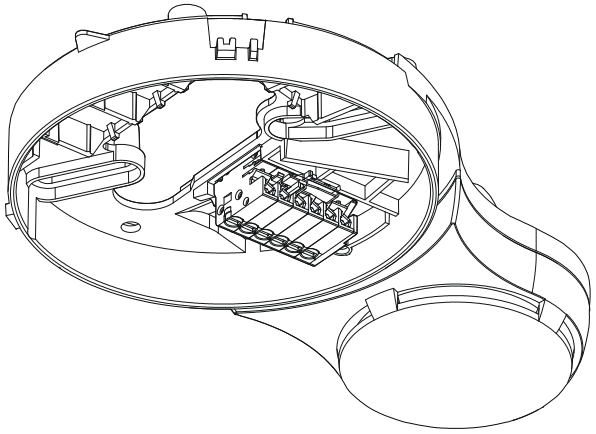
SIEMENS



FDSB291

Sounder base

Technical manual

Building Technologies
Fire Safety & Security Products

Technical specifications and availability subject to change without notice.

Table of contents

1 About this document

Goal and purpose

This document contains all necessary information on the FDSB291 sounder base. Consistent compliance with the instructions guarantees correct and safe use.

Target groups

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

Target group	Activity	Qualification
Product Manager	• 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.	• Has obtained suitable specialist training for the function and for the products. • Has attended the training courses for Product Managers.
Project Manager	• Coordinates the deployment of all persons and resources involved in the project according to the schedule. • Provides the information required to run the project.	• Has obtained suitable specialist training for the function and for the products. • Has attended the training courses for Project Managers.
Installation personnel	• Assembles and installs the product components at the place of installation. • Carries out a performance check following installation.	• Has received specialist training in the area of building installation technology or electrical installations.
Commissioning personnel	• Configures the product at the place of installation according to customer-specific requirements. • Checks the product operability and releases the product for use by the operator. • Searches for and corrects malfunctions.	• Has obtained suitable specialist training for the function and for the products. • Has attended the training courses for commissioning personnel.
Maintenance personnel	• Carries out all maintenance work. • Checks that the products are in perfect working order. • Searches for and corrects malfunctions.	• Has obtained suitable specialist training for the function and for the products.

Reference document and source language

- The source 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.

The reference document has the following designation:

ID_x_en_--

x = modification index, en = English, -- = international

Document identification

Position	Information
Title page	● Product type ● Product designation ● Document type
Footers	● Document ID – ID_ModificationIndex_Language_COUNTRY ● Edition date
Last page	● Document ID ● Edition date ● Manual (product line) ● Register (table of contents for whole documentation, folder register)

Conventions for text marking

Markups

Special markups are shown in this document as follows:

▷	Requirement for a behavior instruction
⇨	Intermediate result of a behavior instruction
⇨	End result of a behavior instruction
'Text'	Quotation, reproduced identically
<Key>	Identification of keys

Supplementary information and tips

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

Technical terms

Term	Explanation
ABS	Acrylonitrile-butadiene-styrene (plastic)
EAI	External alarm indicator
ES	Product version
FDnet	Addressable detector line

Applicable documents

Document ID	Title
008114	Installation of sounder base FDSB291, FDSB292
007227	Operation of detector exchanger and tester FDUD292
009718	Operation of intelligent detector tester FDUD293
007004	Technical manual for automatic fire detectors FDOOT241-9, FDOOT241-8, FDOOT221, FDO241, FDO221, FDT241, FDT221
008331	List of compatibility (for 'Sinteso' product line)

History of changes

The reference document's modification index 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 have the modification index "d" instead of "a" if the reference document already has this modification index.

The table below shows this document's history of changes:

Modification index	Edition date	Brief description
i	05.2010	Sound intensities changed in the Technical data annex
h	12.2009	Editorial changes made.
g	07.2009	Editorial changes made, FDSB291 is compatible with heat detector FDT2x1, Technical data annex added
f	10.2007	Air humidity changed, display texts for detector exchanger and tester added in 'Diagnosis levels' chapter, automatic detection of sounder base as of product version ≥ 30 of detector and sounder base, e.g. for FS20, images with language texts replaced by language-neutral image
e	12.2006	Note in chapter 3.2.1: Synchronization of sounds only with detectors as of product version ≥ 30 on the same detector line
d	10.2006	Sounder base with product version ≥ 30 added, Zug address, temperature range in technical data revised
c	02.2005	Document no.
b	01.2005	Name of division
a	04.2004	First edition

The table below shows the published language versions with the corresponding modification index:

Modification index	en_--	de_--	fr_--	it_--	es_--
j	X	X	X	X	X
i	X	X	–	–	–
h	X	X	–	–	–
g	X	X	–	–	–
f	X	X	–	–	–
e	X	X	–	–	–
d	X	X	–	–	–
c	X	X	–	–	–
b	X	X	X	X	X
a	X	X	X	X	X

X = published

– = no publication with this modification index

2 Safety

2.1 Safety notices

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.
NOTICE	*NOTICE* identifies possible damage to property that may result from non-observance.

