SIEMENS

FC7xx / FT724

Fire control panel / fire terminal

Operation Manual

IP7

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Building Technologies

Control Products and Systems

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Siemens Switzerland Ltd.
Building Technologies Division
International Headquarters
Theilerstrasse 1a
CH-6300 Zug
Tel. +41 58 724-2424
www.siemens.com/buildingtechnologies

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Table of contents

1 About this document

Goal and purpose

This document describes the operation of fire control panels and fire terminals in the fire detection system FS720. The reader shall understand the structure of a fire detection installation, the PMI setup and the functions in the overall system. This understanding makes an adequate behaviour possible in the event of fire or fault.

Scope

The document applies to the fire control panels and the fire terminal of type Fx72x, introduction package IP7.

Target groups

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

Target group	Activity	Qualification
System owner	• According to EN 50110-1, 'nominated person with the overall responsibility to ensure the safe operation of the electrical installation by setting rules and organisation or framework.'	• 'This person can be the owner, employer, proprietor or a delegated person.' • 'Some of these duties can be delegated to others as required. For large or complex electrical installations or networks, the duties can be delegated for parts of the installations or the network.'
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.
Operating personnel	• Carries out procedures to correctly operate the product.	• No particular basic training is needed. • Has been instructed by the 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.

Source language and reference document

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

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Document identification

The document ID is structured as follows:

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

Date format

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

Conventions for text marking

Markups

Special markups are shown in this document as follows:

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

Supplementary information and tips

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

1.1 Applicable documents

Document ID	Title
008399	XC10 Extinguishing Control Panel, Technical Manual
A6V10210416	FS720 Fire Detection System, Commissioning / Maintenance / Troubleshooting
A6V10210424	FS720 Fire Detection System, Configuration
A6V10217440	FS720 Fire Detection System, Inscription Strips
A6V10479789	FS720 Fire Detection System, Inscription Strips [AU]
A6V10418718	FXS7224 Cerberus Mobile, Commissioning

1.2 Technical terms and abbreviations

You will find details of technical terms and abbreviations in the 'Glossary' chapter.

1.3 Revision history

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

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

The table below shows this document's revision history:

Version	Edition date	Brief description
k	2018-08-29	**New:** 'IT security instructions [➙ 22]'; 'Password guidelines [➙ 22]' **Revised:** 'Commands with required access levels [➙ 120]', 'List of elements [➙ 128]', 'Insert printing paper [➙ 109]'
j	2018-06-25	**Edition for IP7** **New:** 'Extinguishing [➙ 130]', 'PIN guidelines [➙ 22]' **Revised:** ''Switching on/off' command group [➙ 120]', ''Activating/deactivating' command group [➙ 123]', 'Switching off alarm activation [➙ 62]': 'XC10 zone' deleted, 'PMI [➙ 25]', 'Evacuation control [➙ 217]', 'PIN administration [➙ 105]', 'Cerberus Mobile [➙ 41]'
i	2015-12-15	**Edition for IP6** **New:** Polling the IP address of the 'Station' Person Machine Interface with FBP [AU] ALARM procedure PMI with FBP [AU] Glossary entries in the text marked with '↑' Damper control Cyber security disclaimer **Revised:** Chapter 'Deactivating / activating alarm devices' adapted for PMI with FBP [AU], referenced documents updated, information added in chapter 'Cerberus-Remote operation modes' for configuration of the permanent operation mode, information added to chapter 'Change language' on the preferred language and on retaining the language after restarting, safety and warning notices updated in chapter 'Switching off / on' and sub-chapters, information added to chapter 'Managing PINs' on PIN configuration in the Engineering Tool, information added to chapters 'Carrying out an installation test' and 'Installation test' on manual call point zones and flashing behavior of the internal alarm indicator, information added to chapters 'Testing detectors' and 'Detector test' on the validity of the detector test for all detector zone types, 'Information' and 'Maintenance' command groups updated, # symbol added to chapter 'Event status identification'
h	2014-02-10	Chapters 'Commands with required access levels' and 'LEDs' updated

Version	Edition date	Brief description
g	2013-11-14	**Edition for IP5** Change to date format according to ISO 8601 **New:** PIN administration Cerberus Mobile Cerberus Mobile operation modes Specifying the operation mode for Cerberus Mobile Enabling a smartphone Removing a smartphone Polling the isolation time Expiry reminder for temporary switching-off Polling reports 'Report' command group **Revised:** 'Temporary switching-off' for levels 'Zone' and 'Detector', 'Override for different settings' in 'Temporary switching-off', information on 'Temporary switching-off' in 'Switching a detector zone off / on' and 'Switching a detector off / on', menu structure, information on license keys, operating Cerberus-Remote with a PC keyboard, country-specific pre-configuration for 'Counter control', 'Commands with required access levels'
f	10.2012	Correction to 'Temporary switching-off' of a 'Zone'
e	8.2012	IP4 edition Revised: Polling the alarm counter, command group 'Information' Commands revised, Test chapter revised, 'Walk test' new, note concerning buzzer volume according to EN 54-2 Para. 12.10.2
d	07.2010	Edition MP3.0 XS: Revision history redefined and standardized, GAP new, router station new, CAP removed, commands revised, glossary revised, new chapter: "Change language"
c	03.2009	Commands revised
b	10.2008	Tamper alarm, new
a	07.2008	First edition

1.4 How displays are represented in the document

With very few exceptions, the fire control panels and fire terminals are displayed in this document in tables.

Deviations between the original and the table are indicated by means of examples in the figures below:

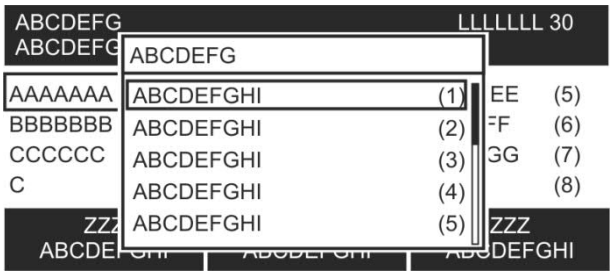


Figure 1: Display with window and bar

Main menu Exit with <C>			Access level 3
Message summary	(1)	Element search	(5)
Functions	(2)	Event memory	(6)
Favorites	(3)	Login/logout	(7)
Topology	(4)	Settings/administration	(8)
Function On/Off	Function All	LED test	

Table representation: Display without window

Selecting element category	
Zone	(1)
Section	(2)
Area	(3)
Sounder	(4)
Physical channel	(5)

Table representation: 'Select element category' window without bar

The table representation has the following key deviations from the original:

- Font and representation (not inverted)
- Windows are indicated separately without display background
- No bars to indicate the position and list length
- No frame around selection

1.5 Download center

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

https://siemens.com/bt/download

- Enter the document ID in the search field.

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

2 Safety

2.1 Safety instructions

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

The safety notices in this document contain the following elements:

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

Symbol for danger

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

Additional danger symbols

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

 General danger

 Explosive atmosphere

 Voltage/electric shock

 Laser light

 Battery

 Heat

Signal word

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

Signal word	Danger level
DANGER	'DANGER' identifies a dangerous situation, which **will result directly in death or serious injury** if you do not avoid this situation.
WARNING	'WARNING' identifies a dangerous situation, which **may result in death or serious injury** if you do not avoid this situation.
CAUTION	'CAUTION' identifies a dangerous situation, which could result in **slight to moderately serious injury** if you do not avoid this situation.
NOTICE	'*NOTICE*' identifies a possibly harmful situation or possible damage to property that may result from non-observance. '*NOTICE*' does not relate to possible bodily injury.

How risk of injury is 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, mounting, installation, operation or disposal of the product apply at the place of operation, then these must also be taken into account together with the safety regulations in the product documentation.

Electrical installations

	⚠ 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 voltage using a 'DANGER External voltage' sign.
- Route mains connections to products separately and fuse them with their own, clearly marked fuse.
- Fit an easily accessible disconnecting device in accordance with IEC 60950-1 outside the installation.
- Produce earthing as stated in local safety regulations.

⚠ CAUTION

Noncompliance with the following safety regulations

Risk of injury to persons and damage to property

- Compliance with the following regulations is required.

- Specialist electrical engineering knowledge is required for installation.
- Only an expert is permitted to carry out installation work.

Incorrect installation can take safety devices out of operation unbeknown to a layperson.

Mounting, installation, commissioning and maintenance

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

Testing the product operability

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

Modifications to the system design and the products

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

Modules and spare parts

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

Disregard of the safety regulations

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

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

2.3 Standards and directives complied with

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

2.4 IT security instructions

2.4.1 PIN guidelines

You can log into the system and enable an 'Access level' with a Personal Identification Number (PIN).

- In general, preset PINs need to be changed during or immediately after installation.
- According to the Siemens IT security requirements, every PIN must contain 8 figures.
- We do not recommend that service technicians create a PIN or change the number of figures required for a PIN to a smaller number. This must be documented.

See also

PIN administration [→ 105]

2.4.2 Password guidelines

- In general, preset passwords need to be changed during or immediately after installation.
- A password should be made up of uppercase and lowercase letters, special characters, and numbers. At least two of these character types need to be used.

You will find more information on the password guidelines in document A6V101039439; see chapter 'Applicable documents'.

2.5 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.

2.6 Cyber security disclaimer

Siemens provides a portfolio of products, solutions, systems and services that includes security functions that support the secure operation of plants, systems, machines and networks. In the field of Building Technologies, this includes building automation and control, fire safety, security management as well as physical security systems. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art security concept. Siemens' portfolio only forms one element of such a concept.

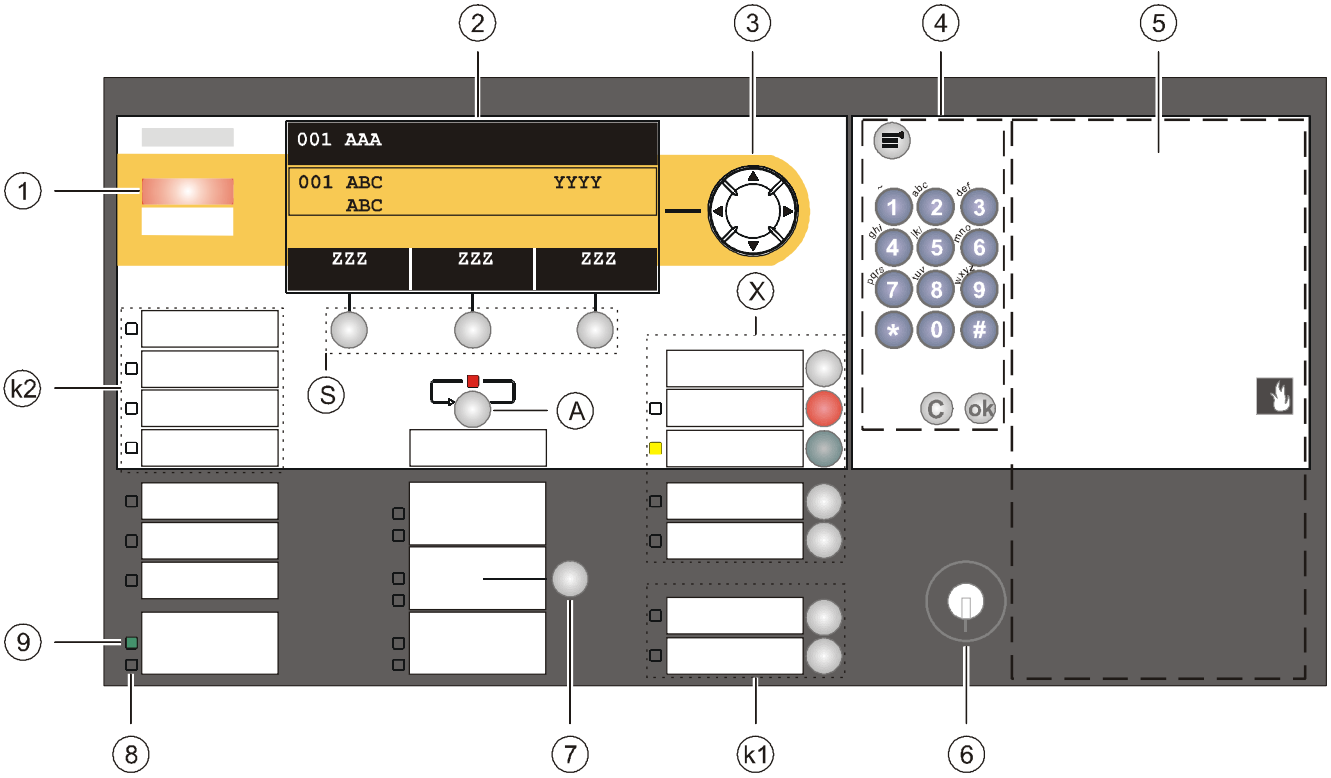
You are responsible for preventing unauthorized access to your plants, systems, machines and networks which should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. Additionally, Siemens' guidance on appropriate security measures should be taken into account. For additional information, please contact your Siemens sales representative or visit https://www.siemens.com/global/en/home/company/topic-areas/future-of-manufacturing/industrial-security.html.

Siemens' portfolio undergoes continuous development to make it more secure. Siemens strongly recommends that updates are applied as soon as they are available and that the latest versions are used. Use of versions that are no longer supported, and failure to apply the latest updates may increase your exposure to cyber threats. Siemens strongly recommends to comply with security advisories on the latest security threats, patches and other related measures, published, among others, under https://www.siemens.com/cert/en/cert-security-advisories.htm.

3 Setup of the Person Machine Interface

3.1 PMI

All ↑ stations (fire control panel or fire terminal) have an integrated operating unit. The operating unit includes the ↑ Person Machine Interface, through which the fire detection installation can be operated. All important information from the fire detection installation is indicated spontaneously on the PMI or can be polled there.



1	Alarm indicator	• Light up red in the event of an alarm
2	Display	• Event indication, e.g. type, place, status of event • Menu, element and command indication • Instructions may be displayed in the event of an alarm
3	Navigation buttons	• For navigation in the display for e.g. menu and command selection and scrolling in lists.
4	Keypad with Menu key, ok key and Cancel key	• Keypad for PIN entry (password), shortcut (menus), address entry (element ID), parameter entry, entry of customer text • The menu button opens the main menu • The <ok> button can be used to run a selected command or open a menu item. In windows with an entry field, the <ok> button moves the cursor to the next entry. • With the <C> cancel button, any operation sequence can be canceled, and any open list or window can be closed.
5	Area for fitting options	• Printer • EVAC [NL] • LEDs

6	Key switch (optional)	• An access level can be enabled with the key switch. • The accessible access level is configurable. • The key switch has two positions: On (horizontal position), Off (vertical position)
7	<Alarm device> button	• Deactivates the ↑ alarm devices in the event of alarm (password required)
8	System fault LED (yellow)	• Lights up yellow when a system fault is present
9	Operation LED (green)	• Lights up green during operation
A	<More alarms> button	• Pressing <More alarms> opens the 'ALARMS' event list. • If the 'ALARMS' event list is already open, <More alarms> assumes the function of the button <▾>, changing to the next alarm event upon activation.
S	Softkeys 1–3	• Softkeys are buttons by means of which functions may be carried out that are displayed in the three fields of the softkey line on the display. • These three black fields contain the names of the functions in white font. • The functions of the softkeys may change depending on the situation and the contents of the display. • Always the most important functions are assigned to the softkeys 1 and 2.
X	<Silence buzzer>, <Acknowledge>, <Reset>, <Alarm delay off>, <Premises manned> standard buttons	• <Silence buzzer> switches the buzzer off. • <Acknowledge> acknowledges all events that can be acknowledged. Confirms presence (↑ AVC, ↑ IC). Switches off the buzzer and internal sounders. • <Reset> resets all events that can be reset (password required). • <Alarm delay off> switches off the alarm delay for all events. In the event of an alarm, the remote transmission or global alarming is activated immediately. • <Premises manned> switches between 'Manned' and 'Unmanned' operation modes (password required). Opens the event list in the case of a "mixed" condition (↑ visibility on several ↑ areas with different 'Manned' and 'Unmanned' settings).
k1	Configurable keys with LEDs	• These two keys may, for example, be configured with the following functions: 'VdS counter' or 'Switch off detector zone' display.
k2	Configurable LEDs	• Freely configurable for the indication of events or conditions

Inscription strips may be inserted to label the PMI.
You will find a template for this in document A6V10217440. See chapter 'Applicable documents'.

3.1.1 EVAC NL

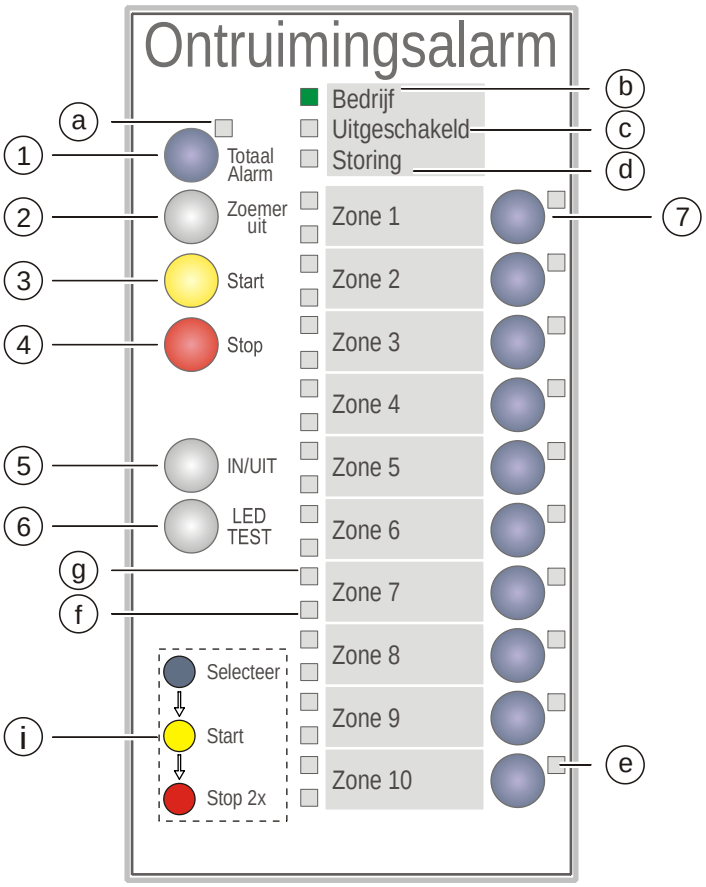


Figure 2: PMI Evacuation alarm

Button		LED		
1	Totaal alarm	a	Totaal alarm	(red)
2	Zoemer uit	b	Bedrijf	(green)
3	Start	c	Uitgeschakeld	(yellow)
4	Stop	d	Storing	(yellow)
5	IN/UIT	e	EVAC zone selection	(yellow)
6	LED TEST	f	Fault/Isolation	(yellow)
7	Selecteer	g	Alarm	(red)
i	Information about using the keys			

3.1.1.1 Functions on the EVAC PMI

Button		Function
1	Totaal alarm	Pressing the button selects all EVAC zones
2	Zoemer uit	Silences the buzzer of the EVAC PMI
3	Start	Activates selected EVAC zones
4	Stop	Deactivates selected EVAC zones
5	IN/UIT	Switches selected EVAC zones on or off
6	LED TEST	Activates the LED test on the EVAC PMI
7	Selecteer	Selects an EVAC zone for the issuing of additional commands (Start, Stop, ON/OFF)

LED		Function
a	Totaal alarm	Indicates that 'Overall Alarm' has been activated
b	Bedrijf	Active as long as power supply is available
c	Uitgeschakeld	Active when at minimum one EVAC zone is switched off
d	Storing	• Active when at least one fault is present in an EVAC zone • Active (flashing) when the connection to the fire control panel is faulty
e	EVAC zone selection	Active when the zone has been selected
f	Fault/Isolation	Active when an EVAC zone has been switched off or a fault is present
g	Alarm	Active when all EVAC zones are activated

3.1.2 Key switch (optional)

You can use the key switch to release an access level. The accessible access level is configurable.

The key switch has 2 positions:

- On (horizontal position)
- Off (vertical position)

See also

Logout timeout [➙ 118]

3.1.3 Standard keys

With the standard buttons, functions can be performed at the push of a button.

<Silence buzzer>

Switches the ↑ 'Station' buzzer off.

<Acknowledge>

- Acknowledges all events that can be acknowledged.
- Confirms presence (↑ 'AVC', ↑ 'IC')
- Switches the buzzer off

<Reset>

Resets all events that can be reset (password required).

<Alarm delay off>

- Switches off the alarm delay for all events.
- In the event of an alarm, the remote transmission or ↑ global alarming is activated immediately.

<Premises manned>

- Switches between 'Manned operation' and 'Unmanned operation' operation modes (password required).
- Opens the event list in case of a "mixed" condition (↑ visibility on several 'Areas' with different 'Manned operation' and 'Unmanned operation' settings).

<Alarm device>

Deactivates the ↑ alarm devices in the event of alarm (password required).

Configurable buttons

The two buttons a and b in the figure above are configurable standard buttons.

You can, for example, configure these two buttons with the following functions:

- 'Poll RT counter'
- 'Non-MCP zones OFF'

3.1.4 Other alarms

Pressing the 'More alarms' button opens the 'ALARMS' event list.

If the 'ALARMS' event list is already open, <More alarms> assumes the function of the button <▾>, changing to the next alarm event upon activation.

3.2 Person Machine Interface with FBP [AU]

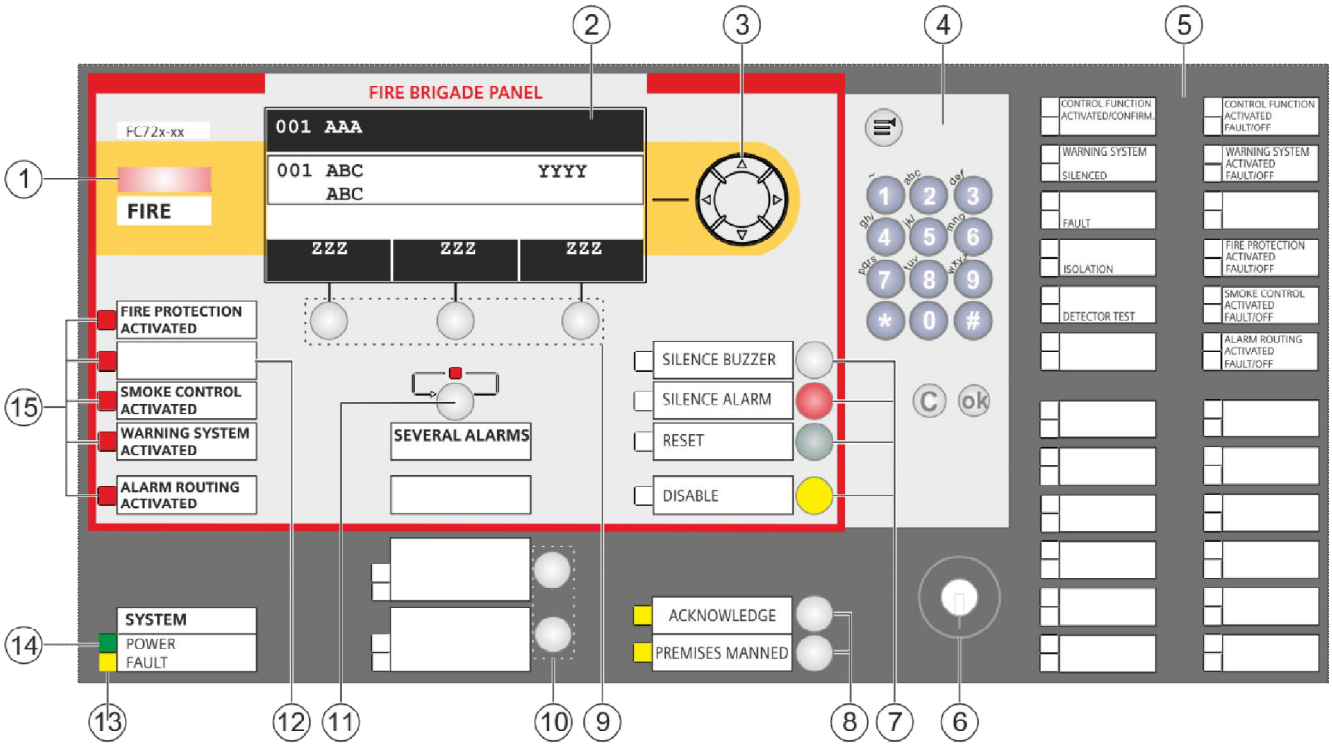
The operating unit [AU] includes the PMI [AU] with the 'Fire brigade panel' (FBP), through which the fire detection installation can be operated. All important information from the fire detection installation is indicated spontaneously on the PMI or can be polled there.

Fire brigade operation

Fire brigade operation is enabled with the key switch. The fire brigade has access level 2.1. The <Silence buzzer>, <Silence Alarm>, <Reset>, <Disable>, and <SEVERAL ALARMS> buttons can be operated by the fire brigade .

Full operation

Full operation of all buttons from access level 2.2 can only be enabled with the PIN.



1	Alarm indicator	• Light up red in the event of an alarm
2	Display	• Event indication, e.g. type, place, status of event • Menu, element and command indication • Instructions may be displayed in the event of an alarm
3	Navigation buttons	• For navigation in the display for, e.g., menu and command selection and scrolling in lists • Access level 2.2 required

4	Keypad with Menu key, ok key and Cancel key	• Keypad for PIN entry (password), shortcut (menus), address entry (element ID), parameter entry, entry of customer text • The menu button opens the main menu • The <ok> button can be used to run a selected command or open a menu item. In windows with an entry field, the <ok> button moves the cursor to the next entry. • With the <C> cancel button, any operation sequence can be canceled, and any open list or window can be closed. • PIN entry required
5	Operating unit (AU)	• Pre-configured LEDs • LEDs which can be configured according to specific customer requirements
6	Key switch	• Enabling fire brigade operation with access level 2.1
7	<Silence buzzer>, <Silence Alarm>, <Reset>, and <Disable> standard buttons	Access level 2.1 required; fire brigade operation with key switch: • <Silence buzzer> switches the buzzer off • <Silence Alarm> deactivates alarm devices • <Reset> resets all events that can be reset • <Disable> stops the alarm in all 'Zones' which have issued an alarm
8	<Acknowledge> and <Premises manned> standard buttons	• <Acknowledge> acknowledges all events that can be acknowledged. Confirms presence (AVC, IC). • <Premises manned> switches between 'Manned' and 'Unmanned' operation modes (PIN entry required). Opens the event list in the case of a "mixed" condition (visibility on several areas with different 'Manned' and 'Unmanned' settings).
9	Softkeys 1–3	• Softkeys are buttons by means of which functions may be carried out that are displayed in the three fields of the softkey line on the display. • These three black fields contain the names of the functions in white font. • The functions of the softkeys may change depending on the situation and the contents of the display. • Always the most important functions are assigned to the softkeys 1 and 2. • Access level 2.2 required.
10	Configurable buttons with LEDs (can be configured independently)	• Functions can be configured according to specific customer requirements
11	<SEVERAL ALARMS> button	• Pressing <More alarms> opens the 'ALARMS' event list. • If the 'ALARMS' event list is already open, <More alarms> assumes the function of the button <▾>, changing to the next alarm event upon activation. • Access level 2.1 required; fire brigade operation with key switch
12	Configurable LEDs	• Freely configurable for the indication of events or conditions
13	System fault LED (yellow)	• Lights up yellow when a fault is present
14	Operation LED (green)	• Lights up green during operation
15	<Fire Protection Activated>, <Smoke Control Activated>, <Warning System Activated>, and <Alarm Routing Activated> standard LEDs	• Light up red when activated

You can use inscription strips to inscribe the PMI. You will find a template for this in document A6V10479789.

Different access levels for Australia as of MP6

The following access levels apply to FS720 fire detection systems for the Australian market as of MP6:

Access levels as of MP6	Access levels <MP6
1	1
2	2.1
3.1	2.2
3.2	3

The access levels that apply as of MP6 work in exactly the same way as the access levels for versions <MP6.

As stipulated by AS 4428.3, the operating elements within the 'Fire brigade panel' are disabled in the event of a fire alarm if the operator has access level 2. The introduction of access level 3.1 as of MP6 enables operating personnel who are present during a fire to operate the 'Fire brigade panel' accordingly.

3.3 Display

The display of the ↑ station has two displaying variants:

- Display without window
  - Normal view
  - Expanded ↑ visibility
  - 'Fire Brig. view'
- Display with window for following representations
  - Lists
  - Input fields
  - Command responses

3.3.1 Normal view

The display of a 'Station' in 'Standard view' has three sections.

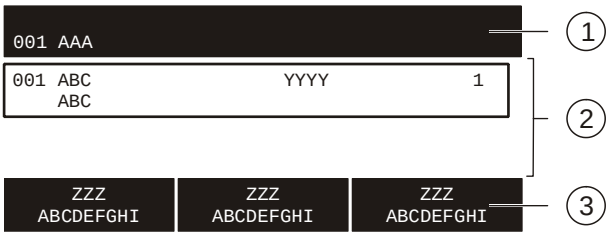


Figure 3: Display in normal view

Position	Designation	Function
1	Header	• Status indication and system time • Information and titles for the working area • Instructions for the operator • Information for the operator
2	Working area	• Indication of lists • Selection of list items • Indication of windows
3	Softkey bar	• Display of the three functions that can be directly executed with the softkey buttons

Identification of messages

Events occurring in the fire detection installation are indicated on the display. A special identification informs on the status of an event.

You will find details on the identification in the chapter 'Event status identification'.

See also

Event status identification [→ 236]

3.3.2 Extended view

The display of events, elements, etc., comprises two lines in 'Standard view'.

The extended view shows a 4-line depiction of the selection. Additional information such as e.g. additional customer texts can be displayed this way.

In the extended view there is a frame around four lines.

Figure 4: Display with extended view

With the <Switch to Extended view> and <Switch to Standard view> softkeys, you can switch from 'Standard view' to 'Extended view' and vice versa.

Alternatively, the navigation buttons <►> and <◄> can be used to switch over.

3.3.3 Fire brigade view

For 'ALARM' events, the 'Fire Brigade message view' can be configured in the Engineering tool.

An 'ALARM' event is displayed in double font size in the 'Fire Brigade message view'.

Display with 'Fire Brig. view'

3.3.4 Display with window and list

The display with window and list is for the selection of a list item, which corresponds to a submenu.

The figure below shows the display with an exemplary list:

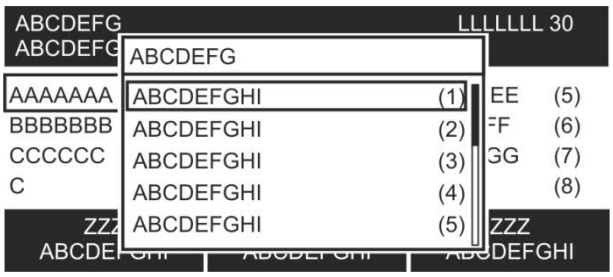


Figure 5: Example of the display with window and list

3.3.5 Display with window and input field

The display with window and input field has one or several input fields for entering e.g. the PIN, an address or customer text.

The figure below shows the display with an exemplary window with input field:

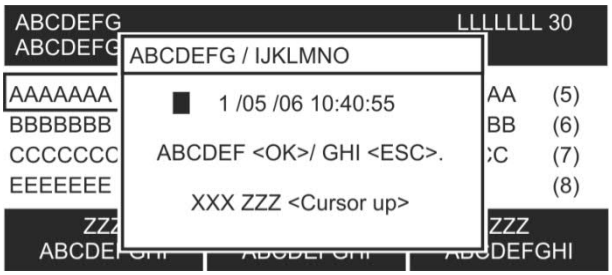


Figure 6: Example of the display with window and input field

3.3.6 Display with window and command response

The display with window and command response is open after a command has been entered. The operator therefore receives a confirmation for the command entered.

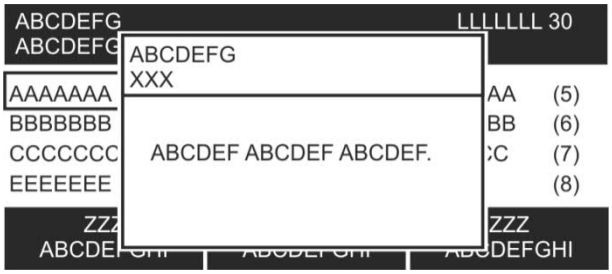
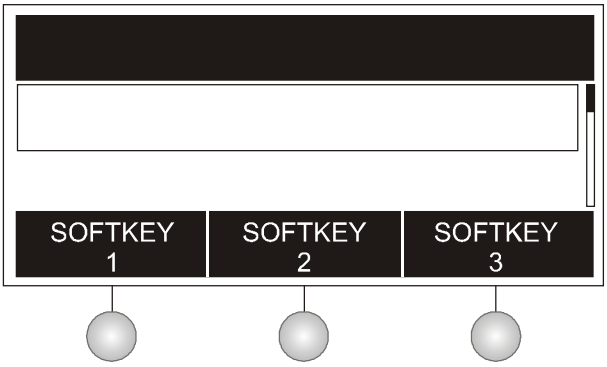


Figure 7: Example of the display with window and command response

3.4 Soft keys

The figure below shows the part of the PMI including the softkeys.



Button for softkey function

Softkeys are buttons which you can use to carry out functions and which are displayed in the three fields of the softkey line on the display. These three black fields contain the names of the functions in white font.

The functions of the softkeys change dynamically depending on the situation and the contents of the display.

Always the most important functions are assigned to the softkeys 1 and 2.

When the user navigates through the topology, the softkey allocation does not change depending on the context; the assignment remains fixed. If a softkey function cannot be executed at a point in the topology, the inscription in the field is hidden.

The table below lists an exemplary softkey assignment.

Softkey / Option	Function
'Show intervention text' [1]	Shows the intervention text of the selected event.
'Jump back'	Displays the list the selected event has been taken from. Back from the view Intervention text or Details.
'Execute command'	Opens the 'Select command' window.
'More options'	Opens the 'Select option' window.
'Show details' [2]	Shows details of the selected event or element.
'Lower level'	Changes to the next lower hierarchy level.
'Upper level'	Changes to the next higher hierarchy level.
'Jump to begin' / 'Jump to end'	Within a list, jumps to the top or end of the list
'Show topology ' [3]	Jumps to the selected element in the topology.
'Show active detectors'	Shows a list of all active detectors, corresponding to an event list.

[1] Softkey / Option is only displayed when intervention text is available at this point

[2] Softkey / Option only available in 'Access level 3'

[3] Softkey / Option only available as of 'Access level 2.1'

See also

Normal view [→ 33]

3.5 Navigation buttons

The following figure shows the navigation buttons in the ↑PMI:

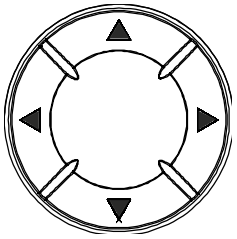
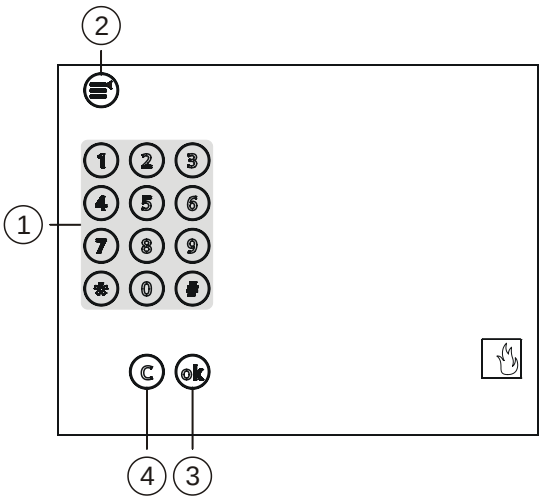


Figure 8: Navigation buttons

- The navigation buttons work in the same way as the arrow keys on a PC keyboard.
- The next entry in a list can be highlighted with the buttons <▲> and <▼>.
- It is possible to change to a higher or lower hierarchy level with the buttons <◄> and <►>.
- In a command list, the highlighted command can be executed with the button <►>.
- When characters are entered, the character to the left of the cursor position is deleted by pressing the button <▲>.

