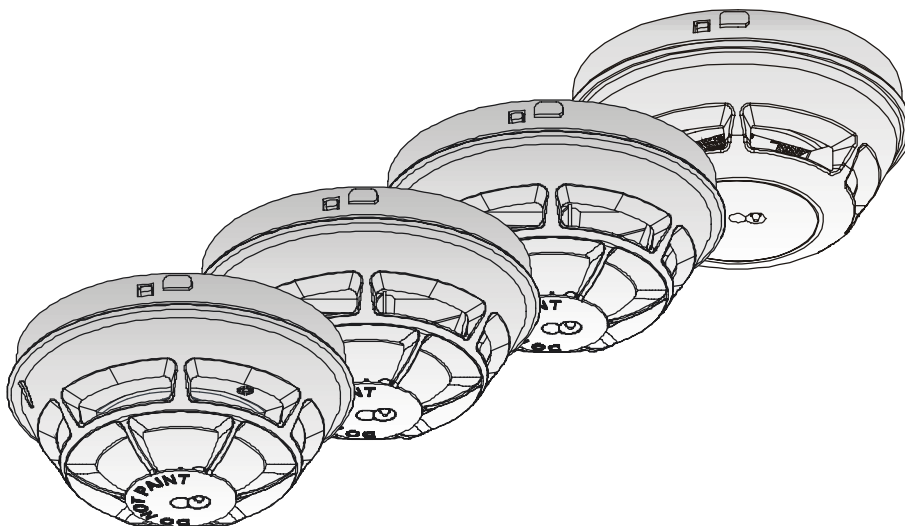


SIEMENS



Automatic fire detectors

OH110, OP110, HI110, HI112

Technical Manual

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1 About this document

Goal and purpose

This document contains information on automatic fire detectors. Following the instructions consistently will ensure that the product can be used safely and without any problems.

Scope

The document is valid for the following automatic fire detectors:

- OH110
- OP110
- HI110
- HI112

Target groups

The information in this document is intended for the following target groups:

| Target group | Activity | Qualification |
|------------------------|--|---|
| Product Manager | <ul style="list-style-type: none"> • Is responsible for information passing between the manufacturer and regional company. • Coordinates the flow of information between the individual groups of people involved in a project. | <ul style="list-style-type: none"> • Has obtained suitable specialist training for the function and for the products. • Has attended the training courses for Product Managers. |
| Project Manager | <ul style="list-style-type: none"> • Coordinates the deployment of all persons and resources involved in the project according to schedule. • Provides the information required to run the project. | <ul style="list-style-type: none"> • Has obtained suitable specialist training for the function and for the products. • Has attended the training courses for Project Managers. |
| Project engineer | <ul style="list-style-type: none"> • Sets parameters for product depending on specific national and/or customer requirements. • Checks operability and approves the product for commissioning at the place of installation. • Is responsible for troubleshooting. | <ul style="list-style-type: none"> • Has obtained suitable specialist training for the function and for the products. • Has attended the training courses for Product Engineer. |
| Installation personnel | <ul style="list-style-type: none"> • Assembles and installs the product components at the place of installation. • Carries out a performance check following installation. | <ul style="list-style-type: none"> • Has received specialist training in the area of building installation technology or electrical installations. |
| Maintenance personnel | <ul style="list-style-type: none"> • Carries out all maintenance work. • Checks that the products are in perfect working order. • Searches for and corrects malfunctions. | <ul style="list-style-type: none"> • Has obtained suitable specialist training for the function and for the products. |

Source language and reference document

- The source/original language of this document is German (de).
- The reference version of this document is the international version in English. The international version is not localized.

Document identification

The document ID is structured as follows:

| ID code | Examples |
|---|---|
| ID_ModificationIndex_Language_COUNTRY -- = multilingual or international | A6V10215123_a_de_DE A6V10215123_a_en_-- A6V10315123_a_--_-- |

Date format

The date format in the document corresponds to the recommendation of international standard ISO 8601 (format YYYY-MM-DD).

Conventions for text marking

Markups

Special markups are shown in this document as follows:

| | |
|----------|---|
| > | Requirement for a behavior instruction |
| 1. 2. | Behavior instruction with at least two operation sequences |
| – | Version, option, or detailed information for a behavior instruction |
| ⇒ | Intermediate result of a behavior instruction |
| ⇒ | End result of a behavior instruction |
| • | Numbered lists and behavior instructions with an operation sequence |
| [→ X] | Reference to a page number |
| 'Text' | Quotation, reproduced identically |
| <Key> | Identification of keys |
| > | Relation sign and for identification between steps in a sequence, e.g., 'Menu bar' > 'Help' > 'Help topics' |
| ↑ Text | Identification of a glossary entry |

Supplementary information and tips



The 'i' symbol identifies supplementary information and tips for an easier way of working.

1.1 Applicable documents

| Document ID | Name |
|-------------|--|
| 007228 | Data Sheet Test equipment and accessories FDUD291, FDUD292, FDUD293, RE6, RE7T, RE8ST, RE8STCO, RE10, FDUM291, FDUM292, FDUL221, Sinteso-Test, FDUD29x-E |
| 008331 | List of compatibility (for 'Sinteso™' product line) |
| A6V10201731 | Installation Detector exchanger DX791, adapter for detector exchanger FDUD491 |
| A6V10301051 | Data sheet Automatic fire detectors OH110, OP110, HI110, HI112 |
| A6V10316300 | Installation Detector base (collective) DB110, DB110D, DB110R, DB110RD, detector base seal RS720, detector locking device LP720, base attachment BA720 |
| A6V10393192 | List of compatibility (for 'Cerberus™ FIT' product line) |
| A6V10406006 | Installation Base attachment wet BA721, Detector designation plate DBZ1193A, Protective cage DBZ1194, EMC-protective cage FDBZ294 |

Please also observe the documentation for your fire detection system.

1.2 Download center

You can download various types of documents, such as data sheets, installation instructions, and license texts via the following Internet address:

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

- Enter the document ID in the search field.



You will also find information about search variants and links to mobile applications (apps) for various systems on the home page.

1.3 Technical terms

| Term | Explanation |
|------|-----------------|
| AI | Alarm indicator |
| ES | Product version |

1.4 History of changes

The reference document's version applies to all languages into which the reference document is translated.



The first edition of a language version or a country variant may, for example, be version 'd' instead of 'a' if the reference document is already this version.

The table below shows this document's revision history:

| Version | Edition date | Brief description |
|---------|--------------|---|
| f | 2017-10-31 | DBZ1190-AB: Conductor cross-section adapted (0.5...2.5 mm ²) Additions to the 'Diagnosis levels' chapter |
| e | 2014-05-21 | Editorial changes |
| d | 2014-02-10 | Data sheet in 'Applicable documents' chapter added; base attachment wet BA721, designation plate DBZ1193A, protective cage DBZ1194, EMC-protective cage FDBZ294, and detector heating unit FDBH291 added; 'Download center' chapter added |
| c | 2013-08-31 | Information on LPCB approvals for OH110, HI110, and HI112 point detectors |
| b | 2012-06-15 | CPD/G number for OH110/OP110 added, new date format in line with ISO 8601 (yyyy-mm-dd) |
| a | 04.2012 | First edition |

2 Safety

2.1 Safety instructions

The safety notices must be observed in order to protect people and property.

The safety notices in this document contain the following elements:

- Symbol for danger
- Signal word
- Nature and origin of the danger
- Consequences if the danger occurs
- Measures or prohibitions for danger avoidance

Symbol for danger



This is the symbol for danger. It warns of **risks of injury**.
Follow all measures identified by this symbol to avoid injury or death.

Additional danger symbols

These symbols indicate general dangers, the type of danger or possible consequences, measures and prohibitions, examples of which are shown in the following table:



General danger



Explosive atmosphere



Voltage/electric shock



Laser light



Battery



Heat


Signal word

The signal word classifies the danger as defined in the following table:

| Signal word | Danger level |
|----------------|---|
| DANGER | DANGER identifies a dangerous situation, which will result directly in death or serious injury if you do not avoid this situation. |
| WARNING | WARNING identifies a dangerous situation, which may result in death or serious injury if you do not avoid this situation. |
| CAUTION | CAUTION identifies a dangerous situation, which could result in slight to moderately serious injury if you do not avoid this situation. |
| <i>NOTICE</i> | <i>NOTICE</i> identifies possible damage to property that may result from non-observance. |


How risk of injury is presented

Information about the risk of injury is shown as follows:

| | |
|---|--|
|  | <p>⚠ WARNING</p> |
| | <p>Nature and origin of the danger Consequences if the danger occurs</p> <ul style="list-style-type: none"> • Measures / prohibitions for danger avoidance |

How possible damage to property is presented

Information about possible damage to property is shown as follows:




| | |
|---|--|
|  | <p><i>NOTICE</i></p> |
| | <p>Nature and origin of the danger Consequences if the danger occurs</p> <ul style="list-style-type: none"> • Measures / prohibitions for danger avoidance |

2.2 Safety regulations for the method of operation

National standards, regulations and legislation

Siemens products are developed and produced in compliance with the relevant European and international safety standards. Should additional national or local safety standards or legislation concerning the planning, mounting, installation, operation or disposal of the product apply at the place of operation, then these must also be taken into account together with the safety regulations in the product documentation.

Electrical installations

| | |
|---|---|
|  | <p>⚠ WARNING</p> |
| | <p>Electrical voltage Electric shock</p> <ul style="list-style-type: none"> • Work on electrical installations may only be carried out by qualified electricians or by instructed persons working under the guidance and supervision of a qualified electrician, in accordance with the electrotechnical regulations. |
| <ul style="list-style-type: none"> • Wherever possible disconnect products from the power supply when carrying out commissioning, maintenance or repair work on them. • Lock volt-free areas to prevent them being switched back on again by mistake. • Label the connection terminals with external voltage using a 'DANGER External voltage' sign. • Route mains connections to products separately and fuse them with their own, clearly marked fuse. • Fit an easily accessible disconnecting device in accordance with IEC 60950-1 outside the installation. • Produce earthing as stated in local safety regulations. | |
|  | <p>⚠ CAUTION</p> |
| | <p>Noncompliance with the following safety regulations Risk of injury to persons and damage to property</p> <ul style="list-style-type: none"> • Compliance with the following regulations is required. |
|  | <ul style="list-style-type: none"> • Specialist electrical engineering knowledge is required for installation. • Only an expert is permitted to carry out installation work. <p>Incorrect installation can take safety devices out of operation unbeknown to a layperson.</p> |

Mounting, installation, commissioning and maintenance

- If you require tools such as a ladder, these must be safe and must be intended for the work in hand.
- When starting the fire control panel ensure that unstable conditions cannot arise.
- Ensure that all points listed in the 'Testing the product operability' section below are observed.
- You may only set controls to normal function when the product operability has been completely tested and the system has been handed over to the customer.

