

Mounting instructions

Control unit for hold-open systems

FSZ Basis





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1. General safety information and protective measures

The present documentation describes the function of the FSZ Basis with the hardware and software version applicable at the date of issue of this document.

Information for Germany

The test regulations of the Deutsches Institut für Bautechnik and the respective type approval must be observed and followed while projecting, assembling, installing and operating hold-open systems on fire barriers.

The information contained in this Instruction Manual is based on these regulations.

Ensure proper use!

- The technical data specified for the equipment must be observed.
- Modifications or changes to the equipment are not permitted.
- The equipment must be used only for its intended purpose in an undamaged and perfect condition.
- No other spare parts than those available from the manufacturer must be used.
- The allowed components of the hold-open system are listed in a separate type approval.

Hold-open systems are subject to the duty of servicing required according to DIN 31051 and DIN 14677. More information can be found in the respective type approval document of the hold-open system.

If the use of the system is changed, it must be verified whether the legal provisions, requirements and state of the art are appropriately taken into account.

Specialised staff must be provided for projecting, assembling and commissioning.

When working on electrotechnical installations, special regulations must be complied with.

Such work may only be carried out by authorised qualified electricians.

2. Scope of delivery

On delivery, the FSZ Basis features the following components:

1 x FSZ Basis

1 x mounting instructions

1 x assembly kit consisting of 2 screws and 2 dowels

1 x cable gland kit consisting of:

- one M20 cable gland for the power supply cord
- three M16 glands for connection of the peripheral equipment, e.g. ORS 142, electromagnetic door retainers, etc.

1 x module for the integrated release button, labelled "Tür schließen" (Close door) and "Tor schließen" (Close gate)

1 x termination module AM 142 (only for version 31-5400002-01-xx and 31-5400002-05-xx)

3. Warranty

In case of non-compliance with the information contained in this manual, any claims for guarantee and liability of the manufacturer will become invalid. In particular, the device or its components may only be repaired by authorised personnel. It is not allowed to dismount or manipulate the device. If the device is manipulated nevertheless, any warranty claims become void.

The information and warranty conditions in the general terms and conditions of Hekatron Vertriebs GmbH, Brühlmatten 9, 79295 Sulzburg Germany, shall apply.

4. Product description

The hold-open control unit, FSZ Basis, is preferably used to supply hold-open systems with voltage.

It is characterised by the following features:

- Integrated manual release button conforming to standard and reset button
- Tested according to DIN EN 14637
- Distinction between fault causes via the LED flash code on the keypad
- Alarm storage can be activated via DIP switch
- Line surveillance can be activated via DIP switch
- Two smoke switch stubs can be connected with activated line surveillance
- Relay with potential-free alternating contact at the user's free disposal
- Short-circuit-proof primary pulsed switching power supply unit with stabilised output voltage
- Power supply with overtemperature shutdown

5. FSZ Basis – technical data

Nominal voltage	230 V AC
Nominal current consumption	0.08 A eff.
Rated frequency	50/60 Hz
Power consumption	18.4 W
Nominal output voltage	24 V DC
Residual ripple	200 mV _{SS}
Output current	max. 400 mA
Output power	9.6 W
Relay	1 alternating contact, potential-free
Switching voltage AC	max. 250 V AC
Switching current AC	max. 5 A AC
Switching voltage DC	max. 30 V DC
Switching current at 30 V DC	max. 3 A DC
Switching current at 24 V DC	max. 5 A DC
Operating ambient temperature	-10 °C to +50 °C
Storage temperature	-10 °C to +60 °C
Ambient conditions humidity (continuous, without condensation) ≤ 34 °C	10 ... 95 % RH
Ambient conditions humidity (continuous, without condensation) > 34 °C	max. 35 g/m ³ min. 10 % RH
Degree of protection with exposed assembly	IP 65
Degree of protection with cable entry from behind	IP 30
Safety class	"II" with functional earthing connection
Housing	PC-ABS housing
Colour	signal white according to RAL 9003
Installation	exposed assembly

Installation position	as desired
Cable entries	6 x M16 and 2 x M20
Dimensions HxWxD	146 mm x 146 mm x 60.5 mm
Weight	420 g
DIBt product approval	Z-6.510-2402
VdS approval according to DIN EN 14637	G 213091

6. Current requirements

The FSZ Basis provides a total output current of 400 mA. This output current can be completely used for the required components of the hold-open system. The current required for the hold-open system consists of the sum total of all currents of the components connected.

Example calculation:

The hold-open system comprises the following components:

Smoke switch	3 x ORS 142	3 x 22 mA	66 mA
Electromagnetic door retainer	2 x THM 425	2 x 63 mA	126 mA
Total current requirements			192 mA

The total current must not exceed 400 mA. The current consumption of the various components of the hold-open system is specified in the related product documents.

7. Installing the FSZ Basis

The safe installation of the FSZ base requires only 2 holes (see annex drilling template). The FSZ Basis is therefore delivered including two screws and dowels. The installation position can be selected as desired. The FSZ accessories kit – which must be ordered separately – includes two mounting adapters for installation of the FSZ Basis in a switch cabinet or on a top-hat rail. The mounting adapters can be mounted on the rear of the FSZ Basis at the points provided.

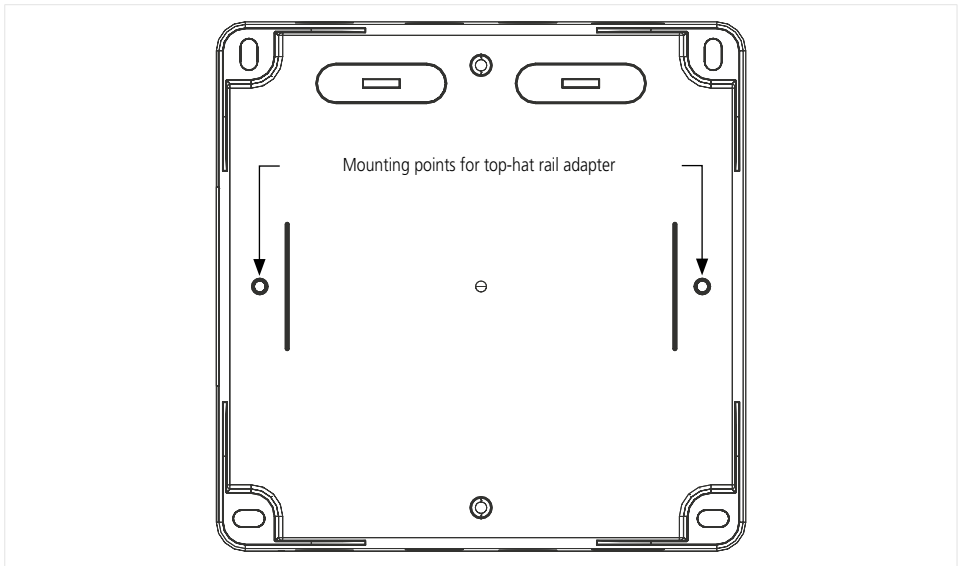


Fig. 1: Mounting points for top-hat rail adapter

Installing the FSZ Basis

The FSZ Basis must be installed within the detection range of the smoke detector at the respective closure. If this is not possible, an additional smoke detector must be installed to monitor the FSZ Basis.