3.6 Keypad

The following figure shows the keyboard and <MENU>, <ok> and <C> (Cancel) buttons:



1	Keypad	3	<ok>
2	<MENU>	4	<C> (Cancel button)

The key panel serves for numeric and alphanumeric entries.

Numeric entry

Numeric entry is applicable in the following cases:

- PIN entry (password)
- Shortcuts (Menus)
- Address entry (Element ID)
- Parameter entry

Alphanumeric entry

The alphanumerical input is for entering customer text.

3.6.1 Menu button

 = <MENU> button

- The <MENU> button opens the main menu.
- The PIN entry dialog is displayed if no 'Access level' is enabled.
- Opening the main menu is independent from the current display contents.

3.6.2 Button 'ok'

 = <ok>, < > = button

With <ok> a selected entry or menu item can be executed or opened.

In windows with an entry field, the <ok> button moves the cursor to the next entry.

3.6.3 Button 'C'

 = Cancel button <C>

With <C>, any operation sequence can be cancelled and any open list or window can be closed.

3.7 LEDs

The LEDs on the ↑Person Machine Interface signal 'Events' and conditions. In addition, the LEDs support the operator's orientation. The LEDs can light up in red, yellow, or green. The LEDs can be configured according to customer-specific requirements.

The LED colors can, for example, signal the following information:

Red	• ALARM • Activations, e.g., ↑remote transmission, ↑alarm devices, control function
Yellow	• Fault • Isolation • Deactivation, e.g. remote transmission, alarm devices, control function
Green	• System is in operation

Additional information on the conditions of the LEDs (steady on, steady off or flashing) can be found in the relevant chapter.

3.8 Menu structure

MAIN MENU	Menu items / Functions	Selection / window	See page
'Message summary'	'Message summary'	Message category	Link [→ 237]
'Functions'	'On / Off'	'Select element category'	Link [→ 51]
	'Test'	'Select element category'	Link [→ 78]
	'Activate / Deactivate'	'Select element category'	Link [→ 82]
	'Information'	'Select element category'	Link [→ 92]
	'Configuration'	'Select element category'	Link [→ 94]
	'Maintenance'	'Select element category'	Link [→ 242]
	'Reports'	↑Station / module	Link [→ 93]
	'All functions'	'Select element category'	Link [→ 67]
'Favorites' [1]	e.g. 'Function On/off'	'Select element category'	Link [→ 43]
	e.g. 'All functions'	'Select element category'	Link [→ 43]
	e.g. 'LED test'	LED test	Link [→ 43]
'Topology'	↑ 'Detection tree'	'Area'	Link [→ 74]
	↑ 'Hardware tree'	Station / Module	Link [→ 74]
	↑ 'Control tree'	'Alarming control group' / e.g. 'Evac ct' [1] / e.g. 'ALARM' [1] / e.g. 'Fire ct' [1]	Link [→ 74]
'Element search'	'Start with category'	'Select element category' / Enter address	Link [→ 75]
	'Start with address'	Enter address	Link [→ 75]
'Event memory'	'Select station'	Events	Link [→ 236]
'Login/logout'	Input dialog		Link [→ 63]
'Settings/administration'	'Change language'	'Change language'	Link [→ 105]
	'Manage PINs'	'Change PIN' 'Create PIN' 'Delete PIN'	Link [→ 105]
	'LED test'	'LED test'	Link [→ 81]
	'Set buzzer volume'	'Set buzzer volume'	Link [→ 107]
	'Display settings'	'Display brightness' 'Display contrast'	Link [→ 108]
	'System commands'	'Set system time' 'Activate exp. visibility' 'Deactivate exp.visibility'	Link [→ 108] Link [→ 66]
	'Show licence texts'	License text is displayed	

[1] Configurable

See also

Settings / Administration [→ 105]

3.9 Cerberus Remote

Cerberus-Remote is software for the PC which can be used to display the ↑ Person Machine Interface of a ↑ 'Station' on the PC. For example, it can be used to access the ↑ site for maintenance purposes.

Depending on the operation mode, Cerberus-Remote can either be used for display purposes or for display and operation purposes.

The link between Cerberus-Remote and a 'Station' can be structured as follows:

- Local connection via any 'Station' in the system
- Connection via the Global Access Point (↑ GAP)

Cerberus-Remote is an integrated part of Cerberus-Engineering-Tool, but can also be installed on a PC as the standalone application 'FX7220'.

You will need an installed ↑ license key and appropriate authorization for the 'Station' in order to use Cerberus-Remote. The license key must support the Cerberus-Remote function. The license key need only be installed in the 'Station' that has the Person Machine Interface that is to be displayed in Cerberus-Remote.

You will find more information about license keys in document A6V10210362. See chapter 'Applicable documents'.

The connection to a 'Station' with a license key is also possible via a 'Station' without a license key.

Cerberus-Remote has the same ↑ visibility as the connected 'Station'. You can therefore gain global visibility with Cerberus-Remote in a networked ↑ site. To do so, the license key must be installed in a ↑ 'Station' with global visibility and connected to Cerberus-Remote.

The connection with a 'Station' is shown by the ↑ Person Machine Interface (display, LEDs, keys) transmitted.

The 'Cerberus-Remote access' operation mode is indicated by a red frame around the Person Machine Interface.

An enable granted for Cerberus-Remote is retained when a 'Station' restarted.

See also

- Cerberus Remote operation modes [➞ 44]
- Enabling / Disabling Cerberus Remote [➞ 98]
- Operating Cerberus Remote [➞ 101]

3.10 Cerberus Mobile

⚠ WARNING

Connection failure to the station due to 'Doze' mode on the mobile device

Mobile devices with Android 6.0 and higher switch to 'Doze' mode to reduce power consumption when they are not connected to the mains and the screen is off. It is therefore not possible to establish a continuous connection between the 'Cerberus Mobile' app and the station in 'Doze' mode. This means that the station cannot transmit alarms, fault messages, and other events to the 'Cerberus Mobile' app in real time.

- Actively check the pending events in the 'Cerberus Mobile' app at regular intervals.
- Always keep the mobile device connected to the mains whenever possible.
- If the mobile device is not connected to the mains, wake it up at regular intervals by unlocking it.
  The 'Cerberus Mobile' app reconnects to the station automatically.
  The 'Cerberus Mobile' app receives all events from the station.

'Cerberus Mobile' is an app for smartphones. Depending on the operation mode, Cerberus Mobile can be used either to display or to display and operate the ↑ 'Station'. For example it can be used to access the fire detection system for maintenance purposes.

You will find more information about 'Cerberus Mobile' in document A6V10418718. See chapter 'Applicable documents'.

You will need an installed ↑ license key and appropriate authorization for the 'Station' in order to use 'Cerberus Mobile'. The license key must support the 'Cerberus Mobile' function.

You will find more information about license keys in document A6V10210362. See chapter 'Applicable documents'.

4 Operation functions

The following chapters contain descriptions of important functions for directly operating the ↑ site.

You will find information on the system functions in the corresponding chapter.

See also

System functions [→ 111]

4.1 Selection and opening / execution

After calling up the main menu and any other list, the first entry in the list is selected. The selection is indicated by a rectangular frame around the entry.

The opening of a list item or the execution of a list command is performed by moving the cursor to the selected entry and pressing <ok>.

Other methods to open or execute a highlighted list entry are given by pressing the following buttons:

- <►>
- <Number> on the numerical block (given number in brackets – only in selection lists)

Changing the selection

The selection indicated is changed as follows:

Button	Consequence
<▼>	Next entry
<▲>	Previous entry
<More alarms>	Opens alarm list / jumps to the next entry in the alarm list shown
<Number> + <ok>	Goes to the entry with the number entered – not in selection lists
↑ 'More Options' + 'Jump to begin' softkeys	Jump to the top of the list
More Options' + 'Jump to end' softkeys	Jump to the end of the list

See also

List representation and list types [→ 238]

4.2 Scrolling

You can use the navigation keys to scroll through a displayed list in the display.

You can scroll to the start/end of the lists (limited function) and back in the following lists:

- Option lists
- Command lists
- Element category lists

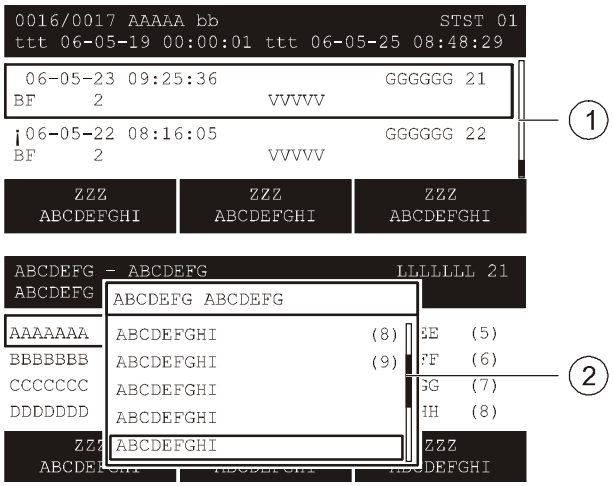
In all other lists, you can scroll beyond the end of the list to the start of the list and back.

4.3 Indication of the position and length of the list

There is a vertical bar along the side of a list when the list is longer than can be indicated on the display.

The black part of the bar shows the position and size of the part of the list you can see in relation to the entire list.

Examples for the representation in different lists:



1 Bar in normal view with list 2 Bar in window with list

See also

- Event status identification [→ 236]

4.4 Shortcut

A shortcut serves for the direct execution of an entry in a selection list by pressing a numeric key.

In a command list, for example, you can execute a command directly by entering the corresponding number.

The numbers for the shortcut are shown in the list entry line, on the right and in brackets.

4.5 Favorites

The favorites are represented in the display of the ↑ Person Machine Interface. The first three favorites are assigned to the three ↑ softkeys in the main menu. All favorites are listed in the 'Favorites' menu. To execute a favorite function, you must press the corresponding key on the keypad.

There are a maximum of eight favorites of which three are preconfigured. Each favorite can be assigned a function. With that you can quickly carry out often used actions and commands.

You will find information on assigning favorites in the configuration document. See chapter 'Applicable documents'.

4.6 Entry of numbers and letters

You can use the keyboard to enter numbers and letters in input dialogs.

Numeric entry

- The number of underscores corresponds to the number of possible positions for the entry.
- The overwrite mode is set by default; there is no insert mode.
- Horizontal navigation within the input field is possible with the keys <◄> and <►>.
- Use <▲> to delete the character to the left of the cursor position.
- Use <ok> to save the entered value and exit the input field.
  - When there are several input fields in the window, the cursor jumps to the next field by pressing <ok>.
  - If the cursor position is in the last or only input field, close the input dialog by pressing <ok>.
- Use <C> to cancel the input and close the dialog without saving.

Alphanumeric entry

- Alphanumeric entries are only possible in particular input fields, e.g. for customer text.
- Letters are entered in the same way as letters on telephones. You can select the corresponding letter by pressing a key several times.
- Switching between lower and upper case letters is possible with the key <*> and only applies for the next character.

In input fields with more than one line, you cannot change back to a line above the cursor position.

4.7 Cerberus Remote operation modes

Cerberus-Remote has the following operation modes:

- 'Limited access (view only)'
- 'Full access (view/operation)'

For both operation modes, an authorization must be configured on the ↑ 'Station'. In addition, a ↑ license key must be installed. The license key must support the Cerberus-Remote function.

You will find more information about license keys in document A6V10210362. See chapter 'Applicable documents'.

'Limited access (view only)'

In this operation mode Cerberus-Remote indicates the same as the 'Station' connected to it, but you cannot operate the linked 'Station'.

The figure in Cerberus-Remote indicates the display with all indicated texts, all LEDs in their current state and all buttons.

'Full access (view/operation)'

In this operation mode, the connected 'Station' is visualized as in the 'Limited access (view only)' operation mode. Additionally, the 'Station' can be operated with Cerberus-Remote, while normal operation on the 'Station' is blocked, but can be reactivated.

As operation on a 'Station' must have priority, this restriction (blocking) on the 'Station' can be cancelled at any time.

Each time an attempt is made to operate the 'Station', a window is displayed with the option to abort the connection with Cerberus-Remote.

The LED test also tests the display. However, the LEDs are not displayed in 'Cerberus-Remote'.

You can configure a permanent authorization for Cerberus-Remote in Cerberus-Engineering-Tool. You will find more information about this in document A6V10210424.

See also

Enabling / Disabling Cerberus Remote [→ 98]

4.8 Cerberus Mobile operation modes

Two operation modes can be specified for 'Cerberus Mobile' at the ↑ 'Station':

- 'Limited access (view only)'
- 'Full access (view/operation)'

The operation mode must be configured at the 'Station'.

'Limited access (view only)'

In this operation mode, 'Cerberus Mobile' displays 'Station' events. The events displayed are determined by the configured 'Visibility' for 'Cerberus Mobile'. In this operation mode, you cannot operate the 'Station' with 'Cerberus Mobile'.

'Full access (view/operation)'

In this operation mode, you can operate the 'Station' with the controls in 'Cerberus Mobile'. The events displayed are determined by the configured 'Visibility' for 'Cerberus Mobile'.

5 Operation

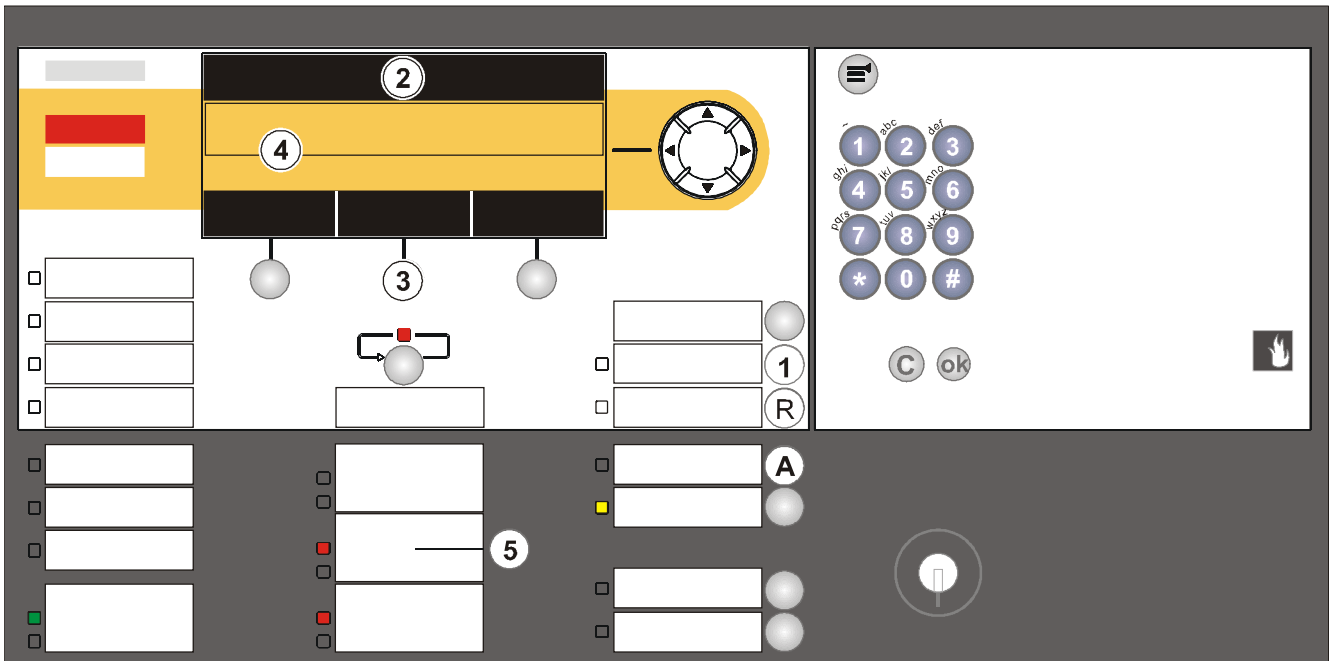
In this part of the document you will find brief descriptions and detailed operation sequences for important functions of the fire detection installation. In addition, you can find your preferred procedures in the representation of exemplary operation sequences.

Certain commands on the fire control panel can only be executed by the service technician or someone with access level 3. You will find a description of these specific commands in document A6V10210416. See chapter 'Applicable documents'.

5.1 ALARM Procedure

System without delayed alarm transmission (AVC)

If your fire detection system has no delayed alarm transmission function ('AVC'), the variant 'Fire Brigade in mm:ss' in Step 2 (see below) does not apply.



1	<Acknowledge>	5	<Alarm device>
2	**Top line on the display**	A	<Alarm delay off>
3	↑ **<Softkey 2>** 'Show intervention text' if displayed	R	<Reset>
4	**Indication of the fire location on the display**		

Procedure in the event of alarm

Step	Action / Condition	Consequence / Status
1	Press <Acknowledge> on the Person Machine Interface	⇨ With 'AVC, countdown t2 for examining the cause of 'ALARM' starts
2	**Read top line** on display	
	• 'Fire Brigade requested'	⇨ 'ALARM' is transmitted to the fire brigade
	• 'Fire Brigade in' 'mm:ss'	⇨ 'ALARM' is transmitted to fire brigade in mm:ss Remaining time is shown as **Countdown**
	• 'Call Fire Brigade !' if: – Remote transmission switched off – Remote transmission blocked or defective – No remote transmission available	⇨ **Fire brigade must be called by phone!** ⇨ No automatic transmission to fire brigade
3	Press 'Show intervention text' **<softkey 2> '** if displayed or press <Show intervention text> button Press <Jump back>	⇨ Intervention text is displayed ⇨ Fire location is displayed
4	Read off **fire location** on display	
5	Optional: Press <Alarm device> on the Person Machine Interface (password required)	⇨ Deactivates the acoustic alarm devices
6	**Go to the fire location**	
7	**Decide:** MAJOR INCIDENT or minor incident	

Procedure in the event of a major incident or minor incident

Condition	MAJOR INCIDENT	↑ Minor incident
Fire brigade has been called	**Save people** **Guide the fire brigade to the fire location** **Fight the fire**	Try to prevent fire brigade deployment
'Fire Brigade in' 'mm:ss' **Countdown is running**	Trigger the **manual call point** immediately or Press <Alarm delay off>	Press <Reset> (password required)
'Call Fire Brigade !' No automatic transmission to the fire brigade	**Call the fire brigade on the phone!**	Press <Reset> (password required)

Reset
A password is required for resetting.
It may be necessary to air the room before 'Reset' is possible.
You can temporarily ↑ switch off elements that cannot be reset.

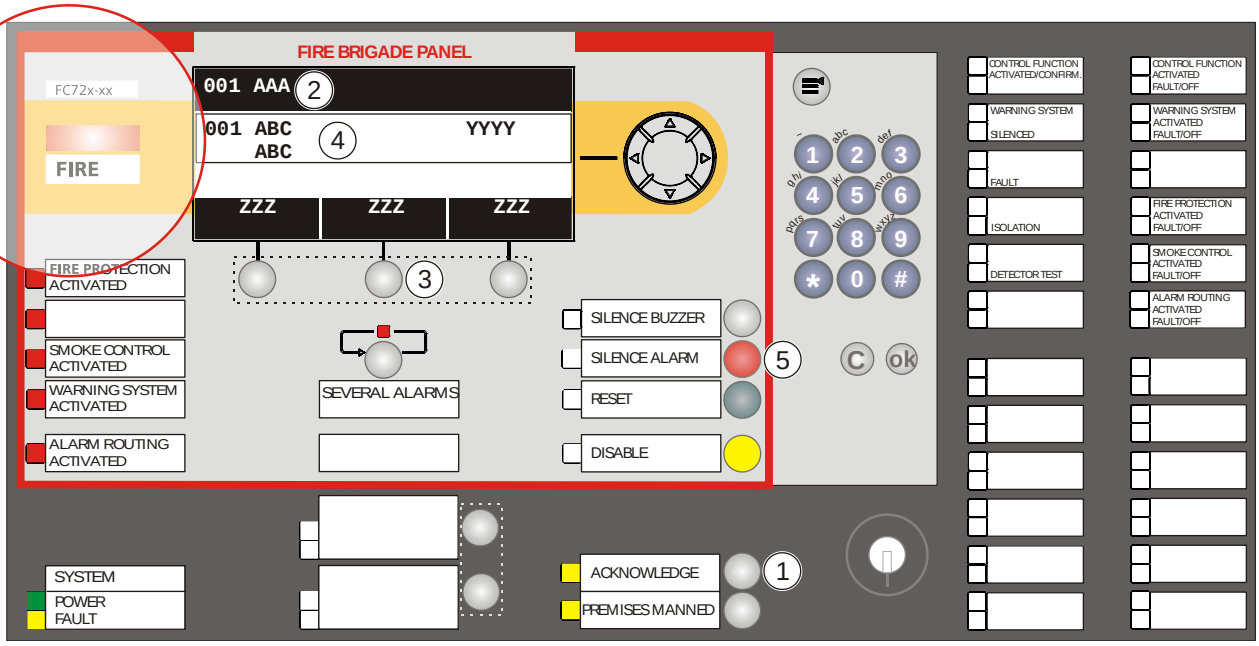
5.2 ALARM procedure PMI with FBP [AU]

System without delayed alarm transmission (AVC)

If your fire detection system has no delayed alarm transmission function ('AVC'), the variant 'Fire Brigade in mm:ss' in Step 2 (see below) does not apply.

Prerequisite

- You must have access to the PMI with FBP.
- You must have the PIN for the 2.1 access level.



1 **<Acknowledge>**

2 **Top line on the display**

3 **<Softkey 2>** 'Show intervention text' if displayed

4 **Indication of the fire location on the display**

5 **<Silence Alarm>**

Procedure in the event of alarm

Step	Action / Condition	Consequence / Status
1	Press <Acknowledge> on the Person Machine Interface	⇨ With 'AVC, countdown t2 for examining the cause of 'ALARM' starts
2	**Read top line** on display	
	• 'Fire Brigade requested'	⇨ 'ALARM' is transmitted to the fire brigade
	• 'Fire Brigade in' 'mm:ss'	⇨ 'ALARM' is transmitted to fire brigade in mm:ss Remaining time is shown as **Countdown**
	• 'Call Fire Brigade !' if: – Remote transmission switched off – Remote transmission blocked or defective – No remote transmission available	⇨ **Fire brigade must be called by phone!** ⇨ No automatic transmission to fire brigade
3	Only with PIN for the 2.2 access level: **Press <Softkey 2> 'Show intervention text'** or press <Show intervention text> button Press <Jump back>	⇨ Intervention text is displayed ⇨ Fire location is displayed
4	Read off **fire location** on display	
5	If alarm devices are activated: **Press <Silence Alarm>** on the Person Machine Interface	⇨ Deactivates the acoustic alarm devices
6	**Go to the fire location**	
7	**Decide:** MAJOR INCIDENT or ↑ minor incident	

Procedure in the event of a major incident or minor incident

Condition	MAJOR INCIDENT	Minor incident
Fire brigade has been called	**Save people** **Guide the fire brigade to the fire location** **Fight the fire**	Try to prevent fire brigade deployment
'Fire Brigade in' 'mm:ss' **Countdown is running**	Trigger the **manual call point** immediately or Press **<Alarm delay off>**	Press <Reset>[1]
'Call Fire Brigade !' No automatic transmission to the fire brigade	**Call the fire brigade on the phone!**	Press <Reset>[1]

[1] Before resetting, the acoustic alarm devices must be deactivated. See Step 5.

Reset
It may be necessary to air the room before 'Reset' is possible.
You can temporarily ↑ switch off elements that cannot be reset.

5.3 Procedure in case of Fault

Step	Action
1	Press <Silence buzzer> on the Person Machine Interface
2	**Read message/fault location** on the display
3	**Go to the fault location**
4	**Eliminate the cause of the fault**

A list of possible 'Faults' and how they are eliminated can be found in the chapter 'Faults / Troubleshooting'. If you cannot eliminate 'Fault', please contact your service provider.

'Fault' and 'Intervention Concept' (IC)

On consideration of ↑ 'Intervention Concept', events of the 'Fault' category can be assigned their own sequence. This sequence may be configured differently and depends on the ↑ 'Manned operation' / ↑ 'Unmanned operation' operation mode.

An exemplary process following 'Fault', taking into account 'Intervention Concept', is graphically shown in chapter 'Intervention Concept (IC) and is outlined below:

'Fault' has occurred

- The remote transmission for 'Faults' is activated in 'Unmanned operation' operation mode.
- The remote transmission for 'Manned operation' is activated in 'Faults' operation mode unless 'Fault' is acknowledged within the delay t1.

Acknowledging 'Fault'

1. Press <Acknowledge> before the expiry of t1.
2. Read the 'Fault'location on the display.
3. Go to the 'Fault' location.
4. Rectify 'Fault'.

See also

Intervention concept (IC) [→ 231]
Faults / Troubleshooting [→ 241]

5.4 Switching off / Switching on

⚠ WARNING

System parts that have been switched off make it impossible to acquire and process alarms or faults!

Fire may spread unhindered.

- Deploy staff to monitor the deactivated area.
- You must switch deactivated parts of the 'Site' back on as soon as possible.

To avoid ↑ false alarms or fault messages, you can switch off parts of a ↑ 'Site' ↑ in certain situations, e.g., for the purpose of maintenance work.

When a part of a system is switched off, the 'Isolation' LED is on.

The situations in which part of a 'Site' should be switched off, depends on the detectors used as well as on possible deceptive phenomena such as smoke, dust, heat or vapour.

If a deactivated ↑ 'Zone' is the only 'Zone' in a ↑ 'Section', the 'Section' is also indicated as deactivated.

Examples of switching off/on are provided in the following chapters.

5.4.1 Switching a detector zone off / on

If a deactivated ↑ 'Zone' is the only 'Zone' in a ↑ 'Section', the 'Section' is also indicated as deactivated.

You will find information on temporarily ↑ switching off detector zones in chapter 'Temporary switching-off [→ 57]'.

In which situations a detector zone should be switched off, depends on the detectors used as well as on possible deceptive phenomena such as smoke, dust, heat or vapour.

The fastest method for switching off or on is to enter a known address in the 'Enter address' window.

In the configuration, a standard button can be given the function of directly opening the menu with the 'Enter address' input dialog to select a detector zone.

In the following exemplary operating sequence the process is shown without a known address.

Switching off a detector zone

1. Select 'Main menu' > 'Functions'.
   ⇨ The 'Functions' window is open.
2. Select 'On / Off'.
   ⇨ A list of all element categories on which a command of the 'On / Off' command group can be executed is indicated.

3. Select the 'Element category' 'Zone'.
   ⇨ The 'Enter address' window is open.
4. Press <ok> without entering an address.
   ⇨ All 'Zones' are displayed.
5. Select a 'Zone' and press <'Execute Commands>.
   ⇨ The 'Select command' window is open.
6. ⚠ **WARNING! System parts that have been switched off make it impossible to acquire and process alarms or faults!** Select the 'OFF' command and confirm with <ok>.
   ⇨ The window with the command response confirms the selected command.

⇨ 'Zone' is switched off.

Exemplary representation of the aforementioned operation sequence for switching off a detector zone:

Functions Exit with <C>			Access level 2.1
On / Off	(1)	Configuration	(5)
Test	(2)	Maintenance	(6)
Activate / Deactivate	(3)	Reports	(7)
Information	(4)	All functions	(8)

Message summary	Event memory	LED test

- Select 'On / Off', continue with <ok>

Selecting element category	
Zone	(1)
Area	(2)
Section	(3)
Sounder	(4)
Fire control group	(5)

- Select 'Zone', continue with <ok>

Enter address
Zone ---------
Confirm with <ok>/Exit with <C> Delete with <Cursor up>

- Continue with <ok> without entering an address

021	Zones	
Zone	10	Power supply room
Zone	11	EDP room, false floor
Zone	12	EDP room
Zone	13	Office 21

Execute Commands | Show Topology

- Select 'Zone', continue with <Execute Commands>

Select command	
OFF	(2)
OFF/timer	(4)

- ⚠ **WARNING! System parts that have been switched off make it impossible to acquire and process alarms or faults!** Select 'OFF', continue with <ok>

⇨ Command response

Execute command OFF
Command executed

Switching a detector zone on

Proceed as with ↑ switching off, but select the 'ON' command.

Alternatively, with 'Message summary' from the main menu and 'Event category' 'Isolations', you can also select the corresponding 'Zone' and reactivate with the ↑ <softkey> 'Execute Commands'.

See also

Execute commands – object-oriented [➞ 69]

5.4.2 Switching a detector off / on

If a deactivated 'Detector' is the only 'Detector' in a 'Zone' or if all 'Detectors' in a 'Zone' are deactivated, the 'Zone' is indicated as deactivated.

You will find information on temporarily ↑ switching off detectors in chapter 'Temporary switching-off [➞ 57]'.

Switching off the 'Detector'

1. Select 'Main menu' > 'Topology'.
   ⇨ The 'Topology' window is open.
2. Select ↑ 'Detection tree' and click <ok>.
   ⇨ The elements of 'Detection tree' are displayed.
3. Select the element 'Area 1'.
   ⇨ The elements of 'Area 1' are displayed.
4. Select 'Area 1' and press 'Lower level' ↑ <softkey 2>.
   ⇨ All 'Sections' in 'Area 1' are displayed.
5. Select 'Section 1' and press 'Lower level' <softkey 2>.
   ⇨ All 'Zones' in 'Section 1' are displayed.
6. Select 'Zone 1' and press 'Lower level' <softkey 2>.
   ⇨ All detectors of 'Zone 1' are displayed.
7. Select 'Detect. 1' and press 'More Options' <softkey 3>.
   ⇨ The 'Select option' window is open.
8. Select 'Execute commands'.
   ⇨ The 'Select command' window is displayed.
9. ⚠ **WARNING! System parts that have been switched off make it impossible to acquire and process alarms or faults!** Select 'OFF'.
   ⇨ The command is executed.
   ⇨ The window with the command response is open.

⇨ The detector is switched off.

Exemplary representation of the aforementioned operation sequence for ↑ switching off a detector:

Topology Exit with <C>		Access level 2.1
Detection tree	(1)	
Hardware tree	(2)	
Control tree	(3)	

Function On/Off	Function All	LED test

- Select 'Detection tree', continue with <ok>

001 Element			Detection tree
Area	1	Portaphone AG	

		Lower level	Execute Commands

- Select 'Area 1', continue with 'Lower level' <Softkey 2>

005	Elements Portaphone AG		Area 1
Section	1	Ground floor	
Section	2	1st floor	
Section	3	1st floor / EDP room	
Section	4	2nd floor	

	Upper level	Lower level	Execute Commands

- Select 'Section 1', continue with 'Lower level' <Softkey 2>

005	Elements Ground floor		Section 1
Zone	1	Reception hall	
Zone	2	Corridor	
Zone	3	Warehouse	
Zone	4	Reception hall	

	Upper level	Lower level	Execute Commands

- Select element 'Zone 1', continue with 'Lower level' <softkey 2>

002	Elements Reception hall		Zone 1
Detect.	1	Main entrance	
Detect.	2	Reception	

	Upper level		More Options

- Select 'Detect. 2', continue with 'More Options' <softkey 3>

Selecting option	
Execute commands	**(3)**
Jump to link	(4)
Show details	(5)

- Select 'Execute commands' option, continue with <ok>

Select command	
OFF	**(1)**
Activate alarm indicator	(3)
Deactivate alarm indicator	(4)

- ⚠ **WARNING! System parts that have been switched off make it impossible to acquire and process alarms or faults!** Select 'OFF' command

⇨ Command response

Execute command OFF
Command executed

Switching on the 'Detector'

Proceed in the same way as when ↑ switching off 'Detector', but select the 'ON' command as shown below.

Select command	
ON	(2)

- Select 'ON' command

As an alternative, you can select the corresponding detector or 'Zone' via the 'Message summary' main menu item and the 'Isolations' message category and switch it back on with the 'More Options', 'Execute commands', and 'ON' ↑ softkey.

5.4.3 Temporary switching-off

Temporary switching-off is only possible at level 'Area', 'Section', 'Zone', or 'Detector'.

Override for different settings

If a detector has been temporarily isolated and its 'Zone' has been permanently isolated, the detector is also permanently isolated.

If a detector has been temporarily isolated and its 'Zone' has been temporarily isolated, the time limit for the isolation of the 'Zone' also applies for the detector.

If all detectors in a 'Zone' have been isolated and the time limit for the isolation of a detector elapses, the 'Zone' is displayed as switched on.

The 'Temporary ↑ switching-off' function can be used to set a time limit for 'Isolation'. The isolated part of the ↑ 'Site' is switched back on automatically after the time period entered.

The figures below show an exemplary operation sequence to temporarily switch off 'Section':

1. Select 'Main menu' > 'Element search'.
2. Select 'Start with category'.

Selecting element category	
Zone	(1)
Area	(2)
Section	**(3)**
Detector	(4)
RT control	(5)

- Select 'Section' and confirm with <ok>.

Enter address
Section 1--------
Confirm with <ok>/Exit with <C>
Delete with <Cursor up>

- Enter the address: e.g., 1. Confirm with <ok>.

Select command	
All zones ON	(2)
All zones OFF/timer	(3)
MCP zones OFF	(4)
Non-MCP zones ON	(5)
Non-MCP zones OFF	(6)

- ⚠ **WARNING! System parts that have been switched off make it impossible to acquire and process alarms or faults!** Select 'All zones OFF/timer' and confirm with <ok>.

Enter duration
05:00 (hh:mm) Confirm with <ok>/Exit with <C> Delete with <Cursor up>

- Enter the duration: e.g., 5 hours.

⇨ You receive a command response.

Execute command All zones OFF/timer
Command executed

The adjustable duration may be limited, depending on the country.
The duration of the 'Isolation' may be changed subsequently.
An unlimited 'Isolation' can be temporarily limited, and vice versa.

5.4.3.1 Polling the isolation time

If a 'Zone' or 'Detector' level is temporarily switched off, you can poll the remaining switching-off time at the ↑ 'Station'.

1. Select 'Main menu' > 'Message summary' > 'Isolations'.
2. Select the isolated element for which you wish to poll the remaining isolation time.
3. Select 'Execute commands'.
   ⇨ The 'Select command' window is displayed.
4. Select 'Show remaining off time' and confirm with <ok>.

⇨ The remaining switching-off time is shown.

Execute command Show remaining off time
Element is switched off until 2013-11-16 13:49:49

5.4.3.2 Expiry reminder for temporary switching-off

An expiry reminder is displayed prior to the expiry of temporary isolation. You can configure how long before a temporary isolation the reminder is displayed in 'Cerberus-Engineering-Tool'.

The expiry reminder must be configured in 'Cerberus-Engineering-Tool' > task card 'Operation' > 'Global system configuration' > 'Global behaviour' > 'Details' tab.

You will find more information about configuring the expiry reminder in document 'A6V10210424'. See chapter 'Applicable documents'.

5.4.4 Switching off / on the remote transmission Fire

⚠ WARNING

When the remote transmission Fire has been switched off, the fire brigade cannot be called up in the event of fire!

Fire may spread unhindered.

- Deploy staff to monitor the 'Site'.
- You must switch the ↑ 'RT Fire' back on as soon as possible.

