Multichannel ASD with addressable pipe identification.

SecuriSmoke ASD multichannel

SecuriSmoke ASD is now available as 4 and 8-channel versions for connecting large pipe networks to the ASD. On request, the multichannel ASDs can also be modularly expanded with a channel identification capability for pinpointing the smoke source. The channel identification information can be fed into FidesNet or NetSoft without additional programming. This functionality allows the smoke source to be visualised with pinpoint accuracy. The data of the addressable REK detectors can be linked to any fire alarm control panel through an input module and displayed on an indicator display panel with spatial resolution.

Multi-channel application without channel identification

A new pipe manifold is used to transform the SecuriSmoke ASD 535 into a 4-channel or 8-channel ASD.

Large 4- and 8-channel pipe networks can be implemented easily and cost-effectively through use of these new pipe manifolds.

All the new pipe accessories are included in the VdS-approved PipeFlow calculation tool.

Existing pipe networks

The manifold provides effortless integration of existing 4- and 8-channel sampling pipe networks, with no need to make fundamental alterations to the network. Simply, quickly and cost-efficiently.

4-channel ASD

8-channel ASD

Multi-channel application with channel identification

An aspirating smoke detector looks for the presence of smoke by drawing in air through the holes in the sampling pipe into its detector chamber. The REK 511 channel identifier facilitates the pinpointing of smoke sources, thus allowing remedial steps to be taken quickly and effectively.

Up to four REKs can be connected directly to an ASD 535. The existing network with FidesNet and NetSoft enables visualisation of the status of each individual REK – with no need for extra programming.

This provides a complete and immediate overview of the status of the entire system.

Switchgear cabinet identification

As a useful addition to smoke detection with the standard ASD, a multi-channel ASD can be used for switchgear cabinet monitoring – for pinpointing a smoke source before the outbreak of fire.

FidesNet

NetSoft

4-channel ASD with identification

8-channel ASD with identification

Switchgear cabinet monitoring

Accessories for multi-channel applications

Pipe manifold

REK 511 housing

REK 511 housing with SSD 515

SSD 515 smoke detector

12.2021

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SECURITON

SecuriSmoke ASD 535 HD / DFU 911S / ADB 500 / MFS 25
The package for extreme applications

The aspirating smoke detectors from Securiton are among the most reliable early warning systems against fires available. The SecuriSmoke ASD (Aspirating Smoke Detector) range impresses by virtue of its unrivalled performance capability. Developed in Switzerland and manufactured in Germany, the detectors are particularly reliable and robust. The ASD 535 HD version is specially designed for extreme environments where other detectors are pushed to their performance limits.

An even tougher ASD 535 for extreme applications

Tried and proven over many years, the components of the ASD 535 were designed with a higher protection class of IP 66 for use in extreme conditions, thus enabling the devices to also be deployed in wet and dusty environments. All components have a special protective coating to comprehensively safeguard the electronics. Use in corrosive environments such as agricultural and industrial applications ensures that entire systems are fully monitored. With the addition of the OPB 911 overvoltage protection board, the ASD 535 HD can also be used in areas with a higher risk of atmospheric overvoltage (lightning). Besides the new features, the aspirating smoke detector includes the following proven parts: high-performance ventilator, air flow sensor, LVSC measuring chamber (large-volume smoke chamber), and high-power LED – all of which have been tried and proven in the market for years.

The SecuriSmoke ASD Heavy Duty is available in two versions.

- ASD 535-3 HD; the robust 1-channel version with level indicator.
- ASD 535-4 HD; the robust 2-channel version with level indicator.

DFU 911S

The DFU 911 dust filter unit was further developed for use in extreme applications and fitted with a special filter cap. The new DFU 911S filter detects whether a filter cartridge is inserted or not. If the filter cartridge is missing, an air flow fault is triggered. While the filter cartridge is being replaced, the cap prevents dirt from entering the sampling pipe.

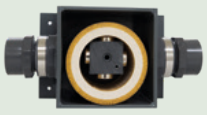
ADB 500

For environments with very high dust exposure, the ADB 500 automatic blow-out device must be used. Thanks to the automated cleaning of the sampling tubes and sampling holes, faults due to soiled sampling holes are significantly reduced. This extends the service life of the smoke sensors and ASDs. Different blow-out cycles can be set on the blow-out unit. If the compressed air should fail, this is signalled by the ADB 500 automatic blow-out device as a fault message to the superordinate fire alarm control panel.

ASD 535 HD

DFU 911S

MFS 25



ADB 500

MFS 25 magnet filter

The magnet filter system (MFS) supplements the range of applications for the conventional filter by adding environments with metallic dust. The system thus significantly extends the service life of the smoke detectors used in the aspirating smoke detectors and prevents false alarms caused by metallic dust. A replaceable plastic cartridge protects the strongly magnetic element from dust deposits.

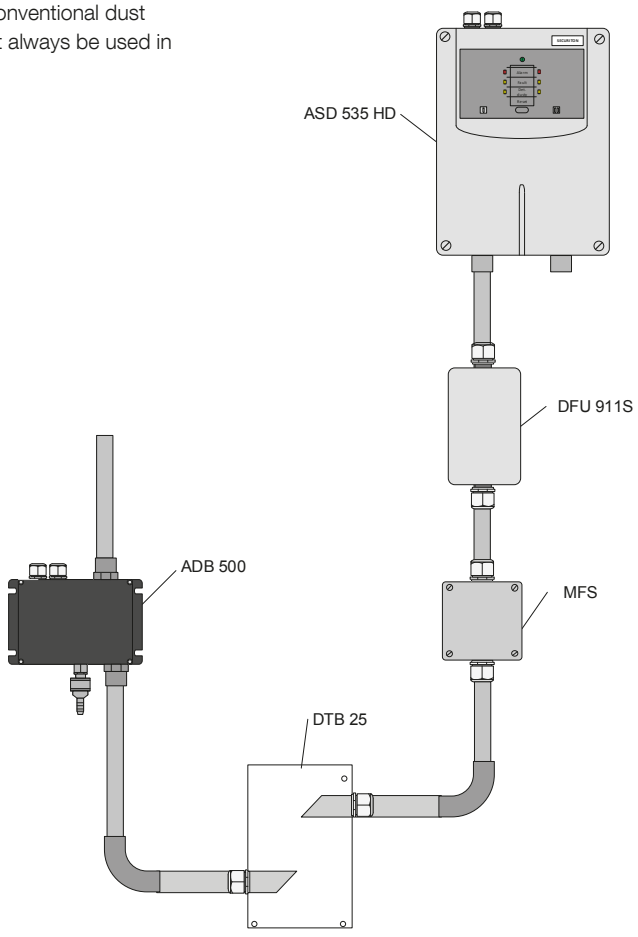
Your benefits at a glance:

- approved in accordance with EN 54-20 classes A, B and C, UL and FM
- sensitivity settable from 0.002–10%/m
- highly sensitive yet robust smoke detection thanks to LVSC (large-volume smoke chamber) with measurement resolution < 0.001%/m
- complete integration into the SecuriLine addressable loop, including Config over Line
- insensitive to dirt particles thanks to patented particle suppression
- coated printed circuit boards for protection against corrosive environments
- up to 5 alarm levels per detector (3 pre-signals and 1 or 2 alarms)
- surge protection up to 8 kV
- special filter units for extreme conditions and metallic dust
- compact blow-out unit for very dusty applications

SECURITON

The right accessories for every application

The MFS 25 magnet filter is used in rail-mounted transport systems and industrial applications with metal processing, for example. Metallic dust has a size distribution that overlaps that of smoke particles. As a result, it is not possible to filter out metallic dust using conventional dust filter units. Magnet filters must always be used in combination with a dust filter.



Typical applications

Rail areas: MFS magnet filters are typically used in the event of rail abrasion in metro applications. For heavy dirt accumulation, blow-off units are also recommended in addition to the DFU 911 filter to prevent faults in the sampling tube network.

Industrial applications: The processing of materials (e.g. grinding and welding) produces different kinds of dust that have to be filtered. In addition to the DFU 911 dust filter unit, an ADB 500 should be used, as well as a DTB 25 and an MFS 25 depending on the processed material.

Agriculture: Corrosive and dusty environments require the use of the DFU 911S, the DTB 25 and the ADB 500. Coated printed circuit boards protect the ASD from corrosive environments.

Timber processing industry: In carpentry workshops, fine wood fibres can cause disturbances in the smoke sensor. This is why a DFU 911S dust filter unit and an automatic blow-out device are of tremendous benefit.

Range for heavy-duty applications

ASD 535-3/4 HD	Aspirating smoke detector for 1 or 2 SSD 535 CP smoke sensors, heavy-duty version
SSD 535-3 CP	Highly sensitive smoke sensor for ASD 535 HD, coated version
OPB 911	Overvoltage protection board for ASD 535 HD
DFU 911S	Dust filter unit with integrated protective cap
MFS 25	Magnet filter system
ADB 500	Blow-out unit for cleaning the sampling tube
DTB 25	Dust trap box

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03.2020

ASD dust filter unit
DFU 911 and DFU 911S

A dust filter unit DFU 911 can be installed in the sampling pipe tube network for using an aspirating smoke detector (ASD) in applications subject to dust or dirt. This significantly extends the service life of the smoke sensors, air flow sensors and fans used in the ASD and results in enhanced resistance to false alarms. A filter monitoring function in the ASD can be activated to indicate the optimal time to replace the filter element after a defined, application-specific filter service life has elapsed.

Quick and simple installation
The dust filter unit is mounted directly on the wall. The distance from the wall to the connecting pipes of the filter is defined using the ASD and the wall mounting clips.

Long service life
Proven technology in a compact design – the new dust filter unit DFU 911 incorporates the proven filter technology of the DFU 535 filter family, but with a simplified design. The incredibly effective lamella filter technology guarantees good air distribution across the entire surface of the filter in the DFU 911 dust filter unit.

A perfect match for all Securiton ASD types
The size of the new DFU 911 dust filter unit means it is optimally designed for use with the Securiton ASDs. Two filter units fit perfectly with the contact spacing of a two-channel ASD 535. With the simple housing colour in the style of Securiton devices, its affiliation with the device family is immediately apparent.

Tool-free maintenance in three simple steps
Tools are not required for maintenance of the DFU 911 dust filter unit. The simple design allows for maintenance to be carried out rapidly.

DFU 911S
The new DFU 911S dust filter unit is equipped with a special protective flap. Additional monitoring is made as to whether a filter cartridge is inserted or not. If the filter cartridge is missing, an air flow fault is triggered on the ASD. This is a fast and effective way of determining whether the filter cartridge was deliberately removed or accidentally not inserted. While the filter cartridge is being replaced, the flap also prevents dirt from entering the sampling pipe.

Instructions for replacing the filter cartridge
Nothing could be quicker and easier!

1 Open the two metal clips

2 Remove the housing cover

3 Replace the RFC 911 filter element

The filter can be put back into operation after attaching the housing cover and closing the metal clips.

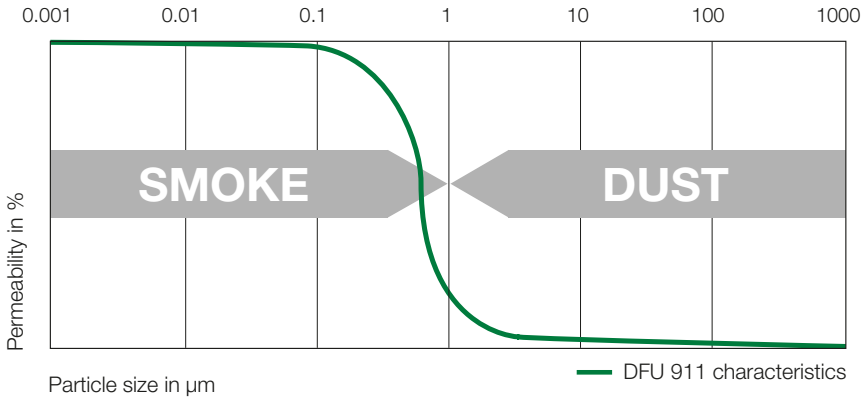
Standard DFU 911 dust filter unit

DFU 911S dust filter unit with integrated protective flap

SECURITON

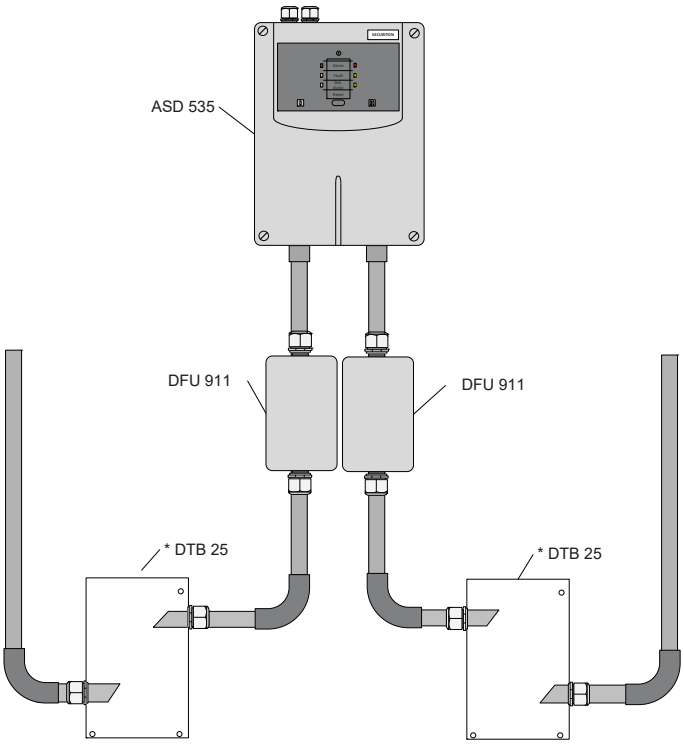
ASD dust filter unit
DFU 911 and DFU 911S

Functions
The DFU 911 dust filter unit uses a filter material that has been specially developed for use in aspirating smoke detectors. One of the features of this filter material is that it filters out dust particles while allowing smoke particles to pass through unfiltered. Typically, in terms of particle size the dividing line where dust and smoke particles meet is around 1 µm. The graphic shows the filter characteristics of the DFU 911 dust filter unit.



Typical areas of application
DFU 911: Warehouses, hollow ceilings, hollow floors, public buildings, cable tunnels, power supply tunnels, switch cabinets, transformers, wind turbines etc.

DFU 911S:
Installations where monitoring the presence of a filter cartridge is required, such as agricultural applications, production companies, recycling plants, timber processing plants etc.



*The DTB 25 dust trap box is intended for use in heavily contaminated areas.

Technical data

DFU 911
Dust filter unit
Article no. 11-2300030-01-xx

DFU 911S
Monitored dust filter unit (with protective flap)
Article no. 11-2300103-01-xx

RFC 911
RFC 911 replacement filter element
Article no. 11-2300031-01-xx

RFC 911VE20
RFC 911 replacement filter element (20 pcs.)
Article no. 11-2300031-02-xx

818277 05.20

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SECURITON

Networking, visualisation and operation of Aspirating Smoke Detectors.

FidesNet

FidesNet enables the interconnection of multiple SecuriSmoke aspirating smoke detectors for visualisation using one or more FidesControl RCU 700s*. The performance scope includes RS-485 networking as well as the visualisation and operation of all ASDs connected to the FidesControl RCUs connected in the network. The FidesNet networking solution makes it possible to connect SecuriSmoke aspirating smoke detectors to superordinate systems using the FidesPort NCU 900.**

Applications

The FidesNet network solution is typically used wherever remote visualisation and operation are required. Reasons for this may be hard-to-access areas such as security zones at airports, laboratories, or IT environments in which aspirating smoke detectors are used but where a technician does not always have access or can access only with difficulty. The networked SecuriSmoke aspirating smoke detectors can be configured via an RCU 700.

Another possible application is centralised display and operation in a safety management system in order to monitor the entire installation from a single location.

In addition to remote visualisation and operation, another important area of application is the ability to connect to other systems using standardised interfaces. For example, the transfer of relevant measurement data to the management system of a data centre is an important safeguard for an operator concerning the current state of the system.

Operation

Operation is via the 7-inch touch panel of the RCU 700 FidesControl unit. All data of the networked aspirating smoke detectors is available on the display. Each networked detector can be accessed via an RCU 700 to retrieve detailed information, for example for pending maintenance work. The detectors can be isolated by channel as well as reset in the event of errors or alarms. It is also possible to parameterise the networked ASDs via the display.

The display language is user configurable. Available languages: German, English, simplified Chinese.

Application examples: Remote operation of the aspirating smoke detector or connection to a management system

Networking

Up to 100 SecuriSmoke aspirating smoke detectors can be networked per FidesNet. The ASDs connect to the FidesPort NCU 900 via RS-485 or Ethernet. For hierarchically superordinate systems such as management systems, the data of the networked ASDs is available from the NCU 900 via Modbus and SNMP.

