SIEMENS

Sinteso™ / Kollektiv

Multi-sensor fire detector (Ex)

FDOOT241-A9-Ex

ASAtechnology™, for areas at risk of explosion

- Signal processing with ASA*technology*
- Multiple protocol detector (collective/FDnet-Ex)
- Event-controlled detection behavior
- Early and reliable detection when fires occur
- Highly developed immunity to deceptive phenomena
- Redundant sensor system
- Suitable for wind speeds of 1…20 m/s
- Prepared for future requirements thanks to its programmability
- Communication via FDnet-Ex (addressed individually)
- Address automatically issued during commissioning

Properties

Features

- Resistant to environmental and interfering influences such as dust, fibers, insects, moisture, extreme temperatures, electromagnetic interference, corrosive vapors, vibration, artificial aerosols, and atypical fire phenomena
- Shock resistant, protection against sabotage
- Signal processing with **ASA***technology* (Advanced Signal Analysis)
- Time and process-dependent detection behavior
- High degree of immunity to faults in power electronics
- Protected electronics, high-quality components
- Sophisticated sensors and electronic monitoring
- Redundant, high-quality sensor system
- Integrated alarm indicator (AI), 360° visibility

Eco-friendly

- Environmentally friendly processing
- Reusable materials
- Electronic parts and synthetic materials can be easily separated

Functions

- Functions according to the scattered light principle with two sensors, optical forward and backward scattering
- Opto-electronic measuring chamber which obstructs disruptive extraneous light but provides excellent detection of both light and dark smoke particles
- Two additional heat sensors increase the fire detector's immunity to deceptive phenomena
- Can be set as a multi-sensor smoke detector, smoke detector, or heat detector by the software
- Selectable detection behavior thanks to application-specific ASA parameter sets
- Multi-protocol: Collective / GMT (Cerberus / Siemens), SynoLINE300 and FDnet-Ex

Observe national guidelines and regulations.

- Fields of application:
  - For early detection of flaming fires of solid and liquid substances as well as of smoldering fires
  - For early and reliable fire detection in an environment with deceptive phenomena
  - Can be used either addressed or collectively

Efficiency on-site

- Exchange the detector with detector exchanger FDUD291 without resetting the parameters
- Exchange the detector with detector exchanger FDUD291 without a ladder at heights up to 8 m

Type Overview

Type	Designation	Order number	Weight [kg]
FDOOT241-A9-Ex	Multi-sensor fire detector (Ex)	S54329-F7-A1	0.106

Accessories for the multi-sensor fire detector (Ex) FDOOT241-A9-Ex

Type	Designation	Order number	Weight [kg]
DBZ1190-AB	Connection terminal	BPZ:4942340001	0.001
FDB201	Detector base collective	A5Q00003814	0.026
FDB202	Flat, collective detector base	S54319-F3-A1	0.025
FDB221	Detector base, addressable	A5Q00001664	0.027
FDB222	Flat, addressable detector base	S54319-F1-A1	0.026
FDB291	Base attachment	A5Q00001603	0.035
FDB295	Base attachment wet	S54319-F21-A1	0.286
FDBZ293	Detector locking device	A5Q00005035	0.001
FDBZ295	Sealing element	S54319-F10-A1	0.062
FDCL221-Ex	Line adapter (Ex)	S54329-F4-A1	0.240
FDZ291	Detector dust cap	A5Q00004814	0.003
-	Metal cable gland M20 x 1.5	A5Q00004478	0.036

Product documentation

Document ID	Name
008164	Equipment overview Sinteso™ Detector system FD20
001204	Principles, applications, installation, maintenance Fire alarm signal in areas at risk of explosion
001227	Installation instructions Shunt Zener Diode SB2, SB3
008331	List of compatibility (for 'Sinteso™' product line)
A6V10324618	Planning, Mounting/Installation, Commissioning, Maintenance of fire detection installations with addressed detector lines in potentially explosive atmospheres
A6V10346580	Technical Manual Automatic fire detector FDOOT241-A9-Ex
A6V10349349	Data sheet Line adapter (Ex) FDCL221-Ex

