SIEMENS

FS720

Fire detection system

Installation

MP1XS

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 describes the assembly and installation of the stations and of the hardware modules of the fire detection system. It contains detailed instructions for the assembly of the individual components. It especially provides information on the following:

- Installation of the stations
- Installation of the individual modules
- Assembly of the stations

This document contains instructions only with respect to installation and deinstallation procedures.

Document A6V10210355, Description, contains an overview of the structure and operating principle of the fire detection system. The description also provides an overview of the structure of the documentation.

Scope

The information contained in this document is valid for the market package MP1XS.

The document also contains information on country-specific components. The country-specific components are marked with square brackets, e. g. [DE], and may not be sold/used in your country.

Target groups

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

Target group	Activity	Qualification
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

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
Last page, bottom left	● Document ID ID_ModificationIndex_Language_COUNTRY ● Edition date
Last page, bottom right-hand side	● Manual ● 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

The  symbol identifies supplementary information such as a tip for an easier way of working.

Supplementary information is labelled with the 'i' symbol.

Reference documents

Document ID	Title
A6V10210355	FS720 Fire Detection System Description
A6V10210368	FS720, Fire Detection System Characteristic Product Data
A6V10210416	FS720 Fire Detection System, Commissioning, Maintenance, Repair

History of changes

Document ID	Edition date	Brief description
A6V10210390_b_en_--	05.2009	1st revised edition MP1XS
A6V10210390_a_en_--	11.2008	First edition MP1XS

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 of 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 alarming control 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 Overview

3.1 Packaging units

The stations can be delivered in several packaging units. Installation and assembly are carried out on-site.

The delivery consists of the following packaging units:

- Pre-installed rear panel, with periphery board, power supply, disconnect terminal block and wiring
- Pre-installed operating unit with cover
- If ordered: Operating add-on with cover
- Options

When unpacking the station do not damage or dispose of the packaging.

The packaging includes a drilling template for the corresponding station housing.

The packaging of the rear panel can be used as protection after installation to protect the open station against soiling and damage.

3.2 Station rear panels (packaging unit)

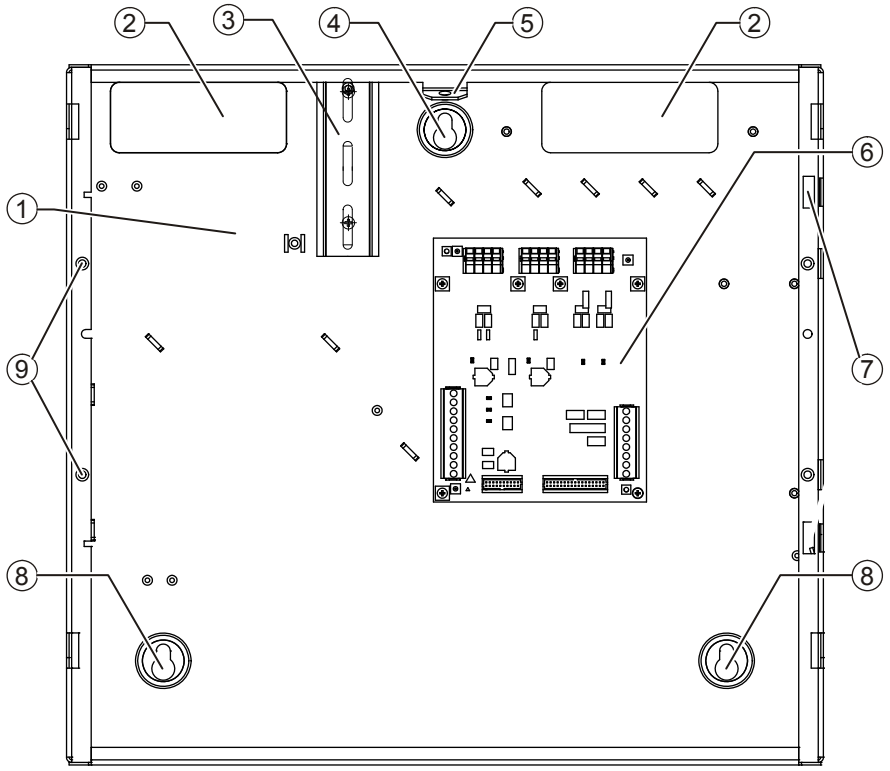
The following chapters show views of the stations as they are delivered. The design of the rear panels differs depending on the housing and the type of the station.

Detailed information on the housing types and individual stations can be found in document A6V10210355, system description.

Detailed information about the individual components can be found in document A6V10210368, characteristic product data.

3.2.1 Rear panel in Eco housing

The fire terminal is available in the Eco housing.

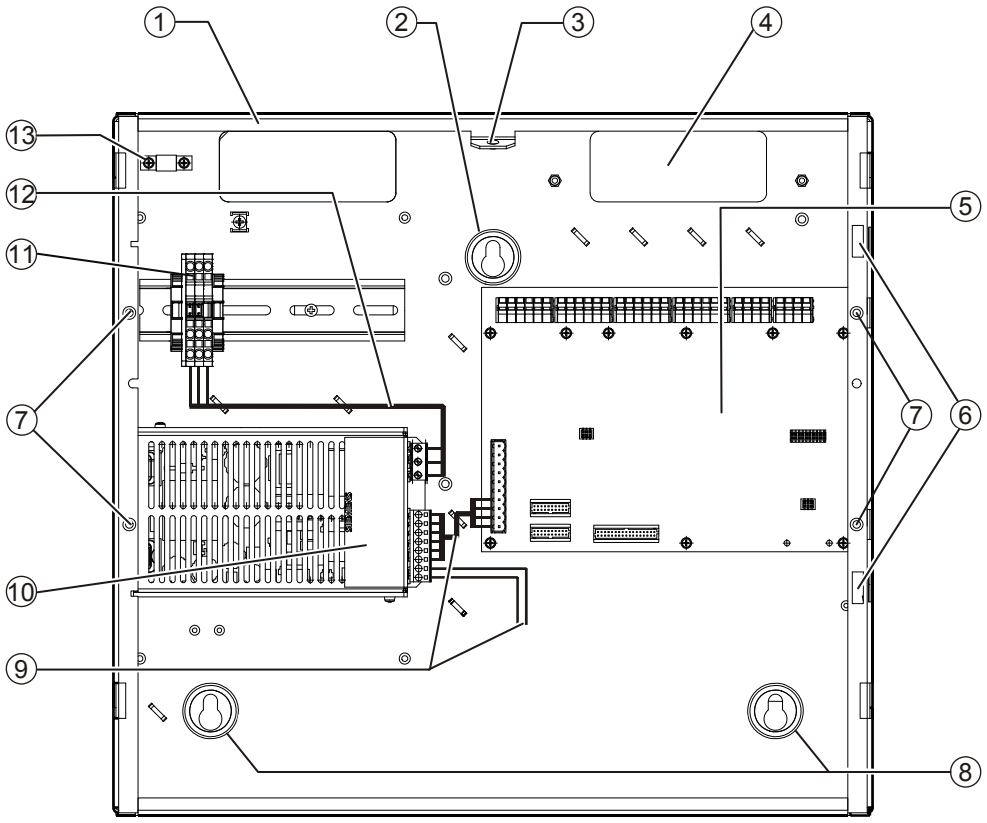


Fire terminal in Eco rear panel

1 Eco rear panel
2 Opening for cable feed from rear side
3 Top hat rail for disconnect terminal blocks
4 Hole for wall mounting (top)
5 Fastening tabs for the cover cap
6 Fire terminal board
7 Recesses for the hinges of the operating unit
8 Holes for wall mounting (bottom)
9 Mounting holes for operating unit

3.2.2 Rear panel in Standard housing

The setup of the different fire control panels in the Standard housing is always identical.



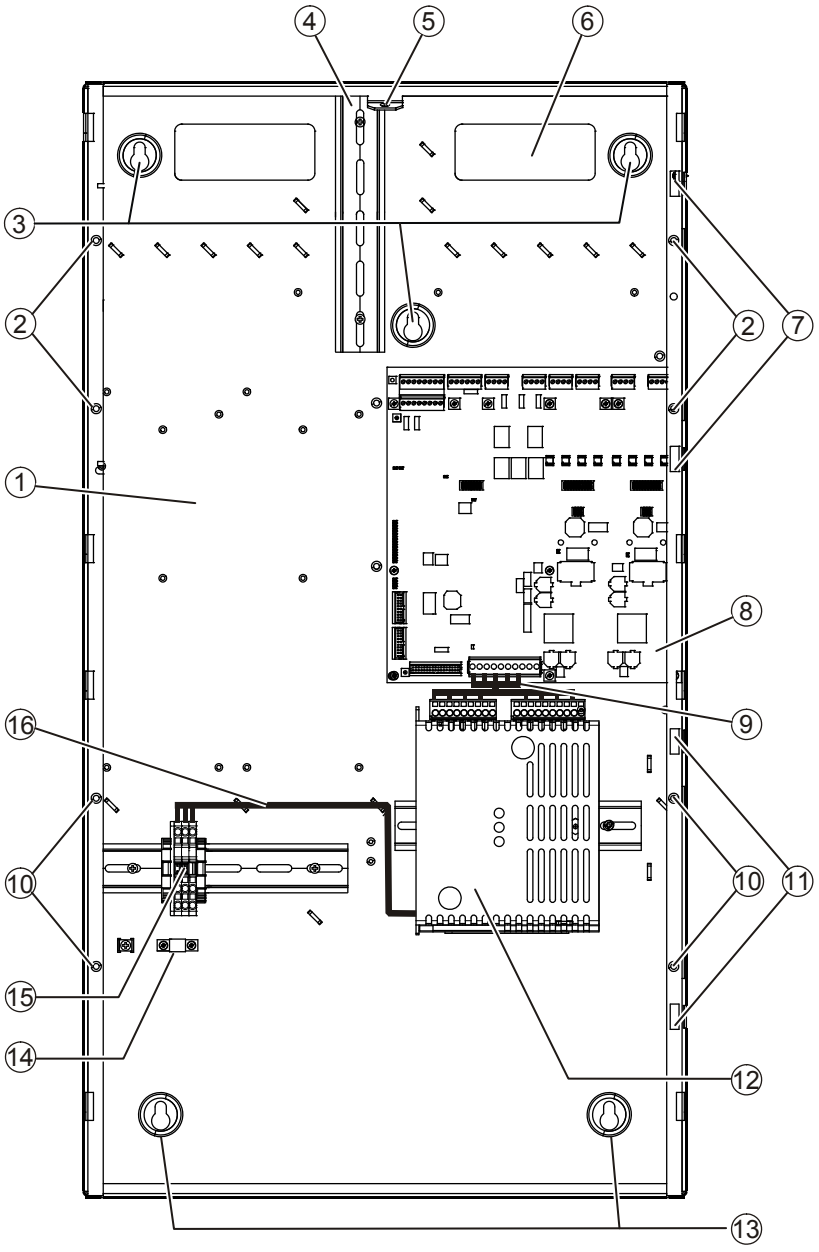
Fire control panel in Standard rear panel

1 Standard rear panel
2 Hole for wall mounting (top)
3 Fastening tabs for the cover cap
4 Openings for cable feed from rear side
5 Periphery board (2 loops)
6 Recesses for the hinges of the operating unit
7 Mounting holes for operating unit
8 Holes for wall mounting (bottom)
9 Secondary-side cabling of the power supply unit
10 Power supply
11 Top hat rail with network separation terminals, also for additional components
12 Primary-side cabling of the power supply unit
13 Strain relief for mains supply cable

3.2.3 Rear panel in Comfort housing

With the exception of the periphery board type, the setup of fire control panels FC722 and FC724 in the Comfort housing is identical.

Example of a fire control panel FC724 in Comfort rear panel



1	Comfort rear panel	9	Secondary-side cabling of the power supply unit
2	Mounting holes for operating unit	10	Mounting holes for the operating add-on
3	Holes for wall mounting (top)	11	Recesses for the hinges of the operating add-on
4	Top hat rail for additional components	12	Power supply (150 W)
5	Fastening tabs for the cover cap	13	Holes for wall mounting (bottom)

6 Openings for cable feed from rear side

7 Recesses for the hinges of the operating unit

8 Periphery board

14 Strain relief for mains supply cable

15 Top hat rail with network separation terminals, also for additional components

16 Primary-side cabling of the power supply unit

3.2.4 Mounting material

The following mounting material is supplied with all stations:

6	Rear panel screws Ø 6/40 mm
6	Nylon wall plugs Ø 4.5-6 mm
6	Cable ties 2.4 x 137 mm
5	Philips screws M 3/6 ([1]
2	Philips screws M 3/12 ([2]
2	Edge protection strip 40 x 100 x 1.5 mm
3	Trapezoid edge protection strip
4	Pole protection caps
2	Flat cable mounting
1	Installation plate [3]
5	Aluminium sticker for covering the wall fixtures [4]
1	Pre-assembled connection cable for the batteries
1	2k2/500 mW resistance
3	3k01/500 mW resistance
3	Diodes 1 kV / 1 A

[1] There are three extra screws with the Eco and Standard housings.

[2] Both M3/12 screws are required for cable strain relief if a thick supply cable is used.

[3] The installation plate must be affixed to the outside of the control panel housing and must be clearly legible (EN 54-2). The installation number and the date of commissioning must be added upon commissioning.

[4] If the station is mounted onto a combustible surface, the mounting holes must be covered with the aluminium stickers (CE directive).

In addition, the following documentation is enclosed with the stations:

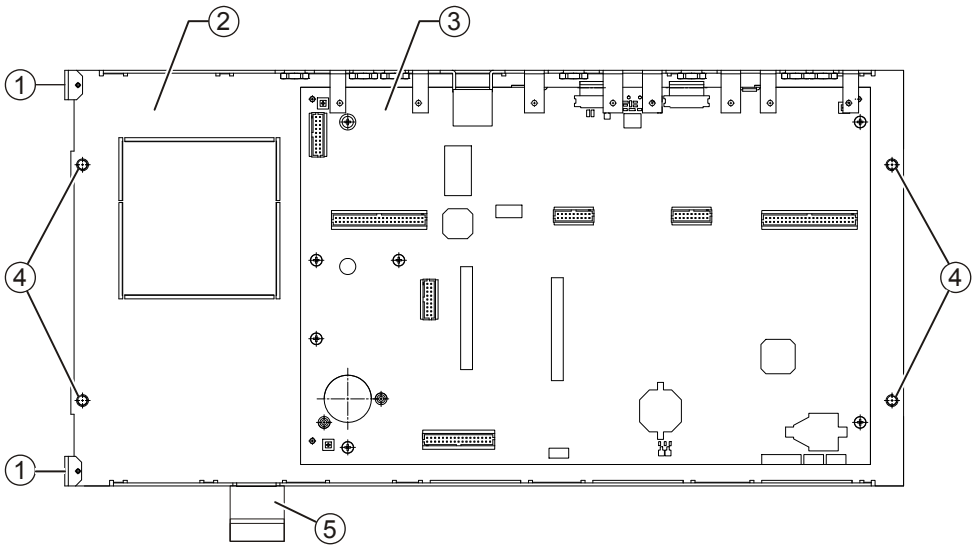
- Letter with feedback sheet (return fax)
- Instruction leaflet for the station (mounting instructions) A5Q00015754
- Instruction leaflet for the power supply

3.3 Operating unit, operating add-on and cover (packaging unit)

The operating unit and the optional operating add-on are supplied together with the cover as a separate packaging unit.

3.3.1 Operating units and operating add-on

The operating unit is part of every station. In the Comfort housing the operating unit is installed in the upper section of the housing. The operating add-on is installed either in the bottom part of the Comfort housing or in an additional empty housing.



Rear view of operating unit (without options)

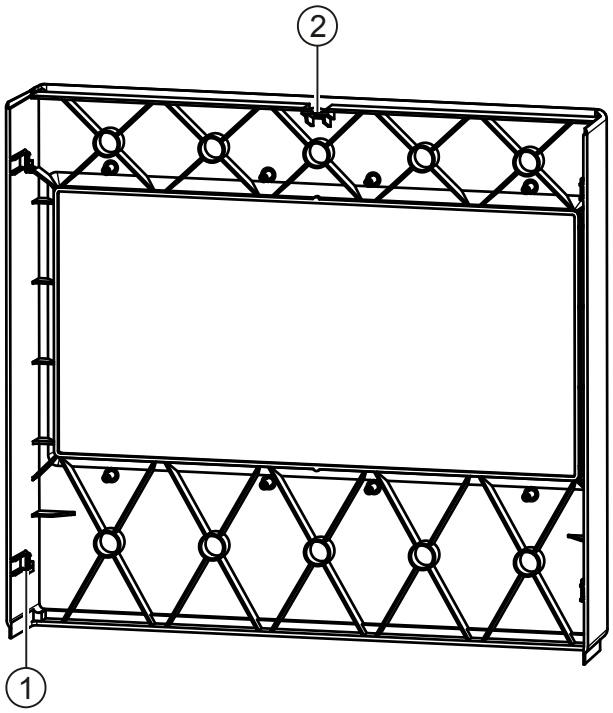
1 Hinge
2 Support plate
3 PMI & mainboard
4 Mounting holes of operating unit
5 Lug with securing clip for ribbon cable

Supplied installation material

4 M5 screws for securing the operating unit
2 M2.5 screws for securing the hinge of the operating unit
1 Ribbon cable for the connection of the PMI & mainboard to the periphery board
Inscription set or inscription sheet (only for operating unit)

Additional inscriptions strips, e.g. for the operating add-on, can be found in the document A6V10217440, inscription strips.

3.3.2 Hood cover



Rear view of cover cap

1 Distance pins

2 Fixing screw

3.4 Components

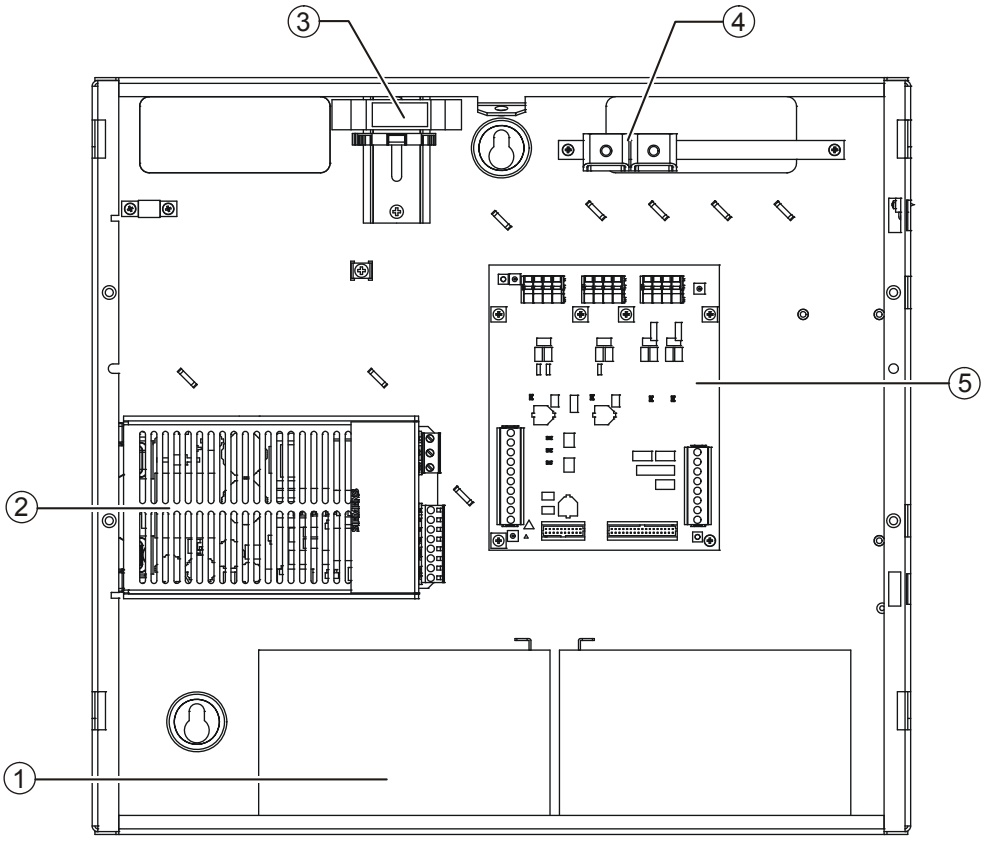
This chapter provides an overview of all the modules whose installation in the stations is optional. A distinction is made between the following components:

- Components that are integrated in the stations by default
- Components that can be integrated as options

Optional components are delivered in a separate packaging unit and must also be installed separately. The figures show the maximum possible scope of equipment.

3.4.1 Components in the Eco housing (fire terminal)

The fire terminal is available in the Eco housing.



Components in the Eco housing (fire terminal)

1 Batteries

2 Power supply unit (70 W) (option)

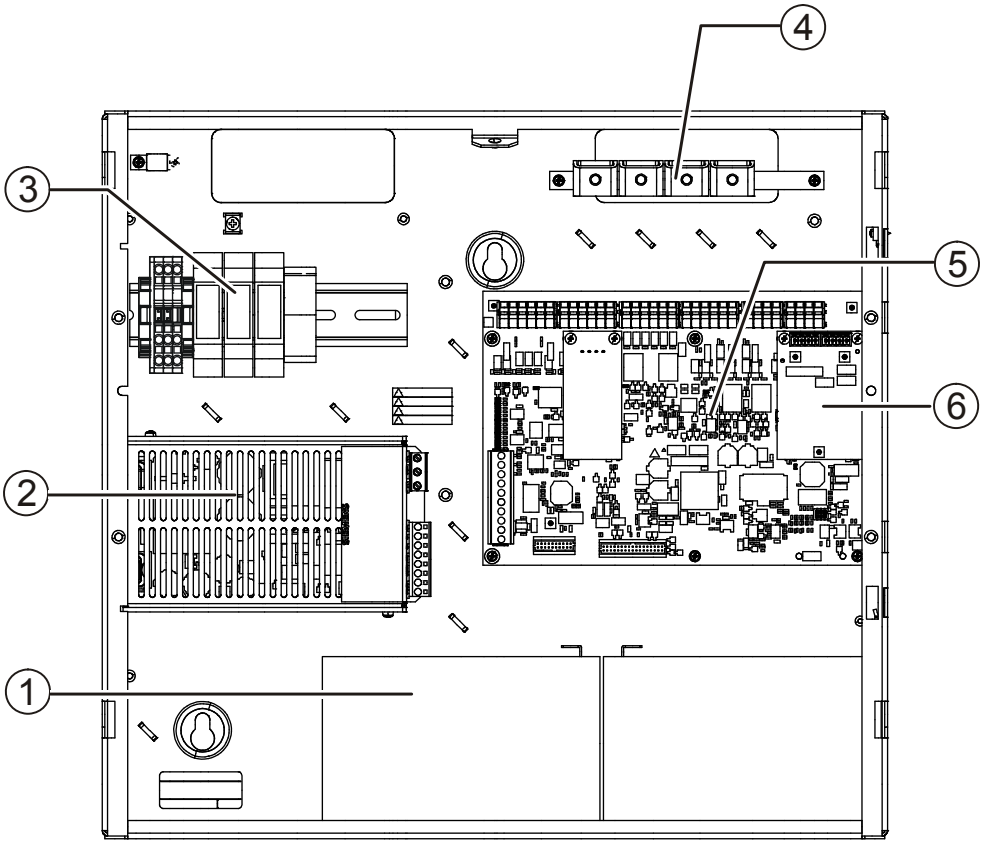
3 Mains separation terminals or relays on top hat rail (options)

4 Shield connection terminal blocks [DE] or cable set (communication), (option)

5 Fire terminal board

3.4.2 Components in the Standard housing (fire control panels)

The fire control panel FC722 (2 loops) is available in the Standard housing.



Components in the Standard housing (fire control panel)

1 Batteries

2 Power supply (70 W)

3 Relay (option) on top hat rail

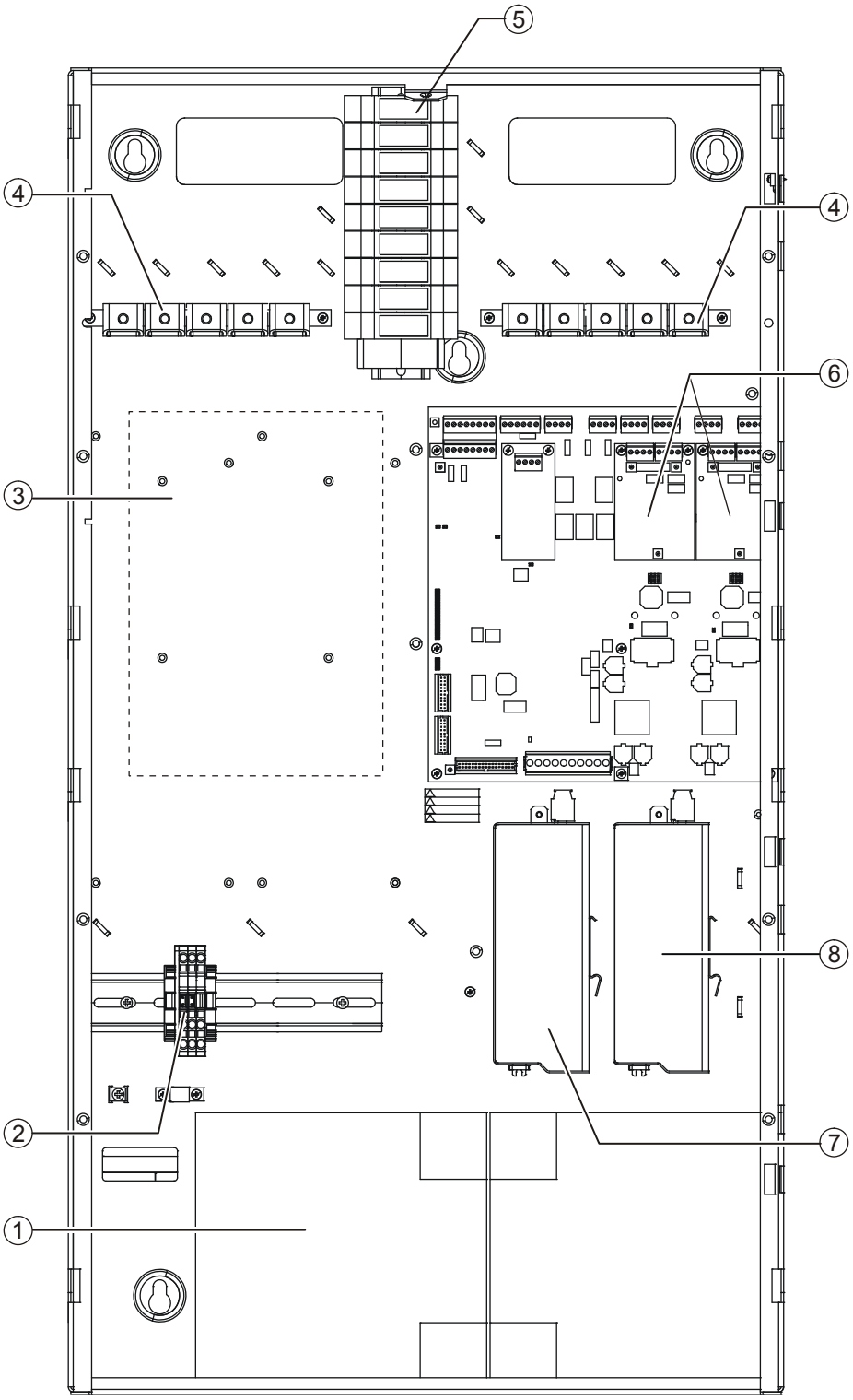
4 Shield connection terminal blocks [DE] or cable set (communication), (options)

5 Periphery board (2 loops)

6 Loop extension (C-NET) (option)

3.4.3 Components in the Comfort housing (fire control panels)

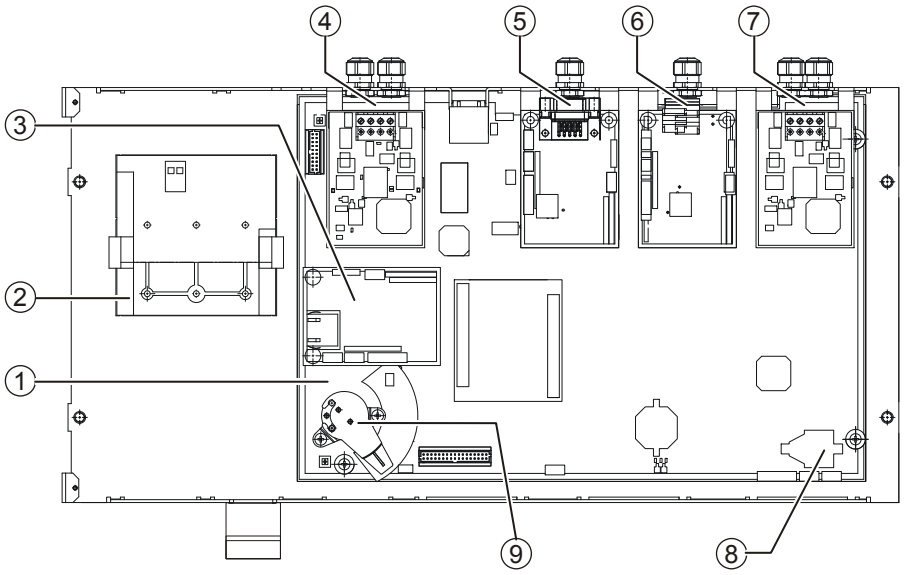
In the Comfort housing the fire control panels FC722 and FC724 are available. With the exception of the card cage and periphery board type, the setup is identical.



