SIEMENS

Sinteso™/ Cerberus™ PRO/ AlgoRex/ Synova™

Flame detector

DF1101-Ex

For zone 1 and 2 areas at risk of explosion

- For indoor and outdoor applications
- 3-sensor processing
    - Detection at various wavelengths
    - Microprocessor-controlled signal processing
- Selective evaluation of flickering sequence
- Choice of application algorithms
- Excellent false alarm immunity thanks to a combination of patented fuzzy logic and wavelet analysis
- Maximum resistance to
    - electromagnetic interference
    - sunlight and thermal radiation
    - moisture and corrosion
- Connection to the collective/SynoLINE600, interactive or AnalogPLUS/SynoLOOP fire detection system via input/output module DC1192
- Connection to the addressed FDnet/C-NET fire detection system via transponder FDCIO223

Properties

- Features
  - Aluminum detector housing for shielding against electromagnetic interference
  - Base housing made from hard-wearing glass-fiber-reinforced plastic
  - Connection to the control panel via a wire pair
  - Protected electronics
  - Built-in alarm indicator
  - External alarm indicator can be connected
  - Collective signal processing
  - Ignition protection category 'intrinsic safety' Ex i
    IEC 60079-0 and IEC 60079-11
- Eco-friendly
  - Environmentally friendly processing
  - Reusable materials
 - Electronic parts and synthetic materials can be easily separated

Use

- Chemical production facilities, warehouses for chemicals
- Oil refineries
- Gas depots and pump stations
- Natural gas transshipment points
- Propane and butane gas filling systems
- All zone 1 and 2 areas at risk of explosion where flame fires of carbonaceous materials are to be expected

The flame detector measures infrared radiation and can therefore detect liquid and gas fires without smoke and organic material fires with smoke.

- Pyroelectric sensor A measures the infrared radiation in the characteristic CO_2 spectral range between 4.0 and 4.8 µm.
- Pyroelectric sensor B measures the infrared radiation of deceptive phenomena, such as hot objects, in the range between 5.1 and 6.0 µm.
- Sensor C is a silicon photo diode and measures solar radiation in the range between 0.7 and 1.1 µm.
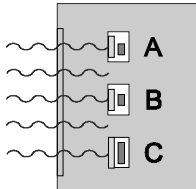
- A sensor measures the hot CO_2 at a specific wavelength of the flame; the other two sensors measure interference radiation at other wavelengths at the same time.
- With the intelligent signal processing using fuzzy algorithms and wavelet analysis, the flame detector achieves excellent detection reliability with maximum immunity to interference emitters and sunlight at the same time.
- In order to safeguard against a possible decision emergency, the flame detector contains an additional emergency activation channel.
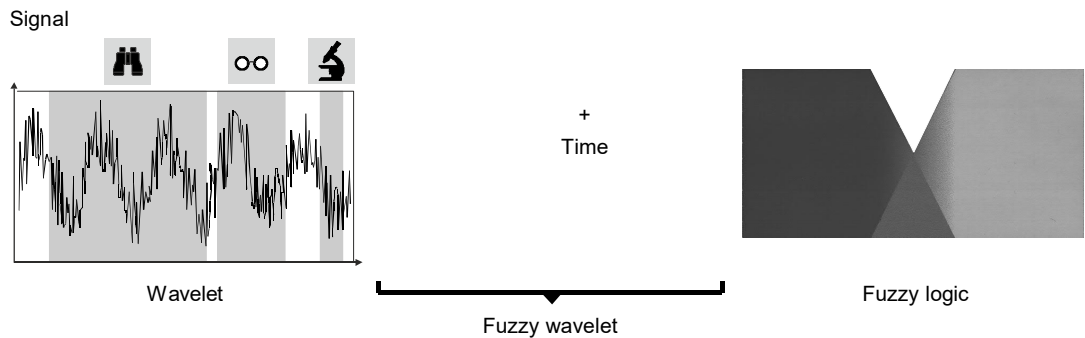
Type overview

Type	Designation	Order number	Weight [kg]
DF1101-Ex	Flame detector	BPZ:5166750001	0.500

Accessories for flame detector DF1101 Ex

Type	Designation	Order number	Weight [kg]
DFB1190	Base	BPZ:5165360001	0.250
-	M20 x 1.5 metal cable gland	A5Q00004478	0.036
MV1	Mounting bracket	BPZ:3950450001	0.285
MWV1	Ball and socket joint	BPZ:3674840001	0.860
DFZ1190	Rain hood	BPZ:5302660001	0.640
Stabex HF	Test lamp	BPZ:4620910001	0.250

Accessories

Mounting bracket MV1

- For room monitoring
- For fixing flame detector at 45°

Ball and socket joint MWV1

- For fixing flame detector at the angle and in the direction required
- For accurately aligning the flame detector to an area

Rain hood DFZ1190

- Rain hood made of stainless steel
- For protecting the flame detector during outdoor applications

Test lamp Stabex HF

- For testing the function of flame detectors

Document ID	Title
008164	Equipment overview Sinteso™ Detector system FD20
001204	Principles, applications, installation, maintenance Fire alarm signal in areas at risk of explosion
008331	List of compatibility (for 'Sinteso™' product line)
A6V10229261	List of compatibility (for 'Cerberus™ PRO' product line)
1673	Technical description / Planning / Installation / Commissioning Infrared flame detectors DF1191, DF1192, DF1192 (UL/ULC), DF1101-Ex, DF1101-Ex (UL/ULC), DF1151-Ex

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

https://siemens.com/bt/download

Installation

Installation in potentially explosive areas

Specific national requirements always apply when creating installations in areas at risk of explosion.

