

ORS 142

Features

| | |
|---|---|
| Optical smoke detection according to EN 54-7 | ✓ |
| Revision indicator according to DIN 14677 | ✓ |
| Contamination compensation function | ✓ |
| RS bus with communication abilities | ✓ |
| Sensing chamber monitoring | ✓ |
| Potential-free NCC | ✓ |
| Integrated line monitoring* | ✓ |
| Usable in all current hold-open systems | ✓ |
| System acknowledged according to DIN EN 14637 | ✓ |
| With DIBt approval | ✓ |
| Made in Germany | ✓ |

* In part numbers
5000552.0301, 5000552.0306, 5000552.0391 and higher



ORS 142

The optical smoke switch ORS 142 detects both smouldering fires and open fires with development of smoke at a very early stage. An additional temperature sensor responds at an ambient temperature of 70 °C. We recommend that you use the temperature differential switch TDS 247 in environments with disturbances, such as vapour, dust, condensation and operational smoke development. The integrated termination module is activated by a magnet in the base. The temperature range has been extended to -30 °C and therefore allows new fields of application. All country-specific regulations must be complied with.

The ORS 142 utilizes the scattered-light principle. Inside the sensing chamber, a light source and a light sensor are arranged such that the light beam of the light source cannot directly fall on the light sensor. It is only when airborne particles enter the chamber that the light scattered by these particles reaches the sensor. In addition, the evaluation electronics of the ORS 142 monitors the smoke measuring section of the detector for minor contamination, heavy soiling and failures (failure of the sensing chamber). The various operating states of the ORS 142 are visually indicated by an LED.

After having been operated longer than 8 years, the device indicates that it must be replaced according to DIN 14677. (German national norm) The contamination compensation function ensures that the distance between the basic-level and the alarm threshold remains the same until the heavy soiling limit value is reached. This may result in a service life of the smoke switch that is 2 to 3 times as long as the usual service life.

The relay contact opens if an alarm occurs and in the event of malfunction and voltage failure.

The integrated termination module for optional line monitoring is activated by a magnet in the base of the last smoke switch in the branch line. The magnet can be easily and quickly installed in the base so that it is no longer necessary to laboriously insert an end-of-line resistor or a termination module.

Since it is mounted in the base, the magnet is included in the delivery. To evaluate the line monitoring function, an appropriate control unit must be installed, e.g., the FSZ base.

Due to its sturdy design, its good technical properties and the extended temperature range of -30 °C to +60 °C, the ORS 142 can be used in many applications and fields of use. The ORS 142 functions reliably no matter where it is installed, whether in industrial, administrative or office buildings, in arenas, stadiums or un-

derground car parks. Whether sliding doors or gates, swing doors, fire curtains or rail-bound conveyor systems, the ORS 142 monitors all fire barriers and reliably initiates a smoke alarm.

Since the ORS 142 is offered with a wide range of bases, it features both surface-mounting and flush-mounting options. In addition, we offer a base for being mounted on a wall and one for being mounted in moist rooms.

The ORS 142 and its bases can be painted in any colour similar to those of the RAL Classic colour chart.

The ORS 142 is listed in most of the DIBt (German National Authority for Civil Engineering) approvals of all well-known control and NOC manufacturers. This enables it to be used in almost all hold-open systems that are commercially available.

Scope of delivery

The delivery includes:
1 x ORS 142 with dust protection cover
1 x assembly instructions

Accessories

Base 143 A
Base 143 AF
Base 143 UH
Base 143 W
Bracket K 143K
Bracket K 143S
Replacement magnets VE10

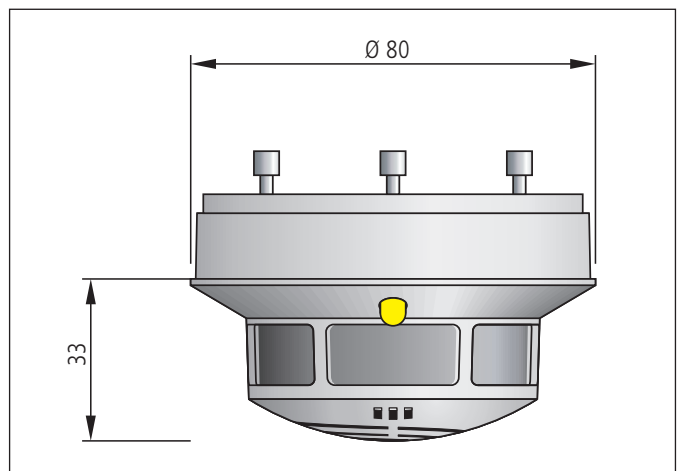
The ORS 142 is listed in the approvals of the following manufacturers:

- abs
- Assa Abloy
- C-Tec
- Dictator
- DMW Schwarze
- Dorma
- ECO Schulte
- Effertz
- Entrematic
- Hodapp
- Geze
- GTE
- GU BKS
- Jansen
- Kendrion-Linnig
- Landert-Tormax
- Protronic
- Record
- Schnetz
- Stöbich
- ...

| Technical data | |
|---|---|
| Functional principle | scattered light |
| Response threshold | |
| Smoke | according to EN 54, Part 7 |
| Temperature | 70 ±5 °C |
| Operating voltage | 18 to 28 V DC |
| Residual ripple | max. 200 mV _{SS} |
| Current consumption at 28 V DC | |
| Quiescent | max. 22 mA |
| In alarm | max. 11 mA |
| In the event of a failure | max. 16 mA |
| Relay contacts | |
| Switching voltage | max. 30 V DC |
| Switching current | max. 1 A |
| Switching power | max. 30 W |
| Degree of protection | IP 42 |
| Ambient operating temperature | -30 to +60 °C |
| Storage temperature | -30 to +60 °C |
| Ambient conditions humidity (continuously, without condensation) at >34 °C | 10 to 95 % rH |
| Ambient conditions humidity (continuously, without condensation) at <34 °C | max. 35 g/m ³ min. 10% rH |
| Weight | 82 g |
| Colour | signal white acc. to RAL 9010 |

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| Internal ORS 142 wiring, no magnet inserted | Internal ORS 142 wiring, magnet inserted R = 43 kohms | The magnet must be inserted in the base at terminal 5. This activates the end-of-line resistors integrated in the smoke switch through reed contacts. If the magnet is not inserted, the smoke switch features its usual potential-free NCC. |

| Relay | Individual indicator |
|---------------|----------------------|
| Operational | green |
| Minor soiling | green yellow |
| Heavy soiling | green yellow |
| Fault | yellow |
| Alarm | red |
| De-energized | off |



Accessories

Base 143 A

Base for surface-mounting with magnet for line monitoring activation



Base 143 AF

Base for mounting in moist rooms with magnet for line monitoring activation



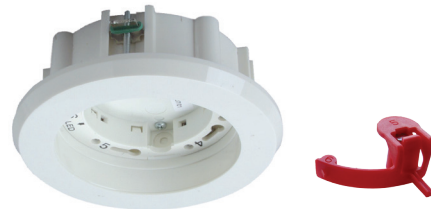
Base 143 W

Base for wall-mounting with magnet for line monitoring activation



Base 143 UH

Base for flush-mounting/mounting in hollow ceilings with magnet for line monitoring activation



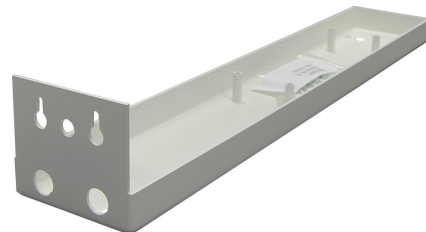
Bracket K 143-S

Bracket for mounting the surface-mounting base to a door lintel according to standards



Bracket K 143-K

Bracket for mounting the surface-mounting base to a wall with ceiling heights above 5 m according to standards



Order data

| | | |
|--------------------------|--|------------------|
| ORS 142 | Optical smoke switch | 5000552.0301 |
| ORS 142 AT | Replacement optical smoke switch | 5000552.0306 |
| ORS 142 MC | Multi-colour optical smoke switch | 5000552.0391 |
| Base 143 A | Surface-mounting base | 5000350 |
| Base 143 A MC | Multi-colour surface-mounting base | 5000600.0291 |
| Base 143 AF | Base for mounting in moist rooms | 5000356 |
| Base 143 AF MC | Multi-colour base for mounting in moist rooms | 31-5000009-91-01 |
| Base 143 W | Wall-mounting base | 5000513 |
| Base 143 W MC | Multi-colour wall-mounting base | 31-5000010-91-01 |
| Base 143 UH | Base for flush-mounting/mounting in hollow ceilings | 5000359 |
| Hider ring 143 BR MC | Multi-colour hider ring for flush-mounting/mounting in hollow ceilings | 3110465 |
| K 143-S | Bracket for mounting the smoke switch in the lintel area | 3510232 |
| K 143-K | Bracket for mounting the smoke switch to a wall with ceiling heights above 5 m | 3510233 |
| Replacement magnets VE10 | Magnets for line monitoring activation, package of 10 | 31-4100015-01-01 |

Subject to technical changes and changes in availability.

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