SDD-S50/S65

Ionisation singel tube smoke detector
Duct mounting

SDD single tube smoke detector for duct mounting is intended for smoke detection in ventilation systems. The detector is available with or without service alarm and auxiliary fan function.

- Ionisation type smoke detector with a minimum of active material
- RFI-protected (radio interferences)
- One control unit can control several detectors (does not apply to SDD-S65-RAC)
- Also available with service alarm, model SDD-S50
- Compact design. The detector is bayonet mounted to simplify service and maintenance
- Working range -20 to + 60°C

Function

SDD-S50/S65 are ionisation smoke detectors intended for mounting on all duct types. They react on visible and invisible smoke particles and can therefore detect fire at an early stage.
The aluminium venturi tube is mounted in the duct through a hole, Ø30 mm. The tube length is 540 mm and can be shortened. It can thereby be adjusted to all duct sizes. The detector housing has a window giving a clear view of the flow indicator and the alarm LED. It also has a testplug for simple injection of test gas.

Different versions
The smoke detectors in the SDD-series come in different versions. The basic model has functions necessary for the supervision of a ventilation system.
The detector with service alarm is used to alert for the need for cleaning.
Detectors with auxiliary fans are used for monitoring ventilation ducts even when the normal ventilation fans are shut off.
There are two models for 24 V AC supply voltage, with and without auxiliary fan.

Working principle
The detectors use the two-chamber principle. The outer chamber reacts to rapid fluctuations in particle density in the air. The inner chamber compensates for the long-term contamination of the detector. Smoke in the outer chamber affects the balance between the two chambers and will trigger an alarm.

Alarm indication
The LED is normally not lit. In the event of a smoke alarm, the red LED will be lit.

Service alarm
The smoke detector SDD-S50 has a built-in service alarm function, a function that detects the dirt contamination, which occurs over time. When the detector becomes too dirty for safe function a service alarm is triggered. The red LED will light up on the detector and a yellow LED and alarm relays will be activated on the control-unit.

Flow indicaiton
The detector has a built-in flow indicator to indicate correct flow through the detector housing.

Function test
On the side of the lid there is a red plastic plug. This can be used for easy injection of test gas for detector function control.

Approval
Approved according to EN-54, also tested and approved by SBSC. The detector is also approved by the Swedish radiation protection authority.

Models

SDD-S65	Basic model
SDD-S65-M	With auxiliary fan
SDD-S50	With service alarm
SDD-S65-RAC	With AC power supply and relay output only
SDD-S65-RACM	With AC power supply and relay output only. With auxiliary fan.
SDD-S50-M	With service alarm and auxiliary fan
TDS	Plate for mounting at distance from duct

Technical data

Supply voltage	9...33 V DC (via control unit) 24 V AC ±15 % for RAC(M) models
Power consumption, incl. end resistor (not RAC(M))	
- normal operation	11 mA at 24 VDC
- at alarm	50 mA at 24 VDC
- at service alarm	20 mA at 24 V DC
Operating temp.	-20...+60°C (not condensating)
Air humidity	Max. 95 % RH
Air velocity	Up to 20 m/s
Protection class	IP54
Detector principle	Ionisation, two-chamber
Radioactivity	0.9 mci Americum 241 33 kBq, ISO 2919 tested

CE This product conforms with the requirements of European EMC standards CENELEC EN50081-1 and EN50082-1 and carries the CE-mark

Indications

Smoke alarm	Red LED
Service alarm	Red LED (yellow on control unit)
Venturi tube	Aluminium, 30 mm diameter. Length 540 mm for ducts up to 1.3 m
Relay (SDD-S65-RAC(M))	Change-over, 24 V AC/DC, 2 A

Mounting and maintance

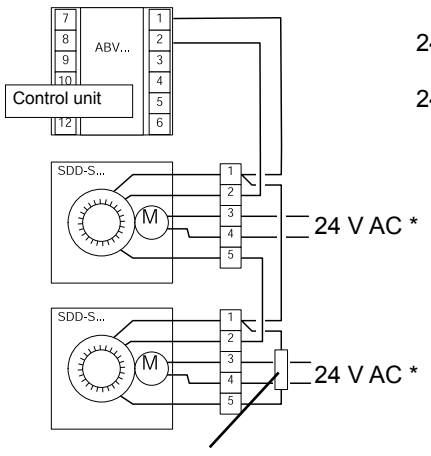
Mounting
Drill the required hole in the duct. The Venturi tube can be shortened when mounted in smaller ducts.
The venturi tube has lips that match the tube holder on the housing. When mounting SDD... ensure that the airflow is representative of the airflow in the duct as a whole.

The detector should be mounted at least three duct-widths away from bends, intakes or other disturbances. The holder is designed so that it will also fit directly onto round ducts.

Mounting plates
When the detector has to be mounted at a distance from the duct (i.e. when insulation material is used) the mounting plate TDS should be used.
Distance bushing for mounting on the venturi tube is delivered with the mounting plate.

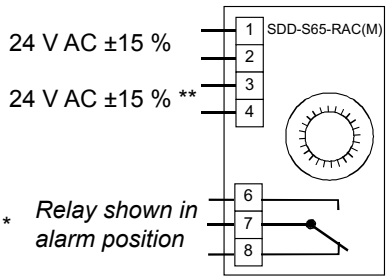
Maintenance
Operation checks and cleaning of the detector should be carried out once a year to ensure continued maximum efficiency. The cover can be cleaned using a vacuum cleaner.

Dimensions and connection



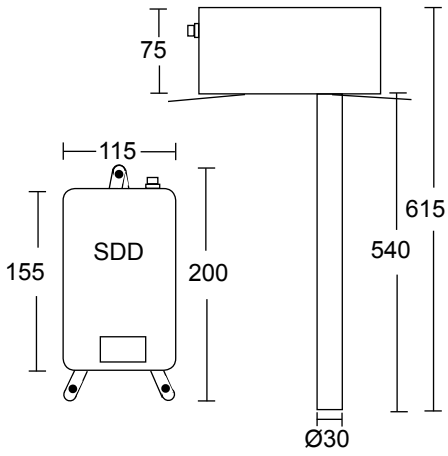
End resistor 2.2 KΩ

* Only models with auxiliary fan



** SDD-S65-RACM only

Relay function connection



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