Testing the product operability

- Prevent the remote transmission from triggering erroneously.
- If testing building installations or activating devices from third-party companies, you must collaborate with the people appointed.
- The activation of fire control installations for test purposes must not cause injury to anyone or damage to the building installations. The following instructions must be observed:
 - Use the correct potential for activation; this is generally the potential of the building installation.
 - Only check controls up to the interface (relay with blocking option).
 - Make sure that only the controls to be tested are activated.
- Inform people before testing the alarm devices and allow for possible panic responses.
- Inform people about any noise or mist which may be produced.
- Before testing the remote transmission, inform the corresponding alarm and fault signal receiving stations.

Modifications to the system design and the products

Modifications to the system and to individual products may lead to faults, malfunctioning and safety risks. Written confirmation must be obtained from Siemens and the corresponding safety bodies for modifications or additions.

Modules and spare parts

- Components and spare parts must comply with the technical specifications defined by Siemens. Only use products specified or recommended by Siemens.
- Only use fuses with the specified fuse characteristics.
- Wrong battery types and improper battery changing lead to a risk of explosion. Only use the same battery type or an equivalent battery type recommended by Siemens.
- Batteries must be disposed of in an environmentally friendly manner. Observe national guidelines and regulations.

Disregard of the safety regulations

Before they are delivered, Siemens products are tested to ensure they function correctly when used properly. Siemens disclaims all liability for damage or injuries caused by the incorrect application of the instructions or the disregard of danger warnings contained in the documentation. This applies in particular to the following damage:


- Personal injuries or damage to property caused by improper use and incorrect application
- Personal injuries or damage to property caused by disregarding safety instructions in the documentation or on the product
- Personal injury or damage to property caused by poor maintenance or lack of maintenance


2.3 Standards and directives complied with

A list of the standards and directives complied with is available from your Siemens contact.

2.4 Release Notes

Limitations to the configuration or use of devices in a fire detection installation with a particular firmware version are possible.

| | |
|--|--|
|  | ⚠ WARNING |
| | <p>Limited or non-existent fire detection</p> <p>Personal injury and damage to property in the event of a fire.</p> <ul style="list-style-type: none"> • Read the 'Release Notes' before you plan and/or configure a fire detection installation. • Read the 'Release Notes' before you carry out a firmware update to a fire detection installation. |

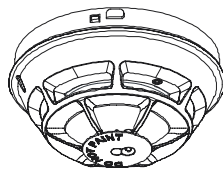
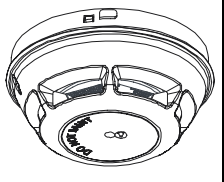
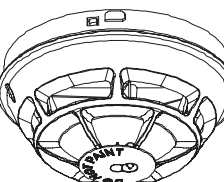
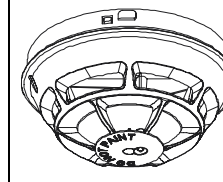
| | |
|---|--|
|  | NOTICE |
| | <p>Incorrect planning and/or configuration</p> <p>Important standards and specifications are not satisfied. Fire detection installation is not accepted for commissioning. Additional expense resulting from necessary new planning and/or configuration.</p> <ul style="list-style-type: none"> • Read the 'Release Notes' before you plan and/or configure a fire detection installation. • Read the 'Release Notes' before you carry out a firmware update to a fire detection installation. |

3 Structure and function

3.1 Overview

In this document the following point detectors are referred to collectively using the term 'Automatic fire detectors':

- Multi-sensor fire detector (collective) OH110
- Smoke detector (collective) OP110
- Heat detector (collective, differential) HI110
- Heat detector (collective, static) HI112

| Multi-sensor fire detector OH110 | Smoke detector OP110 | Heat detector (collective, differential) HI110 | Heat detector (collective, static) HI112 |
|---|---|--|---|
|  |  |  |  |
| Can be used on conventional detector lines and collective detector lines | Can be used on conventional detector lines and collective detector lines | Can be used on conventional detector lines and collective detector lines | Can be used on conventional detector lines and collective detector lines. |
| 2 parameter sets | | 1 parameter set | 2 parameter sets |
| Detection behavior can be selected | | Detection behavior cannot be selected | Detection behavior can be selected |

3.1.1 Details for ordering

| Type | Order no. | Designation |
|-------|---------------|--|
| OH110 | S54372-F11-A1 | Multi-sensor fire detector (collective) |
| OP110 | S54372-F4-A1 | Smoke detector (collective) |
| HI110 | S54372-F9-A1 | Heat detector (collective, differential) |
| HI112 | S54372-F10-A1 | Heat detector (collective, static) |

3.1.2 Product version ES

The product version ES provides the technical status of a device in terms of software and hardware. The product version is provided as a two-digit number.

You will find the details of your device's product version:

- On the packaging label
- On the product label or the type plate

Product version on the packaging label

Details of the product version can be found directly on the packaging label in the barcode:

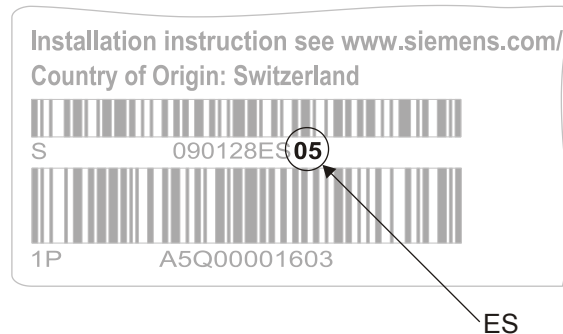


Figure 1: Example of a packaging label with details of the product version

Product version on the product label and the type plate

Details of the product version can be found after the device order number:

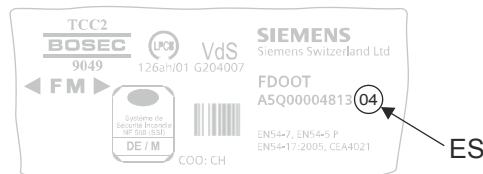


Figure 2: Example of a product label with details of the product version



Depending on the product and various approvals, the product labels may differ in terms of the information type and layout.

Look for your device's order number on the product label.

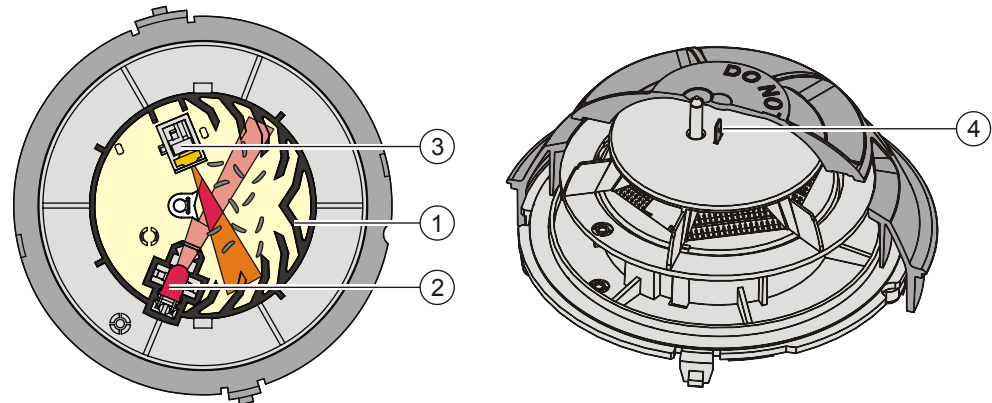
You will find the product version after the order number.

3.2 Point detector

3.2.1 Multi-sensor fire detector

The multi-sensor fire detector OH110 is a multiple-criteria fire detector with one optical and one thermal sensor.

Structure and function



1 Labyrinth

2 Optical transmitter

3 Optical receiver

4 Heat sensor

The point detector has a high-quality opto-electronic measuring chamber. The measuring chamber contains:

- One optical transmitter
- One optical receiver
- One thermal sensor

The transmitter lights up the smoke particles. The scattered light then hits the receiver (photodiode) and generates a measurable electric signal.

In addition, the heat sensor makes it possible to detect fires in cases where no smoke has been generated.

The combination of optical and thermal sensor signals optimizes detection reliability with the following benefits.

- Early detection of all types of fire, whether they generate light or dark smoke, or no smoke at all.
- The fire detector can be operated at a lower sensitivity level, thus achieving improved immunity against false alarms which may be caused by cold aerosols. In the event of an open fire, the smoke sensitivity level is raised by an increase in temperature which makes rapidly burning fires easier to detect.

The multi-sensor fire detector OH110 has two parameter sets: 'Robust' and 'Sensitive'.

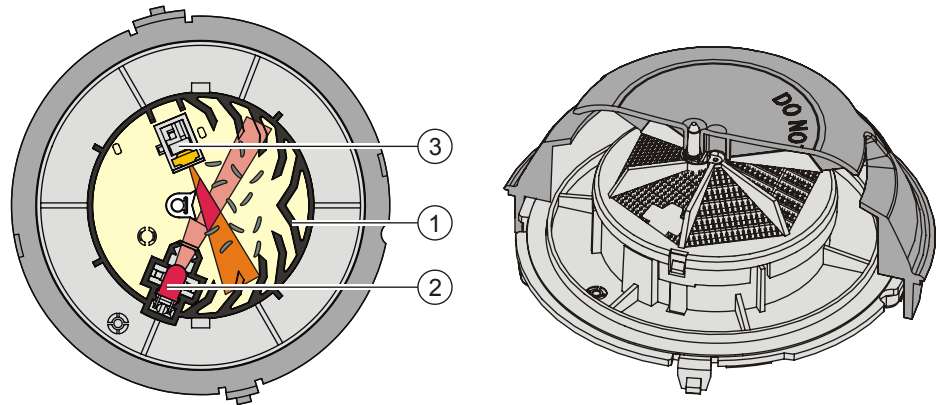
See also

- 📖 Multi-sensor fire detector [→ 29]

3.2.2 Smoke detector

The wide-spectrum smoke detector OP110 is an optical smoke detector with one optical sensor.

Structure and function



1 Labyrinth

2 Optical transmitter

3 Optical receiver

The wide-spectrum smoke detector has the same measuring chamber as the multi-sensor fire detector.

The point detector has two parameter sets: 'Standard' and 'Sensitive'.