How risk of injury of presented

Information about the risk of injury is shown as follows:

⚠ WARNING
Nature and origin of the danger Consequences if the danger occurs ● Measures / prohibitions for danger avoidance

How possible damage to property is presented

Information about possible damage to property is shown as follows:

NOTICE
Nature and origin of the danger Consequences if the danger occurs ● 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, assembly, 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

⚠ WARNING

Electrical voltage

Electric shock

- 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.

- 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 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.

Assembly, 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 layout and 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

Disclaimer

We have checked that the content of this document matches the hardware and software described. Despite this, we cannot rule out deviations and cannot therefore assume liability for them matching completely. The details in this document are checked regularly and any corrections needed included in subsequent editions.

We are grateful for any suggestions for improvement.

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

Limited or non-existent fire detection

Personal injury and damage to property in the event of a fire.

- 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

Incorrect planning and/or configuration

Important standards and specifications are not satisfied.

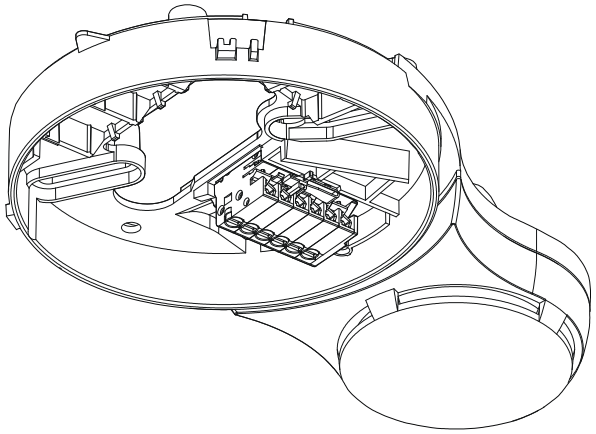
Fire detection installation is not accepted for commissioning.

Additional expense resulting from necessary new planning and/or configuration.

- 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 Setup and function

3.1 Setup



The sounder base FDSB291 serves to provide an acoustic alarm in an addressed fire detection system FS20.

The loud sound of the sounder base can be clearly heard as a danger signal when a fire alarm sounds.

Eleven tones are programmed in the sounder base. Two tones can be activated for different events (e.g. alarm and evacuation).

Features

- Supply via detector line
- The base sounder is activated via the connection for the external alarm indicator
- Communication with the control panel via the detector line
- Compatible with all 'Sinteso' point detectors
- Only functions when a point detector is inserted
- Sounds are synchronized with all alarm sounders and sounder bases FDSB291 on the same detector line (product version ≥30 and higher)

3.1.1 Details for ordering

Type	Order no.	Designation
FDSB291	A5Q00001647	Sounder base (FDnet) including two micro terminals DBZ1190-AA

3.1.2 Product version ES

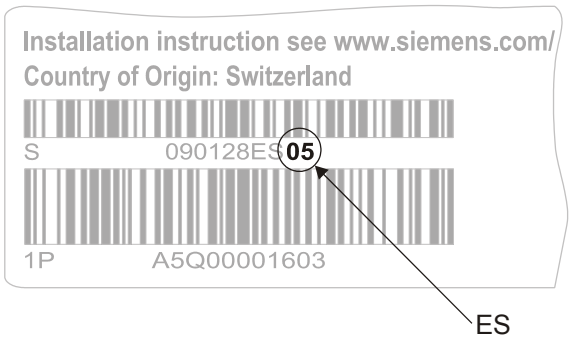
The product version ES provides the technical status of a device in terms of software and hardware. The product version is provided as a two-digit number.

