SIEMENS

Sinteso™ / Cerberus™ PRO

ASD aspirating smoke detectors

FDA222, FDA242

Siemens aspirating smoke detector (ASD) for the addressed FDnet/C-NET detector line or for standalone operation

- Patented technology
- Early detection of a wider spectrum of particle sizes in the air
- One detection chamber
- Configuration via a wireless interface using an app
- 'ASD Asyst Tool' software to assist with pipework configuration
- Intuitive front indicator for airflow and smoke value
- Cloud-enabled
- Modular design
- Different event protocols
- Offline/online configuration supported
- Slots for additional relay and 4...20mA cards

Properties

- Extended optical detection thanks to dual wavelengths (blue and infrared): The aspirating smoke detectors FDA222, FDA242 use dual-wavelength technology to trigger an alarm at the earliest possible moment. They are designed to protect a huge range of equipment for monitoring areas of up to 3000 m^2.
- The detectors continually suck in air through a pipe system via their aspirating holes. The air is fed into a patented detection chamber, in which tiny smoke particles are detected by scattered light.
- Lower mounting and service costs: The aspirating smoke detectors FDA222, FDA242 can be used on an FDnet/C-NET detector line.
- The aspirating smoke detectors FDA222, FDA242 are configured via a wireless interface or a USB interface using an app. All detector configurations, maintenance work, and alarm and fault management processes can be carried out on the device directly.
- 'Out-of-the-box' mounting and commissioning: Installation is simple thanks to combined functions for normalizing smoke values and airflow, as well as appropriate presettings for alarm and fault thresholds.
- ASD filter box FDAZ292 available as an accessory: Dust and other dirt is filtered out of the aspirated air and does not get into the aspirating smoke detector. The filters in the ASD filter box are easy to replace.
- Detection chambers and aspirators are replaceable.
- The display can be rotated by 180° for mounting.

Use

Using aspirating smoke detectors

Aspirating smoke detectors are used for early detection of smoke-generating fires in rooms and equipment. They are suited to applications in which point detectors are pushed to their limits, cannot be used or can only be used with restrictions.

The aspirating smoke detector continually removes air from the room being monitored through the connected pipe systems via defined aspirating holes. The air is supplied to the detection chambers, where detectors analyze it for smoke particles. The sensitivity of the detectors can be adjusted.

The 'FXS2056 ASD Asyst-Tool V3' software calculates the position and size of the aspirating holes. The calculation ensures that the air passes from the aspirating hole to the detector in the time specified and with the calculated sensitivity.

Examples of use

- Cavities such as false ceilings or false floors
- Clean rooms
- Rooms the height of which is greater than that permitted for point detectors
- Rooms with electromagnetic fields which influence the function of point detectors
- Large rooms such as storehouses or factory halls
- Separate monitoring of control cabinets and electronics cabinets
- Data centers
- Telecommunication centers
- Assembly lines
- Cable tunnels
- Conveyor belts

Applications with a filter box

- Rooms with polluted air in which the pollution has impaired the performance of optical point detectors
- Assembly lines
- Recycling facilities
- Cement factories
- Mining industry

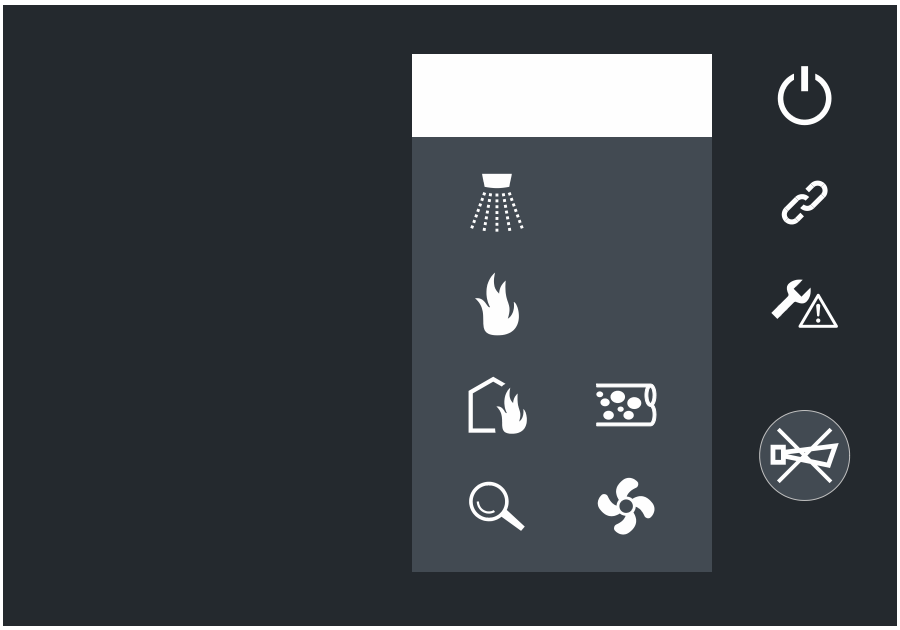
- Subway stations
- Agricultural operations
- All other applications with visible dust load