The 'RT Fire' is normally switched on and may only be ↑ switched off in particular cases, e.g., for a function check of controls.

Switching off 'RT Fire'

1. Select 'Main menu' > 'Topology'.
   ⇨ The three partial topology trees are listed.
2. Select ↑ 'Control tree'.
   ⇨ The 'Select element category' window is open.
3. Select the 'Alarmg.' list item.
   ⇨ The 'Elements' window is open.
4. Select 'Alarmg. 2' and press 'Execute Commands' <softkey 2>.
   ⇨ The 'Select command' window is open.
5. **⚠ WARNING! When the remote transmission Fire has been switched off, the fire brigade cannot be called up in the event of fire!** Select the 'RT FIRE channels OFF' command and press <ok>.

⇨ The command response confirms that the command has been executed.

⇨ The 'RT Fire' is switched off.

⇨ The LED 'Remote alarm Off' on the ↑ Person Machine Interface is illuminated.

LED statuses:

- Off
- Steady on with isolation
- Flashing with fault

Example of switching off 'RT Fire' using 'Topology' main menu item:

Topology Exit with <C>		Access level 2.1
Detection tree	(1)	
Hardware tree	(2)	
Control tree	**(3)**	

Function On/Off	Function All	LED test

- Select 'Control tree', continue with <ok>

003 Elements		Control tree
Evac gr	2	Evac control groups
Alarmg.	**2**	Standard alarming controls
Fire gr	3	Elevator control

	Lower level	Execute Commands

- Select 'Alarmg.', continue with <ok>

004 Elements Standard alarming controls		Alarmg. 1
IntS.Ct	1	Internal sounder
RT fire	**1**	Remote transmission channel FIRE
ExtS.Ct	2	External sounder
RTfault	2	Remote transmission channel FAULT

Upper level	Lower level	Execute Commands

- Select 'RT fire', continue with <ok>

002 Elements Remote transmission channel FIRE		RT fire 1
Effects	**1**	
Causes	1	

Upper level	Lower level	Execute Commands

- Select 'Effects', continue with <ok>

001 Element		Effects
RT ch.	**1**	

Upper level	More Options

- Continue with <More Options>

Selecting option	
Execute commands	**(3)**
Jump to link	(4)
Show details	(5)

- Select 'Execute commands' option, continue with <ok>

Select command	
OFF	(1)
Set customer text	(3)
Activate	(5)
Time limited activation	(6)

- ⚠ **WARNING! When the remote transmission Fire has been switched off, the fire brigade cannot be called up in the event of fire!** Select 'OFF' command continue with <ok>

⇨ Command response

Execute command **OFF**
Command executed

Example of switching off 'RT Fire' using 'On / Off' menu item in 'Functions' menu:

Selecting element category	
Zone	(3)
Sounder	(4)
Fire control group	(5)
RT control	(6)
Alarming control group	(7)

- Select 'Alarming control group' element category, continue with <ok>

Enter address
Alarmg. ---------
Confirm with <ok>/Exit with <C>
Delete with <Cursor up>

- Do not enter an address, continue with <ok>

Select command	
Internal/external sounders OFF	(1)
RT FIRE channels OFF	**(2)**
Internal/external sounders ON	(3)
RT FIRE channels ON	(4)

- Select command: 'RT FIRE channels OFF'

Switching on 'RT Fire'

- Proceed as with switching off, but select the 'ON' command.

5.4.5 Switching off alarm activation

⚠ WARNING! System parts that have been switched off make it impossible to acquire and process alarms or faults! You can ↑ switch off the fire detection installation alarm activation for specific elements with this function.

Faults such as the removal of a detector are nevertheless evaluated and displayed.

You can only run the 'Alarm evaluation OFF' command on the followingelements:
↑ 'Section'
'Automatic zone'
'Technical zone'

5.4.6 Switching off sabotage evaluation [DE]

If a class 3 key safe (fire brigade key safe, 'FSD') forms part of the fire detection installation and you want to open the housing of the control panel, you must ↑ switch off the sabotage evaluation.

!	*NOTICE*
	Sabotage ALARM with police or security service Costs due to unnecessary deployment. • In a site with 'FSD', switch off sabotage evaluation before you open the housing of a control panel.

'Sabotage evaluation OFF'

▷ Sabotage evaluation is switched on.

▷ You have authorization for access level 3.

1. Select 'Main menu' > 'Topology'.
   ⇨ The three partial trees of the topology tree are indicated.
2. Select ↑ 'Hardware tree'.
   ⇨ One or more 'Stations' are displayed.
3. Select the 'Stations' to which 'FSD' is connected.
4. Press 'Lower level' <softkey>.
   ⇨ The elements of 'Stations' are displayed.
5. Select the element 'FSD'.
6. Press <Execute Commands>.
7. Select the 'Sabotage evaluation OFF' command.

⇨ Sabotage evaluation is switched off.

5.5 Log in / Change access level

You can enable an 'Access level' by entering your PIN in the PIN entry dialog, or by pressing <ok>. Alternatively you can use the key switch (optional) to release an Access level.

If you press a key on the ↑ Person Machine Interface whose function requires a higher 'Access level', the PIN input dialog is displayed automatically.

Login/logout
Enter PIN: Logout or guest-login: no PIN + <ok> Confirm with <ok>/Exit with <C> Delete with <Cursor up>

Table 1: PIN entry dialog box

Enabling an 'Access level' without a PIN

1. Press <Menu> on the keypad.
   ⇨ The PIN input dialog is indicated.
2. Do not enter a PIN and confirm with <ok>.

⇨ The lowest 'Access level' is enabled.

⇨ The main menu is open.

Enabling an 'Access level' with a PIN

1. Press <Menu> on the keypad or select the 'Main menu' > 'Login/logout'' main menu item.
   ⇨ The PIN input dialog is indicated.
2. Enter your PIN and confirm with <ok>.

⇨ The corresponding 'Access level' is enabled.

⇨ The main menu is open.

The present 'Access level' is indicated in the main menu in the header of the display.

5.6 Logging out from an access level

1. Select 'Main menu' > 'Login/logout'.
   ⇨ The PIN input dialog is indicated.
2. Do not enter a PIN and confirm with <ok>.

⇨ The 'Access level' is reset back to the lowest 'Access level'.

5.7 Switching between 'Manned' / 'Unmanned' operation modes

The ↑ 'Manned operation' or ↑ 'Unmanned operation' operation modes have an impact on the processing of 'ALARM' and 'Fault'. You will find information on the operation mode in the chapter in account.

You can tell the operation mode set from the 'Premises manned' LED.

- When the 'Premises manned' LED is on, the operation mode is set to 'Manned operation'.
- When the 'Premises manned' LED is not on, the operation mode is set to 'Unmanned operation'.

Switching between operation modes

1. Press the 'Premises manned' standard button on the ↑ PMI.
   ⇨ The PIN input dialog is indicated.
2. Enter your PIN and confirm with <ok>.

⇨ The operation mode has been switched.

⇨ Check the setting of the 'Premises manned' LED.

'Manned operation' / 'Unmanned operation' mixed operation

If one ↑ PMI has ↑ visibility to more than one fire control panel, with different 'Manned operation' / 'Unmanned operation' operation modes, this is considered "mixed operation".

In this case, the event list opens upon actuation of the 'Premises manned' button. The event list includes all events of the 'Manned operation' and 'Unmanned operation' operation modes.

With the ↑ 'More Options' softkey, the three following commands are available:

- 'Switch ALL to MANNED'
- 'Switch ALL to UNMANNED'
- 'Manned' or 'Unmanned', depending on the condition of the selected entry in the event list

When there is at least one 'Premises manned' event, the 'Premises manned' LED is on.

By means of configured switching from 'Manned operation' to 'Unmanned operation' at predefined times, the operation mode may switch although no manual switching has been performed.

There is no possibility of an automatic switching from 'Unmanned operation' to 'Manned operation'.

See also

Operation modes [→ 112]

5.8 Changing visibility

See also

Visibility [→ 118]

5.8.1 Deactivating standby

'PMI standby visibility' cannot be activated manually.

The 'Deactivate standby visibility' command is only available once the monitored 'Station' or the ↑ management station is back in ↑ normal operation.

▷ The 'PMI standby visibility' is active.

▷ The monitored 'Station' or the management station is in normal operation.

1. Select 'Main menu' > 'Message summary'.
   ⇨ The message categories containing messages are displayed.
2. Select 'Information'.
   ⇨ 'PMI standby visibility' is shown.
3. Select this element.
4. Press <Execute Commands>.
5. Select 'Deactivate standby visibility'

⇨ 'PMI standby visibility' is deactivated.

See also

Standby visibility [→ 119]

5.8.2 Activating / deactivating expanded visibility

The 'Activate expanded visibility' function can be assigned to a favorite to make it easier to find.
Activation can be configured depending on the condition.

Activating the function 'Expanded visibility'

▷ The ↑ 'Station' is configured for 'Expanded visibility'.

1. Select 'Main menu' > 'Topology'.
   ⇨ The three partial trees of the 'Topology' are displayed.
2. Select ↑ 'Hardware tree'.
   ⇨ The elements in 'Hardware tree' are displayed.
3. Select 'Station' and press the 'Lower level' ↑ softkey.
   ⇨ The elements of 'Station' are displayed.
4. Select 'PMI' and press the 'Lower level' softkey.
   ⇨ The elements of 'PMI' are displayed.
5. Select the 'expand.' element and press the 'More Options' softkey or the command at the bottom directly, depending on the 'Access level'.
   ⇨ The 'Selection option' window is displayed depending on the 'Access level'.
6. Select 'Execute commands'.
   ⇨ The 'Select command' window is displayed.
7. Select 'Activate expanded visibility'

⇨ 'Expanded visibility' is activated.

Deactivating the 'Expanded visibility' function

1. Select 'Main menu' > 'Message summary'.
   ⇨ The message categories containing messages are displayed.
2. Select 'Information'.
3. 'PMI expanded visibility' is shown.
4. Select this element.
5. Press <Execute Commands>.
6. Select 'Deactivate expanded visibility'.

⇨ 'PMI expanded visibility' is deactivated.

See also

Expanded visibility [➞ 119]

5.9 Main menu / Open menu item

Opening 'Main menu'

1. Press the <Menu> button.
   ⇨ The PIN input dialog is indicated.
2. Enter your PIN and confirm with <ok> or confirm with <ok> without entering the PIN.

⇨ The 'Main menu' is indicated on the display.

Without PIN entry, the 'Main menu' only includes the menu items that are available without logging-in. To view an extended menu list in the 'Main menu', you need to log in on a corresponding access level.

Opening menu item

Every menu item has a number shown in brackets for the shortcut on the numerical block.

- Press on the digit in account on the numerical pad in order to open the menu item.
- Alternatively, you can navigate to the next menu item using the navigation buttons <▲> and <▼>.
- You can open the highlighted menu item with the button <ok> or with the navigation button <►>.

See also

Menu button [→ 38]

5.10 Execute commands – Basics

There are different ways to enter commands. There are basically two ways of entering commands:

- Function-oriented command entry
  – Here, first select a command and then the target object on which the command is to be executed.
- Object-oriented command entry
  – Here, first select the target object and then the command on which the target object is to be executed.

In the fire detection system, these two methods of entering commands are combined in the interest of a better overview during the selection. It is possible to switch between the two methods during the command entry sequence.

As only the possible command or element categories are indicated, each selection restricts the selection that follows.

The example in the following chapter makes this clear.

Depending on the 'Access level', the possible selection of commands via ↑ softkeys or the 'Main menu' is extended or restricted.

See also

Selection in the topology [→ 74]
Searching for elements [→ 75]
Commands with required access levels [→ 120]

5.10.1 Execute commands – General

Example for the execution of commands

1. Select a command category such as 'Function On/Off' by pressing the <softkey 1> in the 'Main menu' or the 'Functions' main menu item.
   ⇨ The pre-selection restricts the element category selection.
   ⇨ A list of all element categories on which a command of the 'On / Off' command group can be executed is indicated.
2. Select an element category.
   ⇨ The 'Enter address' window is open.
3. Enter an address or leave the entry field blank and confirm with <ok>.
   ⇨ If no address is entered, all elements of the selected element category are indicated.
4. In this case, select an element and press the 'Execute Commands' <softkey>.
   ⇨ The 'Select command' window is open.
5. Select a command.

⇨ The command is executed.

The tables below indicate the steps described above:

Main menu Exit with <C>			Access level 2.1
Message summary	(1)	Element search	(5)
Functions	(2)	Event memory	(6)
Favorites	(3)	Login/logout	(7)
Topology	(4)	Settings/administration	(8)
Function On/Off	Function All	LED test	

- Press 'Function On/Off' <softkey 1>.

Selecting element category	
Area	(1)
Section	(2)
Zone	(3)
Sounder	(4)
Fire control group	(5)

- Select for example 'Zone'.

Enter address
Zone ---------
Confirm with <ok>/Exit with <C>
Delete with <Cursor up>

- Confirm with <ok> without entering an address.

021 Zones		
Zone	10	Power supply room
Zone	11	EDP room, false floor
Zone	12	EDP room
Zone	13	Office 21

Execute Commands	Show Topology

- Select a ↑ zone and press 'Execute Commands' <softkey 1>.

Select command	
OFF	(2)
OFF/timer	(4)

- 'Select a command, e.g. 'OFF'

⇨ Window with command response

Execute command OFF
Command executed

5.10.2 Execute commands – object-oriented

You can apply object-oriented command entry to selected target objects. A selection can be made e.g. as follows:

- Navigation in the topology
- Element search

You can execute a command on the selection or the selected element from a list. To do this press the 'Execute Commands' ↑ <softkey> and then select a command.

Exemplary selection of an element from the 'Detection tree' for command entry:

Main menu Exit with <C>			Access level 2.1
Message summary	(1)	Element search	(5)
Functions	(2)	Event memory	(6)
Favorites	(3)	Login/logout	(7)
Topology	**(4)**	Settings/administration	(8)

Function On/Off	Function All	LED test

- Select 'Topology' menu item in the main menu, continue with <ok>

Topology Exit with <C>			Access level 2.1
Detection tree	**(1)**		
Hardware tree	(2)		
Control tree	(3)		

Function On/Off	Function All	LED test

- Select ↑ 'Detection tree', continue with <ok>

001 Element			Detection tree
Area	**2**	Portaphone AG	

	Lower level	Execute Commands

- Select 'Area 2', continue with 'Lower level' <softkey 2>

005	Elements Portaphone AG		Area 2
Section	**1**	Ground floor	
Section	2	1st floor	
Section	3	1st floor / EDP room	
Section	4	2nd floor	

Upper level	Lower level	Execute Commands

- Select 'Section 1', continue with 'Lower level' <Softkey 2>

005	Elements Ground floor		Section 1
Zone	1	Reception hall	
Zone	2	Corridor	
Zone	3	Warehouse	
Zone	4	Reception hall	

Upper level	Lower level	Execute Commands

- Select 'Zone 1', continue with 'Lower level' <Softkey 2>

002 Elements Reception hall			Zone 1
Detect.	1	Main entrance	
Detect.	2	Reception	

Upper level	Execute Commands

- Select 'Detect. 1', continue with 'Execute Commands' <softkey 3>

Select command	
OFF	(1)
Activate alarm indicator	(3)
Deactivate alarm indicator	(4)

- Select 'OFF' command continue with <ok>

⇨ Command response

Execute command OFF
Command executed

5.10.3 Executing commands – function-oriented

1. Select 'Main menu' > 'Functions'.

   ⇨ The 'Functions' menu is open.

2. Select a menu item in the menu list or press the ↑ softkey in account.

If a command such as 'LED test' cannot be executed directly, the 'Select element category' window is opened when a menu item or softkey is selected (see above, in chapter 'Executing commands – General').

Functions Exit with <C>			Access level 2.1
On / Off	(1)	Configuration	(5)
Test	(2)	Maintenance	(6)
Activate / Deactivate	(3)	All functions	(7)
Information	(4)		

Function On/Off	Function All	LED test

'Functions' menu

5.10.4 Hide command confirmation message

After entering a command, two windows with command confirmation messages confirm the execution of the command as well as afterwards the successful execution.

When the execution duration of a command is very short, the command confirmation message is immediately shown, including a message about the successful command execution.

In general, the command confirmation messages disappear after a few seconds.

Regarding the following commands with longer execution durations, the window with the command confirmation messages does not disappear automatically:

- Auto configuration functions
- 'Accept replaced devices'
- 'Read in installed devices'
- 'Read current topology'
- 'Detector line ON'
- 'Restart line'
- 'Detector line OFF'

Hiding the indicated command confirmation message

- Press <Menu> or <C>.

⇨ The window disappears.

5.11 Selecting elements or events

The objective of selecting an element or event is e.g. the detailed and information indication, the configuration or command entry applied to the selection.

5.11.1 Select events

All events that have occurred in the fire detection installation are stored in the event memory . The event list is sorted chronologically and you may filter the events by category, date and time.

The preselection by category as well as the entry of a timespan makes it possible to indicate a part of all the events stored in 'Event memory'.

Selecting events

1. Select 'Main menu' > 'Event memory'.
   ⇨ A list with ↑ 'Stations' is displayed. The 'Station', where the selection is made is identified accordingly.
2. Select the 'Station'.

⇨ A list of all events is displayed.

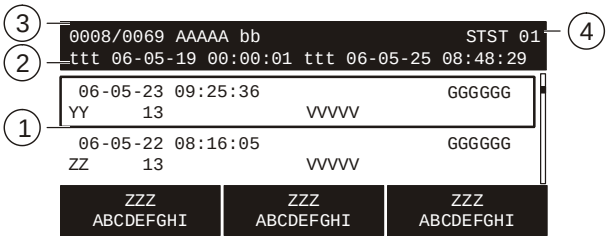


Figure 9: Example of an event list

1 Event list
2 Timespan
3 Highlighted entry (0008) of the total number of entries (0069)
4 Selected 'Station'

Using the softkeys to limit the selection of all events indicated

You can use the 'Select Event category' ↑ softkey to select an event category and then enter the date or timespan.

Select event category	
ALARM	(0)
Pre-ALARM	(1)
Fault	(2)
Isolation	(3)

You can use the 'Select Date/time range' softkey to enter the timespan.

Select date/time range	
Whole range	
From / to	(1)
Today	(2)
Yesterday	(3)
Last 7 days	(4)

The 'More Options' softkey gives you the following options:

Selecting option	
Select station	(3)
Execute commands	(4)
Jump to begin	(5)
Jump to end	(6)
Delete event memory	(8)

5.11.2 Selection in the topology

It is possible to navigate through the topology tree structure via the 'Topology' menu item in the Main menu. Here you can select an element in order to view details or execute a function on a selected element.

In the topology, you pre-select elements by selecting the subtree in the topology.

There are three partial trees:

- ↑ 'Detection tree'
- ↑ 'Hardware tree'
- ↑ 'Control tree'

Selecting element in the topology

1. Select 'Main menu' > 'Topology'.
   ⇨ The three partial trees of the topology are indicated.
2. Select a subtree.
3. In the structure, continue navigating to the detail with the 'Lower level' ↑ softkey or use the 'Execute Commands' <softkey> to execute a command.

⇨ Details are shown or the window with a selection of commands is indicated.

Navigating in an exemplary 'Detection tree'

Topology Exit with <C>		Access level 2.1
Detection tree	(1)	
Hardware tree	(2)	
Control tree	(3)	

Function On/Off	Function All	LED test

- 'Control tree' selection
  ⇨ The control tree includes three elements.

003 Elements		Control tree
Fire control group	2	Fire protection doors
Alarming control group	2	Standard alarming control
Fire control group	3	Lift control

	Lower level	Execute Commands

- Select 'Alarming control group 2', 'Lower level' <softkey 2>

006 Elements		Alarmg.
ExtS.Ct	4	External sounder
RTfault	**4**	RT channel Fault
RT 1	7	RT channel 1
Alarm Verification Concepts	8	RT channel 2
Upper level		Execute Commands

- Select 'RTfault', 'Execute Commands" <softkey 3>

Select command	
OFF	(1)
Deactivate	(2)
Poll RT counter	(3)

5.11.3 Searching for elements

An 'Element search' makes it possible to view the details of an element or to enter commands applicable to an element.

There are two variants for 'Element search':

- Search by category
- Search by 'Address'

Searching for an element

1. Select 'Main menu' > 'Element search'.

   ⇨ The window to select the search variant is open.

2. Select the search variant and proceed as follows:

- 'Start with category'

  First of all, select an element category.

  In the 'Enter address' window you have the possibility to enter <ok> without entering an address. In that case, all elements of this element category are listed.

  When you enter a valid address in the 'Enter address' field, only that element is listed.

- 'Start with address'

  Here you enter a valid address at the beginning. All elements with this address are listed.

  The elements may belong to different element categories such as ↑ 'Area' 2, ↑ 'Section' 2, ↑ 'Zone' 2, 'Alarming control group' 2, or ↑ 'Fire control group' 2, after the entry of address 2.

Search by category

The tables below indicate steps of the 'Element search' with 'Start with category':

Main menu Exit with <C>			Access level 2.1
Message summary	(1)	Element search	**(5)**
Functions	(2)	Event memory	(6)
Favorites	(3)	Login/logout	(7)
Topology	(4)	Settings/administration	(8)

Function On/Off	Function All	LED test

- Select 'Element search', continue with <ok>

Element search Exit with <C>		Access level 2.1
Start with category	**(1)**	
Start with address	(2)	

Function On/Off	Function All	LED test

- Select 'Start with category', continue with <ok>

Selecting element category	
Area	(1)
Section	(2)
Zone	(3)
Sounder	(4)
Fire control group	(5)

- Select e.g. 'Zone', continue with <ok>

Enter address
Zone 2--------
Confirm with <ok>/Exit with <C>
Delete with <Cursor up>

- Enter e.g. 2, continue with <ok>

001 Zone		
Zone	2	Corridor

Execute Commands	Execute commands Topology

Corresponding functions are possible with the softkeys.

Search by address

The tables below indicate steps of the 'Element search' with 'Start with address':

Element search Exit with <C>	Access level 2.1
Start with category (1) Start with address (2)	

Function On/Off	Function All	LED test

- Select 'Start with address', continue with <ok>

Enter address
Address 2-------- Confirm with <ok>/Exit with <C> Delete with <Cursor up>

- Enter e.g. 2, continue with <ok>

050 Elements		
Area	2	Portaphone AG
Section	2	1st floor
Zone	2	Corridor
RT fire	2	RT channel Fire

Execute Commands	Execute commands Topology

Corresponding functions are possible with the softkeys.

5.12 Testing

5.12.1 Testing detectors

The 'Detector test' is a hardware function test for the devices and their assignment to ↑ 'Detection tree'.

The 'Detector test' function can be carried out on the levels ↑ 'Zone', ↑ 'Section', or ↑ 'Area'.

The 'Detector test' is available for all detector zone types.

Testing all automatic 'Detectors'

1. Select 'Main menu' > 'Functions'.
   ⇨ The 'Functions' menu is open.
2. Select 'Test'.
   ⇨ The 'Select element category' window is open.
3. Select the 'Element category' 'Area'.
   ⇨ The 'Enter address' window is open.
4. Press <ok> without entering an address.
   ⇨ The 'Select command' window is open.
5. Select 'Non-MCP zones det.test'.
   ⇨ All automatic 'Detectors' are set to 'Detector test'.
   ⇨ The 'DETECTOR TEST' LED on the ↑ Person Machine Interface is on.
6. Test the 'Detectors'.

Example of selecting commands for the 'Detector test' of all automatic 'Detectors':

Select command	
Installation test	(2)
Non-MCP zones det.test END	(3)
Installation test END	(4)
MCP zones det.test END	(5)
Non-MCP zones det.test	**(6)**

Ending the Detector test of all automatic 'Detectors'

Proceed as with Detector test but select the 'Non-MCP zones det.test END' command.

See also

Detector test [→ 114]

5.12.2 Carrying out an installation test

As in the 'Installation test' all functions of the complete fire detection installation including the 'Fire control' and alarming are tested, you must take appropriate actions.

The 'Installation test' can be carried out at ↑ 'Area' or ↑ 'Section levels.

⚠ WARNING

During the system test, the alarming and fire control are activated!

Personal injury resulting from extinguishing activation

The fire brigade is called up unnecessarily.

- Set the 'Fire controls' to 'Control test'.' in advance.
- Inform the fire brigade in advance.

Before the 'Installation test' you can set 'Fire controls' to 'Control test'.

No activation of manual call point zones

Manual call point zones are not activated in the 'Installation test'. The 'Installation test' is not available for manual call point zones.

Testing the installation

- Proceed as with 'Detector test' and select the 'Installation test' function.

5.12.3 Carrying out the walk test

- Proceed as with 'Detector test' and select the 'Walk test' function.

5.12.4 Control test

The 'Control test' checks the function of configured controls.

During the 'Control test', the controls function in the same way as during normal operation; however, the hardware is not actuated.

The ↑ effects of the controls, e.g., the actuation of digital outputs and the sounders or the execution of commands is ensured, but the respective hardware receives no signal and is thus not activated.

All controls can be set to 'Control test'.

Testing a control

1. Select 'Main menu' > 'Functions'.
   ⇨ The 'Functions' window is open.
2. Select 'Test'.
   ⇨ A list of all element categories on which a command of the 'Test' command group can be executed is indicated.
3. Select the ↑ 'Fire control group' element category.
   ⇨ The 'Enter address' window is open.
4. Press <ok> without entering an address.
   ⇨ A list of all 'Fire control groups' is displayed.
5. Select the desired 'Fire control group' and press ↑ <softkey 1>.
   ⇨ The 'Select command' window is open.
6. Select 'Control test'.

⇨ The control test is performed.

Example of selecting commands for the 'Control test' in the 'Fire control group' element category:

Selecting element category	
Section	(2)
Zone	(3)
Sounder	(4)
RT control	(5)
Fire control group	(6)

Select command	
Control test END	(1)
Control test	(2)

5.12.5 Testing indicators

The display test is a functional hardware check for the following indication elements:

- Display
- LEDs
- Buzzer

At the same time, indication and operation devices that have been installed as options, e.g. the mimic display driver or fire brigade operating panels, are activated by commands if they offer the possibility of performing a display test.

The test takes 10 seconds and has two phases of 5 seconds each.

Depending on the configuration, the 'LED test' command is available as ↑ softkey in the 'Main menu'.

Testing the indicators and displays

1. Select 'Main menu' > 'Settings/administration'.
2. Select 'LED test'.

⇨ Phase 1 starts:
Display is totally white.
LEDs are in color mode 1.

⇨ Phase 2 starts:
Display is totally black.
LEDs are in color mode 2.

5.13 Activation / Deactivation / Reset

You can activate and deactivate outputs, for example 'Sounders'.

Channel inputs, e.g. detectors, may be activated but not deactivated. These can be reset after activation.

When 'Fire controls' is activated, this triggers smoke dampers, elevators, system equipment, and extinguishing equipment (including those with extinguishing gases), for example. You must take appropriate measures to prevent any possible damage.

⚠ WARNING

Deactivated controls hinder appropriate measures in case of fire!

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

- Deploy staff to monitor the deactivated area.
- You must reactivate deactivated controls as soon as possible.

⚠ WARNING

Activated parts of the system may actuate alarming and fire control!

Personal injury resulting from extinguishing activation.

The fire brigade is called up unnecessarily.

- Set the 'Fire controls' to 'Control test'.' in advance.
- Inform the fire brigade in advance.

5.13.1 Activating an alarm indicator (AI)

You can activate an ↑ alarm indicator, e.g., to check the geographic assignment of a detector. This function is of use for the commissioning or maintenance.

'Activate alarm indicator'

1. Select 'Main menu' > 'Topology'.
   ⇨ The three partial trees of the topology tree are indicated.
2. Select ↑ 'Detection tree'.
3. Go on navigating through the tree structure to the next detector, using the 'Lower level' ↑ <softkey 2>.
4. Highlight a detector.
5. Press 'More Options' <softkey 3>.
   ⇨ The 'Select option' window is open.
6. Select the 'Execute commands' option.
   ⇨ The 'Select command' window is displayed.
7. Select the 'Activate alarm indicator' command.

⇨ The alarm indicator is activated.

The example below shows navigation in 'Detection tree' to select a detector and activate the alarm indicator:

Topology Exit with <C>		Access level 3
Detection tree	(1)	
Hardware tree	(2)	
Control tree	(3)	

Function On/Off	Function All	LED test

- Select 'Detection tree', continue with <ok>

001 Element			Detection tree
Area	**1**	Portaphone AG	

	Lower level	More Options

- Select 'Area 1', continue with 'Lower level' <Softkey 2>

005	Elements Portaphone AG		Area 1
Section	1	Ground floor	
Section	2	1st floor	
Section	**3**	1st floor / EDP room	
Section	4	2nd floor	

Upper level	Lower level	More Options

- Select element 'Section 3', continue with 'Lower level' <softkey 2>

004	Elements 1st floor / EDP room		Section 3
Zone	9	EDP room	
Zone	10	Power supply room	
Zone	**11**	EDP room, false floor	
Zone	12	EDP room	

Upper level	Lower level	More Options

- Select element 'Zone 11', continue with 'Lower level' <softkey 2>

001	Element 1st floor / EDP room	Zone 11
Detect.	**1**	EDP room, false floor

Upper level	Lower level	More Options

- Select element 'Detect. 1', continue with 'More Options' <softkey 3>

Selecting option	
Execute commands	**(3)**
Jump to link	(4)
Show details	(5)

- Select 'Execute commands' option, continue with <ok>

Select command	
OFF	(1)
Set customer text	(3)
Activate alarm indicator	(5)
Select PS MANNED	(6)
Select PS UNMANNED	(7)

- Select 'Activate alarm indicator' command continue with <ok>

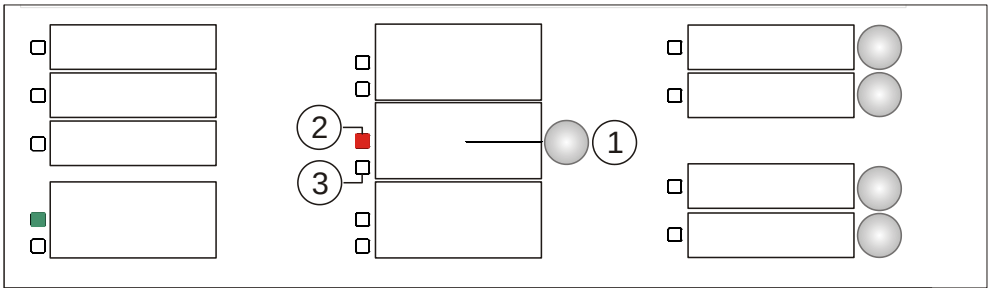
⇨ Command response

Execute command Activate alarm indicator
Command executed

5.13.2 Deactivating / Activating alarm devices

In the event of an alarm, the ↑ alarm devices are active and the corresponding LED on the ↑ PMI is on.

Display on the Person Machine Interface

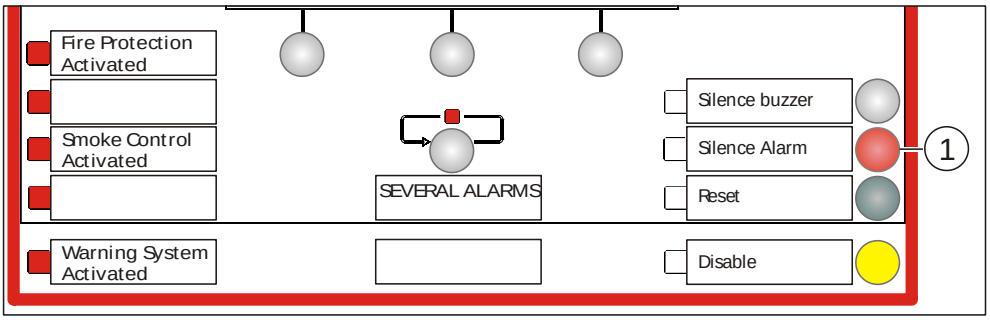


1 <Alarm device> button

2 LED 'Alarm device Active'

3 LED 'Alarm device Fault / Off'

Display on the PMI with FBP [AU]



1 <Silence Alarm> button

Deactivating / activating alarm devices from the PMI with FBP [AU]

To deactivate / activate the ↑ alarm devices from the PMI with FBP, you will need the PIN for access level 2.1.

Deactivating the alarm devices

▷ An alarm event has occurred.

- Press <Alarm device>.

⇨ Alarm devices are deactivated.

PMI with FBP [AU]:

- Press <Silence Alarm>.

⇨ Alarm devices are deactivated.

Activating deactivated alarm devices

- Press <Alarm device> again.

⇨ Alarm devices are activated.

PMI with FBP [AU]:

- Press <Silence Alarm> again.

⇨ Alarm devices are activated.

When activated alarm devices have been deactivated after an alarm event, they are automatically re-activated when a new alarm event occurs.

5.13.3 Activating / resetting zone

An activated ↑ 'Zone' without ↑ pre-alarm, e.g., a 'Manual zone' of the 'MCP' type, generates a 'ALARM' event.

An activated 'Zone' with pre-alarm, e.g., a 'Automatic zone' with pre-alarm, generates a 'Pre-ALARM'. The 'Zone' must then be activated again so that the 'ALARM' event is generated.

By resetting once, the 'Pre-ALARM' or 'ALARM' events are deleted in a 'Zone'.

Activating 'Zone'

1. Select 'Main menu' > 'Functions'.
   ⇨ The 'Functions' menu is open.
2. Select 'Activate / Deactivate'.
   ⇨ A list of all element categories on which a command of the 'Activate / Deactivate' command group can be executed is indicated.
3. Select the 'Zone' element category.
   ⇨ The 'Enter address' window is open.
4. Press <ok> without entering an address.
   ⇨ A list with all 'Zones' is open.
5. Select an 'Zone' and press <softkey 1>.
   ⇨ The 'Select command' window is open.
6. Select 'Activate'.

⇨ 'Zone' is activated.

⇨ The window with the command response is open.

Example for the activation of a 'Zone'

Functions Exit with <C>		Access level 2.2	
On / Off	(1)	Configuration	(5)
Test	(2)	Maintenance	(6)
Activate / Deactivate	(3)	All functions	(7)
Information	(4)		

Function On/Off	Function All	LED test

- Select 'Activate / Deactivate' function in the main menu, continue with <ok>

Selecting element category	
Area	(1)
Zone	(2)
Sounder	(3)
RT control	(4)
Alarming control group	(5)

- Select 'Zone' element category, continue with <ok>

Enter address
Zone ---------
Confirm with <ok>/Exit with <C>
Delete with <Cursor up>

- Press <ok> without entering an address

004 Zones		
Zone	1	FSE Zone1
Zone	2	Manual Zone 2
Zone	3	
Zone	4	

Execute Commands	Execute commands Topology

- Select 'Execute Commands' <softkey 1>

Select command	
Activate	(1)

- Select 'Activate', continue with <ok>

⇨ Command response

Execute command Activate
Command executed

After successful activation of a 'Zone', the event 'ALARM" is shown on the display:

Fire Brigade requested 001 ALARM			
001 !	Manual FIRE ALARM FSE zone 1	Zone	1

Execute Commands	Show Intervention text	More Options

'ALARM' event

Acknowledging 'ALARM'

- Press <Acknowledge>.

⇨ The ↑ alarming equipment is switched off.

Execute command Acknowledge
Command executed

Table 2: Command response

Reset 'Zone'

1. Press <Reset>.
   ⇨ The 'Login/logout' window is open.
2. Enter an admissible PIN.

⇨ 'Zone' is reset.

