

AlgoRex

## Linear smoke detector

**DL01191**

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- **Reliable detection over the entire smoke spectrum**
  - **For monitoring distances from 5 to 100 metres**
  - **Efficient signal processing algorithms with characteristics for specific applications**
  - **Selectable response behaviour – 3 sensitivity levels can be set in detector**
  - **Transmission of 4 different danger levels to control unit**
  - **Automatic self-test**
  - **Signal processing based on the fuzzy logic principle:**
    - indicates false alarms
    - provides remote diagnosis possibilities
  - **Automatic compensation for soiling**
  - **High immunity against extraneous light and electromagnetic influences**
  - **Comprehensive final examination and quality control**
  - **Simple installation and straightforward commissioning (one-man adjustment)**
  - **Low cost 2-wire installation**
  - **Can be changed over for application in systems with collective signal evaluation**

## Application

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The DLO1191 is the ideal detector for monitoring:

- large store-rooms and production workshops
- areas with complex roof structures or historically valuable ceilings
- covered courtyards
- atrium-type buildings
- reception halls

## Functional principle

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The DLO1191 consists of the actual detector and a reflector placed opposite the detector.

The detector contains a light transmitter and a light receiver. The transmitter supplies a bunched infrared beam, which is returned to the transmitter by the prism-shaped reflector. The receiver converts the infrared signal received to an electrical signal for evaluation in the microprocessor-controlled electronic unit.

Smoke penetrating the monitored section attenuates the infrared signal. If the signal reaches specific values, the detector indicates the relevant danger level to the control unit. The alarm status is signalled locally by the response indicator fitted.

## Functions

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Interactive signal evaluation	<p><i>Four stages of danger</i> enable the activation of different measures as well as early warning in the event of incorrect application.</p> <p><i>Three sensitivity levels.</i> The response sensitivity can be set on the detector.</p> <p><i>Four functional states.</i> In addition to the normal condition, the detector transmits a fault cause, information, interference or fault, depending on importance.</p> <p><i>Self-testing.</i> Periodically or upon command the detector carries out a thorough self-test.</p> <p><i>A built-in line disconnection switch</i> isolates the defective part if the detector bus suffers short circuit.</p>
Collective signal evaluation	<p>The detector transmits alarm and fault conditions to the control unit.</p> <p>Three sensitivity levels can be set on the detector.</p>

## Environmental influences

Digital signal follower circuit	Gradual changes in the infrared signal received owing to dust on the lens or other environmental influences are automatically compensated by the detector.
Multiple coincidence circuit	suppresses electrical and optical interference signals. The DLF1191-AC filter is provided in the event of particularly strong incidence of extraneous light.
Prism-shaped reflectors	Light rays arriving are reflected parallel. Vibrations of the installation surface have no effect on the detector.

## Installation

The DLO1191 consists of a base DLB1191A and a detector unit DLA1191A. The base is required for installation. The detector unit is fitted shortly before putting into operation.

Connection to control unit by a two wire system.

External response indicator can be connected.

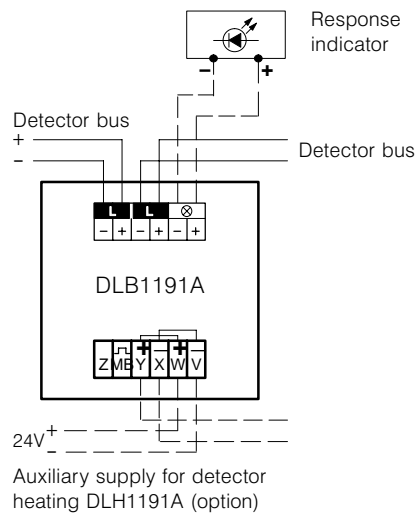
Six M20x1.5 threads are provided on the base for cable entry.

The optical system can easily be aligned with the reflector by one man using the DZL1191 adjustment set.

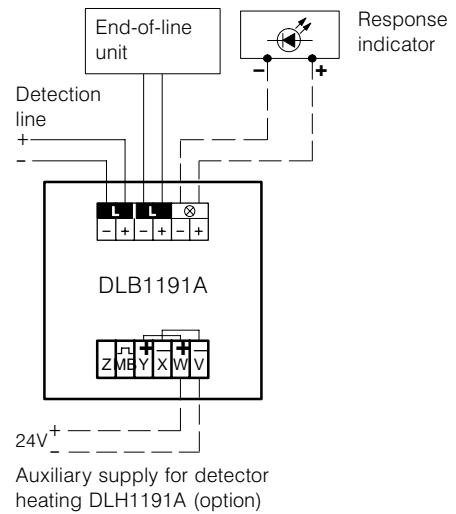
Suitable reflectors are available for various distances.