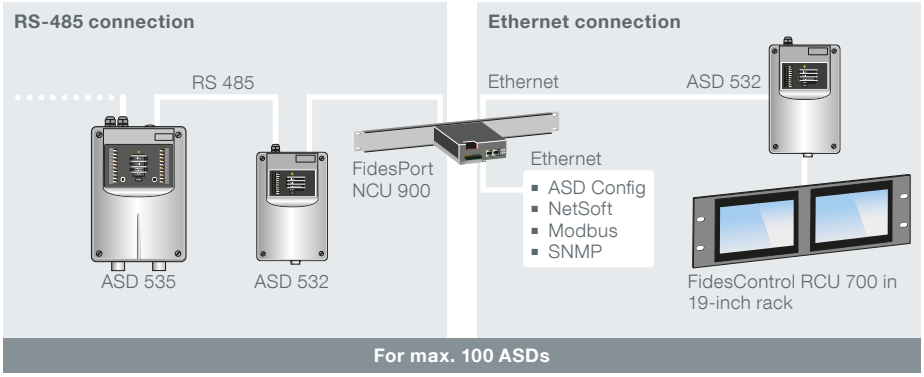
Adjust parameters

You can adjust the following parameters with the programming function:

- Alarm threshold, airflow tolerance window, dust/soiling thresholds, fan levels
- Perform initial reset
- Trigger test events
- Switch/trigger relay

Multichannel application with channel identification

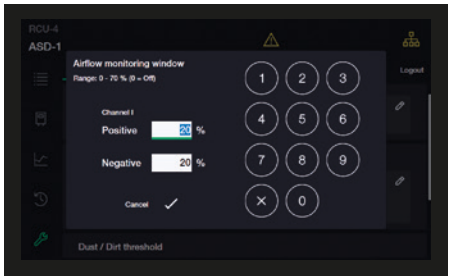
Precise identification of the smoke source is possible thanks to REK 511 (REK = channel identifier). The precise identification of the smoke source enables you to take appropriate measures quickly and effectively.



Up to four REKs can be connected directly to an ASD 535. Networking with FidesNet enables straightforward visualisation of the state of each individual REK.

As a practical addition to smoke detection with the standard ASD, a multi-channel ASD with REKs can also be used for control cabinet monitoring.

Adjust parameters via "Programmer" function



Visualisation of networked REKs

	FidesControl RCU 700	FidesPort NCU 900
Technical data		
Supply voltage	14-30 VDC	14-30 VDC
Interfaces	RJ45 (Ethernet) USB	2 × RJ45 (Ethernet) 2 × USB 1 × RS485
Number of ASDs	Max. 100 per RCU 700	Max. 100 per NCU 900
Housing	19-inch frame	19-inch frame
Colour	Anodised black	Painted black
Dimensions (W × H × D)	483 × 133 × 54 mm	483 × 44 × 169 mm
Operating temperature/humidity	0–50 °C; 95%	0–50 °C; 95%
Technical documentation	T 140 741	T 140 741
Order numbers		
11-5000004-01-xx	RCU 700	*Remote Control Unit
11-5000003-01-xx	NCU 900	**Network Communication Unit
11-5000006-01-xx	RMF 19-1	RCU 700 mounting frame 19-1
11-5000006-02-xx	RMF 19-2	RCU 700 mounting frame 19-2
Supported devices		
ASD 535	Aspirating smoke detector for 1 or 2 SSD 535 smoke sensors	
ASD 532	Aspirating smoke detector for 1 SSD 532 smoke sensor	
SIM 35	SIM 35 serial interface module	

Subject technical changes and delivery possibilities.

05.2022

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SECURITON

NetSoft: for a perfect overview and simple operation.

The NetSoft software tool visualises live data from the aspirating smoke detectors directly on the computer. From one central point, you have a complete overview of the entire ASD network: all aspirating smoke detectors deployed in the system are visualised on a building plan, including their current states. The devices can also be configured directly from the graphical interface.

With its clear visualisation and simple operation, NetSoft provides you with optimal support. Visualisation is particularly important in the three typical applications detailed below.

Clean room applications
Soiling caused by smoke and fire is disastrous in clean rooms as this affects ongoing production, not to mention expensive operating materials and inventories. The fine smoke particles are whirled around by the circulating air and are deposited everywhere. This means the operator is forced to carry out thorough cleaning of all machinery and rooms. The seamless monitoring of clean rooms (NFPA 318) and early detection of incipient fires using aspirating smoke detectors can help save the costs of expensive cleaning and complex repairs. Moreover, aspirating smoke detectors can also be used to monitor air quality – thus aiding quality assurance in production. Central visualisation located outside the clean room via NetSoft helps when it comes to process monitoring.

Metro applications
Aspirating smoke detectors are used in various locations in metro train networks, including in train depots and for monitoring platforms and hollow ceilings in stations. Thanks to the combination of NetSoft and an ASD detector network, you can benefit from a visualisation solution that monitors from a central point across all locations. It can be used to easily gain an overview of the state of all monitored buildings and areas on one central display. At the same time, NetSoft can also be used to access the individual devices via the network, read out status messages or adjust the configuration. This means that time-consuming visits on site are no longer required.

IT infrastructure and data centre applications
When it comes to fire detection in data centres (NFPA 75/76), speed is of the essence. Most fires are caused by electrical energy and begin with a slow smouldering phase. Early detection using aspirating smoke detectors can prevent major damage. When combined with other measures triggered simultaneously (initiating a backup, switching over computers, de-energising specific equipment), you can eliminate the cause of the damage without implementing costly measures – such as triggering the extinguishing system – in many cases. As the ASD devices are often located in protection sectors that are difficult to access, central visualisation using NetSoft is particularly useful.

NetSoft – your benefits:
- Visualisation, operation and configuration in a single software tool
- Graphical overview of the entire installation (NFPA 75/76 and NFPA 318)
- Colour indication of the live states for quick and easy interpretation
- Configuration options for technicians

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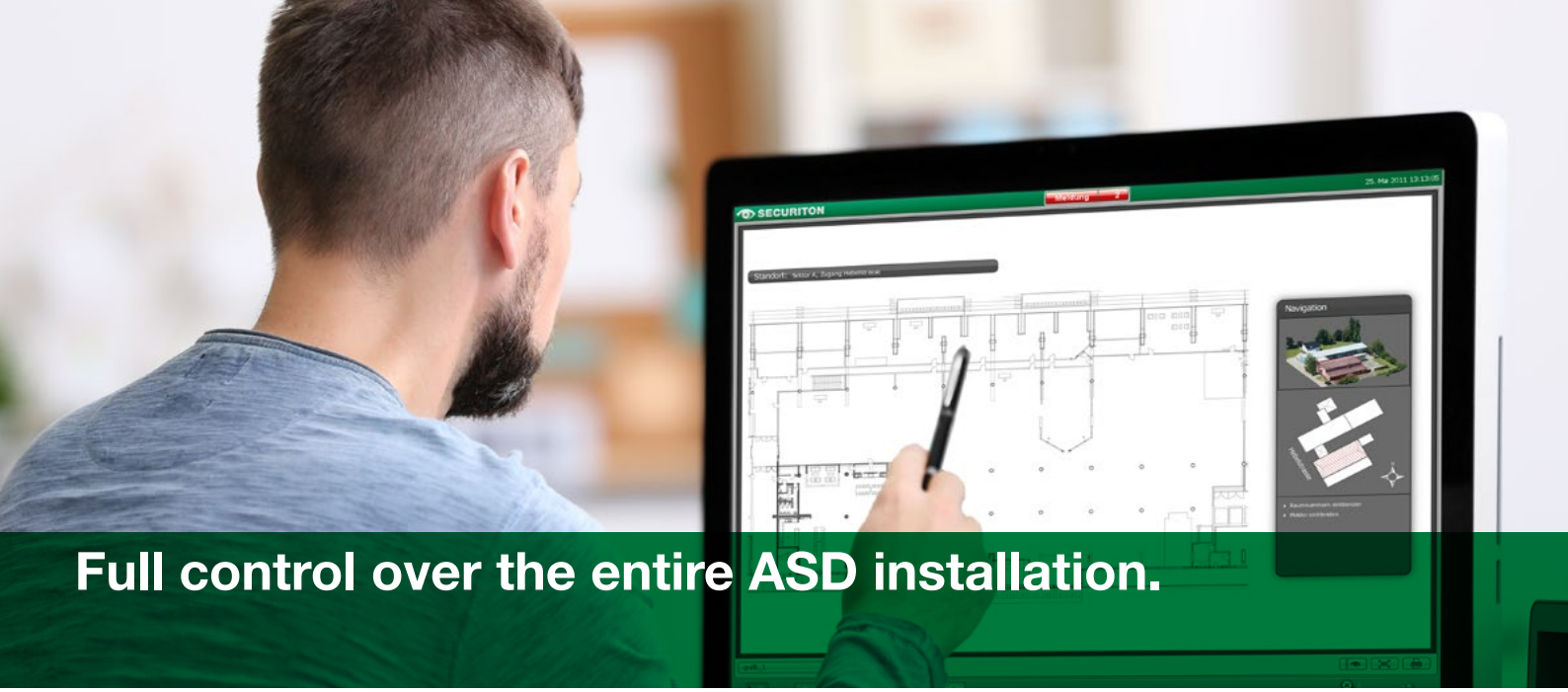


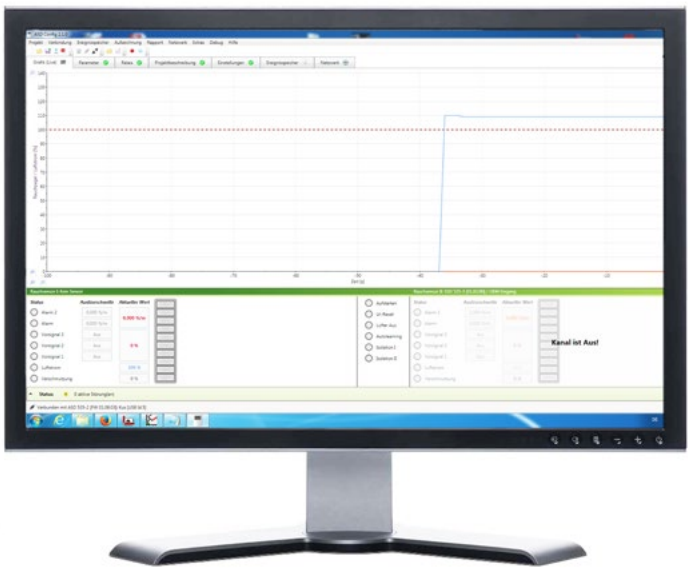
Full control over the entire ASD installation.

Visualisation
NetSoft offers a clear visualisation of the live data on all connected aspirating smoke detectors. You can gain an overview of all states on the connected devices on one central display. Alarms, malfunctions and other detector states are distinguishable by their colour.

Operation
Thanks to the clear visualisation, operation of all ASD devices connected to NetSoft is simple. Has a detector state changed, as indicated by a change of colour on the NetSoft user interface? If so, you can access the device directly via the interface and see the live values that are currently being measured on the aspirating smoke detector.

Configuration
Want to alter the alarm threshold of an aspirating smoke detector or change the configuration? Thanks to NetSoft, this has never been easier for technicians. They can access all connected devices directly via the user interface and carry out a complete parameterisation. When a device is selected, the ASDConfig software tool is opened. This can be used to easily configure the selected ASD device from a remote location.

On-screen overview in NetSoft: installation with three aspirating smoke detectors.



On-screen view of a selected aspirating smoke detector with current smoke level and airflow values, plus the configured alarm thresholds.

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1. Field of application

The additional housing is designed for the integration of an aspirating smoke detector SecuriRAS® ASD 535. When monitoring explosive areas using aspirating smoke detectors SecuriRAS® ASD 535, the additional housing should be used as additional personal protection. If there is danger of operations-related damage (e.g. lift truck operations) to the aspirating smoke detector, the additional housing can serve as a mechanical protection measure.

2. Construction

The suction pipe is inserted into the additional housing SecuriRAS® ASD 535 directly using the cable screw connection M32. The additional housing can be opened easily using both doorlocks in order to carry out servicing and repair work on the aspirating smoke detector without any problems.

3. Function

The additional housing SecuriRAS® ASD 535 serves as additional personal protection in Ex-area applications. If there is danger of potential damage to the aspirating smoke detector, the additional housing can likewise be used.

Advantages of the additional housing SecuriRAS® ASD 535

- **Personal protection while monitoring explosive areas**
- Mechanical protection measure (in industrial applications, for example)
- Housing designed for the integration of an aspirating smoke detector SecuriRAS® ASD 535
- Subsequent installation possible at any time
- Includes cable screw connections 3xM20 and 2x M32 (another M32 enclosed)
- Degree of protection IP 54

4. Assembly and commissioning

The additional housing SecuriRAS® ASD 535 should always be assembled upright with the cable screw connections pointing downwards. The suction pipe is inserted into the housing using the cable screw connection M32. If an air return pipe is necessary in the same climate zone as the suction pipe, this can take place using another cable screw connection M32. If this is not required, however, the factory-made prefabricated air return pipe **must** remain in place without change. Assembly and arrangement should be carried out in accordance with the project planning notice.

CAUTION!

- The air outlet from the additional housing has already been assembled at the factory.
- If an air return pipe from the aspirating smoke detector is required in the monitoring area, this return pipe can be implemented using the supplied M32 screw connection (see project planning notice).

5. Maintenance and servicing

Country-specific guidelines and standards apply for maintenance work and servicing. The maintenance and servicing of the control and indicating equipment may only be carried out by trained personnel!

Furthermore, the Technical Documentation of the respective aspirating smoke detector must be considered.

6. Dimensions

The wall mountings for assembly of the housing have already been preassembled on the additional housing SecuriRAS® ASD 535. The diameter of the mounting holes is 8mm. The corresponding mounting materials for the additional housing (screws, dowels) are **not** included in the scope of delivery.