See also

☰ Smoke detector [→ 31]

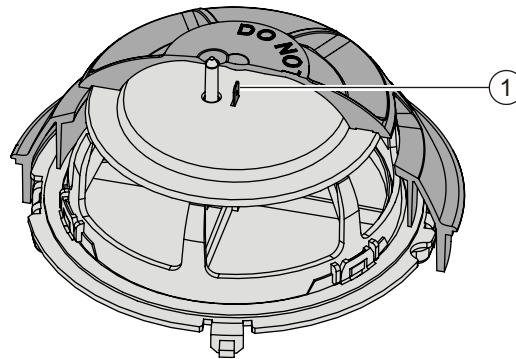
3.2.3 Heat detector

The heat detectors HI110 and HI112 are pure heat detectors with one thermal sensor.

The following table indicates the most important differences between the two heat detectors.

| Parameter | HI110 | HI112 |
|--------------------------|--|--|
| Alarm activation by: | <ul style="list-style-type: none"> Temperature increase | <ul style="list-style-type: none"> Reaching the maximum temperature |
| Number of parameter sets | 1 | 2 |

Structure and function



1 Heat sensor

The heat detector HI110 has one parameter set: 'A1R' (differential).

The heat detector HI112 has two parameter sets 'A2S' (static) and 'B'.

See also

 Heat detector [→ 32]

3.3 Function

3.3.1 Parameter sets

The detection behavior of the detectors is influenced by the parameter sets, so that it can be specifically adjusted to the fire phenomena and environmental conditions to be expected in the environment to be monitored.

All parameter sets are programmed in the detectors. To select the parameter set used, insert the point detector into a certain detector base.

The table below illustrates the dependency between the point detector's parameter sets and the detector bases used.

| Point detector used | Detector base DB110 or DB110D | Detector base DB110R or DB110RD |
|---------------------|-------------------------------|---------------------------------|
| OH110 | 'Sensitive' | 'Robust' |
| OP110 | 'Standard' | 'Sensitive' |
| HI110 | 'A1R' | |
| HI112 | 'A2S' | 'B' |

3.3.2 Diagnosis levels

The point detector monitors its operation largely autonomously. In particular it monitors the correct functioning of the microcontroller, temperature sensors, light emitter and light receiver.

If a non-compatible external alarm indicator is connected to the point detector, this state can be displayed as a fault.

If the point detector identifies an error at the parameter set resistor, this is also displayed as an error.

If there is a fault, the point detector's internal alarm indicator flashes:

| Color | Flashing frequency | Meaning |
|--------|----------------------|---------|
| Yellow | One flash every 10 s | Fault |

3.3.3 Internal alarm indicator

The point detectors have an internal alarm indicator. The internal alarm indicator shows the point detector's operating status.

When the point detector is in normal operation, the internal alarm indicator does not light up or flash.

The meaning of the internal alarm indicator's flash signals is explained in the tables below.

Multi-sensor fire detector OH110

| Color | Parameter set | Flashing frequency | Meaning |
|--------|--------------------------|--|---|
| Red | 'Robust' and 'Sensitive' | One flash every 1 s | Alarm |
| Yellow | 'Robust' and 'Sensitive' | One flash every 10 s | Fault |
| Green | 'Robust' | During the first three minutes of operation: Three flashes every 10 s | <ul style="list-style-type: none"> Reduced response time for testing after the detector line is started up or reset No fault Operation with 'Robust' parameter set |
| | | From the 4th...15th minute of operation: Two flashes every 5 s | <ul style="list-style-type: none"> No fault Operation with 'Robust' parameter set |
| Green | 'Sensitive' | During the first 15 minutes of operation: One flash every 5 s | <ul style="list-style-type: none"> No fault Operation with 'Sensitive' parameter set |

Smoke detector OP110

| Color | Parameter set | Flashing frequency | Meaning |
|--------|----------------------------|--|--|
| Red | 'Standard' and 'Sensitive' | One flash every 1 s | Alarm |
| Yellow | 'Standard' and 'Sensitive' | One flash every 10 s | Fault |
| Green | 'Standard' | During the first 15 minutes of operation: One flash every 5 s | <ul style="list-style-type: none"> No fault Operation with 'Standard' parameter set |
| Green | 'Sensitive' | During the first 15 minutes of operation: Two flashes every 5 s | <ul style="list-style-type: none"> No fault Operation with 'Sensitive' parameter set |

Heat detector HI110

| Color | Parameter set | Flashing frequency | Meaning |
|--------|---------------|--|--|
| Red | 'A1R' | One flash every 1 s | Alarm |
| Yellow | 'A1R' | One flash every 10 s | Fault |
| Green | 'A1R' | During the first 15 minutes of operation: One flash every 5 s | <ul style="list-style-type: none"> No fault Operation with 'A1R' parameter set |

Heat detector HI112

| Color | Parameter set | Flashing frequency | Meaning |
|--------|---------------|--|--|
| Red | 'A2S' and 'B' | One flash every 1 s | Alarm |
| Yellow | 'A2S' and 'B' | One flash every 10 s | Fault |
| Green | 'A2S' | During the first 15 minutes of operation: One flash every 5 s | <ul style="list-style-type: none"> No fault Operation with 'A2S' parameter set |
| Green | 'B' | During the first 15 minutes of operation: Two flashes every 5 s | <ul style="list-style-type: none"> No fault Operation with 'B' parameter set |


See also

 Testing the point detector [→ 52]

3.3.4 Connection for external alarm indicators

A maximum of two external alarm indicators can be connected to each point detector.

See also

 Connection diagram [→ 50]

3.3.5 Test mode

Optical detectors can be tested with the test gas REF8 or REF8-S. Heat detectors can be tested with a hot air fan.



Once the detector line has been started up or reset, the smoke detector OH110 has a reduced response time in the 'Robust' parameter set for a period of 3 minutes. It is possible to test the point detector with test gas during this period. Simplified test readiness of the point detector is indicated by the green LED flashing three times every 10 s.

See also

 Testing the point detector [→ 52]

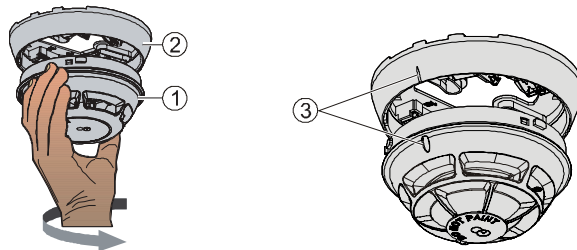
 Internal alarm indicator [→ 20]

3.4 Mechanical setup

One of the following devices is required to install a point detector:

- Detector base (collective) DB110
- Detector base (collective) DB110D
- Detector base (collective) DB110R
- Detector base (collective) DB110RD

Once the detector base (2) has been installed, the point detector (1) is easily turned by hand or with the detector exchanger DX791 in the base. You must be able to hear and feel the point detector snap into place and the marks (3) on the point detector and the detector base must line up.



1 Point detector

3 Marks

2 Detector base

Properties

- Quick installation and secure contact
- The centered alarm indicator makes an alignment of the detector base superfluous
- Space for up to 4 auxiliary terminals

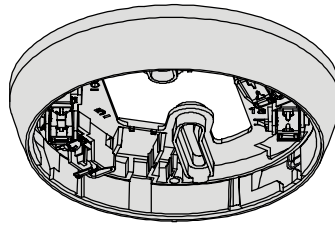
Accessories are available for a variety of different applications and can be combined to suit the particular application in question.

See also

📄 Accessories [→ 23]


3.5 Accessories

3.5.1 Detector base (collective) DB110

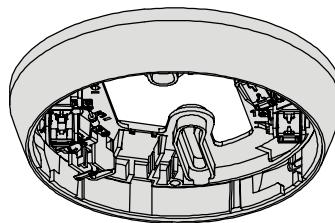


- For the mounting of point detectors
- The detector line is interrupted if the point detector is not used
- Selects the default parameter set in the point detector used
- For the recess-mounted cable entry
- For surface-mounted cable entry, up to 8 mm cable diameter
- Compatible with:
 - Multi-sensor fire detectors OH110, OH110-R
 - Smoke detectors OP110, OP110-R
 - Heat detectors HI110, HI110-R
 - Heat detectors HI112, HI112-R
- Order number: S54372-F5-A1

See also


-  Detector base (collective) DB110 / DB110x / DB110xx
[→ 35]

3.5.2 Detector base (collective) DB110D

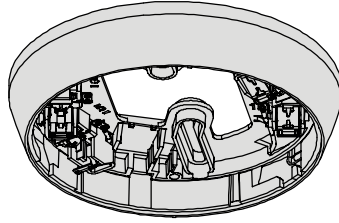


- For the mounting of point detectors
- Built-in diode (for BS 5839, part 1)
- If a point detector is not used, the diode fitted does not interrupt the detector line
- Selects the default parameter set in the point detector used
- For the recess-mounted cable entry
- For surface-mounted cable entry, up to 8 mm cable diameter
- Compatible with:
 - Multi-sensor fire detectors OH110, OH110-R
 - Smoke detectors OP110, OP110-R
 - Heat detectors HI110, HI110-R
 - Heat detectors HI112, HI112-R
- Order number: S54372-F6-A1

See also


-  Detector base (collective) DB110 / DB110x / DB110xx
[→ 35]

3.5.3 Detector base (collective) DB110R

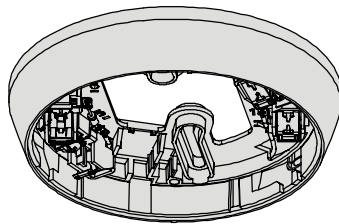


- For the mounting of point detectors
- The detector line is interrupted if the point detector is not used
- An integrated resistor selects the second parameter set in the point detector
- For the recess-mounted cable entry
- For surface-mounted cable entry, up to 8 mm cable diameter
- Compatible with:
 - Multi-sensor fire detectors OH110, OH110-R
 - Smoke detectors OP110, OP110-R
 - Heat detectors HI110, HI110-R
 - Heat detectors HI112, HI112-R
- Order number: S54372-F7-A1

See also


-  Detector base (collective) DB110 / DB110x / DB110xx
[→ 35]

3.5.4 Detector base (collective) DB110RD

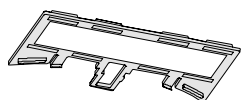


- For the mounting of point detectors
- Built-in diode (for BS 5839, part 1)
- If a point detector is not used, the diode fitted does not interrupt the detector line
- An integrated resistor selects the second parameter set in the point detector
- For the recess-mounted cable entry
- For surface-mounted cable entry, up to 8 mm cable diameter
- Compatible with:
 - Multi-sensor fire detectors OH110, OH110-R
 - Smoke detectors OP110, OP110-R
 - Heat detectors HI110, HI110-R
 - Heat detectors HI112, HI112-R
- Order number: S54372-F8-A1

See also

-  Detector base (collective) DB110 / DB110x / DB110xx
[→ 35]

