SIEMENS

FDF221-9, FDF241-9

Sinteso™
Cerberus® PRO

DA Infrared flame detectors
ASA Infrared flame detectors

addressable or collective, conventional **ASA***technology*™

- **DA FDF221-9 Flame detector for simple inside applications, detection with one infrared sensor und detection algorithms**

- **ASA FDF241-9 Flame detector for the most demanding application (inside and outside), detection with 3 infrared sensors and ASA***technology*
- **Excellent immunity to false alarms thanks to a combination of fuzzy logic and Wavelet analysis**
- **Event-controlled detection behavior**

- **Microprocessor-controlled signal evaluation**
- **Two-wire installation for all types of cable**
- **Communication via FDnet/C-NET (individual addressing), or collective, conventional signal processing**

Building Technologies

Fire Safety & Security Products

Characteristics

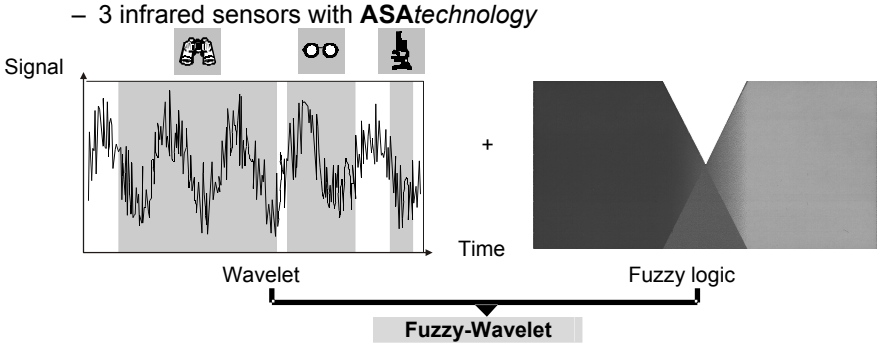
- **Environmental**
  - ecologically processing
  - recyclable materials
  - electronic and synthetic material simple separable
- **Characteristics**
  - the detector housing made of aluminum also serves as a screen against electro-magnetic interference (EMB)
  - the base housing consists of a robust, glass-fiber reinforced synthetic material
  - protected electronics
  - built-in alarm indicator (AI)
  - integrated line separator
  - addressable and collective, conventional signal processing

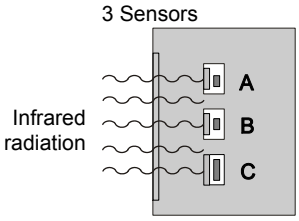
FDF221-9 DA Infrared flame detector

- **Function**
  - 1 infrared sensor with detection algorithms
- **Application**
  - for simple applications, additional to smoke detectors
  - Detection of smokeless combustible liquid and gas fires, as well as smoke-forming open fire involving carbonaceous materials as contained in wood, plastics, gases, oil products etc.
  - only used without source of interference as sun, halogen light, blackbody radiation

FDF241-9 ASA Infrared flame detector

- **Function**
  - 3 infrared sensors with **ASA***technology*





The detection elements of the infrared flame detector consist of two pyroelectric sensors and a silicon photo diode.
Sensor A:
The pyroelectric sensor A reacts to infrared flame gas in the characteristic CO2 spectral range between 4.0... 4.8 µm.
Sensor B:
The pyroelectric B measures the infrared radiation of sources of interference in the range between 5.1... 6 µm
Sensor C:
The silicon photo diode measures the solar radiation in the range between 0.7... 1.1 µm

  - One sensor measures the hot carbon dioxide in a specific flame wavelength; the two other sensors simultaneously measure the interference radiation in other wavelengths.
  - With intelligent signal processing through fuzzy algorithms and wavelet analysis, the FDF241-9 achieves excellent detection reliability while maintaining the highest immunity to interference radiation and sunlight.
  - In order to safeguard against a possible decision emergency, the detector contains an additional emergency activation channel.

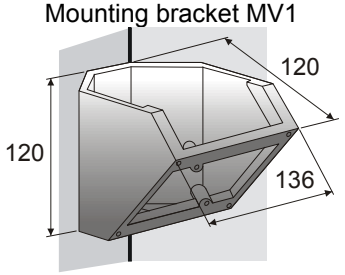
- **Application**

– Detects smokeless liquid and gas fires as well as smoke-generating open fires resulting from the combustion of carbonaceous materials such as wood, synthetics, gases, oil products, etc.