Functions

Front indicator

The front indicator shows device statuses.

- Alarm level
- Dust
- Airflow
- Label field
- Operation
- Connection
- Fault
- Buzzer



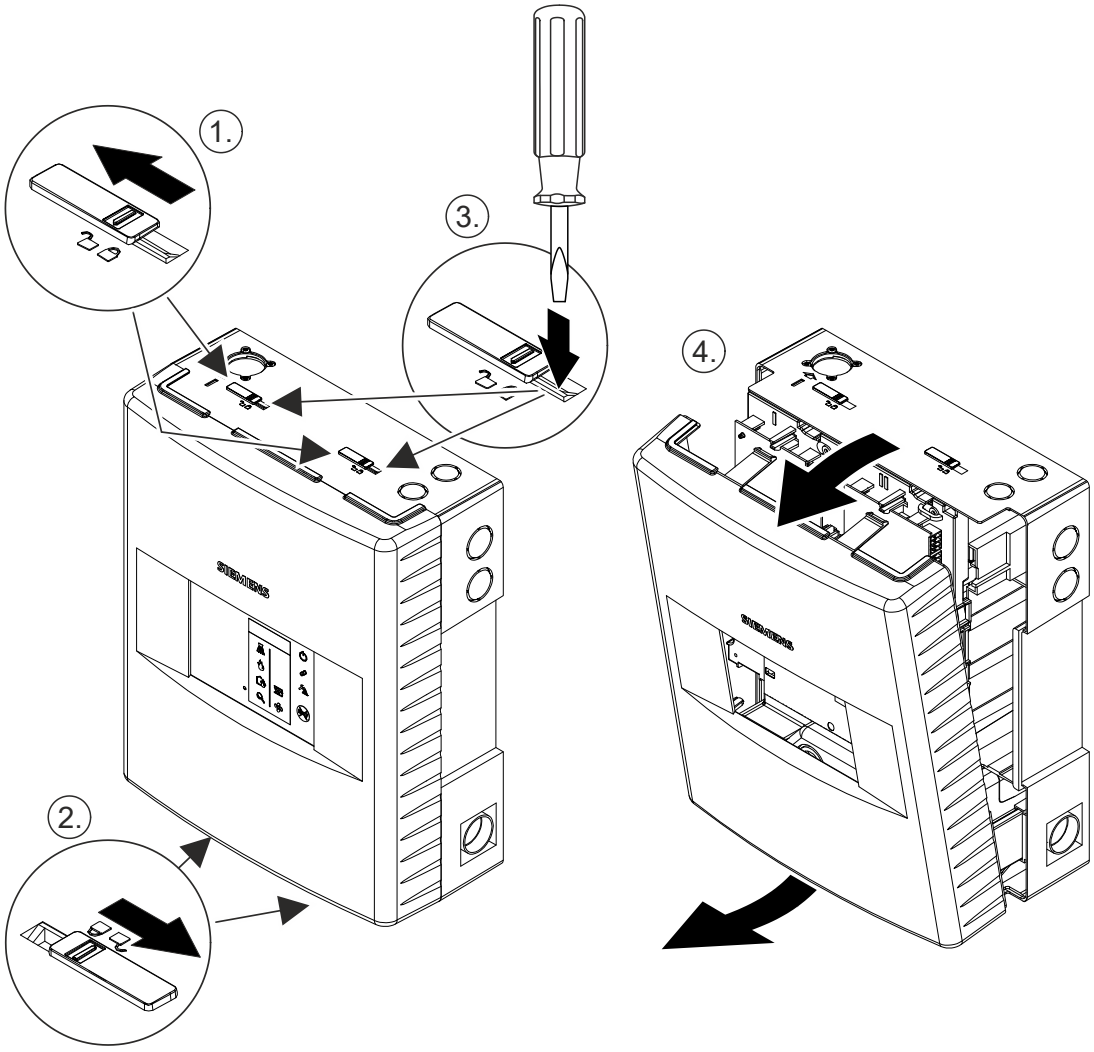
Status indicators

		Label field			
	Fire 2				Operation
	Fire 1				Connection
	Pre-alarm		Dust		Fault
	Early warning		Airflow		Service button

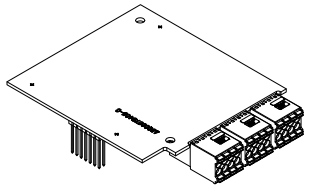
Opening the aspirating smoke detector

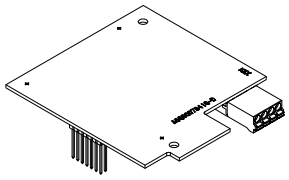
Open the housing to access the service area:

- Move two sliders at the top and bottom into the position.
- Push in the two lugs at the top with a screwdriver.
- Tilt the cover forward at the top and remove.

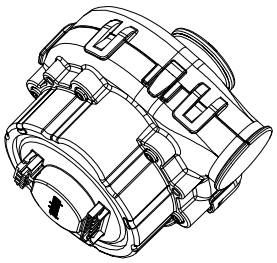


Accessories

FDAZ295 relay card	
	• Accessory for the aspirating smoke detectors FDA222, FDA242, FDA261, FDA262 • Extension card with 6 relay outputs

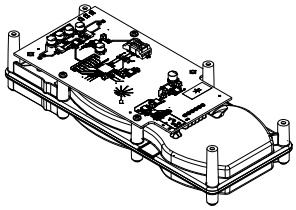
FDAZ296 4...20mA card	
	• Accessory for the aspirating smoke detectors FDA222, FDA242, FDA261, FDA262 • Extension card with two 4...20 mA outputs

FDAS292 aspirator (FDA222, FDA242, FDA261, FDA262)



- Spare part for the aspirating smoke detectors FDA222, FDA242, FDA261, FDA262
- Brushless DC motor (with ball bearing)