Components in the Comfort housing taking the example of fire control panel FC724 with cascaded power supply

1 Batteries
2 Mains separator terminals on top hat rail
3 Space for more options (e.g. fire brigade periphery module [DE]), or sounder module
4 Shield connection terminal blocks [DE] or cable set (communication), (option)
5 Relay module (option) on top hat rail
6 Loop extensions (C-NET) (option)
7 Power supply (150 W)
8 Additional power supply (150 W) (option)

3.4.4 Components on operating unit



Components on operating unit

1 PMI & mainboard
2 Space for options (printer or LED indicator)
3 Not used
4 Networking module (SAFEDLINK) on X13 (master module), (option)
5 RS232 module on X14 (for event printer or UFP "universal fire protocol"), (option)
6 RS485 module on X19 (for UFP or EVAC-NL) (option)
7 Degraded mode networking module (SAFEDLINK) on X12 (option)
8 License key (L1) or (L2), (option)
9 Key switch (Kaba or Nordic), (option)

The serial modules on slot X14 and X19 can be fitted in any way.

4 Installation procedure

The following installation processes are described in the following chapters:

- Installation of rear panel
- Fitting all components
- Assembly of the stations

Prerequisites

- All parts have been checked to make sure they are complete and intact.
- Mains connection is current-free

Installation steps

The installation procedure described is basically an ideal procedure but does not have to be adhered to exactly.

⚠ WARNING

Electrical voltage

Mortal danger due to electric shock

- Before working on the station check that the cable is disconnected from the mains supply.
- Check to make sure that the mains is secured against inadvertently being switched on.
- The components must be installed by an expert.

NOTICE

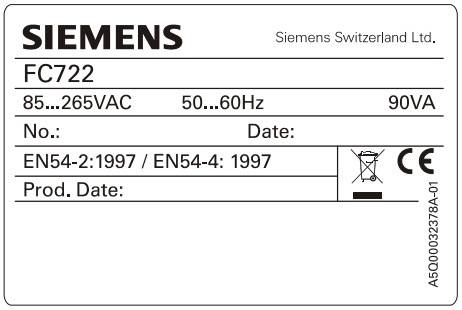
Damage to hardware

- Undertake all mechanical work before installing the station and fitting the components.
- Do not connect up the batteries after installation but wait until commissioning.

1. Mount the rear panel.
2. Install the options in the rear panel.
3. Mount options on the operating unit.
4. Secure the operating unit and the operating add-on (if available) on the hinge of the rear panel and wire this up.
5. Fit the batteries (do not connect).
6. Insert the inscription strips into the operating unit or the operating add-on.
7. Screw the operating unit or the operating add-on to the wall.

8. Fit the cover(s) and screw into place.
9. Finally the type plate must be mounted on the outside of the control panel housing so that it is clearly visible (provision EN 54-2). The installation number (No.:) and the date of commissioning (Date:) must be added upon commissioning.

⇨ The station is then ready for commissioning.



Example of a type plate

5 Mounting and assembling a station

5.1 Installing the rear panel

5.1.1 Surface mounting

Installation instructions

Any surface irregularities can be compensated with washers or wooden wedges.

- The rear panel is attached to the wall using screws (Ø 6 mm).
- The supplied edge protection strip must be placed around rectangular breakout openings.
- Depending on the cable type, up to max. eight cables can be fed through each round opening (20 mm with rubber grommet).
- Only one cable may be fed through each screwed cable gland (not within the scope of delivery).

Installation steps

⚠ WARNING

Electrical voltage

Electric shock

- The mains supply may only be connected by an expert.

⚠ WARNING

Heat bridge between the station and mounting surface, caused, e.g. by overheating of the batteries

Danger of fire

- If you mount the station on a flammable wall, all cut-out sections for the mounting holes must be sealed using the supplied aluminium stickers.

1. Break out the required cable openings on the rear panel. Signal and control cables must be fed into the housing from above or from the rear (EMC protection).
2. Screw in the cable gland for the mains cable (Ø 20 mm), or insert a rubber grommet.
3. Mark the bore holes for the dowels using the supplied drilling template. The cardboard cover in the packaging is also the drilling template. The holes in the cardboard cover correspond to the fixing holes in the rear panel. You can also mark the holes based on the specifications provided in the instruction leaflet.

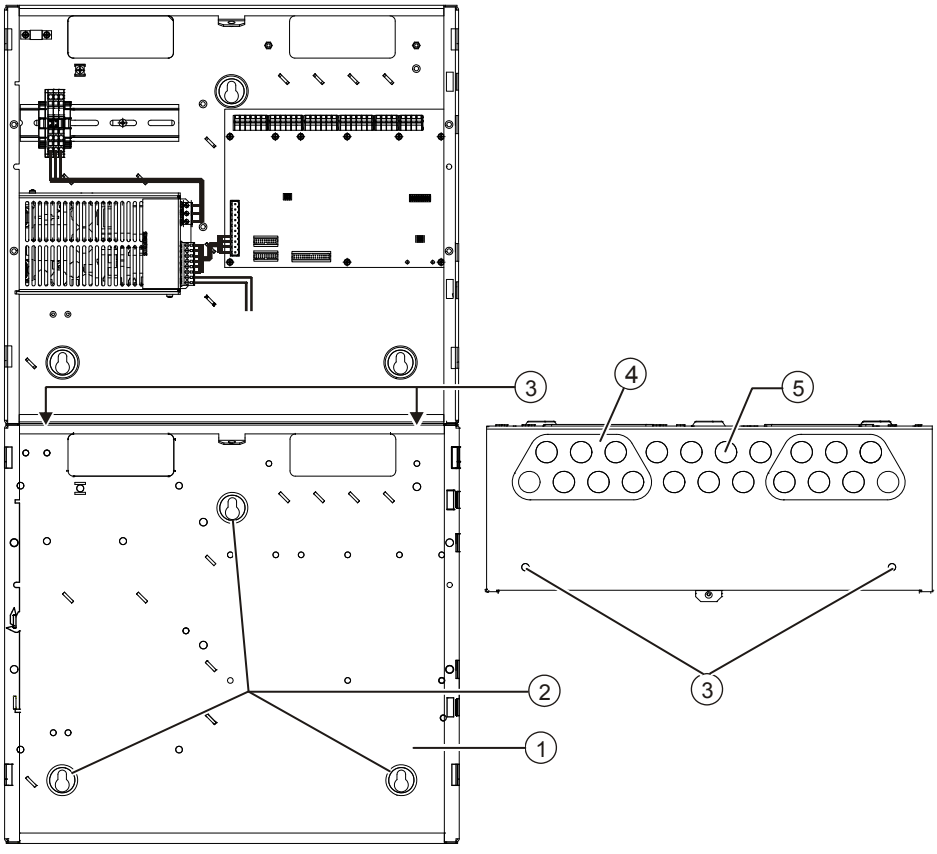
4. Drill the holes and insert the supplied dowels.
5. Attach the housing using the supplied screws.
6. Stick the supplied aluminium stickers over all holes for wall mounting.
7. Feed the mains cable into the housing and fix the cable with cable ties.
8. Protect the electronics if necessary using the cover of the packaging or other suitable means.

5.2 Installing an additional housing

Separate housings can be mounted for components which do not have any space in the housing or for decentralized supply units. The additional housings are generally mounted right below the stations and attached to them with screws.

The housings comprise the following elements:

- Rear panel
- Operating add-on (with LED indicators depending on the version)
- Cover cap



Mounting additional housing (example: Standard housing), view from the front and view of the additional housing from above

1 Empty additional housing
2 Holes for wall mounting
3 Holes for housing assembly
4 Break-outs for cable entry
5 Break-out holes for cable entry

Installation steps

⚠ WARNING

Heat bridge between the station and mounting surface, caused, e.g. by overheating of the batteries

Danger of fire

- If you mount the station on a flammable wall, all cut-out sections for the mounting holes must be sealed using the supplied aluminium stickers.

1. Break out the required openings for feeding cables at the bottom of the rear panel and the cover of the additional housing (4, 5) as well as the mounting holes for housing assembly (3).
2. Attach edge protection strips or rubber grommets at the openings for the cables.
3. Fasten the rear panel of the additional housing (1) in the same way as that of the station. Make sure that the alignment is exact.
4. Stick the supplied aluminium stickers over all holes for wall mounting.
5. Attach the two housings to one another by putting screws through the mounting holes (3) in the bottom and the cover.

NOTICE

Battery leakage

Damage to hardware

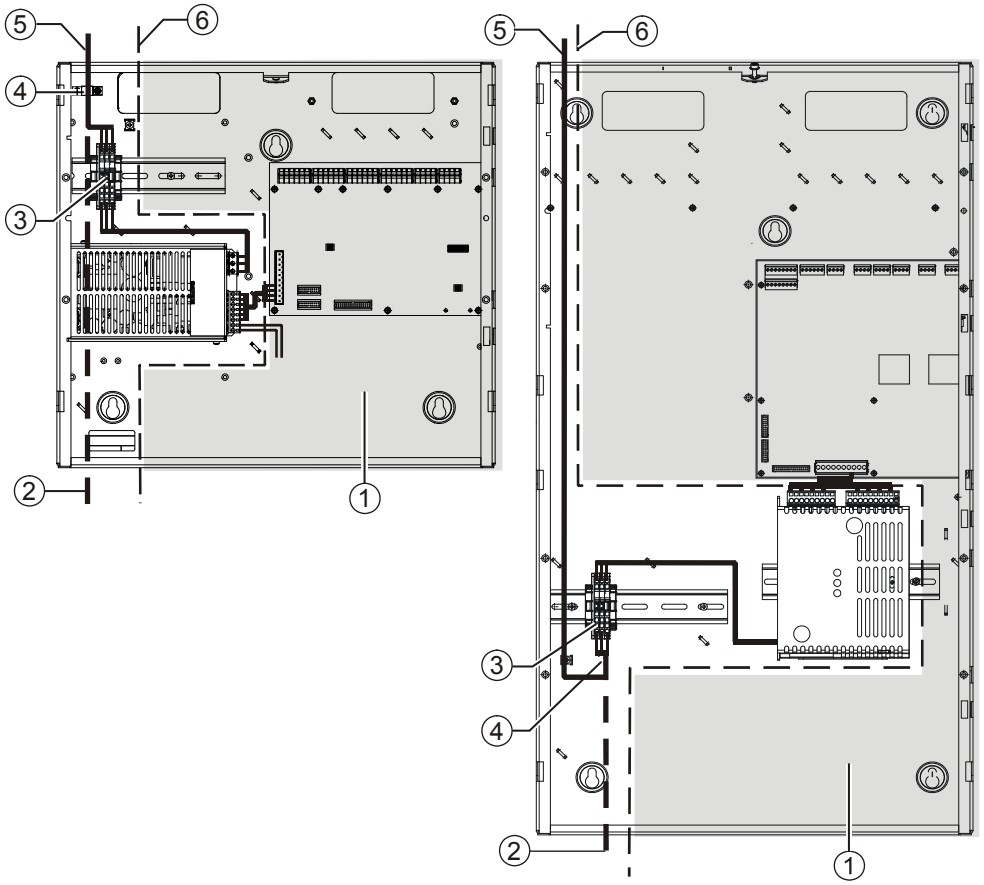
- If you assemble two housings one on top of the other, you fit the batteries in the lower housing.

5.3 Connecting the mains cable

5.3.1 Cable guide

Guidelines

- The network cables must be inserted from above.
- The mains lead must be placed along the left side of the housing (observe EMC zone boundary).
- Signal and control lines must only be fed into the housing on the right from above or from the rear.
- Batteries must be installed so that they cannot leak.
- No cable openings should be made in the base of the housing, unless an additional housing is mounted below the station to accommodate the batteries.



Laying the mains cable for the Standard housing (left) and the Comfort housing (right)

1 EMC-critical zone (no high-voltage power permitted)	4 Cable strain relief for mains supply line
2 Mains connection from below (not recommended)	5 Mains connection from above (recommended)
3 Disconnect terminal blocks	6 EMC boundary

⚠ WARNING

Electrical voltage

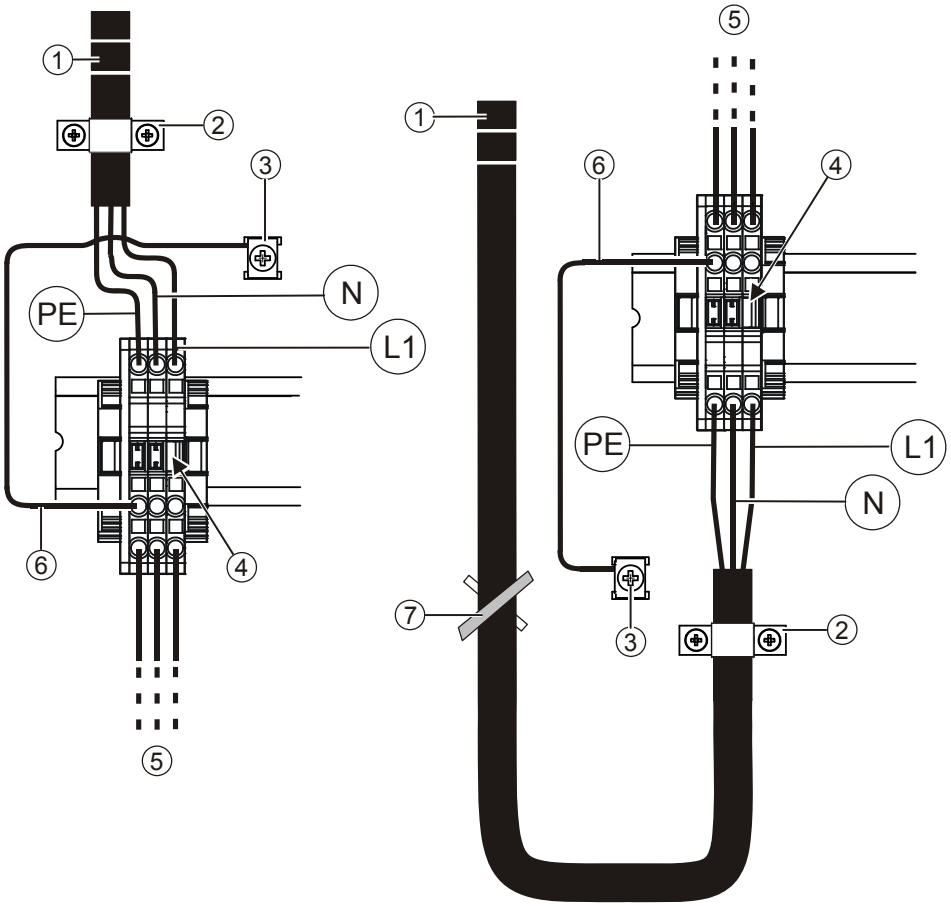
Electric shock

- Before connecting the mains cable, make sure that the cable is current-free.
- Ensure that the mains is secured against inadvertently being switched on.

Installation

1. Lay the mains cable (5) along the left side of the housing.
2. Insulate the mains cable as needed and connect it to the disconnect terminals (3) according to the pin assignment specified in the following chapter. Use cable end sleeves for wires.
3. Fix the cable with the strain relief clamp (4).
4. Secure the cable with cable ties.

5.3.2 Standard connection



Mains connection in the Standard housing (left) and the Comfort housing (right)

1	Mains cable (feed from above)	6	Ground cable (yellow/green), pre-assembled
2	Strain relief terminal	7	Cable tie
3	Ground on the rear panel	PE	Protective conductor (terminal on the left)
4	Disconnect terminal	N	Neutral conductor (terminal in the middle)
5	Primary cabling for power supply	L1	External conductor (terminal on the right, with mains disconnector)

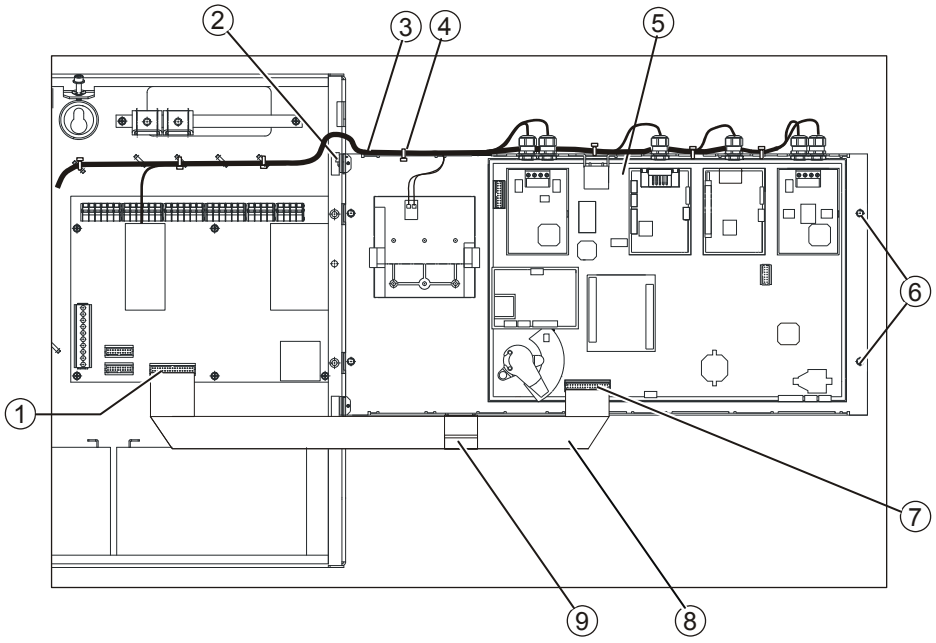
5.4 Installing the operating unit and the operating add-on

This chapter describes how to assemble the operating units.

Prerequisites

- The housing has been installed.
- The operating unit options are fitted.

5.4.1 Mounting and wiring the operating unit



View of a station with open operating unit

1 Connection (X3) for the ribbon cable on the periphery board

2 Hinge

3 Cable routing to the optional components

4 Cable ties for fixing the cables

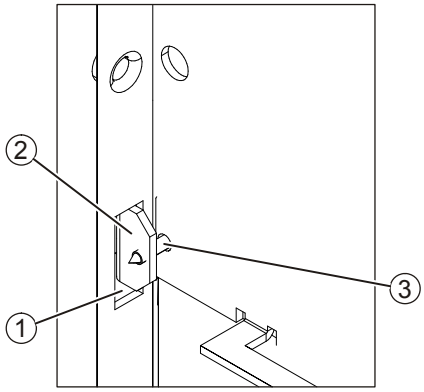
5 Operating unit

6 Holes for securing the operating unit

7 Connection (X3) for the ribbon cable on the PMI & mainboard

8 Ribbon cable from the periphery board to the PMI & mainboard

9 Plastic clip for securing the ribbon cable

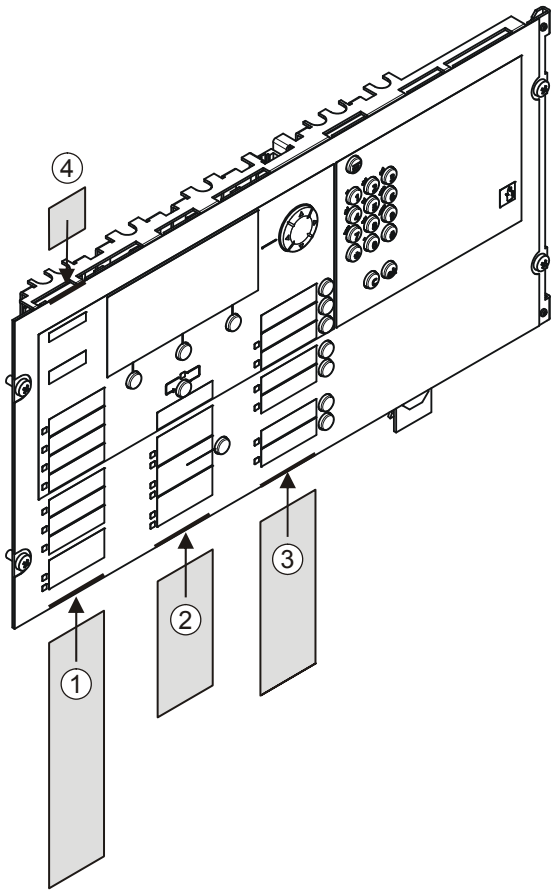


Detail view of the hinge of the operating unit

1 Cut-out section on the rear panel for the hinge of the operating unit
2 Hinge of the operating unit
3 Screw for securing the hinge

Installation steps

1. From the rear side, hang the operating unit with the hinges (2) into the openings in the rear panel of the housing (1).
2. Hold the operating unit in place and secure the hinge (2) with the screws (3).
3. Insert the connection cable to the periphery board into the respective plug-in positions (1 and 5) as shown in the figure.
4. Stick the supplied cable support to the inner right side of the station at the same height as the cable and fix the flat cable.
5. Guide the cables (3) of the operating unit options to the station as indicated and fix these cables with cable ties (4).
6. Insert the supplied inscription strips underneath the operating unit film as shown in the illustration.
7. Swivel the operating unit towards the station and secure it using the four screws.



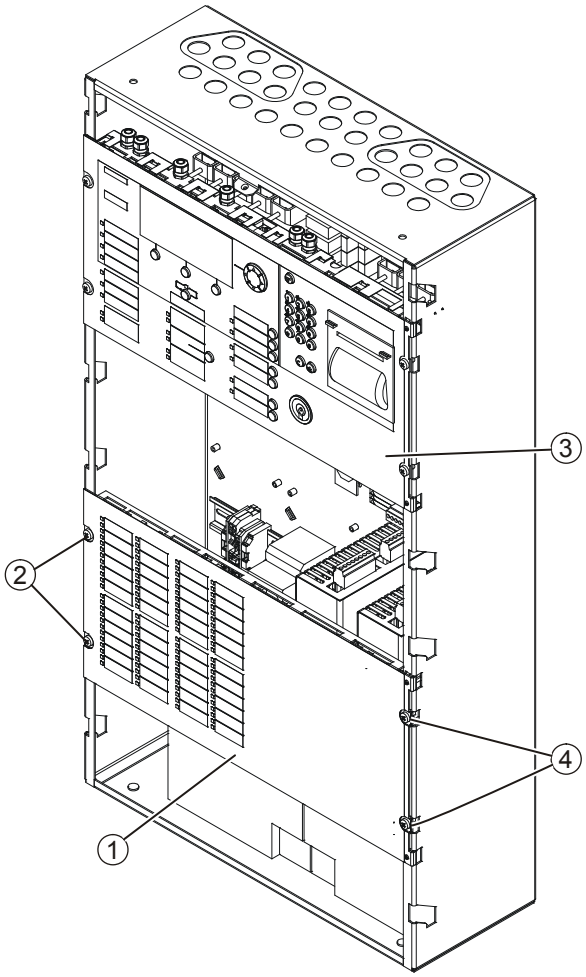
Inserting the inscription strips into the operating unit

1 Inscription LEDs
2 Inscription standard keys 1
3 Inscription standard keys 2
4 Inscription station type

5.4.2 Installing the operating add-on

For stations in an Eco or Standard housing, operating add-ons must be installed in a separate housing.

For stations in a Comfort housing, operating add-ons are installed in the bottom half of the housing. Additional operating add-ons can be mounted in separate additional housings. The installation is carried out as described for the operating unit.



View of Comfort housing with operating add-on and cascaded power supply

1 Operating add-on
2 Fixing screws (left)
3 Operating unit
4 Fixing screws (right)

5.5 Mounting the cover

Prerequisites

- All options have been installed.
- The operating unit and the operating add-on have been mounted and fastened.
- The batteries have been installed.
- The mains voltage is switched off and secured against being switched on inadvertently.
- The jumper wire of the batteries for serial connection should **not be inserted.**

The cover cap is hooked into the rear panel with four holder cams and screwed at the top.

The housings must be opened and closed with a hexagonal socket head wrench (standard equipment for service technicians).

Installation steps

1. Always hook the lower cover cap in first.
2. Insert the cover cap at an angle into the guides on the rear panel.
3. Secure the topmost cover cap with the hexagon socket screw. The bottom cover cap is automatically fixed by the top one.

After the station has been assembled, it is ready to be commissioned. Commissioning must only be carried out by a trained specialist.

6 Installing, exchanging and connecting modules

This chapter describes how to install and connect modules in stations. This is relevant for the installation of options and replacement of components for service purposes.

The components are dismantled in reverse sequence of installation.

Prerequisites

- The housing has been installed.
- The openings for passing through cables have been broken out.
- The mains cable has been connected and is current-free.
- The batteries are not installed or connected.

6.1 Replacing components

To replace components if repairs are necessary proceed as follows:

- Take the station out of operation.
- De-energize the station.
- Replace the component.
- Start the station up again.

Information about taking out of service and commissioning can be found in document A6V10210416, commissioning, Commissioning, maintenance, troubleshooting.

If you return the operating unit for repairs, you have to remove all options, incl. the license key.

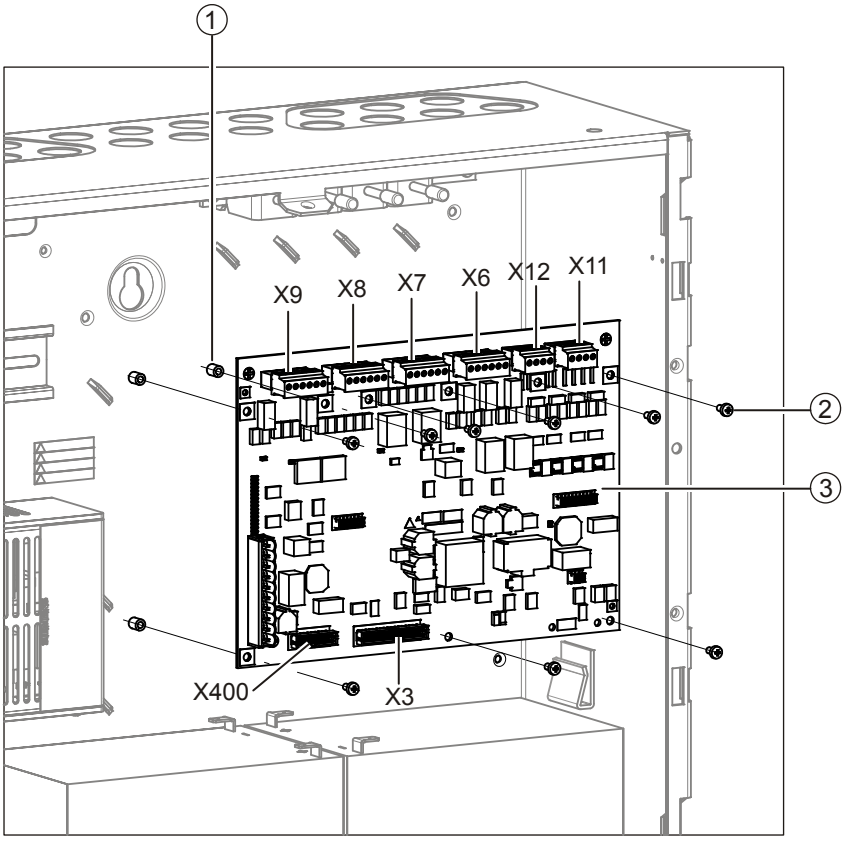
6.2 Installing a periphery board (2 loops)

6.2.1 Installation

The periphery board (2 loops) FCI2002-A1 is already mounted in the fire control panels in the factory and only has to be replaced in the event of a repair.