5.13.4 Activating / deactivating fire control

Activating a 'Fire control'

1. Select 'Main menu' > 'Functions'.
   ⇨ The 'Functions' menu is open.
2. Select 'Activate / Deactivate'.
   ⇨ A list of all element categories on which a command of the 'Activate / Deactivate' command group can be executed is indicated.

3. Select the 'Output Fire control' element category.
   ⇨ The 'Enter address' window is open.
4. Press <ok> without entering an address.
   ⇨ A list with all 'Fire controls' is open.
5. Select an 'Fire control' and press <softkey 1>.
   ⇨ The 'Select command' window is open.
6. Select 'Activate'.
   ⇨ 'Fire control' is activated.

⇨ The window with the command response is open.

If you cannot activate the control, it is configured in such a way that it can only be activated in access level 3.

Example for the deactivation of a 'Fire control', in accordance with the method outlined above:

Functions Exit with <C>			Access level 2.1
On / Off	(1)	Configuration	(5)
Test	(2)	Maintenance	(6)
Activate / Deactivate	(3)	All functions	(7)
Information	(4)		

Function On/Off	Function All	LED test

- Select 'Activate / Deactivate', continue with <ok>

Selecting element category	
Fire control group	(7)
Physical channel	(8)
Fire control group	(9)
Output Fire control	
RT channel	

- Select 'Output Fire control', continue with <ok>

Enter address
Fire ct 1--------
OUTFire 1--
Confirm with <ok>/Exit with <C>
Delete with <Cursor up>

- E.g. continue with <ok> without entering an address

009	OUTFire	
OUTFire	2	Lakeside corridor
OUTFire	1	Mountain side corridor
OUTFire	2	Lakeside corridor
OUTFire	1	Elevator shaft 1st floor

Execute Commands	Execute commands Topology

- Select 'Execute Commands' <softkey 1>

Select command	
OFF Activate	(1) (4)

- Select 'Activate' command, continue with <ok>

⇨ Command response

Execute command Activate
Command executed

Deactivating a 'Fire control'

Proceed as with activating, but select the command 'Deactivate'.

5.13.5 Activating evac controls

1. Select 'Main menu' > 'Functions'.
   ⇨ The 'Functions' window is open.
2. Select 'Activate / Deactivate'.
   ⇨ A list of all element categories on which a command of the 'Activate / Deactivate' command group can be executed is indicated.
3. Select the 'Evac control group' element category.
   ⇨ The 'Enter address' window is open.
4. Press <ok> without entering an address.
   ⇨ A list with all 'Evac controls' is open if more than one Evac category has been configured.
5. Select an 'Evac control group' and press <softkey 1>.
   ⇨ The 'Select command' window is open.
6. Select 'Activate/sounder EVAC'.

⇨ 'Evac control' is activated.

⇨ The window with the command response is open.

Example for the activation of 'Evac control'

Functions Exit with <C>		Access level 3	
On / Off	(1)	Configuration	(5)
Test	(2)	Maintenance	(6)
Activate / Deactivate	(3)	All functions	(7)
Information	(4)		

Function On/Off	Function All	LED test

- Select 'Activate / Deactivate' menu item, continue with <ok>

Selecting element category	
Area	(1)
Zone	(2)
Sounder	(3)
Evac control group	(4)
Fire control group	(5)

- Select 'Evac control group' element category, continue with <ok>

Enter address
Evac gr -------- Confirm with <ok>/Exit with <C> Delete with <Cursor up>

- Continue with <ok> without entering an address

Due to the fact that in this example only one 'Evac control' has been configured, there is no selection window for selecting 'Evac control' after confirmation with <ok> without address entry.

Select command	
Activate/sounder ALERT+EVAC	(1)
Activate/sounder EVAC	(2)
Activate/sounder ALERT	(3)
Deactivate	(4)

- Select 'Activate/sounder EVAC' command continue with <ok>

⇨ Command response

Execute command Activate/sounder EVAC
Command executed

5.14 Show information

5.14.1 Polling alarm counters / remote transmissions

The fire control panel has functions that count alarm events. The number of all alarms can be called up using alarm counter.

There are three different types of alarm counters:

- Every ↑ 'Area' automatically has the function of counting all alarms of the respective 'Area'.
- Every 'RT control' automatically has the function of counting its respective own activation.
- The 'Counter control' is freely configurable and can count all alarms of the ↑ 'Site', for example. The 'Counter control' is pre-configured as standard for some countries, e.g., AT.

Polling the alarm counter for an 'Area'

1. Press 'Functions' > 'All functions' in the main menu.
   ⇨ The 'Select element category' window is open.
2. Select the 'Area' element category.
   ⇨ The 'Enter address' window is open.
3. Press <ok> without entering an address.
   ⇨ A list with 'Areas' is opened.
4. Select a 'Area' and press ↑ <softkey 1> 'Execute commands'.
   ⇨ The 'Select command' window is open.
5. Select the 'Poll alarm counter' command.

⇨ The number of alarms that have been occurred is indicated.

Execute command Poll alarm counter
Alarm counter value is: 3

Table 3: Example with alarm counter value

Polling the RT counter

1. Press 'Functions' > 'All functions' in the main menu.
   ⇨ The 'Select element category' window is open.
2. Select the 'RT control' element category.
   ⇨ The 'Enter address' window is open.
3. Press <ok> without entering an address.
   ⇨ A list with all elements of the 'RT' type is open.
4. Select an element and press <softkey 1> 'Execute commands'.
   ⇨ The 'Select command' window is open.
5. Select the 'Poll RT counter' command.

⇨ The number of remote transmissions is shown.

Displaying the Counter control

The ↑ pre-configuration of the 'Counter control' parts list is country-specific.

1. Press 'Functions' > 'Information' in the main menu.
2. Select that 'Counter control' is displayed.
3. All results for the configured range for 'Counter control' are displayed.

5.14.2 Polling the IP address of the 'Station'

▷ The 'Station' is networked.

1. Select 'Main menu' > 'Topology' > 'Hardware tree'.
2. Highlight the 'Station'.
3. Press the 'MoreOptions' softkey.
4. Select 'Show details'.

⇨ The IP address is displayed in the 'Network' section.

5.15 Polling reports

You can poll the following 'Reports' for the elements ↑ 'Station', 'Module', 'Line' or 'Device' in the menu Reports:

- 'Report SW version'/software version: Information on all firmware updates is displayed in the FS720 system. There may be multiple software versions available for one element.
- 'Report HW version'/hardware version: Information is displayed on the hardware version, e.g., the hardware version of a detector.

Polling 'Reports' for the 'Station'

1. Select 'Main menu' > 'Functions' > 'Reports'.
   ⇨ The 'Select element category' window is open.
2. Select 'Station'.
3. Enter the address of the 'Station' and confirm with <ok>.
   – or
4. Continue without entering an address and confirm with <ok>.
   ⇨ The 'Select command' window is open.
5. To display the software version, select 'Report SW version'.
   – or
6. To display the hardware version, select 'Report HW version'.
   ⇨ The selected 'Reports' are displayed.
7. Optional: To print out the 'Reports', select 'Print report'.

Polling 'Reports' for individual 'Modules'

1. Select 'Main menu' > 'Functions' > 'Reports'.
   ⇨ The 'Select element category' window is open.
2. Select 'Module'.

You then have two options for selecting a 'Module':
- Selecting 'Module' with an address
- Selecting 'Module' from a list (without entering an address)

Selecting 'Module' with an address

1. Enter the address of the ↑ 'Station' and the 'Module' and confirm with <ok>.
   ⇨ The 'Select command' window is open.
2. To display the software version, select 'Report SW version'.
   – or
3. To display the hardware version, select 'Report HW version'.
   ⇨ The selected 'Reports' are displayed.
4. Optional: To print out the 'Reports', select 'Print report'.

Selecting a 'Module' from a list

1. Continue without entering an address and confirm with <ok>.
   ⇨ The list of all 'Modules' is displayed.
2. Select a 'Module'.
3. Press the 'Execute Commands' ↑ softkey.
   ⇨ The 'Select command' window is open.
4. To display the software version, select 'Report SW version'.
   – or
5. To display the hardware version, select 'Report HW version'.
   ⇨ The selected 'Reports' are displayed.
6. Optional: To print out the 'Reports', select 'Print report'.

5.16 Entering the configuration

For example you can undertake the following settings in the menu 'Configuration':
- Switch ↑ 'Manned operation' / ↑ 'Unmanned operation'
- Set times for 'Unmanned operation'
- Set ↑ parameter sets for 'Manned operation' and 'Unmanned operation'
- Set customer text

Configuring the ↑ site

1. Select 'Main menu' > 'Functions'.
   ⇨ The 'Functions' menu is open.
2. Select 'Configuration'.
   ⇨ A list of all element categories on which a command of the 'Configuration' command group can be executed is indicated.

3. Select the element category you want to configure.
   ⇨ The 'Enter address' window is open.
4. Press <ok> without entering an address.
   ⇨ A list with all elements is open.
5. Select an element and press ↑ <softkey 1>.
   ⇨ The 'Select command' window is open.
6. Select a command.

⇨ The command is executed.

5.17 Auto-configure station

With the 'Auto-configure station' function you can commission a newly installed ↑ 'Station' immediately and without any additional settings.

!	*NOTICE*
	Overwriting an existing configuration An existing customer-specific configuration is lost. • First save an existing customer-specific configuration.

The 'Auto-configure station' process takes a few minutes, depending on the ↑ site size.

1. Select 'Main menu' > 'Topology'.
   ⇨ The 'Topology' menu is open.
2. Select ↑ 'Hardware tree'.
   ⇨ A list with all 'Stations' is displayed.
3. Select a 'Station'.
4. Press 'More options'.
   ⇨ The 'Select option' window is open.
5. Select 'Auto-configure station'.

⇨ 'Station' is ↑ auto-configured.

5.18 Auto-configure line

The 'Line' element category in the 'Maintenance' menu facilitates the reading-in of the current topology, for example. This creates part of the elements in the ↑ 'Detection tree'.

!	*NOTICE*
	Overwriting an existing configuration Parts of an existing customer-specific configuration are lost. • First save an existing customer-specific configuration.

Auto-configuring a line:

1. Select 'Main menu' > 'Topology'.
   ⇨ The 'Topology' window is open.
2. Select ↑ 'Hardware tree'.
   ⇨ The 'Element' window is open.
3. Select a ↑ 'Station' and press the 'Lower level' ↑ <softkey>.
   ⇨ The elements of 'Station' are displayed.
4. Select the corresponding 'C-NET line card (onboard/FCL2001)' Module and press the 'Lower level' <softkey>.
   ⇨ All lines of 'C-NET line card (onboard/FCL2001)' are indicated.
5. Select a line and press 'More Options'' <softkey>.
   ⇨ The 'Select option' window is open.
6. Select 'Execute commands' and confirm with <ok>.
   ⇨ The window including the possible commands is displayed.
7. Select the 'Auto-configure line' command and confirm with <ok>.

⇨ The line is ↑ auto-configured.

Example of auto-configuration

Main menu Exit with <C>			Access level 3
Message summary	(1)	Element search	(5)
Functions	(2)	Event memory	(6)
Favorites	(3)	Login/logout	(7)
Topology	(4)	Settings/administration	(8)
Function On/Off		Function All	LED test

- Select 'Topology', continue with <ok>

Topology Exit with <C>		Access level 3
Detection tree	(1)	
Hardware tree	(2)	
Control tree	(3)	
Function On/Off	Function All	LED test

- Select 'Hardware tree', continue with <ok>

001 Element			Hardware tree
Station	**1**	Main building	
		Lower level	More Options

- Select 'Station 1', continue with 'Lower level' <softkey 2>

005 FC2020	Elements Main building		Station 1
Module	1	Periphery board	
Module	**2**	C-NET line card (onboard/FCL2001)	
Module	3	C-NET line card (onboard/FCL2001)	
Module	4	Communication interfaces	
Upper level		Lower level	More Options

- Select 'Module 2', continue with 'Lower level' <softkey 2>

007 Elements C-NET line card (onboard/FCL2001)		Module 2
Line	1	Line
Line	21	Line
Line	22	Line
Line	31	Line
Upper level	Lower level	More Options

- Select 'Line 1', continue with 'More Options' <softkey 3>

Selecting option	
Execute commands	(3)
Show details	(5)

- Select 'Execute commands', continue with <ok>

Select command	
Read in installed devices	(1)
Detector line OFF	(2)
Auto-configure line	(3)
Set customer text	(4)
Accept replaced devices	(6)

- Select 'Auto-configure line', continue with <ok>

⇨ The line is auto-configured.

5.19 Enabling / Disabling Cerberus Remote

Using Cerberus-Remote, you can represent the ↑ Person Machine Interface of a ↑ 'Station' on the PC. Depending on the mode, you can display the Person Machine Interface or display and operate. The 'Station' that is to be represented with Cerberus-Remote must be enabled.

You can grant the enable from all 'Stations' that have the 'Station' for which enabling is required in their ↑ visibility.

You can also enable Cerberus-Remote permanently in the configuration with Cerberus-Engineering-Tool.

To enable Cerberus-Remote on a 'Station', a ↑ license key must be installed on the 'Station'. The license key must support the Cerberus-Remote function.

Without a license key, no commands are available on the Cerberus-Remote element.

You will find more information about license keys in document A6V10210362. See chapter 'Applicable documents'.

Enabling Cerberus-Remote

▷ License key is installed.

1. Select 'Main menu' > 'Functions'.
   ⇨ The 'Functions' window is open.
2. Select 'Maintenance' and confirm with <ok>.
   ⇨ A list of all element categories on which a command of the 'Maintenance' command group can be executed is indicated.
3. Select 'Cerberus-Remote'.
   ⇨ The 'Enter address' window is open.
4. Enter the number of the 'Station on which Cerberus-Remote is to be enabled and confirm with <ok>.
   ⇨ The 'Select command' window is open.
5. Select the 'Enable full access' command and confirm with <ok>.

⇨ Enabling for viewing and operating the 'Station' with Cerberus-Remote is granted.

or

- Select the 'Enable view access' command and confirm with <ok>.

⇨ Enabling for viewing the 'Station' with Cerberus-Remote is granted.

The 'Enable full access' and 'Enable view access' commands cannot be selected when enabling has already been granted. For the purpose of disabling Cerberus-Remote, the 'Disable access' command is available instead in the command section.

Disabling Cerberus-Remote

If Cerberus-Remote is enabled but there is no connection to Cerberus-Remote, you can inhibit the enable with the 'Disable access' command. Proceed as described above and select the corresponding command.

If Cerberus-Remote is enabled for operation and the connection to Cerberus-Remote has been established, each operating attempt on the ↑ 'Station' opens the following window:

Window to abort the connection with Cerberus-Remote

Cerberus-Rem. operation
Abort Cerberus-Rem. connect. Exit with <C> Confirm with <ok>

- Press <ok>

⇨ Connection with Cerberus-Remote is broken.

⇨ Enabling for Cerberus-Remote is disabled.

5.20 Connecting Cerberus Remote

Cerberus-Remote can only ever be connected with one ↑ 'Station' at a time. The connection can be established locally or via the 'Global Access Point' (↑ GAP). For this purpose, there must be a ↑ license key installed in the 'Station' that is to be displayed with Cerberus-Remote. The license key must support the Cerberus-Remote function.

Cerberus-Remote has the same ↑ visibility as the connected 'Station'. You can use Cerberus-Remote in a fire detection installation with networked 'Stations' to gain global visibility. Just one license key is needed for this per network if the license key is installed in a 'Station' with global visibility.

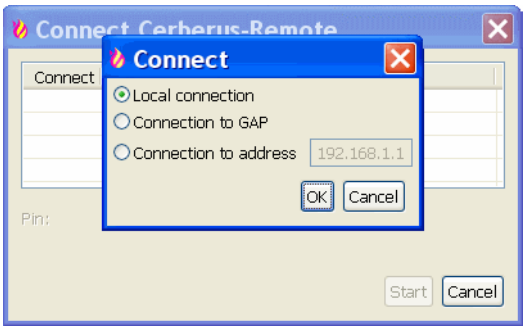
You will find more information about license keys in document A6V10210362. See chapter 'Applicable documents'.

The possible 'Enable full access' or 'Enable view access' operation modes must be enabled before connecting to the 'Station'. The possible operation modes can also be permanently enabled in the configuration with Cerberus-Engineering-Tool.

Establishing connection

1. Select 'Cerberus-Engineering-Tool' > 'Task Card 'Cerberus-Remote''.
2. Select 'Menu bar' > 'Cerberus-Remote' > 'Connect'.

   ⇨ A window with the selection of the connection type is indicated.



3. Select the required type of connection and confirm with 'OK'.

   ⇨ A window with the list of all 'Stations' of the 'Site' is indicated.

4. Highlight the corresponding 'Station'.
5. Enter your PIN.
6. Click on 'OK'.

⇨ The connection is established.

The connection with a 'Station' is shown by the ↑ Person Machine Interface (display, LEDs, keys) transmitted.

The 'Cerberus-Remote access' operation mode is indicated by a red frame around the Person Machine Interface.

An enable granted for Cerberus-Remote is retained when a 'Station' restarted.

5.21 Setting up Cerberus Remote link with integrated IP

Situation and motivation

- In addition to local connection, 'Cerberus-Remote' can be used to establish a connection to a ↑ 'Station' using a network and IP address.
- You might want to view various 'Stations' with 'Cerberus-Remote'.
- We would recommend avoiding the repeated entering of IP addresses when repeatedly establishing connections to 'Stations'.

Option

- Execution of 'Cerberus-Remote' with additional parameters (IP address and PIN).
- Save modified program execution as ↑ link.

Procedure

▷ Start Cerberus-Remote as its own application (FX2020) and not from the corresponding task card in Cerberus-Engineering-Tool (FX2030).

1. Right-click the link in 'Start' > 'Siemens' > 'FX2020' > … to go to the executable 'Cerberus-Remote' file and copy the link to the clipboard or an editor.
2. Add following parameters to program execution:
   - IP address for GAP.
   - Host ID for 'C-WEB'-'Station' to be viewed with 'Cerberus-Remote'.
   - PIN for 'Access level' 3.

⇨ Modified program execution with integrated IP is created.

Example:

```
C:\Program Files\Siemens\F-FX2020\XL_en_1-V2.1>F-FXS2009.exe"
-visualizer ip=192.168.200.1 host=1 pin=0000
```

- Test program execution command using 'Start' > 'Execute'

Creating link on desktop

1. Right-click on desktop and select 'New' > 'Link'.
2. Copy tested, modified program execution command to input field.
3. Confirm with 'Continue' and give link a name.
4. Click on 'Finish'

⇨ Link with modified program execution and integrated IP is set up.

5.22 Operating Cerberus Remote

You can operate Cerberus-Remote with the mouse or with the PC keyboard.

The operating functions of the keys shown are identical with those on the Station'.

5.23 Specifying the operation mode for Cerberus Mobile

Specification of operation mode on the 'Station'

The 'Cerberus Mobile' element must be configured manually in Cerberus-Engineering-Tool' for a ↑ 'Station'.

You can configure a permanent operation mode for 'Cerberus Mobile' in 'Cerberus-Engineering-Tool'. If 'Permanent Cerberus Mobile access' is configured, you do not need to define the operation mode on the 'Station'.

1. Select 'Main menu' > 'Topology'.
2. Select the ↑ 'Hardware tree' subtree.
3. Navigate to 'Station' > 'Mobile'.
4. Press the 'More Options' ↑ softkey.
5. Select 'Execute Commands' and confirm with <ok>.
   ⇨ The 'Select command' window is open.
6. Select the 'Enable full access' or 'Enable view access' command and confirm with <ok>.

⇨ The operation mode for 'Cerberus Mobile' is now specified.

Deactivation of operation mode on the 'Station'

If you have permanently configured the operation mode in 'Cerberus-Engineering-Tool', you must deactivate the operation mode in 'Cerberus-Engineering-Tool'.

Proceed as for 'Specification of operation mode on the 'Station'' and select the Disable access' command in the 'Select command' window.

5.24 Enabling a smartphone

You can use Cerberus Mobile in a fire detection installation with networked ↑ 'Stations' to gain global 'Visibility'. Just one ↑ license key is needed for this per network in the 'Station' to which 'Cerberus Mobile' is connected.

You will find more information about license keys in document A6V10210362. See chapter 'Applicable documents'.

To enable a smartphone at the 'Station', proceed as follows:

▷ You have specified the Visibility for smartphones in 'Cerberus-Engineering-Tool'.

▷ You have specified the operation mode for Cerberus Mobile at the 'Station'.

▷ You have established a connection with the 'Station' on your smartphone.

▷ You have installed 'Cerberus Mobile' on your smartphone.

▷ You have started 'Cerberus Mobile' on your smartphone.

▷ The 'New client found' message is displayed. The IMEI number of the smartphone is displayed for identification purposes. For more information, see the example display at the end of this chapter.

1. Select 'Client' or, in the 'Message summary' main menu, select the 'Information' menu followed by 'Client'.
2. Press the 'Execute Commands' ↑ softkey.
3. Optional: Select the 'Set customer text' command.
4. Optional: Enter the required Customer text for the smartphone and confirm with <ok>.
   ⇨ The Customer text for the smartphone has now been entered.
5. Select the 'Accept Cerberus Mobile client' command and confirm with <ok>.

⇨ The smartphone is enabled on the 'Station'.

Remote transmission activated 004 Information		
Client	1/1	New client found
837622498004		004
Execute Commands	Show Intervention text	More Options

Table 4: Example display: Smartphone visible on station

You will find more information about 'Cerberus Mobile' in document A6V10418718. See chapter 'Applicable documents'.

5.25 Removing a smartphone

To remove a smartphone from a ↑ 'Station', proceed as follows:

1. Select 'Main menu' > 'Topology'.
   ⇨ The three partial trees of the topology tree are indicated.
2. Select ↑ 'Hardware tree'.
3. Select the 'Station'.
4. Select 'Mobile'.
5. Select the smartphone.
6. Press the 'Execute Commands' ↑ softkey.
7. Select the 'Remove Cerberus Mobile client' command and confirm with <ok>.

⇨ The smartphone is removed at the 'Station'.

5.26 Polling / Deleting the event memory

As an alternative to the indication of the event memory on the ↑ 'Station', the data of the event memory may also be transmitted to a PC in a standard format. To do so, a PC with a configuration tool must be connected to the 'Station'.

You will find more information in document 'A6V10210424'.

Polling the event memory

1. Select 'Main menu' > 'Functions'.
   ⇨ The 'Functions' menu is open.
2. Select 'Event memory'.
   ⇨ The 'Select station' window is open.
3. Select the 'Station' you want.

⇨ The list of all events for 'Station' is displayed.

⇨ Using the ↑ softkeys 1–2, you can now filter by category, or date/time.

Navigating in the event memory

Entering a 3-digit number in the event memory (e.g.: 1, 132, 500) and confirming by pressing <ok> takes you straight to the corresponding entry.

Deleting the event memory

1. Select 'Main menu' > 'Functions'.
   ⇨ The 'Functions' window is open.
2. Select 'Maintenance' and confirm with <ok>.
   ⇨ A list of all element categories on which a command of the 'Maintenance' command group can be executed is indicated.
3. Select 'Station'.
   ⇨ The 'Enter address' window is open.
4. Enter the number of the 'Station' on which you want to delete the event memory and confirm with <ok>.
   ⇨ The 'Select command' window is open.
5. Select the 'Delete event memory' command and confirm with <ok>.

⇨ The event memory of the selected 'Station' is deleted.

5.27 Settings / Administration

5.27.1 Change language

Depending on the country-specific ↑ BDV, either one or two firmware languages are integrated.

Preferred language

The preferred firmware language is specified when creating the ↑ 'Site' in Cerberus-Engineering-Tool. The preferred language is displayed each time the 'Site' configuration has been loaded into the ↑ 'Station' and each time the 'Station' is restarted. You will find more information on changing the preferred 'Site' language in document A6V10210424. See chapter 'Applicable documents'.

'Change language'

1. Select 'Main menu' > 'Settings/administration'.
2. Select the 'Change language' command.

⇨ If a second language is not integrated, this information is displayed: 'Only 1 language is available'.

⇨ The language will be changed.

After restarting the station, the language setting remains the same.

5.27.2 PIN administration

You can change an existing PIN and create a new PIN or delete a PIN with the corresponding authorization.

⚠ WARNING

System manipulation due to unauthorized access

No alarm in a fire.

- Change the preset PIN.
- Create an 8-figure PIN according to the IT security requirements from Siemens; see PIN guidelines.

PIN administration not available

If PIN administration is not available at the station, you must configure the PINs in Engineering Tool. You will find more information in document A6V10210424.

'Change PIN'

1. Select 'Main menu' > 'Settings/administration' > 'Manage PINs'.
2. Select the 'Change PIN' menu item.
3. Enter the PINs in accordance with the input fields and confirm with <ok>.

⇨ The PIN has been changed.

Change PIN
Old PIN: ******** New PIN: ******** Verify new PIN: ******** Confirm with <ok>/Exit with <C> Delete with <Cursor up>

'Create PIN'

▷ You have the required authorization level.

1. Select 'Main menu' > 'Settings/administration' > 'Manage PINs'.
2. Select the 'Create PIN' menu item.
3. Enter an admissible access level.
4. Enter the PIN in accordance with the input fields and confirm with <ok>.

⇨ A new PIN has been created.

Create PIN
Access level: __ Enter PIN: ******** Verify PIN: ******** Confirm with <ok>/Exit with <C> Delete with <Cursor up>

'Delete PIN'

▷ PIN is present.

▷ You have the required authorization level.

1. Select 'Main menu' > 'Settings/administration' > 'Manage PINs'.
2. Select 'Delete PIN'.
3. Enter the PIN in accordance with the input fields and confirm with <ok>.

⇨ PIN has been deleted.

Delete PIN
Enter PIN: ******** Verify PIN: ******** Confirm with <ok>/Exit with <C> Delete with <Cursor up>

See also

PIN guidelines [→ 22]

5.27.3 Setting the buzzer sound level

You can set the sound level of the ↑ 'Station' buzzer on four levels or switch it off.

!	*NOTICE*
	Buzzer volume too low Non-compliance with EN 54-2 Para 12.10.2 • Set the buzzer sound level to the maximum.

As per EN 54-2, the minimum sound level at a distance of 1 m must reach the following values, measured under open air conditions:

-60 dB (A) for announcing fire alarm signals

-50 dB (A) for announcing fault messages

'Set buzzer volume'

1. Select 'Main menu' > 'Settings/administration' > 'Set buzzer volume'.
   ⇨ The 'Set buzzer volume' window is open.
2. Select the desired settings in the list.

⇨ The buzzer sound level has been set.

5.27.4 Adjusting the display brightness

You can set the display brightness on five levels between 'Off', 25 %, and 100 %.

'Change display brightness'

1. Select 'Main menu' > 'Settings/administration' > 'Display settings'.
   ⇨ The 'Display settings' window is open.
2. Select 'Change display brightness'.
   ⇨ The window for the adjustment is open.
3. Select the desired settings in the list.

⇨ The display brightness has been adjusted.

5.27.5 Setting time and date

You will have to reset the clock if the fire control panel has been de-energized. In countries with central European summer time (CEST), the system clock automatically switches between daylight savings time and regular time.

'Enter date / time'

1. Select 'Main menu' > 'Settings/administration' > 'System commands'.
   ⇨ The 'System commands' window is open.
2. Select 'Set system time'.
   ⇨ The 'Enter date / time' window is open.
3. Enter the date and time and/or confirm with <ok>.
   ⇨ The cursor jumps to the next field and terminates the input after the last field.

⇨ Adjusted or confirmed date and time are set.

Enter date / time
24-04-09 12:42:58
(dd-mm-yy) (hh:mm:ss)
Confirm with <ok>/Exit with <C>
Delete with <Cursor up>

Table 5: Input window for time and date

5.28 Entering/Changing customer text

You can enter customer text for any element on the control panel, independently of Cerberus-Engineering-Tool.

Once customer text has been entered or changed, the updated display is only shown the next time the element is accessed.

Entering or changing customer text does not lead to a reboot.

'Set customer text'

1. Select an element
2. Press the 'Execute Commands' ↑ softkey.
3. Select the 'Set customer text' command.
4. Enter the desired customer text and confirm the entry with <ok>.

⇨ The customer text has been entered.

Changing customer text

Proceed in the same way as when entering customer text but change the existing customer text.

See also

- Entry of numbers and letters [→ 44]
- Selecting elements or events [→ 72]

5.29 Insert printing paper

The printer can also be installed rotated 180°.

Opening the printer and changing the paper roll

1. Press and hold the green button.
2. Fold the cover down with the other hand. **NOTICE! Ensure that the two lugs at the top right and left of the cover do not break off.**
3. Remove the reel of the old paper roll from the paper drum.
4. Place the new paper roll into the paper drum. **Information**: Please make sure that the side that will be unwound is at the back of the drum and that the loose end of the paper is facing upwards.
5. Pull the loose end of the paper up and out of the paper drum until it approximately covers the green button.
6. Hold the end of the paper in position.
7. Fold the cover up and insert it back into the housing until you hear an audible 'click' sound.
8. Remove excess paper by tearing it along the serrated edge.

⇨ The printer is ready.

You will find detailed information on inserting the paper roll in the manufacturer's operating instructions. The operating instructions can be downloaded by entering the manufacturer product number '915CW180100322' at https://www.custom4u.it/.

5.30 Switching off the printer

You can ↑ switch off the printer with a command.

Switching off the printer

1. Press <Menu>.
   ⇨ The main menu is open.
2. Press 'Function On/Off' ↑ <softkey 1>.
   ⇨ The window with element categories and elements is indicated.
3. Select the 'Printer' element and press <softkey 1>.
   ⇨ The window with the command selection is open.
4. Select the 'OFF' command and confirm with 'ok'.

⇨ The printer is switched off.

To switch on a printer that has been switched off, proceed as when switching the printer off but select the 'ON' command.

5.31 Show version

You will find the version of the ↑ 'Station' and the configuration data in ↑ 'Hardware tree'.

Version indication

1. Select 'Main menu' > 'Topology'.
   ⇨ The three partial trees of the topology tree are indicated.
2. Select 'Hardware tree'.
3. Select the 'Station'.
4. Press the 'More Options' ↑ softkey.
   ⇨ The 'Select option' window is open.
5. Select 'Show details'.

⇨ The version of the 'Station' and configuration data are indicated.

6 System functions

See also

Event categories [→ 235]

6.1 Note on the configuration of the local fire detection installation

Each fire detection system is individually configured. The configuration has an impact on the operation. You can see the configuration of your fire detection installation in the following table.

Parameters	Configuration
Operation level access	O via password O via key switch
Remote transmission of 'ALARMS'	O yes O no
Alarm sequence taking into account the staff present on site	O yes O no
Switching from 'Manned operation' to 'Unmanned operation'	O automatic O manual
Automatic switching time from 'Manned operation' to 'Unmanned operation'	O indicated O not indicated
Automatic switching time from 'Manned operation' to 'Unmanned operation'	O not activated
Delay t1	____ minutes
Delay t2	____ minutes
Switchover Summer time / Winter time	O automatic O manual
Remote transmission of 'Faults'	O yes O no
Function Evacuate	O activated O not activated
Access to acknowledgement	O always possible O via password / key switch
'Faults' must be reset	O yes O no
'Faults' are generally immediately transmitted to the receiving centre	O yes O no
Manual call points in mixed detector zones always trigger an 'ALARM', even when the detector zone is switched off	O yes O no
Maximum operation time without mains supply	____ hours
Building plan handed over	on _____ by _____

6.2 Operating condition

A fire detection installation is ready for operation when the fire control panel is supplied with energy and no other operation condition is indicated.

As soon as an event occurs in the ↑ 'Station' which deviates from operational readiness, this event is indicated and the 'Station' changes to the condition corresponding to the type of event.

'Station' may be in several conditions simultaneously:

- 'ALARM' (fire detection condition)
- 'FAULT' (fault message condition)
- 'ISOLATION' (isolation condition)
- 'DETECTOR TEST' (test status)
- ↑ Normal operation (operational readiness)

Indication of the operating condition

- The operating condition is indicated on the ↑ PMI:
  - Visually and acoustically by LEDs, buzzers and on the display.

6.3 Operation modes

The fire detection installation has the following operation modes:

- ↑ Normal operation
  - ↑ 'Manned operation'
  - ↑ 'Unmanned operation'
- Test
- 'Isolation'
  - ' --Renovation mode'

6.3.1 Normal operation

In normal operation 'ALARMS' are evaluated and processed in accordance with the ↑ 'Manned operation' or ↑ 'Unmanned operation' operation mode.

Normal operation is described in the following:

- The detectors are set to normal sensitivity level, in accordance with the relevant ↑ parameter set.
- The fire detection installation is ready to receive danger messages ('ALARMS') and fault messages.
- The 'System On' LED lights up.

In normal operation, the fire detection installation may be in the 'Manned operation' or 'Unmanned operation' operation mode. In the 'Manned operation' operation mode, the 'Premises manned' LED is on.

'Manned operation'

In the 'Manned operation' operation mode, events can be processed via ↑ 'AVC' or ↑ 'IC'.

The remote transmission of an 'ALARM' may be delayed, for example, and an operator may verify 'ALARMS' or 'Faults' that have occurred.

'Unmanned operation'

In the 'Unmanned operation' operation mode, events are directly handled in accordance with the configuration, without taking into account the 'AVC' or 'IC'.

This means e.g. that remote transmission of an 'ALARM' is effected without delay. Global alarming is activated immediately.

6.3.2 Isolation

You can ↑ switch off 'Zones' with automatic or non-automatic detectors in special situations, e.g., during construction work.

When parts of the fire detection installation are switched off, the fire detection installation is in 'ISOLATION' condition and operation mode.

The 'ISOLATION' LED on the Person Machine Interface is on.

In 'ISOLATION' operation mode neither 'ALARMS' nor 'Faults' from the parts of the ↑ site that have been switched off can be evaluated.

You can set isolations with or without a time limit.

See also

Switching off / Switching on [➞ 51]

6.3.3 Renovation

In the ' --Renovation mode' operation mode, the detector ↑ parameter sets are changed as follows:

- No evaluation possible by the optical part of the detector.
- A static evaluation by the thermal part of the detector is possible, however, without the evaluation of the temperature difference.

The 'ISOLATION' LED on the ↑ PMI is on as soon as a part of the ↑ site has been set to ' --Renovation mode'.

6.4 Normal operation

In normal operation 'ALARMS' are evaluated and processed in accordance with the ↑ 'Manned operation' or ↑ 'Unmanned operation' operation mode.

Normal operation is described in the following:

- The detectors are set to normal sensitivity level, in accordance with the relevant ↑ parameter set.
- The fire detection installation is ready to receive danger messages ('ALARMS') and fault messages.
- The 'System On' LED lights up.

In normal operation, the fire detection installation may be in the 'Manned operation' or 'Unmanned operation' operation mode. In the 'Manned operation' operation mode, the 'Premises manned' LED is on.

'Manned operation'

In the 'Manned operation' operation mode, events can be processed via ↑ 'AVC' or ↑ 'IC'.

The remote transmission of an 'ALARM' may be delayed, for example, and an operator may verify 'ALARMS' or 'Faults' that have occurred.

'Unmanned operation'

In the 'Unmanned operation' operation mode, events are directly handled in accordance with the configuration, without taking into account the 'AVC' or 'IC'.

This means e.g. that remote transmission of an 'ALARM' is effected without delay. Global alarming is activated immediately.

6.5 Test

6.5.1 Detector test

The 'Detector test' is a hardware function test for the devices and their assignment to ↑ 'Detection tree'.