FDAS291 detection chamber (FDA222, FDA242, FDA261, FDA262)

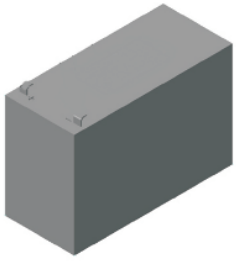


- Spare part for the aspirating smoke detectors FDA222, FDA242, FDA261, FDA262
- Calibrated detection chamber for replacement on-site

Power supply kit FP120-Z1

- Standalone power supply (70 W)
- Supply to external devices and components as per EN 54-4 and VdS
- With operating and fault indicator, shown via a green and a yellow LED
- With potential-free relay contacts for fault messages
- Additional installation of an I/O module possible
- Uninterruptible power supply with battery charging
- Batteries: max. 17 Ah
- Dimensions: (W x H x D) 430 x 399 x 124 mm

Battery FA2003-A1 (12 V, 7 Ah, VdS)

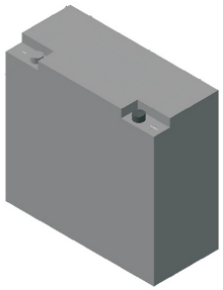


- For supplying power to fire control panels and aspirating smoke detectors
- Compatible with:
  - Fire control panels for the 'Sinteso' and 'Cerberus PRO' product lines
  - External power units for the aspirating smoke detectors

Battery FA2004-A1 (12 V, 12 Ah, VdS)

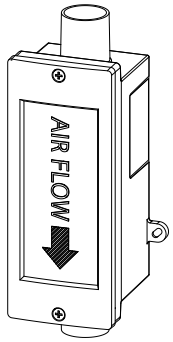
- For supplying power to fire control panels and aspirating smoke detectors
- Compatible with:
  - Fire control panels for the 'Sinteso' and 'Cerberus PRO' product lines
  - External power units for the aspirating smoke detectors