3.5.5 Designation plate FDBZ291

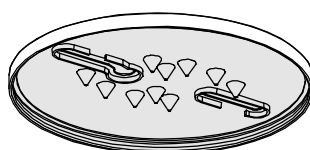


- To identify the location
- Compatible with:
 - Detector base (collective) DB110
 - Detector base (collective) DB110x
 - Detector base (collective) DB110xx
- Order number: A5Q00002621

See also


 Designation plate FDBZ291 [→ 43]

3.5.6 Detector base seal RS720

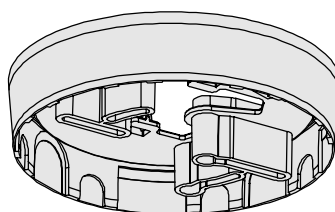


- For mounting in wet rooms
- Protection category IP42
- Compatible with:
 - Detector base (collective) DB110
 - Detector base (collective) DB110x
 - Detector base (collective) DB110xx
 - Detector base FDB271
 - Detector base FDB271-R
- Not compatible with:
 - Designation plate FDBZ291
- Order number: S54319-F8-A1

See also

 Detector base seal RS720 [→ 36]

3.5.7 Base attachment BA720

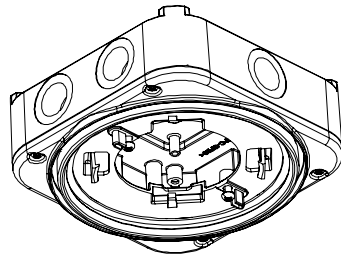


- There are several potential break-out points in the base attachment for surface-mounted cable entry
- For the recess-mounted cable entry
- Permanent connection and joint mounting with detector base
- Compatible with:
 - Detector base (collective) DB110xx
- Order number: S54319-F20-A1

See also

 Base attachment BA720 [→ 37]

3.5.8 Base attachment wet BA721

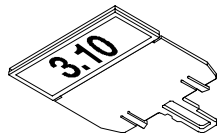


- For mounting in humid, wet environments and if the detector heating unit is used
- Protection category achievable: IP44
- Six break-out points for M20 x 1.5 metal cable glands
- Compatible with:
 - Detector base DB72x/DB110xx/DB721D
 - Detector heating unit FDBH291
 - Designation plate DBZ1193A
 - M20 x 1.5 metal cable gland
- Order number: S54319-F29-A1

See also

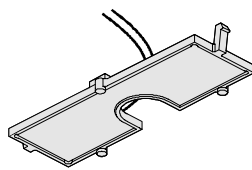
 Base attachment wet BA721 [→ 39]

3.5.9 Designation plate DBZ1193A



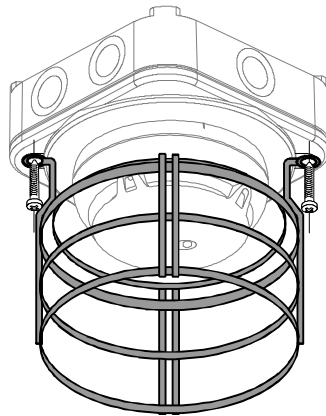
- To identify the location
- Compatible with:
 - Base attachment wet FDB295/BA721
 - Base attachment, surface-mounted, humid DBZ1192
 - DBW1171 base
 - Interbase DBS72x
- Order number: BPZ:4864330001

3.5.10 Detector heating unit FDBH291



- For operating point detectors in critical ambient conditions during icy conditions or when there is a danger of moisture condensation
- Compatible with:
 - Addressable detector base FDB2x1/FDB2x1-AA
 - Flat detector base FDB2x2
 - Base attachment wet FDB295/BA721
- Order number: A5Q00004439

3.5.11 Protective cage DBZ1194

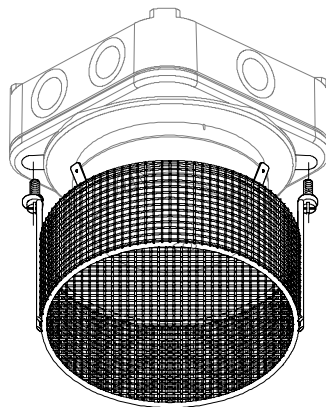


- To protect the devices against mechanical damage
- Can only be used in conjunction with the following accessories:
 - Base attachment wet FDB295
 - Base attachment wet BA721
- Order number: BPZ:4677110001

See also

📄 Base attachment wet BA721 [→ 39]

3.5.12 EMC-protective cage FDBZ294

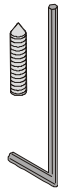


- To protect the devices against mechanical damage and electromagnetic fields
- Must be connected with earth connection
- Can only be used in conjunction with the following accessories:
 - Base attachment humid FDB293
 - Base attachment wet FDB295
 - Base attachment wet BA721
- Order number: A5Q00023040

See also


📄 Base attachment wet BA721 [→ 39]

3.5.13 Detector locking device LP720

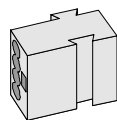


- For protection against theft
- Compatible with:
 - Multi-sensor fire detectors (collective) OH110, OH110-R
 - Smoke detectors (collective) OP110, OP110-R
 - Heat detectors (differential, collective) HI110, HI110-R
 - Heat detectors (static, collective) HI112, HI112-R
- Order number: S54319-F9-A1

See also

 [Detector locking device LP720 \[→ 42\]](#)

3.5.14 Micro terminal DBZ1190-AA

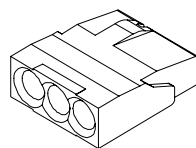


- Auxiliary terminal for connecting cables
- For T-branches of additional cabling e.g. for detector heating units, sounder base, external alarm indicators etc.
- For conductor cross-sections of 0.28...0.5 mm²
- 4-pin
- Order number: BPZ:4677080001

See also

 [Auxiliary terminals DBZ1190-AA/AB \[→ 45\]](#)

3.5.15 Connection terminal DBZ1190-AB



- Auxiliary terminal for connecting cables
- For T-branches of additional cabling, e.g., for cable shielding, detector heating units, sounder base, external alarm indicators, etc.
- For conductor cross-sections of 0.5...2.5 mm²
- 3 poles
- Order number: BPZ:4942340001

See also

 [Auxiliary terminals DBZ1190-AA/AB \[→ 45\]](#)

4 Planning

4.1 Compatibility

Compatible with control panels which support collective operation or conventional operation on the detector line.

You will find details in the 'List of compatibility'.

4.2 Multi-sensor fire detector

Like all optical smoke detectors, the multi-sensor fire detector OH110 is able to detect slow-burning fires that generate smoke.

However, when compared to standard optical smoke detectors, the multi-sensor fire detector OH110 also offers improved response behavior in the event of open fires and increased resistance to misleading sources of false alarms.

The multi-sensor fire detector OH110 has two selectable parameter sets.

4.2.1 Parameter sets

Robust:

The parameter set 'Robust' offers improved resistance to false alarms in areas where misleading sources, such as cigarette smoke or exhaust fumes, may cause these to be triggered.



The parameter set 'Robust' is automatically set if the point detector is installed in a detector base DB110R or DB110RD.

Sensitive:

This parameter set is particularly suitable for areas where few misleading sources of false alarms are present, when priority is given to detecting open fires as early as possible.



The parameter set 'Sensitive' is automatically set if the point detector is installed in a detector base DB110 or DB110D.

4.2.2 Specifications

The table below shows the properties of the parameter sets for the multi-sensor fire detector OH110:

| Name | Thermal | | | | |
|-----------|--------------------|-------------|-------------------------------|--|--|
| | Typ. response time | Sensitivity | Static activation temperature | Differential activation temperature ¹ | Differential activation possible from: |
| | [s] | [%/m] | [°C] | ΔT [K] | [°C] |
| Sensitive | 10 | 2,5 | 60 | 25 ² | 10 |
| Robust | 35 ³ | 3,5 | 60 | 25 ² | 10 |

- ¹ Applicable with fast temperature increases >10 K/min.
- ² Between 1 K/min and 10 K/min, this value increases by a few degrees.
- ³ The response time is reduced in the first three minutes following the detector line being started up or reset. The reduced response time enables the point detector to be tested with test gas.



All parameter sets meet the criteria of standard EN 54-7.

4.3 Smoke detector

The optical smoke detector OP110 demonstrates quick response behavior in the event of slow-burning fires that generate smoke. It is extremely well suited to general-purpose applications.

The smoke detector OP110 has two selectable parameter sets.

4.3.1 Parameter sets

Standard:

For standard applications, such as in corridors, bedrooms, offices, and living rooms.



The parameter set 'Standard' is automatically set if the point detector is installed in a detector base DB110 or DB110D.

Sensitive:

For areas with few misleading sources of false alarms, such as cigarette smoke, exhaust fumes, and steam.



The parameter set 'Sensitive' is automatically set if the point detector is installed in a detector base DB110R or DB110RD.

4.3.2 Specifications

The table below shows the properties of the parameter set for the smoke detector OP110:

| Name | Response time [s] | Sensitivity [%/m] |
|-----------|-------------------|-------------------|
| Standard | 10 | 2,3 |
| Sensitive | 10 | 1,8 |



All parameter sets meet the criteria of standard EN 54-7.

4.4 Heat detector

The heat detector HI110 can recognize sharp increases in temperature and is suitable for areas with a stable ambient temperature.

The heat detector HI112 responds when the temperature exceeds a preset threshold value.

Heat detectors are used in environments where misleading sources of false alarms are present and where, if smoke detectors were to be used, an unacceptable number of false alarms would be triggered.

4.4.1 Parameter sets

The heat detectors HI110 and HI112 have the following parameter sets:

HI110

- 'A1R'

HI112

- 'A2S'
- 'B'

Explanation of designation 'A'

- 'A' parameter sets should be applied at an ambient temperature of approximately 25 °C. However, they can be applied at temperatures up to 50 °C. The static response temperature is 60 °C.

Explanation of designation 'B'

- 'B' parameter sets should be applied at an ambient temperature of approximately 40 °C. However, they can be applied at temperatures up to 65 °C. The static response temperature is 80 °C.

Explanation of designations 'R' and 'S'

- In comparison to the 'S' parameter sets, 'R' parameter sets also trigger alarms in the event of a temperature increase (e.g., from 20° C to 50 °C within a few minutes).

4.4.2 Specifications

The table below shows the properties of the parameter sets for the heat detectors HI110 and HI112:

| Name | Operating temperature typ. / max. | Static activation temperature ¹ | Differential activation temperature ² | Differential activation possible from: |
|------------------------|--------------------------------------|---|---|---|
| | [°C] | [°C] | ΔT [K] | [°C] |
| 'A1R' | 25 / 50 | 60 | 25 ³ | 10 |
| 'A2S' 60 °C maximum | 25 / 50 | 65 | – | – |
| 'B' | 40 / 65 | 80 | – | – |

- 1 Applicable with slow temperature increases <1 K/min.
- 2 Applicable with fast temperature increases >10 K/min.
- 3 Between 1 K/min and 10 K/min, this value increases by a few degrees.