In 'Detector test' the fire detection installation has the following properties:

- The automatic detectors are set to high sensitivity.
- No alarm is triggered, but a ↑ test activation is indicated as a message, logged in the event memory and printed out if need be.
- ↑ Alarm devices or controls are not activated except for the following:
  - The 'External AI activation in detector/walk test' setting can define if the output of the detector is activated in 'Zone' in the 'Detector test' or 'Walk test' modes.
- No danger messages or fault messages are generated.
- With a superordinate function, all 'Zones' of the 'Section' or 'Area' for the 'Detector test' can be selected.

An activated detector from a detector zone in 'Detector test' test mode generates a test activation message instead of a ↑ danger level. No alarm devices or controls are activated.

After termination of the 'Detector test', the normal detector sensitivity is set again to that prior to beginning the 'Detector test'.

The 'Detector test' can be configured with a time out for terminating the test mode.

6.5.2 Installation test

The 'Installation test' is a test of all functions of the complete fire detection installation including the 'Fire control' and alarming in normal operation.('No messages in system').

In 'Installation test' test mode the fire detection installation has the following properties:

- The automatic detectors are set to high sensitivity to avoid long waiting times when the detectors are activated.
- The alarm is activated.
- The ↑ alarm devices and controls are activated.
- With a superordinate function, all 'Automatic zones' of the 'Section' or 'Area' for the 'Installation test' can be selected.

No activation of manual call point zones

Manual call point zones are not activated in the 'Installation test'. The 'Installation test' is not available for manual call point zones.

Flashing behavior of the detector in test mode

If the 'Installation test' is activated for a zone, the internal alarm indicators of the detectors in the zone indicate the test mode by a particular flashing behavior.

At the same time, the internal alarm indicators of manual call points indicate normal operation, since the 'Installation test' is not available for manual call point zones.

You will find more information on the flashing behavior of the internal alarm indicator in the technical manual of the corresponding detector.

6.5.3 Walk test

The 'Walk test' is a hardware function test for the devices and their assignment to ↑ 'Detection tree'. Additionally, the activation of 'Sounders' is tested.

In 'Walk test' test mode the fire detection installation has the following properties:

- The automatic detectors are set to high sensitivity.
- No alarm is triggered, but a test activation is indicated as a message, logged in the event memory and printed out if need be.
- ↑ Alarm devices or controls are not activated except for the following:
  - The 'External AI activation in detector/walk test' setting can define if the output of the detector is activated in 'Zone' in the 'Detector test' or 'Walk test' modes.
- No danger messages or fault messages are generated.
- With a superordinate function, all 'Zones' of the 'Section' or 'Area' for the 'Walk test' can be selected.
- All 'Sounders' of a control panel are activated.
- The 'Detector test' LED on the ↑ Person Machine Interface is on.

An activated detector from a detector zone in 'Walk test' test mode generates a test activation message instead of a ↑ danger level. No alarm devices or controls are activated.

After termination of the 'Walk test' the normal detector sensitivity is set again to that prior to beginning the 'Walk test' and the 'Detector test' LED is off.

The 'Walk test' test mode can be configured with a time out for terminating the test mode.

6.5.4 Control test

The 'Control test' tests the function of the configured 'Controls' as in normal operation, but the outputs are not activated.

In 'Control test' test mode the fire detection installation has the following properties:

- The 'Controls' are in normal operation and generate a corresponding message on activation:
  - Activation by a cause
  - Activation by a command
- With a superordinate function, the 'Controls' can be carried out at the corresponding 'Control' group level.

For example, this test mode can be combined with the 'Installation test'.

6.5.5 Test variants

As a test variant, for example, the controls in 'Control test' can be switched and then the 'Installation test' can be carried out.

Additional test variants are as follows:

Testing the alarming equipment

- 'RT control'
  - The 'Test activation' function activates the ↑ effects for 30 s and is then automatically deactivated

Alarm simulation

An alarm can be simulated by activating a detector zone via a command. With this, ↑ 'Pre-ALARM' and alarm can be activated.

6.6 Isolation

You can ↑ switch off 'Zones' with automatic or non-automatic detectors in special situations, e.g., during construction work.

When parts of the fire detection installation are switched off, the fire detection installation is in 'ISOLATION' condition and operation mode.

The 'ISOLATION' LED on the Person Machine Interface is on.

In 'ISOLATION' operation mode neither 'ALARMS' nor 'Faults' from the parts of the ↑ site that have been switched off can be evaluated.

You can set isolations with or without a time limit.

See also

Switching off / Switching on [→ 51]

6.7 Renovation

In the ' --Renovation mode' operation mode, the detector ↑ parameter sets are changed as follows:

- No evaluation possible by the optical part of the detector.
- A static evaluation by the thermal part of the detector is possible, however, without the evaluation of the temperature difference.

The 'ISOLATION' LED on the ↑ PMI is on as soon as a part of the ↑ site has been set to ' --Renovation mode'.

6.8 Access level and access rights

The ↑ 'Station' is protected against unauthorized operation by the following access levels:

Access level	Access rights	Functions and access rights
1	Everybody	'Acknowledge' and scrolling
2.1	Operator 1	Limited access rights (e.g. janitor)
2.2	Operator 2	Extended access rights (e.g. safety and security manager)
3	Service technician	All access rights (for service technicians)

- On access level 1 the most important commands can be entered in case of alarm.
- Other commands or the configuration of the 'Station' are possible starting with access level 2.1.
- Access levels are enabled by the PIN input dialog or the key switch.
- Each PIN is assigned to an access level.
- Menu entries, functions and favorites that are not accessible on an access level are hidden.

You will find a list of all commands and the required access levels in the relevant chapter.

The following table shows examples of main menu items and the access levels needed for execution

Main menu item	Required access level
'Message summary'	1
'Functions'	1, 2.1, 2.2, 3, depending on the function
'Favorites'	1, 2.1, 2.2, 3, depending on the favorite
'Topology'	1
'Element search'	1
'Event memory'	2.1
'Login/logout'	1
'Settings/administration'	3

Different access levels for Australia as of MP6

The following access levels apply to FS720 fire detection systems for the Australian market as of MP6:

Access levels as of MP6	Access levels <MP6
1	1
2	2.1
3.1	2.2
3.2	3

The access levels that apply as of MP6 work in exactly the same way as the access levels for versions <MP6.

As stipulated by AS 4428.3, the operating elements within the 'Fire brigade panel' are disabled in the event of a fire alarm if the operator has access level 2. The introduction of access level 3.1 as of MP6 enables operating personnel who are present during a fire to operate the 'Fire brigade panel' accordingly.

Comparison of the access level release with key switch or PIN:

- The key switch takes priority over the PIN entry.
- When the key switch is in position 'On', the set access level cannot be changed by a PIN entry.
- When the key switch is turned to position 'On' during the PIN entry, the PIN entry dialog is closed.

When the key switch is in position 'On', the logout timeout function is deactivated.

See also

- Logout timeout [→ 118]
- Commands with required access levels [→ 120]

6.8.1 PIN input dialog

The 'Login/logout' main menu item opens the PIN input dialog. The access level in account is released by entering a valid PIN.

The PIN input dialog is indicated automatically if the activation of a button on the ↑ PMI requires a higher access level.

6.8.2 Logout timeout

The ↑ 'Station' is provided with a time control function for the operation.

The operation enable for an 'Access level' expires after a configurable period of time has passed since the last entry.

See also

Log in / Change access level [→ 63]

6.9 Visibility

Several fire control panels and fire terminals ('Stations') can be integrated into a fire detection installation. The visibility defines which part of a fire detection installation on 'Station' is visible and can be operated.

The visibility is configured in Cerberus-Engineering-Tool.

The visibility for a fire control panel can be configured in the following topology levels of a fire detection installation:

- ↑ 'Site'
- ↑ 'Station'
- ↑ 'Area'

The visibility for this 'Station' is configured by selecting and assigning event categories from the topology to the visibility for this 'Station'.

For example, all the 'ALARMS' for the 'Site' or just the 'Faults' for the 'Area' of a 'Station' are indicated.

Two other modes are available for configuring the visibility:

- 'PMI standby visibility'
- 'PMI expanded visibility'

See also

Changing visibility [→ 65]
Event categories [→ 235]

6.9.1 Standby visibility

The ↑ 'Station' with the 'PMI standby visibility' configuration monitors one or more other 'Stations', or a ↑ management station in the configured visibility.

- When the fire detection installation is in normal operating condition, 'PMI standby visibility' is deactivated. The 'Station' configured in this way and the display are then in quiescent condition.
- If a monitored 'Station' fails or if the connection to a monitored 'Station' is interrupted, the configured 'PMI standby visibility' becomes active and the fire detection installation can be operated in the configured visibility via this 'Station' exactly as was previously the case with the failed 'Station'.

In addition to 'PMI standby visibility', 'PMI expanded visibility' can also be configured for a 'Station'.

See also

- Deactivating standby [→ 65]
- Expanded visibility [→ 119]

6.9.2 Expanded visibility

If configured, you can use a command to activate 'PMI expanded visibility' for a 'Station' and this gives you the configured visibility.

For a 'Station' with 'PMI standby visibility', 'PMI expanded visibility' can also be configured.

The 'PMI expanded visibility' configuration is however also available regardless of 'PMI standby visibility'.

The 'PMI expanded visibility' function can be configured with dependencies.

Possible dependencies

- 'PMI expanded visibility' can only be activated if a monitored 'Station' fails.

See also

- Activating / deactivating expanded visibility [→ 66]

7 Commands with required access levels

Certain commands that are listed in this chapter can only be executed by the service technician or someone with access level 3. You will find a description of these specific commands in document A6V10210416. See chapter 'Applicable documents'.

See also

Access level and access rights [→ 116]

7.1 'Switching on/off' command group

Command	Element category (short)	Element category (long)	Access level
OFF	Zone Detect. Input RT Sounder Sounder Evac gr Evac ct Fire gr Fire ct Output Printer Pager CrbPACE Station	Zone Detector Input RT control Sounder control Sounder Evac control group Evac control Fire control group Fire control Output Printer Pager interface Cerberus PACE system Station	2.1
OFF/timer	Zone Detect.	Zone Detector	2.1
Renovation mode	Zone	Zone	2.2
ON	Zone Detect. Input RT Sounder Sounder Evac gr Evac ct Fire gr Fire ct Output Printer Pager CrbPACE Station	Zone Detector Input RT control Sounder control Sounder Evac control group Evac control Fire control group Fire control Output Printer Pager interface Cerberus PACE system Station	2.1

Command	Element category (short)	Element category (long)	Access level
Non-MCP zones OFF	Area, Section	Area, Section	2.1
Non-MCP zones OFF/timer	Area, Section	Area, Section	2.1
Non-MCP zones ON	Area, Section	Area, Section	2.1
MCP zones OFF	Area, Section	Area, Section	2.1
MCP zones OFF/timer	Area, Section	Area, Section	2.1
MCP zones ON	Area, Section	Area, Section	2.1
All zones OFF	Area, Section	Area, Section	2.1
All zones OFF/timer	Area, Section	Area, Section	2.1
All zones ON	Area, Section	Area, Section	2.1
Alarm evaluation OFF	Area, Section, Zone	Area, Section, Zone	2.1
Fire related controls OFF	Area	Area	2.1
Fire related controls ON	Area	Area	2.1
Internal/external sounders OFF	Alarmg.	Alarming control group	2.1
Internal/external sounders ON	Alarmg.	Alarming control group	2.1
Detector line ON	Line	Line	3
Detector line OFF	Line	Line	3
RT FIRE channels OFF	Area Alarmg.	Area Alarming control group	2.1
RT FIRE channels ON	Area Alarmg.	Area Alarming control group	2.1
Sabotage evaluation OFF	Keydep.	Key depot	3
Sabotage evaluation ON	Keydep.	Key depot	3
Sounders ON	Area	Area	2.2
Sounders OFF	Area	Area	2.2
Autom.+man. exting. OFF	Zone	Zone	2.1
Autom.+man. exting. ON	Zone	Zone	2.1
Autom. exting. OFF	Zone	Zone	2.1
Autom. exting. ON	Zone	Zone	2.1

7.2 Command zone 'Test'

Command	Element category (short)	Element category (long)	Access level
Detector test	Zone	Zone	2.2
Detector test END	Zone	Zone	2.2
Non-MCP zones det.test	Area Section	Area Section	2.2
Non-MCP zones det.test END	Area Section	Area Section	2.2
MCP zones det.test	Area Section	Area Section	2.2
MCP zones det.test END	Area Section	Area Section	2.2
Installation test	Area Section Zone	Area Section Zone	2.2
Installation test END	Area Section Zone	Area Section Zone	2.2
Control test	RT Evac gr Evac ct Fire gr Fire ct Sounder Extg.gr	RT control Evac control group Evac control Fire control group Fire control Sounder control Extinguishing control group	2.2
Control test END	RT Evac gr Evac ct Fire gr Fire ct Sounder Extg.gr	RT control Evac control group Evac control Fire control group Fire control Sounder control Extinguishing control group	2.2
Walk test	Zone	Zone	2.2
Walk test END	Zone	Zone	2.2
MCP zones walk test	Area Section	Area Section	2.2
MCP zones walk test END	Area Section	Area Section	2.2
Non-MCP zones walk test	Area Section	Area Section	2.2
Non-MCP zones walk test END	Area Section	Area Section	2.2

7.3 'Activating/deactivating' command group

Command	Element category (short)	Element category (long)	Access level
Activate	Zone Fire gr Fire ct Evac ct Sounder Damper Damp.ct RT RT ch. Output Sounder	Zone Fire control group Fire control Evac control Sounder control Damper control group Damper control RT control RT channel Output Sounder	2.1
Activate/sounder ALERT	Evac gr Evac ct Sounder	Evac control group Evac control Sounder	2.1
Activate/sounder EVAC	Evac gr Evac ct Sounder	Evac control group Evac control Sounder	2.1
Activate/sounder ALERT+EVAC	Evac gr Evac ct Sounder	Evac control group Evac control Sounder	2.1
Activate/voice TEST	Evac gr Evac ct	Evac control group Evac control	2.1
Activate/voice SCHOOL BELL	Evac gr Evac ct	Evac control group Evac control	2.1
Activate/voice ALL-CLEAR	Evac gr Evac ct	Evac control group Evac control	2.1
Activate/voice CUSTOM 1	Evac gr Evac ct	Evac control group Evac control	2.1
Activate/voice CUSTOM 2	Evac gr Evac ct	Evac control group Evac control	2.1
Activate/voice ALERT	Evac gr Evac ct	Evac control group Evac control	2.1
Activate/voice EVAC EMERGENCY	Evac gr Evac ct	Evac control group Evac control	2.1
Activate/voice EVAC FIRE	Evac gr Evac ct	Evac control group Evac control	2.1
Activate/voice ALERT+EVAC FIRE	Evac gr Evac ct	Evac control group Evac control	2.1

Command	Element category (short)	Element category (long)	Access level
Deactivate	Zone Fire gr Fire ct Evac gr Evac ct Sounder Damper Damp.ct RT RT ch. Output Sounder	Zone Fire control group Fire control Evac control group Evac control Sounder control Damper control group Damper control RT control RT channel Output Sounder	2.1
Activate sprinkler 1	Zone	Zone	2.1
Activate sprinkler 2	Zone	Zone	2.1
Activate alarm indicator	Detect.	Detector	2.1
Deactivate alarm indicator	Detect.	Detector	2.1
Time limited activation	RT RT ch. Sounder Sounder	RT control RT channel Sounder control Sounder	2.1

7.4 Command group 'Information'

Command	Element category (short)	Element category (long)	Access level
Poll alarm counter	Area AL cnt.	Area Alarm counter control	1
Show active detectors	Zone	Zone	1
Poll RT counter	RT	RT control	2.1
Print event memory	Printer	Printer	2.1
Set alarm counter	AL cnt. Area	Alarm counter control Area	3
Show remaining off time	Zone Detect.	Zone Detector	1

7.5 'Configuration' command group

Command	Element category (short)	Element category (long)	Access level
Switch to MANNED	Area	Area	2.1
Switch to UNMANNED	Area	Area	2.1
Activate expanded visibility	PMI	PMI	2.1
Deactivate expanded visibility	PMI	PMI	2.1
Deactivate standby visibility	PMI	PMI	2.1
Select PS MANNED	Detect.	Detector	3
Select PS UNMANNED	Detect.	Detector	3
Select PS	Detect.	Detector	3
Set customer text	All		3

7.6 'Maintenance' command group

Command	Element category (short)	Element category (long)	Access level
Reset module	Module	Module	3
Accept replaced devices	Line	Line	3
Device replace mode ON	Detect.	Detector	2.2
Device replace mode OFF	Detect.	Detector	2.2
Read in installed devices	Line	Line	3
Remove/delete device	Detect.	Detector	3
Restart line	Line	Line	2.2
Auto-configure line	Line	Line	3
Calibrate	Module	Module	3
Enable sys.analyzer access	Station	Station	3
Disable sys.analyz. access	Station	Station	3
Enable MC link	Station	Station	2.2
Disable MC link	Station	Station	2.2
Remove loop extension	Module	Module	3
Enable full access	C-Rem.	Cerberus-Remote	2.2
Enable view access	C-Rem.	Cerberus-Remote	2.2
Disable access	C-Rem.	Cerberus-Remote	2.2
Delete event memory	Station	Station	3
Factory reset	Station	Station	3
Poll diagnostic data	Line	Line	2.2
Release FSD	FSD	FSD	3

Command	Element category (short)	Element category (long)	Access level
Reset maintenance reminder	Station	Station	3
Scan for new modules	Station	Station	2.2
Accept Cerberus Mobile client	Client	Cerberus Mobile client	2.2
Remove Cerberus Mobile client	Client	Cerberus Mobile client	2.2
Show site ID	Station	Station	3
Lock FSD	FSD	FSD	3
Switch over CPU	Module	Module	3
Enable MC mode	Device	Device	2.2
Disable MC mode	Device	Device	2.2
Enable raw data logging, set 1	Device	Device	3
Enable raw data logging, set 2	Device	Device	3
Enable raw data logging, set 3	Device	Device	3
Disable raw data logging	Device	Device	3
Enable line diagnosis	Line (C-NET)	Line (C-NET)	2.2
Update incompatible firmware	Station Module Submod. Phys.ch	Station Module Submodule Physical channel	3
Auto-configure station	Station	Station	3
Show unconfigured devices	Line	Line	2.1
Freeze selected outputs ON	Station Module Line	Station Module Line	3
Freeze selected outputs OFF	Station Module Line	Station Module Line	3

7.7 'Report' command group

Command	Element category (short)	Element category (long)	Access level
Report SW version	Station Module Line	Station Module Line	2.1
Report HW version	Station Module Line	Station Module Line	2.1
Show unconfigured devices	Line	Line	2.1
Calibration report	Line	Line	2.1

7.8 Other commands

Command	Element category (short)	Element category (long)	Access level
START LED test	Module	Module	2.2
END LED test	Module	Module	2.2
Set system time	Station	Station	2.1

8 List of elements

The table below lists the most common element categories. The number of available element categories is heavily dependent on the respective configuration and the BDV used.

Element short text / long text	Definition
'Area' / 'Area'	Highest level in operation FC20xx / FT2040 list of elements 'Detection tree', alarm organization level
'Section' / 'Section'	2. nd level in the 'Detection tree', building section (e.g. room, floor, staircase), enabling unambiguous identification and location of a fire alarm
'Zone' / 'Zone'	3. level of the 'Detection tree'; decision on alarm is taken on this level
'Detect.' / 'Detector'	Lowest level in 'Detection tree'
'Evac ct' / 'Evac control'	3. level in 'Control tree'
'Evac gr' / 'Evac control group'	2. level in 'Control tree'
'Fire ct' / 'Fire control'	3. level in 'Control tree'
'Fire gr' / 'Fire control group'	2. level in 'Control tree'
'RT' / 'RT control'	3. level in 'Control tree'
'Alarmg.' / 'Alarming control group'	2. level in 'Control tree'
'Sounder' / 'Sounder control'	3. level in 'Control tree'
'Sounder' / 'Sounder'	2. level in 'Control tree'
'Station' / 'Station'	Highest level in 'Hardware tree'
'Printer' / 'Printer'	'Station' printer
'Module' / 'Module'	2. level in 'Hardware tree'
'Line' / 'Line'	3. level in 'Hardware tree', primary detection line
'Device' / 'Device'	Lowest level in 'Hardware tree', functions of the physical device
'Phys.ch' / 'Physical channel'	Lowest level in 'Hardware tree'

Element short text / long text	Definition
'PMI' / 'PMI'	'Station' operating unit
'LED ind' / 'LED indicator/mimic display driver'	LED indication unit on the C-NET
'Keydep.' / 'Key depot'	Fire brigade key depot
'FAT/FBF' / 'FAT with FBF'	Fire brigade indication panel with integrated fire brigade operating panel

9 Extinguishing

This chapter describes the operation of the extinguishing components within an integrated FS720 fire detection and extinguishing system with the ↑ PMI on the fire control panel and the associated extinguishing terminal.

9.1 Operating concept

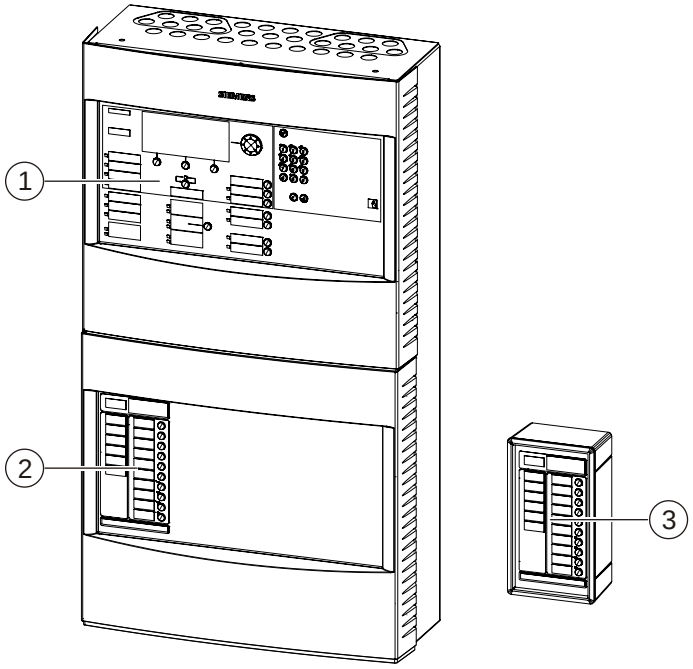


Figure 10: Operating components

1	PMI
2	Extinguishing terminal
3	Remote extinguishing terminal; installed close to the flooding zone (optional)

Global operation on the Person Machine Interface for the fire control panel

The fire detection system with integrated extinguishing is operated globally using the Person Machine Interface for the fire control panel. The Person Machine Interface performs the following functions:

- Global display for the following event information:
  - Alarm states
  - Error messages
  - Isolations
  - Test reports
  - Technical messages
  - Activation of inputs and outputs
  - Other information, such as operating conditions or general information

  The fire control panel collects and processes this information for all connected detection areas and from the flooding zone. The Person Machine Interface for the fire control panel then shows all global system messages, such as active

isolations, using corresponding LEDs. Global system messages do not contain the area affected. However, operating personnel can identify the specific areas affected using the 'PMI' display.

- Global acknowledgment and resetting of alarm states, events, and error messages.
- Global visibility of the site topology using the 'PMI' display.
- Execution of global system functions [→ 111] on the 'PMI'.

The Person Machine Interface for a fire control panel with integrated extinguishing is operated in the same way as a conventional fire control panel. You will find information on the executable functions of the Person Machine Interface in chapter 'PMI [→ 25]'. You will find information on the general operating functions of the Person Machine Interface in chapter 'Operation functions [→ 42]'.

Operating the flooding zone with the extinguishing terminal

The flooding zone is operated by a separate primary extinguishing terminal, which is usually integrated into the fire control panel.

The extinguishing terminal has display elements and operating elements for the extinguishing functions in the flooding zone. For this reason, only functions for the flooding zone can be executed from the extinguishing terminal.

You will find information on setup and functions for extinguishing terminals in chapter 'Indication and operating elements on the extinguishing terminal [→ 133]'. You will find instructions for specific applications in chapter 'Applications and associated extinguishing processes [→ 140]'.

Remote extinguishing terminal

The remote extinguishing terminal enables the flooding zone to be operated directly at the location. Normally, the remote extinguishing terminal is a secondary extinguishing terminal and reflects all display and operating functions in the extinguishing terminal in the fire control panel.

However, a remote terminal differs from the integrated extinguishing terminal as follows:

- The buzzer in the integrated extinguishing terminal is deactivated during operation when no faults are present. When activated, this prevents interference with the buzzer on the Person Machine Interface for the fire control panel. However, the buzzer in the integrated extinguishing terminal is activated after 90 seconds if the communication connection to the Person Machine Interface for the fire control panel is interrupted. If extinguishing is triggered in this case, the extinguishing terminal then activates the internal buzzer.
- If a member of the operating personnel changes the access level on the Person Machine Interface for the fire control panel, the integrated extinguishing terminal adopts the change as well. However, any remote extinguishing terminals remain in their active access level.

Remote extinguishing terminals can also be installed in close proximity to the associated flooding zone as an optional solution if the fire control panel is in a different room or far away from the flooding zone. Up to five secondary remote extinguishing terminals can be installed in large flooding zones with different access points.

A secondary remote extinguishing terminal cannot replace the primary integrated extinguishing terminal in the fire control panel. There must always be a primary integrated extinguishing terminal for every secondary remote extinguishing terminal.

Primary and secondary extinguishing terminals

A flooding zone always has a single **primary extinguishing terminal**, which provides all display and operating functions for the flooding zone. It is wired directly to the associated extinguishing card and has the address = 1.

Normally, the primary extinguishing terminal is integrated into the fire control panel with the associated extinguishing card.

A **secondary extinguishing terminal** reflects all display and operating functions on the primary extinguishing terminal. It is not wired directly to the extinguishing card but looped through behind it from the primary extinguishing terminal. It always has the address ≥2. A flooding zone can have up to 5 secondary extinguishing terminals switched one after the other.

Normally, a secondary extinguishing terminal is also a remote extinguishing terminal, which allows the flooding zone in question to be operated directly at the location.

Although this is not normally the case, a remote extinguishing terminal can also be the primary extinguishing terminal in certain applications. The following table shows the possible combinations of a primary/secondary extinguishing terminal and an integrated or remote extinguishing terminal and the associated applications:

	Primary extinguishing terminal	Secondary extinguishing terminal
Extinguishing terminal integrated into a fire control panel	• **Normal scenario**: new fire control panel with integrated extinguishing. • Retrofitting integrated extinguishing for an existing fire control panel with the following underlying conditions: – There is enough space in the fire control panel's housing. – The locations for the operating add-on are free.	-
Remote extinguishing terminal	• Retrofitting integrated extinguishing for an existing fire control panel with the following underlying conditions: – There is not enough space in the fire control panel's housing. – The locations for the operating add-on are already occupied.	• The flooding zone is further away from the fire control panel with integrated extinguishing. • The flooding zone is larger and has multiple access points, which are further away from the fire control panel.

See also

- System functions [➞ 111]
- Indication and operating elements on the extinguishing terminal [➞ 133]
- Applications and associated extinguishing processes [➞ 140]
- PMI [➞ 25]
- Operation functions [➞ 42]

9.2 Indication and operating elements on the extinguishing terminal

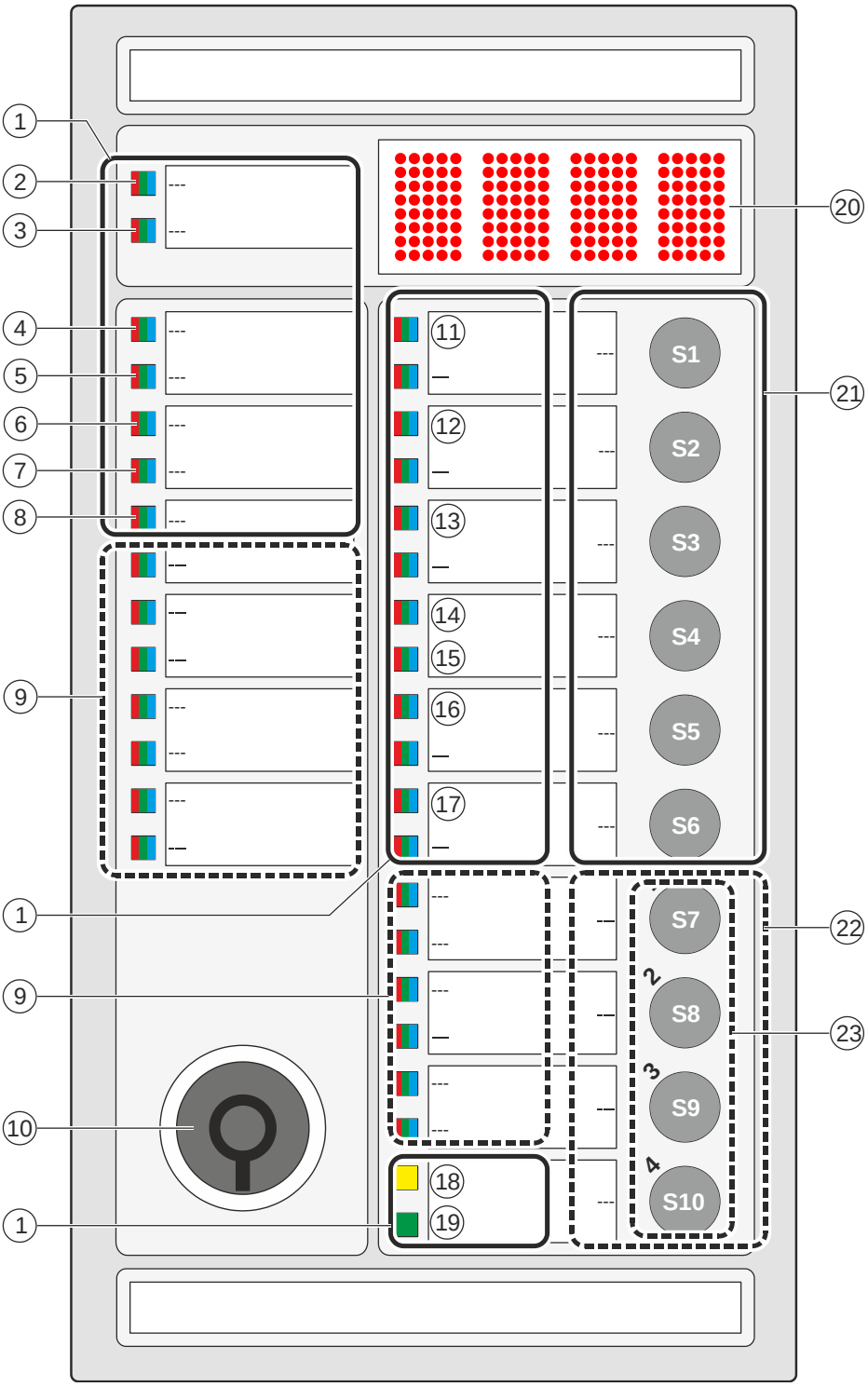


Figure 11: XT2001 extinguishing terminal

Preset, non-configurable display elements

No.	Designation	LED color	Reason for indication
1	Preset, non-configurable display elements		
2	'Pre-activated / Activated'	Red	The extinguishing system is in the following operating conditions: • ''Pre-activated' phase': A detection zone in the associated flooding zone has triggered an alarm. The extinguishing system is in a state of increased readiness. The fire control panel triggers fire control functions if necessary. • ''Activated' phase': Several detection zones in the associated flooding zone have triggered an alarm. The extinguishing system is activated and the fire control panel triggers all of the functions required for the extinguishing process.
3	'Released'	Red	The control has triggered the supply of extinguishing agent into the flooding zone. The extinguishing system switches to the ''Released' phase' state when the pressure switch no longer detects an extinguishing agent flow to the flooding zone. For systems without a pressure switch, the extinguishing system automatically switches to the ''Released' phase' state after a pre-configured time after triggering.
4	'Automatic activation'	Red	An extinguishing process has been triggered automatically by detectors within the flooding zone.
5	'Manual activation'	Red	An extinguishing process has been triggered by a manual triggering device within the flooding zone.
6	'Disabled'	Yellow	An isolation is activated. Example: The LED lights up when the automatic or manual control are blocked.
7	'Mechanical blocked'	Yellow	The control air supply to the selector valve is interrupted by the manual shut-off valve. All extinguishing processes are triggered automatically but no extinguishing agent reaches the flooding zone in the event of extinguishing.
8	'Access level'	White	An increased access level is enabled with the key switch.
9	Configurable display elements You will find information about the possible configurable display elements in a separate table below.		
11	'Buzzer'	White	The buzzer on the extinguishing terminal is active.
12	'Sounder'	Red	The acoustic alarm sounder in the flooding zone is active.
13	'Reset'	White	The extinguishing system is in the 'Resettable' state and can be set back to the 'Not ready' state via <Reset>.
14	'Manual blocked'	Yellow	The 'Manual blocked' operation mode is activated for the flooding zone.
15	'Automatic blocked'	Yellow	The 'Automatic blocked' operation mode is activated for the flooding zone.
16	'Actuator disabled'	Yellow	Control effects, which are triggered with a 'Actuator/valve' function, e.g., the triggering of the selector valve in the flooding zone, are deactivated.

No.	Designation	LED color	Reason for indication
17	'Fire controls disabled'	Yellow	Control effects, which are triggered with a 'Fire control' function, e.g., the triggering of a door retainer, are deactivated.
18	'Fault'	Yellow	There is an extinguishing system fault.
19	'System ON'	Green	The system is ready for operation.
20	LED matrix display	-	The four-digit LED matrix display shows the following information: • Triggered extinguishing: Pre-warning time – counting down • Control test mode: Hardware address for the associated extinguishing card. You will find more information on control test mode in the 'Control test mode [→ 188]' chapter.
21	Non-configurable operating elements You will find information about the operating elements in a separate table below.		
22	Configurable operating elements You will find information about the operating elements in a separate table below.		

Configurable display elements

The following table lists the most common additional configurable display elements on the extinguishing terminal. You will find a full list of the configurable display elements as well as information on configuring the display elements in document 'A6V10210424'.

Designation	Reason for indication
'Emergency hold'	The emergency hold device in the flooding zone is actuated.
'Emergency abort'	The emergency abort device button in the flooding zone is actuated.
'Overpressure flap open'	The overpressure flap in the flooding zone is open. The overpressure flap is part of the overpressure system and diverts the excess pressure which develops when a flooding zone is flooded.
'Sector valve opened'	The selector valve in the associated flooding zone has been opened.
'Loss of agent'	The system has detected a loss of extinguishing agent. The extinguishing agent pressure is too low in one or several extinguishing agent cylinders.
'Reserve battery'	The reserve cylinder battery is activated.