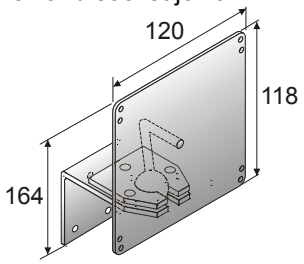
– large industrial warehouses
– chemicals production plants
– chemicals stores
– petrol storage and pump stations
– arc welding workshops
– ferries and cargo boats
– ships' engine rooms
– underground tunnels
– power plants
– transformer stations
– printing works
– motor test beds
– malls
– wood stores
– hangars for military and civil aircraft

Accessories

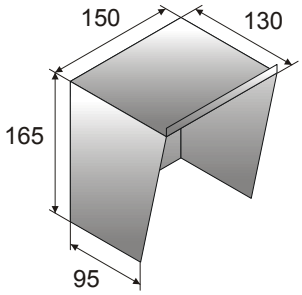
Mounting bracket MV1

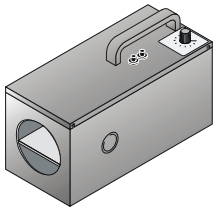


Ball and socket joint MWV1



Rain hood DFZ1190



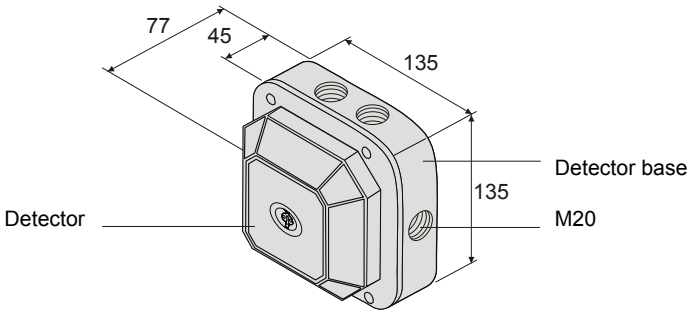


The test lamp LE3 is used to make a performance check on the flame detector at a distance of up to 10 m.

Installation

– easy installation of the housing on stable, vibration-free surfaces; the detector is only inserted after installation check, shortly before commissioning
– 6 threads M20 for screwed cable glands
– connection via two-wire installation with the control unit
– ext. alarm indicator connectable
– pluggable connection between flame detector and base
– mounting bracket MV1 for room surveillance to fix the detector at the correct angle
– ball and socket joint MWV1 for the orientation to an object
– rain hood DFZ1190 protects the detector in outside applications

Dimensions



Technical data

FDF221-9

CE 0786

Siemens Schweiz AG, CH-6301 Zug
Date: see manufacturing date on the product
0786-CPD-20371

EN54-10, EN54-17
Flame detector; Safety in case of fire
FDF221-9
Technical data see Doc. 007011

FDF241-9

CE 0786

Siemens Schweiz AG, CH-6301 Zug
Date: see manufacturing date on the product
0786-CPD-20372

EN54-10, EN54-17
Flame detector; Safety in case of fire
FDF241-9
Technical data see Doc. 007011

	FDF221-9	FDF241-9
Operating voltage (addressable) (quiescent)	12... 33 VDC	12... 33 VDC
Operating current (addressable) (quiescent)	0.7 mA	0.7 mA
Operating voltage (collective) (quiescent)	14... 28 VDC	14... 28 VDC
Operating current (collective) (quiescent)	0.5 mA	0.5 mA
Alarm indicator (AI) ext. connectable and programmable	2	2
Operating temperature	-25... +70 °C	-35... +70 °C
Storage temperature	-40... +75 °C	-40... +75 °C
Humidity (no heavy condensation of window)	≤95 % rel.	≤95 % rel.
Communication protocol	FDnet/C-NET or collective (with and without current limitation)	FDnet/C-NET or collective (with and without current limitation)
Connection terminals	0.2... 1.5 mm^2	0.2... 1.5 mm^2
Color	white, ~RAL 9010	white, ~RAL 9010
Protection category EN60329 / IEC529	IP44	IP67
Standards	EN54-10, EN54-17	EN54-10, EN54-17
Approvals – VdS – LPCB	 G204009 126af/02	 G204010 126af/01
QS standards	Siemens Standard SN 36350	
System compatibility – FDnet – C-NET	 FS20, AlgoRex, SIGMASYS FS720	
System compatibility collective, conventional	CZ10, BC10, FC10, XC10, CS11, FC700A, FC330A, SIGMASYS, BMS, SM80/88/D100	

Details for ordering

Type	Part no	Designation	Weight
FDF221-9	A5Q00003902	Flame detector (1 Sensor)	0.500 kg
FDF241-9	A5Q00003006	Flame detector (2 Sensors / 1 Photo diode)	0.500 kg
FDFB291	A5Q00003310	Detector base	0.250 kg
–	A5Q00004478	Metal screwed cable gland M20	0.039 kg
MV1	BPZ:3950450001	Mounting bracket	0.285 kg
MWV1	BPZ:3674840001	Ball and socket joint	0.860 kg
DFZ1190	BPZ:5302660001	Rain hood	0.640 kg

Details about system compatibility see List of compatibility 008331

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