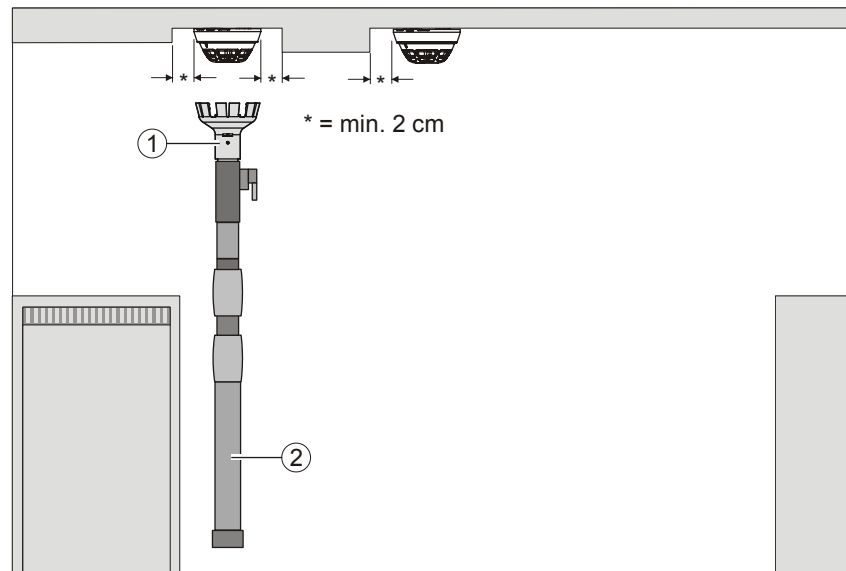


All parameter sets meet the criteria of standard EN 54-5.

5 Mounting / Installation

5.1 Required space

- When the point detector is inserted, the detector base is placed under stress by compression, tension, and torsion. The fastening method must, therefore, be designed accordingly.
- Detector bases must be placed flat on the ceiling.
- Avoid mounting on steps, concrete ribs, etc.
- Install the detector base directly on the recessed box or a level surface.
- If a surface-mounted cable feed is used, there are two possible break-out points on the detector base for the cable entry. Max. cable diameter: 8 mm.
- The point detector must have at least 2 cm of free space to the side. Only then can the point detector be removed with the detector exchanger DX791.
- Contorted detector bases complicate or even impede the insertion of the detectors with the detector exchanger.



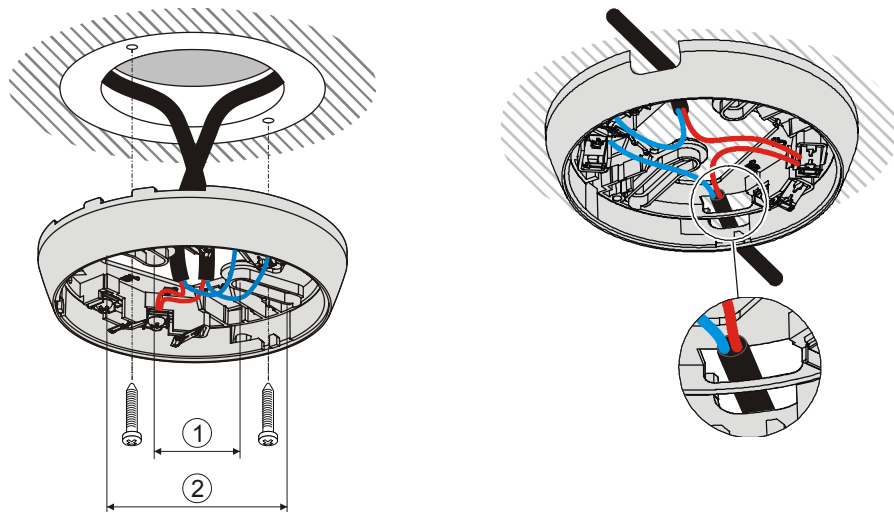
1 Detector exchanger

2 Telescope or extension rod

5.2 Detector base (collective) DB110 / DB110x / DB110xx

- Install the detector base directly on the ceiling.
- Insert the cables into the detector base. You have the option of using the following types of line:
 - Recess-mounted cable entry
 - Surface-mounted cable entry (cable diameter max. 8 mm)

| | |
|----------|---|
| ! | <p>NOTICE</p> <p>Incorrect laying of cables Damage to cables and difficulties when installing the point detector</p> <ul style="list-style-type: none"> • The cable loops must be placed flat in the base bottom. • The bare length of the cables is approximately 8...10 mm. |
|----------|---|



1 Minimum \varnothing 40 mm

2 Maximum \varnothing 90 mm



Use the detector bases DB110D and DB110RD if you are installing a fire detection system in accordance with BS 5839, part 1.

5.3 Detector base seal RS720

- Use the detector base seal RS720 to install point detectors in wet rooms. Protection category: IP42.
- Compatible with the following detector bases:
 - Detector base (collective) DB110
 - Detector base (collective) DB110R
 - Detector base (collective) DB110D
 - Detector base (collective) DB110RD
- Only use for recess-mounted cable entry.

Installation

1. **NOTICE! Excessively large holes in the detector base seal will impair the potential IP protection category.** Do not cut or drill holes in the detector base seal. Without using a tool, push the lines through the detector base seal.
2. Fit the detector base seal RS720 between the ceiling and the detector base.

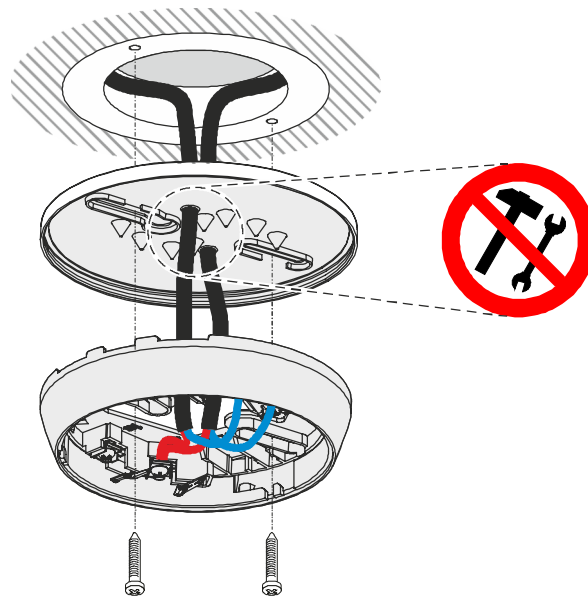


Figure 3: Installing the detector base seal RS720

5.4 Base attachment BA720

Install the base attachment BA720 if you are using a cable with a diameter >8 mm for surface-mounted cable entry.

The base attachment BA720 is attached to the ceiling together with a detector base.

Compatible with the following detector bases:

- Detector base (collective) DB110
- Detector base (collective) DB110R
- Detector base (collective) DB110D
- Detector base (collective) DB110RD

Installation for recess-mounted cable entry:

1. Insert the cables into the base attachment BA720 (1).
2. Install the base attachment BA720 (1) on the ceiling together with a detector base (2).
3. Connect the cables in the detector base (2).

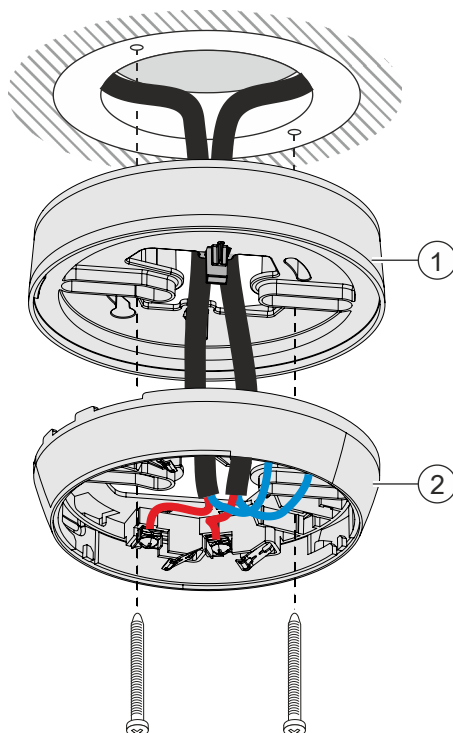


Figure 4: Recess-mounted cable entry with base attachment BA720

1 Base attachment BA720

2 Detector base DB110xx

Installation for surface-mounted cable entry:

1. Break out the areas required for cable entry in the base attachment BA720 (1).
2. Insert the cables into the base attachment BA720 (1) through the broken-out areas.
3. Install the base attachment BA720 (1) on the ceiling together with a detector base (2).
4. Connect the cables in the detector base (2).

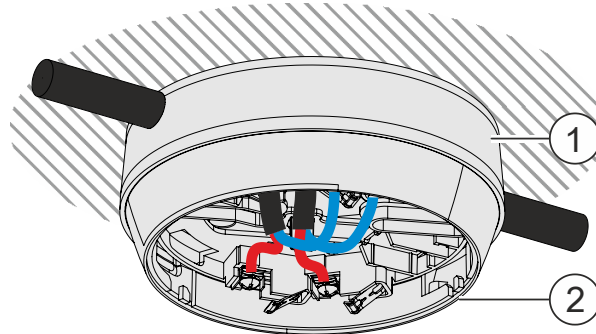


Figure 5: Surface-mounted cable entry with base attachment BA720

1 Base attachment BA720

2 Detector base DB110xx

5.5 Base attachment wet BA721

Base attachment wet BA721 is for surface-mounted feed lines in humid and cold environments. The cables are inserted using M20 x 1.5 metal cable glands (Fig. 3). Protective cages DBZ1194/FDBZ294 can be installed on 'base attachment wet BA721'.

- Protective cage DBZ1194 (Fig. 3) protects the detector against mechanical damage.
- EMC-protective cage FDBZ294 (Fig. 4) protects the detector against mechanical damage and electromagnetic fields.



Note the dimensions of the protective cages (Fig. 3) before installing base attachment wet BA721!

You will find information on connecting detector heating unit FDBH291 in the 'Connection of the detector heating unit' chapter.