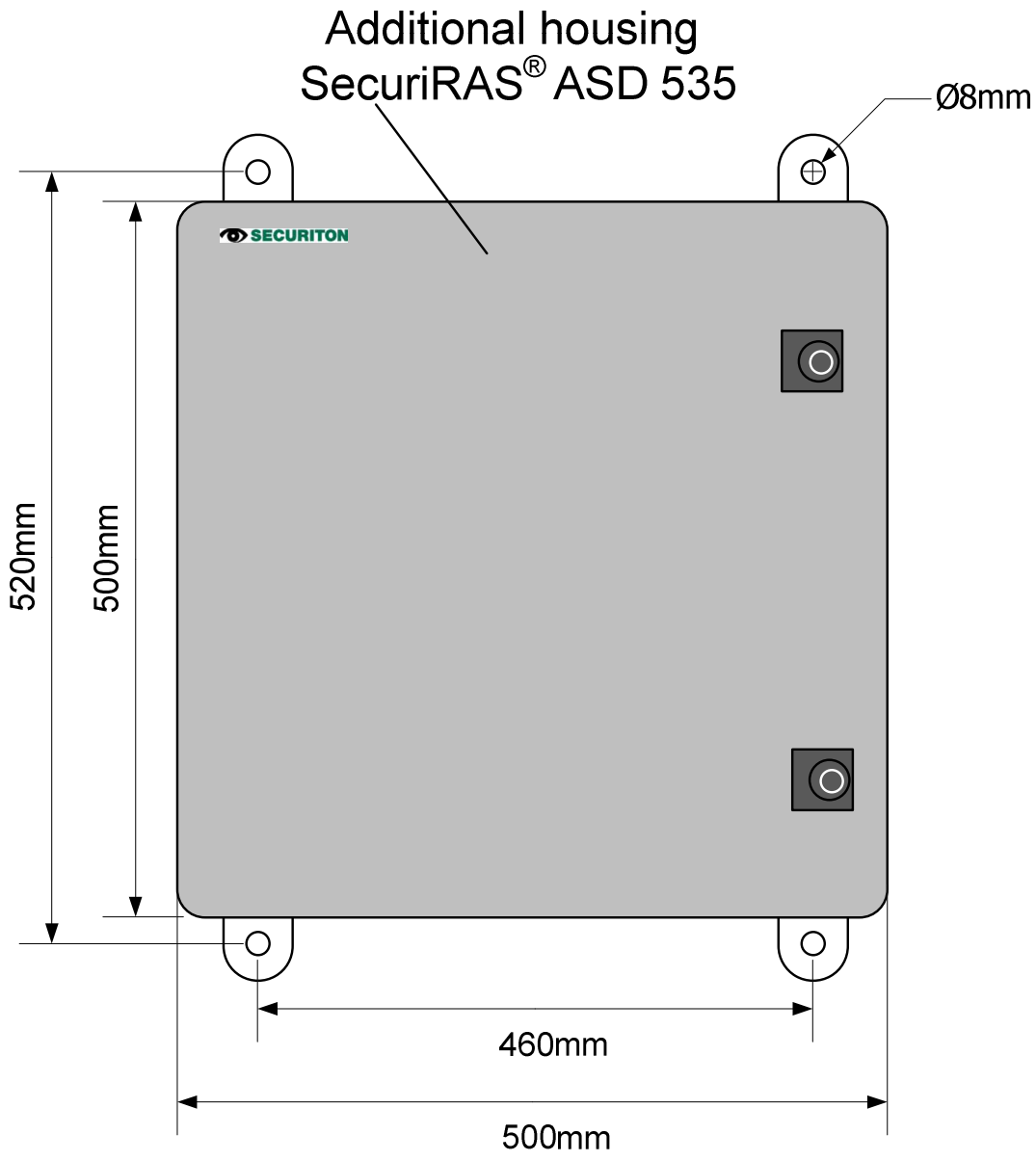


Fig. 1: Dimensions of additional housing SecuriRAS® ASD 535 for wall mounting

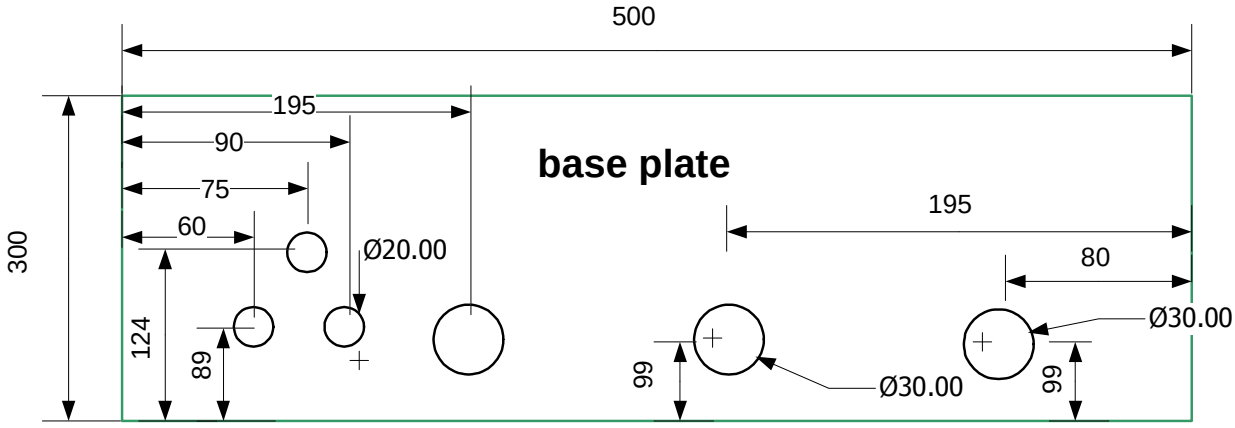


Fig. 2: Dimensions of additional housing SecuriRAS® ASD 535

7. Part numbers

Abbreviated designation		Type No. SECURITON
Aspirating smoke detector SecuriRAS® ASD 535-1		5000623-0101
Aspirating smoke detector SecuriRAS® ASD 535-2		5000623-0102
Aspirating smoke detector SecuriRAS® ASD 535-3		5000623-0103
Aspirating smoke detector SecuriRAS® ASD 535-4		5000623-0104
Smoke sensor SSD 535-1		5000613-0101
Smoke sensor SSD 535-2		5000613-0102
Smoke sensor SSD 535-3		5000613-0103
Filter-box large	FLB 25 PC	0.100793
Spare filter mat block fine stage		0.101132
Filter-box extra-large	FBX 25	0.101196
Spare filter mat set (extra-large filter box)		0.101949
Manual ball valve PVC	MV 25 PVC	21.544.20D25
Manual ball valve ABS	MV 25 ABS	0.100862
Additional housing SecuriRAS® ASD 535		50-1200001-01-01

8. Technical data

Features		
Degree of protection	54	IP
Introduction	Screw connections 3 x M32 and 3 x M20	mm
Housing material	Steel sheet	
Housing colour	Light grey 7035	RAL
Door stop	1-door, 130°, hinge left	
Dimensions (H x W x D)	500 x 500 x 300	mm
Weight	approx. 21	kg
Approval (not relevant for approval!)		

Subject to technical modification!

9. Project planning notice

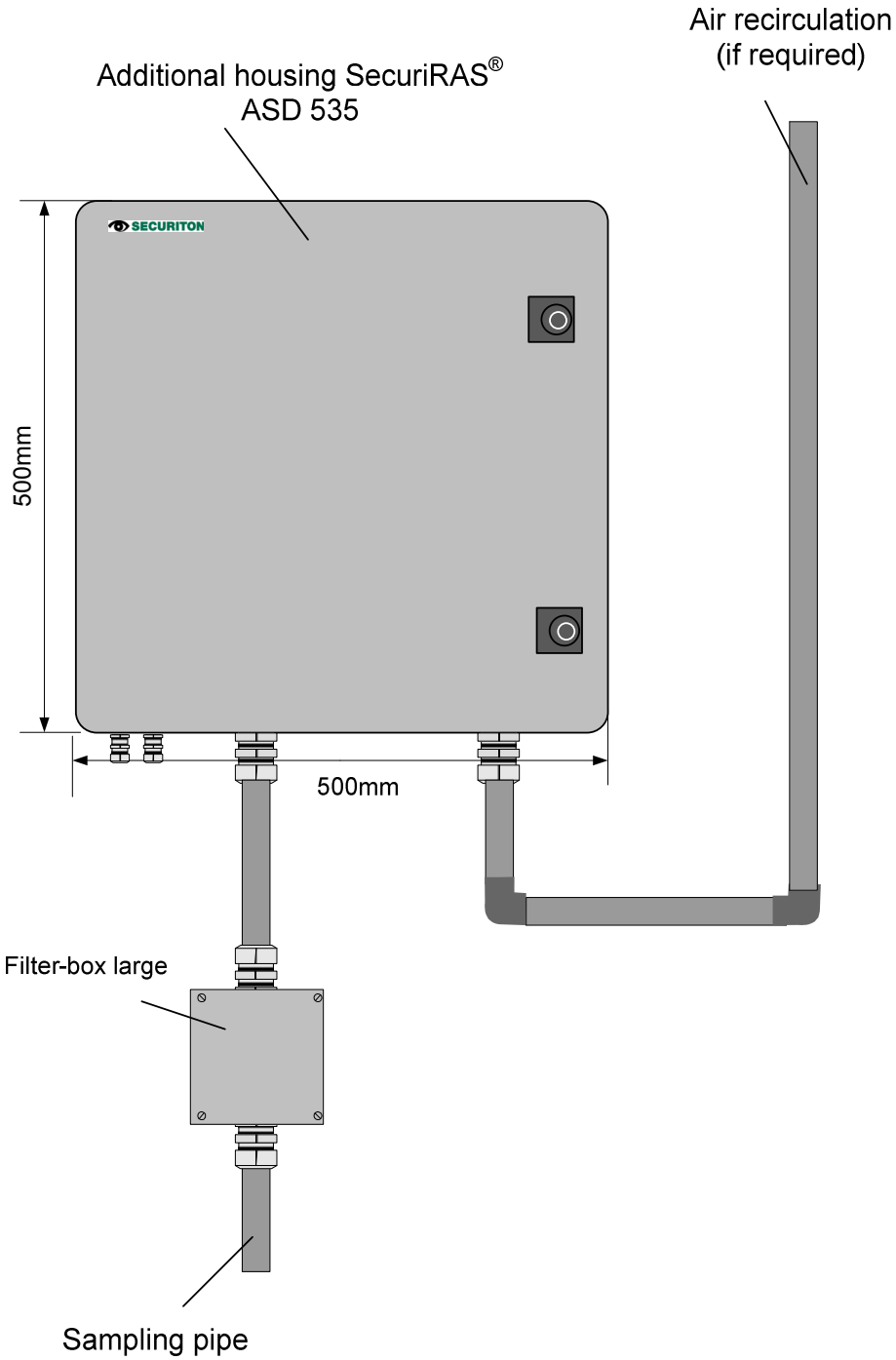


Fig. 3: Additional housing SecuriRAS® ASD with optional air return pipe

Optional:

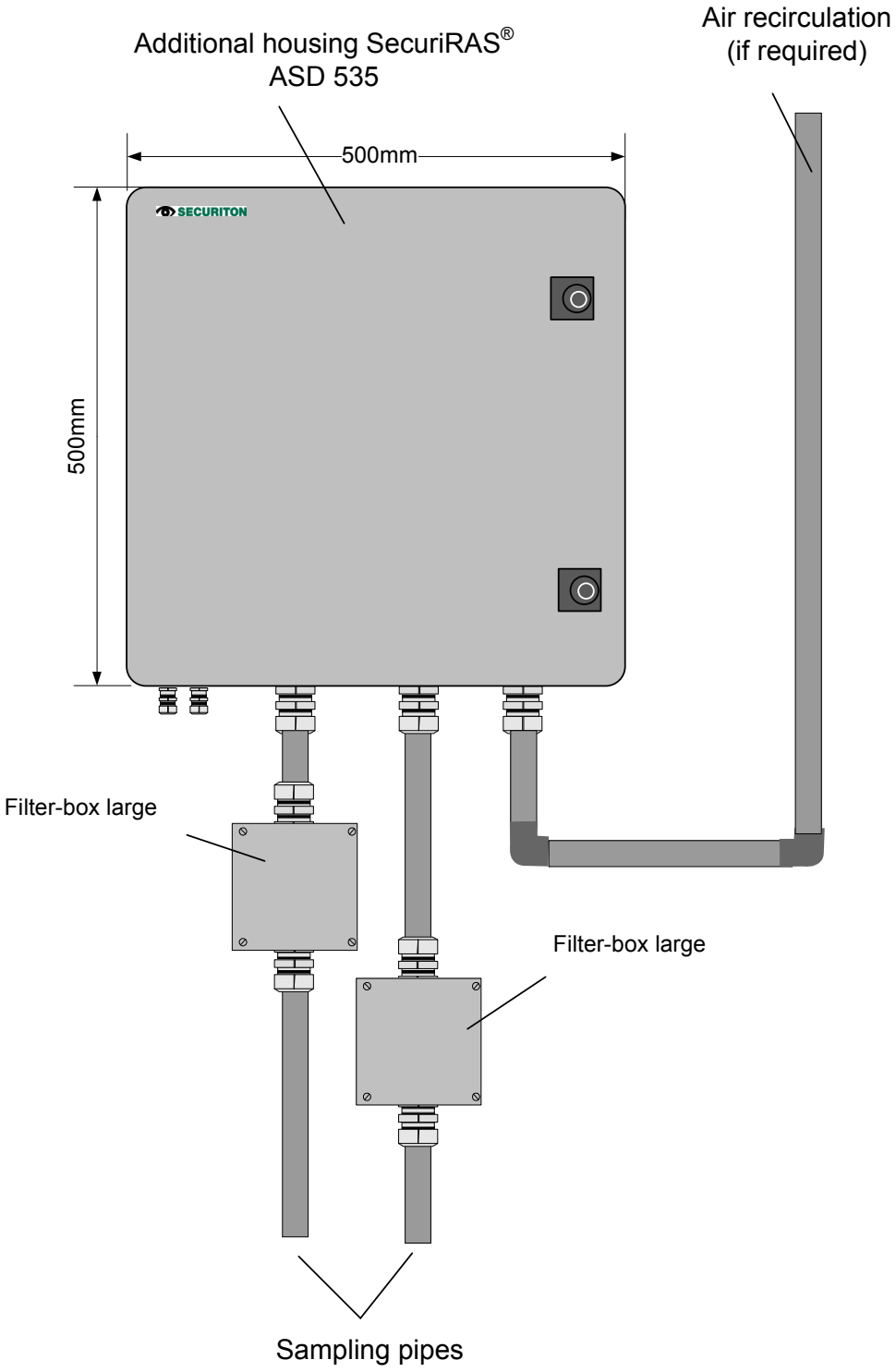


Fig. 4: Additional housing SecuriRAS® with 2 suction pipes and optional air return pipe

ASD 533

Aspirating Smoke Detector

As of production version 311023 and FW version 01.11.xx

The ASD 533 aspirating smoke detector performs the task of taking continuous air samples via one or two sampling pipe networks from a monitored area and feeding the samples to one or two smoke sensors.

The ASD 533 consists of the detector housing and one or two sampling pipe tube networks. The sampling pipes have several sampling holes whose size is such that each hole withdraws the same amount of air. The sampling pipes may be I-, U-, T-, H-, or E-shaped. The sampling pipes are usually symmetrically designed. Asymmetrical sampling pipe tube networks can also be implemented using the “ASD PipeFlow” calculation software.

Fig. 1 ASD 533

Description

Integrated in the detector housing is a high-performance fan which, in conjunction with the sampling pipe, ensures an uninterrupted air supply to the detector housing. Airflow monitoring detects any pipe blockages and pipe breakages in each of the sampling pipe networks.

The ASD 533 aspirating smoke detector is available in the following versions:

- ASD 533-1 for 1 sampling tube, for 1 smoke sensor
- ASD 533-2 for 2 sampling tubes, for 2 smoke sensors

The ASD 533 uses the **SSD 533** smoke sensor, which has an alarm sensitivity of 0.02%/m to 10%/m.

The ASD 533 aspirating smoke detector has four slots for additional modules. The following modules can be fitted:

- XLM 35 SecuriLine eXtended module
- ML-SFD Module M-Line
- SLM 35 SecuriLine module
- RIM 35 Relay interface module with 5 relays (max. 2 units)
- MCM 35 Memory card module
- SIM 35 serial interface module
- UIM 35 universal interface module

The ASD 533 can be connected to a higher level FACP via potential-free change-over contacts.

Fitting an **XLM 35**, **ML-SFD** or **SLM 35** means that the ASD 533 can be ideally connected to the SecuriFire and Integral fire alarm systems via the addressable loop (with SLM also to the SecuriPro).

The **RIM 35** is available as a further installation option. This module enables the availability of all three pre-signal levels as well as the states “smoke sensor dirty” and “LS-Ü blockage” as relay contacts. The relays are also freely programmable via the „ASD Config” configuration software.

The **MCM 35** is used for storing operating data.

Up to 250 ASDs can be networked with the **SIM 35**; they can then be visualised and operated using “ASD Config”.

The ASD 533 aspirating smoke detector can be used for:

- **Equipment monitoring**: EDP systems, electrical distributors, switch cabinets, etc.
- **Space surveillance**: EDP rooms, ultra-clean rooms, warehouses, hollow floors, protection of cultural assets, transformer stations, prison cells, etc.

The ASD 533 is also deployed in areas where conventional point detectors are normally used. Local regulations and provisions must be observed from case to case.

The response behaviour of the ASD 533 has been tested in compliance with EN 54-20, Class A, B and C.

When setting up ASD 533 fire alarm systems, it is important to take note of and observe the information and specifications in the “**Technical description ASD 533**”. This includes among others:

• **General**	Section 1
• **Safety informations**	Section 1.2.2
• **Planning**	Section 4
• **Mounting**	Section 5
• **Installation**	Section 6
• **Commissioning**	Section 7

Opening the detector housing

To actuate the **rotary snap locks** use a Phillips screwdriver (at least No. 5) to **press down** **firmly** towards the housing base and then **turn** 90°. The position of the lock slit shows the current status:

- angled approx. 45° toward detector housing corner = closed
- angled approx. 45° toward detector housing edge = open

In either position the rotary snap locks **must** snap into place.

The **housing cover** (control unit) is connected to the main board by a **ribbon cable**. Make sure the ribbon cable is not damage when the housing cover is lifted off.

Connection

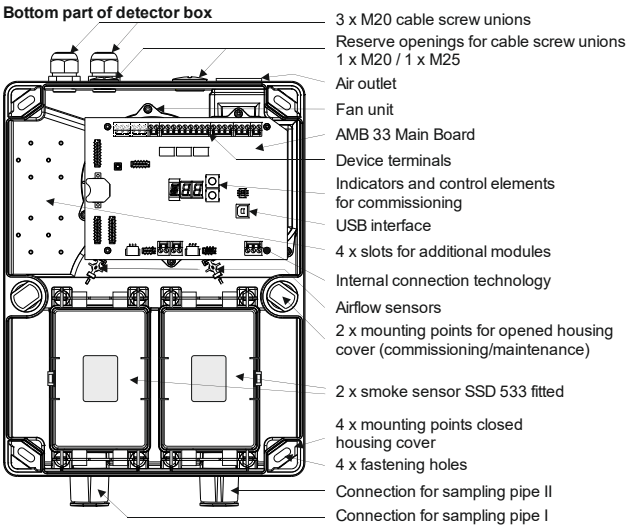


Fig. 2 View inside the ASD 533

Device connections on the AMB 33

The electrical connection is by means of plug-in terminals.

Term.	Signal	
1	+10.5 to +30 VDC ①	Main power supply line
2	0 V	
3	+10.5 to +30 VDC ①	Redundant power supply line
4	0 V	
5	+ supply (for OC consumers)	
6	Fault output, OC (all events)	
7	Alarm output, OC	
8	Freely programmable, OC	
9	Unused	
10	Rel. 1 “(NO)”	Fault ②
11	Rel. 1 “(NC)”	
12	Rel. 1 “COM”	
13	Rel. 2 “NO”	Alarm I
14	Rel. 2 “NC”	
15	Rel. 2 “COM”	
16	Rel. 3 “NO”	Alarm II or freely programmable
17	Rel. 3 “NC”	
18	Rel. 3 “COM”	
19	Reset external + input	Opto-isolator input
20	Reset external - input	
21 - 26	unused (not fitted on ASD 533-2)	

① UL/FM: +12.4 to +27 VDC
② The “Fault” relay has picked up in the normal state ➔ contact Te. 12/10 closed, 12/11 open (ASD 533 under voltage; no fault present).