Mount the housing on a stable, vibration-free surface. Do not use the detector until the installation has been checked, just before commissioning.

The input/output module DC1192/transponder FDCIO223 with downstream safety barrier SB3 ensures electrical isolation of the potentially explosive areas and areas not at risk.
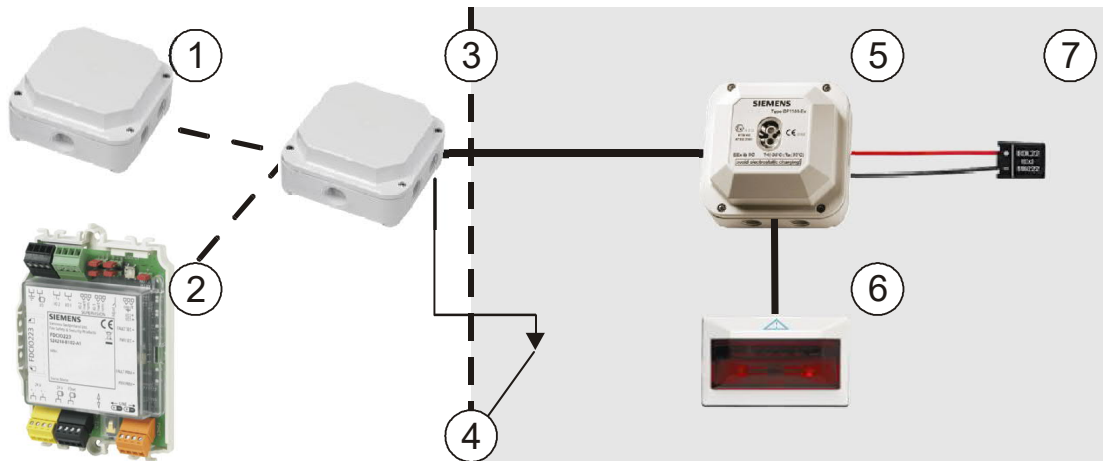
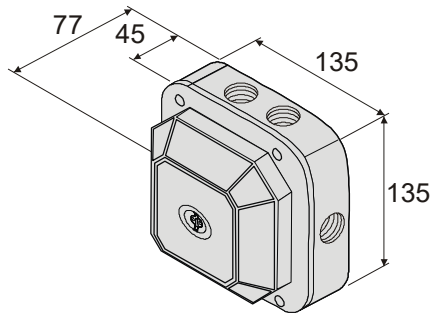|			
1	Input/output module DC1192	5	Flame detector DF1101-Ex
2	Transponder FDCIO223	6	Alarm indicator FDAI92-Ex, FDAI93-Ex
3	Safety barrier SB3	7	End-of-line EOL22(Ex) in the last detector
4	Equipotential bonding ground		

Disposal

 The device is considered an electronic device for disposal in accordance with the European Guidelines and may not be disposed of as domestic garbage.
- Dispose of the device through channels provided for this purpose.
- Comply with all local and currently applicable laws and regulations.

Technical data

DF1101-Ex

Operating voltage	DC 16…28 V
Operating current (quiescent)	0.5 mA
Ext. alarm indicator (AI)	2
Connection factor KMK	6
Connection terminals	0.2…2.5 mm^2
Operating temperature	-35…+70°C
Storage temperature	-40…+75 °C
Air humidity	≤95 % rel. (no significant moisture condensation on the viewing window)
Color	~RAL 9010 pure white
Protection category (IEC/EN 60529)	IP67
Ex classification	II 2 G Ex ib IIC T4 Gb (-35 °C ≤Ta ≤70 °C)
Standards ● For flame detectors ● For Ex areas	 EN 54-10 IEC 60079-0, IEC 60079-11
Approvals ● VdS ● EC-type examination certificate ● LPCB ● DNV GL (marine)	 G299085 PTB 02 ATEX 2161 LPCB 126bb/01 MEDB00003UN
Compatibility ● FDnet/C-NET ● Collective signal processing / SynoLINE600, interactive, AnalogPLUS / SynoLOOP	 ● With transponder FDCIO223 and safety barrier SB3 ● With input/output module DC1192 and safety barrier SB3

DF1101-Ex

08 CE 0786	**DF1101-Ex**	Siemens Schweiz AG; Theilerstrasse 1a CH-6300 Zug Technical data: see doc. **001673**
DF1101-Ex - Flame detector for use in fire detection and fire alarm systems installed in buildings.		
305/2011/EU (CPR): EN 54-10 ; 2014/30/EU (EMC): EN 50130-4 / EN 61000-6-3 ; 2014/34/EU (ATEX): EN 60079-0 / EM 60079-11		
The declared performance and conformity can be seen in the Declaration of Performance (DoP) and the EU Declaration of Conformity (DoC), which is obtainable via the Customer Support Center: Tel. +49 89 9221-8000 or https://siemens.com/bt/download		
DoP No.: 0786-CPR-20497; DoC No.: CED-DF1101-Ex		