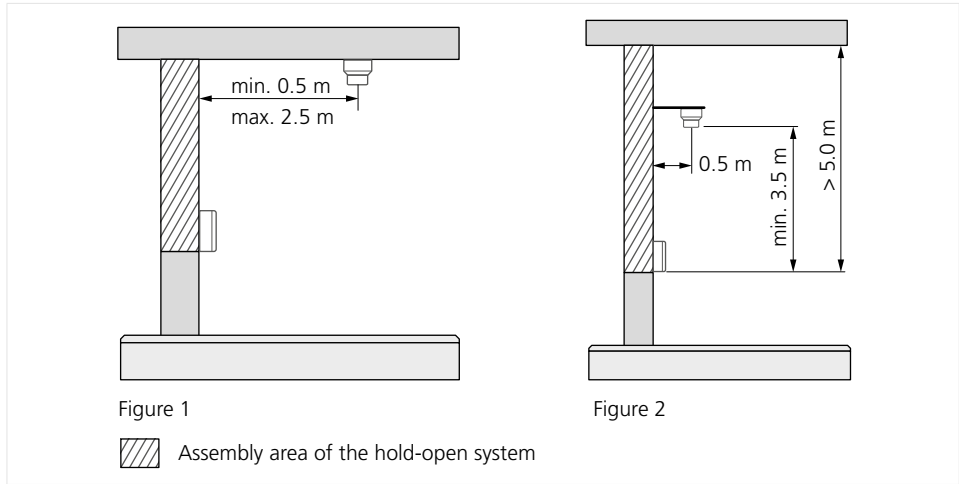


Fig. 2: Assembly area FSZ

8. FSZ Basis – applications

The FSZ Basis allows setting up a hold-open system in three different configurations:

1. According to DIBt without line surveillance

A +24-V wire jumper must be fitted to connector 5 in the last detector to be connected (see Fig. 6).

If no manual button (HAT) is connected, a wire bridge must be implemented to the HAT connection terminal in the FSZ Basis.

All of the components to be connected must be jointly listed in one type approval. The connection lines of the smoke switches and manual buttons must be completely laid in a cable conduit or cable channel. If this is not possible, the lines must be laid separately.

No more than 12 smoke switches, electromagnetic door retainers (THM) and other consumer devices may be connected. The total current must not exceed 400 mA. The DIP switches 1 and 2 must be set to OFF.

2. According to DIBt with line surveillance

The line surveillance function must be activated via DIP switch 1 (EN 14637). One termination module AM 142 or a magnet for ORS 142 must each be connected in the last detector to be connected and in the manual button (see Fig. 8 resp. Fig. 9). If no manual button is connected the termination module AM 142 must be connected to the HAT connection terminal in the FSZ Basis.

All of the components to be connected must be jointly listed in one type approval.

No more than 12 smoke switches, electromagnetic door retainers (THM) and other consumer devices must be connected to one stub. The total current must not exceed 400 mA. The DIP switch 1 must be set to ON. Depending on the connection DIP switch 2 must set to ON or OFF.

In the case of hold-open systems in potentially explosive areas, the line surveillance must not be activated.

3. According to DIN EN 14637

The line surveillance function must be activated via DIP switch 1 (EN 14637). One termination module AM 142 or a magnet for ORS 142 must each be connected in the last detector and in the manual button (see Fig. 8 resp. Fig. 9). If no manual button is connected the termination module AM 142 must be connected to the HAT connection terminal in the FSZ Basis.

All of the components to be connected must be jointly listed in the device list according to DIN EN 14637 and in one type approval.

In single stub operation, a maximum of 6 smoke switches may be installed on the stub. With 2-stub operation, a maximum of 9 smoke switches may be installed, whereby a maximum of 6 smoke switches are permitted on one stub. The remaining available power can be consumed by any number of THM and other consumers. The total current of 400 mA must not be exceeded. DIP switch 1 is set to ON. DIP switch 2 must be ON or OFF depending on the connection.

In the case of hold-open systems in potentially explosive areas, the line surveillance must not be activated.

The type approval and the device list with accepted system components according to DIN EN 14637 can be downloaded from www.hekatron.de.

9. Electrical installation

WARNING

Risk of electric shock

The device contains unprotected contacts which may cause severe injuries through electric shock if touched.

- ▶ The power supply cord of the device must be de-energised before assembly work is started.

9.1 Installation instructions

Installation and electrical connections may only be executed by qualified electricians or by persons appropriately instructed with regard to electrical engineering. An interrupter (circuit breaker, max. 10 A / tripping characteristic B) must be installed in the supply circuit. The place of installation of the interrupter must be entered in the acceptance report.

Lines must be provided with adequate mechanical protection, properly installed and secured, and meet the requirements present at the place of installation. For installation, the local provisions shall have priority.

Protective conduits must generally be used in areas that are within reach of persons. On the basis of local provisions it must be determined whether to use plastic or steel-armoured conduits. Safety extra-low voltage lines must be laid separately from line voltage carrying lines. Therefore, separation strips must be used

in cable conduits or in cable trays. Cables and lines incoming from outside must be secured upstream of their connection sites such that the connection sites are strain- and pressure-relieved.

Cables must be laid separately inside the device. The jacket must be left on the cables all the way to the terminals.

Cable type NYM 3x1.5 or 3x2.5 must be used for power supply connection.

Any commercially available communication cables with or without shielding may be used for the safety extra-low voltage lines.

The cable cross-section must be configured according to the current consumption of the devices used and to the line length.

Power supply connection:

The cross-section of the power supply cord must not exceed 2.5 mm².

Hold-open system wiring:

Recommended line type:	<i>without smoke switch status indicator</i>	<i>in combination with a smoke switch status indicator</i>
	IY(ST)Y 2x2x0.6	IY(ST)Y 3x2x0.6
	IY(ST)Y 2x2x0.8	IY(ST)Y 3x2x0.8

Maximum line length:

- 35 m to the electromagnetic door retainer
- 75 m to the smoke switches

The number of line connections should be kept as low as possible. Every required connection must be made by means of reliable methods. Clamped connections require the use of terminals with pinch protection.



Do not place lines directly across the printed circuit board of the FSZ Basis.