The details of your device's product version can be found:

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

Product version on the packaging label

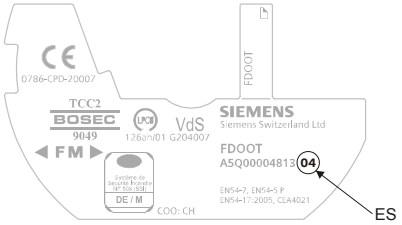
Details of the product version can be found directly on the packaging label in the barcode:



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:



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 Function

3.2.1 Activation levels and sound intensity

The sounder base can be activated for two selectable event categories (e.g. pre-alarm or alarm). The tone and sound intensity can be configured individually for the two selectable event categories. Eleven tones are available, each with two sound intensities.

The base sounder is connected to the connection for the external alarm indicator. It does not therefore take up an address on the detector line. The control panel communicates with the point detector via the detector line. The point detector communicates with the sounder base.

When testing the function with a detector exchanger and tester FDUD292 or an intelligent detector tester FDUD293, a quiet test sound can be activated.

A function test is only possible if a point detector is inserted in the sounder base FDSB291.

Base sounders with product version ≥30, which are operated on point detectors with product version ≥30, are synchronized to alarm sounders (product version ≥30 and higher). Base sounders and alarm sounders must be connected to the same detector line for this to happen.

As of point detectors and sounder bases with a product version ≥ 30, when commissioning, the presence of the sounder base is detected automatically with certain control panels, e.g. with the FS20.

3.2.2 Line separator

All FDnet devices are equipped with a line separator.

The FDnet device is equipped with electronic switches which isolate the defective part in case of a short-circuit on the detector line. The rest of the detector line remains serviceable. On a loop line all FDnet devices remain fully functional after a simple error.

3.2.3 Interface to service devices

A proximity interface (MC link) is available for commissioning and maintenance in order to communicate with the detector exchanger and tester FDUD292 and the intelligent detector tester FDUD293.

For details, see Documents 007227 and 009718.

3.2.4 Diagnosis levels

The FDSB291 sounder base monitors its operation largely autonomously.

The following diagnosis levels are derived from the different control measurements:

- Normal
- Observe information
- Fault

For details, see table below.

When a fatal error occurs, which impairs the proper function of the sounder base, a fault message is signaled. To remedy the cause, additional information is available in the sounder base. This can be displayed by the detector exchanger and tester FDUD292 or the intelligent detector tester FDUD293, for example.

For details, see Documents 007227 and 009718.

Information displayed on the detector exchanger and tester	Meaning	Measures
'no deviation'	Normal, no fault is present The sounder base is fully functional	None
'maybe excha.' [1]	Observe information Sounder base present, but parameters not set	Set permissible parameters
Any fault message	Fault present Invalid parameter settings (e.g. no sounder base present)	• Set valid parameters • Connect sounder base
	Sounder base defective (Piezo monitoring)	Replace sounder base
	Short-circuit on sounder base connection	Remedy short-circuit

The status 'Any fault message' can be displayed together with another status, e.g. 'needed excha.' (replacement necessary).

[1] The information displayed on the detector exchanger and tester is always in English; no translation into the corresponding language.

3.2.5 Behaviour in degraded mode

Applicable for the FDnet:

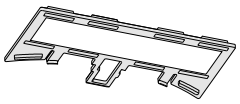
If the main processor of the fire control panel fails, the control panel enters degraded mode operation. Depending on the control panel, the fire control panel may continue to provide the main alarming functions and signaling functions in degraded mode operation.

Base sounders with a product version ES ≥ 30 which are operated on point detectors with a product version ES ≥ 30 are also activated and deactivated in degraded mode operation in the event of a fire alarm.

Degraded mode operation on the FDnet is not supported in the same way by all control panels. The information in the 'List of compatibility' and in the corresponding control panel documentation must be taken into account during project planning.

3.3 Accessories

3.3.1 Designation plate FDBZ291

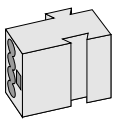


- To identify the location
- Compatible with:
  - Addressable detector base FDB221/FDB221-AA
  - Flat, addressable detector base FDB222
  - Detector base FDB271
  - Sounder base FDSB29x
  - Base attachment FDB291
- Order no.: A5Q00002621

See also

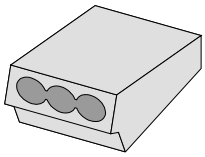
Designation plate FDBZ291 [→ 24]

3.3.2 Micro terminal DBZ1190-AA



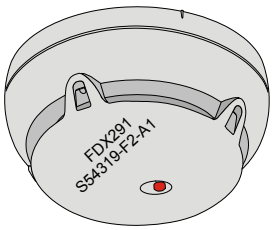
- Auxiliary terminal for connecting cables
- For T-branches of additional cabling for detector heating units, sounder base, external alarm indicators, etc.
- For wire diameters of 0.28 … 0.5 mm^2
- 4-pin
- Order no.: BPZ:4677080001