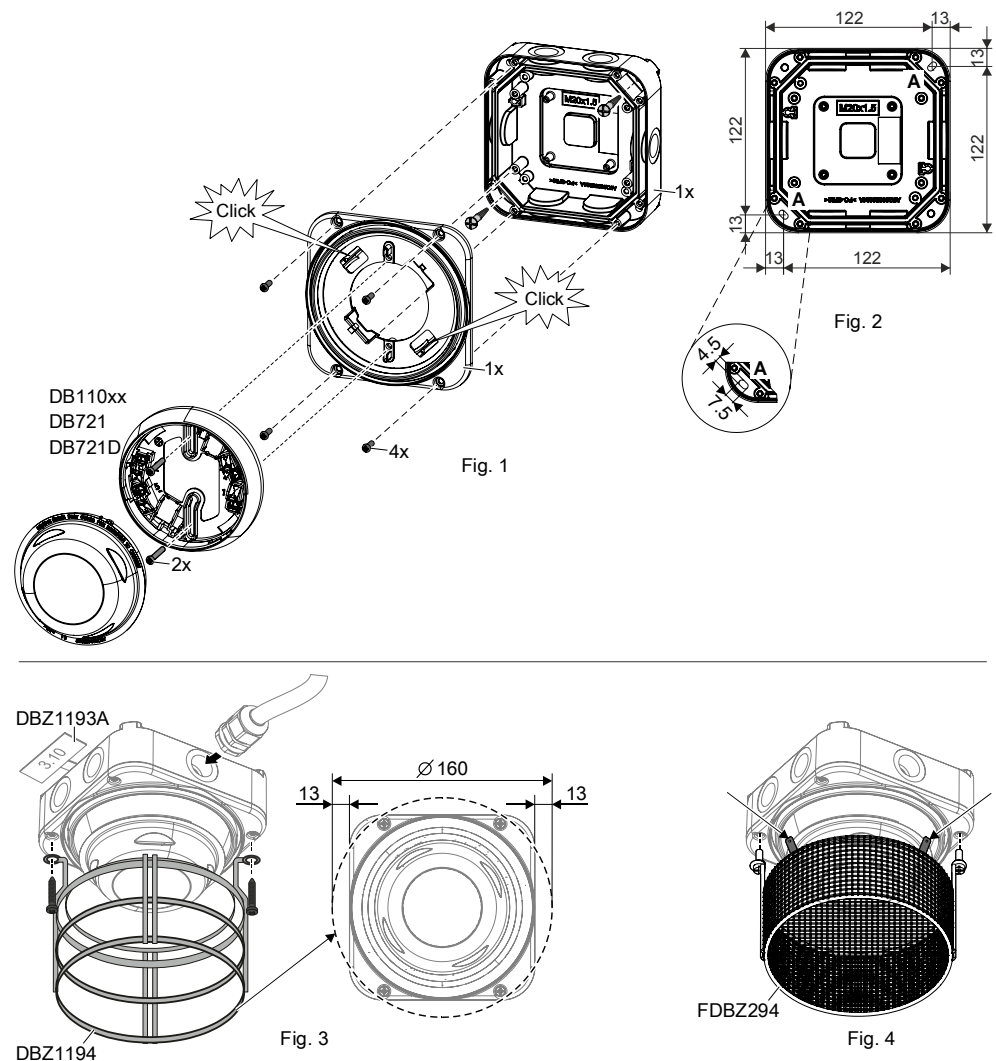


Figure 6: Installation and removal of protective cages and designation plates on base attachment wet BA721

Fig. 1 Installation of base attachment wet BA721

- Installation on back box on substructure (2 screws)
- Installation of housing cover on back box (4 screws)
- Installation of detector base (2 screws)

Fig. 2 Master gauge for recesses

Fig. 3 Installation of protective cage DBZ1194, M20 x 1.5 metal cable gland, designation plate DBZ1193A

Fig. 4 Installation of EMC-protective cage FDBZ294



⚠ WARNING

Danger of falling

Danger of injury

- When installing, use a secured ladder or work platform.
- Only use detector exchanger DX791 as an installation tool.

Installation (Fig. 1 and Fig. 2)

1. Install the M20 x 1.5 metal cable gland(s) in the back box of the base attachment wet.
2. Fit the back box securely to the substructure with 2 screws (detail A).
3. Screw the housing cover to the back box with the 4 screws.
4. Push the detector base into base attachment wet BA721.
⇒ You must be able to hear the detector base click into place.
5. Screw the detector base securely onto base attachment wet BA721 using 2 screws.

Removing the detector base

1. Loosen the two screws on the detector base.
2. Disengage the lock with a screwdriver ('click').
3. Remove the detector base from base attachment wet BA721.

See also

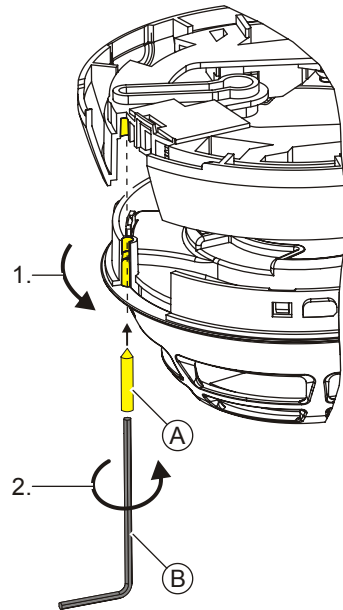
- 📄 Detector heating unit FDBH291 [→ 26]
- 📄 EMC-protective cage FDBZ294 [→ 27]
- 📄 Protective cage DBZ1194 [→ 27]

5.6 Detector locking device LP720

The point detector can be protected against theft with the detector locking device LP720.

The detector locking device LP720 is compatible with

- Detector base (collective) DB110
- Detector base (collective) DB110D
- Detector base (collective) DB110R
- Detector base (collective) DB110 RD



A Grub screw M3 x 12 mm

B Hexagonal wrench

1. Insert the detector in the detector base.
2. Insert the hexagonal wrench provided in the bore hole on the detector housing and tighten the grub screw.

5.7 Designation plate FDBZ291

1. Label designation plate FDBZ291 with location address of point detector.
2. Attach designation plate FDBZ291 to detector base DB110, DB110x or DB110xx.



If the detector base seal RS720 is being used, it is not possible to install the designation plate FDBZ291.

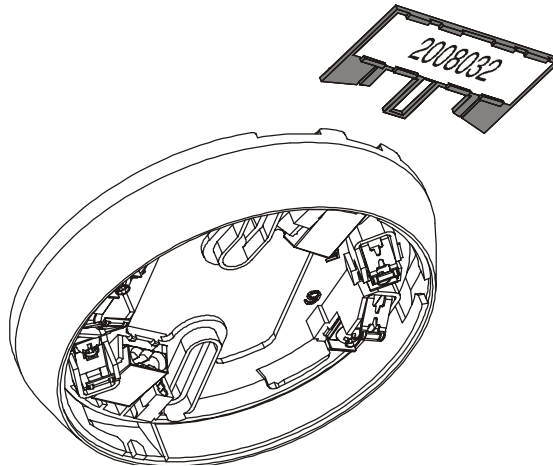


Figure 7: Installation of designation plate FDBZ291

5.8 Cable entry

The detector bases DB110, DB110x and DB110xx feature four screw terminals. A maximum of 2 cables may be connected to each screw terminal.

The cable cross section of the screw terminals is 0.2...1.6 mm².

| Designation | Connection |
|-------------|---|
| 1a | +Connection for external alarm indicator |
| 1b | +Collective detector line IN and OUT |
| 5 | -Collective detector line IN (from the control panel) / -external alarm indicator |
| 6 | -Collective detector line OUT (from the EOL) / -external alarm indicator |

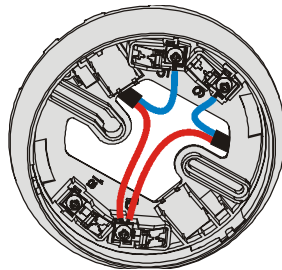


Figure 8:

| | |
|----------|--|
| ! | NOTICE |
| | Incorrect laying of cables Damage to cables and difficulties when installing the point detector <ul style="list-style-type: none"> • The cable loops must be placed flat in the base bottom. • The bare length of the cables is approximately 8...10 mm. |

5.8.1 Auxiliary terminals DBZ1190-AA/-AB

Use the following auxiliary terminals for multiple connections:

- DBZ1190-AB connection terminal 0.5...2.5 mm²
- DBZ1190-AA micro terminal 0.28...0.5 mm²

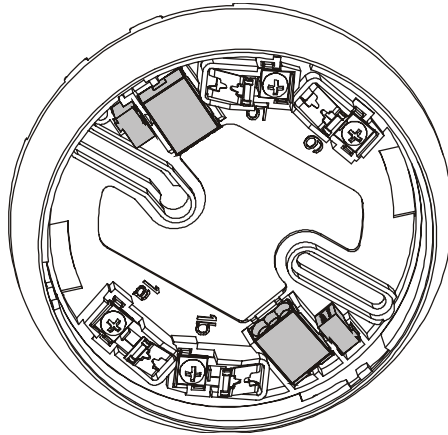


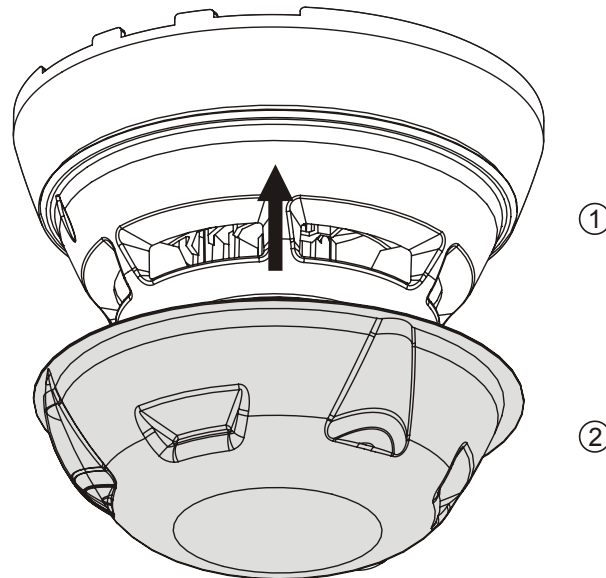
Figure 9: Detector base with connection terminals and micro terminals



A defective contact may occur when replacing a plugged-in conductor cross-section of 2.5 mm² with conductor cross-sections of 0.5...0.8 mm².

5.9 Detector dust cap

1. Cover the point detectors OH110 and OP110 with the detector dust cap during the construction phase. This will protect the point detector from dust and dirt.
2. Once construction work is complete, remove the detector dust cap from the point detector.



1 Point detector

2 Detector dust cap



A detector dust cap is included in the scope of supply for the point detectors OH110 and OP110.

5.10 Detector heating unit FDBH291

5.10.1 Installation of the detector heating unit

When the detector is exposed to icing or moisture condensation (e.g., in cooling rooms, attics, loading ramps), detector heating unit FDBH291 is installed in the detector base. The detector heating unit increases the detector temperature by approximately 2 °C over the ambient temperature and thus avoids moisture condensation on the detector.



Optimum function of the detector heating unit is only guaranteed with base attachment wet BA721.