## Connection

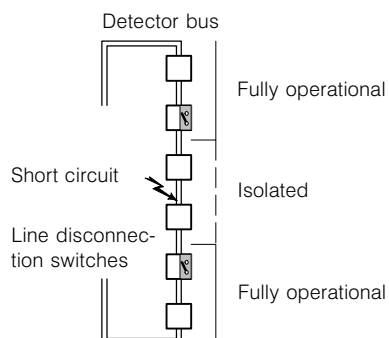
### Interactive signal evaluation



### Collective signal evaluation

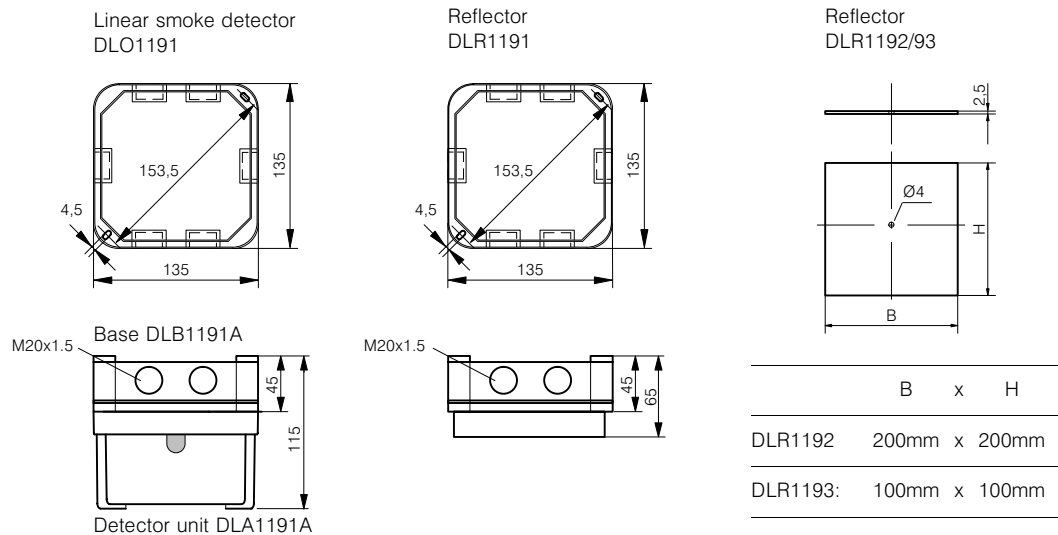


## Line disconnection function



*Built-in disconnection switches.* Any short circuit on the detection line is located by the control unit and the defective component isolated. A loop line ensures optimal security.

## Dimensions



## Technical data

Operating temperature	-25...+60 °C
Storage temperature	-30...+75 °C
Humidity	≤30 °C: ≤95% r.h. >30 °C: ≤35g/m <sup>3</sup>
Protection category	IP65
Terminals	0,2...1,5mm <sup>2</sup> (AWG24...15)
Colour	white, ≈ RAL9010
Compatibility	- Compatible with interactive fire detection system S11 - Compatible with all Cerberus fire detection system control units with collective signal evaluation

## Details for ordering

Type	Part no	Designation	Weight
DLA1191A	494292	Detector unit	0.440kg
DLB1191A	469201	Base	0.305kg
-	A5Q00004478	Screwed cable gland M20x1.5	0.035kg
DLR1191	478771	Reflector for long distance (prism)	0.510kg
DLR1192	478849	Reflector for middle distance (foil 200mmx200mm)	0.075kg
DLR1193	478784	Reflector for short distance (foil 100mmx100mm)	0.025kg
DLF1191-AA	493303	Filters for distances of 7...10m	0.005kg
DLF1191-AB	493316	Filters for distances of 5...8m	0.005kg
DLF1191-AC	522148	Filter against incidence of extraneous light	0.005kg
DZL1191	479563	Adjustment set	0.960kg
DLH1191A	478797	Detector heating element (this permits the DLO1191 to be operated where there is a risk of condensation)	0.010kg