9.2 Control unit FSZ Basis for hold-open systems

9.2.1 Printed circuit board with connection terminals

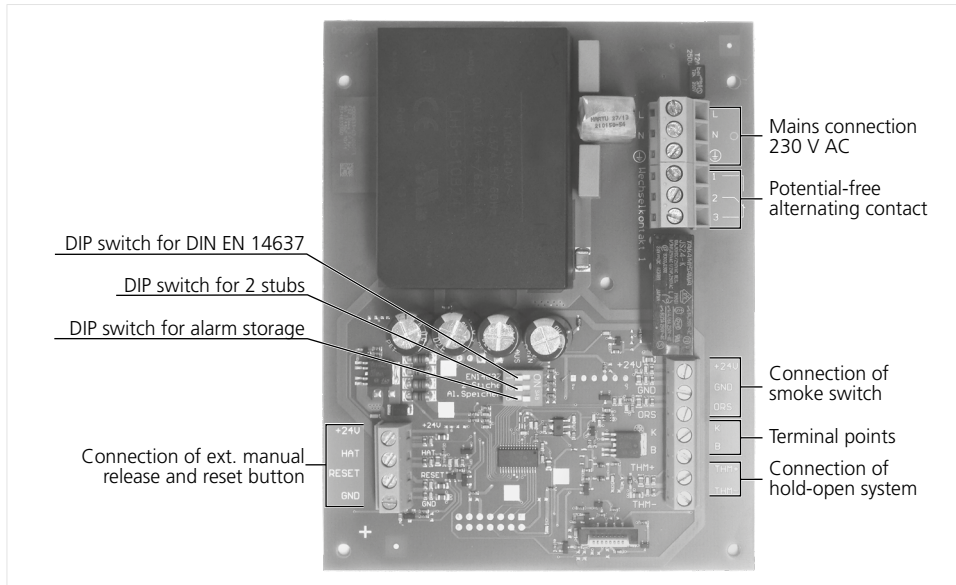



Fig. 3: FSZ Basis terminal assignment

Labelling	Connection	Note/remark
L	Mains phase	
N	Mains neutral conductor	
	Mains protective conductor	
1	Relay, line voltage NC	In the event of an alarm, fault or power failure connected with contact 2
2	Relay, line voltage COM1	Common potential-free contact
3	Relay, line voltage NO	In operation connected with contact 2
+24 V	Output voltage +24 V DC	
GND	Output voltage 0 V DC	
ORS	Feedback from ORS alarm loop	
K	Connection point terminal	
B	Connection point terminal	
THM+	Electromagnetic door retainer +24 V	
THM-	Electromagnetic door retainer GND	
+24 V	Output voltage +24 V DC	
HAT	Feedback from manual release button	
Reset	Feedback from reset button	
GND	Output voltage 0 V DC	

9.3 Termination module AM 142

Only in the version 31-5400002-01-xx and 31-5400002-05-xx is one AM 142 included in the scope of delivery!

9.3.1 Printed circuit board with connection terminals

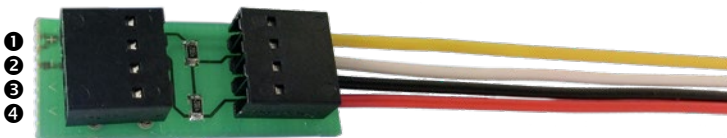


Fig. 4: Termination module AM 142

9.3.2 AM 142 connection

Coming from the power supply unit or the second to last smoke switch	Going to the last smoke switch
❶ + 24V	yellow feedback (alarm loop)
❷ GND	white feedback (alarm loop)
❸ + ❹ (connected internally) feedback (alarm loop)	black GND
	red +24V

i The terminating module AM 142 is **not** suitable for Ex areas and must therefore not be installed in the ORS 142 Ex.

9.4 FSZ Basis – operation

The FSZ Basis can be operated according to the requirements of DIBt and/or to the requirements of DIN EN 14637. The DIP switches in the FSZ Basis must be set accordingly.

The DIP switches allow configuring the alarm storage and line surveillance features as well as using stubs with smoke switches.

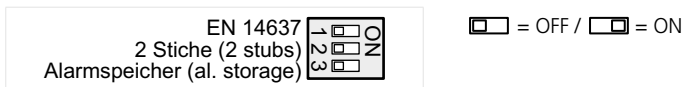


Fig. 5: DIP switches for FSZ Basis configuration

EN 14637 – DIP 1

If the FSZ Basis is used according to DIN EN 14637, this DIP switch must be set to “ON”.

If the FSZ Basis is used according to DIBt, the system can be used with and without line surveillance.

i In the case of hold-open systems in potentially explosive areas, the line surveillance must not be activated.

OFF	The FSZ Basis is operated without line surveillance. A wire jumper is set across contacts 1 and 5 in the last smoke switch (observe chapter 8, section 1).
ON	The FSZ Basis is operated with line surveillance. The termination module AM 142 (see Fig. 8) resp. a magnet ¹⁾ (see Fig. 9) must be installed in the last smoke switch of a stub and at the external manual release button (observe chapter 8, section 2 und 3). Furthermore, the external manual release button (see Fig. 7) must be connected via AM 142 to the HAT connection terminal in the FSZ Basis.

¹⁾ A magnet can only be used in combination with an ORS 142!

2 stubs – DIP 2


DIP switch 2 is only evaluated if DIP switch 1 is set to “ON” at the same time.
The connection of an external manual button is not considered to be a stub.

OFF	Only one stub with smoke switches is connected to the FSZ Basis. The termination module AM 142 (see Fig. 8) resp. a magnet ¹⁾ (see Fig. 9) must be installed in the last smoke switch (observe chapter 8, section 2 und 3). If no manual button is connected the termination module AM 142 must be connected to the HAT connection terminal in the FSZ Basis.
ON	Two stubs with smoke switches are connected to the FSZ Basis. The termination module AM 142 must be installed in the last smoke switch of each of the two stubs (see Fig. 10 also observe chapter 8, section 2 und 3). The total number of smoke switches must not exceed 9. If no manual button is connected the termination module AM 142 must be connected to the HAT connection terminal in the FSZ Basis.

¹⁾ A magnet can only be used in combination with an ORS 142!

Alarm storage – DIP 3

OFF	The FSZ Basis does not store an incoming alarm. If the releasing smoke switch resets itself or if the manual release button is no longer actuated, the FSZ Basis returns to the operating state. After a loss of power, the FSZ Basis also returns to the original operating state provided there is no fault or alarm.
ON	The FSZ Basis stores an incoming alarm. This alarm must be reset manually via the integrated or an external reset button. After a loss of power, the FSZ base returns to the previous operating state after the voltage is on again. If the previous operating state was an alarm, this alarm is again signalled. If the previous operating state was a fault or operation, the fault is indicated. After a power failure, the FSZ Basis must be reset to operate again.

 According to the specifications of the DIBt, the alarm memory is to be activated when using free-swung door closers or turn sash drives.

