

ASA linear smoke detector

FDL241-9



Linear smoke detector, used addressed or collectively, ASAtechnology™

- Reliable smoke detection in large spaces (indoor application)
- Detection distance 5...100 m
- Signal processing with **ASAtechnology**
- Works according to the principle of light attenuation by smoke
- Microprocessor-controlled signal processing
- Automatic compensation for soiling
- High immunity to extraneous light and electromagnetic interference
- Transmitter and receiver in one housing
- Distance measurement between transmitter and receiver
- Communication via FDnet/C-NET (individually addressed) or collective detector line (switchover)

Features

- Integrated line separator: The section of the detector line affected by the short-circuit is located by the fire control panel and isolated between two FDnet/C-NET devices.
- The detector and base housing is made from hard-wearing glass-fiber-reinforced plastic.
- Protected electronics
- Built-in alarm indicator
- Self test function
- Detector heating unit in case of danger of moisture condensation
- 3 sensitivity levels and event-driven detection behavior
- Addressed signal processing:
 - Transmission of 4 danger levels to the control panel: Enables activation of differentiated measures and an early warning in the case of incorrect applications
 - 4 functional states: As well as the normal state, the detector transmits a notice, an impairment, or a fault (depending on the significance of the cause of the problem).
- Collective signal processing:
 - The detector transmits alarm states and fault states to the control panel.

Eco-friendly

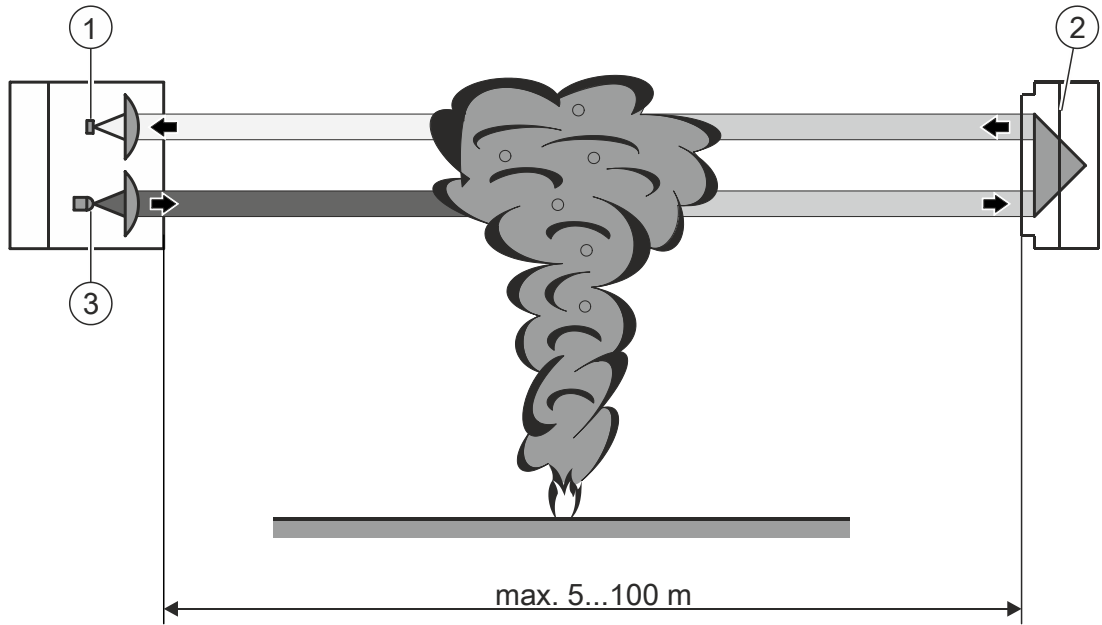
- Environmentally friendly processing
- Reusable materials
- Electronic parts and synthetic materials can be easily separated

The linear smoke detector consists of a transmitter and a receiver and works according to the principle of light attenuation by smoke.

The transmitter transmits to the reflector a highly focused infrared ray. If no smoke is present, a large part of the infrared ray reaches the reflector and is returned to the receiver. The incoming light generates an electric signal on the receiver's photo diode.

Smoke entering the measuring section weakens the infrared ray. If the signal reaches specific measured values, the detector transmits the corresponding danger level to the control panel.

- Distance measurement to detect foreign bodies
- The alarm state is signaled locally with the built-in alarm indicator.