AMB 33 internal connections

Terminal	Signal
MOT / M-	Fan - (black wire)
MOT / T	Fan tacho signal (white wire)
MOT / M+	Fan + (red wire)
OEM1 / AI-	Opto-isolator inputs OEM1
OEM1 / AI+	The “**OEM1** / **St**” input can also be used for activating the day/night control (priority over triggering from third-party detector).
OEM1 / St-	
OEM1 / St+	

- In some cases actuations may **not** comply with the requirements of **EN 54-20** (use only consulting with the manufacturer).
- The OEM inputs are **not** line-monitored.

Terminal assignment of the additional modules

The terminal assignments of the additional modules are shown in the corresponding data sheets (see “Article numbers and spare parts”).

Wiring principle

Examples of and information on the wiring principle can be found in the Technical description ASD 533, T 140 287, Sec. 6.

Using smoke sensors

The ASD 533 ships with the smoke sensors already fitted. The smoke sensors have to be removed from the detector housing for the installation of the ASD (release the two lock clamps per smoke sensor); however it should be left inside their protective packaging until the definitive commissioning. The definitive installation is carried out as described below, see **Fig. 3**.

- Always leave the smoke sensor inside its protective packaging until it is ready to be installed definitively in the detector housing.
- Depending on the circumstances (e.g. long period of time between mounting and commissioning or if the environment is extremely dusty (construction work)), only remove the smoke sensor from its protective packaging and insert it definitively in the detector housing when commissioning the ASD 533.
- Before installing the smoke sensor check that the insect protection screens are properly fitted to the smoke sensor chamber at the air inlet and outlet.
- The smoke sensor chamber must be absolutely free of any dirt and/or dust. Remove any residue resulting from mounting the detector housing.

The installation position of the smoke sensors depends on the particular smoke sensor chamber (I or II). The connectors of the smoke sensors are oriented toward the outside of the ASD housing. Incorrect installation positioning is prevented by the anti-twist rib on the smoke sensor housing.

The smoke sensors are secured inside the ASD housing using the two lock clamps. Connect the ribbon cable supplied with the smoke sensor to the smoke sensor (large ribbon cable connector) and to the AMB 33 main board (small ribbon cable connector).

The smoke sensor chamber II on the ASD 533-1 (only one smoke sensor) remain open (insect protection screens and lock clamps are not fitted, air channels are closed).

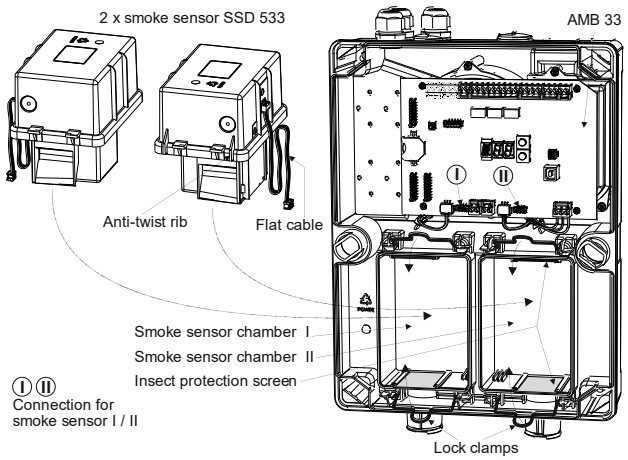


Fig. 3 Using the smoke sensors

Displays on the control unit

Several LEDs on the control unit indicate the current state of the ASD 533. The table below lists only the states for the ASD 533-1 (one smoke sensor / one sampling pipe). For the ASD 533-2 the indicators are doubled (**I** and **II**), except the operation indicator.

Function / state	Operation	Alarm	Fault	Det. dusty / dirty
	green	red	yellow	yellow
System Off (no voltage)				
System inactive (reset external)	On		½ T	
Smoke sensor Off (from FACP)	On		½ T	
Idle state	On			
Pipe blockage/pipe breakage, delay running ①	On		1 T	
Pipe blockage/pipe breakage, fault triggered	On		On	
Fan tacho signal missing	On		On	
Fault triggered	On		On	
Pre-signal 1	On	2 T		
Pre-signal 2	On	1 T		
Pre-signal 3	On	½ T		
Alarm	On	On		
Smoke sensor filter fault	On			2 T
Smoke sensor dusty	On			1 T
Smoke sensor dirty	On			½ T
Smoke sensor fault	On			On
Lamp test (press “Reset” 10 s)	1 T	1 T	1 T	1 T

① No fault triggered (triggers only after delay time has expired ➔ “Fault” continuously lit).
T = flashing display; ½ s cycle / 1 s cycle / 2 s cycle

Displays on the Main Board AMB 33

The AMB 33 has a 3-digit segment display enabling the following outputs and displays:

- flashing, point and ***AL*** = auto-learning running
- flashing, point and ***Fr*** = filter replacement is running
- flashing point and continuously lit point = day/night control active
- switch position ***E*** = event memory ***E01*** to ***E99***
- switch position ***F*** = firmware version
- press “UP” key = set configuration ***A11*** to ***X03***
- switch position ***V*** = airflow values (airflow rate)
- flashing ***000*** = invalid entry
- flashing ***U - -*** = initial reset is running
- flashing ***IA1***, ***IA2***, ***IF1***, ***IF2***, ***IP1***, ***IP2***, ***IE1***, ***IE2*** = test trigger is activated

Programming

The ASD 533 has switch positions, which are configured with permanently assigned parameters:

- Normative system limits according to EN 54-20, Class A to C, positions ***A11*** to ***C32***.
- Non-normative system limits, positions ***W01*** to ***W48***.
- Configurable positions for settings after using “ASD PipeFlow” and/or “ASD Config” or SecuriPro, SecuriFire or Integral FACP (SLM 35 / XLM 35 / ML-SFD), ***X01*** to ***X03***.

The parameters are saved at the factory with values for compliance with EN 54-20. Changing the parameters may result in non-compliance with EN 54-20. Re-programming on the ASD 533 using “ASD Config” may be carried out only by the manufacturer or by persons under the supervision of and trained by the manufacturer.

Switch positions on the Main Board AMB 33

Pos.	Range / Display	Purpose
A	***A11*** / ***A12***	acc. to EN 54-20, Class A
b	***b11*** / ***b12*** / ***b21*** / ***b22***	acc. to EN 54-20, Class B
C	***C11*** / ***C12*** / ***C21*** / ***C22*** / ***C31*** / ***C32***	acc. to EN 54-20, Class C
d	Polling (***RE***) Setting (***SE***) ↳ ***on*** / ***T*** / ***R*** / ***oFF***	***on*** = On / ***oFF*** = Off ***T*** = filter service life ***R*** = filter replacement ***ch1*** = channel I
E	***E01*** to ***E99*** ↳ ***G00*** to ***G99***	Event memory ***E01*** – ***E99*** ↳ Event group ***G00*** – ***G99***
F	***F00*** to ***F99*** (3 x)	Displays firmware version
I	***IA1*** / ***IA2*** ***IF1*** / ***IF2*** ***IP1*** / ***IP2*** ***IE1*** / ***IE2***	Trigger; Test alarm (***IA1***) Test fault (***IF1***) Test pre-signal (***IP1***) Test alarm 2 (***IE1***)
o	***o00***	Logs off additional modules (optional modules)
T	***Y10*** to ***Y99*** / ***M01*** to ***M12*** ***d01*** to ***d31*** / ***H00*** to ***H23*** ***M00*** to ***M59***	Polling (***RE***) and setting (***SE***) the date and time
U	***U01***	Executes initial reset
V	***V01*** / ***V02***, each ***000*** to ***255***	Volume flow output in % pipe I (=***V01***), pipe II (=***V02***)
W	***W01*** to ***W48***	non-normative
X	***X01*** to ***X03***	configurable

The table only lists the available switch positions. For information on the input procedure please refer to the Technical description, T 140 287, Sec. 8.3.

System limits without “ASD PipeFlow” calculation

The system limits apply to the planning without using the “ASD PipeFlow” calculation software. There are two areas, with the following meaning:

- **Normative system limits** compliant to EN 54-20, Class A to C, Switch positions ***A11*** to ***C32***;
- **Non-normative system limits**, Switch positions ***W01*** to ***W48***.

Normative system limits

Stored under switch positions ***A11*** to ***C32*** are values which are necessary in terms of alarm response sensitivity and airflow monitoring for compliance with EN 54-20 Class A to C. The switch position designation is deciphered as follows:

- First digit Response class ***A***, ***b***, ***C*** compliant to EN 54-20;
- Second digit System limit ***1***, ***2***, ***3*** (pipe topology);
- Third digit Number of tube networks ***1***, ***2***.

Example: ***b21*** Response class ***b*** / system limit ***2*** / ***1*** sampling pipe tube network.

Non-normative system limits

Switch positions ***W01*** to ***W48*** contain system limits which fulfil **only** the alarm response sensitivity compliant with EN 54-20 Class A to C, **but not** the normative limits with regard to airflow monitoring. As they are identical with the system limits ***A11*** to ***C32*** in terms of tube topology (tube network length, number of sampling holes), the switch positions ***W01*** to ***W48*** are also included in the tables below. For more details of switch positions ***W01*** to ***W48*** with regard to airflow monitoring, please refer to the Technical description, T 140 287, Sec. 4.4.4.4.

Switch positions ***W01*** to ***W48*** are to be used only after prior consultation with the manufacturer. The airflow monitoring values stored under those switch positions are **not** tested in accordance with EN. For more information on using the table of system limits, please refer to the Technical description T 140 287, Sec. 4.4.4.3 and 4.4.4.4.

Table of system limits for planning without “ASD PipeFlow” calculation

EN 54-20 compliance, Class A (highly sensitive)

Shape	System limit	Switch setting to EN 54-20		Switch setting Non-normative		Alarm threshold (%/m)	Length from ASD to the last T-piece/cross	Max. length from ASD to the farthest sampling hole	Number of sampling holes per sampling branch	Max. total length of the sampling pipe per pipe network (smoke sensor)
		1 tube	2 tubes	1 tube	2 tubes					
I	1	A11	A12	W01 – W04	W05 – W08	0.03	---	50 m	1 – 7	50 m
U / T	1	A11	A12	W01 – W04	W05 – W08	0.03	1 – 20 m	40 m	1 – 4	80 m
H	1	A11	A12	W01 – W04	W05 – W08	0.03	1 – 20 m	40 m	1 – 2	160 m
E	1	A11	A12	W01 – W04	W05 – W08	0.03	1 – 20 m	40 m	1 – 3	120 m

EN 54-20 compliance, Class B (sensitive)

I	1	b11	b12	W09 – W12	W13 – W16	0.09	---	50 m	1 – 7	50 m
	2	b21	b22	W17 – W20	W21 – W24	0.06	---	70 m	5 – 9	70 m
U / T	1	b11	b12	W09 – W12	W13 – W16	0.09	1 – 20 m	40 m	1 – 3	80 m
	2	b21	b22	W17 – W20	W21 – W24	0.06	1 – 20 m	55 m	3 – 5	110 m
H	1	b11	b12	W09 – W12	W13 – W16	0.09	1 – 20 m	35 m	1 – 2	140 m
	2	b21	b22	W17 – W20	W21 – W24	0.06	1 – 20 m	45 m	2 – 3	180 m
E	1	b11	b12	W09 – W12	W13 – W16	0.09	1 – 20 m	40 m	1 – 2	120 m
	2	b21	b22	W17 – W20	W21 – W24	0.06	1 – 20 m	50 m	2 – 3	150 m

EN 54-20 compliance, Class C (standard)

I	1	C11	C12	W25 – W28	W29 – W32	0.8	---	40 m	1 – 5	40 m
	2	C21	C22	W33 – W36	W37 – W40	0.35	---	80 m	3 – 9	80 m
	3	C31	C32	W41 – W44	W45 – W48	0.13	---	110 m	7 – 16	110 m
U / T	1	C11	C12	W25 – W28	W29 – W32	0.8	1 – 20 m	30 m	1 – 3	60 m
	2	C21	C22	W33 – W36	W37 – W40	0.35	1 – 20 m	60 m	3 – 5	120 m
	3	C31	C32	W41 – W44	W45 – W48	0.13	1 – 20 m	70 m	5 – 9	140 m
H	1	C11	C12	W25 – W28	W29 – W32	0.8	1 – 25 m	35 m	1 – 2	140 m
	2	C21	C22	W33 – W36	W37 – W40	0.35	1 – 25 m	45 m	2 – 3	180 m
	3	C31	C32	W41 – W44	W45 – W48	0.13	1 – 25 m	60 m	3 – 5	240 m
E	1	C11	C12	W25 – W28	W29 – W32	0.8	1 – 20 m	30 m	1 – 2	90 m
	2	C21	C22	W33 – W36	W37 – W40	0.35	1 – 20 m	50 m	2 – 3	150 m
	3	C31	C32	W41 – W44	W45 – W48	0.13	1 – 20 m	60 m	3 – 6	180 m

Sampling holes for planning with “ASD PipeFlow” calculation

The tables below show the corresponding hole diameters for the numbers in **Fig. 4** depending on the number of sampling holes per sampling branch.

I-shaped sampling pipe												
Number of sampling holes in the sampling branch	Hole diameter in mm for the sampling hole number as of ASD											
	1	2	3	4	5	6	7	8	9	10	11	12
1	5.0											
2	4.0	5.0										
3	4.0	4.0	5.0									
4	3.5	3.5	4.0	5.0								
5	3.5	3.5	3.5	4.0	5.0							
6	2.5	2.5	2.5	2.5	3.0	5.0						
7	2.5	2.5	2.5	2.5	2.5	2.5	5.0					
8	2.5	2.5	2.5	2.5	2.5	2.5	2.5	5.0				
9	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	5.0			
10	2.0	2.0	2.0	2.5	2.5	2.5	2.5	2.5	3.0	7.0		
11	2.0	2.0	2.0	2.0	2.5	2.5	2.5	2.5	2.5	4.0	7.0	
12	2.0	2.0	2.0	2.0	2.0	2.0	2.5	2.5	2.5	2.5	4.0	7.0

U/T-shaped sampling pipes								
Number of sampling holes per sampling branch	Hole diameter in mm for the sampling hole number as of ASD							
	1	2	3	4	5	6	7	8
1	5.0							
2	4.0	5.0						
3	4.0	4.0	5.0					
4	4.0	4.0	4.0	5.0				
5	4.0	4.0	4.5	5.0	6.5			
6	3.0	3.0	3.5	3.5	4.0	6.5		
7	2.5	3.0	3.0	3.5	3.5	4.0	6.5	
8	2.5	2.5	3.0	3.0	3.5	3.5	3.5	7.0

H/E-shaped sampling pipes					
Number of sampling holes per sampling branch	Hole diameter in mm for the sampling hole number as of ASD				
	1	2	3	4	5
1	5.0				
2	4.0	5.0			
3	4.0	4.0	5.5		
4	3.0	3.0	3.5	5.5	
5 (E-shaped only)	2.5	3.0	3.0	3.0	6.0

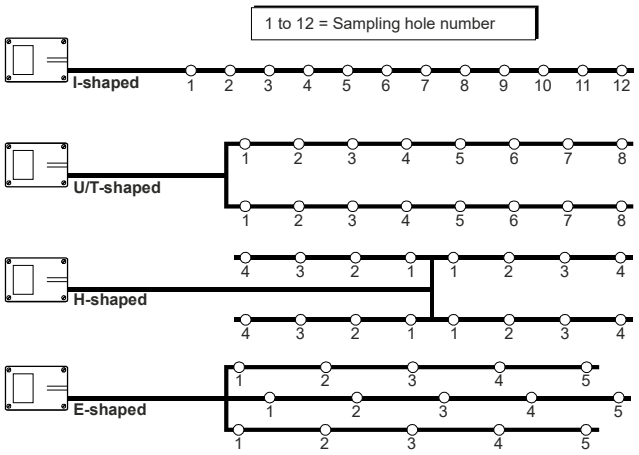


Fig. 4 Size of sampling holes

Configuration options, Table A:

The following criteria can be set for each smoke sensor/sampling pipe. Also, the criteria for day/night control can be separately set. Configuration changes are saved on one of the freely configurable switch positions ***X01*** to ***X03***.