9.5 Hold-open system according to DIN EN 14637

Any hold-open system set up and operated according to DIN EN 14637 must be classified by the installer. Classification is based on a 6-digit code, of which the 2nd and 6th places must be entered on site according to the hold-open device used. Places 1, 4 and 5 are specified by DIN EN 14637 and place 3 by the respective type approval.

Classification of a Hekatron hold-open system according to DIN EN 14637:

Hold-open system	DIN EN 14637	3	5	1/2/4	1	1	3
	Digit	1	2	3	4	5	6

Digit 1 – Application class:

Class 3: Frequent use by the public and other persons with a low inclination to care and diligence, i.e. cases where misuse is probable to a certain degree.

Digit 2 – Stress test of the hold-open device:

Class 5: 50,000 test cycles
Hekatron's electromagnetic door retainers comply with this class.

Digit 3 – Door type:

Class 1: Swing doors
Class 2: Sliding gates/doors
Class 4: Automatic swing doors

Digit 4 – Use on fire/smoke control doors

Class 1: Suitable for use on fire/smoke control doors.

Digit 5 – Safety:

Class 1: All hold-open systems must fulfil a critical safety function for which reason no other class than the highest one is defined for using this standard.

Digit 6 – Corrosion resistance:

Class 3: High resistance
Hekatron's electromagnetic door retainers comply with this class.

9.6 Connection configurations according to DIBt and DIN EN 14637

9.6.1 Connection without line surveillance (DIP 1 OFF)

The system is operated with a smoke switch stub, an external manual release button and an external reset button.

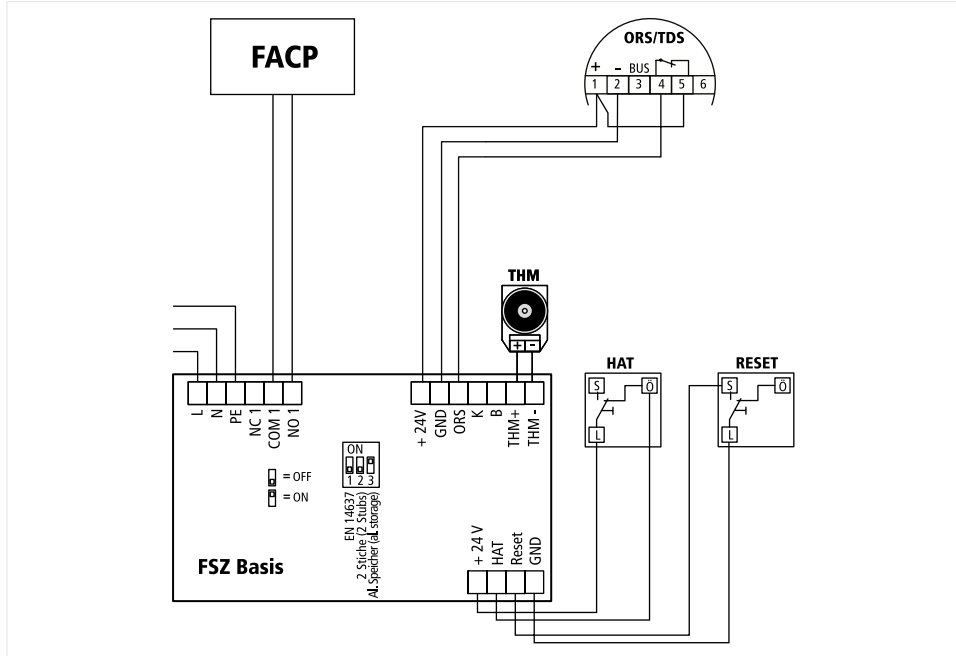


Fig. 6: Example connection without line surveillance

9.6.2 Connection without line surveillance (DIP 1 OFF)

The system is operated with a smoke switch stub (several smoke switches) without external manual release button. The manual button must be simulated by a jumper.

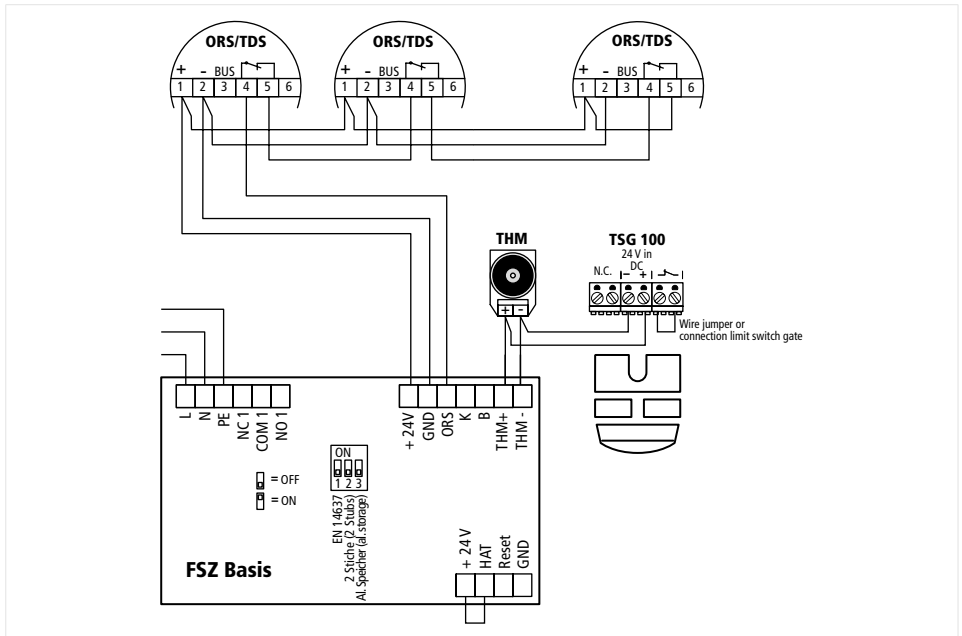


Fig. 7: Example connection without line surveillance

9.6.3 Connection with line surveillance (DIP 1 ON)

The system is operated with a smoke switch stub and an external manual release button. A line surveillance unit with termination module (AM 142) is installed according to DIN EN 14637. DIP switch 1 must be set to ON.