- 1 Detector / receiver
- 2 Reflector
- 3 Detector / transmitter

Environmental influences

- Digital signal compensation:
 - Slow changes to the received infrared signal as a consequence of dusty lenses or other environmental influences are automatically compensated by the detector.
- Multiple-coincidence circuit:
 - Suppresses electrical and optical fault signals. In the case of an extremely strong incidence of extraneous light, the extraneous light filter DLF1191-AC is used in addition.
- Prism-shaped reflectors:
 - Incident rays of light are reflected in parallel.
 - The detector is not affected by mounting surface vibration phenomena.

Fields of application

- Large warehouse spaces and production halls
- Rooms with complex ceiling structures or ceilings that are of value in terms of art history
- Covered courtyards
- Atrium buildings
- Entrance halls

Accessories

DLR1191 reflector for long distance (prism)



- For reflecting the infrared ray of the linear smoke detector
- Prism-shaped reflector
- Reflection distance: 20...100 m
- With a built-in heating unit

DLR1192 reflector for middle distance (foil)



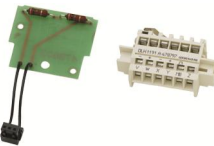
- For reflecting the infrared ray of the linear smoke detector
- Micro-prismatic film
- Reflection distance: 30...65 m
- Dimensions: 200 x 200 x 2.5 mm
- Hole diameter: 4 mm

DLR1193 reflector for short distance (foil)



- For reflecting the infrared ray of the linear smoke detector
- Micro-prismatic film
- Reflection distance: 10...30 m
- Dimensions: 100 x 100 x 2.5 mm
- Hole diameter: 4 mm

DLH1191A detector heating unit



- For applications where there is danger of moisture condensation or icing
- Incl. terminal block for the connection

DLF1191-AA short distance filter (7...10 m)



- For toning down the infrared ray over short distances
- Distance: 7...10 m

DLF1191-AB short distance filter (5...8 m)



- For toning down the infrared ray over short distances
- Distance: 5...8 m

DLF1191-AC extraneous light filter



- For filtering extraneous light during a high level of extraneous light

FDLU291 adjustment kit for linear smoke detector



- For commissioning the linear smoke detector
- Scope of delivery: Adjustment device, alarm test filter, visor, magnet, spiral cable, MC link cable, 9 V battery, suspension fixture with cable gripper and chain, case

Type Overview

Linear smoke detector FDL241-9

Type	Designation	Order number	Weight [kg]
FDL241-9	Linear smoke detector	A5Q00002298	0.440

Accessories for linear smoke detector FDL241-9

Type	Designation	Order number	Weight [kg]
FDLB291	Base for linear smoke detector	A5Q00003941	0.305
–	Metal cable gland M20 x 1.5	A5Q00004478	0.036
DLF1191-AA	Short distance filter (7...10 m)	BPZ:4933030001	0.005
DLF1191-AB	Short distance filter (5...8 m)	BPZ:4933160001	0.005
DLF1191-AC	Extraneous light filter	BPZ:5221480001	0.005
DLH1191A	Detector heating unit	BPZ:4787970001	0.010
DLR1191	Reflector for long distance (prism)	BPZ:4787710001	0.510
DLR1192	Reflector for middle distance (foil)	BPZ:4788490001	0.075
DLR1193	Reflector for short distance (foil)	BPZ:4787840001	0.025
FDLU291	Adjustment kit for linear smoke detector	A5Q00004905	0.840
RE10	Detector tester for linear smoke detectors	BPZ:3685190001	0.345
TF04	Alarm test filter (absorption 77 %)	BPZ:4931090001	0.005

Product documentation

Document ID	Name
007016	Technical manual for linear smoke detector FDL241-9
008164	Sinteso™ detector system FD20 equipment overview
008331	List of compatibility (for 'Sinteso™' product line)
A6V10225323	Cerberus™ PRO detector system FD720 equipment overview
A6V10229261	List of compatibility (for 'Cerberus™ PRO' product line)
A6V10332811	Mounting/commissioning of linear smoke detector FDL241-9

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

<http://siemens.com/bt/download>

Mounting

Mounting options

- Easy mounting of the housing on stable surfaces. Wood and steel girder constructions are usually unsuited, as temperature and humidity fluctuations, wind or snow pressure can affect them.
- 6 openings for M20 metal cable gland
- External alarm indicator can be connected
- Between the detector and the reflector there must be an uninterrupted and clear line of sight. Obfuscation of sight caused by operational generation of dust, vapor or smoke may decisively impair the system. The monitoring ray must not be interrupted by moving objects, e.g., overhead cranes, ladders, transportable objects, cobwebs, etc.
- The adjustment kit FDLU291 provides an effective means of aligning the lens with the reflector single-handedly.
- Corresponding reflectors are available for different distances.