Sector • Parameter	**Default Setting**	**Area**	**Resolution / Levels**	**Saving after change**
Alarm 2				
• Alarm 2 On / Off	Off	Off / On		***X01*** – ***X03***
• Sensitivity (always at least 20% above alarm)	1%/m	– 10%/m	0.0002%/m	***X01*** – ***X03***
• Alarm 2 delay	2 s	0 s – 60 s	1 s	***X01*** – ***X03***
• Alarm 2 latching	On	On / Off		***X01*** – ***X03***
• Hold time for area switchover (Al 2 to Al)	20	10 – 250	1 s	***X01*** – ***X03***
Alarm (EN 54-20)				
• Alarm threshold	***C11*** / ***C12***	0.02 – 10%/m	0.0002%/m	***X01*** – ***X03***
• Smoke level value averaging (number)	4	1 – 10	1	***X01*** – ***X03***
• Alarm delay (**UL/ULC max. 30 s**)	2 s	0 s – 60 s	1 s	***X01*** – ***X03***
• Alarm cascading	Off	Off / On		***X01*** – ***X03***
• Alarm latching	On	On / Off		***X01*** – ***X03***
Pre-signal				
• Pre-signal 1 On / Off	On	On / Off		***X01*** – ***X03***
• Pre-signal 2 On / Off	On	On / Off		***X01*** – ***X03***
• Pre-signal 3 On / Off	On	On / Off		***X01*** – ***X03***
• Pre-signal 1 (100% = alarm threshold)	30%	10 – 90%	10%	***X01*** – ***X03***
• Pre-signal 2 (100% = alarm threshold)	50%	VS 1 + 10 – 90%	10%	***X01*** – ***X03***
• Pre-signal 3 (100% = alarm threshold)	70%	VS 2 + 10 – 90%	10%	***X01*** – ***X03***
• Pre-signal delay (VS 1 – VS 3)	2 s	0 s – 60 s	1 s	***X01*** – ***X03***
• Pre-signal latching	Off	Off / On		***X01*** – ***X03***
Smoke sensor dust/soiling				
• Smoke sensor dust On / Off	On	On / Off		***X01*** – ***X03***
• Smoke sensor soiling On / Off	On	On / Off		***X01*** – ***X03***
• Dust threshold (% of Al)	50%	5 – 60%	5%	***X01*** – ***X03***
• Soiling threshold (% of Al)	75%	65 – 100%	5%	***X01*** – ***X03***
• Dust latching	On	On / Off		***X01*** – ***X03***
• Soiling latching	On	On / Off		***X01*** – ***X03***
• Smoke sensor fault delay	30 s	0 s – 60 s	1 s	***X01*** – ***X03***
Airflow monitoring				
• LS-Ü pipe blockage On / Off	On	On / Off		***X01*** – ***X03***
• LS-Ü pipe breakage On / Off	On	On / Off		***X01*** – ***X03***
• LS-Ü sensitivity (applies to ***A01*** to ***C32***) ①	±20% ①	±1 – ±70%	± 1%	***X01*** – ***X03***
• LS-Ü value averaging (number)	20	1 – 30	1	***X01*** – ***X03***
• LS-Ü delay (applies to ***A01*** to ***C32***) ①	300 s ①	10 s – 3600 s	1 s	***X01*** – ***X03***

① Stored under switch positions ***W01*** to ***W48*** are increased values which are **not** tested for EN compliance (see Technical description, T 140 287, Sec. 4.4.4.4).

Configuration options, Table B:

The following criteria apply to the entire ASD 533. Configuration changes are stored in connection with the adjustments from Table A, likewise on one of the user configurable switch positions ***X01*** to ***X03***.

Sector • Parameter	**Default Setting**	**Area**	**Resolution / Levels**	**Saving after change**
Autolearning				
• Autolearning On / Off	Off	On		***X01*** – ***X03***
• Autolearning duration	3 days	1 min to 14 days	min, h, days	***X01*** – ***X03***
• Autolearning factor (of measured Al threshold)	1.5	1.1 – 10 x		***X01*** – ***X03***
Day/night control / weekday control				
• Day/night control On / Off	Off	Off / clock / FACP / input "OEM1 / St"		***X01*** – ***X03***
• Day start time (only with "Clock")	06:00	00:00 – 24:00	1 min	***X01*** – ***X03***
• Night start time (only with "Clock")	20:00	00:00 – 24:00	1 min	***X01*** – ***X03***
• Weekday control (only with "Clock")	On	Mon to Sun	days	***X01*** – ***X03***

➔➔

Continuation of table B:

General faults				
• Lithium battery / clock fault	On	On / Off		***X01 – X03***
Ventilator				
• Fan speed ASD 533-1 • Fan speed ASD 533-2	Level I Level II	Level I Level II and I		***X01 – X03***
Deactivate / switch off sensor				
• Smoke sensor I / Smoke sensor II • Switch off (partial planning) only smoke sensor II	On	On / deactivated / switched off (partial planning)		***X01 – X03***

Configuration options, Table C:
Independent configurations. These configurations can be changed independently of the switch position on the ASD 533.

Sector • Parameter	**Default Setting**	**Selection**
Time		
• Year, month, day, hour, minute	---	minutes – year
Relay / OC output / reset key / various		
• Relay 3 and OC output 3, AMB 33	Alarm II	in accordance with "***Configuration options relay allocation***"
• Relay 1, 1st RIM 35	Pre-signal 1 smoke sensor I	
• Relay 2, 1st RIM 35	Pre-signal 2 smoke sensor I	
• Relay 3, 1st RIM 35	Pre-signal 3 smoke sensor I	
• Relay 4, 1st RIM 35	Smoke sensor I dirty	
• Relay 5, 1st RIM 35	Sampling pipe I blockage	
• Relay 1, 2nd RIM 35	Pre-signal 1 smoke sensor II	
• Relay 2, 2nd RIM 35	Pre-signal 2 smoke sensor II	
• Relay 3, 2nd RIM 35	Pre-signal 3 smoke sensor II	
• Relay 4, 2nd RIM 35	Smoke sensor II dirty	
• Relay 5, 2nd RIM 35	Sampling pipe II blockage	
• Reset key On / Off ①	On ①	On / Off
• Heating control, subsequent heating time	2 min	1 – 60 min
• MCM setting, recording interval	1 s	1 – 120 s
• MCM smoke peak value memory	Off	Off / On
• Carry out new initial reset	---	On / Off
• Smoke sensor mode of operation (smoke sensor I / II)	SSD/DMB	SSD/DMB or OEM inputs I (individual or in combination) Switched off
• Isolate smoke sensor (smoke sensor I / II)	Normal operation	Isolate / normal operation
• Filter monitoring (smoke sensor I / II)	Off	Off / On
• Filter service life	6 months	1 – 24 months
• Read out operation time	---	months / days
• Filter replacement	---	start / finish

① In the Chinese market, the reset key on the device must be deactivated using the "ASD Config" configuration software.

Relay allocation configuration options:
The following criteria can be programmed on a maximum of 11 relays (1 AMB 33 unit with ASD 533-1, 5 units with 1st RIM 35, 5 units with 2nd RIM 35):

Smoke sensor I / LS-Ü I	**Smoke sensor II / LS-Ü II**	**General**
Alarm smoke sensor I	Alarm smoke sensor II	Fan fault
Pre-signal 1 smoke sensor I	Pre-signal 1 smoke sensor II	Operating voltage fault
Pre-signal 2 smoke sensor I	Pre-signal 2 smoke sensor II	Initial reset fault
Pre-signal 3 smoke sensor I	Pre-signal 3 smoke sensor II	Lithium battery / clock fault
Smoke sensor I dusty	Smoke sensor II dusty	
Smoke sensor I soiled	Smoke sensor II soiled	
Smoke sensor I fault	Smoke sensor II fault	
Pipe blockage sampling pipe I	Pipe blockage sampling pipe II	
Pipe breakage sampling pipe I	Pipe breakage sampling pipe II	
Heating control sampling pipe I	Heating control sampling pipe II	
Alarm 2 smoke sensor I	Alarm 2 smoke sensor II	

The criteria can also be allocated using the OR function (example: smoke sensor dust or soiling together on one relay).

Commissioning

When commissioning the ASD 533, it is necessary to perform an initial reset to automatically adjusting the airflow monitoring on the connected sampling pipe.

If the ASD 533 is operated without "ASD PipeFlow" calculation, the commissioning can be carried out directly on the ASD 533 using the "**EasyConfig**" **process**.

For projects in which the ASD PipeFlow calculation software was used or in which customer-specific adjustments to the device configuration are required, use the "**ASD Config**" configuration software.

Startup

Before the ASD 533 is switched on, make sure all the precautions required for its operation have been taken (see also T 140 287, Sec. 7.1).

- Sampling pipe correctly laid and connected
- Smoke sensors removed from protective packaging, mounted and connected
- Isolation strip on the lithium battery (AMB 33) removed

Startup sequence and procedure:

1. Switch on supply voltage (FACP); the next procedure can be carried out while the fan is ramping up to its definitive speed (takes about 100 s). **The system is immediately armed for alarm**.
2. **"EasyConfig"**: Select the required switch position for operation in accordance with the "***Table of system limits***" (e.g. "***b22***") ➔ see also under "***Re-programming***".
   - or:
   „**ASD Config**": after making adjustments to the configuration (alarm threshold acc. to ASD PipeFlow, other criteria acc. to Tables A and B) select switch position "***X01***", "***X02***" or "***X03***".
3. Set date and time via AMB 33 on "EasyConfig" or from "ASD Config" (adopt settings from PC).
4. After a **minimum waiting time of 5 min** after switch-on, carry out an initial reset (possible only via AMB 33) ➔ see also under „***Initial reset***".
5. The ASD 533 is now ready for operation.

Re-programming

Example: Response grade B, system limit 2, switch position required ***b22***.

Measure	Display	Procedure, remarks
Switch positions ***W01*** to ***W48*** are to be used only after prior consultation with the manufacturer. The airflow monitoring values stored under those switch positions are **not** tested in accordance with EN.		
1. Press the "UP" key	flashing ***C32***	• Displays the default setting
2. Press "UP" key twice until display shows ***b***	in succession ***A*** / ***b***	• Displays the switch position group ***b***
3. Press the "OK" key	***b11***	• Displays the smallest possible position in group ***b***
4. Press the "UP" key until display shows ***b22***	alternatively ***b11*** / ***b12*** / ***b21*** / ***b22***	• Displays the possible positions in group ***b***
5. Press the "OK" key	flashing ***b - -*** (approx. 4 x)	• New setting is programmed
6. Check: Press the "UP" key	flashing ***b22***	• Displays the new setting

Initial reset

Measure	Display	Procedure, remarks
Before carrying out an initial reset – i.e. after switching on the ASD 533 – make sure you observe a **waiting time of at least 5 min**.		
1. Press the "UP" key	flashing ***C32*** or others	• Displays the default setting or the installation-specific switch position
2. Press the "UP" key several times until display shows ***U***	in succession ***A*** to ***U***	• Displays the switch position group ***U***
3. Press the "OK" key	***U01***	• Displays initial reset On
4. Press the "OK" key again	flashing ***U - -*** (5 to max. 120 s)	• Initial reset in progress
5. Wait	flashing point (watchdog indicator)	• Initial reset completed

Filter replacement

When filter monitoring is activated and after expiry of the configured filter service life, a "Filter fault (service life exceeded)" fault is triggered. To remedy, the filter element in a dust filter unit must be replaced. When the expired filter service life (read out via *EasyConfig* switch position ***d*** > ***RE***) is periodically checked, the replacement can take place before the fault is triggered.

For an activated filter replacement the ASD is set to the "**isolate**" state. This insures that during the replacement work falling dust particles from the filter element do not cause a false alarm.

When the ASD 533 housing is closed, the "Start filter replacement" function can be activated by means of the **"Reset" key** (provided the filter monitoring is activated). To do so, press the key **longer than 15 s** (attention: lamp test after 10 s). After 15 s the filter replacement is started and indicated by switching to the "Isolate" state (Fault and LED "Fault"). On an ASD 533-2 (2-channel device) the filter replacement is started simultaneously for both smoke sensors (provided the filter monitoring is activated). When the "Reset" key is deactivated (via ASD Config), the "Start filter replacement" function is not accessible.

After the filter has been replaced, the "Filter replacement" procedure is completed by pressing the **"Reset" key** on the ASD. This cancels the "Isolate" state and resets the fault on the ASD. "Filter service life" monitoring is restarted at 0.

The filter replacement can also be started via *EasyConfig* switch position ***d*** > ***SE***. For information, please refer to Technical Description T 140 287, Sec. 7.8.

Measurements during commissioning

Carry out the following measurements:

- Measure voltage at terminals 1 (+), 2 (-) (also terminals 3 and 4 in the case of a redundant voltage supply) ➔ target value = 12.3 to 13.8 (in 12 VDC operation) and 21.6 to 27.6 VDC (in 24 VDC operation)
- Airflow value in switch positions ***V*** (see also Technical description, T 140 287, Sec. 7.6.1).

Checking fault and alarm release

Test	Procedure	Action
		Block or switch off the fire incident control and remote alerting on superordinate FACP.
Check airflow monitoring	Tape over the sampling holes (adhesive tape); the number depends on the pipe configuration.	• As soon as the resulting change in airflow rate exceeds ±20% (which can also be checked using switch position ***V***), the "Fault" LED begins to flash. • Once the LS-Ü delay (300 s) has elapsed, the ASD triggers a fault ➔ fault on FACP ① / ②.
Check alarm release	Impose smoke at the maintenance sampling hole or sampling hole.	• ASD triggers an alarm ➔ alarm on FACP; check for correct alarm transmission (zone/ range release) on the FACP ① / ②. • Any pre-signals will also release.

① Reset the ASD 533 between each check (please note: resetting the ASD does not reset the FACP).

② For the ASD 533-2 checks have to be carried out for both sampling pipes.

Alternatively, this control can also be performed using the "Test trigger" function from *EasyConfig* switch position ***I***.

Article numbers and spare parts

Short designation		Article number
Aspirating smoke detector ASD 533-1		11-2000001-01-XX
Aspirating smoke detector ASD 533-2		11-2000059-01-XX
Replacement smoke sensor SSD 533		11-2200006-01-XX
SecuriLine eXtended module XLM 35		11-2200003-01-XX
M-Line module ML-SFD		11-2200015-01-XX
SecuriLine module SLM 35		4000286.0101
Relay interface module RIM 35		11-2200031-01-XX
Memory card module MCM 35		11-2200057-01-XX
SD memory card (industrial version)		11-4000007-01-XX
Serial Interface Module SIM 35		11-2200000-01-XX
Serial Master Module SMM 535		11-2200001-01-XX
USB cable, 4.5 m		4301248
Main board AMB 33-1		11-2200004-01-XX
Main board AMB 33-2		11-2200065-01-XX
BCB 35 (without smoke level indicator)		4301220.0101
Aspirating fan unit AFU 35, complete		11-2200052-01-XX
Airflow sensor AFS 35		11-2200051-01-XX
Insect protection screen IPS 35 (set of 2)		11-2300012-01-XX
Lithium battery		11-4000002-01-XX
Cable screw union	M20 (set of 10)	11-4000003-01-XX
	M25 (set of 10)	11-4000004-01-XX
Adapter US cable screw union AD US M-Inch		11-2300029-01-XX
Universal module support UMS 35		11-2200061-01-XX
Technical description ASD 533		T 140 287
Material for the sampling pipe		T 131 194
Commissioning protocol		T 140 299
Data sheets	XLM 35	T 140 088
	ML-SFD	T 140 822
	SLM 35	T 131 197
	RIM 35	T 131 196
	MCM 35	T 131 195
	SIM 35	T 140 011
	SMM 535	T 140 010
AFU 35 installation instructions		T 131 200

Declaration of performance
www.securiton.ch/declaration-of-performance

Dimensioned drawing

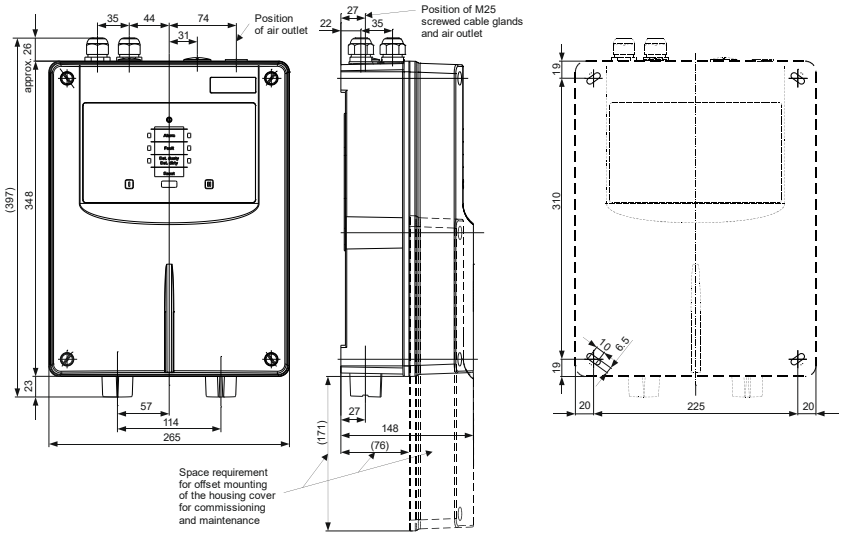


Fig. 5 Detector housing dimensioned drawing

Technical data

Type				ASD 533	
Supply voltage range				10.5 to 30 (**UL/FM = 12.4 to 27**)	VDC
Maximum power consumption, measured at ➔		in 12 VDC operation 10.5 VDC ①	in 24 VDC operation 18 VDC ①	Typical 24 VDC	
ASD 533-1 (at fan speed Level I)	Quiescent/fault	approx. 265	approx. 160	approx. 130	mA
	Alarm	approx. 340	approx. 210	approx. 160	mA
ASD 533-2 (at fan speed Level II)	Quiescent/fault	approx. 370	approx. 220	approx. 170	mA
	Alarm	approx. 450	approx. 270	approx. 205	mA
additionally with 1 RIM 35 unit (all relays triggered)		approx. 15	approx. 10	approx. 7	mA
additionally with 2 RIM 35 units (all relays triggered)		approx. 30	approx. 20	approx. 14	mA
additionally with XLM 35 / ML-SFD / SLM 35		approx. 20	approx. 10	approx. 5	mA
additionally with MCM 35		approx. 25	approx. 15	approx. 10	mA
additionally with SIM 35		approx. 20	approx. 10	approx. 5	mA
SMM 535 (not from ASD but rather from PC via USB connection)				max. 100	mA
Switch-on current peak ② (caused by EMC protection elements on the ASD supply input)				approx. 5 A, for max. 1 ms	
Sampling pipe length				see T 140 287, Sec. 4.2.1	
Sampling pipe diam., typical (inner/outer)				Ø 20 / 25	mm
Max. number of sampling holes				see T 140 287, Sec. 4.2.1	
Sampling hole diameter			Ø 2 / 2.5 / 3 / 3.5 / 4 / 4.5 / 5 / 5.5 / 6 / 6.5 / 7		mm
Response range (Sensitivity: Alarm 0,02 %/m – 10 %/m, pre-signals 0,002 %/m – 9 %/m)			EN 54-20, Class A, B, C		
Protection type acc. to IEC 60529 / EN 60529				54	IP
Ambient conditions acc. to IEC 60721-3-3 / EN 60721-3-3				3K5 / 3Z1	class
Extended ambient conditions:					
• Detector housing temperature range			–20 – +60 (**UL max. +40**)		°C
• Sampling pipe temperature range			–20 – +60 ③		°C
• Max. permissible temperature fluctuation in detector housing and sampling pipe operation			20 ③		°C
• Max. permissible storage temperature for detector housing (without condensation)			–20 – +70		°C
• Ambient pressure difference between detector housing and sampling pipe (sampling holes)			must be identical		
• Humidity ambient condition for detector housing (transient without condensation)			95 ③		% rel. hum.
• Humidity ambient condition detector housing and sampling pipe (continuous)			70 ③		% rel. hum.
Max. loading capacity, relay contact				50 (**UL max. 30**)	VDC
				1	A
				30	W
Max. loading capacity per OC output (dielectric strength 30 VDC)				100	mA
Plug-in terminals				2.5	mm²
Cable entry for cable Ø				Ø 5 – 12 (M20) / Ø 9 – 18 (M25)	mm
Sound pressure level				34	dB (A) / 1 m
Housing	material			ABS blend, UL 94-V0	
	colour			grey 280 70 05 / anthracite violet 300 20 05	RAL
Approvals			EN 54-20 / FM 3230 – 3250 / UL 268 7th Ed / ULC-S529 4th Ed		
VdS approval				G 212163	
Dimensions	ASD 533-x (W x H x D)			265 x 397 x 148	mm
Weight	ASD 533-x (incl. SSD 533)			3,535	g

① Power consumption at maximum permitted voltage drop in the electrical installation (guideline value for calculating the conductor cross-section).