3.3.3 Connection terminal DBZ1190-AB



- Auxiliary terminal for connecting cables
- For T-branches of additional cabling for cable shielding, detector heating units, sounder base, external alarm indicators, etc.
- For wire diameters of 1 … 2.5 mm^2
- 3-pin
- Order no.: BPZ:4942340001

3.3.4 Dummy detector FDX291



- To protect the detector base from dirt
- External labelling for identification
- Does not open the contact in the detector base
- Compatible with:
  - Detector base FDB2xx
  - Sounder base FDSB29x
- Order no.: S54319-F2-A1

4 Project planning

Please always take the country-specific provisions and the alarm organization for project planning into account. In addition, the connection factors stated in the specifications must also be taken into account.

See also

Technical data [→ 30]

4.1 Compatibility

Compatible with control panels that support the FDnet detector line.

For details see 'List of compatibility'.

4.2 Range of application

- Living rooms and lounges
- Hotel rooms
- Sick rooms

4.3 Restrictions

- No direct interface to detector exchanger and tester FDUD292 and to intelligent detector tester FDUD293. A function test of the sounder base FDSB291 with a detector exchanger and tester FDUD292 or an intelligent detector tester FDUD293 is only possible if a point detector is inserted in the sounder base FDSB291. Communication between test device and sounder base is via the point detector.
- Not compatible with detector heating unit FDBH291
- Cannot be synchronized with the alarm sounder FDS221 (only for product version <30)
- Cannot be installed in wet areas
- Cannot be operated on a collective detector line

⚠ WARNING

Operating the sounder base on a collective detector line prevents alarms and faults from being recorded and processed.

Fire may spread unhindered.

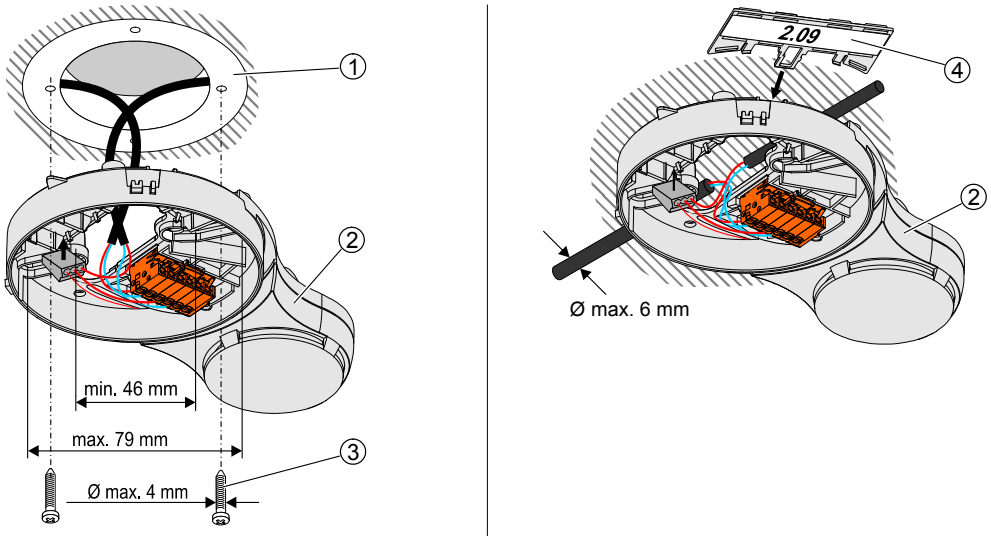
- Do not use the sounder base FDSB291 on a collective detector line.

5 Mounting / Installation

5.1 Assembly

The sounder base is fitted directly on the ceiling. The recess-mounted cable entry or surface-mounted cable entry is as for a standard detector base.

1. Insert cables.
2. Use two screws to secure sounder base to ceiling.
   - Ensure that the cables aren't pinched.



Installing a sounder base

1 Recessed box
2 Sounder base
3 Screws
4 Designation plate

See also

Designation plate FDBZ291 [→ 24]

5.2 Electric connection

Note the positive and negative connections.

Only connect one wire per terminal. This is the only way of ensuring a problem-free connection over the device's entire service life.