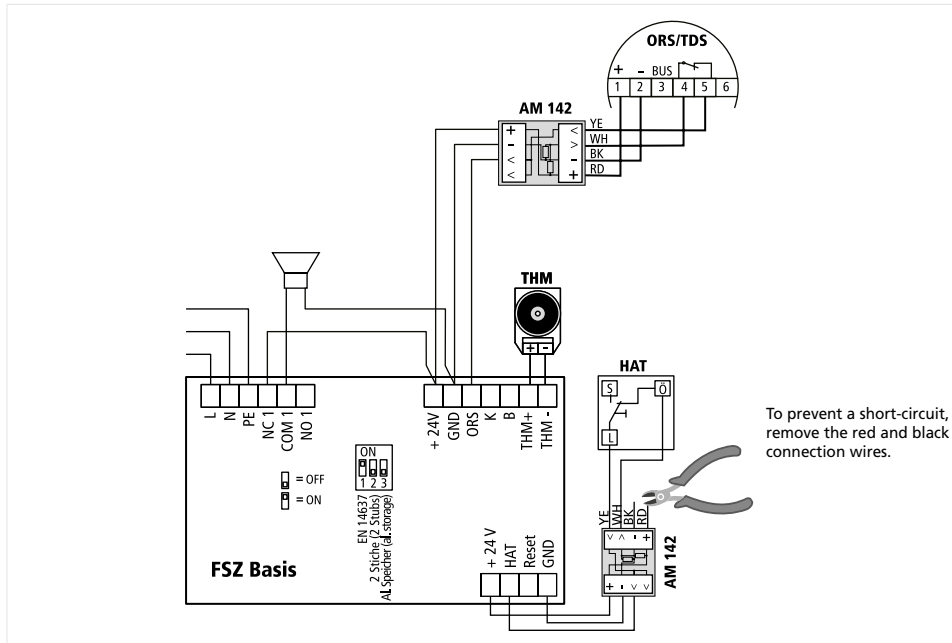


Fig. 8: Example connection with line surveillance

9.6.4 Connection with line surveillance (DIP 1 ON)

The system is operated with a smoke switch stub (several smoke switches) and without an external manual release button. A line surveillance unit (magnet) is installed according to DIN EN 14637. DIP switch 1 must be set to ON. The manual button must be simulated by an AM 142.

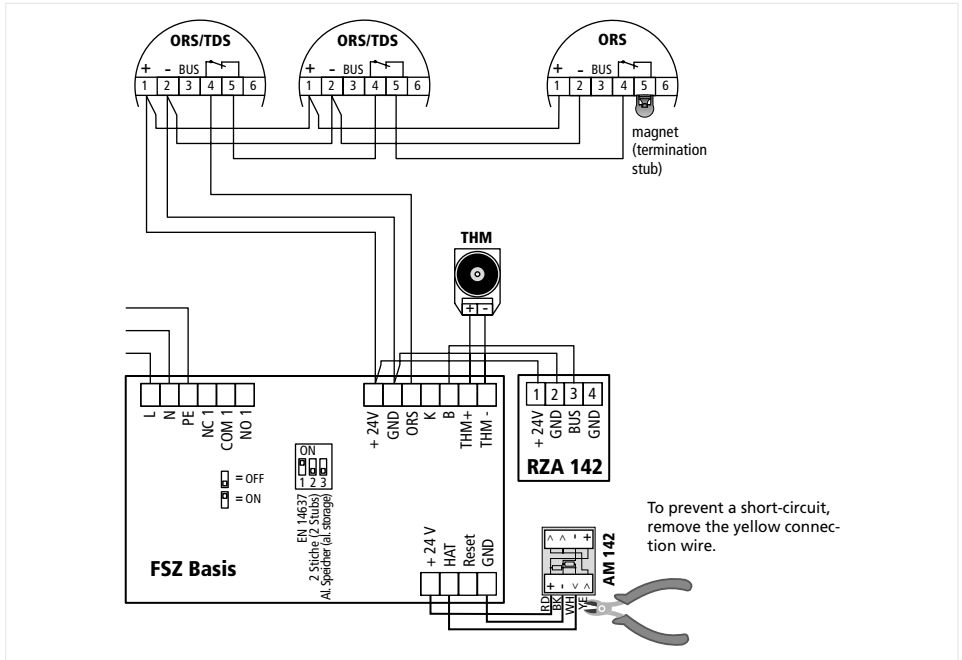


Fig. 9: Example connection with line surveillance

9.6.5 Connection with line surveillance (DIP 1 ON) and two detector stubs (DIP 2 ON)

The system is operated with two smoke switch stubs and with an external manual button. A line surveillance unit with termination module (AM 142) and a magnet are installed according to DIN EN 14637. DIP switches 1 and 2 must be set to ON.

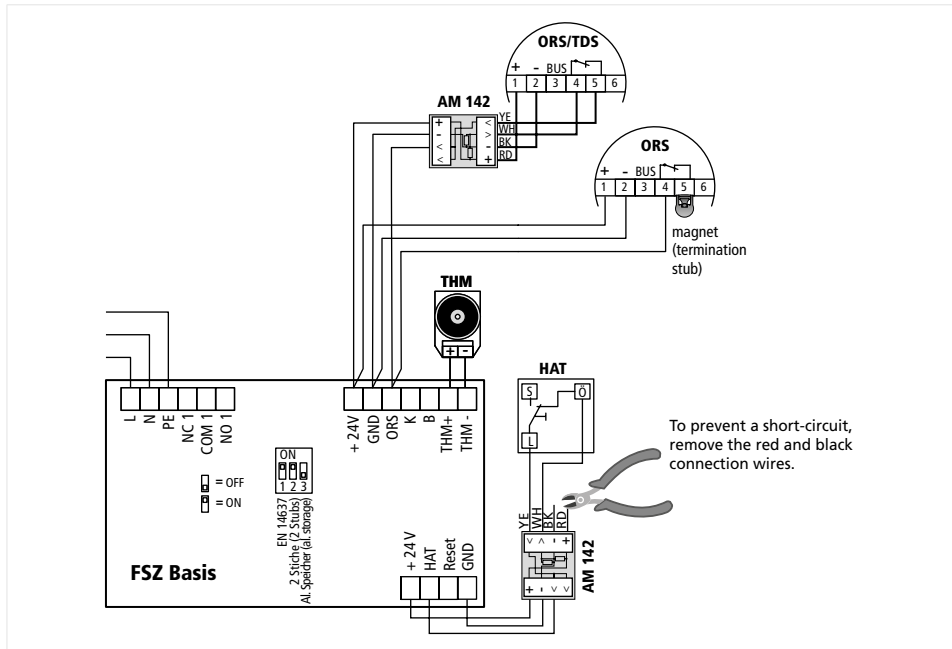


Fig. 10: Example connection with line surveillance

9.6.6 Connection without line surveillance (DIP 1 OFF)

The system is operated with three smoke switches and an external DKT 02.