Prerequisite

- Components that make access to the periphery board difficult are removed (e.g. mounting plate).
- All connections and plug connectors are disconnected (label cables before disconnecting them).
- The periphery board is removed.



Installation of periphery board (2 loops)

1 Threaded bolts on rear panel

2 9 fixing screws

3 Periphery board (2 loops)

X3 Connector for connection cable to PMI & mainboard (operating unit)

X400 Connector for periphery bus

Installation steps

1. Mount the periphery board (2 loops) (3) with the nine fixing screws (2) to the threaded bolts (1) that are embedded in the rear panel.
2. Wire up the periphery board (2 loops) according to the following pin assignment.
3. Reinstall previously dismantled components in reverse order.

6.2.2 Pin assignments

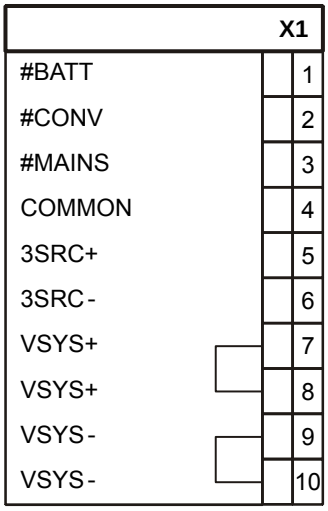
Inputs and outputs which are not used do not require termination.

C-NET detector lines which are not used must not be terminated.

6.2.2.1 X1 supply

PIN	Designation	Description
1	#BATT	Message input from the power supply: Battery fault
2	#CONV	Message input from the power supply: Converter fault
3	#MAINS	Message input from the power supply: Mains failure
4	COMMON	Ground
5	3SRC+	Supply input for third supply source (+) [FR]
6	3SRC–	Supply input for third supply source (-) [FR]
7	VSYS+	Supply input from the power supply (+)
8	VSYS+	Supply input from the power supply (+)
9	VSYS–	Supply input from the power supply (–)
10	VSYS–	Supply input from the power supply (–)

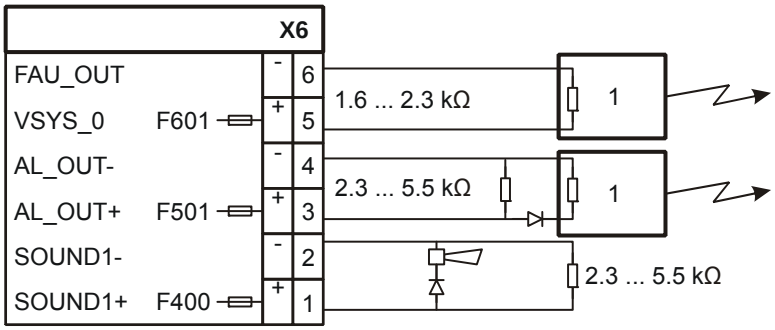
Admissible cable cross-section: 0.2 ... 2.5 mm²



6.2.2.2 X6 Horn, alarm and fault monitored outputs

PIN	Designation	Description
6	FAU_OUT	Output fault
5	VSYS_O	Supply output for consumer fault
4	AL_OUT-	Alarm output (-)
3	AL_OUT+	Alarm output (+)
2	SOUND1-	Horn output (-)
1	SOUND1+	Horn output (+)

Admissible cable cross-section: 0.2 ... 1.5 mm²

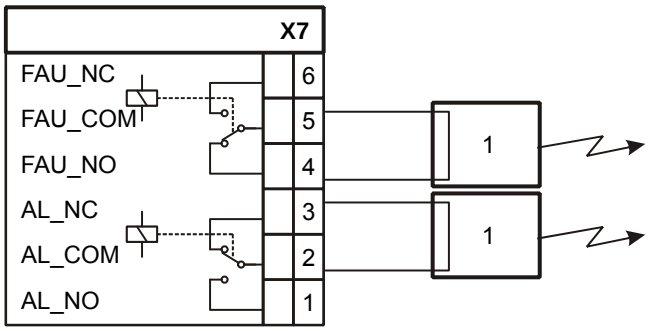


1 Remote transmission

6.2.2.3 X7 RT alarm and RT fault changeover contacts

PIN	Designation	Description
6	FAU_NC	RT fault break contact (normally closed)
5	FAU_COM	RT fault center tap (common)
4	FAU_NO	RT fault make contact (normally open)
3	AL_NC	RT alarm break contact (normally closed)
2	AL_COM	RT alarm center tap (common)
1	AL_NO	RT alarm make contact (normally open)

Admissible cable cross-section: 0.2 ... 1.5 mm²

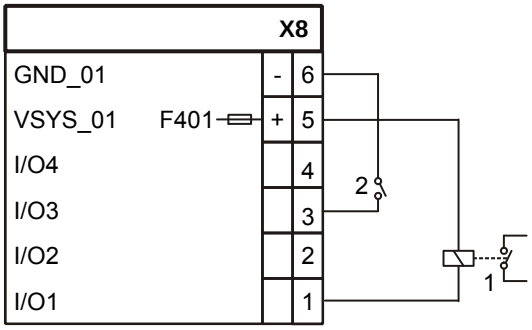


1	Remote transmission
FAU_…	Relay in normal operation = contact 5/4 closed
AL_…	Relay in normal operation = contact 2/3 closed

6.2.2.4 X8 configurable inputs/outputs 1 … 4 and supply output 1

PIN	Designation	Description
6	GND_01	Supply output 1 (–)
5	VSYS_01	Supply output 1 (+)
4	I/O4	Configurable input/output 4
3	I/O3	Configurable input/output 3
2	I/O2	Configurable input/output 2
1	I/O1	Configurable input/output 1

Admissible cable cross-section: 0.2 ... 1.5 mm²



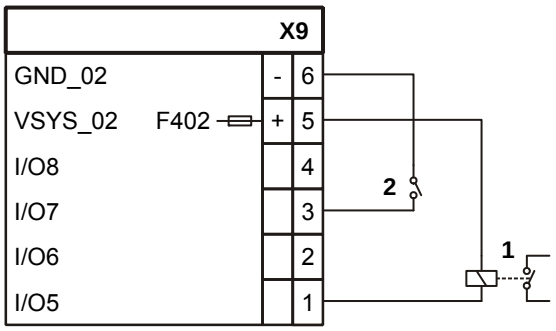
All inputs/outputs can be connected as follows:

1	Configured as output
2	Configured as input

6.2.2.5 X9 configurable inputs/outputs 5 … 8 and supply output 2

PIN	Designation	Description
6	GND_02	Supply output 2 (–)
5	VSYS_02	Supply output 2 (+)
4	I/O8	Configurable input/output 8
3	I/O7	Configurable input/output 7
2	I/O6	Configurable input/output 6
1	I/O5	Configurable input/output 5

Admissible cable cross-section: 0.2 ... 1.5 mm²



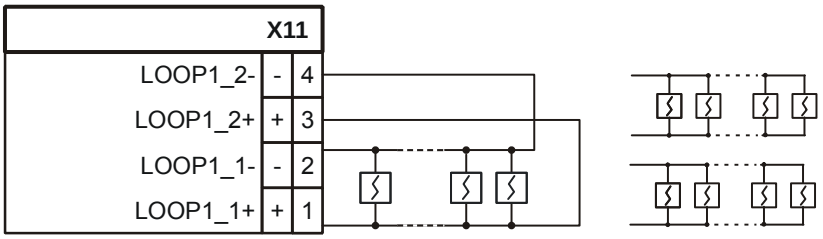
All inputs/outputs can be connected as follows:

1	Configured as output
2	Configured as input

6.2.2.6 X11 detector line loop 1

PIN	Designation	Description
4	LOOP1_2–	Loop 1 / stub 2 (–)
3	LOOP1_2+	Loop 1 / stub 2 (+)
2	LOOP1_1–	Loop 1 / stub 1 (–)
1	LOOP1_1+	Loop 1 / stub 1 (+)

Admissible cable cross-section: 0.2 ... 1.5 mm²



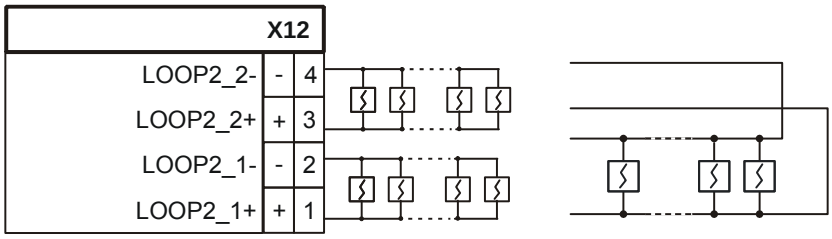
Comment

One loop or two stubs can be connected.

6.2.2.7 X12 detector line loop 2

PIN	Designation	Description
4	LOOP2_2–	Loop 2 / stub 4 (–)
3	LOOP2_2+	Loop 2 / stub 4 (+)
2	LOOP2_1–	Loop 2 / stub 3 (–)
1	LOOP2_1+	Loop 2 / stub 3 (+)

Admissible cable cross-section: 0.2 ... 1.5 mm²



Comment

One loop or two stubs can be connected.

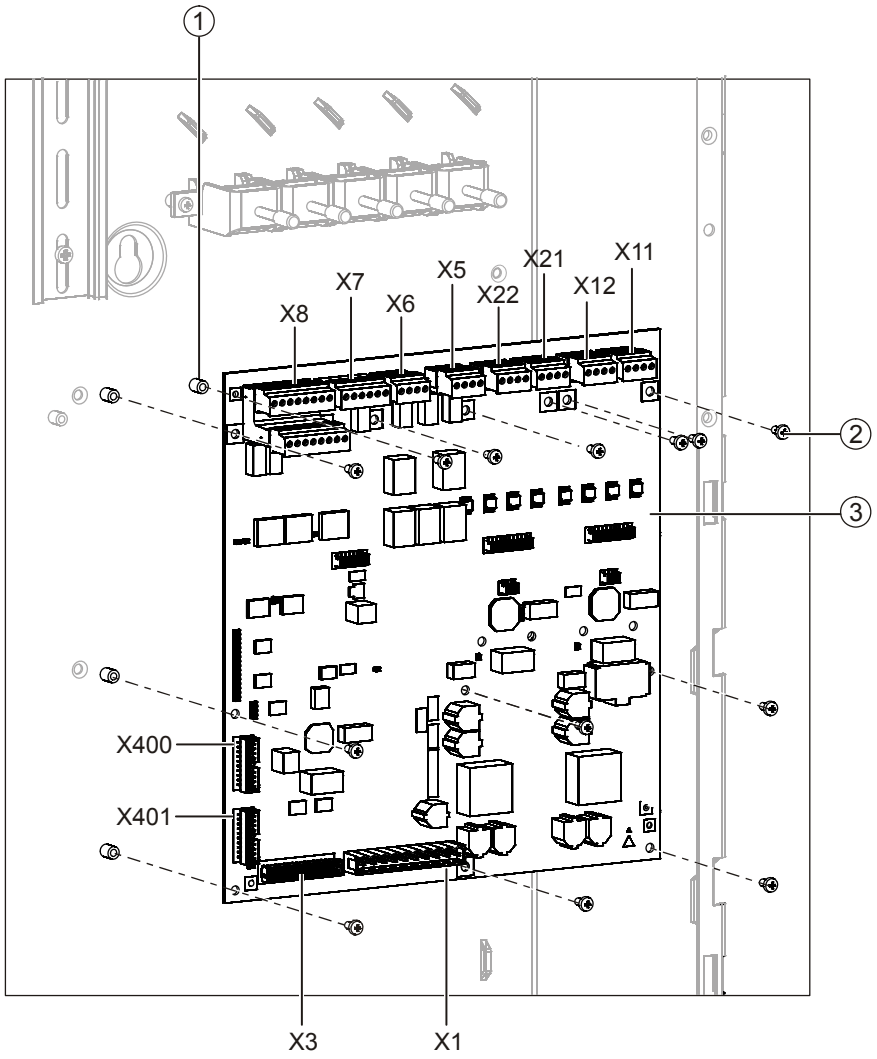
6.3 Installing a periphery board (4 loops)

6.3.1 Installation

The periphery board (4 loops) FCI2004-A1 is already mounted in the fire control panels in the factory and only has to be replaced in the event of a repair.

Prerequisites

- Components that make access to the periphery board difficult are removed (e.g. mounting plate).
- All connections and plug connectors are disconnected (label cables before disconnecting them).
- The periphery board is removed.



Installation of periphery board (4 loops)

1 Threaded bolts on rear panel

X3 Connector for connection cable to PMI & mainboard (operating unit)

2	13 fixing screws	X400	Connector for the periphery bus to the fire department periphery module [DE]
3	Periphery board (4 loops)	X401	Connector for periphery bus

Installation steps

1. Mount the periphery board (4 loops) (3) with the 13 fixing screws (2) to the threaded bolts (1) that are embedded in the rear panel.
2. Wire up the periphery board (4 loops) according to the following pin assignment.
3. Re-install any modules that you may have had to remove.

6.3.2 Pin assignments

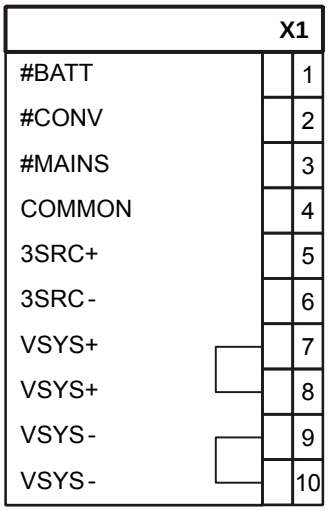
Inputs and outputs which are not used do not require termination.

C-NET detector lines which are not used must not be terminated.

6.3.2.1 X1 supply

PIN	Designation	Description
1	#BATT	Message input from the power supply: Battery fault
2	#CONV	Message input from the power supply: Converter fault
3	#MAINS	Message input from the power supply: Mains failure
4	COMMON	Ground
5	3SRC+	Third power supply input (+) [FR]
6	3SRC–	Third power supply input (–) [FR]
7	VSYS+	Supply input from the power supply (+)
8	VSYS+	Supply input from the power supply (+)
9	VSYS–	Supply input from the power supply (–)
10	VSYS–	Supply input from the power supply (–)

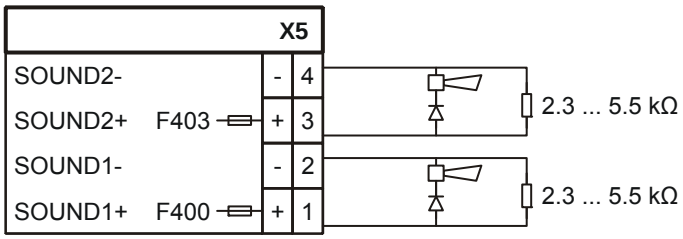
Admissible cable cross-section: 0,2 ... 2,5 mm²



6.3.2.2 X5 monitored horn outputs 1 and 2

PIN	Designation	Description
4	SOUND2-	Horn output 2 (-)
3	SOUND2+	Horn output 2 (+)
2	SOUND1-	Horn output 1 (-)
1	SOUND1+	Horn output 1 (+)

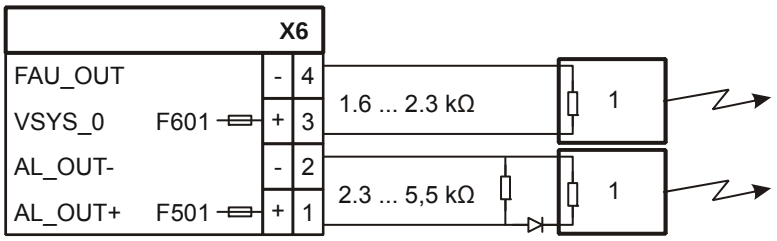
Admissible cable cross-section: 0.2 ... 1.5 mm²



6.3.2.3 X6 alarm and fault monitored outputs

PIN	Designation	Description
4	FAU_OUT	Output fault
3	VSYS_O	Supply output for consumer fault
2	AL_OUT-	Alarm output (-)
1	AL_OUT+	Alarm output (+)

Admissible cable cross-section: 0.2 ... 1.5 mm²

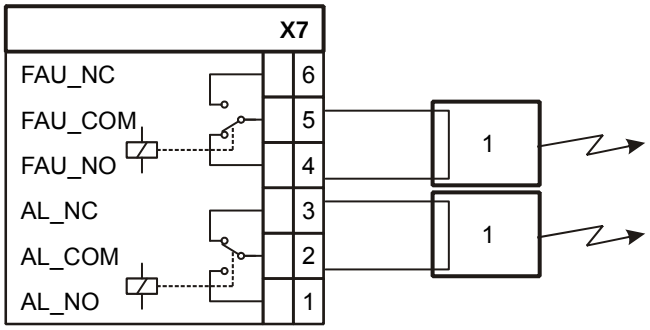


1 Remote transmission

6.3.2.4 X7 RT alarm and RT fault changeover contacts

PIN	Designation	Description
6	FAU_NC	RT fault break contact (normally closed)
5	FAU_COM	RT fault center tap (common)
4	FAU_NO	RT fault make contact (normally open)
3	AL_NC	RT alarm break contact (normally closed)
2	AL_COM	RT alarm center tap (common)
1	AL_NO	RT alarm make contact (normally open)

Admissible cable cross-section: 0.2 ... 1.5 mm²

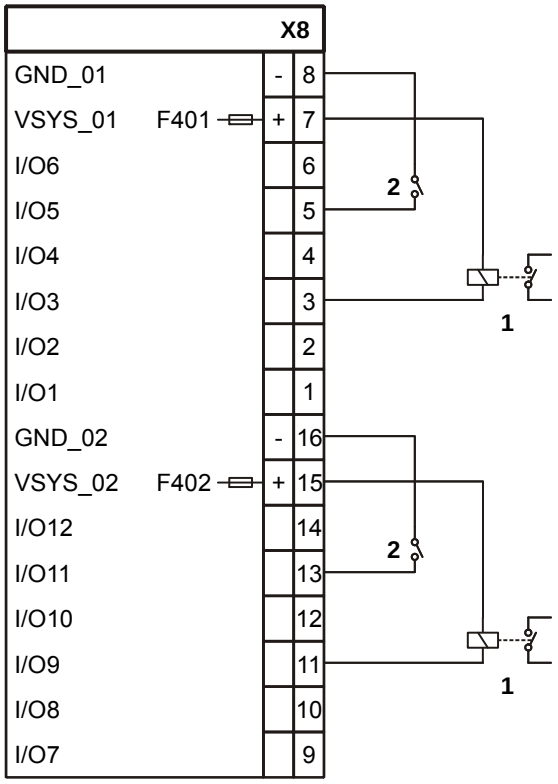


1	Remote transmission
FAU_…	Relay in normal operation = contact 5/4 closed
AL_…	Relay in normal operation = contact 2/3 closed

6.3.2.5 X8 configurable inputs/outputs 1 … 12 and supply outputs 1 … 2

PIN	Designation	Description
8	GND_01	Supply output 1 (-)
7	VSYS_01	Supply output 1 (+)
6	I/O6	Configurable input/output 6
5	I/O5	Configurable input/output 5
4	I/O4	Configurable input/output 4
3	I/O3	Configurable input/output 3
2	I/O2	Configurable input/output 2
1	I/O1	Configurable input/output 1
16	GND_02	Supply output 2 (-)
15	VSYS_02	Supply output 2 (+)
14	I/O12	Configurable input/output 12
13	I/O11	Configurable input/output 11
12	I/O10	Configurable input/output 10
11	I/O9	Configurable input/output 9
10	I/O8	Configurable input/output 8
9	I/O7	Configurable input/output 7

Admissible cable cross-section: 0.2 ... 1.5 mm²



All inputs/outputs can be connected as follows:

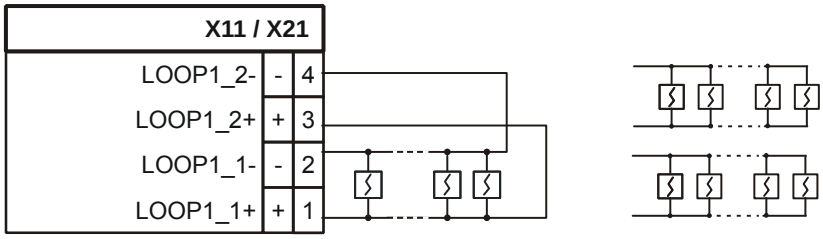
1	Configured as output
2	Configured as input

6.3.2.6 X11 / X21 detector line loop 1 (module 2/3)

PIN	Designation	Description	Comments for X11	Comments for X21 *
4	LOOP1_2–	Loop 1 / stub 2 (–)	Connection – 1st loop	Connection – 3rd loop
3	LOOP1_2+	Loop 1 / stub 2 (+)	Connection + 1st loop	Connection + 3rd loop
2	LOOP1_1–	Loop 1 / stub 1 (–)	Connection - 1st loop	Connection - 3rd loop
1	LOOP1_1+	Loop 1 / stub 1 (+)	Connection + 1st loop	Connection + 3rd loop

Admissible cable cross-section: 0,2 ... 1.5 mm²

* Loop number without loop extension



Comment

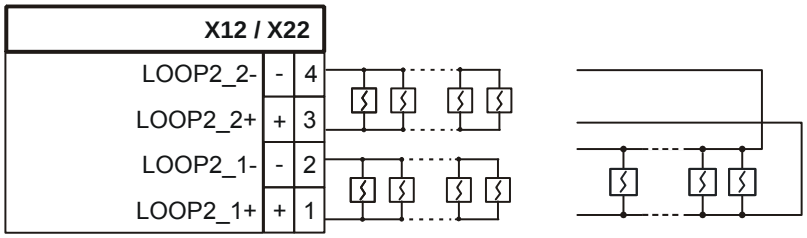
- The technical term LOOP 1 applies to both loops on connectors X11 and X21
- One loop or two stubs can be connected.

6.3.2.7 X12 / X22 detector line loop 2 (module 2/3)

PIN	Designation	Description	Comments for X12	Comments for X22 *
4	LOOP1_2–	Loop 1 / stub 2 (–)	Connection – 2nd loop	Connection – 4th loop
3	LOOP1_2+	Loop 1 / stub 2 (+)	Connection + 2nd loop	Connection + 4th loop
2	LOOP1_1–	Loop 1 / stub 1 (–)	Connection - 2nd loop	Connection - 4th loop
1	LOOP1_1+	Loop 1 / stub 1 (+)	Connection + 2nd loop	Connection + 4th loop

Admissible cable cross-section: 0,2 ... 1.5 mm²

* Loop number without loop extension



Comment

- The technical term LOOP 2 applies to both loops on connectors X12 and X22
- One loop or two stubs can be connected.

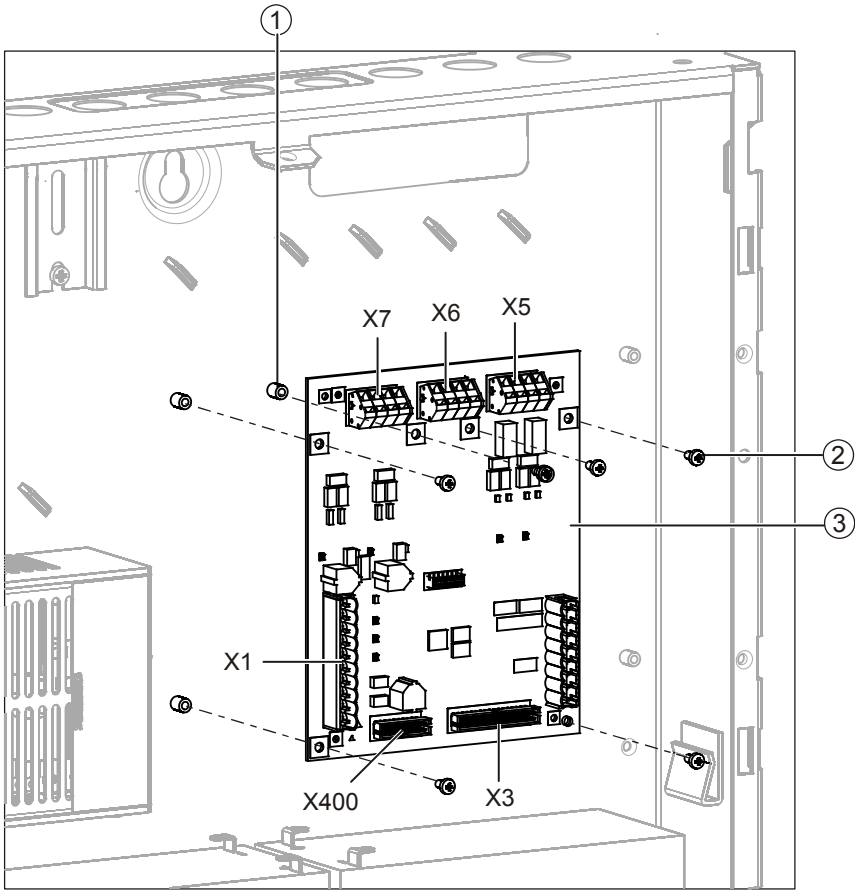
6.4 Installing a fire terminal board

6.4.1 Installation

The fire terminal board FTI2002-A1 is already mounted in the fire terminal in the factory and only has to be replaced in the event of a repair.

Prerequisites

- Components that make access to the periphery board difficult are removed.
- All connections and plug connectors are disconnected (label cables before disconnecting them).
- The fire terminal board is removed.



Installation of fire terminal board

1	Threaded bolts on the rear panel	X5	Connector for power supply output Vsys
2	6 fixing screws	X6	Connector for power supply input Vsys 2
3	Fire terminal board	X7	Connector for power supply input Vsys 1

X1 Connector for power supply input
X3 Connector for the connection cable to PMI & mainboard (operating unit)
X400 Connector for periphery bus

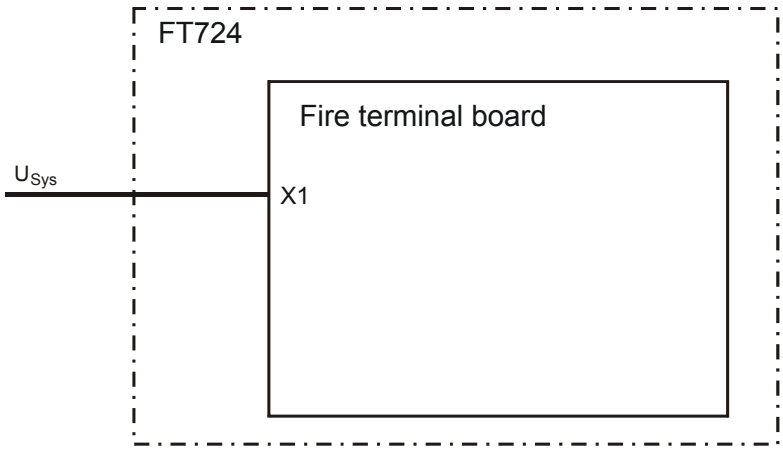
Installation steps

1. Mount the fire terminal board (3) with the six fixing screws (2) to the threaded bolts (1) that are embedded in the rear panel.
2. Wire up the fire terminal board according to the following pin assignment.
3. Re-install any modules that you may have had to remove.

6.4.2 Pin assignments

6.4.2.1 X1 supply

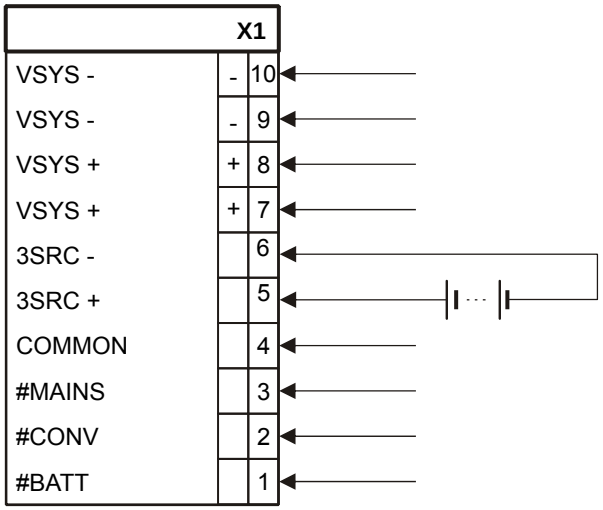
The optional power supply or the external 24 V supply is connected to supply input X1.