Battery FA2005-A1 (12 V, 17 Ah, VdS)



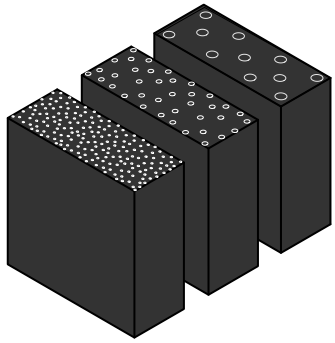
- For supplying power to fire control panels and aspirating smoke detectors
- Compatible with:
  - Fire control panels for the 'Sinteso' and 'Cerberus PRO' product lines
  - External power units for the aspirating smoke detectors

FDAZ292 ASD filter box



- Filter box for installation in the pipe system for aspirating smoke detectors
- Filters dust and other dirt out of the air aspirated by the aspirating smoke detector
- Minimizes internal contamination of the aspirating smoke detector
- Contains filter set FDAZ292-AA with three filters, coarse, medium, fine
- Compatible with the aspirating smoke detectors
- You will find more information in document A6V10877841

FDAZ292-AA ASD filter set



- Spare part for the ASD filter box FDAZ292
- Filter set contains one coarse filter, one medium filter, and one fine filter

Type Overview

Type	Designation	Order number	Weight [kg]
FDA222	Aspirating smoke detector	S54333-F105-A1	2.400
FDA242	Aspirating smoke detector	S54333-F106-A1	2.400
Accessories			
FDAZ295	Relay card	S54333-B105-A1	0.045
FDAZ296	4...20mA card	S54333-B106-A1	0.025
FP120-Z1	Power supply kit A (70 W)	S54400-S122-A1	3.920
FA2003-A1	Battery (12 V, 7 Ah, VdS)	A5Q00019353	2.450
FA2004-A1	Battery (12 V, 12 Ah, VdS)	A5Q00019354	3.930
FA2005-A1	Battery (12 V, 17 Ah, VdS)	A5Q00019677	5.640
FDAZ292	ASD filter box	S54333-C92-A1	0.220
Spare parts			
FDAZ292-AA	ASD filter set	S54333-S91-A1	0.009
FDAS292	Aspirator	S54333-B12-A1	0.120
FDAS291	Detection chamber	S54333-B11-A1	0.230

Product documentation

Document ID	Title
008331	List of compatibility (for 'Sinteso™' product line)
A6V10229261	List of compatibility (for 'Cerberus™ PRO' product line)
A6V10393194	Technical manual Power supply kit A 70 W FP120-Z1
A6V11783979	Planning, Installation ASD Pipe system
A6V11784000	User Manual 'ASD Asyst Tool V3 FXS2056'
A6V12610753	ASD+ Cybersecurity guidelines
A6V13580769	Technical manual Aspirating smoke detector FDA222, FDA242
A6V13580856	Mounting, Installation Aspirating smoke detector FDA222, FDA242

Related documents such as the environmental declarations, declarations of conformity, etc., can be downloaded from the following Internet address:

www.siemens.com/bt/download

Notes

Disposal

This symbol or any other national label indicate that the product, its packaging, and, where applicable, any batteries may not be disposed of as domestic waste. Delete all personal data and dispose of the item(s) at separate collection and recycling facilities in accordance with local and national legislation.
For additional details, refer to Siemens information on disposal.

