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SDD - S50/S65
Ionisating 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 in models with or without service alarm and auxillary fan function.

* Smoke detector of ionisating principle with a minimum of active material

* RFI-protected (radio interferences)

* One control unit can control several detectors

* 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 ionisating 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.

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
When the SDD-S50/65 runs normally the LED is not lit. At 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-S50	With service alarm
SDD-S65-M	With auxillary fan	SDD-S50-M	With service alarm and auxillary fan
SDD-S65-R	With built-in relay (24 V)	TDS	Plate for mounting at distance from duct

Technical data

Supply voltage	9...33 V DC (via control unit)
Power consumption	(including end resistor)
- at normal operation	11 mA vid 24 VDC
- at alarm	50 mA vid 24 VDC
- at service alarm	20 mA vid 24 V DC
Operating temp.	-20...+60°C (not condensating)
Humidity	Max 95% RH
Protection class	IP54
Detector principle	Ionising, Two-chamber
Radio-activity	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 CE-mark

Indication

-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-R)	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.

Cleaning of the inside of the detector head should only be undertaken by the supplier. For this purpose there is an exchange system whereby dirty detector heads can be exchanged for cleaned ones.
Defective detectors are to be returned to the supplier.

Dimensions and connection

Relay function connection

Figure shows relay in alarm position
SDD-S65-R only

24 V AC *)

24 V AC *)
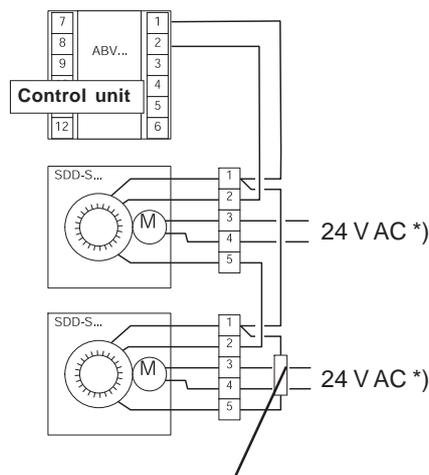
End resistor 2,2 KW (included in the control unit package)

*) Only models with auxillary fan,
SDD-S50-M and SDD-S65-M

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