② May cause the protective circuit to actuate immediately in the case of power supplies with overload protective circuits (primarily in devices with no emergency power supply and output current of < 1.5 A).

③ Lower or higher temperature ranges are also possible subject to consultation with the manufacturer. The manufacturer must be consulted if used in the condensation range.

Changes to index “g” on all pages

First edition: 03.02.2012 Po/Ksa

HEAT ABS

Sampling point set HEAT ABS

Set for creating the sampling oint of the aspirating smoke detector ASD 535 deep-freeze applications down to -30°C.

Defined sampling point due to pressed-in inlet made of high-temperature resistant material.

ABS T-piece incl. heating resistor and defined sampling point.

Fig. 1 Sampling point set HEAT ABS

Versions Sampling point set HEAT ABS

Description	
Sampling point set HEAT 3.0 ABS, red • ABS T-piece incl. heating resistor and defined sampling point (diamter 5,7 mm) • Color marking: red	
Sampling point set HEAT 3.5 ABS, blue • ABS T-piece incl. heating resistor and defined sampling point (diamter 6,1 mm) • Color marking: blue	
Sampling point set HEAT 4.0 ABS, green • ABS T-piece incl. heating resistor and defined sampling point (diamter 6,3 mm) • Color marking: green	
Sampling point set HEAT 4.5 ABS, black • ABS T-piece incl. heating resistor and defined sampling point (diamter 6,7 mm) • Color marking: black	
Sampling point set HEAT 5.0 ABS, brown • ABS T-piece incl. heating resistor and defined sampling point (diamter 7,1 mm) • Color marking: brown	
Set for creating the sampling point of the ASD 535 aspirating smoke detector in deep-freeze applications down to -30°C. T-piece for the branching of sampling lines in T-/U-routing form. ABS T-piece incl. material for connecting the silicone line.	

Datasheet

Technical Data

Features		
Design	T-piece	
Temparature	-30°C to 0	°C
Material	Plastic, ABS (halogen-free)	
Color	Light grey (RAL 7001)	
Dimensions (D)		mm
inside	25	mm
outside	35	mm
Weight	0,054	kg

Article numbers

Article description		Article numbers
Sampling point set HEAT 3.0 ABS, red	HEAT 3.0 ABS	50-0500451-02-xx
Sampling point set HEAT 3.5 ABS, blue	HEAT 3.5 ABS	50-0500452-02-xx
Sampling point set HEAT 4.0 ABS, green	HEAT 4.0 ABS	50-0500453-02-xx
Sampling point set HEAT 4.5 ABS, black	HEAT 4.5 ABS	50-0500454-02-xx
Sampling point set HEAT 5.0 ABS, brown	HEAT 5.0 ABS	50-0500455-02-xx
Cable connector set CCF 25 ABS	CCF 25 ABS	50-0500456-01-xx

First edition: 01.12.2022

SECURITON

Magnet Filter System MFS 25

SecuriSmoke ASD Aspirating Smoke Detector

MFS 25 Magnet Filter System for filtering magnetic dust in the sampling pipe of an aspirating smoke detector.

Area: ASD 531, ASD 532, ASD 533 and ASD 535

Fig. 1 MFS 25

Description / function

The Magnet Filter System 25 (MFS 25) supplements conventional filters by adding environments with metallic dust. The system thus significantly extends the service life of the smoke detectors used in the aspirating smoke detectors and prevents false alarms caused by metallic dust. For use in areas with metal-containing dust, in particular rail-mounted transport systems.
Metallic dust has a size distribution that overlaps that of smoke particles. As a result, it is not possible to filter out metallic dust using conventional dust filter units.
A replaceable plastic cartridge protects the strongly magnetic element from dust deposits. The intake air only flows around the plastic cartridge. In contrast to flow-through filter systems, no pressure drop occurs. This means no reduction in ASD intake volume, and flow resistance has no influence on system behaviour.

Notice

To achieve optimum dust separation, we recommend combining the magnetic filter system with a dust filter unit.

Neodymium magnets retain their magnetism almost indefinitely under normal conditions. They differ here from conventional ferrite magnets, which lose their magnetism over time even without external influences.
Neodymium magnets may lose magnetic force under these conditions:

- Heat (over +80°C)
- Radioactivity
- Other strong magnetic fields

Mounting / installation

Fasten the Magnet Filter System 25 (MFS 25) to the holder on a stable surface using four Ø 5 mm drill holes. The openings for air inlet and air outlet are already glued at the factory with adaptations from 5/4” to 40 mm. Two reductions from 40 mm to 25 mm tube are included in the scope of delivery.
Choose a vibration-free, level and smooth installation surface (may need to be levelled). The base plate must lie flat. It must be ensured that the pipes are adapted tension-free and stress-free.
Lever forces or torques must not effect the housing or screw-junction piece. The cover central-locking screws and the anti-twist screws must be tightened hand-tight using an Allen key, and then it must be ensured that the cover is seated and sealed correctly.

Caution

Very strong permanent magnets – fragile

Risk of injury when handling due to strong attraction force. Risk of breakage if improperly removed from packaging. Maintain distance from pacemakers, magnetic data storage devices, electrical and electronic devices

Maintenance

Notice

The filter cartridges must be checked as part of the quarterly maintenance. If a filter cake (an accumulation of retained substances) is visible on the surface of the filter cartridge, the maintenance interval has to be shortened accordingly.

Performed in accordance with DIN 14675 and VDE 0833-2

1. Sampling tube inspection (damage, structural changes)
2. Check fault message
3. Apply smoke to the farthest sampling hole (per sampling branch)
4. Transmission of fault and alarm to the fire alarm control panel
5. Comparison of airflow values. In the event of a negative deviation, the sampling tube must be cleaned with blasts of compressed air
6. Replacing the filter cartridge
   Open the filter cover to replace the filter cartridge. Remove the old cartridge and insert a new one. The cover seal must be checked for wear and replaced if necessary. Then close the filter cover again.
7. Entry in the commissioning and maintenance log

Notice

Trouble-free functioning of the filter is guaranteed only with the original filter replacement cartridges (relevant to approval and safety)!

Washing or any other method of cleaning the filter cartridges is not permitted.

Example installation

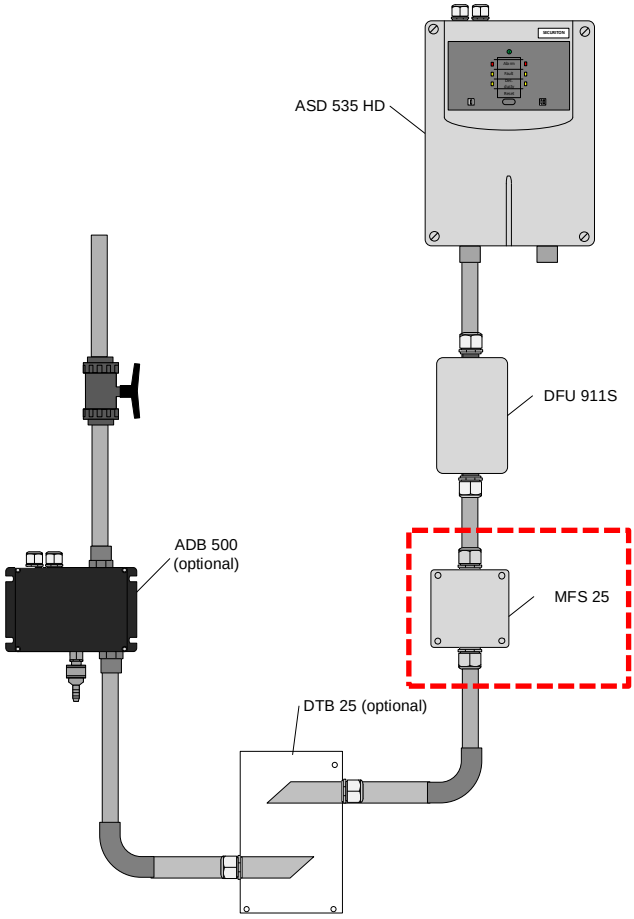


Fig. 2 MFS 25 Installation

Changes to Index 1 on all pages

First edition: 9.6.2021 Tarc

Dimensioned drawing

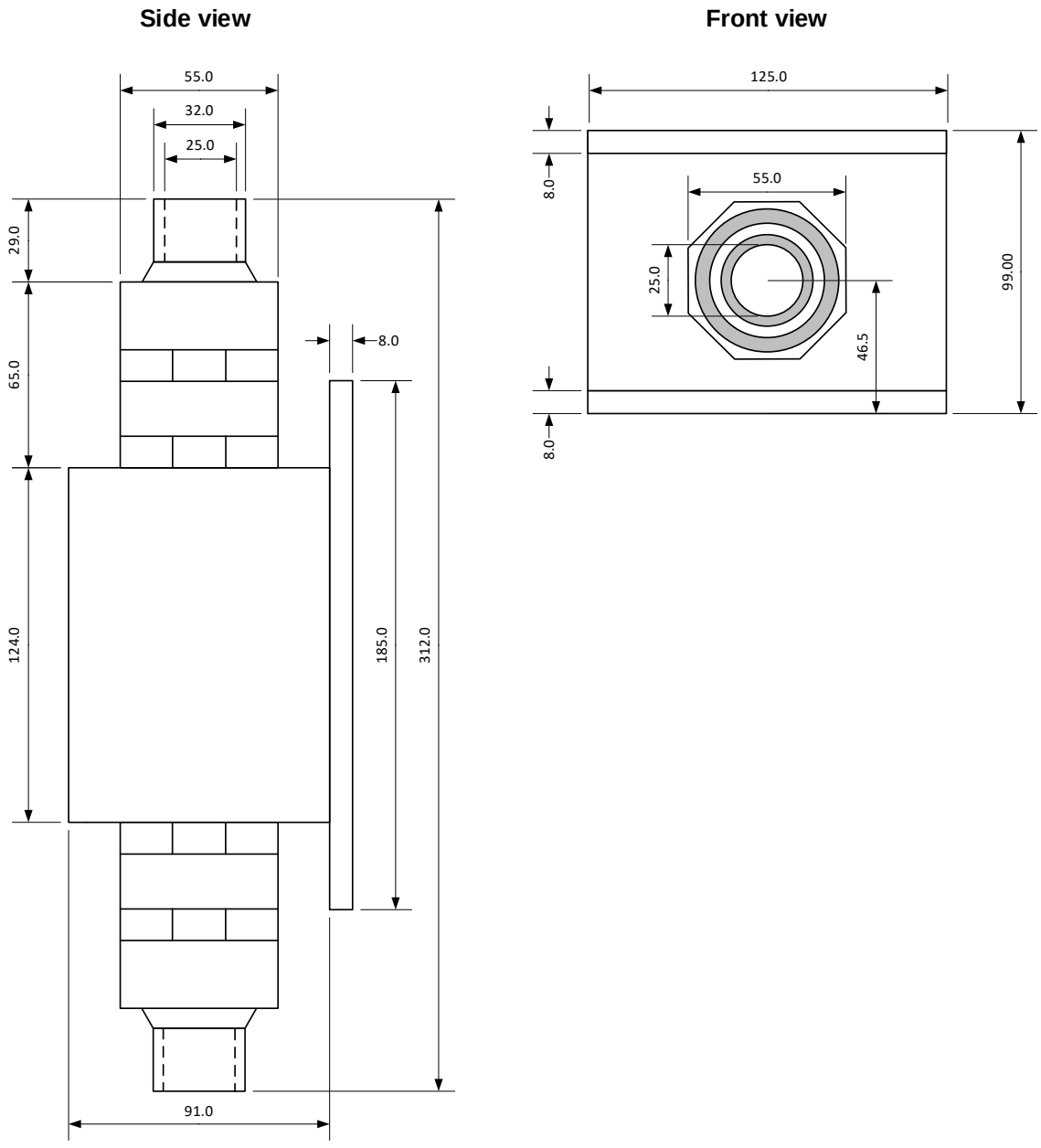


Fig. 3 Dimensioned drawing in mm

Drill drawing (no 1:1 drilling template)

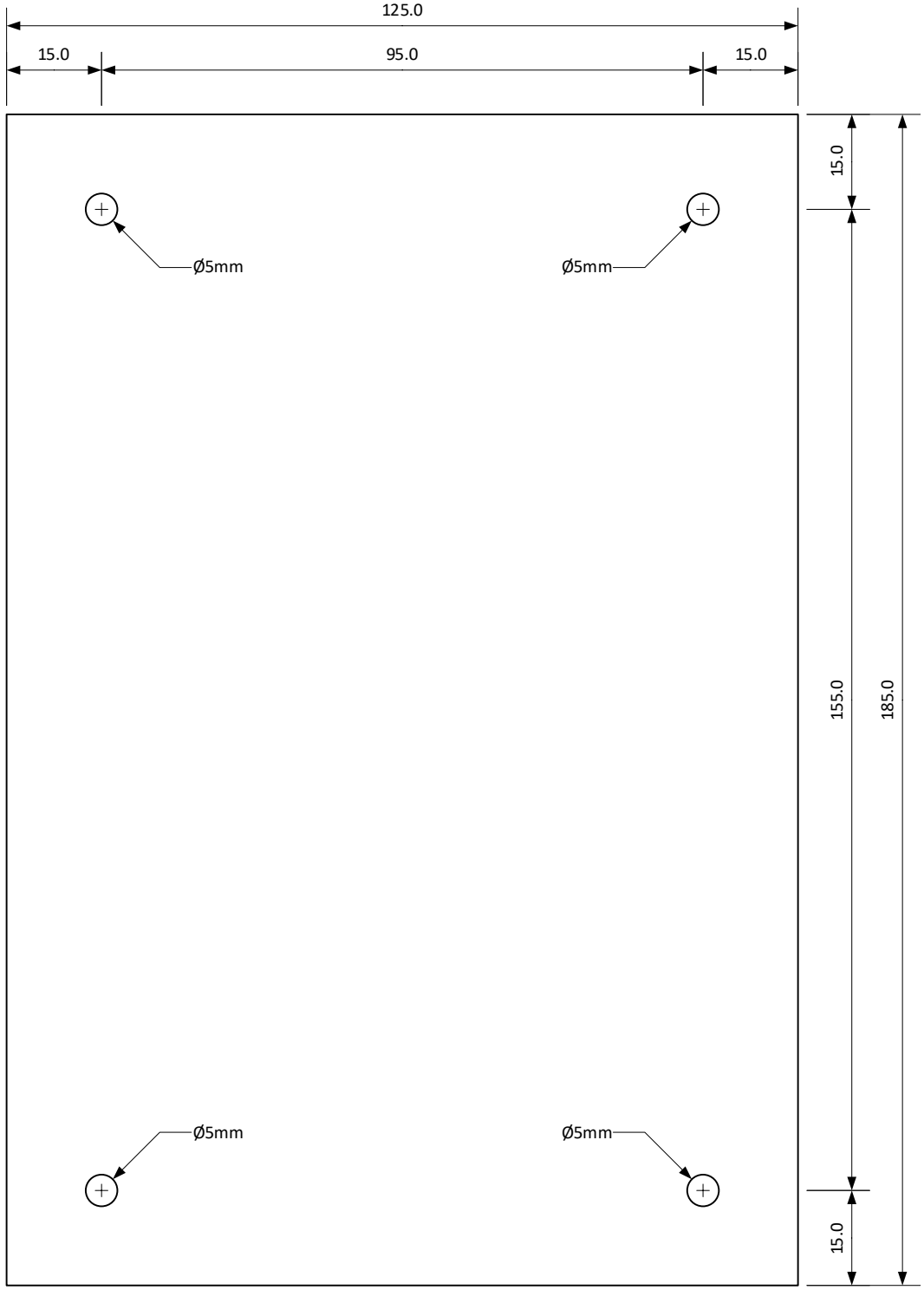


Fig. 4 Drill drawing in mm

Changes to Index 1 on all pages

First edition: 9.6.2021 Tarc

Article numbers and spare parts

Short designation	Article number
MFS 25 magnet filter system	11-2300104-01-01
MFS EP replacement cartridge	6900402
MFS ED replacement cover seal	6900465

Technical data

Type	MFS 25
High-energy magnet filter element	RS 22/250
Magnetic energy product	385 KJ/m^3
Permitted ambient temperature	-30°C to +60°C
Material and dimensions of pipe connection	PVC, Ø 40 mm or Ø 25 mm
Housing material	Polycarbonate grey (RAL 7035)
Dimensions (H x W x D)	312 x 125 x 99 mm
Weight	1,512 g
Packaging	Cardboard
Approval	VdS

REK 511

Individual identification for ASD

From production version 010421 and FW version 01.10.xx

The detector box REK 511 is an additional device for the aspiration smoke detectors ASD 531 to ASD 535. A smoke detector base is built into the REK 511, in which the smoke detector SSD 515-1S or SSD 515-3S can be used. In the REK there are two opposite adaptation options for the sampling pipe. The electrical connection is made via one or two cable screw unions in the REK and is connected there directly to the smoke detector base. The connection is made via a line module (e.g. BX-OI-3) to an FACP or directly to an ASD 535-1 / -3 with forwarding of the signals to a superordinate system (FidesNet/UMS). The alarm status of the triggered smoke detector (LED) is displayed on a Plexiglas stick on the housing surface.