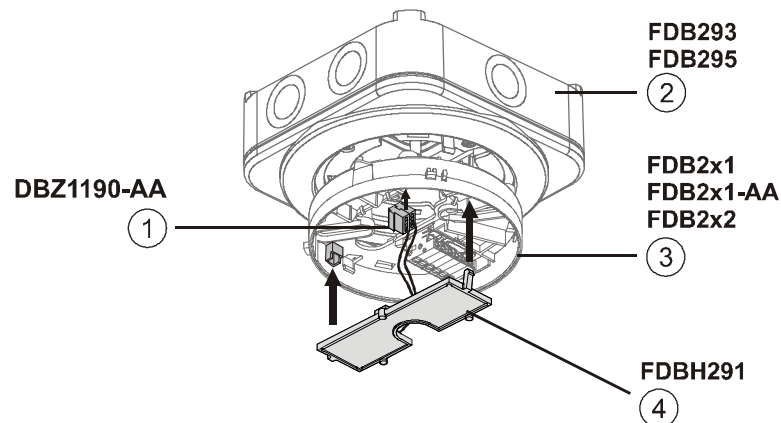


Figure 10: Mounting of the detector heating unit FDBH291

- | | |
|-----------------------|-------------------------|
| 1 Micro terminals | 3 Detector heating unit |
| 2 Base attachment wet | 4 Detector base |

5.10.2 Connection of the detector heating unit

- Connect the cables for the monitored supply from the control panel and the detector heating unit to the supplied micro terminals DBZ1190-AA.
- The cables can be placed in the same cable harness as the detector line or separately.
- Several detector heating units can be connected in parallel.
- Detector heating units require a separate supply.



NOTICE

Risk of icing

Malfunction

- To ensure smooth operation, the detector must be checked regularly for icing.

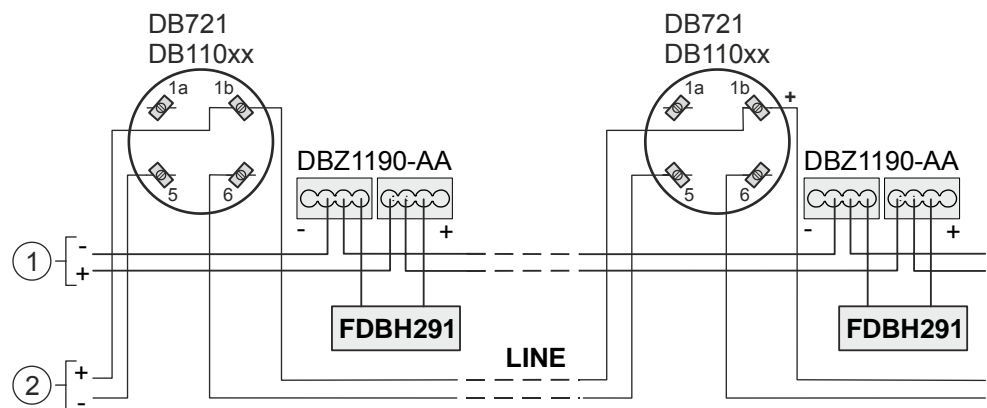


Figure 11: Connection diagram for detector heating unit FDBH291

1 Control panel supply (monitored)

2 Control panel

5.11 Protective cages

Protective cage DBZ1194 protects the detector against mechanical damage.

EMC-protective cage FDBZ294 protects the detector against mechanical damage and electromagnetic fields.

5.11.1 Mounting of the protective cages

The protective cages can only be installed on the base attachment wet FDB295.

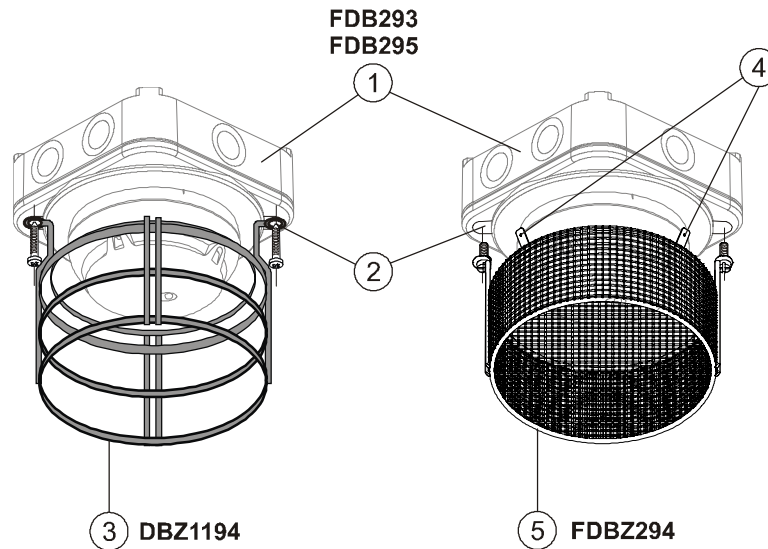


Figure 12: Mounting of the protective cages

- | | |
|---|--------------------------|
| 1 Base attachment | 4 Flat plug 6.3 x 0.8 mm |
| 2 Break out and screw protective cage on firmly | 5 EMC-protective cage |
| 3 Protective cage | |

5.11.2 Grounding of the EMC-protective cage FDBZ294

The EMC-protective cage must be connected to the shielding of the detector line cable at the flat plug.

If the detector line cable is not shielded then the EMC-protective cage must be grounded using a separate cable.

For optimum grounding in the presence of powerful electromagnetic fields, the ground line must be shorter than 10 m and have a cross section of at least 1.5 mm².

5.12 Connection diagram

Cables and topology

- The connection is established from detector base to detector base using twisted or untwisted wire pairs.
- Wherever possible use twisted, unshielded cables.
- Shielded cables are only required in special cases, such as strong high-frequency fields.

Connecting external alarm indicators FDAI91 / FDAI92 / FDAI93

Observe the following points when connecting external alarm indicators:

- Wherever possible use twisted, unshielded cables.
- Connect a maximum of two external alarm indicators to one detector.
- If a cable with shielding is used to connect the external alarm indicator, this shielding must be linked to the shielding of the detector line cable. The shielding must not be linked to the external alarm indicator itself.

Connection diagram

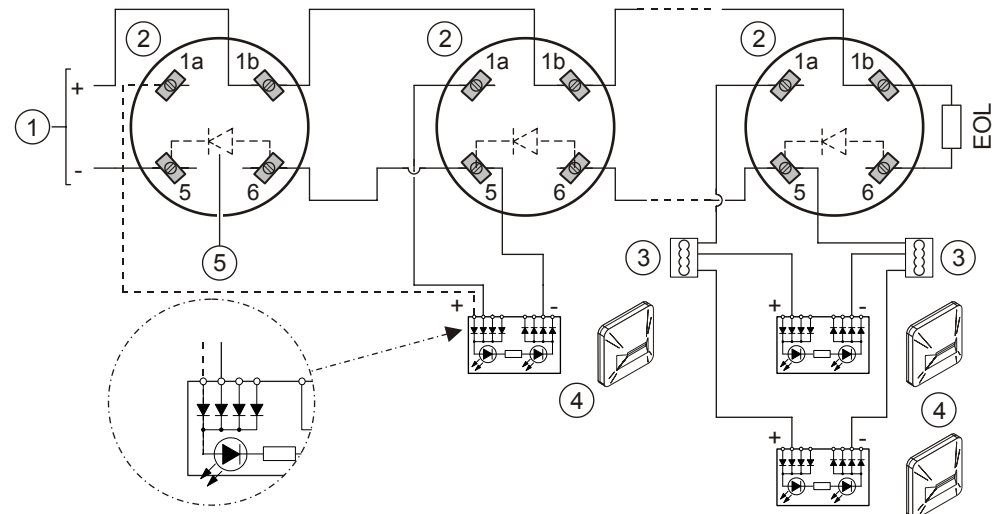


Figure 13: Connection diagram for collective detector lines

- | | |
|---|---|
| 1 Control panel | 4 External alarm indicator |
| 2 Detector base DB110 / DB110x / DB110xx | 5 Diode (only with DB110D and DB110RD) |
| 3 Auxiliary terminal DBZ1190-xx | |



Use the detector bases DB110D and DB110RD if you are installing a fire detection system in accordance with BS 5839, part 1.

You will find more detailed information in the fire detection system documentation.

6 Commissioning

The devices are commissioned via the control panel. The exact procedure is described in the control panel documentation.

7 Maintenance / Repair

7.1 Performance check

The selftest automatically subjects the point detectors to an extensive electrical performance check. Regular performance checks of the point detectors are required nonetheless. This may be done with the test gas or hot air fan depending on the detector type.

Recommendation:

- Check the devices every year.
- Replace heavily soiled or damaged devices.
- All point detectors should be replaced after 6 to 8 years of service, depending on the ambient conditions.

7.2 Testing the point detector

Depending on the point detector, testing may be performed with one or more of the following accessories:

- Test gas
 - REF8-S (recommended)
 - REF8
- Hot air fan
- Heat detector tester kit RE7T



Once the detector line has been started up or reset, the smoke detector OH110 has a reduced response time in the 'Robust' parameter set for a period of 3 minutes. It is possible to test the point detector with test gas during this period. Simplified test readiness of the point detector is indicated by the green LED flashing three times every 10 s.

The following table shows which point detectors may be tested with which test aids:

| Detector | Test gas | Hot air fan |
|----------|----------|-------------|
| OH110 | X | X |
| OP110 | X | – |
| HI110 | – | X |
| HI112 | – | X |

X = Testing equipment is suitable

– = Testing equipment is not suitable



To trigger a point detector using test gas, normally 2...4 gas discharges at intervals of approx. 2 seconds are required. When the detector is in test mode, activation takes place after approximately 10 seconds.

