SIEMENS

FDA241, FDA221

Sinteso™
Cerberus™ PRO

Siemens ASD

- **Patented Technology**
- **Compatible with the Siemens FDnet/C-NET loops (requires FDCC221S option)**
- **Advanced dual Wavelength optical detection (Blue & Infra-red)**
- **Configurable as a Standalone via a USB port or via the Panel when on a network loop using the optional FDCC221S**
- **Out-of-the-box installation and commissioning**
- **Early detection of a wide range of airborne particle sizes**
- **Asyst software tool for sample pipe designs support**
- **Programmable alarm thresholds**
- **The unique chamber design ensures clean detection chamber optics**
- **Instant recognition front panel display**
- **Normalize Smoke**
- **Normalize Air flow**
- **Easy field service accessibility**
- **Multiple event logging**
- **Offline/online configuration capability**
- **FDA241 Up to 800 m^2 coverage**
- **FDA221 Up to 500 m^2 coverage**
- **4…20 mA output**
- **Purge functionality (FDA241)**

Building Technologies

CPS Fire Safety

The FDA241/221 series of detectors are a very early warning dual wavelength (blue & infra-red) smoke detectors designed to protect small to medium, business-critical environments up to 800 m^2 with the FDA241 or 500 m^2 with the FDA221).

The detector works by continually drawing air into sampling holes in a pipe network. The air is passed into a uniquely designed detection chamber where light scattering technology detects the presence of very small amounts of smoke.

Lower installation and service support costs

The FDA241 and FDA221 detectors can communicate directly on the FDnet/C-NET loops (with an optional FDCC221S PCB), so there is no need for separate relay or network connections. This reduces the cost of installation and service. The detector acquires its loop address automatically.

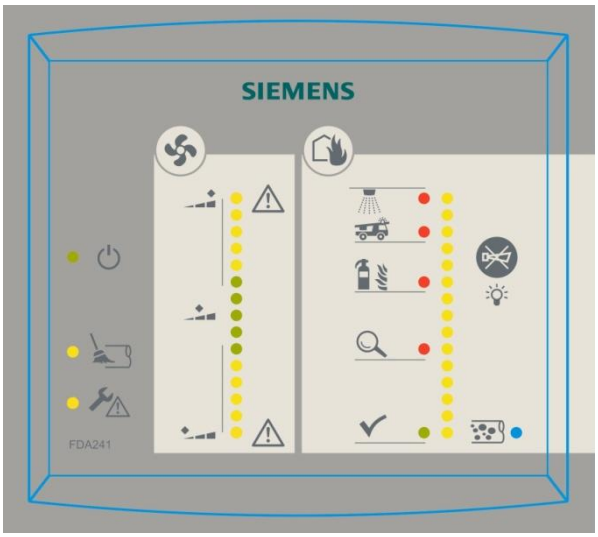
Fire control panel programming (requires FDCC221S option)

The sophisticated integration on FDnet/C-NET allows for detector configurations, maintenance and alarm/fault management to be performed centrally – at the fire control panel. This increases control and lowers total solution cost.

Out-of-the-box operation

The FDA241 and FDA221 can be installed and commissioned out-of-the-box. Normalize smoke density and air flow functionality, suitable default alarm and fault thresholds makes for an easy installation.

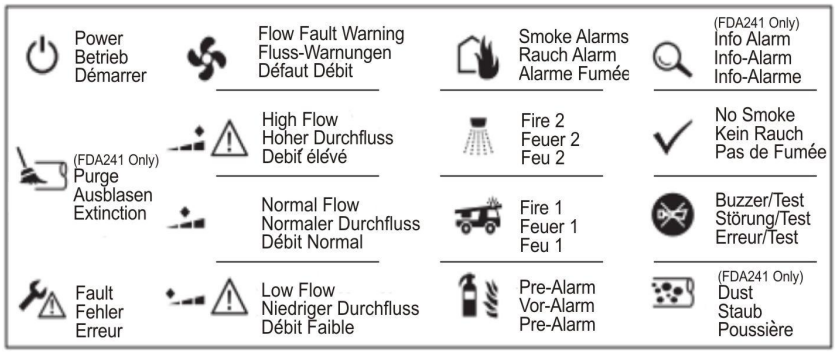
Display



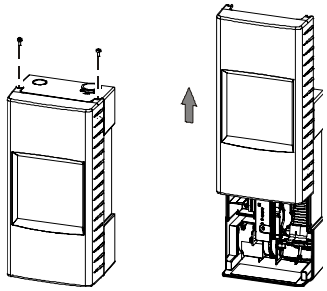
The front panel display includes an easy to read smoke density and airflow level bar graph, alarm, fault status and dust indicator (FDA241 only).