Technical data

	FDA222	FDA242
Operating voltage	DC 19…30 V	DC 19…30 V
Typical operating current: ● Typical pipe system ● Aspirator set to 'Medium' ● Operating voltage DC 24 V ● Brightness set to 'Medium'	Normal operation: 120 mA Alarm: 130 mA	Normal operation: 150 mA Alarm: 160 mA
Maximum operating current: ● Pipe system with high flow ● Aspirator set to 'High' ● Operating voltage DC 19 V ● Brightness set to 'Bright' ● Alarm: 'Steady-On' ● Maximum sound level	Normal operation: 190 mA Alarm: 235 mA	Normal operation: 260 mA Alarm: 305 mA
Operating temperature	-20…+60 °C	-20…+60 °C
Air humidity	5…95 % (no moisture condensation)	5…95 % (no moisture condensation)
Monitoring area (in accordance with local specifications and standards)	1600 m^2 Class A: 800 m^2	3000 m^2 Class A: 1200 m^2
Alarm ranges for detection:	0.004…20 %/m obs	0.003…20 %/m obs
Maximum pipe length ● Single pipe ● Entire pipe system	 100 m 200 m	 150 m 400 m
Maximum number of aspirating holes	60	125
Maximum altitude	4000 m above sea level	4000 m above sea level
Protection category	IP30	IP30
Installation position	Vertically upward, vertically downward	Vertically upward, vertically downward
Dimensions (W x H x D)	262 x 326 x 124 mm	262 x 326 x 124 mm
Air intake pipe, exhaust pipe	Outer Ø 25 mm Inner Ø 21 mm	Outer Ø 25 mm Inner Ø 21 mm
Aspirator pressure at 25 l/min	'High': 300 Pa	'High': 500 Pa
Options for aspirating holes	Prefabricated option or maximum pipe length corresponding to the calculation made using 'FXS2056 ASD Asyst-Tool V3'	Prefabricated option or maximum pipe length corresponding to the calculation made using 'FXS2056 ASD Asyst-Tool V3'
Sound power level [1] depending on the aspirator level	'High': 36 dBA 'Medium': 35 dBA 'Low': 34 dBA	'High': 39 dBA 'Medium': 36 dBA 'Low': 35 dBA
Cable inlet Cable gland	Rear, top, side Side M25 × 1,5, top M20 × 1,5	Rear, top, side Side M25 × 1,5, top M20 × 1,5

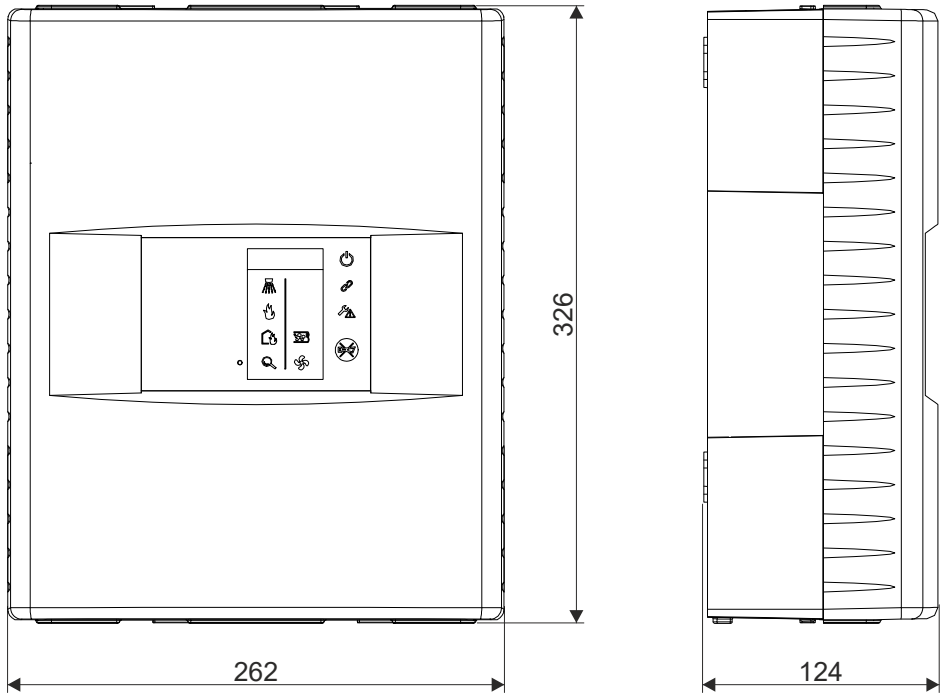
	FDA222	FDA242
System compatibility Communication	FC20xx/FC72x (FS20/FS720) FDnet/C-NET	FC20xx/FC72x (FS20/FS720) FDnet/C-NET
3 relay alarm outputs	Can be selected with/without latching Nominal current 2.0 A at DC 30 V Can be selected: normally open contact/normally closed contact (NO/NC)	Can be selected with/without latching Nominal current 2.0 A at DC 30 V Can be selected: normally open contact/normally closed contact (NO/NC)
1 fault relay	Nominal current 2.0 A at DC 30 V Normally closed contact (NC)	Nominal current 2.0 A at DC 30 V Normally closed contact (NC)
GPI: Connection of external pushbuttons 3 inputs	Can be selected: inverted/not inverted Can be selected: with/without monitoring for open line or open line and short-circuit Monitoring voltage DC 3 V Max. line resistance 20 Ω	Can be selected: inverted/not inverted Can be selected: with/without monitoring for open line or open line and short-circuit Monitoring voltage DC 3 V Max. line resistance 20 Ω
Terminals	Push-in connector	Push-in connector
SD card	FAT32 formatted, max. 32 GB	FAT32 formatted, max. 32 GB
Cable cross section: ● Power supply ● FDnet/C-NET, relay, GPI	 0.2…2.5 mm^2 flexible (AWG 12…30) 0.2…1.5 mm^2 rigid 0.2…1.5 mm^2 flexible/rigid	 0.2…2.5 mm^2 flexible (AWG 12…30) 0.2…1.5 mm^2 rigid 0.2…1.5 mm^2 flexible/rigid
Interface (accessories) FDAZ295	Relay card with 6 outputs ● Can be selected with/without latching ● Nominal current 2.0 A at DC 30 V ● Can be selected: normally open contact/normally closed contact (NO/NC)	Relay card with 6 outputs ● Can be selected with/without latching ● Nominal current 2.0 A at DC 30 V ● Can be selected: normally open contact/normally closed contact (NO/NC)
Interface (accessories) FDAZ296	4...20mA card with 2 outputs ● Polarity invariant ● Electrically isolated ● DC 10…30 V	4...20mA card with 2 outputs ● Polarity invariant ● Electrically isolated ● DC 10…30 V
Dust indicator	Yes	Yes
Indication	4x alarm status indicator Faults Dust Connection status	4x alarm status indicator Faults Dust Connection status
Service area	'Status OK' LED USB-C Settings: reset function Settings: smoke density, airflow	'Status OK' LED USB-C Settings: reset function Settings: smoke density, airflow
Normalization: smoke value, airflow	Settings: threshold values for smoke alarms and faults Settings: smoke density and airflow During normalization: preset values are retained.	Settings: threshold values for smoke alarms and faults Settings: smoke density and airflow During normalization: preset values are retained.
Event log: time and date specified (max. 40000 entries)	Non-volatile internal event memory: smoke density, airflow, detector status, faults	Non-volatile internal event memory: smoke density, airflow, detector status, faults