FTI2001-A1, supply input for external supply or fitted power supply (optional)

PIN	Designation	Description
10	VSYS–	Supply input from the power supply (–)
9	VSYS–	Supply input from the power supply (–)
8	VSYS+	Supply input from the power supply (+)
7	VSYS+	Supply input from the power supply (+)
6	3SRC–	Input for third supply source (–) [FR]
5	3SRC+	Input for third supply source (+) [FR]
4	COMMON	Ground
3	#MAINS	Message input from the power supply: Mains failure
2	#CONV	Message input from the power supply: Converter fault
1	#BATT	Message input from the power supply: Battery fault

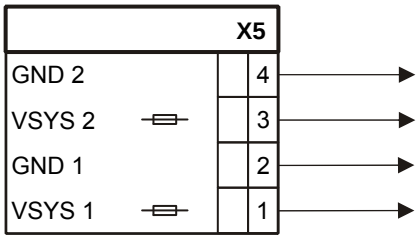
Admissible cable cross-section: 0,2 ... 2,5 mm²



6.4.2.2 X5 supply output

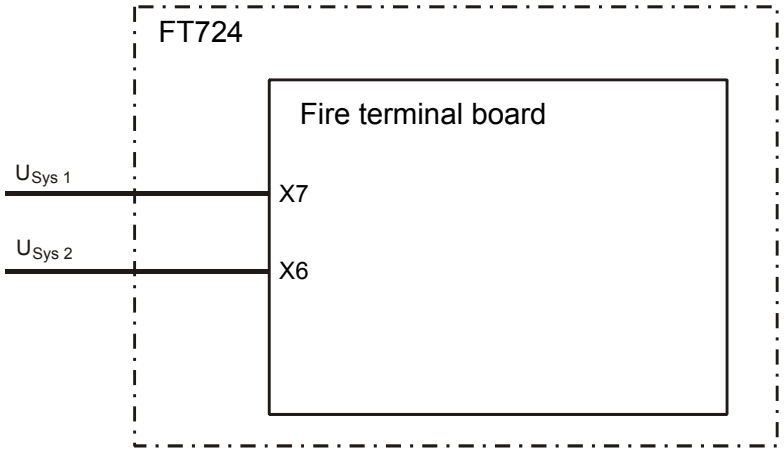
PIN	Designation	Description
4	GND 2	Ground
3	VSYS 2	System supply 21 … 28.6 V DC (+) (1 A/T)
2	GND 1	Ground
1	VSYS 1	System supply 21 … 28.6 V DC (+) (1 A/T)

Admissible cable cross-section: 0.2 ... 2.5 mm²



6.4.2.3 X6/X7 supply input 2/1

If the fire terminal is supplied by a fire control panel, a redundant supply is needed according to EN 54. For reasons of reliability, the two supply lines must be routed separately.

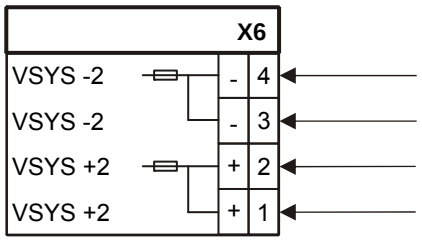


FTI2001-A1, supply via a fire control panel

X6, supply input 2

PIN	Designation	Description
4	VSYS - 2	Ground
3	VSYS - 2	Ground
2	VSYS + 2	System supply 21 … 28.6 V DC (+)
1	VSYS + 2	System supply 21 … 28.6 V DC (+)

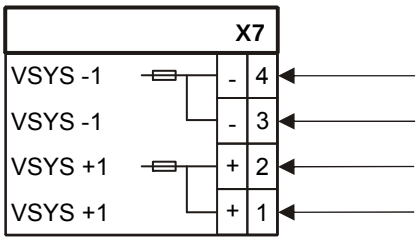
Admissible cable cross-section: 0,2 ... 2,5 mm²



X7, supply input 1

PIN	Designation	Description
4	VSYS - 1	Ground
3	VSYS - 1	Ground
2	VSYS + 1	System supply 21 … 28.6 V DC (+)
1	VSYS + 1	System supply 21 … 28.6 V DC (+)

Admissible cable cross-section: 0,2 ... 2,5 mm²



6.5 Install 70 W power supply

In fire control panels, the power supply (70W) FP2001-A1 is always built-in. In fire terminals and additional housings the 70 W power supply is an option.

Primary wiring

⚠ WARNING

Electrical voltage

Electric shock

- Before connecting the mains cable, make sure that the cable is current-free.
- Ensure that the mains is secured against inadvertently being switched on.

Secondary wiring

NOTICE

Short-circuit

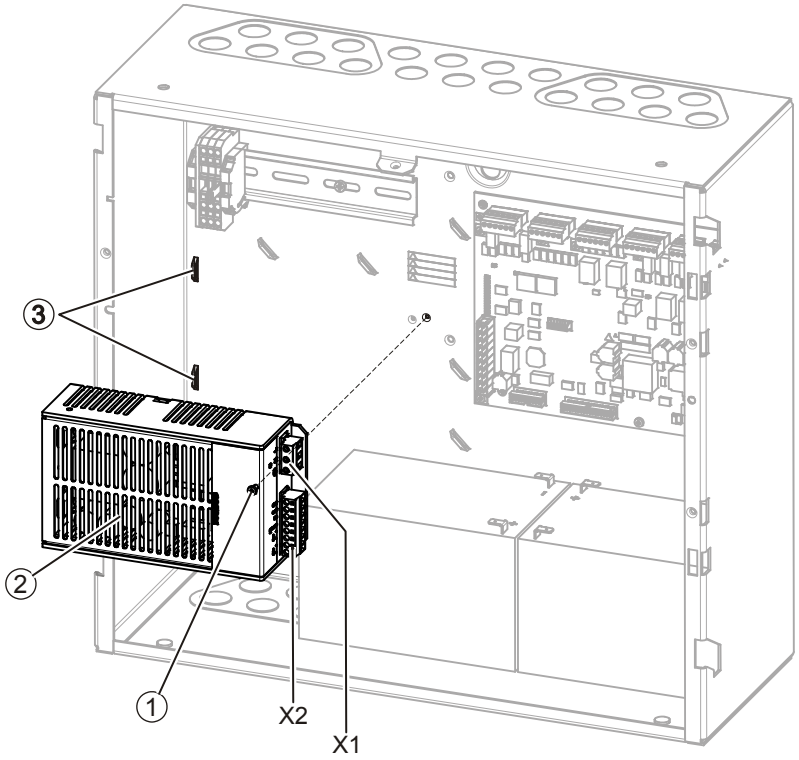
Damage to hardware

- Before removing or fitting the power supply, remove the jumper wire between the two batteries.

⇨ This ensures that the secondary side is current-free and that no components can be damaged due to a short circuit.

6.5.1 Installation

The 70 W power supply FP2001-A1 is only installed in Standard and Eco housings.



Example: Installation of the power supply (70 W) in the Standard housing

1 Fixing screw (under mains connection terminal X1)
2 Power supply (70 W)
3 Guides for the distance pins of the power supply unit
X1 Mains connection terminal primary wiring
X2 Supply output secondary wiring

Installation steps

1. On the rear side of the power supply, insert the pins laterally into the guides (3) in the rear panel.
2. Fasten the power supply (2) (under the mains connection terminal X1) using the Philips screw.
3. Mount the mains connection terminals onto the power supply (over the fixing screw).
4. Connect the power supply according to the following pin assignment.

6.5.2 Pin assignments

6.5.2.1 X1 mains connection

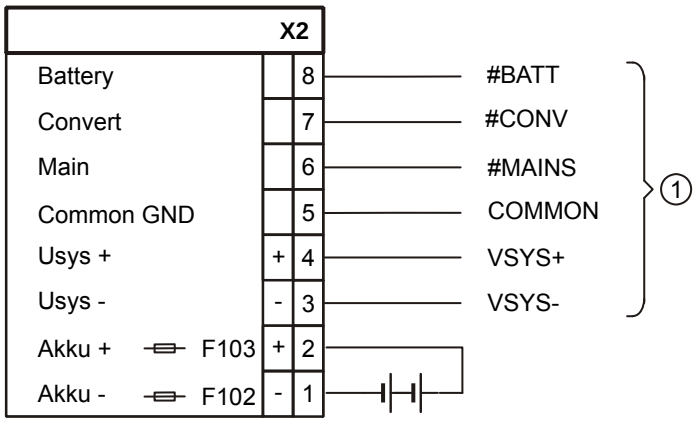
PIN	Designation	Description
1	⏚	Ground (protective conductor PE)
2	N	Neutral conductor
3	L	External conductor (L1)

Admissible cable cross-section: 0.2 ... 2.5 mm²

6.5.2.2 X2 monitoring signals

PIN	Designation	Description
8	Battery	Detection line (#BATT): Battery fault
7	Convert	Detection line (#CONV): Power supply fault
6	Main	Detection line (#MAINS): Mains fault
5	Common GND	Ground (COMMON)
4	Usys +	System supply (VSYS+)
3	Usys –	System supply (VSYS-)
2	Akku +	Battery supply (+)
1	Akku –	Battery supply (-)

Admissible cable cross-section: 0.2 ... 2.5 mm²



1 Cable tree to periphery board or fire terminal board

See also

- X1 supply [→ 39]
- X1 supply [→ 45]
- X1 supply [→ 52]

6.6 Install 150 W power supply

In the Comfort housing the power supply (150 W) FP2004-A1 is always built-in. If you want to install an additional 150 W power supply (optional) FP2005-A1, you must mount both power supplies in a vertical position.

When mounting a power supply unit (150 W) into an additional empty housing, it can be installed horizontally on the top hat rail.

Primary wiring

⚠ WARNING

Electrical voltage

Electric shock

- Before connecting the mains cable, make sure that the cable is current-free.
- Ensure that the mains is secured against inadvertently being switched on.

Secondary wiring

NOTICE

Short-circuit

Damage to hardware

- Before removing or fitting the power supply, remove the jumper wire between the two batteries.

⇨ This ensures that the secondary side is current-free and that no components can be damaged due to a short circuit.

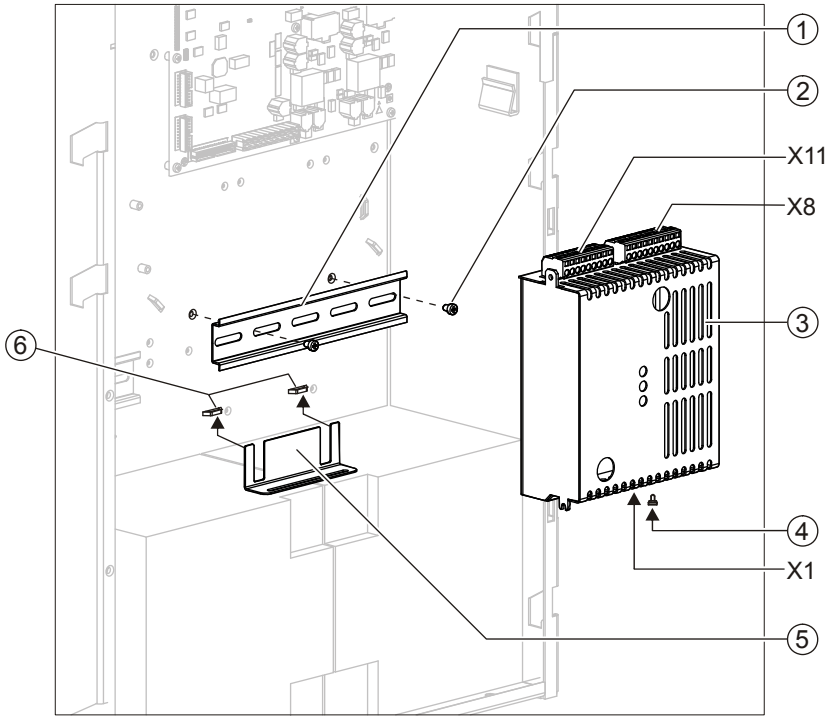
6.6.1 Installation

The power supply (150 W) FP2004-A1 is fitted horizontally on a top hat rail as standard in FC724 fire control panels.

Preparatory work

We would recommend first removing the batteries when removing and refitting the power supply.

Installation

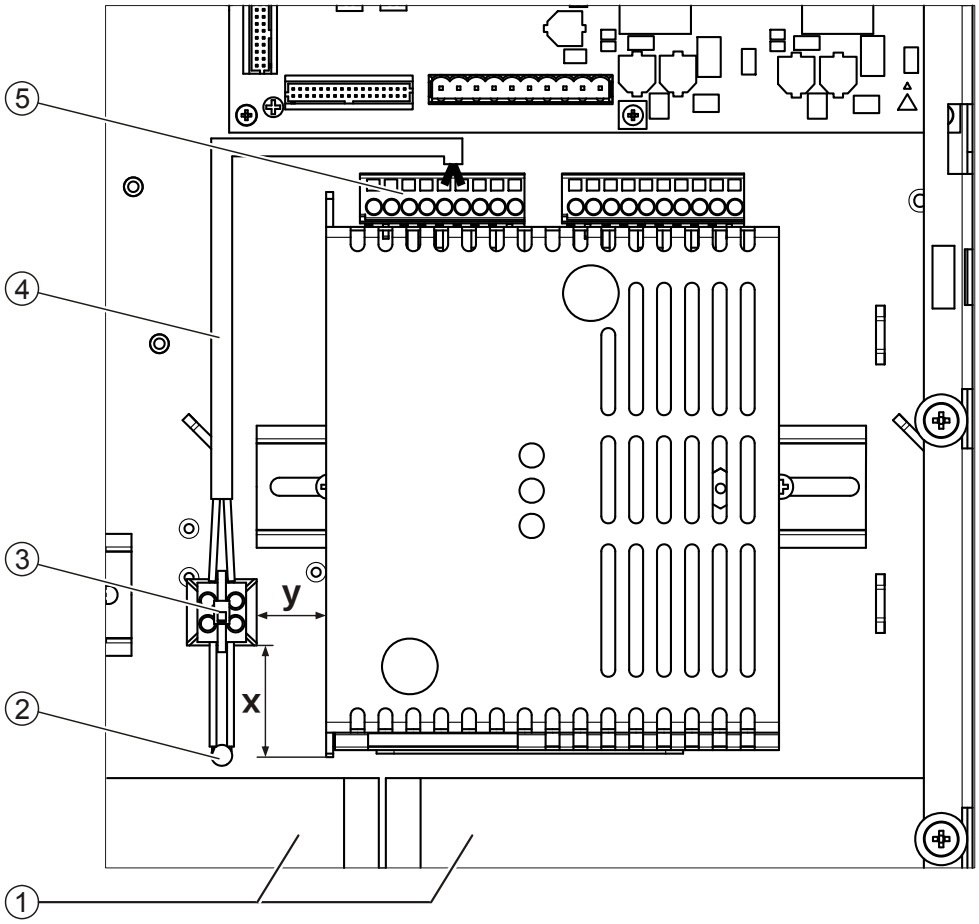


Installation of the 150 W power supply in the Comfort housing

1	Top hat rail for power supply	6	Slot for retaining bracket
2	Fixing screws for top hat rail	X1	Mains connection terminal
3	Power supply (150 W) FP2004-A1	X8	Supply output terminal
4	Bottom fixing screw	X11	Monitoring signals terminal
5	Retaining bracket		

Installation in the power supply

1. Slide the retaining bracket (5) into the mounting slot (6) from below as shown. The bracket jams solidly.
2. Secure the power supply (3) to the top hat rail (1) as shown.
3. Screw the power supply (3) to the retaining bracket (5) with fixing screw (4) from below.
4. Connect the power supply according to the "Pin assignment" chapter.



Position of temperature sensor in housing

1 Batteries

2 Temperature sensor

3 Luster terminal

4 Connection cable to the power supply

5 Connection terminal X11 to the power supply for the temperature sensor

x Approximate distance to the lower edge of the power supply: 20 mm

y Approximate distance to the side wall of the power supply: 5 mm

Installing the temperature sensor

1. Position the luster terminal (3) in compliance with the dimensions (x) and (y) and secure the luster terminal with the supplied adhesive mount.
2. Connect the assembled cable (4) to the luster terminal (3) and to the connection terminal X11 (5) of the power supply according to the pin assignment shown in the next chapter.
3. Secure the temperature sensor (NTC resistor) (2) as shown directly next to the batteries (1).

Secure the temperature sensor as close to the batteries as possible.

6.6.2 Pin assignments

6.6.2.1 X1 mains connection

PIN	Designation	Description
1	PE	Ground (protective conductor)
2	L	External conductor (L1)
3	L	External conductor (L1)
4	N	Neutral conductor
5	N	Neutral conductor

Admissible cable cross-section: 0.2 ... 2.5 mm²

6.6.2.2 X8 output voltage

PIN	Designation	Description
10	$+B_{I\text{-}begr.}$	Connection for battery, current limited via internal battery fuse F2 (not cascaded)
9	$+B_{I\text{-}unbegr.}$	Connection for battery, no current limit (when cascaded, fuse in the cable tree)
8	+24 V	Supply output +24 V
7	+24 V	Supply output +24 V
6	+24 V	Supply output +24 V
5	+24 V	Supply output +24 V
4	+24 V	Supply output +24 V
3	0 V	Supply output 0 V
2	0 V	Supply output 0 V
1	0 V	Supply output 0 V

Admissible cable cross-section: 0,2 ... 2,5 mm²

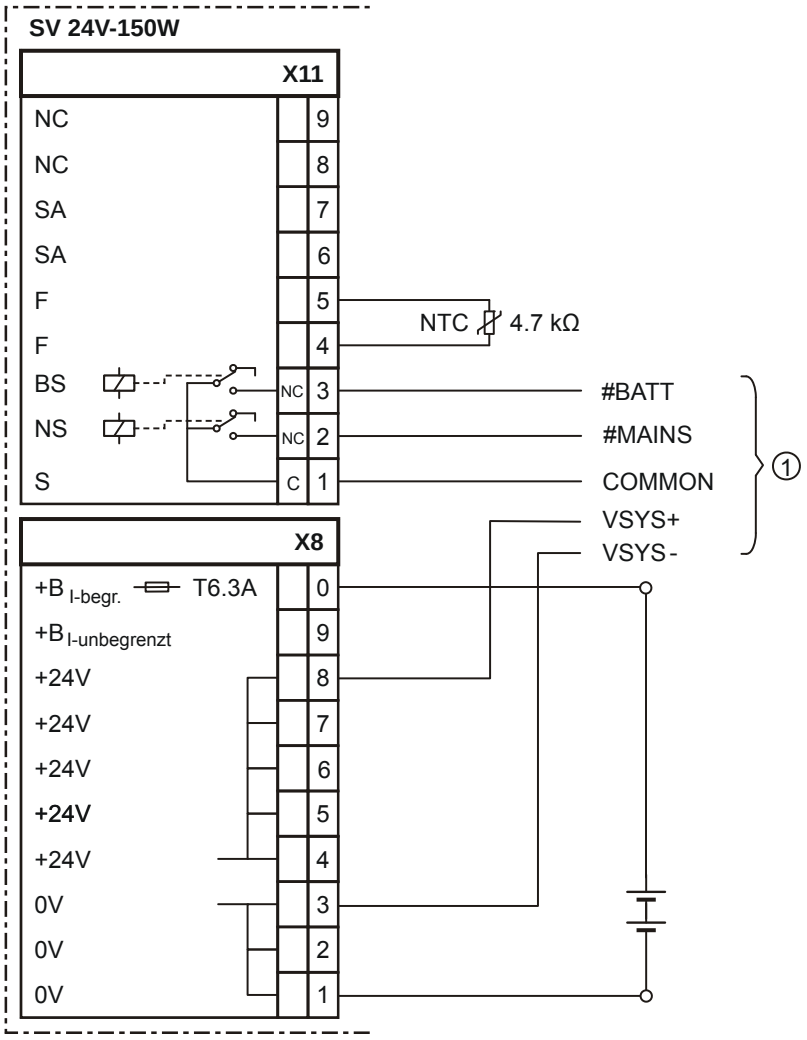
Comment

Batteries may be connected either on terminal 10 or, with external fuse, to terminal 9.

6.6.2.3 X11 monitoring signals

PIN	Designation	Description
9	NC	Not used
8	NC	Not used
7	SA	Control line for consistent current distribution (only when cascaded)
6	SA	Control line for consistent current distribution (only when cascaded)
5	F	Connection for temperature sensor (master only)
4	F	Connection for temperature sensor (master only)
3	BS	Signaling: Battery fault (normal operation 1/3 closed)
2	NS	Signaling: Mains fault (normal operation 1/2 closed)
1	S	Signaling: Common fault contact

Admissible cable cross-section: 0,2 ... 2,5 mm²

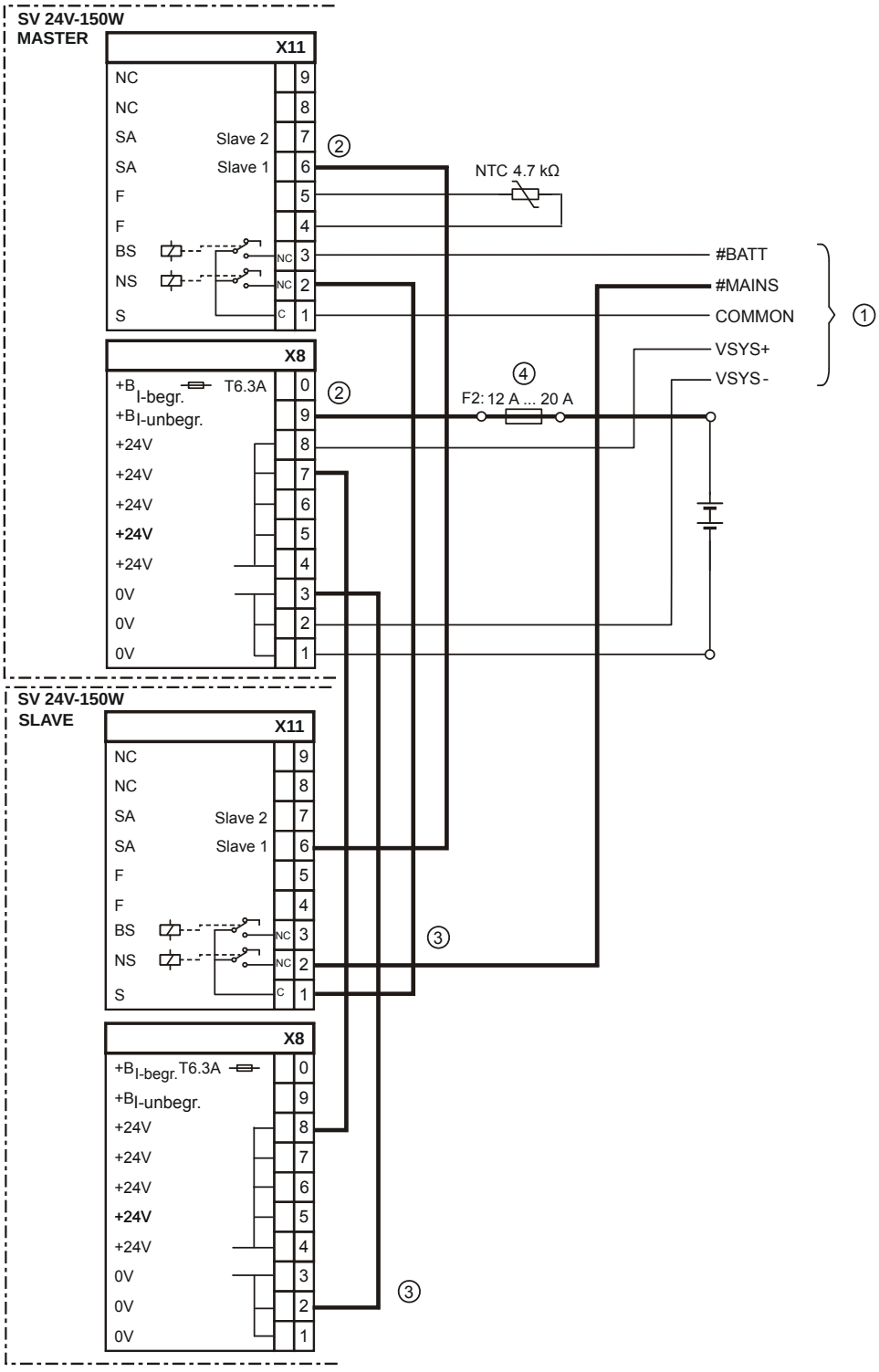


1 Cable tree to periphery board or fire terminal board

See also

- X1 supply [→ 39]
- X1 supply [→ 45]
- X1 supply [→ 52]

6.6.2.4 Cascading of two supply units



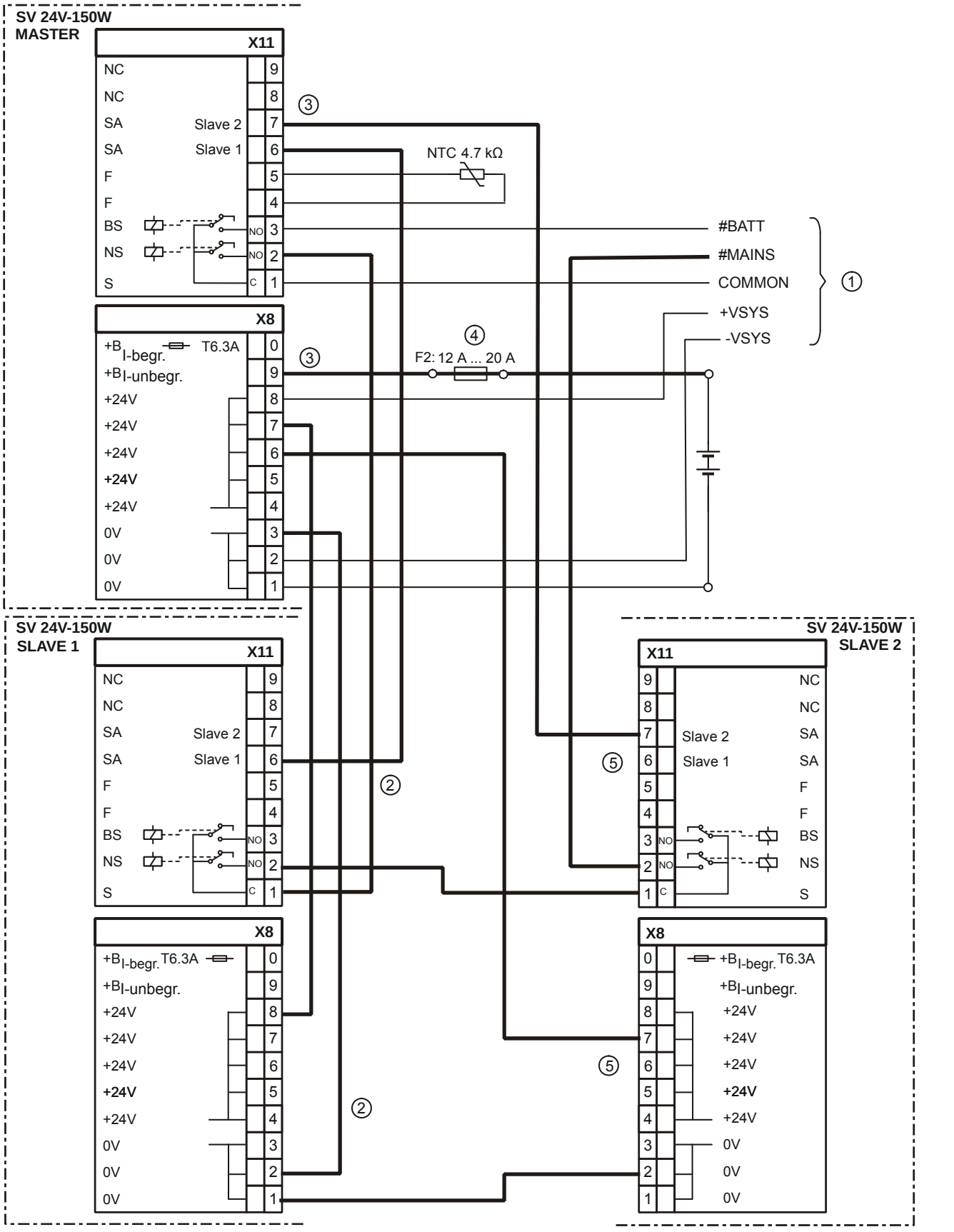
Cascading of two 150 W power supply units

1	Cable tree to periphery board or fire terminal board
2	Existing cable tree (connection for master power supply)
3	Additional cable tree for the second power supply (slave)
4	Additional fused terminal (F2) on the top hat rail

Notes

- The **connection lines marked in bold** of the additional cable tree (3) and the existing cable tree (2) must be wired again when installing the second power supply source (slave).
- In order to avoid ambient temperature differences, the two power supply units must be mounted next to each other in the same housing.
- The batteries and the system supply must only be connected to the master power supply unit.
- Only one temperature sensor must be connected to the master power supply unit.
- The temperature sensor must be fitted close to the batteries. (Precise details can be found in document A6V10210390, installation).