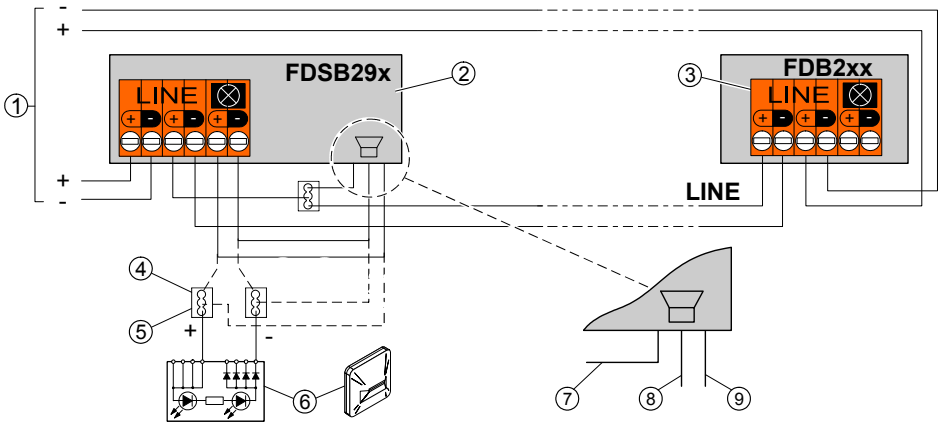
- You will need at least one auxiliary terminal to connect the base sounder. Two micro terminals DBZ1190-AA are included in the scope of supply for the sounder base.
- The external alarm indicator must always be connected using auxiliary terminals.
- Use unshielded cables if possible.
- Select auxiliary terminals of the appropriate wire diameter.
- Position the auxiliary terminals in the sounder base (see figure).
- If using shielded cables:
  - Connect the shielding of the detector line cables using an auxiliary terminal.
  - Connect the shielding of the external alarm indicator cable with the positive pole of the external alarm indicator connection.
  - The shielding must not touch any external potentials.

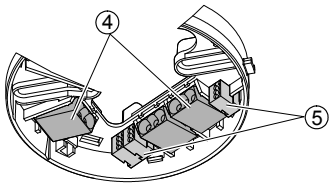
For more information about using shielded cables, see document 007004.

Procedure

1. Connect sounder base as shown in connection diagram.
2. Press the wires flat into the sounder base so they don't get pinched when installing the point detector.

Connection diagram





Connection for sounder base

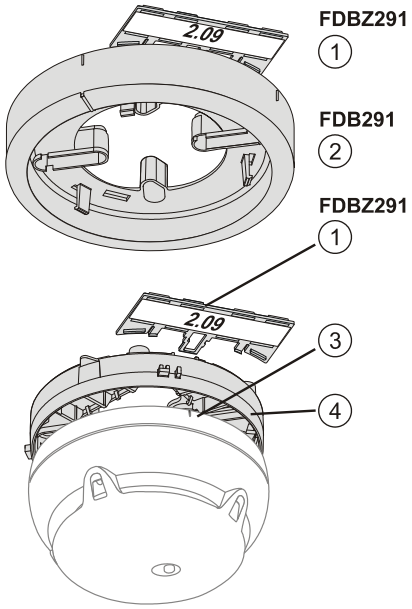
1	Control panel	6	Alarm indicator
2	Sounder base	7	Red
3	Detector base	8	Black
4	Connection terminals	9	Green
5	Micro terminals		

See also

- Micro terminal DBZ1190-AA [→ 18]
- Connection terminal DBZ1190-AB [→ 19]

5.3 Designation plate FDBZ291

1. Label designation plate FDBZ291 with location address of point detector or alarm sounder.
2. Note the small mark on the installed point detector or alarm sounder and slide designation plate into detector base or sounder base.



Installation of designation plate FDBZ291

1 Designation plate FDBZ291	3 Marks on point detector/alarm sounder
2 Base attachment FDB291	4 Detector base/sounder base

See also

Designation plate FDBZ291 [→ 18]

6 Commissioning

⚠ WARNING

Operating the sounder base on a collective detector line prevents alarms and faults from being recorded and processed.

Fire may spread unhindered.

- Do not use the sounder base FDSB291 on a collective detector line.

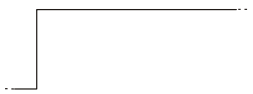
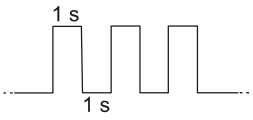
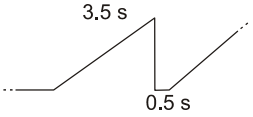
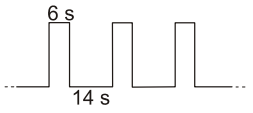
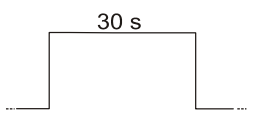
The device is commissioned via the control panel. The exact procedure is described in the control panel documentation.

