 V DC; 8A
Relay contact Sys Fail (system error), motherboard	24 V DC; 1A
Relaiskontakt Alarm BMS*, EM-RELAY	24 V DC; 1A
Relay contact Airflow (airflow monitoring), EM-RELAY	24 V DC; 1A
Relay contact Pollution (monitoring of pollution level), EM-RELAY	24 V DC; 1A
IP protection level	IP 42
Protection class (230V AC/24 V DC)	II (protective insulation) / III (protective extra-low voltage)
Minimum length air guide profile	90 mm (600 mm in scope of delivery)
permissible airflow velocity	1.0 – 20 m/s
Alarm threshold for volume flow rate	0.8 m/s
Alarm threshold for increased contamination	> 70 %
Operating temperature	-10 to 65 °C
Relative humidity	5 % to 90 %, no condensation
Storage temperature	-20 to 70 °C
Weight	maximum 1.1 kg (without air guide profile)
Dimensions	340 × 144 × 80 mm (L × W × H)
EC conformity	Construction Products Regulation (EU) no. 305/2011
Approvals	
EN 54-27:2015	Fire detection systems - Smoke detectors for monitoring ventilation ducts
General building inspectorate licence	Z-78.6- ...
VdS approval number	G223017

*BMS: Building Management System = Management and control equipment (MCE)

Specification text

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

Material

- Housing: plastic, ABS-V0

Technical data

- Detection principle: optical scattered light principle
- Power supply DC: 24 V \pm 10 %
- Power supply AC: 230 V AC \pm 15 %, 50 - 60 Hz
- Operating voltage range DC: 21.6 V DC - 28.8 V DC \pm 3%
- Switch-off range DC: < 22.3 V DC and > 28.0 V DC
- Power consumption without accessories (nominal operation): 5 VA (at 230 V AC); 3.6 W (at 24 V DC)
- Power consumption with display or expansion module (nominal operation): 6 VA (at 230 V AC); 4.8 W (at 24 V DC)
- Current consumption without accessories (nominal operation): 40 mA (at 230 V AC); 150 mA (at 24 V DC)
- Current consumption with display or expansion module (nominal operation): 50 mA (at 230 V AC); 200 mA (at 24 V DC)
- Maximum connected load spring return actuator: 10 VA (230 V AC/24 V DC)
- Relay contact FD alarm (motherboard): 230 V AC or 24 V DC; 8 A
- Relay contact Sys Fail (system error), motherboard: 24 V DC; 1A
- Relay contact alarm BMS, EM-RELAY: 24 V DC; 1A
 - BMS: Building Management System = Management and control equipment (MCE)
- Relay contact Airflow (airflow monitoring), EM-RELAY: 24 V DC; 1A
- Relay contact Pollution (monitoring of pollution level), EM-RELAY: 24 V DC; 1A
- IP protection class: IP 42
- Protection class 230 V AC/24 V DC: II (protective insulation)/ III (protective extra-low voltage)
- Minimum length of lance (air guide profile): 90 mm (600 mm in scope of delivery)
 - Cutting to the required length is done by the customer
 - Further information on the installation of the air guide profile can be found in the operating and installation instructions
- Permissible airflow velocity: 1 – 20 m/s
- Alarm threshold for volume flow rate: < 0.8 m/s
- Alarm threshold for increased contamination: > 70 %
- Operating temperature range: -10 – 65 °C

- Storage temperature: -20 to 70 °C
- Relative humidity: 5 – 90 %, no condensation
- Weight: maximum 1.1 kg (without air guide profile)
- Dimensions: 340 × 144 × 80 mm (L × B × H)

Zulassungen

- VdS approval G223017

Standards and guidelines

- EN 54-27:2015-05; Fire detection and fire alarm systems - Part 27: Smoke detectors for monitoring ventilation ducts

Accessories

- Aluminium air guide profile, length 600 mm, standard
- Sensor head, optical scattered light principle
- Removable display module with 7-segment display for operating and status messages - [see link](#)
- Mounting of the display module directly on the smoke detector (central mounting)
 - Length connection cable: 0.2 m
 - Mounting of the display module by means of mounting brackets (decentralised mounting)
 - Remote operability due to long connection cable
 - Length connection cable: 8.00 m
- EM relay board for evaluation of alarm, contamination and airflow monitoring

Equivalence criteria

- Can be used flexibly with lance (air guide profile) or sensor head in the duct
- Removable display module with magnetic surface for operating and status messages
- Function test can be carried out from the outside
- Simple function test with test spray via integrated maintenance opening in the transparent housing
- With display of the degree of pollution and quiescent value tracking
- Permissible air velocity 1 - 20 m/s with warning limit at < 0.8 m/s
- Can be integrated into MCE, regardless of manufacturer

Manufacturer: TROX GmbH

Order code

- Depending on configuration

Order code

RM-O-M – S – T / DISP-L / R / CRD / OFF
| | | | | | |
1 2 3 4 5 6 7

1 Type

RM-O-M Duct smoke detector, multifunctional

2 Smoke detection

S Release if smoke is detected

3 Installation variant

T Detection via lance (air duct profile)

D Detection directly in the air duct*

4 Attachment

No entry: without attachment

DISP-S Display module with 0.2 m connection cable

DISP-L Display module with 8 m connection cable

5 Expansion module

No entry: without expansion module

R EM-RELAY additional switch contacts

A EM-ASI (for bus interface AS-Interface)*

B EM-BACMOD-RM (for bus interface BACnet MS/TP)*

M EM-BACMOD-RM (for bus interface Modbus RTU)*

6 Accessories

No entry: without accessories

CRD Console for round duct (only with installation variant T)

7 Airflow monitoring

No entry: ON

OFF deactivated (for use in air transfer dampers)

Bestellbeispiel: RM-O-M-S-T/DISP-L/R/CRD/OFF**Type**

RM-O-M Duct smoke detector, multifunctional

Smoke detection

Release if smoke is detected

Installation variant

Detection via lance (air duct profile)

Attachment

Display module with 8 m connection cable

Expansion module

EM-RELAY additional switch contacts

Accessories

Console for round duct (only with installation variant T)

Airflow monitoring

deactivated (for use in air transfer dampers)

*Variant expected to be available end of quarter 2/2024

Variants

RM-O-M: DISP-S



Application

Central installation:

- Attachment of the magnetic display module directly to the smoke detector
- Length connection cable: 0.2 m

RM-O-M: DISP-L



With mounting bracket (right)

Application

Decentralised mounting in installation situations that are difficult to access:

- Fastening the magnetic display module to the mounting bracket
- Mounting the bracket with 3 fixing screws
- Remote controllability through long connection cable, length: 8.00 m

Dimensions