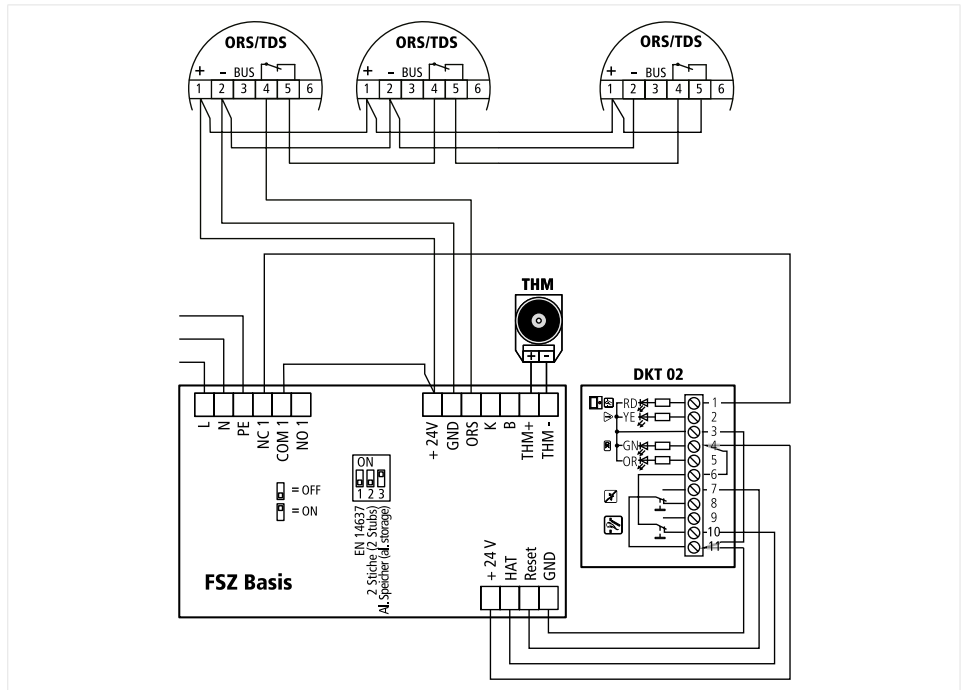


Fig. 11: Example connection without line surveillance with DKT 02

9.6.7 Connection with line surveillance (DIP 1 ON) and DKT 02

The system is operated with three smoke switches and an external DKT 02.

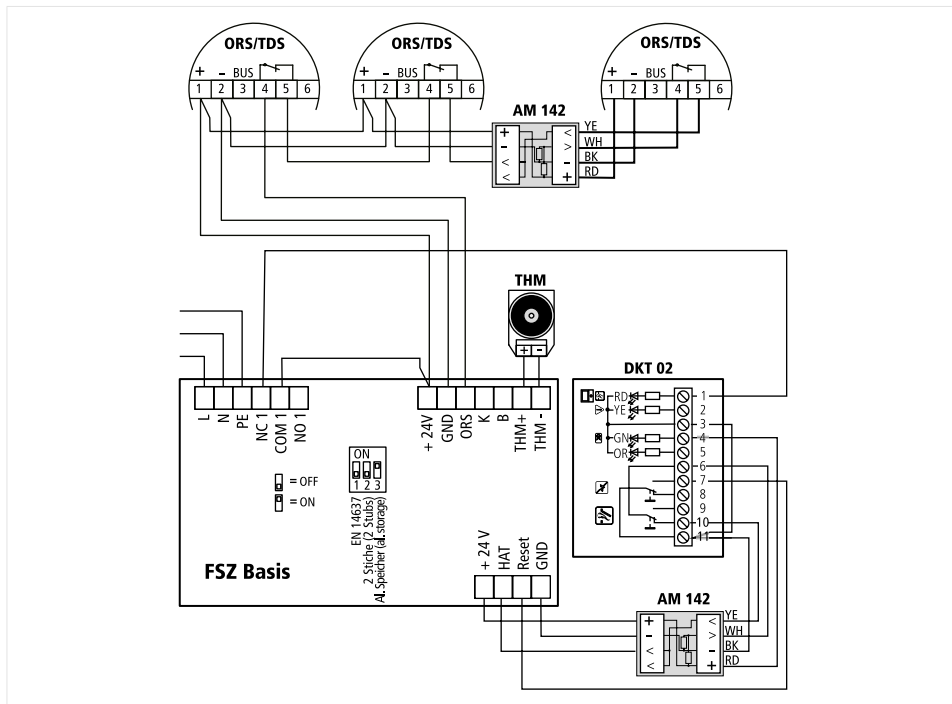


Fig. 12: Example connection with line surveillance and DKT 02

9.6.8 Connection with SK 10

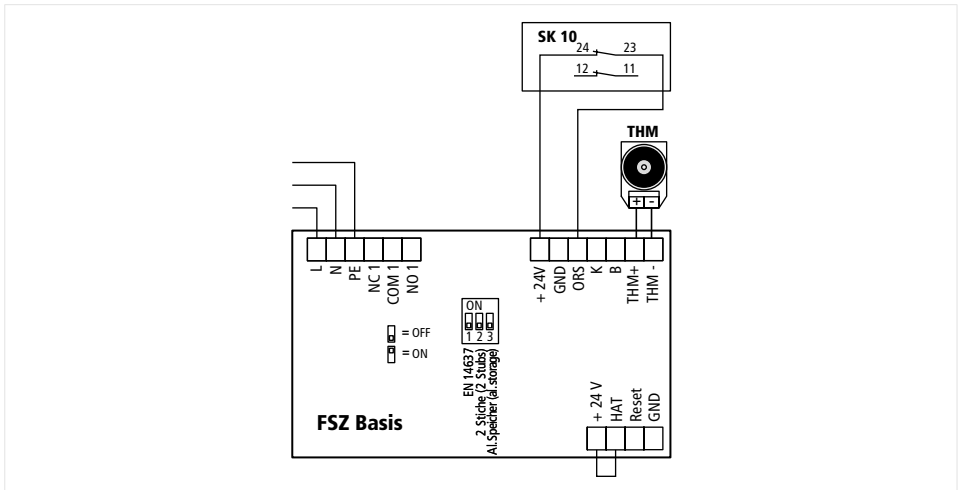


Fig. 13: Example connection with SK 10

9.7 Signalling of the FSZ Basis

The keypad features three LEDs which signal the status of the system.

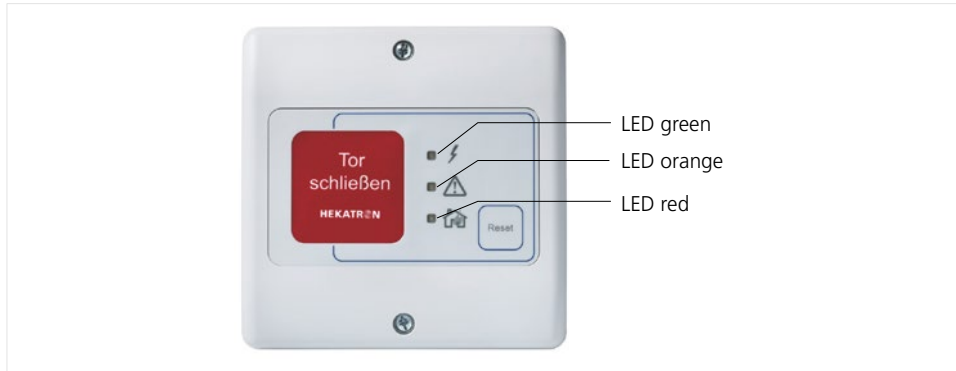


Fig. 14: FSZ Basis keypad

Flashing sequences

The LEDs feature different flashing sequences to indicate the different statuses.