	FDA222	FDA242
Warranty period	2 years	2 years
Standards	EN 54-20 A, B, C EN 54-17 IEC 62443-4-1, IEC 62443-4-2	EN 54-20 A, B, C EN 54-17 IEC 62443-4-1, IEC 62443-4-2
Approvals ● VdS ● TÜV SÜD	 G223055 IITS2 113879 0003	 G223055 IITS2 113879 0003

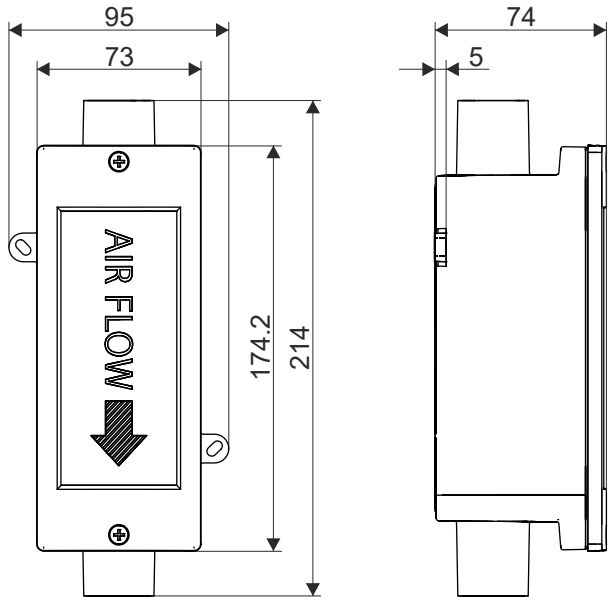
[1] A-weighted sound power level [dB] as per DIN EN ISO 3744-2010. Measured values are typical values, measured with a pipe piece at the air inlet and at the air outlet.

Dimensional drawings

FDA222, FDA242



FDAZ292



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