When the field service access cover is open, the user has access to the Reset, Normalize Smoke & Flow buttons and a mini USB communication connector.

Legend to Indicators



Opening the detector



There are 2 modes for accessing the detector service area.

Partial access

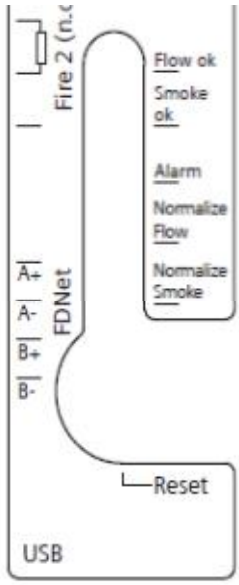
Remove the 2 screws on the top of the detector. Slide the front cover upward until it reaches the self locking tabs.

Full access

Remove the 2 screws on the top of the detector. Slide the front cover upward until it reaches the self locking tabs. Grasp the cover on the sides and gently apply pressure to spread the cover sides outward. This will enable the cover to be totally removed

Warning: Take notice of the front panel connecting cable if fully removing the cover.

Service Access – Display LEDs and Buttons



Flow OK

If self check is OK the Flow OK LED starts flashing to indicate normal operation

Smoke OK

If self check is OK the Smoke OK LED starts flashing to indicate normal operation

Alarm

The Alarm LED flashes in the event of a smoke alarm

Normalize flow button

As each installation will require a different sampling pipe configuration, this function is used to set the zero reference for the bargraph. This function is required to be done during commissioning of the detector. The nominal flow value which is determined during the normalize flow period is then the zero set point value for the airflow monitoring during normal operation.

To use this function, use a thin tool such as a paper clip or a small jeweller's screwdriver, place the tool into the hole and push the normalize flow button. During the Normalization period the detector is still actively monitoring for smoke using the default values.

Normalize smoke button

This function is used to determine the nominal clean air value for the detector. This is required to be done during commissioning. The nominal value which is determined during the normalize period is then the set point value for the smoke monitoring during normal operation.
To use this function, use a thin tool such as a paper clip or jeweller's screwdriver, place the tool into the hole and push the normalize smoke button.

This function could be manually stopped by pressing the Normalize button again. During the Normalization period the detector is still actively monitoring for smoke using the default values.

Note:

The detector indicates over FDnet/C-NET) that normalizing is active (no distinguishing between smoke and air flow)

Reset:

Pressing the Reset button, resets all latched states of the detector. Latched states can be fire alarms or airflow out-of-range events. If a fire alarm is reset the associated relay is also reset.

Note:

If the detector is connected to FDnet, the alarms and associated relays are set to non-latching

USB Connector:

The mini USB connector is used connect to a laptop when required to re-configure the detector using the ASD Configuration Tool F-FXS2051

LED Test Function:

Press and hold the "Buzzer silence button" for 5 seconds.
The detector will cycle through a full LED display to check the operation of all LEDS

If connecting the Siemens ASD directly to a Siemens FDnet, C-NET loop, the FDCC221S communication card must be ordered as a separate item. (S24218-A201-A2)