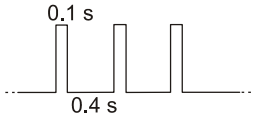
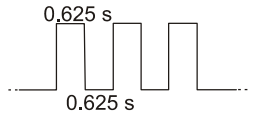
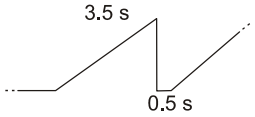
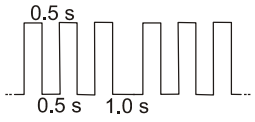
Conduct a performance check once commissioning is complete.

7 Configuration

The following chapters contain the specifications of the different tones. The specifications differ for sounder bases with product version <30 and product version ≥30.

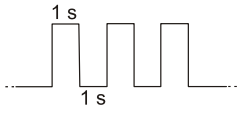
7.1 Sounder base with product version <30

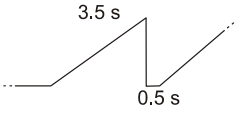
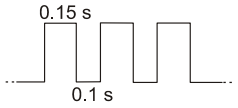
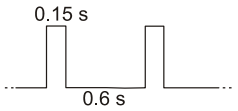
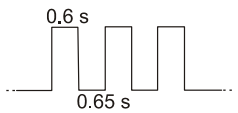
No.	Tone	Frequency pattern Sweep from → to	Pulse pattern	Adjustable sound intensity levels (typ. values in [dBA/1 m] [1])		Norm
				12 V	32 V	
1	Continuous	970 Hz		85 79	90 83	'Evacuate' BS 5839 Part 1
2	Intermittent	950 Hz		85 79	90 83	'Alert' BS 5839 Part 1
3	Sweep-down	1200 Hz → 500 Hz		84 77	90 81	DIN tone DIN 33404 Part 3
4	Slow-whoop Sweep-up, linear	500 Hz → 1200 Hz		85 78	90 82	NEN 2575 (Netherlands)
5	Pulse tone	500 Hz		79 72	85 77	Swedish Standard SS 03 17 11, No. 1 'Imminent Danger'
6	Intermittent	500 Hz		78 70	83 75	Swedish Standard SS 03 17 11, No. 3 'Important Message'
7	Continuous	500 Hz		81 74	86 78	Swedish Standard SS 03 17 11, No. 4 'All clear'

No.	Tone	Frequency pattern Sweep from → to	Pulse pattern	Adjustable sound intensity levels (typ. values in [dBA/1 m] [1])		Norm
				12 V	32 V	
8	Alternating	560 Hz 440 Hz		81 74	87 78	'French fire sound' NF S 32-001 -1975
9	Intermittent	420 Hz		80 73	85 77	Australia 'Alert' AS 2220 -1978
10	Slow-whoop Sweep-up, linear	500 Hz → 1200 Hz		85 78	90 82	Australia 'Action' AS 2220 -1978
11	Intermittent	970 Hz		85 79	90 82	ISO 8201 US Temporal Tone LF

[1] Details of sound intensity ±2 dBA

7.2 Sounder base with product version ≥30

No.	Tone	Frequency pattern Sweep from → to	Pulse pattern	Adjustable sound intensity levels (typ. values in [dBA/1 m] [1])		Norm
				12 V	32 V	
1	Continuous	970 Hz		85 79	90 83	'Evacuate' BS 5839 Part 1
2	Intermittent	950 Hz		85 79	90 83	'Alert' BS 5839 Part 1
3	Sweep-down	1200 Hz → 500 Hz		84 77	90 81	DIN tone DIN 33404 Part 3

No.	Tone	Frequency pattern Sweep from → to	Pulse pattern	Adjustable sound intensity levels (typ. values in [dBA/1 m] [1])		Norm
				12 V	32 V	
4	Slow-whoop Sweep-up, linear	500 Hz → 1200 Hz		85 78	90 82	NEN 2575 (Netherlands)
5	Pulse tone	500 Hz		79 72	85 77	Swedish Standard SS 03 17 11, No. 1 'Imminent Danger'
6	Intermittent	500 Hz		78 70	83 75	Swedish Standard SS 03 17 11, No. 6 'Local warning'
7	Continuous	500 Hz		81 74	86 78	Similar to Swedish Standard SS 03 17 11, No. 4 'All clear'
8	Alternating	560 Hz 440 Hz		81 74	87 78	'French fire sound' NF S 32-001 -1975
9	Intermittent	420 Hz		80 73	85 77	Australia 'Alert' AS 2220 -1978
10	Slow-whoop Sweep-up, linear	500 Hz → 1200 Hz		85 78	90 82	Australia 'Action' AS 2220 -1978
11	Intermittent	970 Hz		85 79	90 82	ISO 8201 US Temporal Tone LF