6.6.2.5 Cascading of three supply units



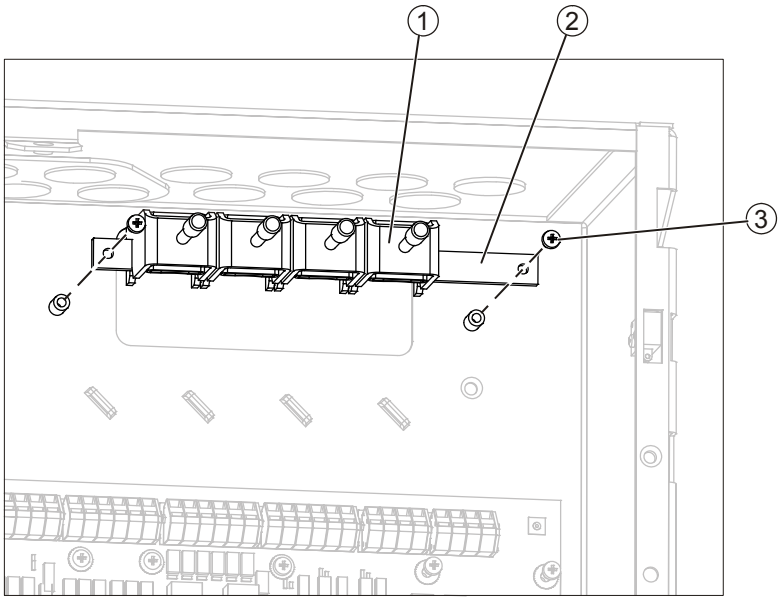
Cascading of three 150 W power supply units

1	Cable tree to periphery board or fire terminal board
2	Existing cable tree (connection for master power supply)
3	Additional cable tree for the second power supply source (slave 1)
4	Additional fused terminal (F2) on the top hat rail
5	Additional cable tree for the third power supply source (slave 2)

Notes

- The **connection lines marked in bold** of the additional cable tree (3 and 5) and the existing cable tree (2) must be wired again when installing the second power supply source (slave).
- In order to avoid ambient temperature differences, the three power supply units must be mounted next to each other in the same housing.
- The batteries and the system supply must only be connected to the master power supply unit.
- Only one temperature sensor must be connected to the master power supply unit.
- The temperature sensor must be fitted close to the batteries. (Precise details can be found in document A6V10210390, installation).

6.7 Integration of the shield connection terminal blocks [DE]



Installation of the shield connection terminal blocks

1 Shield connection terminal block
2 Camp bar
3 Philips screws M 3/6

Installation steps

1. Use two screws (3) to secure clamp bar (2) as follows:
   Eco and Standard housing: Above the square cable breakout opening on the right
   Comfort housing: One clamp bar above each of the square cable breakout openings
2. Hang the shield connection terminal blocks (1) onto the clamp bar (2) and fasten by tightening the knurled screws.

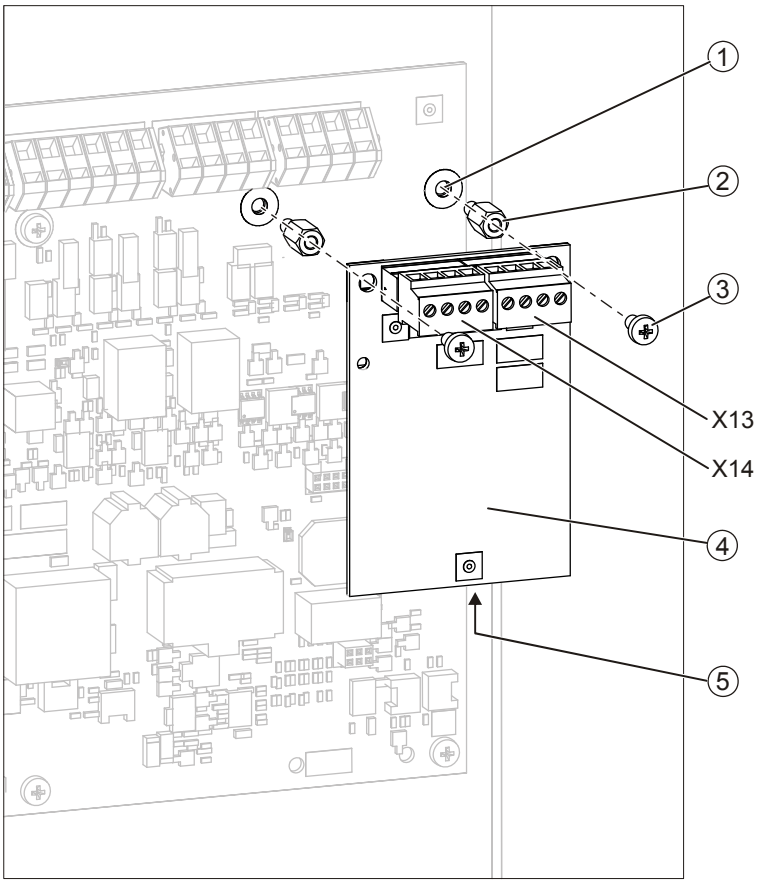
6.8 Integrating a loop extension

6.8.1 Installation

The loop extensions (C-NET) FCI2003-A1 are mounted onto the periphery board. The slots are located next to the corresponding detector line connections.

The installation of the two loop extensions on the periphery board (4-loop) is identical.

- Loop extension integrated line card 1:
  - Plug X15 / periphery board (4 loops)
  - Plug X15 / periphery board (2 loops)
- Loop extension integrated line card 2:
  - Plug X25 / periphery board (4 loops)



Installing a loop extension with the example of the periphery board (2 loops)

1 Mounting holes on periphery board
2 Spacer bolts
3 Fixing screws
4 Loop extension (C-NET) FCI2003-A1
5 Connector for the loop extension

Installation steps

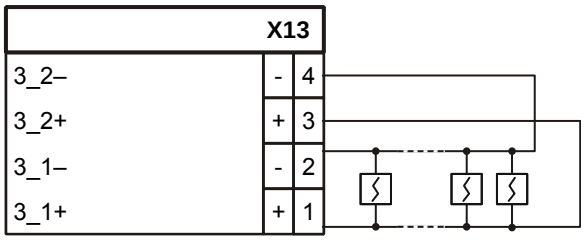
1. First, remove the respective fixing screws (3) from the periphery board.
2. Screw the two spacer bolts (2) into the mounting holes (1) on the periphery board.
3. Mount the loop extension (C-NET) onto the connector (5) on the periphery board.
4. Screw the loop extension (C-NET) in place using the two fixing screws (3).
5. Wire up the detector lines according to the pin assignment.

6.8.2 Pin assignments

6.8.2.1 X13 connection loop 3

PIN	Designation	Description
4	3_2-	Loop extension for loop 3 or stub 6 (–)
3	3_2+	Loop extension for loop 3 or stub 6 (+)
2	3_1-	Loop extension for loop 3 or stub 5 (–)
1	3_1+	Loop extension for loop 3 or stub 5 (+)

Admissible cable cross-section: 0,2 ... 1.5 mm²



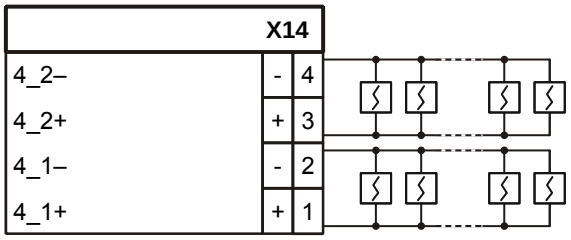
Notes:

- One loop or two stubs can be connected to the loop extension (C-NET).
- The plug for the loop extension (C-NET) is always located at the corresponding detector line connection.

6.8.2.2 X14 connection loop 4

PIN	Designation	Description
4	4_2-	Loop extension for loop 4 or stub 8 (–)
3	4_2+	Loop extension for loop 4 or stub 8 (+)
2	4_1-	Loop extension for loop 4 or stub 7 (–)
1	4_1+	Loop extension for loop 4 or stub 7 (+)

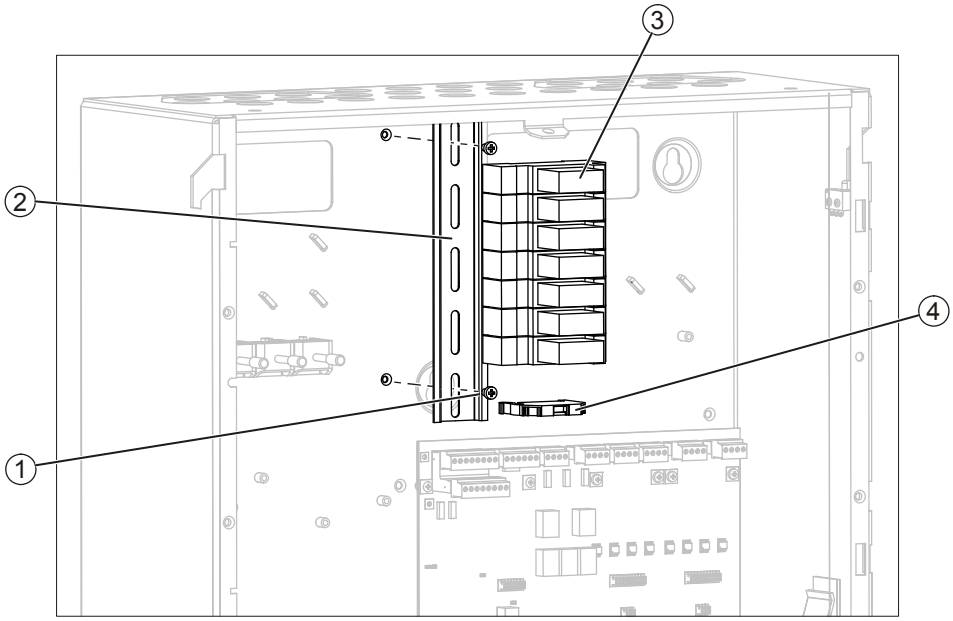
Admissible cable cross-section: 0,2 ... 1.5 mm²



Notes:

- One loop or two stubs can be connected to the loop extension (C-NET).
- The plug for the loop extension (C-NET) is always located at the corresponding detector line connection.

6.9 Installing the relay module



Installation of relay module

1 Fixing screws for the top hat rail	3 Relay
2 Top hat rail	4 End clamp for the relays

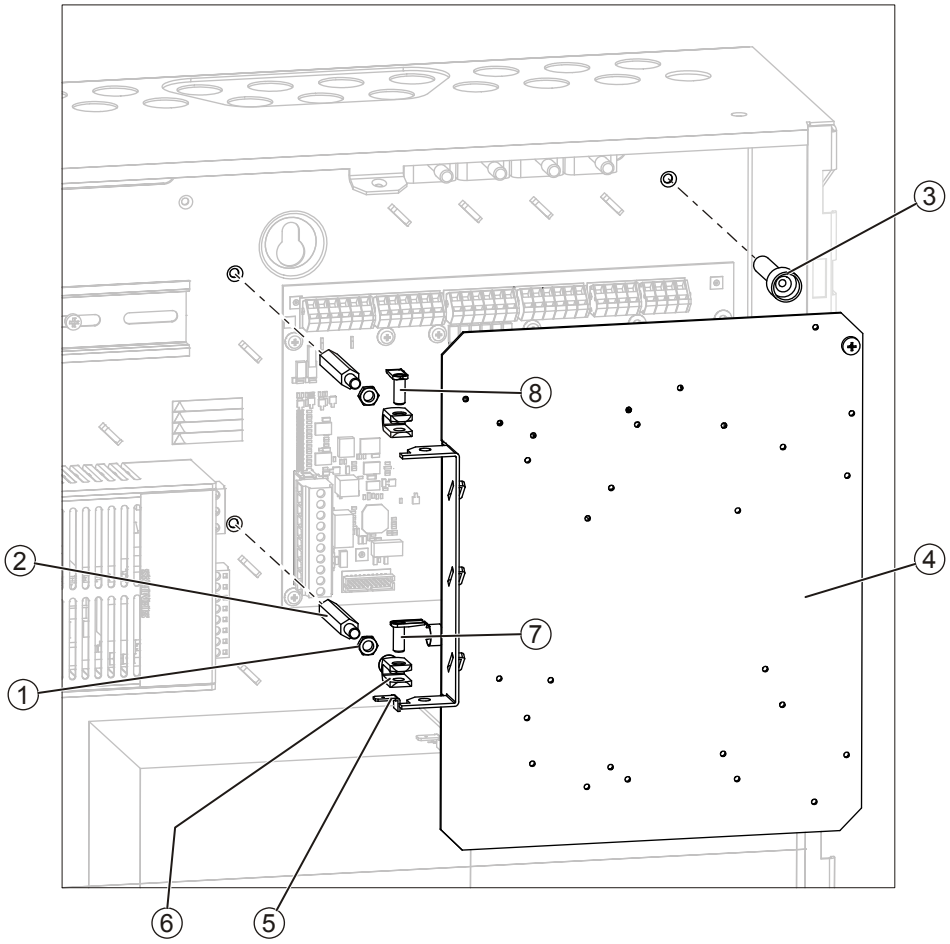
Installation steps

1. Insert the relays (3) on the top hat rail (2) and press them down until they latch.
2. Mount the end clamp (4) to secure the relays.
3. Depending on their intended use, connect the relays to the configurable control outputs of the periphery board. For the pin assignment, refer to the product characteristics of the respective periphery board.

6.10 Installing the mounting plate

The mounting plate FHA2008-A1 is used to hold components that have to be installed above the periphery board. It is supplied in a disassembled state and in a separate packaging unit.

6.10.1 Installation in Standard and Comfort housing



Installation of mounting plate FHA2007-A1 in Standard and Comfort housing

1 Counternut M 5 (2 pieces)
2 Spacers (2 pieces)
3 Fastening bolt (1 piece)
4 Mounting plate
5 Hinged bracket
6 Fork head (2 pieces) for mounting the hinge
7 Fastening clamp (2 pieces, installation position)
8 Fastening clamp (fixed position)

Installation steps

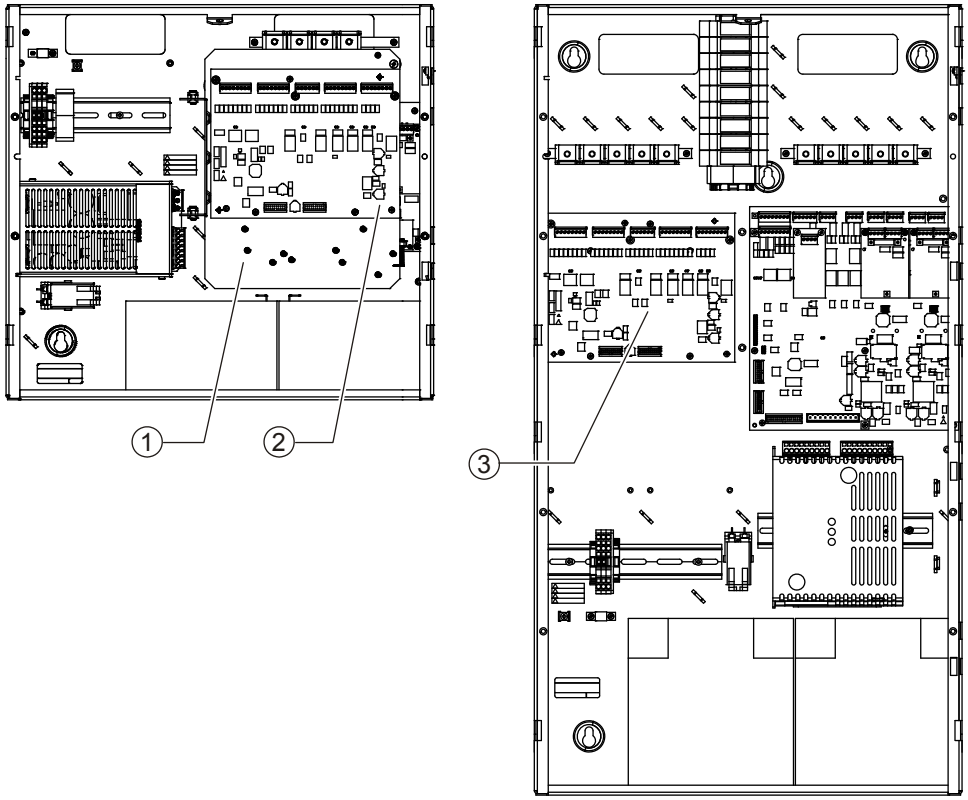
1. Screw the fastening bolt (3) to the right of the rear panel.
2. Screw the two spacers (2) to the left of the rear panel.
3. Screw one counternut (1) onto each spacer (2).
4. Screw the fork heads (6) onto the spacers (2) and fixate them in a horizontal position (in accordance with the figure shown) using the counternut (1).
5. Insert the mounting plate with the hinged brackets (5), into the fork heads so that the fastening clamps (7) can be inserted into the fork heads from above (as shown in the figure).
6. Swivel the clamps backwards so that they snap in place in the fork heads (8).
7. Swivel the mounting plate (4) over the periphery board and fix it in the fastening bolt (3) on the right with the fixing screw.

6.11 Installing a fire department periphery module [DE]

6.11.1 Installation

The fire department periphery module FCI2001-D1 can be mounted at different positions depending on the station type and equipment:

- In the Comfort housing to the left of the periphery board, if there is sufficient space
- In the Comfort and Standard housings on the mounting plate above the periphery board

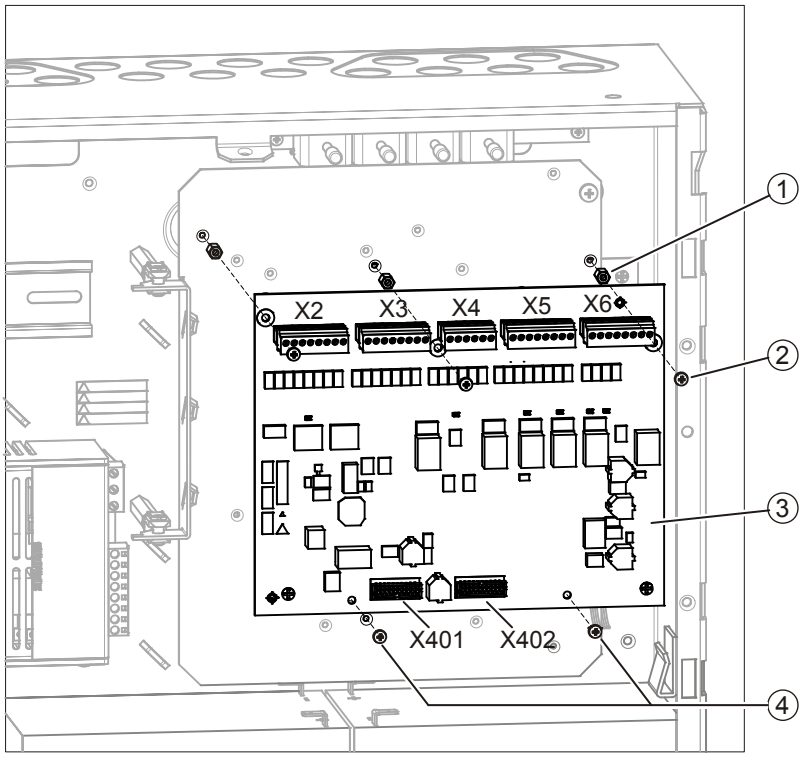


Examples of modes of installation for fire brigade periphery module in Standard and Comfort housing

1 Mounting plate above the periphery board

2 Fire department periphery module mounted on the mounting plate

3 Fire department periphery module mounted on the rear panel



Installation of the fire department periphery module

1	Spacer sleeves (5 pieces.): (only required for mounting on the mounting plate)
2	3 fixing screws at top
3	Fire department periphery module
4	2 fixing screws at bottom
X2	Connection for fire department operating panel
X3	Connection for fire department operating panel
X4	Connection for transmission equipment/release element
X5	Connection for fire department key depot
X6	Connection for intrusion detection system, local alarm, identification lamp
X401	Connection for periphery bus
X402	Connection for periphery bus

Installation steps

1. Mount the fire department periphery module (3) to the mounting plate or the rear panel (observe correct installation position) as shown in the figure using the mounting screws (2 and 4). Distance sleeves (1) must be used when fitting on mounting plate.
2. Wire up the fire department periphery module according to the pin assignment.

6.11.2 Pin assignments

Inputs and outputs which are not used do not require termination.

6.11.2.1 X2 fire department operating panel / X3 fire department operating panel

X2 fire department operating panel

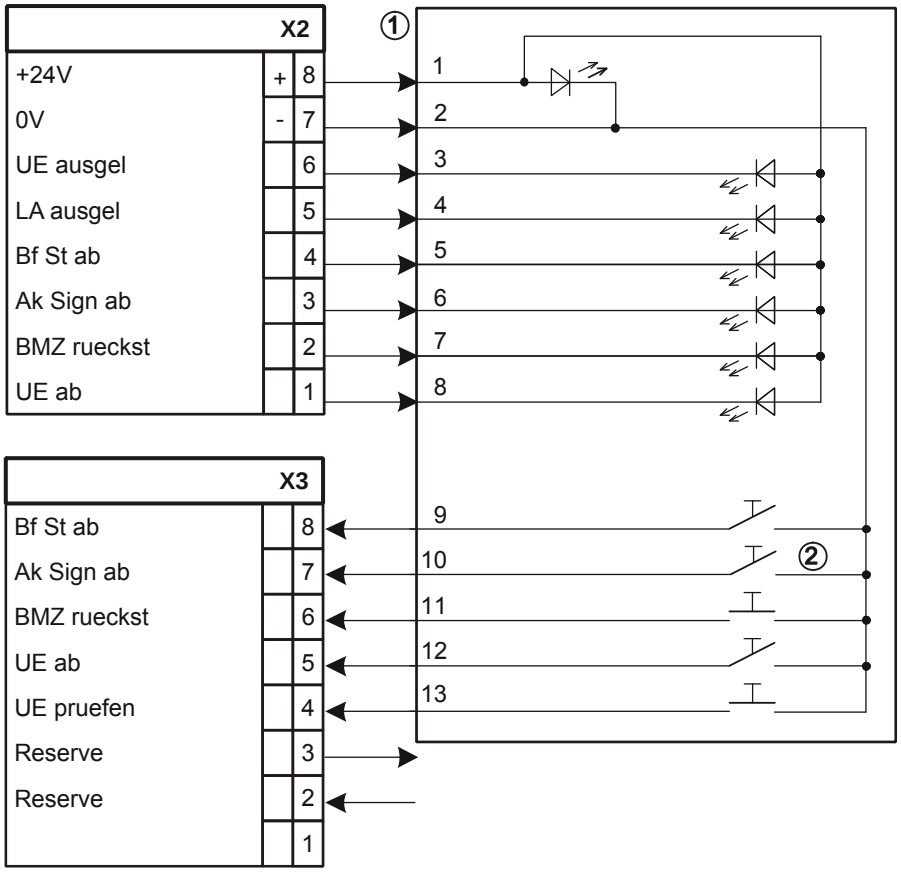
PIN	Designation	Description
8	+24V	Operating voltage (+24 V)
7	0V	Operating voltage (-)
6	UE ausgel	Transmission transmission triggered
5	LA ausgel	Extinguishing system triggered
4	Bf St ab	Fire controls off
3	Ak Sign ab	Acoustic signals off
2	BMZ rueckst	Reset fire control panel
1	UE ab	Remote transmission off

Admissible cable cross-section: 0.2 ... 1.5 mm²

X3 fire department operating panel

PIN	Designation	Description
8	Bf St ab	Fire controls off
7	Ak Sign ab	Acoustic signals off
6	BMZ rueckst	Reset fire control panel
5	UE ab	Remote transmission off
4	UE pruefen	Check remote transmission
3	Reserve	Reserve output
2	Reserve	Reserve input
1		Not used

Admissible cable cross-section: 0.2 ... 1.5 mm²



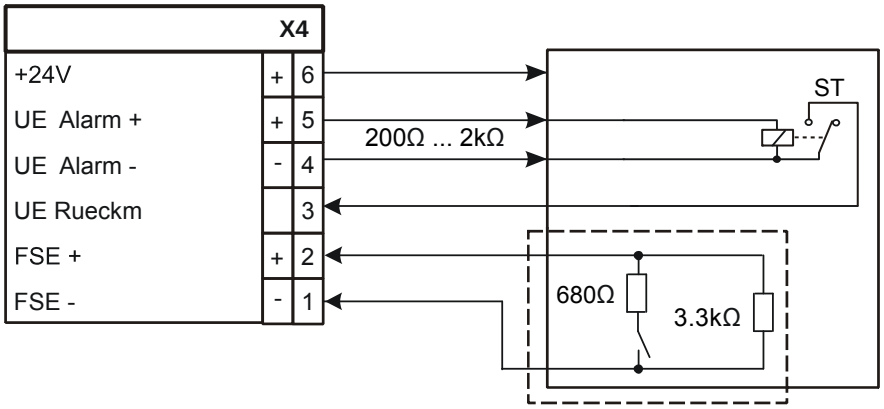
1 The connection details correspond to the FBF Type Wiesmeier FBF0770

2 only switch possible

6.11.2.2 X4 remote transmission /release element

PIN	Designation	Description
6	+24 V	Operating voltage (+24 V)
5	UE Alarm+	Remote transmission/device alarm (+)
4	UE Alarm-	Remote transmission/device alarm (-)
3	UE Rueckm	Remote transmission /device acknowledgement (+)
2	FSE+	Release element with monitored remote switching output or separately monitored key switch
1	FSE-	

Admissible cable cross-section: 0.2 ... 1.5 mm²

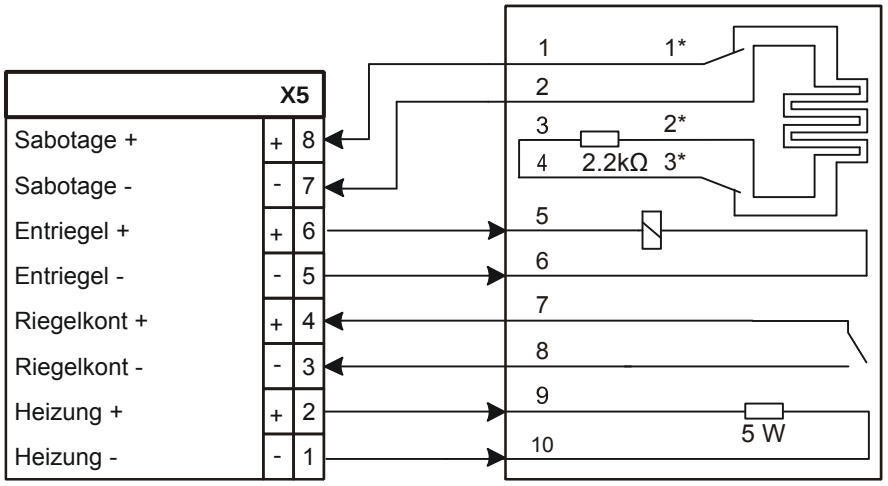


ST Fault contact of the transmission device

6.11.2.3 X5 fire department key depot

PIN	Designation	Description
8	Sabotage +	Tamper monitoring (+)
7	Sabotage -	Tamper monitoring (-)
6	Entriegel +	Unlocking (+)
5	Entriegel -	Unlocking (-)
4	Riegelkont +	Latch contact (+)
3	Riegelkont -	Latch contact (-)
2	Heizung +	Heating (+)
1	Heizung -	Heating (-)

Admissible cable cross-section: 0.2 ... 1.5 mm²



1* Door contact

2* Drill protection

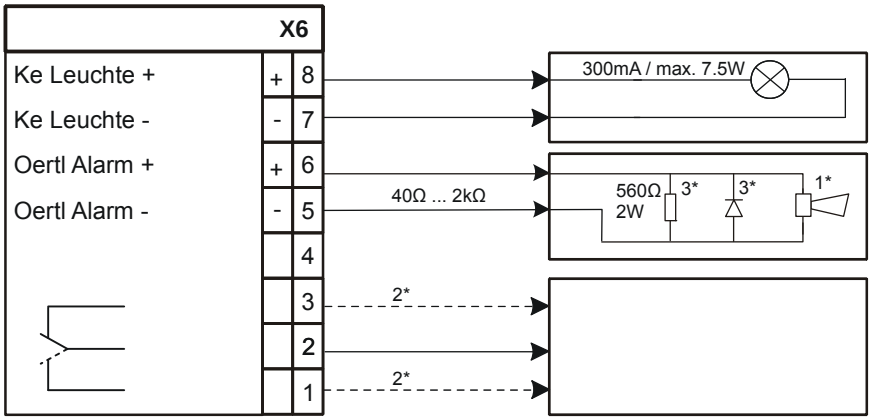
3* Key contact

When an alarm is pending, the key depot for the heating is disconnected from the power supply for reasons of product safety. Only when the alarm is reset, is it again connected to the power supply.