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

Mounting

Easy, time-saving, and completely reliable mounting:

- Base with stilts for surface-mounted and recess-mounted supply lines
- Flat base for flush mounting, only for recess-mounted supply lines
- Extra-long mounting slits allow existing drill holes from other systems to be reused
- A large opening in the detector base makes it easy to feed the cables through
- The detector can be screwed into the base easily either manually or using a detector exchanger
- The fire detector FDOOT241-A9-Ex is designed with ignition protection category 'intrinsic safety' Ex i. Standards IEC 60079-0 and IEC 60079-11 provide a basis

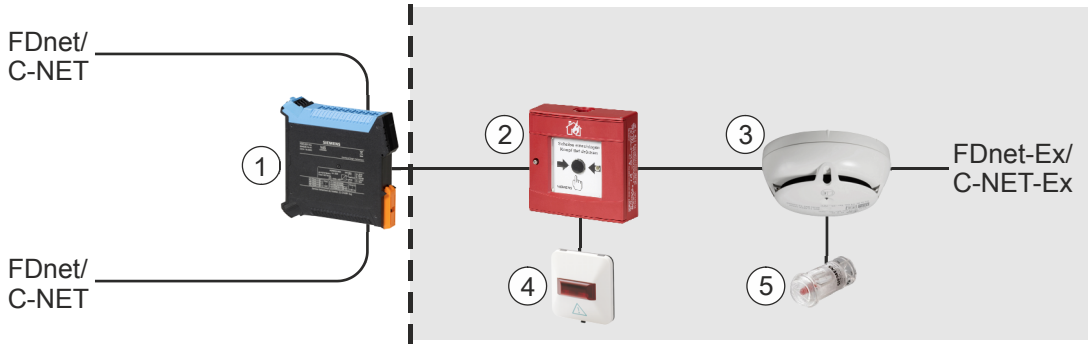
Installation

Installation in potentially explosive areas

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

Addressed operation

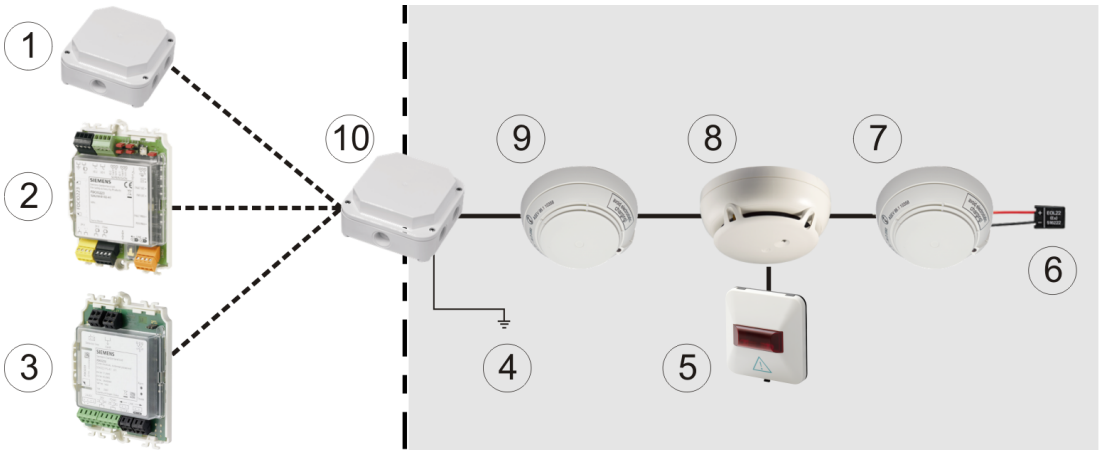
The line adapter (Ex) FDCL221-Ex ensures electrical isolation of the potentially explosive areas and the areas not at risk.