Fig. 1 REK 511

Applications

The REK 511 are used wherever high requirements are placed on the fire location detection of an aspirating smoke detector. They are installed in the individual tube branches of the ASD sampling pipe. The REK 511 can be used in association with the aspirating smoke detectors ASD 531 to ASD 535 for both room monitoring and equipment monitoring.

Planning

The ASD sampling pipe must be designed in accordance with the current planning guidelines for the device type used. The restrictions or limits relating to maximum tube length, symmetry, number of sampling openings, etc. which are described in the guidelines also apply when REK 511 is used.

- A smoke sensor must always be fitted in the ASD detector box.
- The country-specific guidelines for planning aspirating smoke detectors must be observed.
- The trigger signals Alarm and Fault of the REK 511 have no normative properties compliant with EN 54-20. Only the smoke sensor in the ASD 535 is responsible for triggering in accordance with EN 54-20.

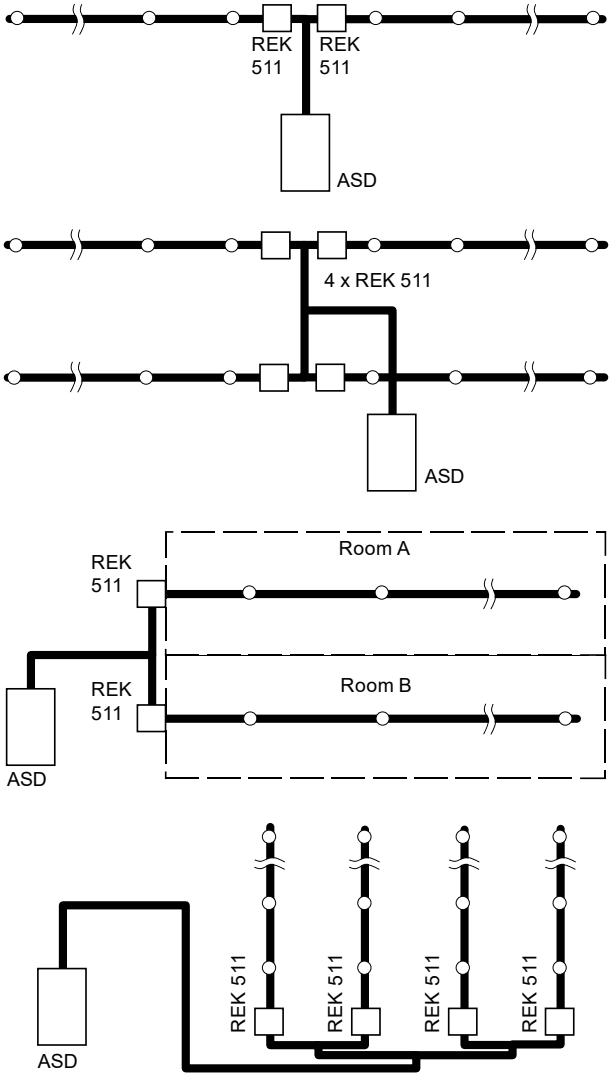


Fig. 2 Examples of room monitoring

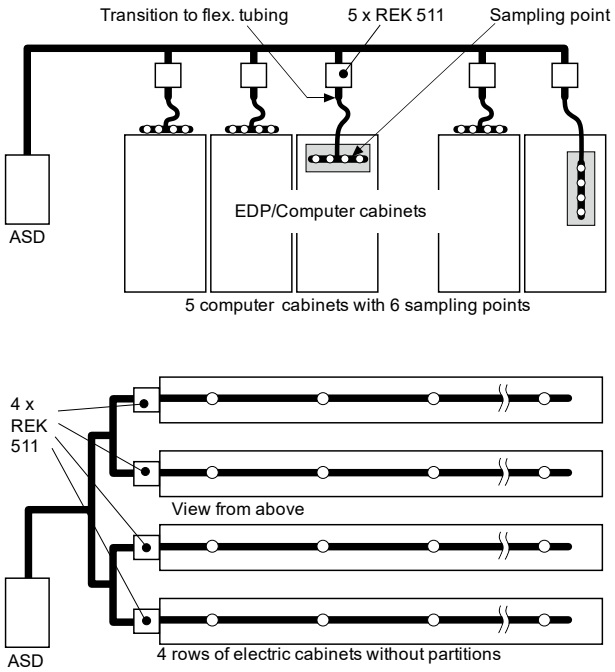


Fig. 3 Examples of equipment monitoring

Mounting / Installation

The REK 511 is fastened using four screws. When assembling the REK 511, it is particularly important to ensure that the alarm indicator (LED) is readily visible from the required direction and distance. If necessary, an additional room indication lamp (max. 5 mA), e.g. **RAL 720**, can be connected to the REK 511.

Connection of sampling pipe

The REK 511 is provided with two M32 screw-junction pieces for the connection of rigid sampling pipe Ø 25 mm. If installation with flexible pipe is necessary after the REK 511 (equipment monitoring), a short rigid 25 mm tube piece with corresponding transition should be used on the output side (see **Fig. 3**, and also Sec. 5.5.7.2 “Transition to flexible pipe” in the technical description of the ASD used).

When connecting the sampling pipe, make sure that the pipe ends do not protrude too far into the interior of the REK housing and thus impair the air supply. A corresponding insert ring in the M32 screw-junction piece should prevent this.

Use of the smoke detector

The following detector types can be used in the REK 511:

- SSD 515-1S standard 1.2%/m
- SSD 515-3S highly sensitive 0.3%/m (red)

Electrical connection

In the REK there are two M12 cable screw unions for the electrical cable feed. The screw-junction pieces are fitted with blind plugs by default.

In the smoke detector base there is a relay print MRP 915, which is permanently wired to the terminals of the smoke detector base. The connection from the fire alarm control panel is made on the MRP 915. There are two terminals (+ / -) for the supply and six terminals for the potential-free changeover contact of the alarm and fault relay (see also **Fig. 5**, connection diagram MRP 915). The fault relay is activated in the idle state, so that in addition to the fault state of the smoke detector, the absence of the smoke detector and the power supply line are reported as a fault.

Connection to a FACP

The connection of the state signals of the REK 511 to an FACP can be made via a line module, e.g. BX-OI-3 or via the resistor circuit (collective line).

Owing to the increased current consumption, the REK 511 cannot be supplied directly from the fire detector group. The power supply line of the REK 511 from the FACP is to be switched with “BM group Off/On” and “Reset” so that the REK 511 can be switched off and on or reset in the event of an alarm.

A RAL connected to the REK 511 may not exceed a maximum current consumption of **5 mA**. It is preferable to use a RAL 720.

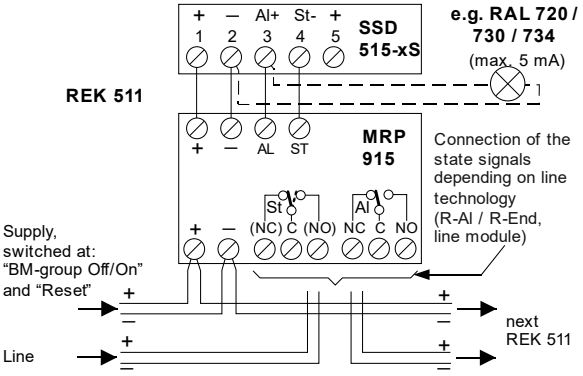


Fig. 4 Connecting the REK 511 to FACP

Connection on the ASD 535-1 and -3 (FidesNet / UMS)

The connection of up to 4 REK 511 devices can also be implemented directly from an **ASD 535-1 or -3** (1-channel device). The state signals of the REK 511 are reported as 4 individual alarm signals or as a collective fault signal to the ASD and forwarded via the SIM 35 serial interface to a superordinate system (FidesNet/UMS). The power supply and control of the REK 511 (reset in the event of an alarm) are also performed directly from the ASD.

The potential-free inputs “OEM1 AL/St / OEM2 AL/St” in the ASD are used for processing the REK alarm signals. The wiring sequence must be observed as shown in **Fig. 5** below. The following applies:

- REK 1 ➔ OEM1 AL
- REK 2 ➔ OEM1 St
- REK 3 ➔ OEM2 AL
- REK 4 ➔ OEM2 St

The REK fault signal can be switched to the “External reset” input. If the “External reset” input has to be used for its original function (switch ASD reset / inactive), the processing of the REK fault is system-specifically implemented in another way (e.g. locally on an indication lamp).

The power supply line of the REK 511 is connected via the relay “Rel. 3, Al II” of the ASD, which switches briefly in the REK application during an alarm reset of the ASD and thus resets the REK 511.

If required, the REK events can be programmed on relays of an RIM 35.

The use of REK 511 according to the variant described here must be programmed using the “ASD Config” configuration software ➔ “Settings/REK configuration”. **Important**: the REK states are not displayed on the ASD 535. A state poll via “EasyConfig” (event code) is possible. In “ASD Config” the REK states are displayed in the “Graph (live)” view. With “ASD Config” the REK states are also displayed and recorded in the event memory.

Like other ASD events, test triggers of REK events are possible via the “ASD Config” configuration software (“Extras / Trigger event...”). **Attention**: superordinate systems trigger!

When the “Isolate” function is active from the “ASD Config” configuration software, the REK events continue to be displayed in “ASD Config” and forwarded via the serial interface. Any programmed REK alarms on the RIM relays are blocked.

Fig. 5:

- **A**: The input voltage on the ASD 535 must not be less than **20 VDC** (no 12 VDC operation possible).
- **B**: The maximum line length (cable length) between ASD and the REK 511 is 250 m (used cable with 0.5 mm^2 conductor cross-section).
- **C**: Depending on the REK position in the circuitry, 1 to 3 support point terminals are required for returning the REK alarm signals; these are to be obtained customer-side.
- **D**: The lines are routed inside the ASD detector housing to inputs **OEM1** and **OEM2** laterally in the installation area of the additional modules. When additional modules are fitted, the connecting wires are routed above their terminals. Routing cables under the AMB must be avoided.

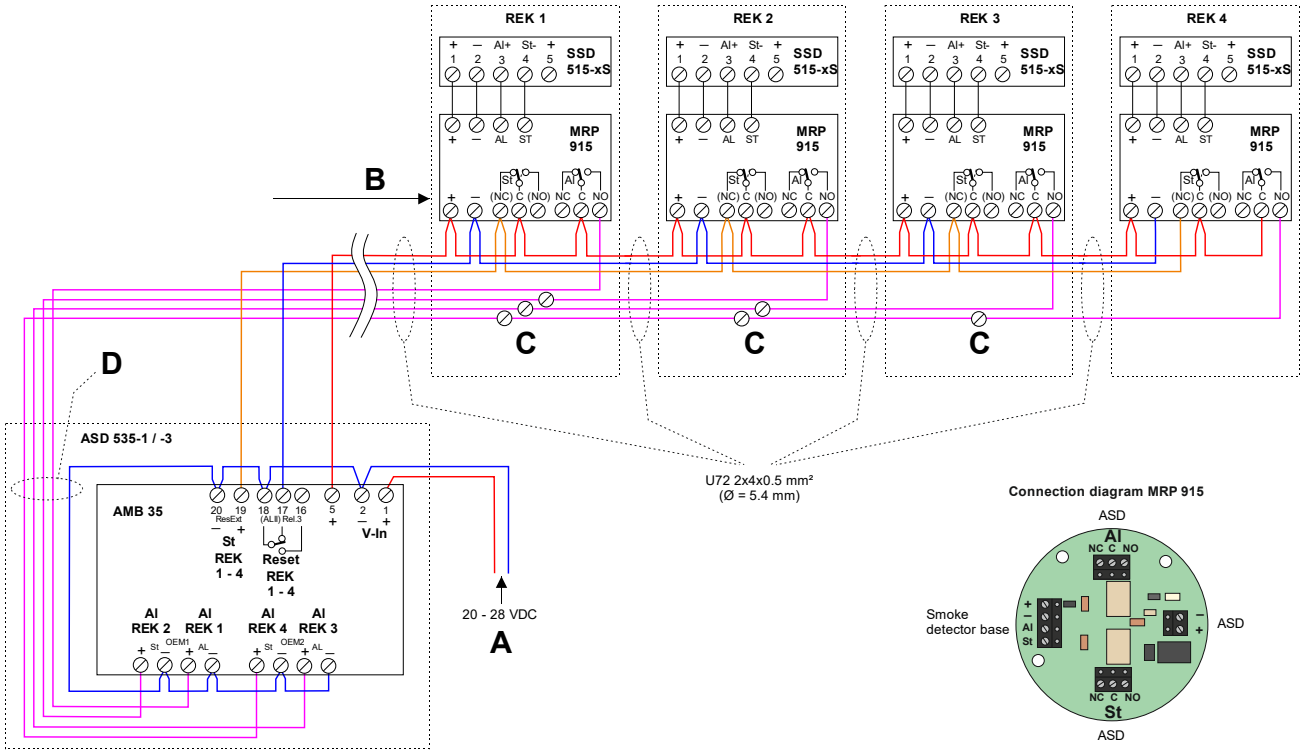


Fig. 5 Connecting the REK 511 directly from ASD

Commissioning / Maintenance

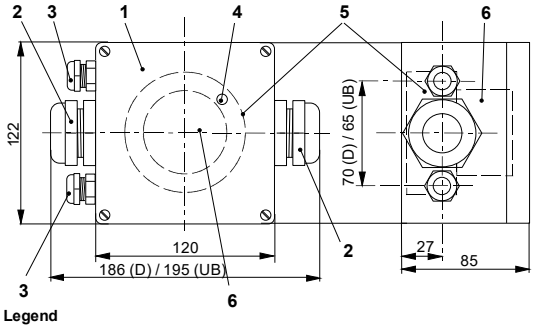
During *Commissioning*, all REK 511 must be checked for functionality. For this purpose, the housing cover of the REK must be removed and the smoke detector brought into the alarm state with test gas. Any existing room indication lamps RAL must be checked. All screw unions (tubes and cables) should be checked for leaks (tightened). Any flexible tubes used should be checked for correct fit in the connection nipples (correctly snapped in).
During the system-specific *maintenance checks*, the REK 511 too should be checked. Proceed as described under *Commissioning*.
Depending on the degree of soiling, the open REK 511 should be cleaned with a soft, dry brush. Oil-free compressed air or nitrogen can also be used for cleaning. In the case of heavy soiling, the smoke detector insert must undergo a factory overhaul a part of the replacement process.

After commissioning or maintenance work, it is necessary to check that the four screws on the housing cover are fully tightened.