Operating elements

No.	Designation	Functional description
10	Key switch (optional)	Switch between two access levels with the key switch. Link [→ 190] The key switch has two positions: • Horizontal position: **On** • Vertical position: **Off** The reachable access level in the 'off' position and the 'on' position can be configured. You will find more information about configuring the access level in the A6V10210424 document.
23	Input keys <1>...<4>	Buttons for entering the PIN. The PIN must be entered to change access level. Link [→ 190]
S1	<Silence buzzer>	Deactivation of the acoustic alarm signal on the extinguishing terminal. Link [→ 193]
S2	<Silence/Resound>	Deactivation/reactivation of the acoustic alarm sounder in the flooding zone. Link [→ 193]
S3	<Reset>	A press of the button can perform two functions: • Set the flooding zone to the 'Quiet' state. Link [→ 193] • Reset an automatic change of operation mode. Link [→ 192]
S4	<Mode>	Choose between the following operation modes for the flooding zone: • Normal operation; no isolations active • 'Automatic blocked' • 'Manual blocked' • 'Automatic blocked' and 'Manual blocked' When one of the three isolation operation modes is activated, the relevant LED lights light up on the extinguishing terminal. In addition, the associated 'Station' displays a corresponding message. Link [→ 192] **Special case**: After a flooding zone has been activated, <Mode> must be actuated to switch the flooding zone from the 'Not ready' state back to the 'Quiet' output state. To do this, however, activating signals such as fire detector alarms or manual call point activation must no longer be pending in the flooding zone. You will find more information on this in chapter 'Applications and associated extinguishing processes [→ 140]'.
S5	<Actuator Disable/Enable>	Switching all 'Effects' functions which are activated with an 'Actuator/valve' function on and off, e.g., opening valves on the extinguishing agent cylinders. You will find more information on isolations in the flooding zone in chapter 'Isolations [→ 181]'.
S6	<Fire controls Disable/Enable>	Switching 'Effects' functions which are actuated with an 'Exting. fire control' function on and off, e.g., actuating a door retainer. You will find more information on isolations in the flooding zone in chapter 'Isolations [→ 181]'.

No.	Designation	Functional description
S7 S8 S9	The buttons are not preset before delivery and can be freely configured. You will find more information about this in document A6V10210424.	
S10	<LED test>	Test of the LEDs on the extinguishing terminal. After the button has been pressed, all visible LEDs on the extinguishing terminal should light up. **Information**: The button is pre-configured for the LED test, but can be assigned another function in the Engineering Tool if needed.

The access level for the individual buttons of the extinguishing terminal can be assigned on an individual basis during the configuration with the 'Cerberus-Engineering-Tool' software. You will find more information about this in document A6V10210424.

See also

- Control test mode [➙ 188]
- Switching off the buzzer on the extinguishing terminal [➙ 193]
- Switching sounders in the flooding zone on / off [➙ 193]
- Ending the extinguishing process [➙ 193]
- Selecting the operation mode of the flooding zone [➙ 192]
- Selecting the operation mode of the flooding zone [➙ 192]
- Applications and associated extinguishing processes [➙ 140]
- Isolations [➙ 181]
- Switching access level on the extinguishing terminal [➙ 190]

9.3 Indication and operating elements on a station's Person Machine Interface

You will find information about the indication and operating elements on the Person Machine Interface of an associated Station, as well as their operation in chapter 'PMI [➙ 25]'.

See also

- PMI [➙ 25]

9.4 Operation modes

The table below shows the operation modes in which the relevant flooding zone can be operated:

Operation mode	Description
Normal operation	Standard operation mode All extinguishing processes are available.
'Automatic release blocked'	This operation mode deactivates automatic triggering of extinguishing via fire detectors.
'Manual release blocked'	This operation mode deactivates manual triggering of extinguishing, e.g., via a manual call point.
'Automatic release blocked' and 'Manual release blocked'	This operation mode deactivates the triggering of extinguishing, both through manual triggering, e.g., via a manual call point, and automatic triggering via fire detectors.

You will find information on changing the operation mode in chapter 'Selecting the operation mode of the flooding zone [→ 192]'.

See also

- Selecting the operation mode of the flooding zone [→ 192]

9.5 Operating conditions

This chapter covers the possible operating conditions of the extinguishing system.

The table below shows the main operating conditions as well as minor conditions:

Operating condition (main level)	2. condition level	3. condition level
'Quiet'	-	-
''Pre-activated' phase'	-	-
''Activated' phase'	Pre-warning time running	-
	''Release actuator' phase'	-
	''Released' phase'	'Flooding'
		'Resettable'
	'Emergency hold'	-
	'Emergency abort'	-
'Not ready'	-	-

You will find information about the relationships between the operating conditions and the chronological sequences in chapter 'Applications and associated extinguishing processes [→ 140]'.

The table below shows a description of the individual operating conditions:

Operating condition	Description
'Quiet'	Normal operating condition. All relevant system components are ready for operation. No alarm or pre-alarm signals are pending in the detection zones of the associated flooding zones. Some input/output modules can exhibit a fault and are displayed on the station and on the extinguishing terminal.
'Not ready'	In the following cases, the flooding zone will go into the 'Not ready' state: • The flooding zone was reset after an activation, but alarms such as an active automatic fire detector or manual call point are still pending in the flooding zone. The flooding zone remains in this state as long as the alarms are pending. • A switch-off was deactivated again. In this state, the extinguishing system checks for any pending alarms in the flooding zone and remains in this state as long as the alarms are pending.
''Pre-activated' phase'	Detection zones in the associated flooding zone transfer requests for pre-activation or triggering of the flooding zone to the fire control panel. The integrated extinguishing control panel interprets the requests and sets the flooding zone to the ''Pre-activated' phase' state, as per the configured activation conditions. In the ''Pre-activated' phase' state, the extinguishing system is in a state of increased readiness. Depending on the configuration, the fire control panel triggers fire control functions if necessary. This could be the closing of the fire safety doors, for example.
''Activated' phase'	Detection zones in the associated flooding zone transfer requests for pre-activation or triggering of the flooding zone to the fire control panel. The integrated extinguishing control panel interprets the requests and sets the flooding zone to the ''Activated' phase' state, as per the configured triggering conditions. In the ''Activated' phase' state, the extinguishing control panel activates the extinguishing process for the flooding zone.
Pre-warning time running	The extinguishing process is activated and the configured pre-warning time for the flooding zone elapses. The alarm sounder in the relevant flooding zone is active intermittently. People can leave the flooding zone before the flooding of the flooding zone with extinguishing agent is triggered. Depending on the configuration, the extinguishing system activates the following valves: • Pilot valves on the control air supply control the opening valves on the extinguishing agent cylinders, among other things. • Selector valves enable the extinguishing agent paths to the flooding zone. The opening valves on the extinguishing agent cylinders remain closed. During the pre-warning time, the 'Emergency hold' switch can be actuated. You will find more information about the 'Emergency hold' state further down in the table.
''Release actuator' phase'	After the pre-warning time has elapsed, the control triggers the flooding of the flooding zone with extinguishing agent. In addition, it opens the opening valves on the extinguishing agent cylinders.
''Released' phase'	The extinguishing system switches to the ''Released' phase' state when the pressure switch detects an extinguishing agent flow. For systems without a pressure switch, the extinguishing system automatically switches to the ''Released' phase' state after flooding is triggered.

Operating condition	Description
'Flooding'	The extinguishing system has triggered the flooding of the flooding zone with extinguishing agent. The pre-configured discharge time for the flooding zone runs. During this period, it will be ensured that the extinguishing agent concentration in the flooding zone prevents fire. You will find information on configuring the discharge time in document 'A6V10210424'.
'Resettable'	After the discharge time has elapsed, the flooding zone switches to the 'Resettable' state. In this state, the flooding zone can be reset to the 'Not ready' state. The flooding zone can then be set to the 'Quiet' state. In order to switch to the 'Quiet' state, there must be no alarms pending in the flooding zone.
'Emergency hold'	The 'Emergency hold' switch in the flooding zone is actuated. During the pre-warning time, the 'Emergency hold' switch in the relevant flooding zone can be actuated. The 'Emergency hold' switch interrupts the pre-warning time for the holding period. People therefore have a longer window of time to leave the flooding zone. Depending on the configuration of the extinguishing system, the pre-warning time continues after the switch is released or starts again.
'Emergency abort'	The 'Emergency abort' switch in the flooding zone is actuated. The extinguishing process can be canceled with the 'Emergency abort' switch. **NOTE**: If flooding of the flooding zone has already been triggered, this cannot be stopped by actuating the 'Emergency abort' switch.

See also

Applications and associated extinguishing processes [→ 140]

9.6 Applications and associated extinguishing processes

This chapter names the key applications of an integrated FS720 extinguishing system.

For each application, the extinguishing process and the approach required from the operating personnel upon occurrence or to activate the application are described.

9.6.1 Automatic activation

One application is the **automatic** activation of the extinguishing system via fire detectors in the associated flooding zone.

9.6.1.1 Extinguishing process

The figure below illustrates the chronological sequence of the extinguishing states during an extinguishing process which has been activated automatically. It also shows the signal course of cause signals as an example, as well as which state transitions and effects are activated by these at which time.

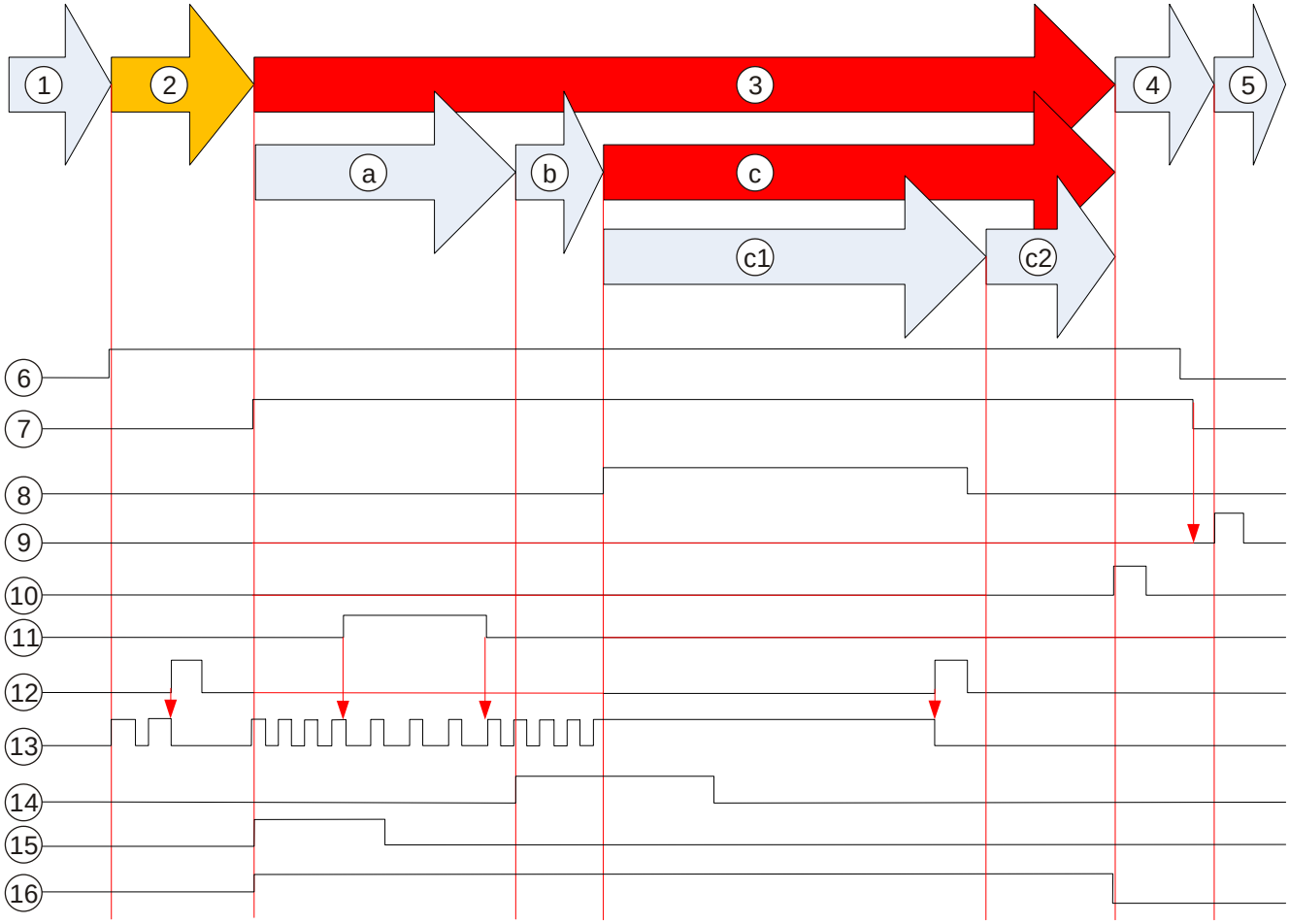


Figure 12: Automatic release

1 - 5	Extinguishing process steps, see table below
6	Detection zone 1
7	Detection zone 2
8	Pressure switch; confirmation of extinguishing agent flow
9	Extinguishing terminal button: <Mode>
10	Extinguishing terminal button: <Reset>
11	Button in the flooding zone: <Emergency Hold>
12	Extinguishing terminal button: <Silence/Resound>
13	Sounder
14	Actuator
15	Pilot valve
16	Illuminated warning panel

The table below describes the extinguishing process:

Process step	Extinguishing state	Description
1.	'Quiet'	The extinguishing system is ready for operation. No alarm signals are pending in the flooding zone.
2.	"Pre-activated' phase'	The integrated extinguishing control panel sets the flooding zone to the "Pre-activated' phase' state, as per the configured activation conditions. The alarm sounders on the fire control panel and in the flooding zone sound. In this state, the alarm sounders can be muted and activated again. Depending on the configuration, the extinguishing system triggers fire control functions if necessary, e.g., the closing of the affected fire safety doors.
3.	"Activated' phase'	The integrated extinguishing control panel sets the flooding zone to the "Activated' phase' state, as per the configured trigger conditions. The fire control panel triggers the extinguishing process as well as all fire control functions. The 'Illuminated warning panel' is active during the state.
3a.	'Pre-warning time running'	The pre-configured pre-warning time for the flooding zone elapses. The alarm sounder in the relevant flooding zone is active intermittently and cannot be muted on the extinguishing terminal in this state. People can leave the flooding zone before the extinguishing agent is triggered. The control activates the pilot valves to trigger the selector valves and the valves on the extinguishing agent cylinders. During the pre-warning time, the 'Emergency hold' button can be pressed; this interrupts the pre-warning time for the holding period. People have a longer window of time to leave the flooding zone. The alarm sounder increases the pauses between two alarm sounds during the holding period of the button.
3b.	"Release actuator' phase'	After the pre-warning time has elapsed, the control triggers the supply of extinguishing agent into the flooding zone. In addition, it opens the valves on the extinguishing agent cylinders. The alarm sounder in the flooding zone cannot be muted on the extinguishing terminal in this state.
3c.	"Released' phase'	The extinguishing system switches to the "Released' phase' state as soon as the pressure switch detects an extinguishing agent flow in the supply line from the extinguishing agent cylinders to the flooding zone.* The alarm sounder in the flooding zone issues a continuous signal and can be muted on the extinguishing terminal in this state.

Process step	Extinguishing state	Description
3c1.	'Flooding'	The pre-configured discharge time of the flooding zone runs as soon as the extinguishing system is in the ''Released' phase' state.
3c2.	'Resettable'	The extinguishing system switches to the 'Resettable' state when the discharge time has elapsed. In this state, the extinguishing system can be reset to the 'Not ready' state with the 'Reset' button. The extinguishing system changes straight to the 'Quiet' state if there are no more alarms in the detection zones in the associated flooding zone at this time.
4.	'Not ready'	The extinguishing system has been reset after triggering, but alarms are still pending in the detection zones of the associated flooding zone. The extinguishing system is not ready for operation and remains in this state as long as the alarms are pending. In this state, the extinguishing system can be reset to the 'Quiet' state with the selector switch for the operation mode if there are no longer any alarms pending.
5.	'Quiet'	The extinguishing system is ready for operation. No alarm signals are pending in the flooding zone.

* Note on extinguishing systems with and without a pressure switch:

For extinguishing systems **with** a pressure switch, the system switches from the ''Release actuator' phase' state to the ''Released' phase' state after the pressure switch has detected an extinguishing agent flow. With this state transition, the timeout can be configured and can be up to 60 s.

For extinguishing systems **without** a pressure switch, the system automatically switches from the ''Release actuator' phase' state to the ''Released' phase' state.

9.6.1.2 Procedure in the event of activation

This section describes the procedure after the automatic activation of the extinguishing system depending on the state of the system. The states which occur are not described explicitly. You will find information about the states further up in this chapter.

As the extinguishing system may already be in advanced states within the extinguishing process when the operating personnel enter, the operating personnel must recognize the state in question by means of its individual acoustic and optical features and perform the necessary actions.

The table below shows the active state of the extinguishing system, the necessary sequence of actions in this state, and the immediate consequences of each action. Changes in state after an action are indicated explicitly.

Depending on the system configuration, a higher access level may be needed to perform the individual steps. You will find information on changing the access level in chapter 'Switching access level on the extinguishing terminal [→ 190]'.

Prerequisite:

- The fire control panel is in the 'Manned operation' operation mode
- For operation, the operating personnel are at a fire control panel with an integrated extinguishing terminal for each flooding zone **or** at a remote extinguishing terminal near to the relevant flooding zone.

State and features	No.	Condition and action	Consequence
State: • ''Pre-activated' phase' **Acoustic and optical state features**: • Buzzer on the extinguishing terminal is active. • Buzzer on the Person Machine Interface for the station is active. • Alarm sounder in the flooding zone is active intermittently. **Alarm sound signature**: **Long-short** (alarm sound pause) • The 'Pre-activated / Activated ' LED on the extinguishing terminal flashes. • The 'Buzzer' LED on the extinguishing terminal lights up. • The 'Acknowledge' LED on the station's Person Machine Interface flashes. • Display on the Person Machine Interface of the station shows additional information.	1.	Optional: Press <Silence buzzer> on the extinguishing terminal. Alternatively: Press <Silence buzzer> on the station's Person Machine Interface.	Optional: The buzzer on the extinguishing terminal is muted. Alternatively: The buzzer on the extinguishing terminal and on the station's Person Machine Interface is muted.
	2a.	If you are at the station, read the state of the extinguishing system and the affected flooding zone on the 'PMI' display.	-
	2b.	Press <Acknowledge> on the station's Person Machine Interface.	The pre-activation of the extinguishing system is acknowledged. Depending on the configuration of the ↑ AVC, global alarming is already activated **or** the investigation time t2 starts to run.
	3.	Investigate the flooding zone.	Decision: **Major incident** or ↑ **minor incident**
	4a.	**Condition: Major incident** **Action:** Activate a manual call point in the flooding zone. Alternatively: Press <Alarm delay off> on the 'PMI' of the fire control panel.	• The extinguishing system switches to the ''Activated' phase' / 'Pre-discharge warning time running' state if the manual call point has been actuated in the flooding zone. **Information**: Alternatively, the extinguishing system can be automatically switched to the ''Activated' phase' / 'Pre-discharge warning time running' state in the meantime. This is the case when another detection zone has triggered an alarm. • The pre-warning time for the flooding zone starts to run. • If the AVC has been configured accordingly, global alarming is activated. You will find information on further actions in the row for the ''Activated' phase' / 'Pre-discharge warning time running' state further down.

State and features	No.	Condition and action	Consequence
	4b.	**Condition: Minor incident** **Action:** 1. Optional: Press <Silence/Resound> on the extinguishing terminal. 2. Eliminate the cause of the pre-activation.	• Optional: The alarm sounder in the flooding zone is muted and the 'Sounder' LED goes out when <Silence/Resound> in the flooding zone is operated. • The activation of the extinguishing system has been prevented. The extinguishing system reverts to the 'Quiet' state if the fire detector no longer detects a danger level. Note: The flooding zone may need to be ventilated so that the flooding zone stops issuing an alarm.

State and features	No.	Condition and action	Consequence
State: • ''Activated' phase' **Subordinate state:** • 'Pre-discharge warning time running' **Acoustic and optical state features**: • Buzzer on the extinguishing terminal is active. Alternatively, it has already been deactivated in the previous state. • Buzzer on the Person Machine Interface for the station is active. Alternatively, it has already been deactivated in the previous state. • Alarm sounder in the flooding zone is active intermittently. **Alarm sound signature**: **Short-short** (alarm sound pause) The alarm sounder in the flooding zone comes on in this state automatically if it has been switched to mute beforehand in a previous state. • The 'Illuminated warning panel' in the flooding zone lights up. • The 'Pre-activated / Activated' LED on the extinguishing terminal lights up. • The 'Automatic activation' LED on the extinguishing terminal lights up. • The 'Sounder' LED on the extinguishing terminal lights up. • The **pre-warning time elapses**. The LED matrix display of the extinguishing terminal displays the remaining time. • The 'Acknowledge' LED on the station's Person Machine Interface flashes. • Display on the Person Machine Interface of the station shows additional information.	1.	**Optional, if applicable:** Press <Silence buzzer> on the extinguishing terminal. Alternatively: Press <Silence buzzer> on the station's Person Machine Interface.	Optional: The buzzer on the extinguishing terminal is muted. Alternatively: The buzzer on the extinguishing terminal and on the station's Person Machine Interface is muted.
	2a.	**Condition:** Operating personnel has only entered at this state. **Action:** If you are at the station, read the state of the extinguishing system and the affected flooding zone on the 'PMI' display.	-
	2b.	Press <Acknowledge> on the station's Person Machine Interface.	The activation of the extinguishing system is acknowledged.
	3.	Evacuate people from the flooding zone. In doing so, observe the expiry of the pre-warning time. Note: Actuate the 'Emergency abort' switch if the fire could be extinguished manually during the pre-warning time. This prevents the flooding zone from being flooded with extinguishing agent unnecessarily. You will find more information on emergency isolation in chapter 'Emergency abort device'.	• People leave the flooding zone. • **Decide whether the remaining pre-warning time** is **sufficient** for evacuating the remaining people or not.
	4a.	**Condition:** The remaining **pre-warning time** is **sufficient** for evacuation. **Action:** No action required.	• People have left the flooding zone within the pre-warning time provided. • After the pre-warning time has elapsed, the fire control panel approves the extinguishing paths and the extinguishing system switches to the ''Activated' phase' / ''Released' phase' / 'Flooding' state. You will find information on further actions in the row for the ''Activated' phase' / ''Released' phase' / 'Flooding' state further down.

State and features	No.	Condition and action	Consequence
	4b.	**Condition:** The remaining **pre-warning time** is **not sufficient** for evacuation. **Action:** Actuate the 'Emergency hold' switch in the flooding zone and hold it.	• The fire control panel interrupts the sequence of the pre-warning time as long as the 'Emergency hold' switch is held. • The alarm sounder in the flooding zone changes its **alarm sound signature** to: **Short-long** (alarm sound pause) • The 'Emergency hold' LED flashes. • People have a longer window of time to leave the flooding zone.
	5.	Release the 'Emergency hold' switch in the flooding zone again when all people have left the flooding zone.	• Depending on the configuration of the extinguishing system: – The pre-warning time continues. – The pre-warning time starts again. • The alarm sounder in the flooding zone changes its **alarm sound signature** back to: **Short-short** (alarm sound pause) • The 'Emergency hold' LED goes out. • After the pre-warning time has elapsed, the fire control panel approves the extinguishing paths and the extinguishing system switches to the ''Activated' phase' / ''Released' phase' / 'Flooding' state. You will find information on further actions in the row for the ''Activated' phase' / ''Released' phase' / 'Flooding' state further down.

State and features	No.	Condition and action	Consequence
State: • ''Activated' phase' **Subordinate state:** • ''Released' phase' **Subordinate state (3rd level):** • 'Flooding' **Acoustic and optical state features**: • Buzzer on the extinguishing terminal is active. Alternatively, this has already been deactivated in a previous state. • The alarm sounder in the flooding zone is active. **Alarm sound signature**: **Continuous signal** • The 'Illuminated warning panel' in the flooding zone lights up. • The 'Pre-activated / Activated' LED on the extinguishing terminal lights up. • The 'Released' LED on the extinguishing terminal lights up. • The 'Automatic activation' LED on the extinguishing terminal lights up. • The 'Sounder' LED on the extinguishing terminal lights up. • The **pre-warning time has elapsed**. • The 'Acknowledge' LED on the station's Person Machine Interface flashes. • Display on the Person Machine Interface of the station shows additional information.	1	Optional: Press <Silence/Resound> on the extinguishing terminal.	• Optional: The alarm sounder in the flooding zone is muted and the 'Sounder' LED goes out. • The discharge time elapses and the extinguishing system then switches to the 'Resettable' state. You will find information on further actions in the row for the ''Activated' phase' / ''Released' phase' / 'Resettable' state further down.
	2	Optional: Press <Acknowledge> on the station's Person Machine Interface.	The triggering of the extinguishing system is acknowledged.

State and features	No.	Condition and action	Consequence
State: • ''Activated' phase' **Subordinate state:** • ''Released' phase' **Subordinate state (3rd level):** • 'Resettable' **Acoustic and optical state features**: • Buzzer on the extinguishing terminal is active. Alternatively, this has already been deactivated in a previous state. • The alarm sounder in the flooding zone is active. **Alarm sound signature**: **Continuous signal** Alternatively, the alarm sounder has already been deactivated in the previous state. • The 'Illuminated warning panel' in the flooding zone lights up. • The 'Pre-activated / Activated' LED on the extinguishing terminal lights up. • The 'Released' LED on the extinguishing terminal lights up. • The 'Automatic activation' LED on the extinguishing terminal lights up. • The 'Sounder' LED on the extinguishing terminal lights up if the alarm sounder has not been deactivated in the previous state. • The 'Reset' LED on the extinguishing terminal flashes. • The **pre-warning time has elapsed**. • The 'Acknowledge' LED on the station's Person Machine Interface flashes. • Display on the Person Machine Interface of the station shows additional information.	1.	Press <Reset> on the extinguishing terminal.	• The extinguishing system switches to the 'Not ready' state when alarms are still active in the flooding zone. • The extinguishing system switches to the 'Quiet' state when no more alarms are active in the flooding zone.

State and features	No.	Condition and action	Consequence
State: • 'Not ready' **Acoustic and optical state features**: • The 'Manual blocked' LED on the extinguishing terminal lights up. • The 'Automatic blocked' LED on the extinguishing terminal lights up. • Display on the Person Machine Interface of the station shows additional information. • The 'Acknowledge' LED on the station's Person Machine Interface flashes. • The 'Reset' LED on the station's Person Machine Interface flashes. • The 'Illuminated warning panel' in the flooding zone lights up.	1.	Press <Acknowledge> on the station's Person Machine Interface.	The end of the extinguishing process is acknowledged on the station.
	2.	Press <Reset> on the station's Person Machine Interface.	The extinguishing process is reset on the station.
	3.	Press <Mode> on the extinguishing terminal if there are no longer any alarms pending in the flooding zone. **NOTICE! The extinguishing system will remain unready for operation if there are alarms pending in the flooding zone. Pressing the selector button for the operation mode does not have an effect while alarms are pending.**	• The extinguishing system switches to the 'Quiet' state. • The 'Illuminated warning panel' in the flooding zone goes out.

9.6.2 Manual activation

One application is the **manual** activation of the extinguishing system through the activation of a manual call point in the associated flooding zone.

9.6.2.1 Extinguishing process

The figure below illustrates the chronological sequence of the extinguishing states during an extinguishing process which has been activated manually. It also shows the signal course of cause signals as an example, as well as which state transitions and effects are activated by these at which time.

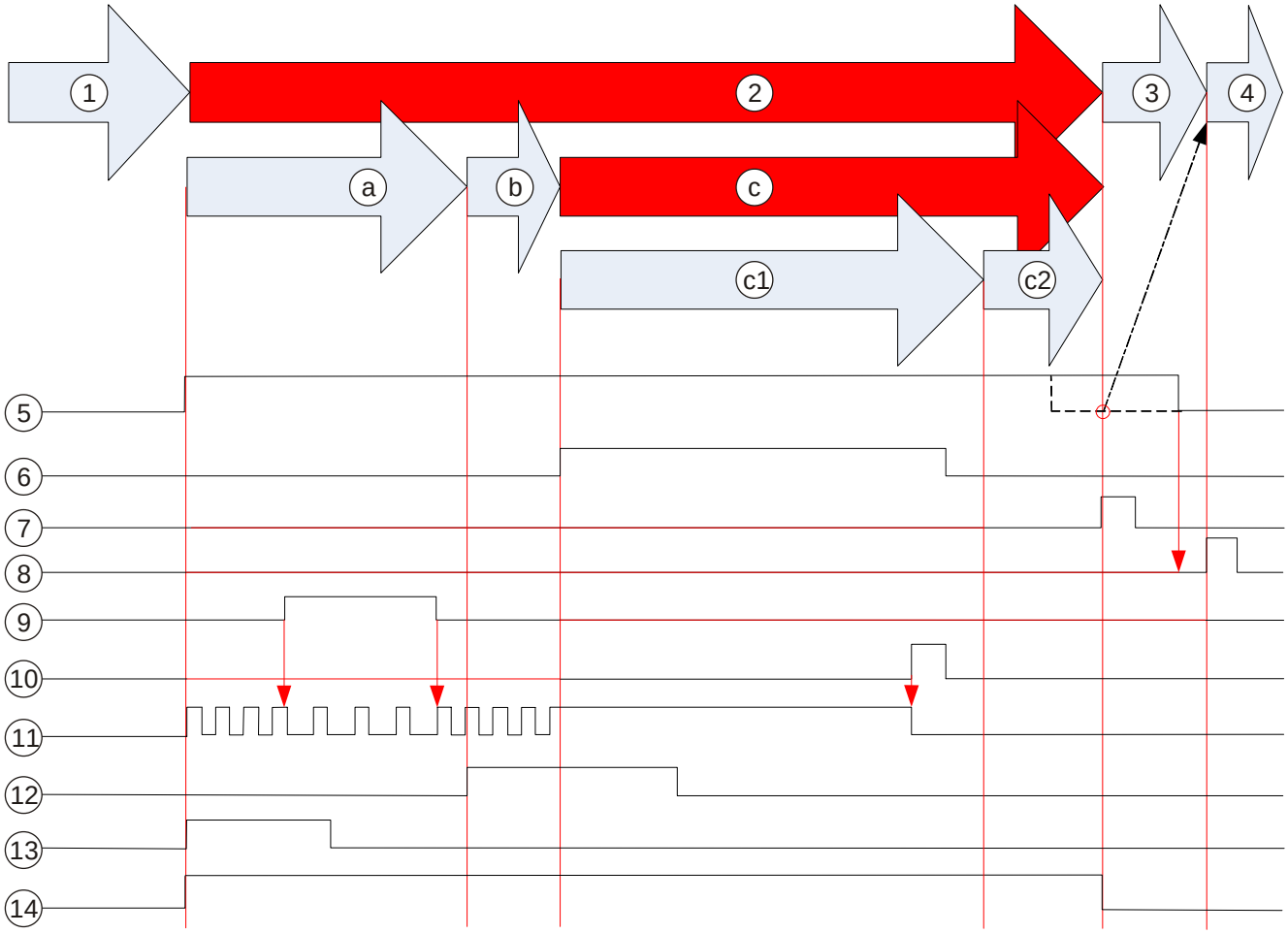


Figure 13: Manual release

1 - 4	Extinguishing process steps, see table below
5	Button in the flooding zone: Manual call point
6	Pressure switch; confirmation of extinguishing agent flow
7	Extinguishing terminal button: <Reset>
8	Extinguishing terminal button: <Mode>
9	Button in the flooding zone: <Emergency Hold>
10	Extinguishing terminal button: <Silence/Resound>
11	Sounder
12	Actuator
13	Pilot valve
14	Illuminated warning panel

The table below describes the extinguishing process:

Process step	Extinguishing state	Extinguishing state
1.	'Quiet'	The extinguishing system is ready for operation. No alarm signals are pending in the flooding zone.
2.	''Activated' phase'	A manual call point in the flooding zone has been activated. In contrast to automatic activation via fire detectors, the extinguishing system immediately switches to the ''Activated' phase' state and the fire control panel triggers the extinguishing process, as well as all fire control functions. The 'Illuminated warning panel' is active during the state. You will find information on the automatic activation of extinguishing in chapter 'Automatic activation [→ 140]'.
2a.	'Pre-warning time running'	The pre-configured pre-warning time for the flooding zone elapses. The alarm sounder in the relevant flooding zone is active intermittently and cannot be muted on the extinguishing terminal in this state. People can leave the flooding zone before the extinguishing agent is triggered. The control activates the pilot valves to trigger the selector valves and the valves on the extinguishing agent cylinders. During the pre-warning time, the 'Emergency hold' button can be pressed; this interrupts the pre-warning time for the holding period. People have a longer window of time to leave the flooding zone. The alarm sounder increases the pauses between two alarm sounds during the holding period of the button.
2b.	'Release actuator'	After the pre-warning time has elapsed, the control triggers the supply of extinguishing agent into the flooding zone. In addition, it opens the relevant selector valve and the valves on the extinguishing agent cylinders. The alarm sounder in the flooding zone cannot be muted on the extinguishing terminal in this state.
2c.	''Released' phase'	The extinguishing system switches to the ''Released' phase' state as soon as the pressure switch detects an extinguishing agent flow in the supply line from the extinguishing agent cylinders to the flooding zone.* The alarm sounder in the flooding zone issues a continuous signal and can be muted on the extinguishing terminal in this state.

Process step	Extinguishing state	Extinguishing state
2c1.	'Flooding'	The pre-configured discharge time of the flooding zone runs as soon as the extinguishing system is in the "Released' phase' state.
2c2.	'Resettable'	The extinguishing system switches to the 'Resettable' state when the discharge time has elapsed. In this state, the extinguishing system can be reset to the 'Not ready' state with the 'Reset' button. The extinguishing system changes straight to the 'Quiet' state if there are no more alarms in the detection zones in the associated flooding zone at this time and the manual call point has been reset.
3.	'Not ready'	The extinguishing system has been reset after triggering, but alarms are still pending in the detection zones of the associated flooding zone. The extinguishing system is not ready for operation and remains in this state as long as the alarms are pending. After manual triggering, the manual call point used must also be reset. In this state, the extinguishing system can be reset to the 'Quiet' state with the selector switch for the operation mode if there are no longer any alarms pending.
4.	'Quiet'	The extinguishing system is ready for operation. No alarm signals are pending in the flooding zone.

* Note on extinguishing systems with and without a pressure switch:

For extinguishing systems **with** a pressure switch, the system switches from the "Release actuator' phase' state to the "Released' phase' state after the pressure switch has detected an extinguishing agent flow. With this state transition, the timeout can be configured and can be up to 60 s.

For extinguishing systems **without** a pressure switch, the system automatically switches from the "Release actuator' phase' state to the "Released' phase' state.

See also

Automatic activation [→ 140]

9.6.2.2 Activating extinguishing manually

▷ There is a fire in the flooding zone.

- Activate a manual call point in the flooding zone.

⇨ The fire control panel activates the extinguishing process for the flooding zone.

⇨ The 'Illuminated warning panel' in the flooding zone lights up.

⇨ The 'Manual activation' LED on the extinguishing terminal lights up.

⇨ The alarm sounder in the flooding zone is active. Alarm sound signature: Short-short (alarm sound pause)

9.6.2.3 Procedure in the event of activation

This section describes the procedure after the manual activation of the extinguishing system depending on the state of the system. The states which occur are not described explicitly. You will find information about the states further up in this chapter.

As the extinguishing system may already be in advanced states within the extinguishing process when the operating personnel enter, the operating personnel must recognize the state in question by means of its individual acoustic and optical features and perform the necessary actions.

The table below shows the active state of the extinguishing system, the necessary sequence of actions in this state, and the immediate consequences of each action. Changes in state after an action are indicated explicitly.

Depending on the system configuration, a higher access level may be needed to perform the individual steps. You will find information on changing the access level in chapter 'Switching access level on the extinguishing terminal [➙ 190]'.

Prerequisite:

- The fire control panel is in the 'Manned operation' operation mode.
- For operation, the operating personnel are at a fire control panel with an integrated extinguishing terminal for each flooding zone **or** at a remote extinguishing terminal near to the relevant flooding zone.