6.11.2.4 X6 intrusion detection system / local alarm / identification lamp

PIN	Designation	Description
8	Ke Leuchte +	Identification lamp (+)
7	Ke Leuchte -	Identification lamp (-)
6	Oertl Alarm +	Local alarm (+)
5	Oertl Alarm -	Local alarm (-)
4	-	not used
3		FSD sabotage, closer (normally open)
2		FSD sabotage, common
1		FSD sabotage, opener (normally open)

Admissible cable cross-section: 0.2 ... 1.5 mm²



1* Horn or beacon

2* FSD sabotage, connection for "Transmission intrusion detection system" (can be connected as NO or NC)

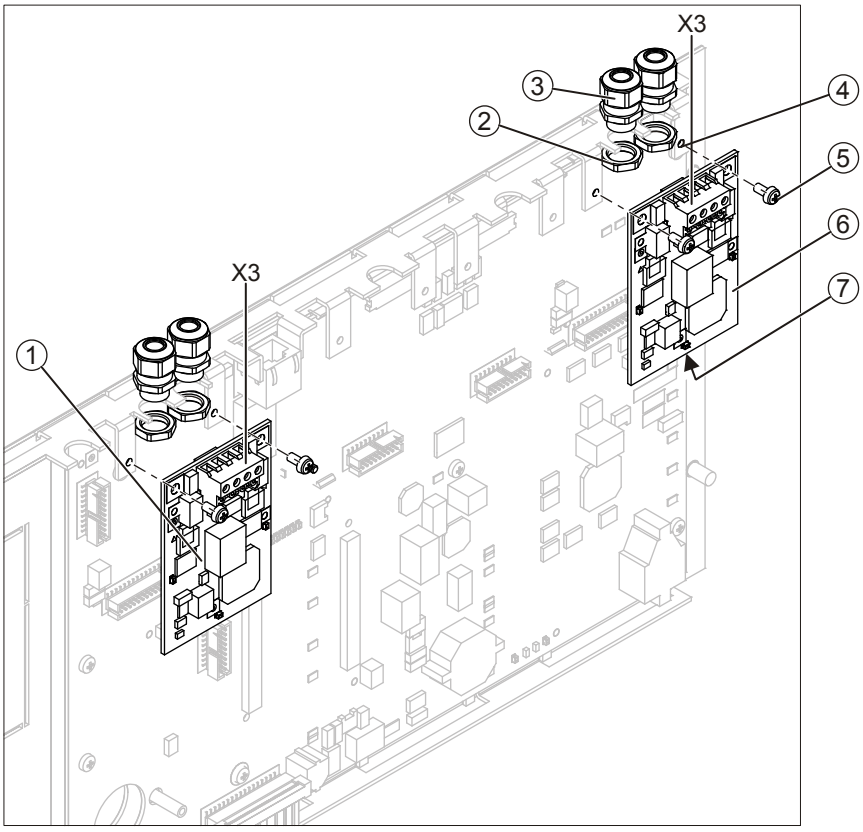
3* If necessary

6.12 Installing a networking module (SAFEDLINK)

6.12.1 Installation

If you are installing only one networking module (SAFEDLINK) FN2001-A1, you must do so in the left-hand slot (X13).

When two networking modules are used (SAFEDLINK) FN2001-A1, installation is identical for both.



Installation of both network modules (SAFEDLINK)

1 Networking module (SAFEDLINK) on X13 (master module)

2 Nut for screwed cable gland (2 per module) [1]

3 Screwed cable gland (2 per module) *

4 Mounting links on support plate

5 Fixing screws (2 pieces)

6 Degraded mode networking module (SAFEDLINK) on X12

7 Connector to PMI & mainboard (X12/X13)

[1] When using shielded cables, the cable screw connections are needed to secure the shielding.

When installing only one networking module (SAFEDLINK) ensure that the main module is installed at the correct position.

Installation steps

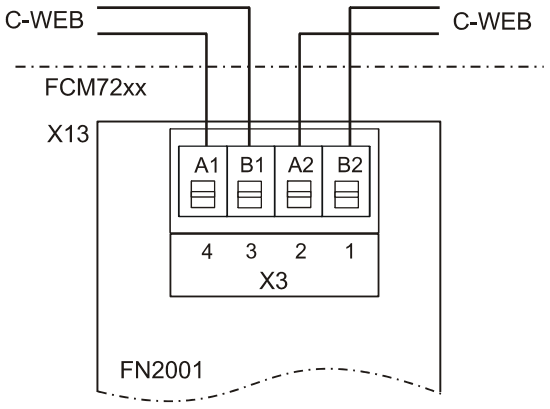
1. When shielded cables are used, mount the two cable glands (3) with the nuts (2) on the flange between the mounting links (4). These are needed to secure the shielding.
2. Push the networking module (SAFEDLINK) (1, 6) onto the corresponding connector (7).
3. Fasten the module to the mounting links (4) using the two screws (5).
   NOTICE! Ensure that the network module is secured correctly in order to prevent open lines.
4. Wire up the system bus according to the pin assignment.

6.12.2 Pin assignments

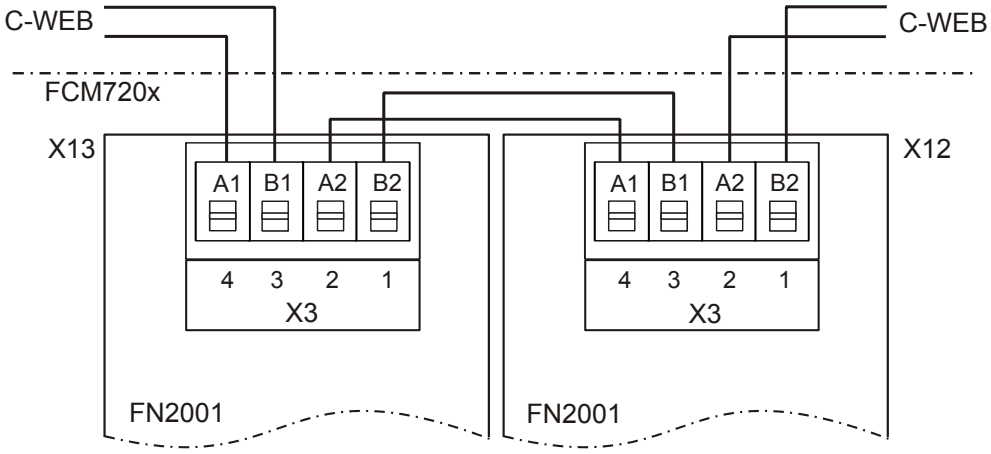
6.12.2.1 Connector X3

PIN	Designation	Description
4	A1	Line 1 (+)
3	B1	Line 1 (–)
2	A2	Line 2 (+)
1	B2	Line 2 (–)

Admissible cable cross-section: 0,2 ... 2,5 mm²



Cabling of 1 networking module



Cabling of 2 networking modules

The main module must always be plugged in slot X13 of the operating unit FCM72xx.

When two networking modules are used, the degraded mode module must be plugged in slot X12 of the FCM72xx operating unit.

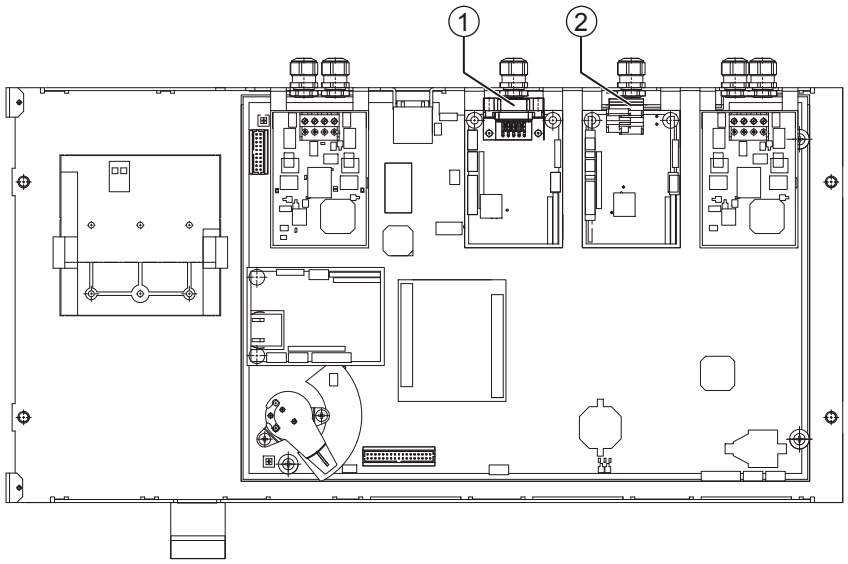
6.13 Installing an RS232/RS485 module

6.13.1 Installation

The serial modules include:

- RS232 module (isolated) FCA2001-A1
- RS485 module (isolated) FCA2002-A1

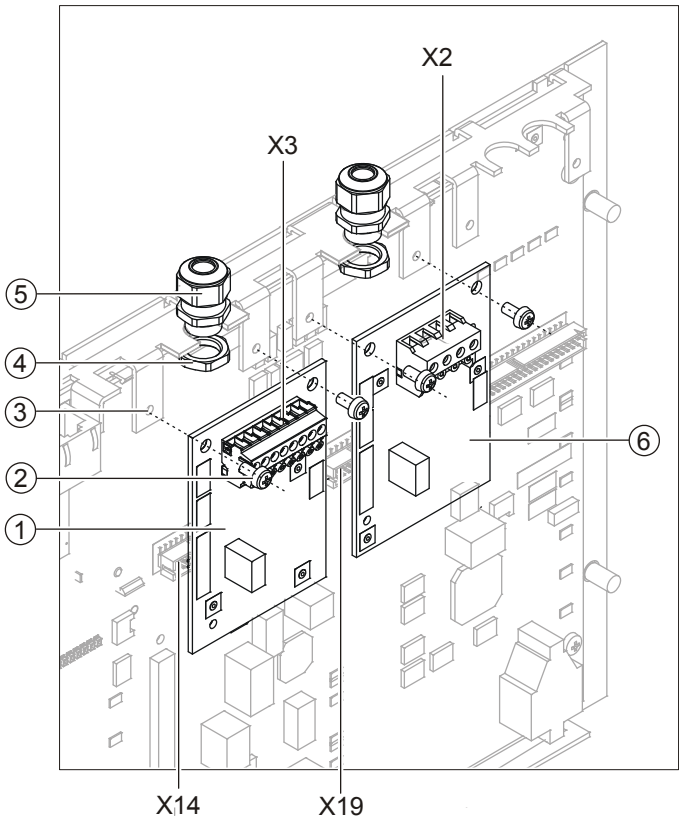
These modules must be mounted in the slots designed for them on the operating unit. The mounting procedure of the two serial modules is the same for all modules.



Installation location of the serial modules

1 RS232 module in slot X14

2 RS485 module in slot X19



Installation of the serial modules

1	RS232 module in slot X14	6	RS485 module in slot X19
2	Fixing screw (2 pieces)	X14	Slot for RS232 module on the operating unit
3	Mounting links on support plate	X19	Slot for RS485 module on the operating unit
4	Nut for screwed cable gland	X3	Connection terminal on RS232 module
5	Screwed cable gland	X2	Connection terminal on RS485 module

Installation steps

1. Mount the cable gland (5) with the nut (4) on the flange between the mounting links (3).

No cable glands are necessary when internal wiring within the housing, e.g. from the RS232 module to the event printer fitted.

2. Push the serial module (1 or 6) onto the corresponding connector (X14 or X19).
3. Fasten the serial module to the mounting links (2) using the two screws (4).
4. Wire the serial module with the appropriate assemblies according to the pin assignment.

6.13.2 Pin assignments

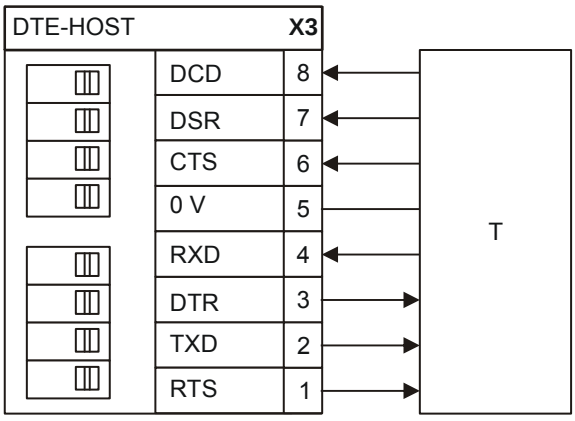
The serial modules are connected as follows:

- Event printer, see chapter 'Installing an event printer'
- RS232 module: X3 DTE-HOST
- RS485 module: X2 connector

6.13.2.1 X3 DTE-HOST

PIN	Designation	Description
8	DCD ←	Data Carrier Detected
7	DSR ←	Data Set Ready
6	CTS ←	Clear To Send
5	0 V	Ground
4	RXD ←	Received Data
3	DTR →	Data Terminal Ready
2	TXD →	Transmitted Data
1	RTS →	Ready To Send

Admissible cable cross-section: 0.2 ... 1.5 mm²

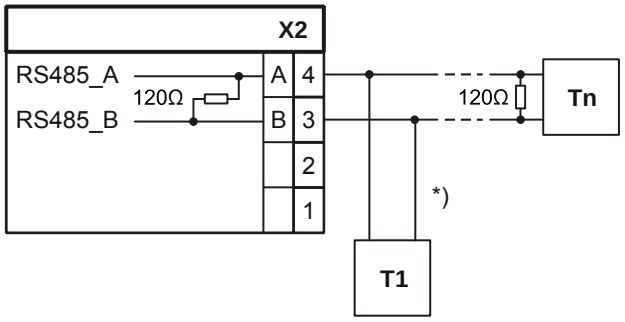


T Participant with RS232 interface

6.13.2.2 X2 connector

PIN	Designation	Description
4	RS485_A	Line A
3	RS485_B	Line B
2		Not connected
1		Not connected

Admissible cable cross-section: 0.2 ... 1.5 mm²



T1 First participant Tn Last participant

Comments

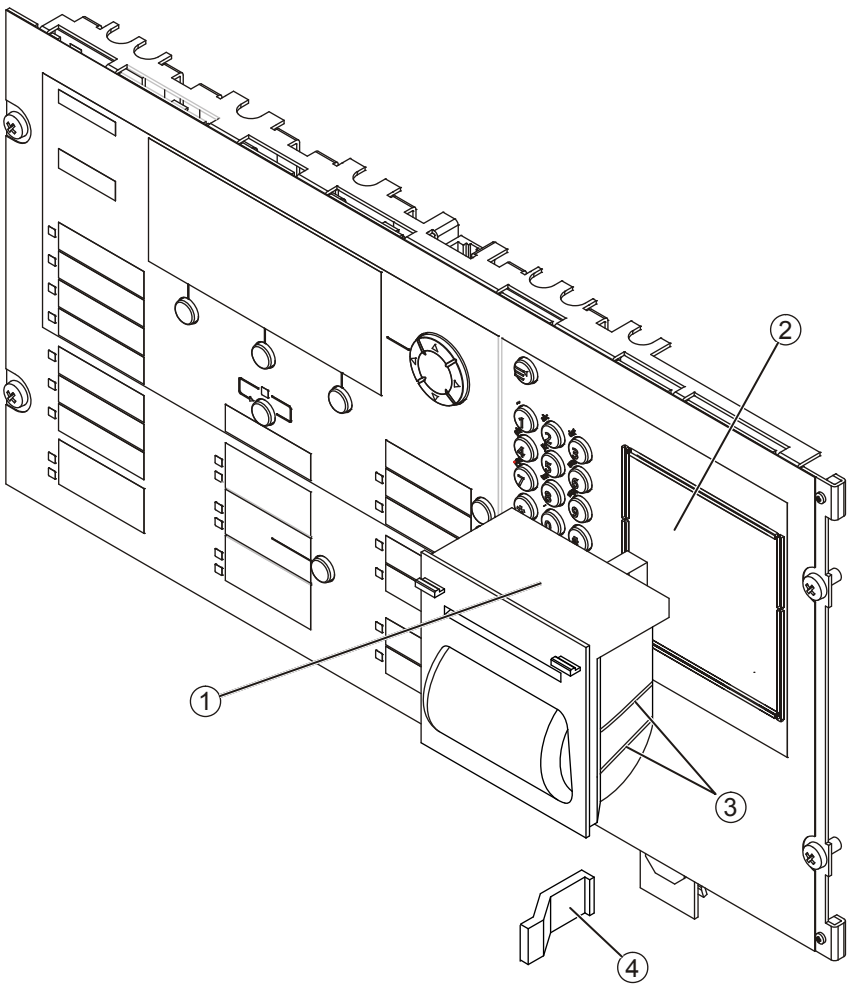
*) Stub lines must not exceed 20 m!

- Consider the polarity A, B!
- Terminate the line after the last participant (Tn) with 120 Ω!

6.14 Installing an event printer

6.14.1 Installation

The event printer FTO2001-A1 is an option and can be installed either in the operating unit or in the operating add-on, depending on the station design. Depending on the operating add-on, the printer can be installed either on the left or on the right.



Installation of the printer in the operating unit

1	Event printer	3	Guide for the fastening clamp
2	Mounting space for the event printer	4	Fastening clamp (for both sides)

Prerequisite

Keep in mind that the serial RS232 module FCA2001-A1 is not contained in the printer set and still has to be mounted unless it is already installed (slot 1, on PMI and mainboard).

Installation steps

Check the installation site carefully

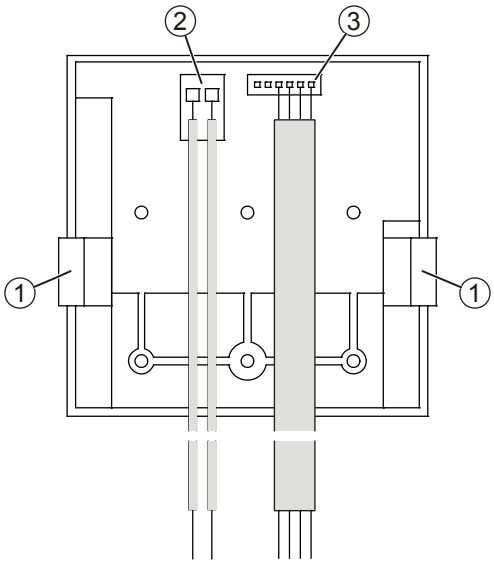
Depending on the station type it is possible that the depth is insufficient for the event printer. This must be checked especially if operating add-ons are used, as the batteries are installed immediately behind the event printer.

If it is installed in the wrong place, this cannot be corrected and may under certain circumstances affect the subsequent assembly of the station.

1. Using a knife, cut out the cover foil along the pre-cut opening.
2. Carefully loosen the pre-cut opening.
3. From the front side, insert the printer (1) into the opening (2) of the operating unit.
4. Holding on to the printer, slide the fastening clamps (4) on both sides of the printer from the rear into the guide slots (3) of the printer.
5. Press the clamps against the operating unit until you can hear them snap in place and they hold the printer sufficiently well.
6. Connect the printer with the supplied cable set according to the pin assignment.

6.14.2 Pin assignments

6.14.2.1 Connection on printer side



Wiring on event printer (view of rear side)

1 Fastening clamps
2 Supply connection
3 Connecting the data cable

6.14.2.2 Connection on station side

The event printer must be directly connected to the power supply.

Connection of the event printer to power supply (70 W)

Connector	From printer	To	Power supply terminal X1
2	Positive supply (red)	=>	X1, PIN 4 (Usys +)
	Negative supply (blue)	=>	X1, PIN 3 (Usys -)

Pin assignment for 70 W power supply unit

Connection of the event printer to power supply (150 W)

Connector	From printer	To	Power supply terminal X1
2	Positive supply (red)	=>	X1, PIN 4, 5, 6, 7 or 8 (+24 V)
	Negative supply (blue)	=>	X1, PIN 1, 2 or 3 (0 V)

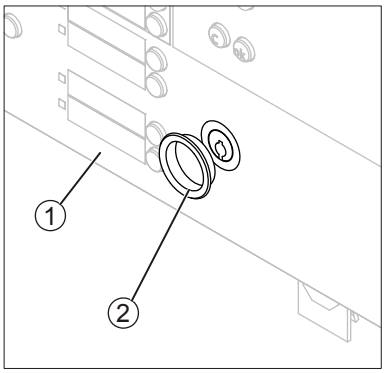
Pin assignment for 150 W power supply unit

Connection of event printer to RS232 module

Connector	From printer	To	Terminal X3 of RS232 module
3	Data (white)	=>	(X3) PIN 6 (CTS)
	Data (brown)	=>	(X3) PIN 4 (RXD)
	Data (green)	=>	(X3) PIN 2 (TXD)
	Data (yellow)	=>	(X3) PIN 5 (0 V)

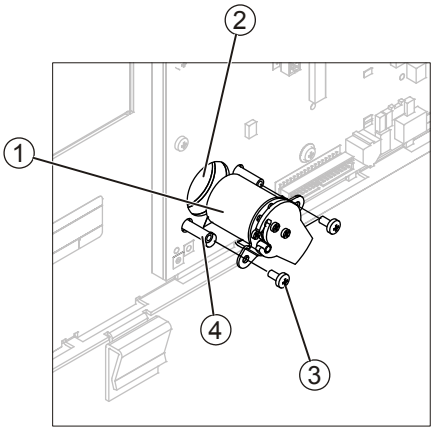
Pin assignment for RS232 module

6.15 Installing key switch (Kaba) FTO2005-C1



Installing the guard ring for the key switch on the foil side

1 Foil side of the operating unit
2 Guard ring for the key switch



Installing the key switch on the PMI & mainboard

1 Lock cylinder (key switch)
2 Opening in the operating unit for the key switch
3 Fixing screws (2 pieces)
4 Spacer bolts (2 pieces)

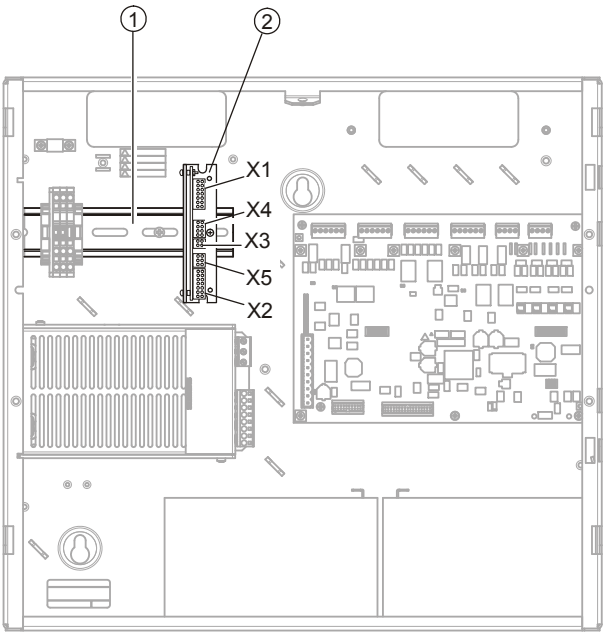
Installation steps

1. Using a knife, cut out the cover foil along the opening for the key switch (2) (working from the front side if possible).
2. Place the key switch (1) on the distance bolts (4) and fasten it with the two screws (3).
3. Press the guide ring for the key switch from the front side onto the lock cylinder (1) until it snaps in as shown above.

6.16 Installing a Redux module [DE]

6.16.1 Installation

The Redux module RGQ:FAT-Redux-FS720 is an option for redundantly activating the fire department indication panel (FAT) [DE]. It is fitted on the top hat rail in the fire control panel.



Installation position of the Redux module

1	Top hat rail	X3	Input for system voltage
2	Redux module	X4	Output for power supply of the FAT
X1	Connection terminal for line 1 and 2 to the FAT / VAREX	X5	Connection terminal fault relay
X2	Connection terminal for signals to the fire control panel		

Installation steps

1. Place the Redux module (2) on the top hat rail (1) with the clamp.
2. Wire up the Redux module according to the pin assignment.

6.16.2 Pin assignments

The pin assignment of the Redux module can be found in the manual of the Redux module.

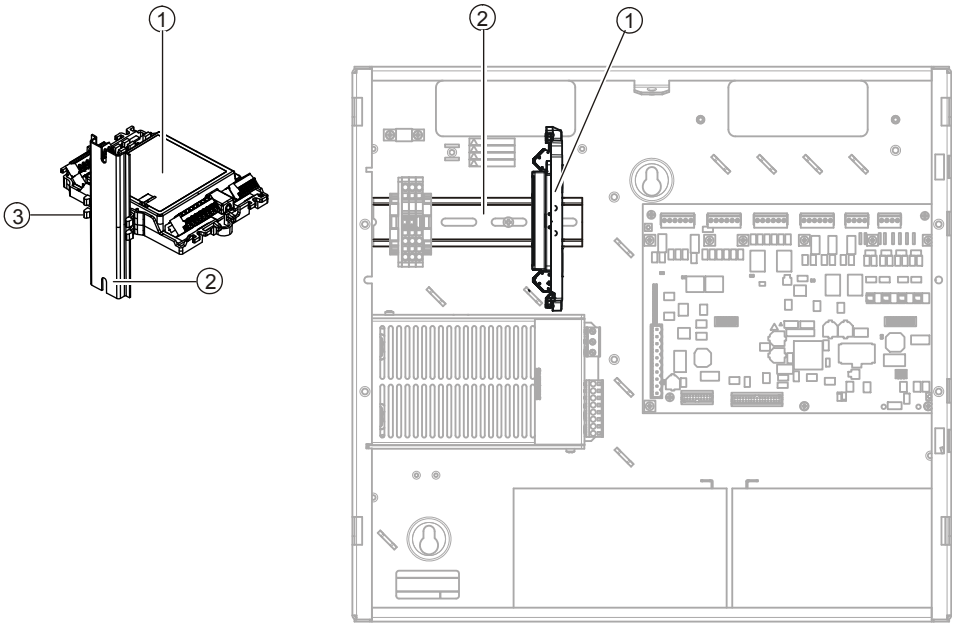
During connection please observe the following:

- The data cables of the Redux module are connected to the RS485 interface.
- The supply of the Redux module is connected to the periphery board.
  - Periphery board (2 loops) FCI2002-A1: Supply output 2 on connector X9
  - Periphery board (4 loops) FCI2004-A1: Supply output 1 on connector X8
- The fault output of the Redux module can be connected to any I/O on the periphery board. The I/O must be configured accordingly.

6.17 Installing the input/output module FDCIO224 [DE]

6.17.1 Installation

The input/output module FDCIO224 has four potential-free contact inputs and four control outputs for the connection of the extinguishing interface in compliance with the VdS extinguishing interface. For this application it must be installed in the fire control panel. The input/output module is mounted onto the top hat rail.