Article numbers and spare parts

Brief description		Article number
Indiv. identification for ASD, REK 511		(D) 50-0500197-01-XX (UB) 11-2300147-01-XX
SSD 515-1S, 1.2%/m		5000604-0101
SSD 515-3S, 0.3%/m (red)		5000604-0103
Relay print MRP 915 (replacement)		50-0500177-01-XX
Technical descriptions	ASD 531	T 140 416
	ASD 532	T 140 421
	ASD 533	T 140 287
	ASD 535	T 131 192

Dimensioned drawing



Legend

1 REK 511 housing
2 M32 tube connection
3 M12 cable screw union
4 Alarm indicator
5 Base for smoke detector insert
6 Smoke detector

Fig. 6 Dimensioned drawing

Technical data

Type	REK 511	
Operating voltage range	18 to 28	VDC
Operating current (with SSD)		
• Idle	18 to 20	mA
• Alarm	25 to 30	mA
• Fault	20 to 22	mA
Sensitivity of the smoke detectors		
• SSD 515-1S (standard)	1.2	%/m
• SSD 515-3S “red” (highly sensitive)	0.3	%/m
Protection according to IEC 60529 / EN 60529	53	IP
Ambient conditions according to IEC 60721-3-3 / EN 60721-3-3	3K5 / 3Z1	class
Extended ambient conditions:		
• Temperature range	–20 – +60 ①	°C
• Ambient humidity (briefly without condensation)	95 ①	% rel. h.
• Ambient humidity (continuous)	70 ①	% rel. h.
max. loading capacity relay contact	50 VDC / 1 A / 30 W	
Terminals	1.5	mm²
Cable entry for cable Ø	to Ø 6	mm
Housing material	(D) ABS blend, UL 94-V0 / (UB) ABS	
colour	light grey, similar to 7035	RAL
Dimensions (W x H x D)	(D) 186 / (UB) 195 x 122 x 85	mm
Weight	D) 440 / (UB) 405	g
Approvals	Declaration of Conformity (DoC) acc. to EMC, RoHS	
VdS approval	integrated as accessory in: G 208154 / G 212163 / G 215101 / G 215100	

① Lower or higher temperature ranges are possible after consulting with the manufacturer.

The manufacturer must be consulted if deployment is to be in the condensation range.

Changes to Index “e” on all pages

First edition: 28.09.1994 Po/Ksa

RIM 35

Relay Interface Module for ASD

Beginning with production number 060320

The RIM 35 is an expansion module for the ASD 533 and ASD 535 aspirating smoke detector. It has 5 relays with potential-free change-over contacts.

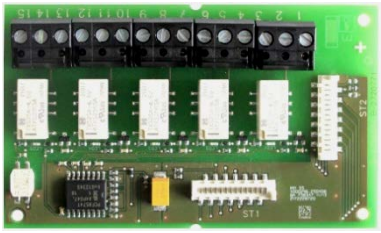


Fig. 1 RIM 35

Description

Up to two RIM 35 units can be installed in the ASD aspirating smoke detector. Depending on device version, the relays can be configured with pre-defined criteria (Default) or can be freely programmed using the “ASD Config” configuration software.

Mounting / Installation

There are four expansion slots for mounting the optional expansion modules in the detector box of the ASD.

In the installation set of the RIM 35 there are module holders, retaining screws and the connection cable (ribbon cable) for connecting to the AMB 33 or AMB 35 (see **Fig. 2**).

RIM 35 Relay Interface Modules are always connected to Option3. If two RIM 35 units are installed, the second RIM 35 is supplied with electrical power from the first RIM 35 (cascading according to **Fig. 3**). The RIM 35 connected to the AMB on the Option3 connector is always the first RIM 35.

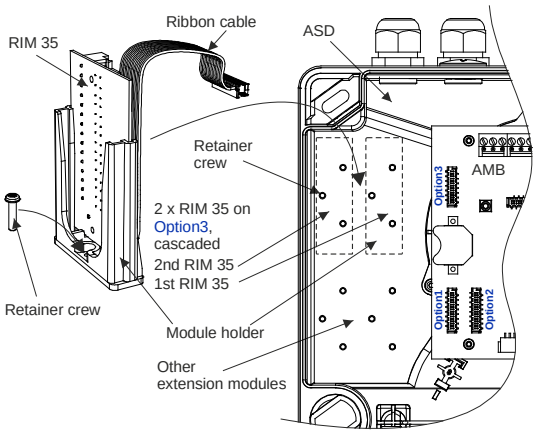


Fig. 2 Installing the RIM 35

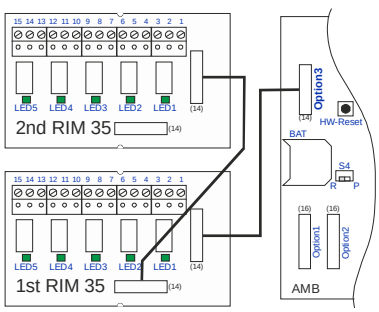


Fig. 3 Wiring the RIM 35

Programming

Depending on ASD device version, the relays can be configured with the following criteria (default) or can be freely programmed with the “ASD Config” configuration software.

RIM / relay	Device version	Function, Event
1st RIM / Rel. 1	all	Pre-signal 1 smoke sensor I
1st RIM / Rel. 2		Pre-signal 2 smoke sensor I
1st RIM / Rel. 3		Pre-signal 3 smoke sensor I
1st RIM / Rel. 4		Smoke sensor I dirty
1st RIM / Rel. 5		Sampling tube I blockage
2nd RIM / Rel. 1	ASD 533 ASD 535-1 ASD 535-3	Freely programmable
2nd RIM / Rel. 2		Freely programmable
2nd RIM / Rel. 3		Freely programmable
2nd RIM / Rel. 4		Freely programmable
2nd RIM / Rel. 5		Freely programmable
2nd RIM / Rel. 1	ASD 535-2 ASD 535-4	Pre-signal 1 smoke sensor II
2nd RIM / Rel. 2		Pre-signal 2 smoke sensor II
2nd RIM / Rel. 3		Pre-signal 3 smoke sensor II
2nd RIM / Rel. 4		Smoke sensor II dirty
2nd RIM / Rel. 5		Sampling tube II blockage

The available criteria that can be programmed on the relays can be found in Technical Description T 140 287 or T 131 192, section 7.2.2.

Displays

For each relay on the RIM 35 there is a green LED which indicates the triggered state of the relay (see also **Fig. 3**).

Commissioning

The RIM 35 is automatically detected when the device is switched on and monitored from then on. If the RIM is subsequently removed (e.g. because it is not used), it must be logged off via the control unit on the AMB 35 Main board (see Technical Description T 140 287 or T 131 192, section 7.3.7).

Terminal assignment

Terminal	Signal	
1	Rel. 1 “NO”	Pre-signal 1 or freely programmable
2	Rel. 1 “NC”	
3	Rel. 1 “COM”	
4	Rel. 2 “NO”	Pre-signal 2 or freely programmable
5	Rel. 2 “NC”	
6	Rel. 2 “COM”	
7	Rel. 3 “NO”	Pre-signal 3 or freely programmable
8	Rel. 3 “NC”	
9	Rel. 3 “COM”	
10	Rel. 4 “NO”	Dirty smoke sensor or freely programmable
11	Rel. 4 “NC”	
12	Rel. 4 “COM”	
13	Rel. 5 “NO”	Sampling pipe blockage or freely programmable
14	Rel. 5 “NC”	
15	Rel. 5 “COM”	

Depending on the ASD device version, the assigned criteria (signals) upon product delivery apply to smoke sensor I on the first RIM 35 and to smoke sensor II on the second RIM 35. The assignment of individual or all relays can be changed with the “ASD Config” configuration software.

If two RIM 35 devices are deployed in the ASD 533, ASD 535-1 or ASD 535-3, the relays of the second RIM 35 are not configured with default criteria. The required programming must be performed with the “ASD Config” configuration software.

Dimensional drawing

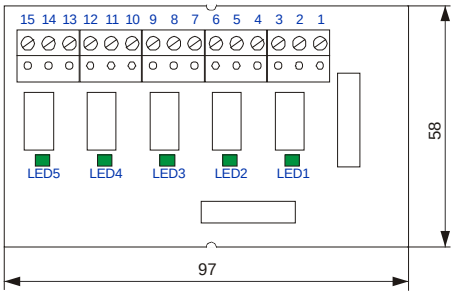


Fig. 4 RIM 35 dimensional drawing

Article numbers / spare parts

Brief description		Article number
RIM 35, incl. installation set		11-2200031-01-XX
Technical descriptions	ASD 533	T 140 287
	ASD 535	T 131 192
Data sheets	ASD 533	T 140 288
	ASD 535	T 131 193

Technical data

Type	RIM 35 (painted version)	
Operating voltage from AMB	5	V-DC
Maximum current consumption	15	mA
Max. loading capacity relay contact	50 (**UL max. 30**)	V-DC
	1	A
	30	W
Ambient conditions acc. to IEC 60721-3-3 / EN 60721-3-3	3K5 / 3Z1	class
Extended ambient conditions:		
• RIM 35 temperature range	–30 – +60 (**UL max. +40**)	°C
• Max. permitted storage temperature (without condensation)	–30 – +70	°C
• Humidity ambient condition (transient without condensation)	95	% rel/F
• Humidity ambient condition (continuous)	70	% rel/F
Plug-in terminals	2.5	mm²
Dimensions (H x W x D)	97 x 58 x 17	mm
Weight (including module holder)	85	g

Change to Index e on page: 2, 2

First edition: 10.06.2008 Po/Ksa

RIM 36

Relay Interface Module

From production version 010421 and FW version 01.01.01

Firmware version:
- ASD 531 / 532 From 01.00.00
- ADW 535 From 01.01.11

The RIM 36 is an additional module for ASD and ADW special fire detectors. It has 5 relays with potential-free change-over contacts.

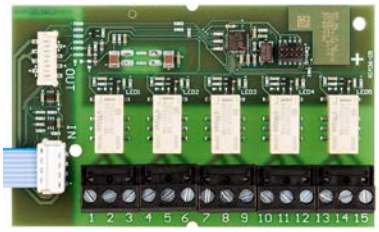


Fig. 1 RIM 36

Description

Up to two RIM 36 units can be built into special fire detectors such as aspirating smoke detector ASD and line type heat detector ADW. Depending on device version, the relays can be configured with pre-defined criteria (Default) or can be freely programmed using the "ASD / ADW Config" configuration software.

Mounting / Installation

There are several expansion slots for mounting the optional additional modules in the housing of the special fire detector.

The mounting set of the RIM 36 includes module holders, retainer screws and the connection cable (ribbon cable) for connecting to the main board of the special fire detector (see **Fig. 2**).

RIM 36 relay interface modules must always be connected to the main board on the associated plug. If two RIM 36 units are installed, the second RIM 36 is supplied with electrical power from the first RIM 36 (cascading according to **Fig. 3**). The RIM 36 connected to the main board of the special fire detector is always the first RIM 36.

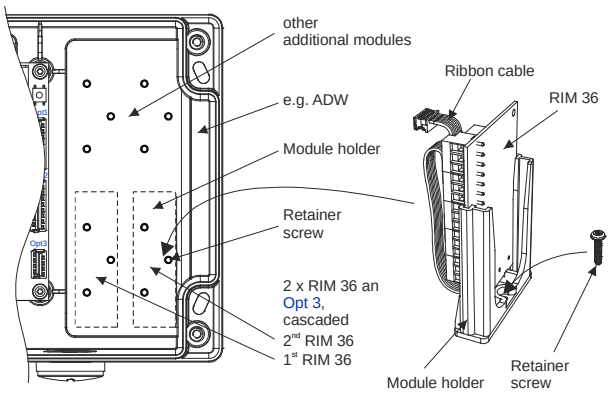


Fig. 2 Installation of the RIM 36

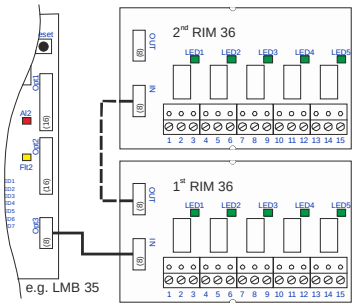


Fig. 3 Wiring of the RIM 36

Programming

Depending on the device version, the relays can be configured with default criteria or can be freely programmed using the "ASD / ADW Config" configuration software (see Technical description of the special fire detector).

Displays

A green LED indicating the triggered state of the relay is on each relay on the RIM 36 (see also **Fig. 3**).

Commissioning

The RIM 36 is automatically detected when the device is switched on and monitored from then on. If the RIM is subsequently removed (e.g. because it is not used), it must be logged off via the control unit on the special fire detector (see Technical description).

Terminal assignment

Terminal	Signal	
1	Rel. 1 "NO"	Default criterion or freely programmable
2	Rel. 1 "NC"	
3	Rel. 1 "COM"	
4	Rel. 2 "NO"	Default criterion or freely programmable
5	Rel. 2 "NC"	
6	Rel. 2 "COM"	
7	Rel. 3 "NO"	Default criterion or freely programmable
8	Rel. 3 "NC"	
9	Rel. 3 "COM"	
10	Rel. 4 "NO"	Default criterion or freely programmable
11	Rel. 4 "NC"	
12	Rel. 4 "COM"	
13	Rel. 5 "NO"	Default criterion or freely programmable
14	Rel. 5 "NC"	
15	Rel. 5 "COM"	

Depending on the ASD device version, the assigned criteria (signals) at product delivery apply to smoke sensor I / sensing tube I on the first RIM 36 and to smoke sensor II / sensing tube II on the second RIM 36. The assignment of individual or all relays can be changed with the "ASD / ADW Config" configuration software.

If two RIM 36 devices are deployed in a special fire detector with only one smoke sensor / sensing tube, the relays of the second RIM 36 are not configured with default criteria. The required programming must be performed with the "ASD / ADW Config" configuration software.

Dimensioned drawing

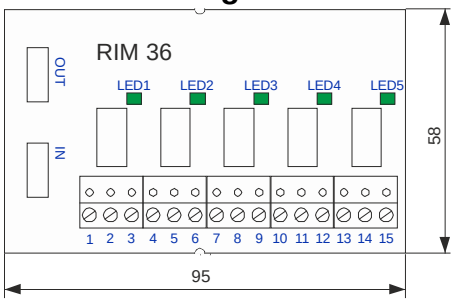


Fig. 4 RIM 36 dimensioned drawing

Article numbers and spare parts

Short designation		Article number
RIM 36, incl. mounting set		11-2200005-01-XX
Technical descriptions	ASD 531	T 140 416
	ASD 532	T 140 421
	ADW 535	T 140 358
	ADW 535HDx	T 140 458
Data sheets	ASD 531	T 140 417
	ASD 532	T 140 422
	ADW 535	T 140 359
Operating instructions	ADW 535HDx	T 140 459

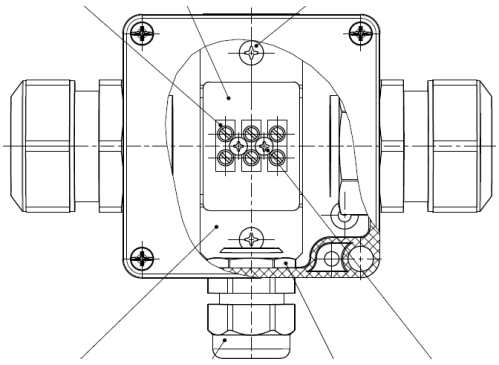
Technical data

Type	RIM 36 (painted version)	
Operating voltage from main board	3.3	VDC
Maximum power consumption	48	mA
Max. loading capacity, relay contact	50 (**UL / ATEX max. 30**)	VDC
	1 (**ATEX max. 0.1**)	A
	30 (**ATEX max. 20**)	W
Ambient conditions acc. to IEC 60721-3-3 / EN 60721-3-3	3K5 / 3Z1	class
Extended ambient conditions:		
• RIM 36 temperature range	–30 – +70 (**UL max. +40**)	°C
• max. permitted storage temperature (without condensation)	–30 – +70	°C
• Humidity ambient condition (transient without condensation)	95	% rel. humidity
• Humidity ambient condition (continuous)	70	% rel. humidity
Plug-in terminals	2.5	mm²
Dimensions (W x H x D, without/with packaging)	95 x 58 x 17 / 155 x 108 x 64	mm
Weight (including module holder, without/with packaging)	85 / 155	g

Changes to index “c” on page: 2

First edition: 17.01.2014 Po/Ksa

Short description	**WCU 535 PC**
Art.-No.	11-2300046-01-01
Long description UB	Wiring Connection Unit 25, WCU 535 PC
Description	For use in aspiration lines of the SecuriSmoke ASD 535 aspirating smoke detector in deep-freeze applications down to minus 30°C. • For cable entry of the supply of sampling points with heating into the aspiration pipe, with internal clamps. • For professional connection of the silicone wires for the aspiration fitting sets (heaters) • The connection between the aspirating smoke detector and the boiler connection unit WCU 535 PC is made by means of installation / fire alarm cable • Incl. two M32 connection fittings for the aspirating line • Incl. one M20 connection fitting for the installation cable
Components	• Housing • Clamp three pole (in the housing) • 2 pcs M32x1.5 mm cable glands for 25mm • 1 pcs M20x1.5mm cable gland with feedthrough of 1x or 2x 6 mm
Operating temperature	-30°C bis +60°C
Dimensions	150 x 112 x 85 mm (with cable glands)
Weight	317g
Notes	one packing unit = 1 Stk Color: light grey (RAL 7035)
Reference / Manufacturer	For more details, please refer to the guidelines for frozen storage.



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