1 Line adapter (Ex) FDCL221-Ex
2 Manual call point FDM223-Ex
3 Multi-sensor fire detector FDOOT241-A9-Ex
4 Alarm indicator FDAI92-Ex
5 Alarm indicator FDAI93-Ex

Collective Ex installation

The input/output module DC1192/FDCIO223 with downstream safety barrier SB3 ensures electrical isolation of the potentially explosive areas and areas not at risk.



1	Input/output module DC1192	2	Transponder FDCIO223
3	Zone module FDCI223	4	Equipotential bonding ground
5	Alarm indicator FDAI92-Ex / FDAI93-Ex	6	End-of-line EOL22(Ex) in the last detector
7	Heat detector DT1101A/02A-Ex	8	Multi-sensor fire detector FDOOT241-A9-Ex
9	Smoke detector DO1101A-Ex	10	Safety barrier SB3

Disposal

The device is considered an electronic device for disposal in accordance with European Directive and may not be disposed of as domestic waste.

- Use only designated channels for disposing the devices.
- Comply with all local and currently applicable laws and regulations.

Technical data

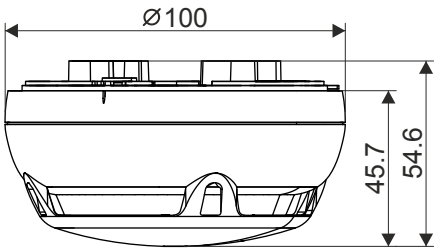
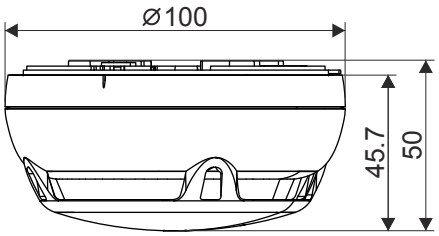
	FDOOT241-A9-Ex
Operating current (quiescent)	200…280 µA
Operating temperature	-25…+70 °C
Storage temperature	-30…+75 °C
Air humidity	≤95 % rel. (short-term moisture condensation permitted)
Communication protocol	FDnet-Ex or collective Ex
Color	~RAL 9010 pure white
Protection category (IEC/EN 60529) ● With sealing kit FBZ295	IP43 IP44
Ex classification IECEx Directive 2014/34/EU: (ATEX directive)	 Ex ia IIC T4 Ga, Ta = -35…70 °C II 1 G Ex ia IIC T4 Ga, Ta = -35…70 °C
Standards	EN 54-5, EN 54-7, EN 54-29
Standards for explosion-hazard areas	IEC 60079-0, IEC 60079-11
Ex approvals ● EU-type examination certificate ● IECEx	 BVS 12 ATEX E 087 X BVS 12.0076 X
Approvals ● VdS ● DNV GL (marine)	 G213106 45 246 - 16 HH
System compatibility ● FDnet ● Collective	 FS20 / AlgoRex / SIGMASYS CS11 / FC10 / XC10 / SIGMASYS

Ex-related connection data, intrinsically safe	U_i	28 V
	I_i	100 mA
	P_i	700 mW
	L_i	Negligible
	C_i	0,2 nF
Line to external alarm indicator	U_0	14.2 V
	I_0	480 mA
	P_0	195 mW
	L_0	100 µH
	C_0	38 nF
	Only for connecting passive, external alarm indicators with negligibly low inductance and capacitance levels.	

Symbol	Meaning
C_0	Maximum external capacitance
C_i	Maximum internal capacitance
I_0	Maximum output current
I_i	Maximum input current
L_0	Maximum external inductance

Symbol	Meaning
L_i	Maximum internal inductance
P_0	Maximum output power
P_i	Maximum input power
U_0	Maximum output voltage
U_i	Maximum input voltage

Dimensional drawings

FDOOT241-A9-Ex	
up to Ø6 mm possible for surface-mounted cable entry with base FDB221, FDB201, or FDB202	with base FDB222 for flush mounting, only for recess-mounted cable entry
	

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