Technical data

		FDA241	FDA221
Input power			
Voltage	DC 19-30V	√	√
Current @ DC 24 V	150 mA nominal, 250 mA in Alarm	√	√
Dimensions (W x H x D)	162 mm x 285 mm x 120 mm	√	√
Weight	approx. 1.5 kg (3.3 lbs)	√	√
Protection category	IP30	√	√
Mounting	upright, inverted	√	√
Sound power level L_{WA} [dBA]	[1]		
At suction speed	High	37	33
	Medium	33	30
	Low	30	26
Operating conditions			
Detector ambient	-20 to 60 °C	√	√
Humidity	5 to 95% (no condensation)	√	√
Dust Indicator		√	
Sampling network			
Maximum pipe lengths	Single pipe length Branched pipe lengths	60 m 2x60 m	30 m 2x25 m
Sampling hole options	In accordance to the Asyst tool used for sample pipe modeling		
Air inlet/exhaust pipe	Metric: 25 mm Outside diameter (OD), Imperial 1.05 inches (US pipe)		
Area coverage	depending on local codes and standards	Up to 800 m²	Up to 500 m²
System compatibility	compatible with all Siemens FC20/FC720 (FS20/FS720 system)		
Alarm Relay outputs selectable Latching/Non Latching rated 2.0A @ DC 30 V (max). NO/NC Contacts		Qty 4	Qty 3
Fault Relays		Qty 1	Qty 1
Cable access	Rear 10 cm x 2.5 cm or top entry		
Cable termination	Screw terminals 0.2…2.5 mm^2 (30–12 AWG)		
Other Interfaces	Power in/out, 4-20 mA		
Alarm threshold parameter sets			
Fire 1		10 sets 0.05…2.0 % obs/m	5 sets 0.20…2.0 % obs/m
Fire 2		10 sets 2.0…20 % obs/m	5 sets 6.0…20 % obs/m
Individual alarm delays	0…300 seconds: Standard value 0 seconds smoke density, 15 sec Flow fault		
Front Display	● 4 Alarm state indicators (FDA241) ● 3 Alarm state indicators (FDA221) ● Fault Indicators ● Purge (FDA241) ● Dust (FDA241) ● Smoke and Airflow level Bargraphs		
Service Area	● Status OK LEDs ● USB connector ● Reset ● Smoke and Airflow Normalize buttons		

[1] A-weighted sound power level in [dB] as per DIN EN ISO 3744-2009
Measured with a pipe piece at the air inlet and at the air outlet

Event log	Time and date stamped in separate, non-volatile, logs for: smoke level, flow level, detector status and faults		
Normalize smoke & air flow	● Set acceptable smoke alarm and fault thresholds ● User adjustable period for airflow and smoke ● During Normalize period, pre-set default values are maintained		
Warranty period	2 Years		
Approvals – VdS		**FDA241** G213050	**FDA221** G213050

13 CE 0786	**FDA221 / FDA241**	Siemens Switzerland Ltd, Gubelstrasse 22 CH-6301 Zug, Switzerland Technical data: see doc. **A6V10345654**
FDA221, FDA241 aspirating smoke detector for use in detection and fire alarm systems installed in buildings		
2004/108/EC (EMC): EN 50130-4 / EN 61000-6-3 ; 2011/65/EU (RoHS): EN 50581 ;		
Declared performance and conformity can be seen in the Declaration of Performance and the EC Declaration of Conformity, which is obtainable via the Customer Support center: Tel. +49 89 9221-8000 or http://siemens.com/bt/download		
DoP No.: 0786-CPR-21270; DoC No.: CED-FDA221/FDA241-V01		

Details for ordering

Accessories

Type	Part no	Designation	Weight
FDA241	S54333-F17-A1	Aspirating smoke detector (8H)	2.500 kg
FDA221	S54333-F15-A1	Aspirating smoke detector (5S)	2.500 kg
FDCC221S	S24218-A201-A2	Communications interface	0.019 kg
FP120-Z1	S54400-S122-A1	Power supply kit A (70 W)	3,920 kg
FA2003-A1	A5Q00019353	Battery (12 V, 7 Ah, VdS)	2,450 kg
FA2004-A1	A5Q00019354	Battery (12 V, 12 Ah, VdS)	3,930 kg
FA2005-A1	A5Q00019677	Battery (12 V, 17 Ah, VdS)	5,640 kg

You will find additional information in the following documents:

- Technical manual for Aspirating Smoke Detectors FDA241, FDA221, Document A6V10334410
- Technical manual for Power supply kit FP120-Z1, Document A6V10393194

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