Installing the input/output module FDCIO224 in the fire control panel

1 Input/output module FDCIO224
2 Top hat rail
3 Mounting feet

Installation steps

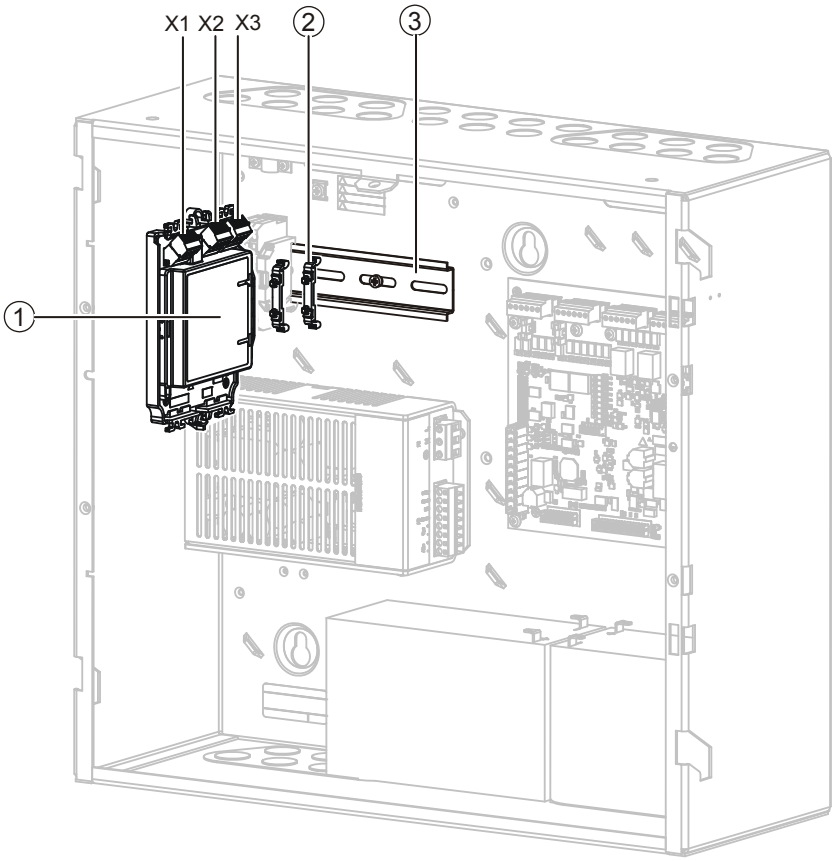
1. Insert the two mounting feet (3) at the sides of the input/output module.
2. Push the input/output module (1) with the mounting feet (3) against the top hat rail (2) until the mounting feet engage.
3. Connect the input/output module according to the following pin assignment. The pin assignment can be found in document 007023, Technical manual.

6.18 Installing a horn line module

6.18.1 Installation

Sounder module FCI2005-A1 is fitted in the fire control panel. The sounder module can be screwed flat onto the rear panel or mounting plate or engaged on the top hat rail by means of the enclosed mounting feet FDCM291.

The following instructions show how the sounder module is mounted onto the top hat rail.



Example: Installing the sounder module FCA2005

1 Sounder module FCA2005
2 Mounting feet FDCM291
3 Top hat rail

Installation steps

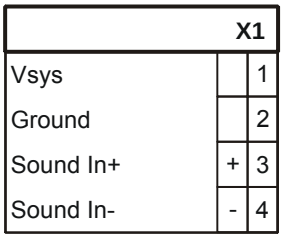
1. Insert the two mounting feet (2) laterally in the sounder module (1). Two mounting feet must always be fitted together.
2. Push the sounder module (1) with the mounting feet (2) against the top hat rail (3) until the mounting feet engage.
3. Wire up the sounder module according to the pin assignment.

6.18.2 Pin assignments

6.18.2.1 X1 supply input and sounder input from the periphery board

X1 sounder module			Periphery board 2 loops		Periphery board 4 loops	
PIN	**Designation**	**Description**	**PIN**	**Designation**	**PIN**	**Designation**
1	+Vsys	Supply input from the periphery board (+)	X8-5	VSYS_01 (+)	X8-7	VSYS_01 (+)
2	Ground	Supply input from the periphery board (-)	X8-6	GND_01 (-)	X8-8	GND_01 (-)
3	Sound In +	Sounder input from the periphery board (+)	X6-1	SOUND1+	X5-1	SOUND1+
4	Sound In -	Sounder input from the periphery board (-)	X6-2	SOUND1-	X5-2	SOUND1-

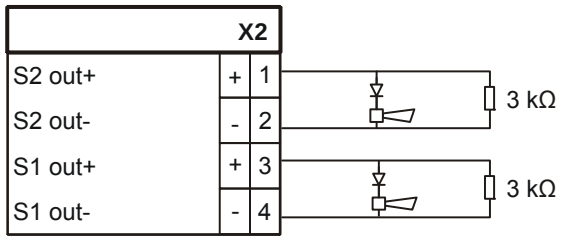
Admissible cable cross-section: 0.08 ... 1.5 mm²



6.18.2.2 X2 sounder 1 and 2 outputs

PIN	Designation	Description
1	S2 out+	Sounder line 2 (+) output
2	S2 out-	Sounder 2 (-) output
3	S1 out+	Sounder line 1 (+) output
4	S1 out-	Sounder 1 (-) output

Admissible cable cross-section: 0.08 ... 1.5 mm²

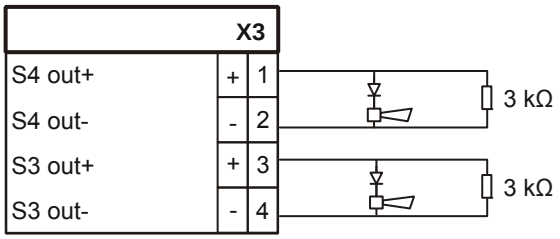


The terminating resistor of 3 kΩ also has to be connected even when the output is not used.

6.18.2.3 X3 sounder 3 and 4 outputs

PIN	Designation	Description
1	S4 out+	Sounder line 4 (+) output
2	S4 out-	Sounder 4 (-) output
3	S3 out+	Sounder line 3 (+) output
4	S3 out-	Sounder 3 (-) output

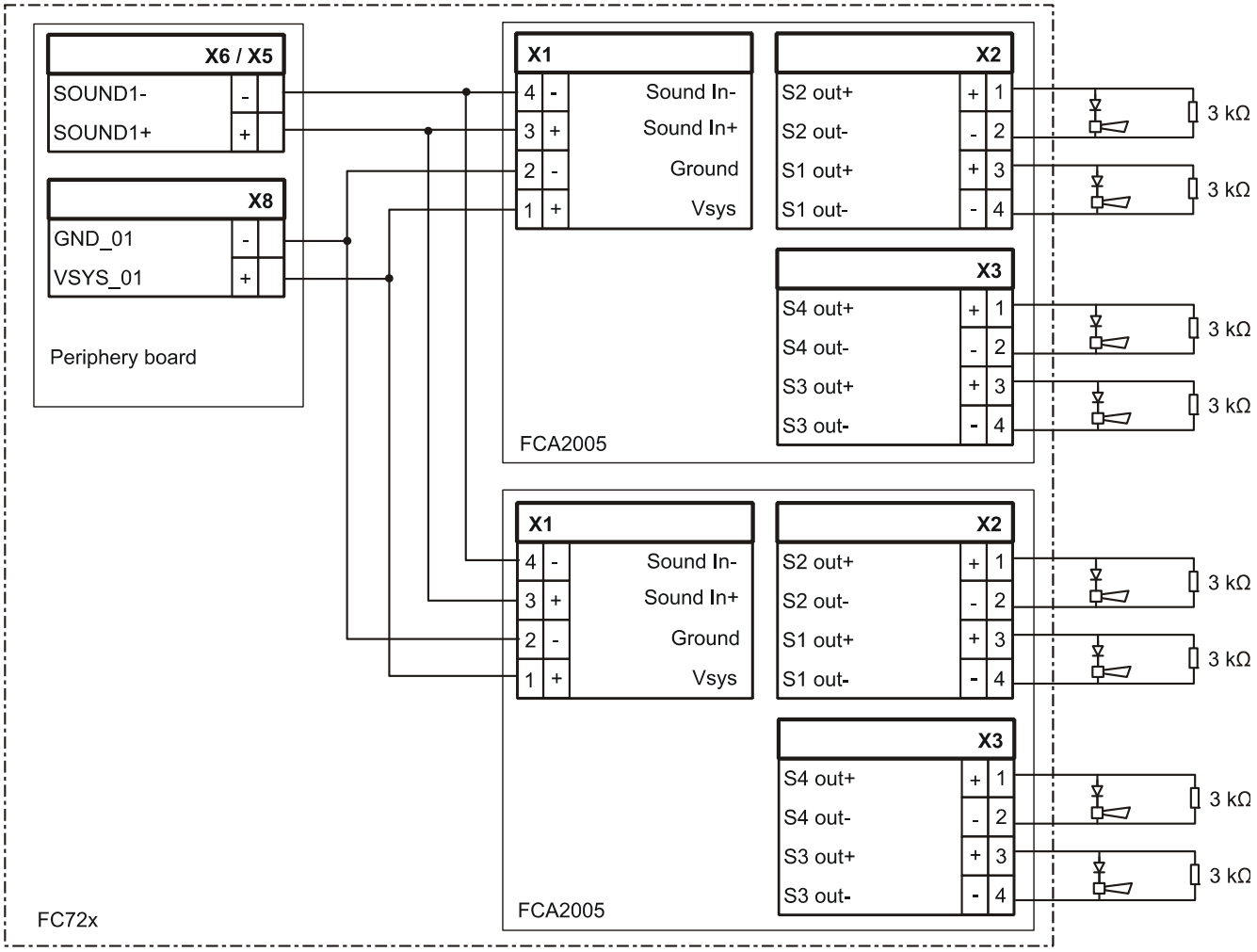
Admissible cable cross-section: 0.08 ... 1.5 mm²



The terminating resistor of 3 kΩ also has to be connected even when the output is not used.

6.18.2.4 Cascading of two sounder modules

A maximum of two sounder modules may be cascaded.

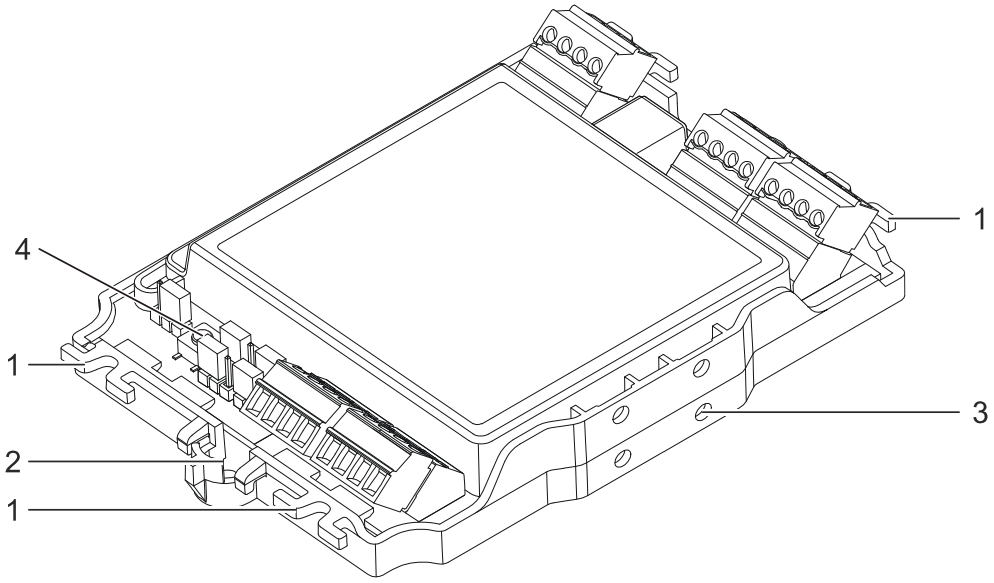


Cascading of two sounder modules FCA2005-A1

6.19 Modes of installation for modules

Modules like the input/output module (transponder) or the sounder module can be fitted in different ways. The following modes of installation are possible:

- Installation on top hat rail
- Installation on a mounting plate
- Installation in separate housing FDCH291 or FDCH292



View of module

1 Retainer for cable tie

2 Holes for mounting on a mounting plate

4 Holes for mounting feet FDCM291 for mounting on a top hat rail

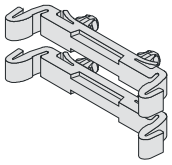
6.19.1 Installation on top hat rail or mounting plate

!	*NOTICE*
	Module overheating ● There must be an air gap of at minimum 1 cm above the input/output module. ● There must be a minimum distance of 1 cm between two modules or any other object.

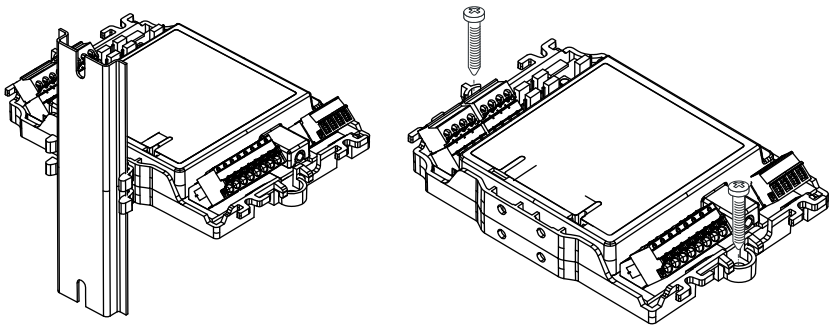
When installing without housing, please proceed as follows:

1. Use two screws to fit the module on a flat surface or use two mounting feet FDCM291 to fit on a top hat rail.
   The cover cap must be transparent to allow the LEDs to be seen at all times. Consider a suitable installation position to make sure that the LEDs are visible at all times when in operation.

2. Connect the cables to the corresponding terminals. Connect only one wire to each terminal.
3. Fix the cables to the module by means of cable ties.



Mounting feet FDCM291



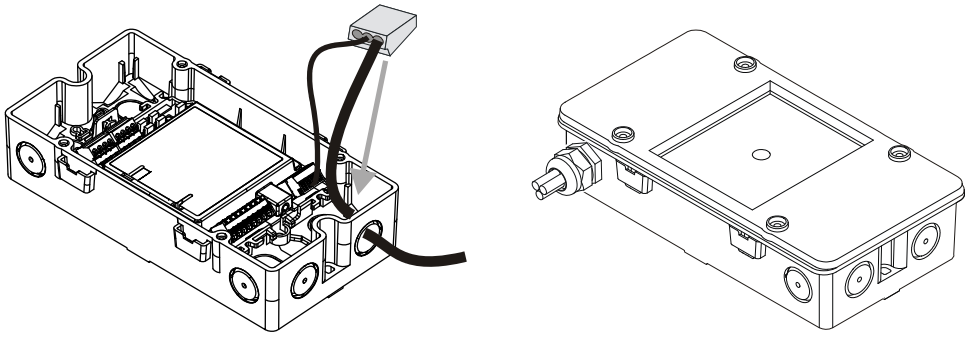
Installation on top hat rail or mounting plate

6.19.2 Installation in housing FDCH229x

When installing the module in the housing FDCH29x, proceed as follows:

1. Break out the cable entries.
2. Mount the housing on a flat surface.
   The housing cover is transparent so the LEDs can be seen at all times.
   Consider a suitable installation position to make sure that the LEDs are visible at all times when in operation.
3. Insert the cables. If necessary, fix the cables with the screwed cable glands M20 or use a different cable entry.
4. If necessary, press the auxiliary terminal for earthing into the housing base. Connect the screening to these auxiliary terminals. The screening must not touch any extrinsic earthing potentials or metal parts in the device.
5. Install the module in the housing.
6. Connect the cables to the corresponding terminals. Connect only one wire to each terminal.
7. Close the housing by snapping in the cover.
   If necessary, use the screws provided with housing FDCH291.
   For housing FDCH292 with seal, the screws provided must always be used.

If the cable cross-sections of the inputs/outputs are larger than 1.5 mm², auxiliary terminals must be used:
For cables with a cross-section of 1.5 … 2.5 mm2, connection terminal DBZ1190-AB can be used.
For larger diameters, a corresponding terminal must be provided by the customer.
The terminal can be positioned in the housing.



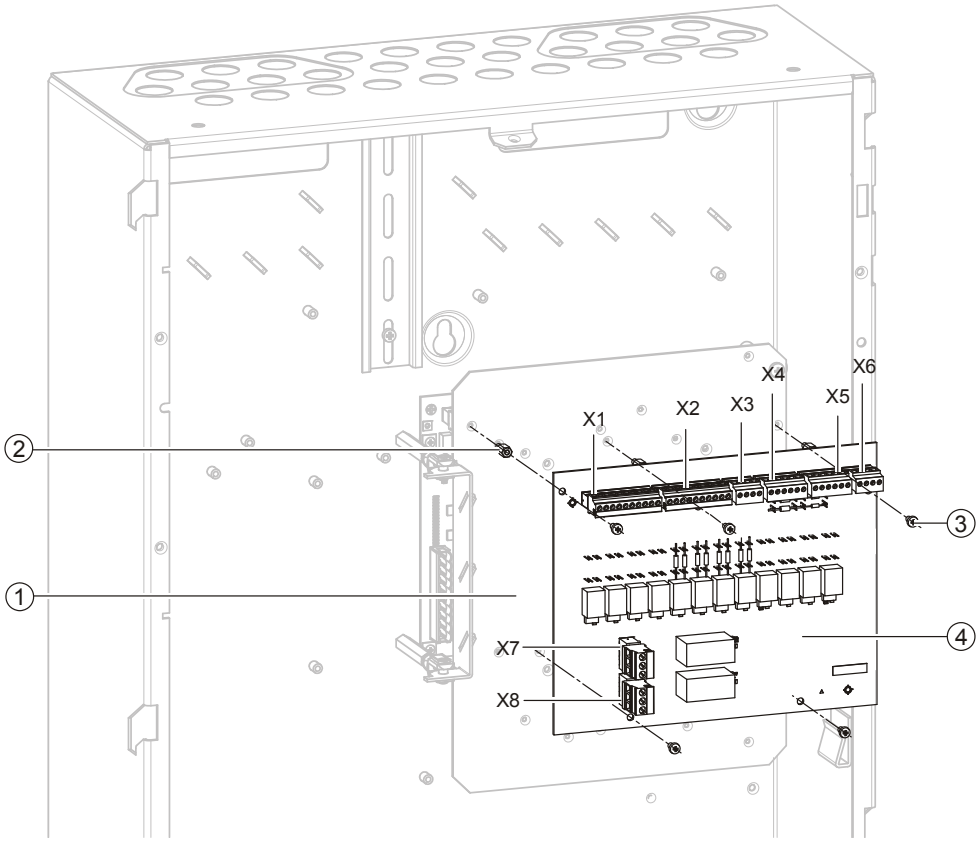
Installation with housing FDCH29x

6.20 Installing RT Interface [NL]

6.20.1 Installation

The RT interface FCI2005-A1 can be mounted at different positions depending on the station type and equipment:

- In the Comfort housing to the left of the periphery board, if there is sufficient space
- In the Comfort and Standard housings on the mounting plate above the periphery board



Mounting the RT interface into the mounting plate

1	Mounting plate	X3	Relay 11 + 12 switching contacts
2	Spacer bolts (5 pieces)	X4	Relay supply Vsys+ and relay coils 1 … 5
3	Fixing screws (5 pieces)	X5	Relay supply Vsys+ and relay coils 6 … 10
4	RT interface	X6	Relay coils 11 … 14
X1	Relay 1 … 5 switching contacts	X7	Relay 13 switching contacts
X2	Relay 6 … 10 switching contacts	X8	Relay 14 switching contacts

Installation steps

1. Mount the RT interface (4) to the mounting plate (2) or the rear panel (observe correct installation position) as shown in the figure using the fixing screws (3). The five distance spacer bolts (1) must be used when fitting on the mounting plate.
2. Wire up the RT interface according to the pin assignment.
3. Fix the cables with the enclosed, self-adhesive Panduit bases and the cable ties. One means of fixation may be e.g. for the mounting plate and the other for the rear panel of the station.

6.20.2 Pin assignments

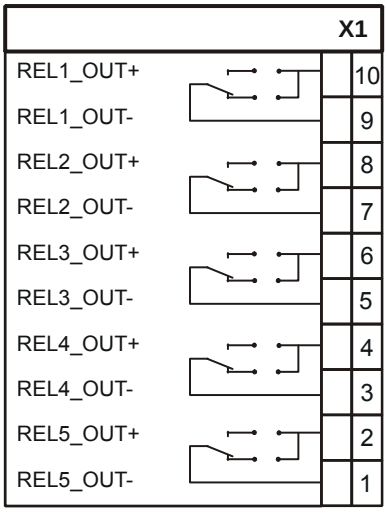
6.20.2.1 X1 relay 1 … 5 switching contacts

PIN	Designation	Description
10	REL1_OUT+	Relay 1 switching contact (configurable as NO or NC)
9	REL1_OUT-	Relay 1 switching contact
8	REL2_OUT+	Relay 2 switching contact (configurable as NO or NC)
7	REL2_OUT-	Relay 2 switching contact
6	REL3_OUT+	Relay 3 switching contact (configurable as NO or NC)
5	REL3_OUT-	Relay 3 switching contact
4	REL4_OUT+	Relay 4 switching contact (configurable as NO or NC)
3	REL4_OUT-	Relay 4 switching contact
2	REL5_OUT+	Relay 5 switching contact (configurable as NO or NC)
1	REL5_OUT-	Relay 5 switching contact

NO = Normally open

NC = Normally closed

Admissible cable cross-section: 0.14 ... 1.5 mm²



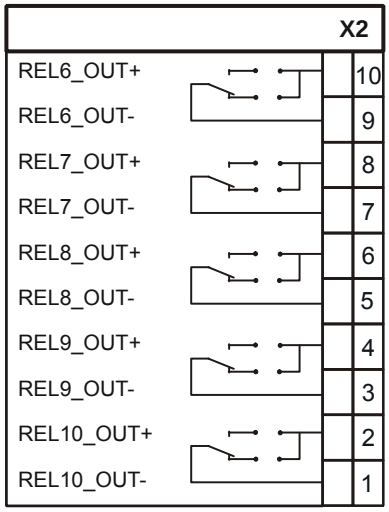
6.20.2.2 X2 relay 6 … 10 switching contacts

PIN	Designation	Description
10	REL6_OUT+	Relay 6 switching contact (configurable as NO or NC)
9	REL6_OUT-	Relay 6 switching contact
8	REL7_OUT+	Relay 7 switching contact (configurable as NO or NC)
7	REL7_OUT-	Relay 7 switching contact
6	REL8_OUT+	Relay 8 switching contact (configurable as NO or NC)
5	REL8_OUT-	Relay 8 switching contact
4	REL9_OUT+	Relay 9 switching contact (configurable as NO or NC)
3	REL9_OUT-	Relay 9 switching contact
2	REL10_OUT+	Relay 10 switching contact (configurable as NO or NC)
1	REL10_OUT-	Relay 10 switching contact

NO = Normally open

NC = Normally closed

Admissible cable cross-section: 0.14 ... 1.5 mm²



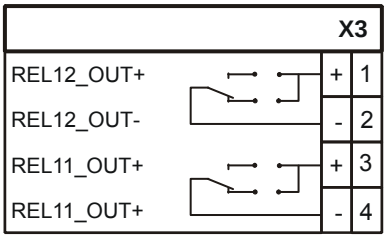
6.20.2.3 X3 relay 11 + 12 switching contacts

PIN	Designation	Description
1	REL12_OUT+	Relay 12 switching contact (configurable as NO or NC)
2	REL12_OUT-	Relay 12 switching contact
3	REL11_OUT+	Relay 11 switching contact (configurable as NO or NC)
4	REL11_OUT-	Relay 11 switching contact

NO = Normally open

NC = Normally closed

Admissible cable cross-section: 0.14 ... 1.5 mm²



6.20.2.4 X4 relay supply Vsys+ and relay coils 1 … 5

PIN	Designation	Description
6	20V-30V/VSYS+	Supply Vsys+ (connected to X5, PIN 6)
5	REL1_IN-	Relay coil 1, active low
4	REL2_IN-	Relay coil 2, active low
3	REL3_IN-	Relay coil 3, active low
2	REL4_IN-	Relay coil 4, active low
1	REL5_IN-	Relay coil 5, active low

Admissible cable cross-section: 0.14 ... 1.5 mm²

6.20.2.5 X5 relay supply Vsys+ and relay coils 6 … 10

PIN	Designation	Description
6	20V-30V/VSYS+	Supply Vsys+ (connected to X4, PIN 6)
5	REL6_IN-	Relay coil 6, active low
4	REL7_IN-	Relay coil 7, active low
3	REL8_IN-	Relay coil 8, active low
2	REL9_IN-	Relay coil 9, active low
1	REL10_IN-	Relay coil 10, active low

Admissible cable cross-section: 0.14 ... 1.5 mm²

6.20.2.6 X6 relay coils 11 … 14

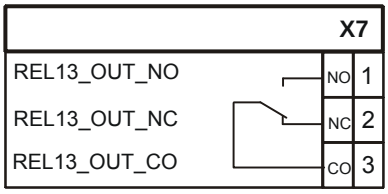
PIN	Designation	Description
4	REL11_IN-	Relay coil 11, active low
3	REL12_IN-	Relay coil 12, active low
2	REL13_IN-	Relay coil 13, active low
1	REL14_IN-	Relay coil 14, active low

Admissible cable cross-section: 0.14 ... 1.5 mm²

6.20.2.7 X7 relay 13 switching contacts

PIN	Designation	Description
1	REL13_OUT_NO	Relay 13 switching contact, normally open
2	REL13_OUT_NC	Relay 13 switching contact, normally closed
3	REL13_OUT_CO	Relay 13 switching contact, common

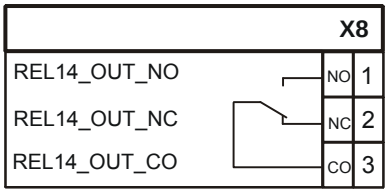
Admissible cable cross-section: 0.2 ... 2.5 mm²



6.20.2.8 X8 relay 14 switching contacts

PIN	Designation	Description
1	REL14_OUT_NO	Relay 14 switching contact, normally open
2	REL14_OUT_NC	Relay 14 switching contact, normally closed
3	REL14_OUT_CO	Relay 14 switching contact, common

Admissible cable cross-section: 0.2 ... 2.5 mm²

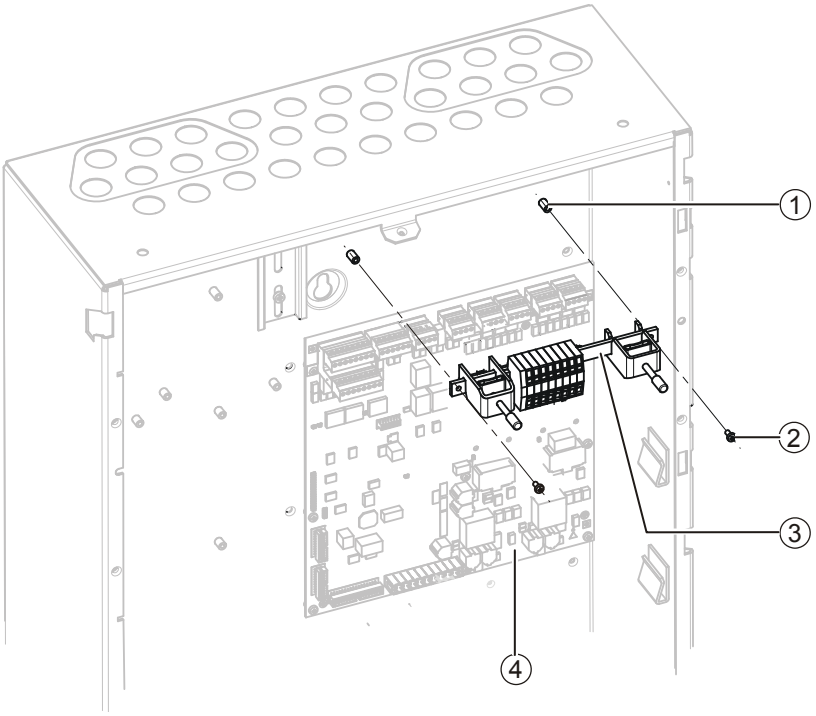


6.20.2.9 Connection of cable tree to periphery board

RT interface		Wiring harness		Periphery board 4 loops		Periphery board 2 loops	
PIN	**Designation**	**Cable color**	**Signal**	**PIN**	**Designation**	**PIN**	**Designation**
X4-6	20V-30V/VSYS+	White/green	Supply (+)	X8-7	VSYS_01	X8-5	VSYS_01
X4-5	REL1_IN-	Blue/red	Manual	X7-1	AL_NO	X7-1	AL_NO
X4-4	REL2_IN-	Gray/pink	Auto	X8-1	I/O1	X8-1	I/O1
X4-3	REL3_IN-	--	Alarm 2	--	--	--	--
X4-2	REL4_IN-	Violet	Fault	X7-6	FAU_NC	X7-6	FAU_NC
X4-1	REL5_IN-	Black	Alarm 1	X8-2	I/O2	X8-2	I/O2
X5-6	20V-30V/VSYS+	--	Supply (+)	X8-15	VSYS_02	X9-5	VSYS_02
X5-5	REL6_IN-	--	Alarm 2	--	--	--	--
X5-4	REL7_IN-	Red	Fault	X8-3	I/O3	X8-3	I/O3
X5-3	REL8_IN-	Blue	Isolation	X8-4	I/O4	X8-4	I/O4
X5-2	REL9_IN-	Pink	Technical sprinkler	X8-5	I/O5	X9-1	I/O5
X5-1	REL10_IN-	Gray	Supervision sprinkler	X8-6	I/O6	X9-2	I/O6
X6-4	REL11_IN-	Yellow	Fire alarm sprinkler	X8-9	I/O7	X9-3	I/O7
X6-3	REL12_IN-	Green		X8-10	I/O8	X9-4	I/O8
X6-2	REL13_IN-	Brown		X8-11	I/O9	--	--
X6-1	REL14_IN-	White		X8-12	I/O10	--	--

6.21 Installing cable kit (communication)

The cable kit (communication) FCA2014-A1 is used as an intermediate piece for wiring the external lines to the modules on the operating unit. The connecting cables supplied are fully assembled and have a length of 1110 mm. The cable kit is mounted in the top right of the housing instead of the shield connection terminal blocks.