[1] Details of sound intensity ±2 dBA

8 Maintenance / Repair

8.1 Status retrieval

The FDSB291 sounder base has a proximity interface (MC link).

Using this interface, it is possible to read out data from the device in a proximity method over short distances with the detector exchanger and tester FDUD292 or the intelligent detector tester FDUD293.

For details, see Documents 007227 and 009718.

The following actions can be performed from the control panel:

- Configure sounds
- Commissioning
- Activate / deactivate sound
- Read error list / status register

8.2 Function check

The devices are automatically subjected to a performance check during the self-test. Nevertheless, it is necessary to check the devices on site at regular intervals.

Recommendation:

- Check the devices every year.
- Replace heavily soiled or damaged devices.

No other special maintenance work is necessary.

More information can be found in the control panel documentation.

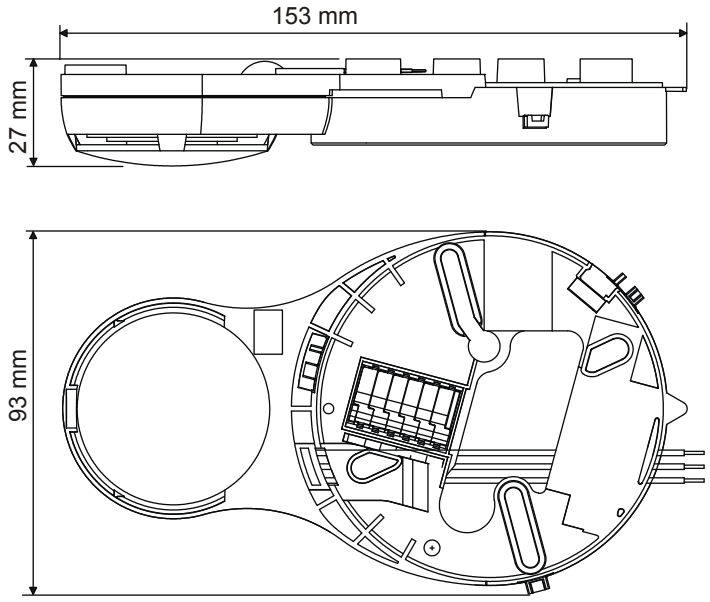
9 Specifications

9.1 Technical data

Detector line	Operating voltage	12 … 33 VDC
	Operating current:	
	● Quiescent condition	150 µA
	● Sound activated	1.2 mA
	Maximum current connection factor	5
	Quiescent current connection factor	0,5
	Address connection factor	0
	Separator connector factor	0
	Protocol	FDnet
	Compatibility	See 'List of compatibility'
External alarm indicators	Number of external alarm indicators that can be connected	1
	Specifications	See document 007004
Base sounder	Number of sounds	11
	Activation levels	2
	Sound level	Depending on the set tone; see chapter 'Configuration' for details
	Communication protocol	EAI link, only with detectors and sounder bases with product version ≥30 and with automatic detection
Connections	Detector line and external alarm indicator:	
	● Design	Spring clips
	● Cable cross section	0.2 … 1.5 mm²
Ambient conditions	Operating temperature	-25 … +70 °C
	Storage temperature	-30 … +75 °C
	Air humidity	≤95 % rel.
	Protection category according to EN 60529/IEC 60529	IP43
	Electromagnetic compatibility:	
	● 1 MHz … 1 GHz	50 V/m
	● 1 GHz … 2 GHz	30 V/m
Mechanical data	Dimensions (W x H x D)	153 x 27 x 93 mm
	Housing material	ABS
	Colour	~RAL 9010 pure white

Standards	Standards	EN 54-3
	VdS approvals	G204062
	Certificates	0786-CPD-20013
	CE conformity mark	Yes
	Protection categories	IEC 60529
	QA Standards	• Siemens Standard SN 36350 • ISO 9001 • ISO 9004

9.2 Dimensions



Sounder base dimensions

9.3 Environmental compatibility

- Reusable materials
- Electronic parts and synthetic materials can be easily separated
- Halogen-free synthetic materials, marked by embossed code
- The synthetic materials used do not generate any toxic substances during combustion.