Disposal




For disposal purposes, the device is considered as waste electrical and electronic equipment within the meaning of European Directive 2012/19/EU and must not be disposed of as household waste.

- Use the appropriate channels for disposing of the device.
- Local and currently valid legislation must be observed.

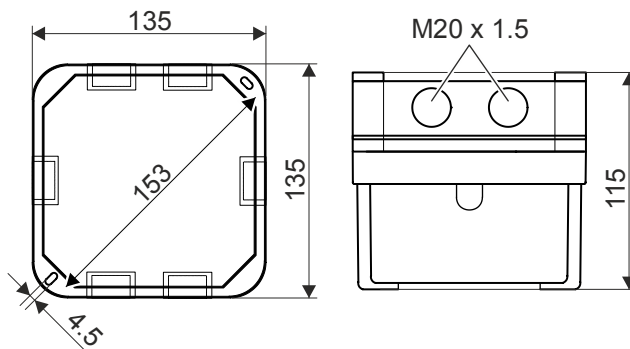
Technical data

Linear smoke detector FDL241-9	
Operating voltage addressed / collective	DC 12...33 V / DC 14...28 V
Operating current (quiet) addressed / collective	0.8 mA / 0.7 mA
Number of external alarm indicators that can be connected	2
Detection distance	5...100 m
Operating temperature	-25...+60 °C
Storage temperature	-30...+75 °C
Air humidity (no moisture condensation)	≤95 % rel.
Communication protocol	FDnet/C-NET or collective (with and without current limitation)
Conductor cross section	0.2...1.5 mm ²
Color	~RAL 9010 pure white
Protection category (IEC 60529)	IP65
Standards	EN 54-12, EN 54-17, EN 62471
Approvals	
• VdS	G204063
• LPCB	126bd/02
• FM	3029351
System compatibility	
• FDnet	FS20, AlgoRex, SIGMASYS
• C-NET	FS720, FC360
Collective system compatibility	CZ10, BC10, FC10, XC10, CS11, FC700A, FC330A, SIGMASYS, BMS, SM80/88/D100

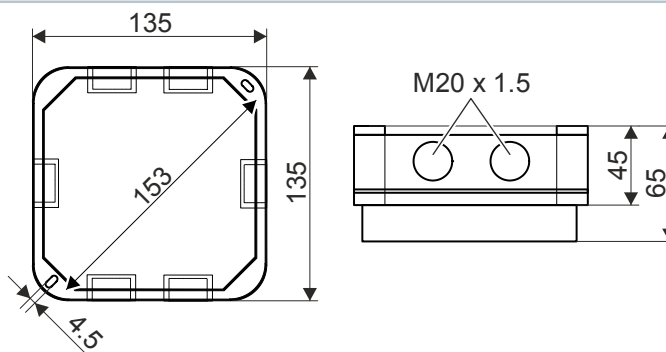
Detector heating unit DLH1191A	
Operating voltage	DC 20...33 V
Operating current (quiescent)	30...50 mA
Resistance	600 Ω

07  0786	FDL241-9	Siemens Switzerland Ltd; Gubelstrasse 22 CH-6301 Zug Technical data: see doc. 007016
FDL241-9 - Linear optical smoke detector incl. short-circuit isolator for use in fire detection and fire alarm systems installed in buildings.		
305/2011/EU (CPR): EN 54-12 / EN54-17 ; 2014/30/EU (EMC): EN 50130-4 / EN 61000-6-3 ; 2011/65/EU (RoHS): EN 50581		
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 http://siemens.com/bt/download		
DoP No.: 0786-CPR-20014; DoC No.: CED-FDL241-9		

ASA linear smoke detector FDL241-9 with base FDLB291



Reflector for long distance (prism) DLR1191 with base FDLB291



Reflector for short distance (foil) DLR1193/
Reflector for middle distance (foil) DLR1192