The flashing is counted as follows:

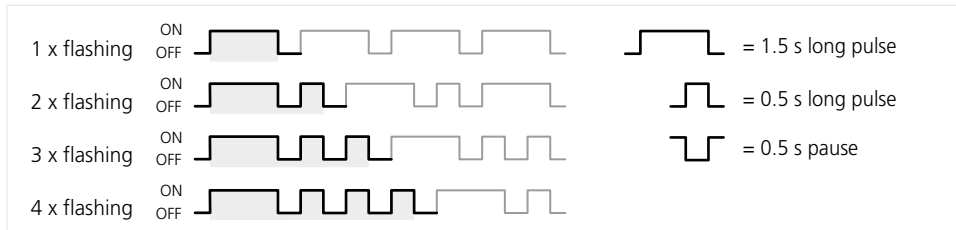


Fig. 15: Flashing sequence examples

The table below shows the statuses that may be indicated and their meaning.

LED green	LED orange	LED red	THM	Relay	Condition	Possible cause	Remedy
ON	OFF	OFF	ON	ON	Operation		
ON	OFF	ON	OFF	OFF	Alarm Smoke switch	Automatic release or fault of termination module AM 142 (if installed). Missing magnet (termination module). No ORS 142 in the base with the magnet.	
ON	OFF	Flashes 1 x	OFF	OFF	Alarm Internal manual release button	Actuation of the internal manual release button	
ON	OFF	Flashes 2 x	OFF	OFF	Alarm External manual release button	Actuation of the external manual release button; fault of termination module AM 142	
ON	ON	OFF	OFF	OFF	Fault at FSZ Basis	Fault at FSZ Basis	Replace the device
ON	Flashes 2 x	OFF	OFF	OFF	Fault in smoke switch stub (ORS)	System with line surveillance: Missing termination module AM 142 or wrong DIP switch setting or short-circuit of the connection line of the ORS.	System with line surveillance: Connect the termination module AM 142 or set the DIP switches according to the circuit configuration or check and reconnect the lines.
ON	Flashes 3 x	OFF	OFF	OFF	Fault in the manual release button loop	System with line surveillance: Missing termination module AM 142 or wrong DIP switch setting or short-circuit of the connection line of the external HAT.	System with line surveillance: Connect the termination module AM 142 or set the DIP switches according to the circuit configuration or check and reconnect the lines.

LED <i>green</i>	LED <i>orange</i>	LED <i>red</i>	THM	Relay	Condition	Possible cause	Remedy
ON	Flashes 4 x	OFF	OFF	OFF	Excess temperature in FSZ Basis	Ambient temperature too high	Reduce the ambient temperature
ON	Flashes 5 x	OFF	OFF	OFF	Fault in the loop of the electromagnetic door retainer	Short-circuit of the connection line of the THM	Check and reconnect the lines
ON	Flashes 6 x *	Flashes 6 x *	OFF	OFF	Fault Keypad	The keypad is improperly connected	Pull off the plug from the keypad and reconnect it
ON	Flashes 9 x	OFF	OFF	OFF	Fault Output current	Number of connected consumers too high	Recalculate the total current of the consumers and re-erect the system
ON	Flashes 10 x	OFF	OFF	OFF	Fault at FSZ Basis	Short-circuit of the 24-V supply	Check the wiring

* Whether only one LED or both LEDs are flashing, depends on how the keypad is improperly connected.

10. Commissioning and acceptance

10.1 Acceptance testing

After a hold-open system has been installed ready for operation at the place of use, its proper function and installation according to instructions – including closing range monitoring safety devices, if any are provided – must be verified in an acceptance test. The applicant for the general building type approval must point out that this test must be performed. The test must be initiated by the owner/operator. The acceptance test of hold-open systems at fire barriers may only be carried out by qualified personnel of the applicant for the general building type approval or by qualified personnel authorised by said applicant or by qualified personnel of a testing centre accredited by the DIBt in the course of the approval procedure.

The acceptance test must at least include the following items:

16. It must be verified that the built-in devices of the hold-open system correspond to the devices specified in the general building type approval.
17. It must be verified that the labelling of the built-in devices corresponds to the labelling specified in the general building type approval.
18. The cooperation of all devices must be verified according to the general building type approval, wherein the devices must be triggered both by simulating the characteristic fire value underlying the functional principle of the detectors and by hand.
19. It must be verified that the closure is enabled for self-closing as soon as the hold-open system is no longer functional (e.g. due to removal of a detector or failure of the energy supply).

The smoke switches must be tested by simulating the relevant physical characteristic fire value. If the characteristic fire value is smoke, test aerosol 918/5 can be used. External systems may only be activated together with the specialist companies involved and with the client's approval.

After completed commissioning, the results thereof must be seamlessly documented in a positive list and made available for acceptance of the system. For documenting the commissioning process, we offer a commissioning and maintenance set (IW Set RS, part no. 7001949) which meets the requirements of DIBt and DIN 14677.

10.2 Maintenance instructions

The applicant for the general building type approval must ensure that written maintenance instructions are included in the delivery of the respective design variant of the hold-open system (according to the devices used). The maintenance instructions must clearly specify the activities to be carried out to ensure that the built-in hold-open system fulfils its tasks even after a long period of use.

10.3 Monthly functional test

(Extract from the general building inspectorate approvals)

It is the obligation of the owner/operator to keep the hold-open system operational at any time and to inspect the installation for correct functioning at intervals of no more than one month. If twelve functional tests that have been successively carried out at one-month intervals do not show any functional defects, the hold-open system only has to be inspected at 3-month intervals. If the quarterly functional tests show a functional defect, operability must be restored immediately and then verified by at least three successive monthly functional tests.

For the measures to be taken for testing, please refer to Section 6.1 of the DIN 14677 standard. After an adequate instruction this functional test can be carried out by any person on their own responsibility - special qualification are not required. Scope, results and time of the monthly respectively quarterly functional test must be recorded. These records must be stored by the owner/operator.

10.4 Annual testing and maintenance

Moreover, the owner/operator is obliged to carry out a test of the hold-open system for proper and trouble-free cooperation of all devices and take maintenance measures at intervals of no more than twelve months or have such tests carried out and maintenance measures taken by others.

For the measures to be taken during the annual testing and maintenance work, please refer to Section 6.1 of the DIN 14677 standard.