The larger plastic parts are labeled according to ISO 11469. The basic polymer abbreviations comply with ISO 1043. The materials can be separated and recycled on this basis.

10 Annex technical data

10.1 Tones and sound intensities of the alarm sounder (32 VDC)

Sound intensity measured in dBA/1 m with -0/+4 dBA (32 VDC)

Tone No. 1: Continuous

Sound intensity	Horizontal						Vertical					
	15°	45°	75°	105°	135°	165°	15°	45°	75°	105°	135°	165°
0 (max.)	79	80	83	84	81	79	80	80	83	85	80	82
1 (low)	70	72	75	75	73	70	72	70	75	76	71	73

Tone No. 2: Intermittent

Sound intensity	Horizontal						Vertical					
	15°	45°	75°	105°	135°	165°	15°	45°	75°	105°	135°	165°
0 (max.)	78	80	84	84	82	78	81	80	83	84	80	82
1 (low)	70	72	77	77	74	70	73	72	76	77	72	75

Tone No. 3: Sweep-down

Sound intensity	Horizontal						Vertical					
	15°	45°	75°	105°	135°	165°	15°	45°	75°	105°	135°	165°
0 (max.)	80	81	85	85	81	80	81	82	85	86	77	82
1 (low)	70	72	75	74	72	69	72	72	75	76	71	73

Tone No. 4: Slow-whoop Sweep-up, linear

Sound intensity	Horizontal						Vertical					
	15°	45°	75°	105°	135°	165°	15°	45°	75°	105°	135°	165°
0 (max.)	79	82	86	86	80	76	83	81	85	86	82	83
1 (low)	70	71	76	76	71	67	72	72	76	76	72	74

Tone No. 5: Pulse tone

Sound intensity	Horizontal						Vertical					
	15°	45°	75°	105°	135°	165°	15°	45°	75°	105°	135°	165°
0 (max.)	75	75	80	80	74	72	77	77	80	80	77	79
1 (low)	66	66	70	70	65	64	68	68	70	71	68	68

Tone No. 6: Intermittent

Sound intensity	Horizontal						Vertical					
	15°	45°	75°	105°	135°	165°	15°	45°	75°	105°	135°	165°
0 (max.)	75	75	79	79	74	71	77	77	79	79	76	76
1 (low)	65	65	69	70	64	64	68	68	70	70	67	67

Tone No. 7: Continuous

Sound intensity	Horizontal						Vertical					
	15°	45°	75°	105°	135°	165°	15°	45°	75°	105°	135°	165°
0 (max.)	77	77	80	81	75	74	79	79	80	81	78	78
1 (low)	67	67	76	72	66	64	69	69	71	72	69	69

Tone No. 8: Alternating

Sound intensity	Horizontal						Vertical					
	15°	45°	75°	105°	135°	165°	15°	45°	75°	105°	135°	165°
0 (max.)	75	77	81	82	75	72	68	68	81	81	77	77
1 (low)	66	68	72	73	66	64	69	69	72	72	68	68

Tone No. 9: Intermittent

Sound intensity	Horizontal						Vertical					
	15°	45°	75°	105°	135°	165°	15°	45°	75°	105°	135°	165°
0 (max.)	75	76	79	80	75	72	78	78	80	80	78	78
1 (low)	65	66	70	70	66	64	68	69	70	70	69	69

Tone No. 10: Slow-whoop Sweep-up, linear

Sound intensity	Horizontal						Vertical					
	15°	45°	75°	105°	135°	165°	15°	45°	75°	105°	135°	165°
0 (max.)	79	80	84	85	79	76	81	81	84	84	81	81
1 (low)	70	71	71	76	71	67	72	72	76	76	72	72

Tone No. 11: Intermittent

Sound intensity	Horizontal						Vertical					
	15°	45°	75°	105°	135°	165°	15°	45°	75°	105°	135°	165°
0 (max.)	76	80	84	85	79	76	80	81	85	85	81	80
1 (low)	67	71	75	76	70	66	71	72	76	76	72	72

11 Index

Issued by
Siemens Switzerland Ltd
Industry Sector
Building Technologies Division
International Headquarters
Gubelstrasse 22
CH-6301 Zug
Tel. +41 41-724 24 24
www.siemens.com/buildingtechnologies