State and features	No.	Condition and action	Consequence
State: • ''Activated' phase' **Subordinate state:** • 'Pre-discharge warning time running' **Acoustic and optical state features**: • Buzzer on the extinguishing terminal is active. • Buzzer on the Person Machine Interface for the station is active. • Alarm sounder in the flooding zone is active intermittently. **Alarm sound signature**: **Short-short** (alarm sound pause) • The 'Illuminated warning panel' in the flooding zone lights up. • The 'Pre-activated / Activated' LED on the extinguishing terminal lights up. • The 'Manual activation' LED on the extinguishing terminal lights up. • The 'Sounder' LED on the extinguishing terminal lights up. • The **pre-warning time elapses**. The LED matrix display of the extinguishing terminal displays the remaining time. • The 'Acknowledge' LED on the station's Person Machine Interface flashes. • Display on the Person Machine Interface of the station shows additional information.	1.	Optional: Press <Silence buzzer> on the extinguishing terminal. Alternatively: Press <Silence buzzer> on the station's Person Machine Interface.	Optional: The buzzer on the extinguishing terminal is muted. Alternatively: The buzzer on the extinguishing terminal and on the station's Person Machine Interface is muted.
	2a.	If you are at the station, read the state of the extinguishing system and the affected flooding zone on the 'PMI' display.	-
	2b.	Press <Acknowledge> on the station's Person Machine Interface.	The activation of the extinguishing system is acknowledged.
	3.	Investigate the read flooding zone.	Decision: **Major incident** or **minor incident**.
	4a.	**Condition: Major incident** **Action:** Evacuate people from the flooding zone. In doing so, observe the expiry of the pre-warning time.	• People leave the flooding zone. • **Decide whether the remaining pre-warning time** is **sufficient** for evacuating the remaining people or not.
	4b.	**Condition: Minor incident** **Action:** 1. Eliminate the cause of the activation. 2. Actuate the 'Emergency abort' switch if the cause of the activation could be eliminated. You will find more information on the emergency abort procedure in chapter 'Emergency abort device [➝ 167]'.	• The activation of the flooding of the flooding zone has been prevented. You will find information on further actions in chapter 'Emergency abort device [➝ 167]'.

State and features	No.	Condition and action	Consequence
	5a.	**Condition:** • **Major incident** • The remaining **pre-warning time** is **sufficient** for evacuation. **Action:** No action required.	• People have left the flooding zone within the pre-warning time provided. • After the pre-warning time has expired, the fire control panel approves the extinguishing paths and the extinguishing system switches to the ''Activated' phase' / ''Released' phase' / 'Flooding' state. You will find information on further actions in the row for the ''Activated' phase' / ''Released' phase' / 'Flooding' state further down.
	5b.	**Condition:** • **Major incident** • The remaining **pre-warning time** is **not sufficient** for evacuation. **Action:** Actuate the 'Emergency hold' switch in the flooding zone and hold it.	• The fire control panel interrupts the sequence of the pre-warning time as long as the 'Emergency hold' switch is held. • The alarm sounder in the flooding zone changes its **alarm sound signature** to: **Short-long** (alarm sound pause) • 'Emergency hold' LED flashes. • People have a longer window of time to leave the flooding zone.
	6.	Release the 'Emergency hold' switch in the flooding zone again when all people have left the flooding zone.	• Depending on the configuration of the extinguishing system: – The pre-warning time continues. – The pre-warning time starts again. • The alarm sounder in the flooding zone changes its **alarm sound signature** back to: **Short-short** (alarm sound pause) • LED 'Emergency hold' off. • After the pre-warning time has expired, the fire control panel approves the extinguishing paths and the extinguishing system switches to the ''Activated' phase' / ''Released' phase' / 'Flooding' state. You will find information on further actions in the row for the ''Activated' phase' / ''Released' phase' / 'Flooding' state further down.

State and features	No.	Condition and action	Consequence
State: • ''Activated' phase' **Subordinate state:** • ''Released' phase' **Subordinate state (3rd level):** • 'Flooding' **Acoustic and optical state features**: • Buzzer on the extinguishing terminal is active. Alternatively, this has already been deactivated in a previous state. • Alarm sounder in flooding zone is active. **Alarm sound signature**: **Continuous signal** • The 'Illuminated warning panel' in the flooding zone lights up. • The 'Pre-activated / Activated' LED on the extinguishing terminal lights up. • The 'Released' LED on the extinguishing terminal lights up. • The 'Manual activation' LED on the extinguishing terminal lights up. • The 'Sounder' LED on the extinguishing terminal lights up. • The **pre-warning time has elapsed**. • The 'Acknowledge' LED on the station's Person Machine Interface flashes. • Display on the Person Machine Interface of the station shows additional information.	1.	Optional: Press <Silence/Resound> on the extinguishing terminal.	• Optional: The alarm sounder in the flooding zone is muted and the 'Sounder' LED goes out. • The discharge time elapses and the extinguishing system then switches to the 'Resettable' state. You will find information on further actions in the row for the ''Activated' phase' / ''Released' phase' / 'Resettable' state further down.
	2.	Optional: Press <Acknowledge> on the station's Person Machine Interface.	The triggering of the extinguishing system is acknowledged.

State and features	No.	Condition and action	Consequence
State: • "Activated' phase' **Subordinate state:** • "Released' phase' **Subordinate state (3rd level):** • 'Resettable' **Acoustic and optical state features**: • Buzzer on the extinguishing terminal is active. Alternatively, this has already been deactivated in a previous state. • Alarm sounder in flooding zone is active. **Alarm sound signature**: **Continuous signal** Alternatively, the alarm sounder has already been deactivated in the previous state. • The 'Illuminated warning panel' in the flooding zone lights up. • The 'Pre-activated / Activated' LED on the extinguishing terminal lights up. • The 'Released' LED on the extinguishing terminal lights up. • The 'Manual activation' LED on the extinguishing terminal lights up. • The 'Sounder' LED on the extinguishing terminal lights up if the alarm sounder has not been deactivated in the previous state. • The 'Reset' LED on the extinguishing terminal flashes. • The **pre-warning time has elapsed**. • The 'Acknowledge' LED on the station's Person Machine Interface flashes. • Display on the Person Machine Interface of the station shows additional information.	1.	Press <Reset> on the extinguishing terminal.	• The extinguishing system switches to the 'Not ready' state. **Alternatively**: • The extinguishing system switches directly to the 'Quiet' state if the manual call point has already been reset before the 'Reset' button is pressed.

State and features	No.	Condition and action	Consequence
State: • 'Not ready' **Acoustic and optical state features**: • The 'Manual blocked' LED on the extinguishing terminal lights up. • The 'Automatic blocked' LED on the extinguishing terminal lights up. • Display on the Person Machine Interface of the station shows additional information. • The 'Acknowledge' LED on the station's Person Machine Interface flashes. • The 'Reset' LED on the station's Person Machine Interface flashes. • The 'Illuminated warning panel' in the flooding zone lights up.	1.	Reset the manual call point.	-
	2.	Press <Acknowledge> on the station's Person Machine Interface.	The end of the extinguishing process is acknowledged on the station.
	3.	Press <Reset> on the station's Person Machine Interface.	The extinguishing process is reset on the station.
	4.	Press <Mode> on the extinguishing terminal.	• The extinguishing system switches to the 'Quiet' state if the trigger signal of the manual call point is no longer pending. • The 'Illuminated warning panel' in the flooding zone goes out.

9.6.3 Manual activation with activation confirmation

An alternative application scenario for manual activation is **manual** activation of the extinguishing system **with a required activation confirmation** for the extinguishing agent flow.

This application scenario is intended for systems for which the triggering of the extinguishing agent flow needs to be confirmed explicitly by a separate input signal after the pre-warning time has elapsed. This can be carried out as follows:

- Operating personnel manually actuate a switch intended for this purpose.
- Automatic confirmation from a switch or sensor which, for example, confirms a defined flooding zone state. The input signal of this state is used as a activation confirmation. For use in a gas turbine, this can be a switch, for example, which transmits a signal indicating that the gas supply to the turbine is sealed.

9.6.3.1 Extinguishing process

The extinguishing process is identical as far as possible to manual activation of the extinguishing system without activation confirmation of the extinguishing agent flow. The difference is that a configured signal must be used to confirm the triggering of the extinguishing agent flow once the pre-warning time has elapsed. The extinguishing system remains in the waiting state until the confirmation signal has been transmitted. After the confirmation, the necessary valves are activated and the required extinguishing agent paths are enabled.

You will find information on the manual activation of the extinguishing system without activation confirmation in chapter 'Manual activation [→ 150]'.

9.6.3.2 Confirming the extinguishing activation

The process below describes an example where the trigger is confirmed manually by the operating personnel.

⚠ WARNING

Non-confirmed activation of the extinguishing agent flow

The extinguishing system remains at the waiting step if the extinguishing agent flow activation has not been confirmed. As a result, the flooding zone is not flooded with extinguishing agent. This can result in serious injuries or death. In addition, it can result in severe material damage in the flooding zone and in the neighboring areas.

- Once the pre-warning time has elapsed, confirm the extinguishing agent flow trigger with the intended and configured equipment if the relevant conditions are met.

▷ The extinguishing system is activated for a flooding zone and is in the 'Waiting for confirmation' state.

▷ The flooding zone has a 'Confirmation before release' switch.

- Actuate the 'Confirmation before release' switch in the flooding zone.

⇨ The fire control panel triggers the flooding of the flooding zone with extinguishing agent and switches to the ''Released' phase' state.

⇨ The 'Sector valve opened' LED on the extinguishing terminal lights up.

⇨ The 'Confirmation before release' LED on the extinguishing terminal lights up.

⇨ The alarm sounder in the flooding zone is active. Alarm sound signature: continuous signal.

9.6.3.3 Procedure in the event of activation

This section describes the procedure after manual activation of the extinguishing system with a necessary activation confirmation of flooding. The states which occur are not described explicitly. You will find information about the states further up in this chapter.

As the extinguishing system may already be in advanced states within the extinguishing process when the operating personnel enter, the operating personnel must recognize the state in question by means of its individual acoustic and optical features and perform the necessary actions.

The table below shows the active state of the extinguishing system, the necessary sequence of actions in this state, and the immediate consequences of each action. Changes in state after an action are indicated explicitly.

Depending on the system configuration, a higher access level may be needed to perform the individual steps. You will find information on changing the access level in chapter 'Switching access level on the extinguishing terminal [→ 190]'.

Prerequisite:

- The extinguishing system has a switch for the activation confirmation and this is configured accordingly. If the activation is confirmed through an automatic internal signal, then the process takes place in the same way as with a manual activation.
- The fire control panel is in the 'Manned operation' operation mode
- For operation, the operating personnel are at a fire control panel with an integrated extinguishing terminal for each flooding zone **or** at a remote extinguishing terminal near to the relevant flooding zone.

State and features	No.	Condition and action	Consequence
State: • ''Activated' phase' **Subordinate state:** • 'Pre-warning time running' **Acoustic and optical state features**: • Buzzer on the extinguishing terminal is active. • Buzzer on the Person Machine Interface for the station is active. • Alarm sounder in the flooding zone is active intermittently. **Alarm sound signature**: **Short-short** (alarm sound pause) • The 'Illuminated warning panel' in the flooding zone lights up. • The 'Pre-activated / Activated' LED on the extinguishing terminal lights up. • The 'Manual activation' LED on the extinguishing terminal lights up. • The 'Sounder' LED on the extinguishing terminal lights up. • The **pre-warning time elapses**. The LED matrix display of the extinguishing terminal displays the remaining time. • The 'Acknowledge' LED on the station's Person Machine Interface flashes. • Display on the Person Machine Interface of the station shows additional information.	1.	Optional: Press <Silence buzzer> on the extinguishing terminal. Alternatively: Press <Silence buzzer> on the station's Person Machine Interface.	Optional: The buzzer on the extinguishing terminal is muted. Alternatively: The buzzer on the extinguishing terminal and on the station's Person Machine Interface is muted.
	2a.	If you are at the station, read the state of the extinguishing system and the affected flooding zone on the 'PMI' display.	-
	2b.	Press <Acknowledge> on the station's Person Machine Interface.	The activation of the extinguishing system is acknowledged.
	3.	Investigate the read flooding zone.	Decision: **Major incident** or **minor incident**.
	4a.	**Condition: Major incident** **Action:** Evacuate people from the flooding zone. In doing so, observe the expiry of the pre-warning time.	• People leave the flooding zone. • **Decide whether the remaining pre-warning time** is **sufficient** for evacuating the remaining people or not.
	4b.	**Condition: Minor incident** **Action:** 1. Eliminate the cause of the activation. 2. Actuate the 'Emergency abort' switch if the cause of the activation could be eliminated. You will find more information on the emergency abort procedure in chapter 'Emergency abort device [➙ 167]'.	• The activation of the flooding of the flooding zone has been prevented. You will find information on further actions in chapter 'Emergency abort device [➙ 167]'.

State and features	No.	Condition and action	Consequence
	5a.	**Condition:** • **Major incident** • The remaining **pre-warning time** is **sufficient** for evacuation. **Action:** No action required.	• People have left the flooding zone within the pre-warning time provided. • After the pre-warning time has elapsed, the fire control panel approves the extinguishing paths and the extinguishing system switches to the ''Activated' phase' / ''Released' phase' / 'Flooding' state. You will find information on further actions in the row for the ''Activated' phase' / ''Released' phase' / 'Flooding' state further down.
	5b.	**Condition:** • **Major incident** • The remaining **pre-warning time** is **not sufficient** for evacuation. **Action:** Actuate the 'Emergency hold' switch in the flooding zone and hold it.	• The fire control panel interrupts the sequence of the pre-warning time as long as the 'Emergency hold' switch is held. • The alarm sounder in the flooding zone changes its **alarm sound signature** to: **Short-long** (alarm sound pause) • The 'Emergency hold' LED flashes. • People have a longer window of time to leave the flooding zone.
	6.	Release the 'Emergency hold' switch in the flooding zone again when all people have left the flooding zone.	• Depending on the configuration of the extinguishing system: – The pre-warning time continues. – The pre-warning time starts again. • The alarm sounder in the flooding zone changes its **alarm sound signature** back to: **Short-short** (alarm sound pause) • The 'Emergency hold' LED goes out. • After the pre-warning time has elapsed, the fire control panel approves the extinguishing paths and the extinguishing system switches to the ''Activated' phase' / ''Released' phase' / 'Flooding' state. You will find information on further actions in the row for the ''Activated' phase' / ''Released' phase' / 'Waiting for confirmation' state further down.

State and features	No.	Condition and action	Consequence
State: • ''Activated' phase' **Subordinate state:** • ''Released' phase' **Subordinate state (3rd level):** • 'Waiting for confirmation' **Acoustic and optical state features**: • Buzzer on the extinguishing terminal is active. Alternatively, this has already been deactivated in a previous state. • Alarm sounder in the flooding zone is active intermittently. **Alarm sound signature**: **Short-short** (alarm sound pause) • The 'Illuminated warning panel' in the flooding zone lights up. • The 'Pre-activated / Activated' LED on the extinguishing terminal lights up. • The 'Manual activation' LED on the extinguishing terminal lights up. • The 'Sounder' LED on the extinguishing terminal lights up. • The **pre-warning time has elapsed**. • The 'Acknowledge' LED on the Person Machine Interface for the station is active. • Display on the Person Machine Interface of the station shows additional information.	1a.	**Condition:** Operating personnel were already present during the previous state. **Action:** • Operate <Confirmation before release> on the extinguishing terminal if the signal has to be triggered manually by the operating personnel. • If the confirmation signal has been generated automatically, for example, by a signal that indicates an interrupted gas supply in a gas turbine, no further action is required.	• The fire control panel triggers the flooding of the flooding zone. • After triggering, the extinguishing system switches to the ''Activated' phase' / ''Released' phase' / 'Flooding' state. You will find information on further actions in the row for the ''Activated' phase' / ''Released' phase' / 'Flooding' state.
	1b.	**Condition:** • Operating personnel has only entered at this state. • When the confirmation signal is generated automatically: Confirmation signal not yet active. **Note**: When the confirmation signal is generated automatically and is already active, the extinguishing system automatically enters the ''Activated' phase' / ''Released' phase' / 'Flooding' state. You will find information on further actions in the row for the ''Activated' phase' / ''Released' phase' / 'Flooding' state. **Action:** If you are at the fire control panel, read the state of the extinguishing system and the affected flooding zone on the display.	-
	2	Investigate the read flooding zone.	Decision: **Major incident** or **minor incident**.
	3a.	**Condition: Major incident** **Action:** Evacuate people from the flooding zone.	• People have left the flooding zone.

State and features	No.	Condition and action	Consequence
	3b.	**Condition: Minor incident** **Action:** 1. Eliminate the cause of the activation. 2. Actuate the 'Emergency abort' switch if the cause of the activation could be eliminated. You will find more information on the emergency abort procedure in chapter 'Emergency abort device [➞ 167]'.	• The activation of the extinguishing system has been prevented. • The extinguishing system switches to the 'Resettable' state. You will find information on further actions in chapter 'Emergency abort device [➞ 167]'.
	4.	• Operate <Confirmation before release> on the extinguishing terminal if the signal has to be triggered manually by the operating personnel. • If the confirmation signal has been generated automatically, for example, by a signal that indicates an interrupted gas supply in a gas turbine, no further action is required.	• The fire control panel triggers the flooding of the flooding zone. • After triggering, the extinguishing system switches to the ''Activated' phase' / ''Released' phase' / 'Flooding' state. • You will find information on further actions in the row for the ''Activated' phase' / ''Released' phase' / 'Flooding' state.

State and features	No.	Condition and action	Consequence
State: • ''Activated' phase' **Subordinate state:** • ''Released' phase' **Subordinate state (3rd level):** • 'Flooding' **Acoustic and optical state features**: • Buzzer on the extinguishing terminal is active. Alternatively, this has already been deactivated in a previous state. • The alarm sounder in the flooding zone is active. **Alarm sound signature**: **Continuous signal** • The 'Illuminated warning panel' in the flooding zone lights up. • The 'Pre-activated / Activated' LED on the extinguishing terminal lights up. • The 'Released' LED on the extinguishing terminal lights up. • The 'Manual activation' LED on the extinguishing terminal lights up. • The 'Sounder' LED on the extinguishing terminal lights up. • The **pre-warning time has elapsed**. • The 'Acknowledge' LED on the station's Person Machine Interface flashes. • Display on the Person Machine Interface of the station shows additional information.	1	Optional: Press <Silence/Resound> on the extinguishing terminal.	• Optional: The alarm sounder in the flooding zone is muted and the 'Sounder' LED goes out. • The discharge time elapses and the extinguishing system then switches to the 'Resettable' state. You will find information on further actions in the row for the ''Activated' phase' / ''Released' phase' / 'Resettable' state further down.
	2	Optional: Press <Acknowledge> on the station's Person Machine Interface.	The triggering of the extinguishing system is acknowledged.

State and features	No.	Condition and action	Consequence
State: • "Activated' phase' **Subordinate state:** • "Released' phase' **Subordinate state (3rd level):** • 'Resettable' **Acoustic and optical state features**: • Buzzer on the extinguishing terminal is active. Alternatively, this has already been deactivated in a previous state. • The alarm sounder in the flooding zone is active. **Alarm sound signature**: **Continuous signal** Alternatively, the alarm sounder has already been deactivated in the previous state. • The 'Illuminated warning panel' in the flooding zone lights up. • The 'Pre-activated / Activated' LED on the extinguishing terminal lights up. • The 'Released' LED on the extinguishing terminal lights up. • The 'Manual activation' LED on the extinguishing terminal lights up. • The 'Sounder' LED on the extinguishing terminal lights up if the alarm sounder has not been deactivated in the previous state. • The 'Reset' LED on the extinguishing terminal flashes. • The **pre-warning time has elapsed**. • The 'Acknowledge' LED on the station's Person Machine Interface flashes. • Display on the Person Machine Interface of the station shows additional information.	1.	Press <Reset> on the extinguishing terminal.	• The extinguishing system switches to the 'Not ready' state. **Alternatively**: • The extinguishing system changes straight to the 'Quiet' state if the manual call point has already been reset before the 'Reset' button is pressed.

State and features	No.	Condition and action	Consequence
State: • 'Not ready' **Acoustic and optical state features**: • The 'Manual blocked' LED on the extinguishing terminal lights up. • The 'Automatic blocked' LED on the extinguishing terminal lights up. • Display on the Person Machine Interface of the station shows additional information. • The 'Acknowledge' LED on the station's Person Machine Interface flashes. • The 'Reset' LED on the station's Person Machine Interface flashes. • The 'Illuminated warning panel' in the flooding zone lights up.	1.	Reset the manual call point.	-
	2.	Press <Acknowledge> on the station's Person Machine Interface.	The end of the extinguishing process is acknowledged on the station.
	3.	Press <Reset> on the station's Person Machine Interface.	The extinguishing process is reset on the station.
	4.	Press <Mode> on the extinguishing terminal.	• The extinguishing system switches to the 'Quiet' state if the trigger signal of the manual call point is no longer pending. • The 'Illuminated warning panel' in the flooding zone goes out.

9.6.4 Emergency hold device

One application is the **emergency interruption** of the activation of the extinguishing system in the associated flooding zone.

During the pre-warning time, it is possible to trigger an emergency interruption by actuating the 'Emergency hold' switch in the flooding zone. The pre-warning time is interrupted while the switch is held. People therefore have a longer window of time to leave the flooding zone. Depending on the configuration of the extinguishing system, the pre-warning time continues after the switch is released or starts again.

An emergency interruption is usually a fundamental part of the extinguishing process in the 'Automatic release' and 'Manual release' applications. You will find additional information on this in chapters 'Automatic activation' and 'Manual activation'.

9.6.5 Emergency abort device

One application is the emergency isolation of the extinguishing system through the actuation of the 'Emergency abort' switch in the associated flooding zone. This could be necessary in the following cases:

- An extinguishing process has been started for a flooding zone unintentionally, e.g., through the unintentional activation of a manual call point.
- An examination of the flooding zone has revealed that it is a minor incident or a false alarm.

Actuating the 'Emergency abort' switch does not stop the flooding of the flooding zone with extinguishing agent if this has already been initiated.

9.6.5.1 Extinguishing process

The figure below illustrates the chronological sequence of the extinguishing states if an 'Emergency abort' switch has been actuated in the flooding zone. It also shows the signal course of cause signals as an example, as well as which state transitions and effects are activated by these at which time.

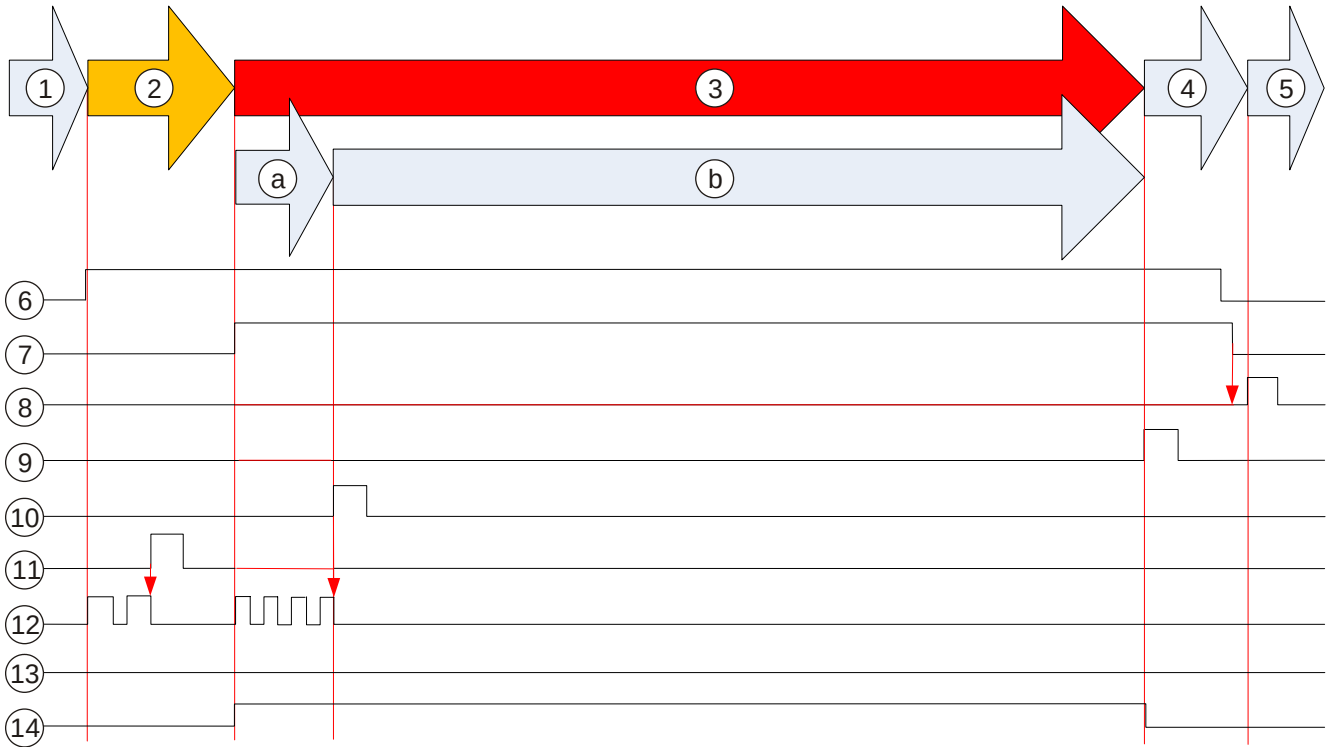


Figure 14: Emergency abort

1 - 5	Extinguishing process steps, see table below
6	Detection zone 1
7	Detection zone 2
8	Extinguishing terminal button: <Mode>
9	Extinguishing terminal button: <Reset>
10	Button in the flooding zone: <Emergency Abort>
11	Extinguishing terminal button: <Silence/Resound>
12	Sounder
13	Actuator
14	Illuminated warning panel

The table below describes the extinguishing process:

Process step	Extinguishing state	Description
1.	'Quiet'	The extinguishing system is ready for operation. No alarm signals are pending in the flooding zone.
2.	''Pre-activated' phase'	A detection zone in the associated flooding zone has triggered an alarm. The extinguishing system switches to the 'Pre-activated' phase state and the alarm sounders on the fire control panel and in the flooding zone sound. In this state, the alarm sounders can be muted and activated again. Depending on the configuration, the fire control panel triggers fire control functions if necessary.
3.	''Activated' phase'	Several detection zones in the associated flooding zone have triggered an alarm. The extinguishing system is activated and the fire control panel triggers the extinguishing process as well as all fire control functions. The 'Illuminated warning panel' is active during the state.
3a.	'Pre-warning time running'	The pre-configured pre-warning time for the flooding zone elapses. The alarm sounder in the relevant flooding zone is active intermittently and cannot be muted on the extinguishing terminal in this state. People can leave the flooding zone before the extinguishing agent is triggered. The control activates the pilot valves to trigger the selector valves and the valves on the extinguishing agent cylinders. The 'Emergency hold' and 'Emergency abort' functions can be activated during the pre-warning time.
3b.	'Resettable'	During the pre-warning time, the 'Emergency abort' switch has been actuated. The extinguishing system aborts the extinguishing process and switches to the 'Resettable' state. In this state, the extinguishing system can be reset to the 'Not ready' state with the 'Reset' button. The extinguishing system changes straight to the 'Quiet' state if there are no more alarms in the detection zones in the associated flooding zone at this time.
4.	'Not ready'	The extinguishing system has been reset but alarms are still pending in the detection zones of the associated flooding zone. The extinguishing system is not ready for operation and remains in this state as long as the alarms are pending. In this state, the extinguishing system can be reset to the 'Quiet' state with the selector switch for the operation mode if there are no longer any alarms pending.
5.	'Quiet'	The extinguishing system is ready for operation. No alarm signals are pending in the flooding zone.

9.6.5.2 Aborting the extinguishing process with the emergency abort device button

⚠ WARNING

Actuating the emergency abort device button

Actuating the emergency abort device button when an extinguishing process has been activated cancels the extinguishing process. The flooding of the flooding zone is prevented if it has not been triggered already. In a major incident, this can lead to serious injuries and death.

- Only actuate the emergency abort device button in the flooding zone if there is a justified reason to do so.

▷ An extinguishing process is activated for the flooding zone.

▷ The extinguishing system is in the "Activated' phase' state.

- Actuate an 'Emergency abort' switch in the flooding zone.

⇨ The fire control panel aborts the extinguishing process for the flooding zone and switches to the 'Emergency abort-Resettable' state.

9.6.5.3 Procedure in the event of activation

This section describes the procedure after the actuation of the 'Emergency abort' switch. The states which occur are not described explicitly. You will find information about the states further up in this chapter.

As the extinguishing system may already be in advanced states within the extinguishing process when the operating personnel enter, the operating personnel must recognize the state in question by means of its individual acoustic and optical features and perform the necessary actions.

The table below shows the active state of the extinguishing system, the necessary sequence of actions in this state, and the immediate consequences of each action. Changes in state after an action are indicated explicitly.

Depending on the system configuration, a higher access level may be needed to perform the individual steps. You will find information on changing the access level in chapter 'Switching access level on the extinguishing terminal [➞ 190]'.

Prerequisite:

- The fire control panel is in the 'Manned operation' operation mode
- For operation, the operating personnel are at a fire control panel with an integrated extinguishing terminal for each flooding zone **or** at a remote extinguishing terminal near to the relevant flooding zone.

State and features	No.	Condition and action	Consequence
State: • ''Activated' phase' **Subordinate state:** • 'Pre-warning time running' **Acoustic and optical state features**: • Buzzer on the extinguishing terminal is active. • Buzzer on the Person Machine Interface for the station is active. • Alarm sounder in the flooding zone is active intermittently. **Alarm sound signature**: **Short-short** (alarm sound pause) • The 'Illuminated warning panel' in the flooding zone lights up. • The 'Pre-activated / Activated' LED on the extinguishing terminal lights up. • The 'Automatic activation' LED on the extinguishing terminal lights up. • The 'Sounder' LED on the extinguishing terminal lights up. • The **pre-warning time elapses**. The LED matrix display of the extinguishing terminal displays the remaining time. • The 'Acknowledge' LED on the station's Person Machine Interface flashes. • Display on the Person Machine Interface of the fire control panel shows additional information.	1.	Optional: Press <Silence buzzer> on the extinguishing terminal. Alternatively: Press <Silence buzzer> on the station's Person Machine Interface.	Optional: The buzzer on the extinguishing terminal is muted. Alternatively: The buzzer on the extinguishing terminal and on the station's Person Machine Interface is muted.
	2a.	If you are at the station, read the state of the extinguishing system and the affected flooding zone on the 'PMI' display.	-
	2b.	Press <Acknowledge> on the station's Person Machine Interface.	The activation of the extinguishing system is acknowledged.
	3.	Investigate the read flooding zone.	Decision: **Major incident** or **minor incident**.
	4a.	**Condition: Major incident** **Action:** You will find information on further actions in chapter 'Automatic activation'.	-
	4b.	**Condition: Minor incident** **Action:** 1. Eliminate the cause of the activation. 2. Actuate the 'Emergency abort' switch if the cause of the activation could be eliminated.	• The activation of the flooding of the flooding zone has been prevented. • The alarm sounder in the flooding zone is muted. You will find information on further actions in the row for the ''Activated' phase' / 'Resettable' state further down.

State and features	No.	Condition and action	Consequence
State: • ''Activated' phase' Subordinate state: • 'Resettable' Acoustic and optical state features: • Buzzer on the extinguishing terminal is active. Alternatively, this has already been deactivated in a previous state. • The 'Illuminated warning panel' in the flooding zone lights up. • The 'Pre-activated / Activated ' LED on the extinguishing terminal flashes. • The 'Automatic activation' LED on the extinguishing terminal lights up. • The 'Sounder' LED on the extinguishing terminal lights up if the alarm sounder has not been deactivated in the previous state. • The 'Reset' LED on the extinguishing terminal flashes. • The 'Acknowledge' LED on the station's Person Machine Interface flashes. • Display on the Person Machine Interface of the fire control panel shows additional information.	1.	Press <Reset> on the extinguishing terminal.	• The extinguishing system switches to the 'Not ready' state when alarms are still active in the flooding zone. • The extinguishing system switches to the 'Quiet' state when no more alarms are active in the flooding zone.

State and features	No.	Condition and action	Consequence
State: • 'Not ready' **Acoustic and optical state features**: • The 'Manual blocked' LED on the extinguishing terminal lights up. • The 'Automatic blocked' LED on the extinguishing terminal lights up. • Display on the Person Machine Interface of the fire control panel shows additional information. • The 'Acknowledge' LED on the station's Person Machine Interface flashes. • The 'Reset' LED on the station's Person Machine Interface flashes. • The 'Illuminated warning panel' in the flooding zone lights up.	1.	Press <Acknowledge> on the station's Person Machine Interface.	The end of the extinguishing process is acknowledged on the station.
	2.	Press <Reset> on the station's Person Machine Interface.	The extinguishing process is reset on the station.
	3.	Press <Mode> on the extinguishing terminal if there are no longer any alarms pending in the flooding zone. **NOTICE! The extinguishing system will remain unready for operation if there are alarms pending in the flooding zone. Pressing the selector button for the operation mode does not have an effect during this time.**	• The extinguishing system switches to the 'Quiet' state. • The 'Illuminated warning panel' in the flooding zone goes out.

See also

Emergency abort device [→ 167]

9.6.6 Activation by tripping the pressure switch

One application is the activation of the extinguishing system through the **tripping of the pressure switch** for monitoring the extinguishing agent flow in the flooding zone.

Requirement for this application: The extinguishing system has a pressure switch in the supply line to the flooding zone and this has been configured accordingly.

The pressure switch detects an extinguishing agent flow which is not intended at this time. In such cases, the extinguishing system must immediately reach the "Activated' phase' extinguishing state in accordance with EN 12094-1 in order to alert people in the flooding zone to the incoming extinguishing agent flow. In this case, the extinguishing control panel activates an adapted extinguishing process, which deactivates all current isolations for the length of the extinguishing process. Once the extinguishing process is complete, the extinguishing control panel activates all previous isolations again.

Possible causes for an extinguishing process to be triggered by the pressure switch may include the following:

- **Mechanical triggering** of the extinguishing system due to the shut-off valves on the extinguishing agent cylinders being opened manually
- Defective accessories on the extinguishing agent cylinders and/or in the extinguishing agent supply to the flooding zone

9.6.6.1 Extinguishing process

The figure below illustrates the chronological sequence of the extinguishing states during an extinguishing process which has been activated by the pressure switch. It also shows the signal course of cause signals as an example, as well as which state transitions and effects are activated by these at which time.