This annual test and the maintenance measures must only be carried out by an expert or a specially qualified person. Scope, results and time of the annual test and maintenance must be recorded. These records must be stored by the owner/operator.

10.5 Functional test

The functional test of a hold-open system comprises the following checks:

- a) Manual release (manual release button or, if allowed, by manually pushing the off button)
- b) Release of the hold-open system by testing the fire detectors using the test procedures defined by the manufacturer of the fire detectors (e.g. smoke detectors by means of smoke detector testing device or heat detectors by means of heat detector testing device). Where hold-open systems of construction type 2¹⁾ are concerned, it must be ensured that the only intended use of the fire detectors to be tested is controlling the particular hold-open system.
- c) Restoration of the fire detectors from the alarm state.
- d) Check whether there are environmental effects which affect the proper functioning of the installed hold-open system.
- e) Check whether the use in the immediate vicinity of the hold-open system affects the latter negatively (e. g. occurrence of dust or water vapour).
- f) Check whether the proper functioning of the hold-open system is negatively affected by structural modifications and/or interaction with other trades in the immediate vicinity of the hold-open system (e. g. subsequent installation of intermediate ceilings) and whether the position of the fire detectors complies with the requirements of the DIBt (FeststellanlagenRL) and the type approval.
- g) Check whether the fire barrier and/or the smoke protection closure are released for automatic closing after triggering.

¹⁾ *Hold-open system construction type 1 (according to DIN 14677):*
Self-sufficient hold-open system with smoke switch, power supply, hold-open device and manual release button.
Hold open system construction type 2 (according to DIN 14677):
Control by means of an existing fire alarm control panel.

11. Maintenance

The maintenance of the hold-open system must comprise the elements of a functional test (according DIN 14677 Section 6.1.1) and, additionally, the following elements:

- a) Check for compliance with the documentation and the building type approval;
- b) Cleaning of the functionally relevant components of the hold-open system, as far as contamination can lead to impairment;
- c) Preventive replacement of components of the hold-open system according to the manufacturer's specifications (e. g. fire detectors, accumulators and/or batteries);
- d) Check whether the hold-open system is triggered in the event of a power failure or, if necessary, check whether the hold-open system switches to a second uninterrupted power supply (e. g. accumulator);
- e) Check whether the hold-open system triggers in case a fire detector is removed.

11.1 Obligatory documentation requirement

The functional tests that have been carried out must be documented (scope, result and date/time) and made available for the owner/operator.

For documenting the test and maintenance, we offer a commissioning and maintenance set (IW Set RS, part no. 7001949) which meets the requirements of DIBt and DIN 14677.

12. Annex

12.1 Order data

FSZ Basis	31-5400002-01-xx
Accessories kit	31-4100010-02-xx
Termination module 142 (AM 142)	31-5700002-01-xx
Magnet line surveillance QUP 10	31-4100015-01-xx
Servicing and maintenance set IW Set RS	7001949

12.2 Drilling template

See page 37.

12.3 Technical support and application support

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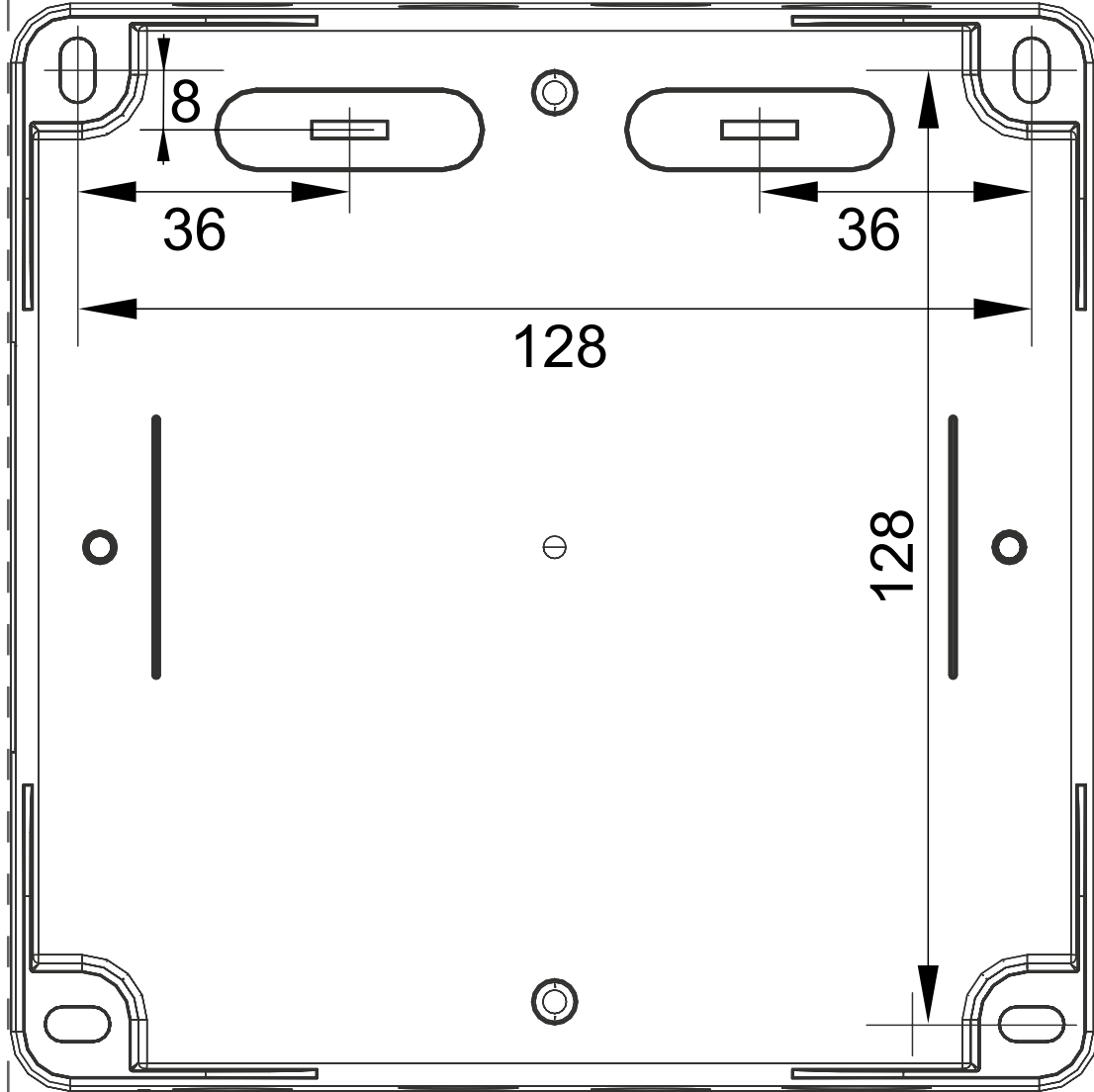
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