Installation of the cable kit (communication) on the rear panel (example, Standard housing)

1 Mounting points for the terminal blocks

2 Fixing screws (2 pieces)

3 Terminal strip with 2 shield connection terminal blocks and connection terminals.

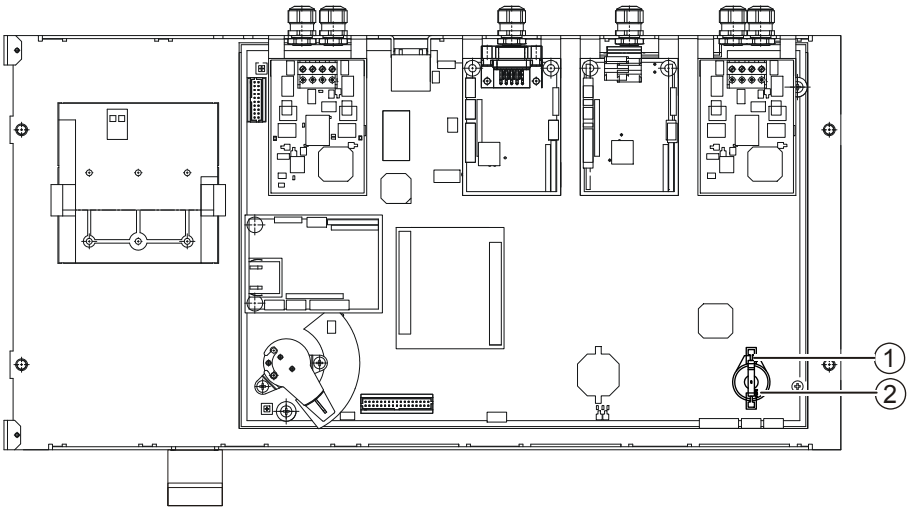
4 Periphery board

Installation steps

1. First remove the shield connection terminal blocks if present.
2. Screw the mounting rail (3) to the rear panel (1) using the two fixing screws (2).
3. Now wire the existing module to the operating unit using the cables provided according to the allocation plan of the respective module.
4. Guide the cable to the operating unit along the rear panel and fasten using cable ties.

6.22 Applying the licence key

The license key (L1) FCA2012-A1 or the license key (L2) FCA2013-A1 is inserted in the intended retainer on the rear of the operating unit.



Inserting the license key into the operating unit

1 Holder for the license key
2 License key

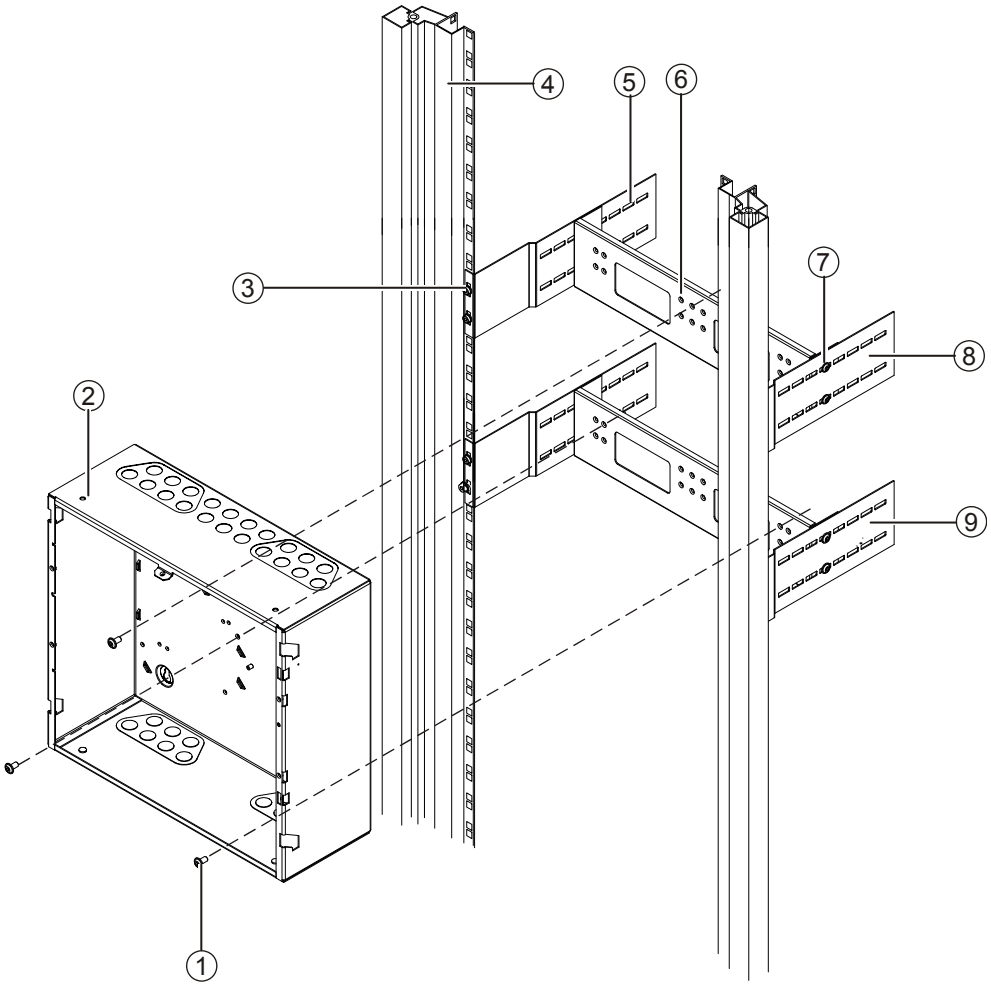
Inserting

- Raise clamp of retainer (1) slightly and push the license key (2) underneath the clamp with the inscription pointing downwards (broader, flat side to the top).

6.23 Installing the 19" mounting kit

The 19" mounting kit FHA2016-A1 serves as a retainer for installing a station into a 19" rack or into a 19" cabinet. To fix a station, the two retainers enclosed with the kit must be mounted.

The mounting instructions described below apply to all housing types.



Installing the 19" mounting kit, example: Standard housing

1 Fixing screws for the station (3 or 5 pcs.), M5 x 10 pan head screws

2 Rear panel of the station

3 Fixation of the crossbars on the 19" housing or rack (2 screws each) with M5 x 10 pan head screws

4 19" housing or rack

5 19" cross bars (4 per kit)

6 19" housing brackets (2 per kit)

7 Hexagonal fixing screws M6 x 12 for housing brackets (2 per kit) and washers M6

8 Upper 19" retainer

9 Lower 19" retainer

Installation steps

1. Screw the 19" crossbars to the housing bracket. Consider the installation depth of the station.
2. Secure 19" retainers to 19" rack or in 19" cabinet. Consider the installation height of the station.
3. Fix the station on the housing brackets.

6.24 Installing batteries

Guidelines

- The batteries must meet the predefined specifications. For further information, refer to document A6V10210362, planning.
- Batteries must be installed so that they cannot leak. The passages for cables in the housing base must not be broken out (EN 60950-1).
- If two housings are installed and attached one under another, the batteries must be installed in the bottom housing.

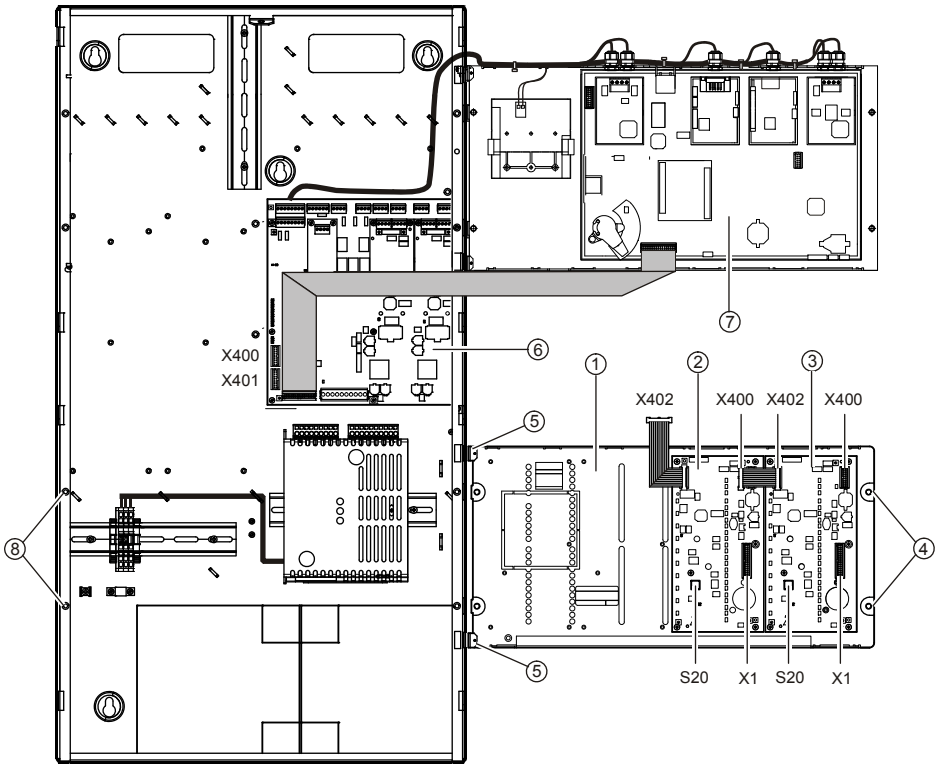
Installation steps

!	*NOTICE*
	Danger of short circuit Potential damage to hardware ● The supplied jumper wire must not be connected until the time of commissioning. ● Make sure the polarity of the supply is correct: red cable = positive pole; blue cable = negative pole

1. Place the batteries on base of the rear panel.
2. Connect the unconnected cable ends of the secondary cabling of the power supply to the poles of the batteries:
   Red cable to positive pole of the left-hand battery
   Blue cable to negative pole on right-hand battery

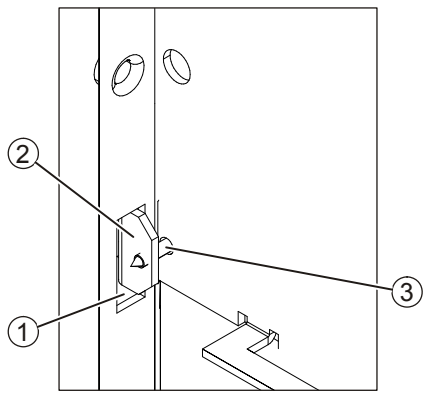
⇨ The station is then ready for commissioning. Document A6V10210416, commissioning, Planning, contains details of commissioning.

6.25 Fitting operating add-on with 20 zones EVAC [NL]



Example: Installation of operating add-on with 20-zone EVAC-NL

1 Operating add-on FCM7221-H3 [NL]
2 EVAC-NL operation FTO2007 (slave)
3 EVAC-NL operation FTO2007 (master)
4 Holes for operating add-on fixing screws
5 Hinges of operating add-on
6 Periphery board (2 loops or 4 loops depending on type of station)
7 Existing operating unit
8 Mounting holes for the operating add-on



Detail view of the hinge of the operating add-on

1 Cut-out section on the rear panel for the hinge
2 Hinge
3 Screw for securing the hinge

Installation steps

1. Remove cover from fire control panel.
2. Remove empty operating add-on.
3. From the rear, hang the new operating add-on FCM7221-H3 into the openings in the rear panel of the housing (1) with the hinges (2).
4. Hold the operating add-on in place and secure the hinge (2) with the screws (3).
5. Connect ribbon cable (X402) for peripheral data bus with periphery board (X400 or X401).
6. Use the following tables to check the address setting.
7. Swivel the operating add-on towards the station and secure it using the four screws.

6.25.1 Adjustment elements

The EVAC-NL indicator is configured with the switch S20.

Setting for one or first EVAC-NL

Switch S20						**Meaning**
1	2	3	4	5	6	
S0	S1	S2	Master	Syn	(Empty)	
			ON	**OFF**		**Device address 1 ***
ON			ON	OFF		Device address 2
	ON		ON	OFF		Device address 3
ON	ON		ON	OFF		Device address 4
		ON	ON	OFF		Device address 5
X	X	X	ON	ON		Mimic display outputs are actuated and polled (LED, keys and key switch)

Blank fields = Switch in 'OFF' position

X = Switch position has no impact

* If working with one **single** EVAC-NL indicator (10 zones) and if working with the **first** EVAC-NL indicator, S20/4 (Master) must always be set to **ON**. If used in the EVAC-NL mimic display driver, the S20/5 (Syn) switch must also be **ON**.

Each address can be assigned only once per station.

The factory setting is always made for the application in question.

Setting for the second and/or any subsequent EVAC-NL indicator

Switch S20						Meaning
1	2	3	4	5	6	
S0	S1	S2	Master	Syn	(Empty)	
			OFF	OFF		Device address 1
ON			**OFF**	**OFF**		**Device address 2 ***
	ON		OFF	OFF		Device address 3
ON	ON		OFF	OFF		Device address 4
		ON	OFF	OFF		Device address 5
X	X	X	OFF	ON		Mimic display outputs are actuated and polled (LED, keys and key switch)

Blank fields = Switch in 'OFF' position

X = Switch position has no impact

* = 2 EVAC-NL indicators must not be operated on the same address (per station). On the second or any subsequent indicator, the address must always be set 1 higher (slave). If used in the EVAC-NL mimic display driver, the S20/5 (Syn) switch must also be **ON**.

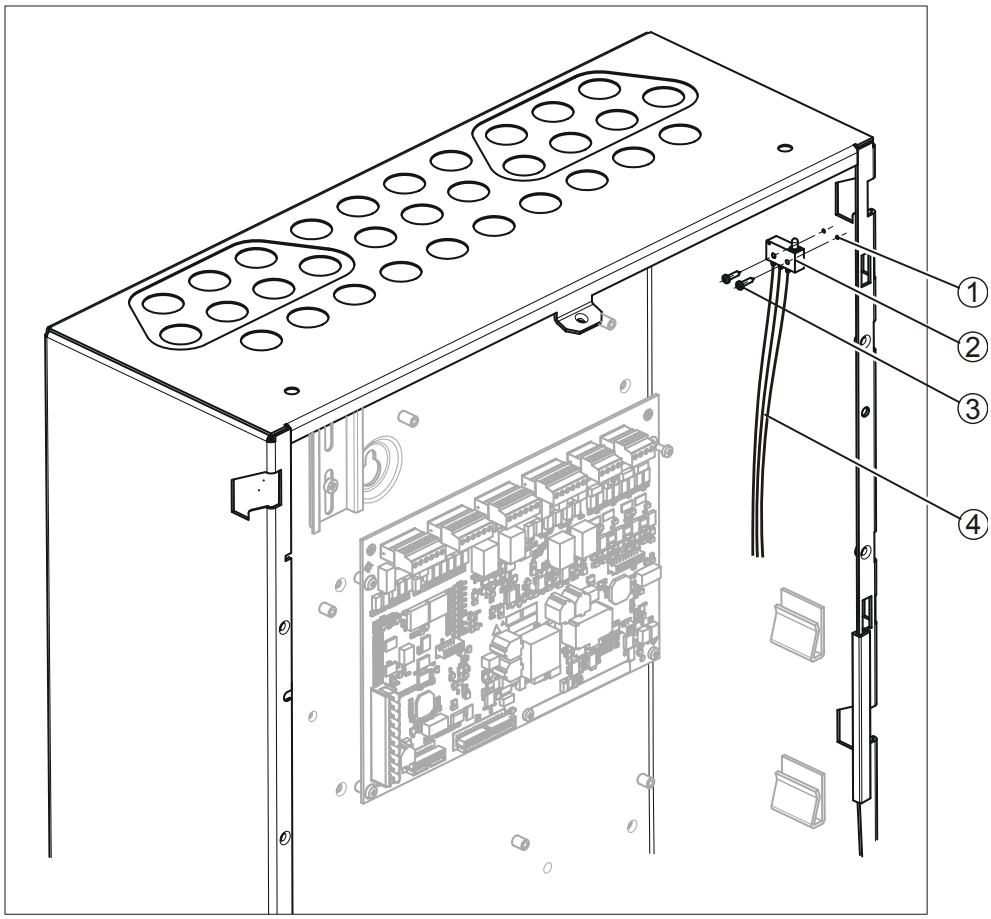
Each address can be assigned only once per station.

The factory setting is always made for the application in question.

6.26 Installing door contact kit [DE]

6.26.1 Installation

The door contact kit FCA2009-A1 is needed for a class 3 key depot [DE] and must not be used for other applications. The door contact is fitted on the housing such that it is triggered when the cover is removed.



Installing door contact kit FCA2009-A1

1 Mounting holes in housing
2 Door contact switch
3 Crossed recess sheet-metal screws for fixation
4 Pre-assembled pigtails

Installation steps

1. Use the two fixing screws (3) to screw the door contact switch (2) in the position shown (contact towards front) on housing (1).
2. Wire door contact with pre-assembled strands (4) in accordance with the pin assignment on fire brigade periphery module FCI2001-D1 on FSD tamper connection. You can also connect the door contact to a free I/O contact on the periphery board.
3. If necessary, secure the strands to the self-adhesive mounting plate supplied on the housing.

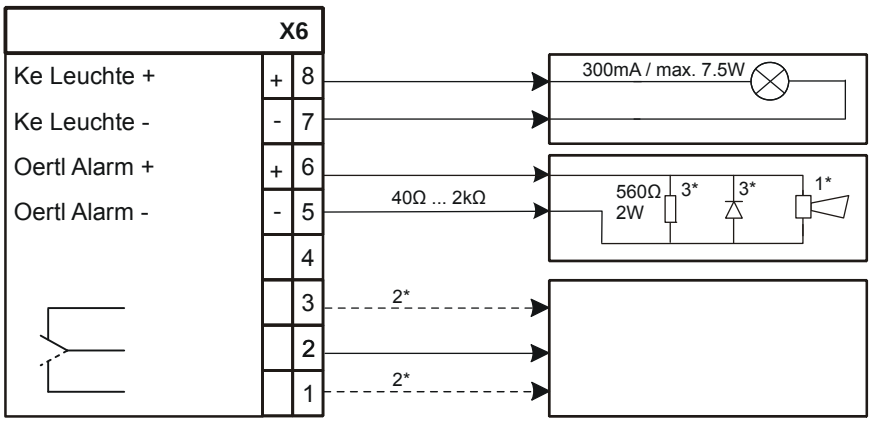
6.26.2 Pin assignments

Inputs and outputs which are not used do not require termination.

6.26.2.1 X6 intrusion detection system / local alarm / identification lamp

PIN	Designation	Description
8	Ke Leuchte +	Identification lamp (+)
7	Ke Leuchte -	Identification lamp (-)
6	Oertl Alarm +	Local alarm (+)
5	Oertl Alarm -	Local alarm (-)
4	-	not used
3		FSD sabotage, closer (normally open)
2		FSD sabotage, common
1		FSD sabotage, opener (normally open)

Admissible cable cross-section: 0.2 ... 1.5 mm²



1* Horn or beacon

2* FSD sabotage, connection for "Transmission intrusion detection system" (can be connected as NO or NC)

3* If necessary

7 Deinstallation

!	*NOTICE*
	Damage to hardware
	• Correctly take the station out of operation before removing the components.

	⚠ WARNING
	Electrical voltage
	Electric shock
	• Before connecting the mains cable, make sure that the cable is current-free.
	• Ensure that the mains is secured against inadvertently being switched on.

Removal of components and the disassembly of stations is carried out in reverse installation sequence. If the steps for disassembly differ from the description for installing the components, this is clearly indicated.

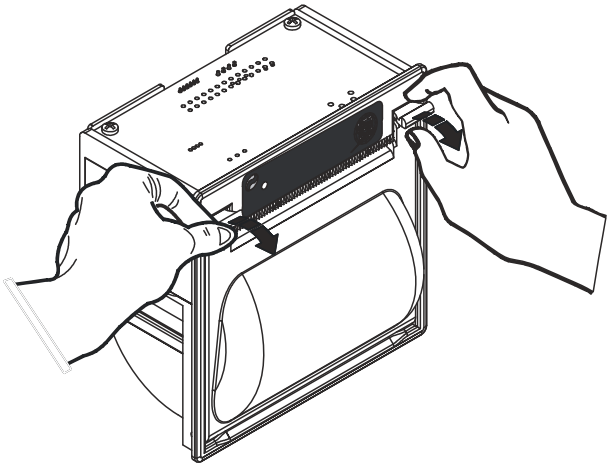
8 Concluding work

8.1 Inserting printing paper

The printer can also be fitted the other way round, i.e. different from the position shown below.

Opening the printer

- Push the clips slightly down and open the printer as shown in the figure.

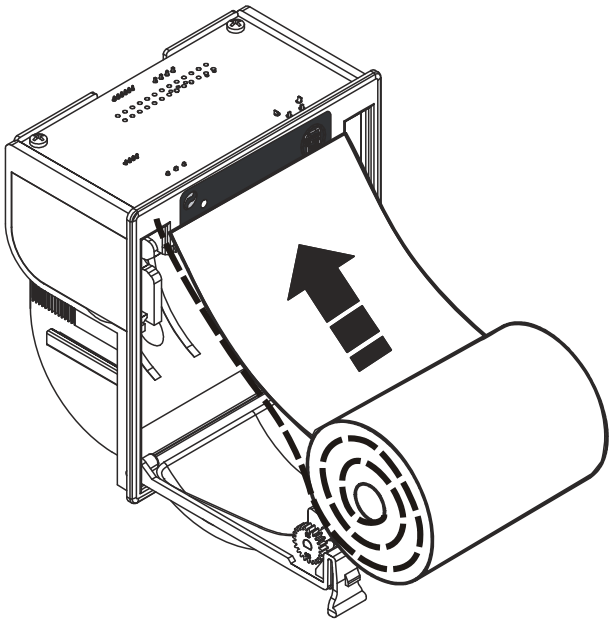


Opening the printer

Replacing the paper roll

1. Remove the reel of the old paper roll.
2. Insert the new paper roll as shown in the figure below.

Please make sure that the side that will be unwound is at the back of the drum, corresponding to the dashed line in the figure below.

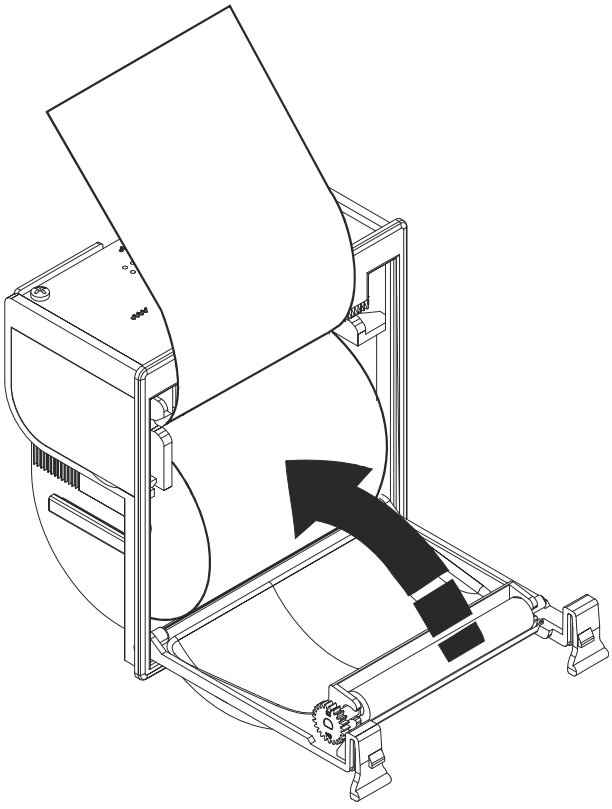


Inserting paper roll

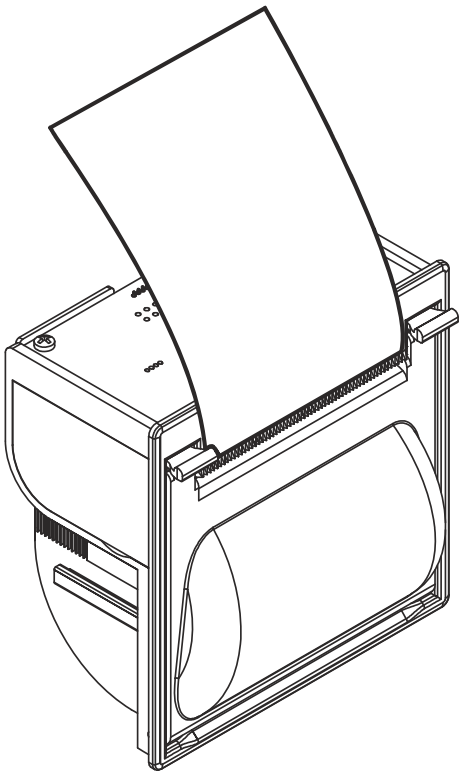
Closing printer

1. Pull some of the paper out of the printer.
2. Hold the paper end upwards.
3. Close the printer by holding the bracket upwards until the clips audibly engage.

⇨ The printer is ready.



Closing printer



Printer is ready

9 Installation checklist

The following list serves as a checklist or task list for the installation personnel. It includes all components available as options. It can be copied and handed out to the installation personnel with the installation instructions.

Item	Type	Component/task	Notes	Complete
1		Install rear panel		
2		Install housing extensions	Additional empty housing for further components (e.g. batteries)	
3		Connect mains cable	Note country-specific terminal allocation	
4		Install operating unit	Standard	
5		Install operating add-on	In bottom half of housing or in additional housing	
6		Install cover		
7		Install periphery board	Only after a disassembly	
8		Install fire terminal board	Only after a disassembly	
9	FP2003-A1	Install a 70 W power supply unit	Option for fire terminal	
10	FP2004-A1	Install a 150 W power supply unit		
11		Install shield connection terminal blocks	Included in country kit [DE] FA2001	
12	FCI2003-A1	Installing loop extension (C-NET)	Max. 2 modules depending on the periphery board	
13	Z3B171	Install relay module		
14	FHA2007-A1	Install mounting plate	Mounting above the periphery board	
15	FCI2001-D1	Install fire department periphery module [DE]	Only for Germany. Note different mounting possibilities	
16	FN2001-A1	Install networking module (SAFEDLINK)	Max. 2 modules Ensure correct installation site	
17	FCA2001-A1	Install RS232 module	Ensure correct installation site (depending on use)	
18	FCA2002-A1	Install RS485 module		
19	FTO2001-A1	Install event printer	An RS232 module must also be fitted to slot 1	
20	FTO2005-A1	Install a key switch (Kaba)		

Item	Type	Component/task	Notes	Complete
21		Install a Redux module [DE]	Only for Germany	
22	FDCIO224	Install input / output module [DE]		
23	FCA2005-A1	Install sounder module	Max. of 2 depending on the periphery board	
24	FCI2005-N1	Install RT Interface [NL]	Only for Netherlands	
25	FCA2014-A1	Install cable set (communication)		
26	FCA2012-A1 FCA2013-A1	Apply licence key	Only 1 licence key per station	
27	FHA2019-A1	Install 19" kit		
28		Install batteries	Only connect upon commissioning	
29	FCM7221-H3	Install operating add-on with EVAC	Only for Netherlands	
30	FCA2009-A1	Install door contact kit	Only for Germany	

Installation checklist

Due date:	Ordering unit:	Date

Ordering unit for installation work

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