See also

- Internal alarm indicator [→ 20]
- Test mode [→ 21]

8 Specifications

Unless otherwise mentioned, the following data applies:

| | |
|--------------|-----------------------|
| Temperature | = 25 °C |
| Air pressure | = 1000 hPa (750 Torr) |

8.1 Technical data for multi-sensor fire detector OH110

You will find information on approvals, CE marking, and the relevant EU directives for this device (these devices) in the following document(s); see 'Applicable documents' chapter:

- Document A6V10301051

| | | |
|-----------------------------------|---|--|
| Detector line | Operating voltage | DC 16...28 V |
| | Maximum current connection factor | 1 |
| | Quiescent current at maximum current connection factor | Max. 100 µA |
| | Surge current at maximum current connection factor | 160 µA |
| | Alarm voltage at: | |
| | • Alarm current = 1...15 mA | DC 5...10 V |
| | • Alarm current = 35 mA | DC 18...22 V |
| | • Alarm current = 50 mA | DC 26...28 V |
| | Alarm current at operating voltage UB = DC 5...28 V | 4...50 mA |
| | Reset voltage UR: | |
| | • Alarm is reliably reset | DC 0...2 V |
| • Alarm may possibly not be reset | DC 2...4 V | |
| Protocol | Collective (with and without current limitation) | |
| Compatibility | See 'List of compatibility' | |
| External alarm indicators | Number of external alarm indicators that can be connected | Max. 2 |
| | Voltage | DC 9...30 V |
| | Current | 10...16 mA |
| Device characteristics | Response sensitivity at 0.2 m/s (typ.) | 2.5 or 3.5 %/m (depending on the parameter set) |
| | Permissible wind speed | Max. 5 m/s |
| | Compensation speed | ≤1/45 voltage increase for detection/h |
| | Flashing interval times AI: | See chapter 'Internal alarm indicator' |
| Connections | Detector line and external alarm indicators: | |
| | • Design | Screw terminal |
| | • Conductor cross section | 2 x 0.2...1.6 mm ² |

| | | |
|---------------------------|---|---|
| Ambient conditions | Operating temperature/permissible ambient temperature | -10...+50 °C |
| | Storage temperature | -30...+70 °C |
| | Air humidity | ≤95 % rel. |
| | Protection categories according to EN 60529 / IEC 60529: | |
| | • Bases DB110, DB110x, DB110xx (all installation types) | IP40 |
| | • Bases DB110, DB110x, DB110xx with detector base seal RS720 | IP42 |
| | • Bases DB110, DB110x, DB110xx with base attachment wet BA721 | IP44 |
| | Electromagnetic compatibility: | |
| | • 10 kHz...1.8 GHz | 50 V/m |
| | • 1.8 GHz...2.5 GHz | 20 V/m |
| Mechanical data | Color | ~RAL 9010 pure white |
| Standards | European standards | <ul style="list-style-type: none"> • CEA 4021 • EN 54-7 |

8.2 Technical data for smoke detector OP110

You will find information on approvals, CE marking, and the relevant EU directives for this device (these devices) in the following document(s); see 'Applicable documents' chapter:

- Document A6V10301051

| | | |
|----------------------|--|---|
| Detector line | Operating voltage | DC 16...28 V |
| | Maximum current connection factor | 1 |
| | Quiescent current at maximum current connection factor | Max. 100 µA |
| | Surge current at maximum current connection factor | 160 µA |
| | Alarm voltage at: | |
| | • Alarm current = 1...15 mA | DC 5...10 V |
| | • Alarm current = 35 mA | DC 18...22 V |
| | • Alarm current = 50 mA | DC 26...28 V |
| | Alarm current at operating voltage UB = DC 5...28 V | 4...50 mA |
| | Reset voltage UR: | |
| | • Alarm is reliably reset | DC 0...2 V |
| | • Alarm may possibly not be reset | DC 2...4 V |
| | Protocol | Collective (with and without current limitation) |
| | Compatibility | See 'List of compatibility' |
| | External alarm indicators | Number of external alarm indicators that can be connected |
| | Voltage | DC 9...30 V |
| | Current | 10...16 mA |

| | | |
|-------------------------------|---|--|
| Device characteristics | Response sensitivity at 0.2 m/s (typ.) | 1.8 or 2.5 %/m (depending on the parameter set) |
| | Permissible wind speed | Max. 5 m/s |
| | Compensation speed | ≤1/45 voltage increase for detection/h |
| | Flashing interval times AI: | See chapter 'Internal alarm indicator' |
| Connections | Detector line and external alarm indicators: | |
| | <ul style="list-style-type: none"> • Design • Conductor cross section | <ul style="list-style-type: none"> Screw terminal 2 x 0.2...1.6 mm² |
| Ambient conditions | Operating temperature/permissible ambient temperature | -10...+55 °C |
| | Storage temperature | -30...+70 °C |
| | Air humidity | ≤95 % rel. |
| | Protection categories according to EN 60529 / IEC 60529: | |
| | <ul style="list-style-type: none"> • Bases DB110, DB110x, DB110xx (all installation types) | IP40 |
| | <ul style="list-style-type: none"> • Bases DB110, DB110x, DB110xx with detector base seal RS720 | IP42 |
| | <ul style="list-style-type: none"> • Bases DB110, DB110x, DB110xx with base attachment wet BA721 | IP44 |
| | Electromagnetic compatibility: | |
| | <ul style="list-style-type: none"> • 10 kHz...1.8 GHz • 1.8 GHz...2.5 GHz | <ul style="list-style-type: none"> 50 V/m 20 V/m |
| | Mechanical data | Color |
| Standards | European standards | EN 54-7 |

8.3 Technical data for heat detectors HI110 / HI112

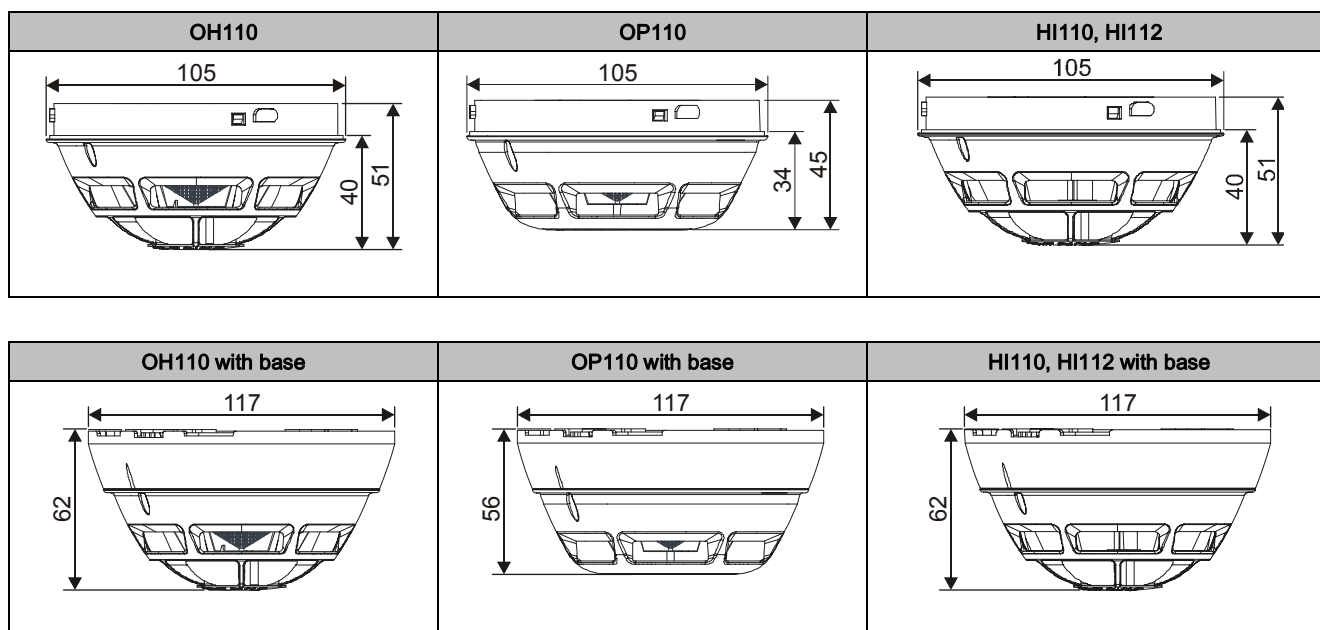
You will find information on approvals, CE marking, and the relevant EU directives for this device (these devices) in the following document(s); see 'Applicable documents' chapter:

- Document A6V10301051

| | | |
|---|---|---|
| Detector line | Operating voltage | DC 16...28 V |
| | Maximum current connection factor | 1 |
| | Quiescent current at maximum current connection factor | Max. 100 µA |
| | Surge current at maximum current connection factor | 160 µA |
| | Alarm voltage at: | |
| | • Alarm current = 1...15 mA | DC 5...10 V |
| | • Alarm current = 35 mA | DC 18...22 V |
| | • Alarm current = 50 mA | DC 26...28 V |
| | Alarm current at operating voltage UB = DC 5...28 V | 4...50 mA |
| | Reset voltage UR: | |
| | • Alarm is reliably reset | DC 0...2 V |
| | • Alarm may possibly not be reset | DC 2...4 V |
| | Protocol | Collective (with and without current limitation) |
| Compatibility | See 'List of compatibility' | |
| External alarm indicators | Number of external alarm indicators that can be connected | Max. 2 |
| | Voltage | DC 9...30 V |
| | Current | 10...16 mA |
| Device characteristics for HI110 | Static response temperature with parameter set: | |
| | • 'A1R' (typ.) | 60 °C |
| | Flashing interval times AI: | See chapter 'Internal alarm indicator' |
| Device characteristics for HI112 | Static response temperature with parameter set: | |
| | • 'A2S' (typ.) | 60 °C |
| | • 'B' (typ.) | 80 °C |
| | Flashing interval times AI: | See chapter 'Internal alarm indicator' |
| Connections | Detector line and external alarm indicators: | |
| | • Design | Screw terminal |
| | • Conductor cross section | 2 x 0.2...1.6 mm ² |

| | | |
|---------------------------|---|----------------------|
| Ambient conditions | Operating temperature/permissible ambient temperature: | |
| | • HI110 | -10...+50 °C |
| | • HI112 with 'A2S' parameter set | -10...+50 °C |
| | • HI112 with 'B' parameter set | -10...+65 °C |
| | Storage temperature | -30...+70 °C |
| | Air humidity | ≤95 % rel. |
| | Protection categories according to EN 60529 / IEC 60529: | |
| | • Bases DB110, DB110x, DB110xx (all installation types) | IP40 |
| | • Bases DB110, DB110x, DB110xx with detector base seal RS720 | IP42 |
| | • Bases DB110, DB110x, DB110xx with base attachment wet BA721 | IP44 |
| Mechanical data | Electromagnetic compatibility: | |
| | • 10 kHz...1.8 GHz | 50 V/m |
| | • 1.8 GHz...2.5 GHz | 20 V/m |
| | Color | ~RAL 9010 pure white |
| Standards | European standards | EN 54-5 |

8.4 Dimensions



8.5 Environmental compatibility and disposal



This equipment is manufactured using materials and procedures which comply with current environmental protection standards as best as possible. More specifically, the following measures have been undertaken:

- Use of reusable materials
- Use of halogen-free plastics
- Electronic parts and synthetic materials can be separated

Larger plastic parts are labeled according to ISO 11469 and ISO 1043. The plastics can be separated and recycled on this basis.



Electronic parts and batteries must not be disposed of with domestic waste.

- Take electronic parts and batteries to local collection points or recycling centers.
- Contact local authorities for more information.
- Observe national requirements for disposing of electronic parts and batteries.

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