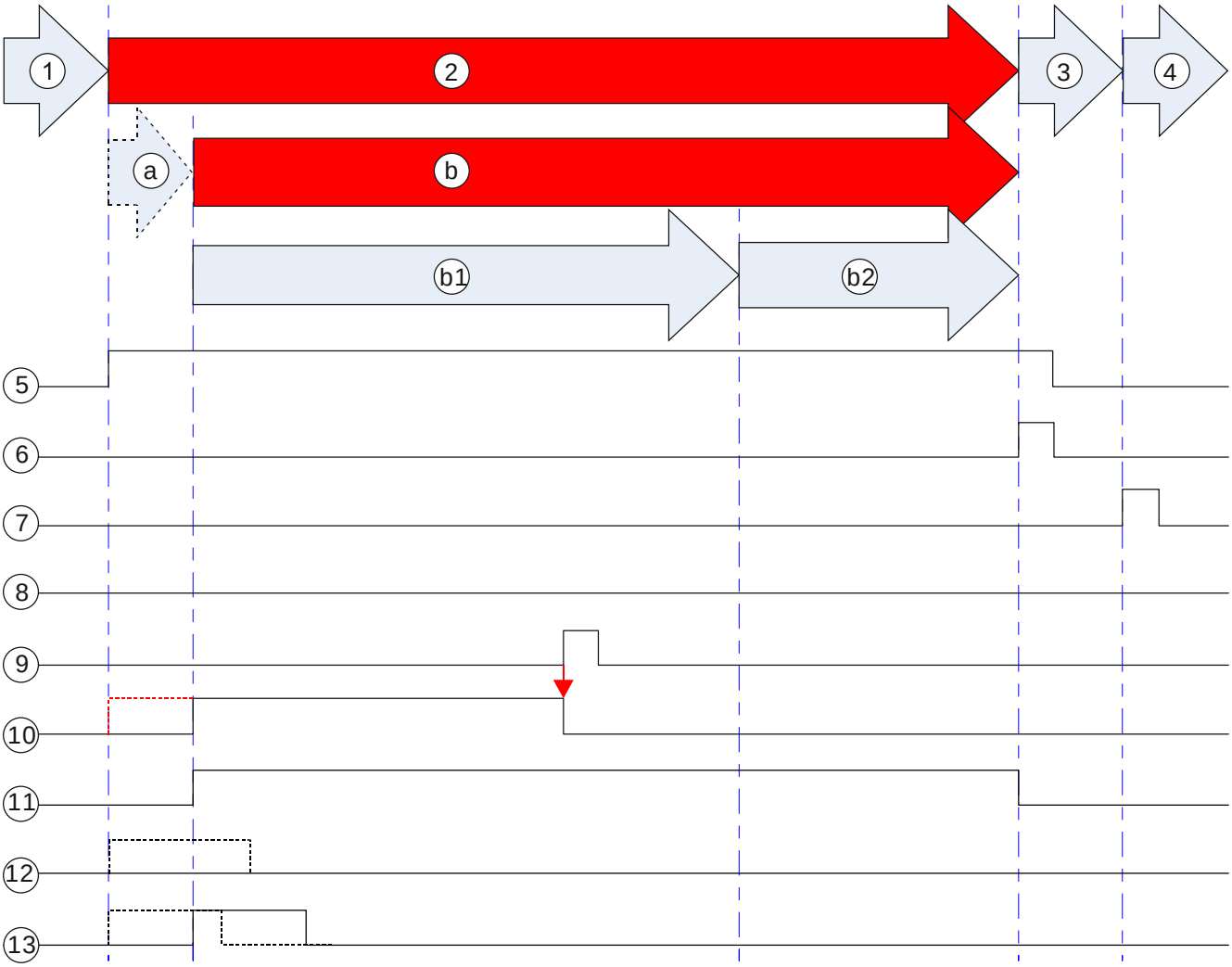


Figure 15: Activation by tripping the pressure switch

1 - 5	Extinguishing process steps, see table below
5	Pressure switch; confirmation of extinguishing agent flow
6	Extinguishing terminal button: <Reset>
7	Extinguishing terminal button: <Mode>
8	Button in the flooding zone: <Emergency Hold> or <Emergency Abort>
9	Extinguishing terminal button: <Silence/Resound>
10	Sounder
11	Illuminated warning panel
12	Actuator
13	Pilot valve

The table below describes the extinguishing process:

Process step	Extinguishing state	Description
1.	'Quiet'	The extinguishing system is ready for operation. No alarm signals are pending in the flooding zone. **Information:** However, this could also be any other extinguishing state. As soon as the pressure switch detects a flow of extinguishing agent that is not supposed to occur at this point in time, the extinguishing system switches to the ''Release actuator' phase' or ''Released' phase' state straight away depending on the configuration.
2.	''Activated' phase'	The pressure switch reports an extinguishing agent flow in the supply line to the flooding zone. The extinguishing system activates a special extinguishing process and deactivates all isolations in place at this point. The extinguishing system returns the isolations to their original state when the extinguishing process is complete and the extinguishing system has returned to the 'Quiet' state. The extinguishing system also triggers all configured fire control functions. The 'Illuminated warning panel' is active during the state. **Note**: When the flooding zone is activated by a pressure switch, the functions 'Emergency hold' and 'Emergency abort' cannot be activated.
2a.	''Release actuator' phase'	The flooding zone switches to the ''Release actuator' phase' state when the activation of the triggering devices has been configured. Otherwise the flooding zone switches straight from the 'Quiet' state to the ''Released' phase' state. You will find more information on configuring the system response to a triggered pressure switch in document 'A6V10210424'. The response is configured in the global system settings. The extinguishing system activates the triggering devices on the extinguishing agent cylinders; these devices open the shut-off valves. The alarm sounder in the flooding zone in question issues a continuous signal and cannot be muted on the extinguishing terminal in this state. People are warned and can leave the flooding zone. **Information**: The ''Release actuator' phase' state only lasts around 0.5 seconds.

Process step	Extinguishing state	Description
2b.	"Released' phase'	After the "Release actuator' phase' state has elapsed, the extinguishing system automatically switches to the "Released' phase' state. If activation of the triggering devices is not configured, the system switches straight from the 'Quiet' state to the "Released' phase' state. The alarm sounder in the flooding zone issues a continuous signal and can be muted on the extinguishing terminal in this state. The extinguishing system has two possible responses for the triggering devices if it is activated by the pressure switch: • The extinguishing system does not activate the triggering device if the pressure switch has detected a flow of extinguishing agent. Only the amount of extinguishing agent enabled by the manual response is actually discharged into the flooding zone. The actual quantity of extinguishing agent therefore depends on how mechanical extinguishing triggering is implemented in the location. • The extinguishing system activates the triggering device if the pressure switch has detected a flow of extinguishing agent. The quantity of extinguishing agent intended for extinguishing is discharged into the flooding zone. Note: The response must be set up in the system configuration. You will find more information on configuring the system response to a triggered pressure switch in document 'A6V10210424'. The response is configured in the global system settings.
2b1.	'Flooding'	The pre-configured discharge time of the flooding zone runs as soon as the extinguishing system is in the "Released' phase' state.
2b2.	'Resettable'	After the discharge time has elapsed, the extinguishing system automatically switches to the 'Resettable' state. Using <Reset> in this state, the extinguishing system can be reset to the 'Not ready' state while the pressure switch is still activated. Once the signal from the pressure switch is no longer active, the extinguishing system switches straight back to the 'Quiet' state.
3.	'Not ready'	The extinguishing system is not ready for operation and remains in this state as long as the pressure switch detects an extinguishing agent flow. In this state, the extinguishing system can be reset to the 'Quiet' state with the selector switch for the operation mode if the pressure switch no longer detects an extinguishing agent flow.
4.	'Quiet'	The extinguishing system reverts to the 'Quiet' state.

9.6.6.2 Procedure in the event of activation

This section describes the procedure after the extinguishing system has been activated by a pressure switch depending on the state of the system. The states which occur are not described explicitly. You will find information about the states further up in this chapter.

As the extinguishing system may already be in advanced states within the extinguishing process when the operating personnel enter, the operating personnel must recognize the state in question by means of its individual acoustic and optical features and perform the necessary actions.

The table below shows the active state of the extinguishing system, the necessary sequence of actions in this state, and the immediate consequences of each action. Changes in state after an action are indicated explicitly.

Depending on the system configuration, a higher access level may be needed to perform the individual steps. You will find information on changing the access level in chapter 'Switching access level on the extinguishing terminal [→ 190]'.

Prerequisite:

- The fire control panel is in the 'Manned operation' operation mode.
- For operation, the operating personnel are at a fire control panel with an integrated extinguishing terminal for each flooding zone **or** at a remote extinguishing terminal near to the relevant flooding zone.

State and features	No.	Condition and action	Consequence
State: • ''Activated' phase' **Subordinate state:** • ''Released' phase' **Subordinate state (3rd level):** • 'Flooding' **Acoustic and optical state features**: • Buzzer on the extinguishing terminal is active. • Buzzer on the Person Machine Interface for the station is active. • Alarm sounder in flooding zone is active. **Alarm sound signature**: **Continuous signal** • The 'Illuminated warning panel' in the flooding zone lights up. • The 'Pre-activated / Activated' LED on the extinguishing terminal lights up. • The 'Released' LED on the extinguishing terminal lights up. • The 'Sounder' LED on the extinguishing terminal lights up. • The 'Acknowledge' LED on the Person Machine Interface for the station is active. • Display on the Person Machine Interface of the fire control panel shows additional information.	1.	Optional: Press <Silence buzzer> on the extinguishing terminal. Alternatively: Press <Silence buzzer> on the station's Person Machine Interface.	Optional: The buzzer on the extinguishing terminal is muted. Alternatively: The buzzer on the extinguishing terminal and on the station's Person Machine Interface is muted.
	2a.	If you are at the station, read the state of the extinguishing system and the affected flooding zone on the 'PMI' display.	-
	2b.	Optional: Press <Acknowledge> on the station's Person Machine Interface.	The triggering of the extinguishing system is acknowledged.
	3.	Optional: Press <Silence/Resound> on the extinguishing terminal.	• Optional: The alarm sounder in the flooding zone is muted and the 'Sounder' LED goes out. • The discharge time elapses and the extinguishing system then switches to the 'Resettable' state. You will find information on further actions in the row for the ''Activated' phase' / ''Released' phase' / 'Resettable' state further down.
	4.	**⚠ DANGER! Extinguishing agent in the flooding zone. Depending on the type of extinguishing agent, persons in the flooding zone can incur severe or fatal injuries. Do not enter the flooding zone without the necessary protective equipment.** **NOTICE! After the extinguishing system has been triggered by the pressure switch, emergency functions, such as emergency stop and emergency abort, cannot be triggered. They are only available again when the system has been reset and is in the quiescent state.** Warn people in the flooding zone.	• People leave the flooding zone. • The discharge time elapses and the extinguishing system then switches to the 'Resettable' state. You will find information on further actions in the row for the ''Activated' phase' / ''Released' phase' / 'Resettable' state further down.

State and features	No.	Condition and action	Consequence
State: • ''Activated' phase' Subordinate state: • ''Released' phase' Subordinate state (3rd level): • 'Resettable' Acoustic and optical state features: • Buzzer on the extinguishing terminal is active. Alternatively, this has already been deactivated in a previous state. • Alarm sounder in flooding zone is active. Alarm sound signature: Continuous signal Alternatively, the alarm sounder has already been deactivated in the previous state. • The 'Illuminated warning panel' in the flooding zone lights up. • The 'Pre-activated' / 'Activated' LED on the extinguishing terminal flashes. • 'Released' LED on the extinguishing terminal flashes. • The 'Sounder' LED on the extinguishing terminal lights up if the alarm sounder has not been deactivated in the previous state. • The 'Reset' LED on the extinguishing terminal flashes. • The 'Acknowledge' LED on the station's Person Machine Interface flashes. • Display on the Person Machine Interface of the fire control panel shows additional information.	1.	Press <Reset> on the extinguishing terminal.	• The extinguishing system switches to the 'Not ready' state. Alternatively: • If the pressure switch signal is no longer active at this time, the extinguishing system will switch directly to the 'Quiet' state.

State and features	No.	Condition and action	Consequence
State: • 'Not ready' **Acoustic and optical state features**: • The 'Manual blocked' LED on the extinguishing terminal lights up when the pressure switch signal is still active at this time. • The 'Automatic blocked ' LED on the extinguishing terminal lights up when the pressure switch signal is still active at this time. • Display on the Person Machine Interface of the fire control panel shows additional information. • The 'Acknowledge' LED on the station's Person Machine Interface flashes. • The 'Reset' LED on the station's Person Machine Interface flashes. • The 'Illuminated warning panel' in the flooding zone lights up.	1.	Press <Acknowledge> on the station's Person Machine Interface.	The end of the extinguishing process is acknowledged on the station.
	2.	Press <Reset> on the station's Person Machine Interface.	The extinguishing process is reset on the station.
	3.	Press <Mode> on the extinguishing terminal. Note: This step is skipped if the pressure switch signal is no longer active at this time.	• The extinguishing system switches to the 'Quiet' state when the pressure switch no longer detects an extinguishing agent flow. • The 'Illuminated warning panel' in the flooding zone goes out.

See also

Emergency abort device [→ 167]

9.7 Isolations

You can switch off certain functions for the flooding zone for special situations, e.g., during construction work.

The 'Disabled' LED lights up on the extinguishing terminal and on the 'PMI' when the extinguishing system functions are switched off. The display on the 'PMI' shows the isolation messages in the menu 'Message summary' > 'Isolation'.

Selecting the operation mode for the flooding zone enables you to activate the following isolations:

- 'Automatic blocked'
- 'Manual blocked'
- 'Automatic blocked' and 'Manual blocked'

You will find more information about the operation modes in chapter 'Operation modes [➙ 138]'. You will find information on changing the operation mode in chapter 'Selecting the operation mode of the flooding zone [➙ 192]'.

You can also activate the following isolations on the extinguishing terminal for the flooding zone:

- 'Actuator disabled'
- 'Fire controls disabled'
- 'Alarming devices OFF'*
- 'Generic controls disabled'*
- 'Device supervision OFF'*

* This isolation is optional and must be configured accordingly.

See also

- Operation modes [➙ 138]
- Selecting the operation mode of the flooding zone [➙ 192]

9.7.1 Switching triggering devices off / on

Switching on and off all 'Effects' functions which are activated with an 'Actuator/valve' type function, e.g., opening valves on the extinguishing agent cylinders.

⚠ WARNING

Switched off controls and monitoring functions

Switched off controls and monitoring functions prevent automated measures from working in a fire and may lead to injuries and damage.

- Deploy staff to monitor the affected areas.
- Switch controls and monitoring functions back on once the work is complete.

Switching off 'Actuator/valve' control effects

▷ The flooding zone is ready for operation.

- Press <Actuator Disable/Enable> on the associated extinguishing terminal.

⇨ The system switches off control effects which are triggered with an 'Effects' function of the 'Actuator/valve' type.

⇨ The 'Actuator disabled' LED on the extinguishing terminal lights up.

⇨ The 'PMI' display shows the message 'Actuator OFF' in the menu 'Message summary' > 'Isolation'.

Switching on 'Actuator/valve' control effects

▷ The 'Actuator disabled' LED on the extinguishing terminal lights up.

▷ The display on the 'Station' shows the 'Actuator OFF' message.

- Press <Actuator Disable/Enable> on the associated extinguishing terminal.

⇨ The system switches on control effects which are triggered with an 'Effects' function of the 'Actuator/valve' type.

⇨ The 'Actuator disabled' LED on the extinguishing terminal goes out.

9.7.2 Switching fire controls off / on

Switching on and off 'Effects' functions which are triggered with an 'Exting. fire control' function, e.g., the triggering of a door retainer.

⚠ WARNING

Switched off controls and monitoring functions

Switched off controls and monitoring functions prevent automated measures from working in a fire and may lead to injuries and damage.

- Deploy staff to monitor the affected areas.
- Switch controls and monitoring functions back on once the work is complete.

Switching off 'Exting. fire control' control effects

▷ The flooding zone is ready for operation.

- Press <Fire controls Disable/Enable> on the associated extinguishing terminal.

⇨ The system switches off control effects which are triggered with an 'Effects' function of the 'Exting. fire control' type.

⇨ The 'Fire controls disabled' LED on the extinguishing terminal lights up.

⇨ The 'PMI' display shows the message 'Fire controls OFF' in the menu 'Message summary' > 'Isolation'.

Switching on 'Exting. fire control' control effects

▷ The 'Fire controls disabled' LED on the extinguishing terminal lights up.

▷ The display on the 'Station' shows the 'Fire controls OFF' message.

- Press <Fire controls Disable/Enable> on the associated extinguishing terminal.

⇨ The system switches on control effects which are triggered with an 'Effects' function of the 'Exting. fire control' type.

⇨ The 'Fire controls disabled' LED on the extinguishing terminal goes out.

9.7.3 Switching alarm devices off / on

Switching all alarm devices in the flooding zone on and off.

Switching off alarm devices in the flooding zone automatically switches off the triggering devices in the flooding zone as well. Switching the triggering devices back on again thus automatically switches the alarm devices in the flooding zone back on again, too.

You will find more information on switching off the triggering devices in chapter 'Switching triggering devices off / on [→ 181]'.

⚠ WARNING

Switched off controls and monitoring functions

Switched off controls and monitoring functions prevent automated measures from working in a fire and may lead to injuries and damage.

- Deploy staff to monitor the affected areas.
- Switch controls and monitoring functions back on once the work is complete.

Switching off alarm devices

▷ The flooding zone is ready for operation.

▷ The switch-off function for alarm devices in the flooding zone is configured accordingly and is available on the extinguishing terminal.

- Press <Alarming devices Disable/Enable> on the associated extinguishing terminal.

⇨ The system switches off all alarm devices in the flooding zone.

⇨ The 'Alarming devices OFF' LED on the extinguishing terminal lights up.

⇨ The 'PMI' display shows the message 'Alarm devices OFF' in the menu 'Message summary' > 'Isolation'.

⇨ The system switches off control effects which are triggered with an 'Effects' function of the 'Actuator/valve' type.

⇨ The 'Actuator disabled' LED on the extinguishing terminal lights up.

⇨ The 'PMI' display shows the message 'Actuator OFF' in the menu 'Message summary' > 'Isolation'.

Switching on alarm devices

▷ The 'Alarming devices OFF' LED on the extinguishing terminal lights up.

▷ The 'Actuator disabled' LED on the extinguishing terminal lights up.

▷ The display on the 'Station' shows the 'Alarm devices OFF' message.

▷ The display on the 'Station' shows the 'Actuator OFF' message.

- Press <Alarming devices Disable/Enable> on the associated extinguishing terminal.

⇨ The system switches on all alarm devices in the flooding zone.

⇨ The 'Alarming devices OFF' LED on the extinguishing terminal goes out.

⇨ The system switches on control effects which are triggered with an 'Effects' function of the 'Actuator/valve' type.

⇨ The 'Actuator disabled' LED on the extinguishing terminal goes out.

Alternatively, the triggering devices can also be switched back on to switch on the alarm devices in the flooding zone.
You will find more information on switching the triggering devices on and off in chapter 'Switching triggering devices off / on [→ 181]'.

See also

Switching triggering devices off / on [→ 181]

9.7.4 Switching external device controls on / off

Switching on and off 'Effects' functions which are triggered with an 'External equipment' function. This could be a ventilation system, for example.

⚠ WARNING

Switched off controls and monitoring functions

Switched off controls and monitoring functions prevent automated measures from working in a fire and may lead to injuries and damage.

- Deploy staff to monitor the affected areas.
- Switch controls and monitoring functions back on once the work is complete.

Switching off 'External equipment' control effects

▷ The flooding zone is ready for operation.

▷ The switch-off function for external devices is configured accordingly and is available on the extinguishing terminal.

- Press <Generic controls Disable/Enable> on the associated extinguishing terminal.

⇨ The system switches off control effects which are triggered with an 'Effects' function of the 'External equipment' type.

⇨ The 'Generic controls disabled' LED on the extinguishing terminal lights up.

⇨ The 'PMI' display shows the message 'External equipment OFF' in the menu 'Message summary' > 'Isolation'.

Switching on 'External equipment' control effects

▷ The 'Generic controls disabled' LED on the extinguishing terminal lights up.

▷ The display on the 'Station' shows the 'External equipment OFF' message.

- Press <Generic controls Disable/Enable> on the associated extinguishing terminal.

⇨ The system switches on control effects which are triggered with an 'Effects' function of the 'External equipment' type.

⇨ The 'Generic controls disabled' LED on the extinguishing terminal goes out.

9.7.5 Switching monitoring functions off / on

This function globally switches off monitoring for error messages. In this case, the extinguishing system will not show, for example, when a monitored valve is in the wrong valve position for a certain system state.

⚠ WARNING

Switched off controls and monitoring functions

Switched off controls and monitoring functions prevent automated measures from working in a fire and may lead to injuries and damage.

- Deploy staff to monitor the affected areas.
- Switch controls and monitoring functions back on once the work is complete.

Switching off monitoring

▷ The flooding zone is ready for operation.

▷ The switch-off function for monitoring is configured accordingly and is available on the extinguishing terminal.

- Press <Device supervision Disable/Enable> on the associated extinguishing terminal.

⇨ The system globally switches off monitoring.

⇨ The 'Device supervision OFF' LED on the extinguishing terminal lights up.

⇨ The 'PMI' display shows the message 'Device supervision OFF' in the menu 'Message summary' > 'Isolation'.

Switching on monitoring

▷ The 'Device supervision OFF' LED on the extinguishing terminal lights up.

▷ The display on the 'Station' shows the 'Device supervision OFF' message.

- Press <Device supervision Disable/Enable> on the associated extinguishing terminal.

⇨ The system globally switches monitoring back on.

⇨ The 'Device supervision OFF' LED on the extinguishing terminal goes out.

9.8 Testing inputs and outputs

This chapter describes methods that can be used to test the correct assignment of inputs and outputs on the extinguishing card.

9.8.1 Visual check of inputs and outputs on the extinguishing card

One option for checking for the correct assignment or current errors in the individual inputs and outputs on the extinguishing card for a flooding zone is to visually check the control LEDs on the extinguishing card.

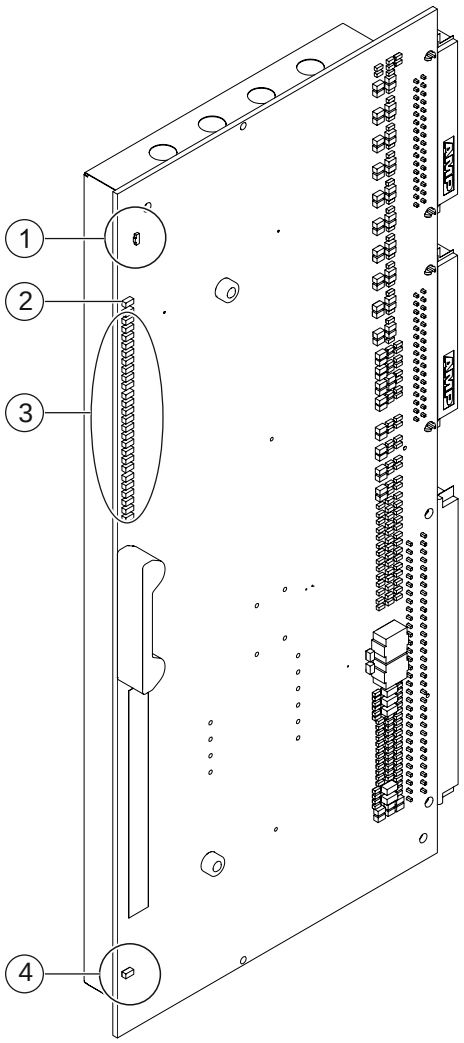


Figure 16: Control LEDs on the extinguishing card

1 H1: Control test mode

2 MSP: Module state

3 From top-to-bottom:
- O_1 to O_10: monitored outputs
- I_1 to I_10: monitored inputs
- D_1 to D_6: Outputs

4 HCS12: Module status

Characteristics of control LEDs

The table describes the control LEDs on the extinguishing card:

LED	Color	Function	Lighting mode	Description
H1	Red	Control test mode	Off	Control test mode is **off**.
			ON	Control test mode is **on**.
MSP	Yellow	Module state	Off	Normal condition
			Slow	Module error: • Ground fault
			Fast	Severe module error: • Supply fault • Severe iOmultiplexer error
			Pulsating	Module is not configured
O1...O10	Yellow	State of the monitored output	Off	Normal state: monitored output is not active
			Slow	Monitored error: • Open line • Short-circuit
			Fast	Error: • Fuse fault • Monitoring error
			Pulsating	Calibration: • No valid calibration of the output **or** • Calibration error **or** • Calibration running
			ON	Monitored output is active.
I1...I10	Yellow	State of the monitored input	Off	Normal state: monitored input is not active
			Slow	Error: • Open line • Short-circuit • Incorrect state • Residual current
			ON	Monitored input is active.
D1...D6	Yellow	State of the output	Off	Output is not active.
			ON	Output is active.
HCS12	Yellow	Module status	Off	Normal condition
			Flashes slowly	Degraded mode
			Flashes every 2 sec: 1x	Update is starting
			Flashes every 2 sec: 2x	Update active
			Flashes every 2 sec: 3x	Update failed
			Flashes rapidly	Checksum error in Flash memory. Update needed.

LED lighting pattern on the extinguishing card

Lighting mode	Lighting pattern
Off	The LED is permanently off.
Slow	On: 1.25 sec / Off: 0.75 sec
Fast	On: 0.25 sec / Off: 0.25 sec
Pulsating	On: 0.25 sec / Off: 1.75 sec
ON	The LED is permanently on.

Visually checking inputs and outputs on the extinguishing card

▷ The flooding zone is in the 'Quiet' state.

1. Open the cover cap to the fire control panel where the extinguishing card is installed.
2. Check the lighting pattern for the control LEDs for the inputs and outputs on the extinguishing card. You will find information about the LED characteristics in a separate section in this chapter.

9.8.2 Control test mode

The 'Control test mode' function can be used to collectively test the response of the inputs.

The 'Control test mode' function activates all inputs on the extinguishing card. At the same time, the extinguishing system freezes all outputs in their current states. This allows the inputs for activating the extinguishing system's 'Effects' functions to be tested without actually triggering them.

The 'Control test mode' function can be activated on the 'PMI' display.

Activating 'Control test mode'

▷ The flooding zone is in the 'Quiet' state.

▷ Required access level: 2.2

1. On the 'PMI' display, open the following path in the main menu: 'Topology' > 'Control tree' > 'Station xx' > 'Extg.gr xx'
2. Select the 'Execute commands' function in the softkey bar.
   ⇨ The system opens a list.
3. In the list, select the following: 'Control test'

⇨ The extinguishing system activates all inputs on the extinguishing card.

⇨ All outputs are frozen in their current state. The control LEDs for the outputs on the extinguishing card go out. You will find more information about the control LEDs on the extinguishing card in chapter 'Visual check of inputs and outputs on the extinguishing card [➞ 186]'.

⇨ The status LED on the extinguishing card lights up red.

⇨ The 'PMI' display shows the test message 'Control test mode' for the flooding zone.

⇨ The display on the extinguishing terminal shows the hardware address for the extinguishing card.

To analyze the test, you can use the 'Cerberus-Engineering-Tool' software to download the 'Event memory' list from the fire control panel.

Deactivating 'Control test mode'

▷ The 'Control test mode' function is switched on for a flooding zone.

▷ Required access level: 2.2

1. On the 'PMI' display, open the following path in the main menu: 'Topology' > 'Control tree' > 'Station xx' > 'Extg.gr xx'
2. Select the 'Execute commands' function in the softkey bar.
   ⇨ The system opens a list.
3. In the list, select the following: 'Control test END'

⇨ The activated inputs return to their original state.

⇨ The extinguishing system releases the frozen outputs again. The control LEDs on the extinguishing card light up to indicate the current activation state. You will find more information about the control LEDs on the extinguishing card in chapter 'Visual check of inputs and outputs on the extinguishing card [→ 186]'.

⇨ The status LED on the extinguishing card goes out.

⇨ The display on the extinguishing terminal no longer shows the hardware address for the extinguishing card.

See also

Visual check of inputs and outputs on the extinguishing card [→ 186]

9.8.3 Controlling individual outputs in the Person Machine Interface

For testing purposes, certain outputs on the extinguishing card can be manually activated on the 'PMI'.

To stop the extinguishing system from being triggered unintentionally, no outputs that are assigned to an 'Effects' function with function type 'Actuator/valve' can be triggered. The manual activation of outputs is only available for outputs that are assigned to an 'Effects' function of function type 'Exting. fire control' or 'External equipment'. You will find more information on the 'Effects' functions in document 'A6V10210424'.

Activating outputs on the 'PMI' display

▷ The extinguishing system is in the 'Quiet' state.

▷ Required access level: 2.2

1. On the 'PMI' display, open the following path in the main menu: 'Topology' > 'Control tree' > 'Station xx' > 'Extg.gr xx' > 'Extg.ct xx' > 'Effects xx' > 'OUTExtg xx'
   ⇨ The display shows the menu for the selected output.
2. Select the 'More options' function in the softkey bar.
   ⇨ The display shows a list.
3. In the list, select the following: 'Execute commands' > 'Activate'

⇨ The system activates the selected output and its assigned effect.

⇨ The 'PMI' display shows the activation message in the menu 'Message summary' > 'Activations'.

Deactivating outputs on the 'PMI' display

▷ An output is manually activated on the 'PMI' display.

▷ Required access level: 2.2

1. On the 'PMI' display, open the following path in the main menu: 'Message summary' > 'Activations'

   ⇨ The display shows the activation messages.

2. Use the navigation key to mark the required output.
3. Select the 'Execute commands' function in the softkey bar.

   ⇨ The display shows a list.

4. In the list, select the following: 'Deactivate'

⇨ The system deactivates the selected output and its assigned effect.

⇨ The 'PMI' display no longer shows the activation message.

9.9 System functions

This chapter describes the operation of discrete system functions of the extinguishing system on the extinguishing terminal.

You will find information on the applications of the extinguishing system, the associated extinguishing processes, and the operation sequences necessary upon occurrence or for activating the applications in chapter 'Applications and associated extinguishing processes'.

9.9.1 Switching access level on the extinguishing terminal

This chapter describes the methods available for switching access level on the extinguishing terminal.

9.9.1.1 Switching access level with the key switch

Enabling a higher access level with the key switch

▷ The key switch on the extinguishing terminal is in the vertical 'Off' position.

▷ The 'Access level' LED on the extinguishing terminal does **not** light up.

▷ Optional: The 'Access level' on the extinguishing terminal flashes and the LED matrix display shows 'KEY?' or 'PIN?' when a higher access level is required to execute a function.

1. Insert the key into the key switch.
2. Turn the key switch from the vertical 'Off' position to the horizontal 'On' position.

⇨ The access level is increased to the configured access level.

⇨ The 'Access level' LED on the extinguishing terminal lights up.

Resetting the access level to the initial level

▷ The key switch on the extinguishing terminal is in the horizontal 'On' position.

▷ The 'Access level' LED on the extinguishing terminal lights up.

- Turn the key switch from the horizontal 'On' position back to the vertical 'Off' position.

⇨ The access level is reset to the configured standard access level.

⇨ The 'Access level' LED on the extinguishing terminal goes out.

9.9.1.2 Switching the access level by entering the PIN

Enabling a higher access level with the PIN

The access level on the extinguishing terminal can only be increased to execute a function that requires a higher access level. Increasing the access level on the extinguishing terminal without a specific purpose is not possible.

▷ The 'Access level' LED on the extinguishing terminal flashes.

▷ The LED matrix display shows 'PIN?'.

- Use the input keys on the extinguishing terminal to enter the PIN.

⇨ The access level is increased to the configured access level.

⇨ The 'Access level' LED on the extinguishing terminal lights up.

Resetting the access level to the initial level

Once increased, the access level cannot be manually reset on the extinguishing terminal. After four minutes, starting from the last action performed on the extinguishing terminal, the extinguishing terminal automatically switches back to the configured standard access level.

9.9.1.3 Defining / changing the PIN

The PIN for the increased access level on the extinguishing terminal is defined or changed with the 'Cerberus-Engineering-Tool' software. You will find information on configuring the PIN for the extinguishing terminal in document 'A6V10210424'.

9.9.2 Selecting the operation mode of the flooding zone

▷ The flooding zone is ready for operation and is in the 'Quiet' or ''Pre-activated' phase' state.

▷ The operation mode 'Normal operation' is active. Neither the 'Manual blocked' LED nor the 'Automatic blocked' LED is lit up on the extinguishing terminal.

- Keep pressing <Mode> until you have selected the desired operation mode.

⇨ The flooding zone switches to the desired operation mode. The following LEDs light up each time you press <Mode>: 'Manual blocked' > 'Automatic blocked' > 'Manual blocked' + 'Automatic blocked' > none of the aforementioned LEDs light up (normal operation)

Faults, deactivated output signals, or interlocks to other flooding zones can mean that the system changes operation mode automatically. These changes in operation mode cannot be overridden manually on the extinguishing terminal.
If the causes of an automatic change of operation mode are eliminated, the flooding zone will remain in the last active operation mode. To change the operation mode of the flooding zone, the change of operation mode function must be reset to start with.
You will find information on resetting the automatic change of operation mode function in the following section: Link [➞ 192].

The system forces the flooding zone into the ''Released' phase' state if the pressure switch has detected an extinguishing agent flow. This happens regardless of the operation mode in place at the time.

Resetting the automatic change of operation mode function

▷ A fault, deactivated output signal, or automatic lock to another flooding zone can mean that the system automatically changes the operation mode for the flooding zone.

1. Press <Reset> on the associated extinguishing terminal.
   ⇨ The flooding zone switches to the 'Not ready' state.
2. Press <Mode> on the associated extinguishing terminal.
   ⇨ The flooding zone switches to the 'Quiet' state if the cause for the operation mode switch is no longer present and there are no further alarm signals in the flooding zone.
3. Keep pressing <Mode> until you have set the desired operation mode.

An increased access level may be required to reset the operation mode. You will find information on changing the access level in chapter 'Switching access level on the extinguishing terminal [➞ 190]'.

See also

- Selecting the operation mode of the flooding zone [➞ 192]
- Switching access level on the extinguishing terminal [➞ 190]

9.9.3 Switching off the buzzer on the extinguishing terminal

▷ The buzzer on the extinguishing terminal is active.

- Press <Silence buzzer> on the extinguishing terminal.

⇨ The buzzer on the extinguishing terminal switches off.

9.9.4 Switching sounders in the flooding zone on / off

Procedure for switching the acoustic alarm sounder in the flooding zone on and off.

Switch off sounder

▷ The sounder in the associated flooding zone is active.

▷ The flooding zone is in the "Pre-activated' phase' or "Released' phase' state.

- Press <Silence/Resound> on the extinguishing terminal.

⇨ The sounder in the flooding zone is muted.

The sounder sounds again automatically if the flooding zone switches to the "Activated' phase' state.

Switching the sounder on again

▷ The sounder in the associated flooding zone is off.

▷ The flooding zone is in the "Pre-activated' phase' or "Released' phase' state.

- Press <Silence/Resound> on the extinguishing terminal.

⇨ The sounder in the flooding zone switches on.

9.9.5 Ending the extinguishing process

End the extinguishing process and transfer the flooding zone to the 'Quiet' state.

▷ The flooding zone is in the 'Resettable' state.

▷ The 'Reset' LED on the extinguishing terminal flashes.

1. Press <Reset> on the associated extinguishing terminal.
   ⇨ The flooding zone switches to the 'Not ready' state.
2. Press <Mode> on the extinguishing terminal when there are no longer any automatic or manual alarms pending in the flooding zone.
   NOTICE! Manual call points must be reset manually after triggering.

⇨ The flooding zone switches to the 'Quiet' state. The extinguishing process is ended.

9.9.6 Lamp test

⚠ WARNING

Defective lamps

Defective lamps may lead to malfunctions. This could result in death or serious injuries.

- Check whether the integrated lamps are functioning on a regular basis.
- Replace any component with defective lamps immediately.

Lamp test on the extinguishing terminal

▷ The extinguishing system is ready for operation.

1. Press <LED test> on the extinguishing terminal.
   ⇨ All visible lamps on the extinguishing terminal should light up.
   ⇨ The buzzer on the extinguishing terminal should be audible.
2. Check that all visible lamps on the extinguishing terminal light up and the buzzer sounds.
   NOTICE! Replace any components with defective lamps or a defective buzzer immediately after the lamp test.
3. Press <LED test> again to end the test.

10 System description

This part of the document includes information on the setup and functions of the fire detection installation.

10.1 Overview

Acquisition ►► Evaluation ►► Alarming and control

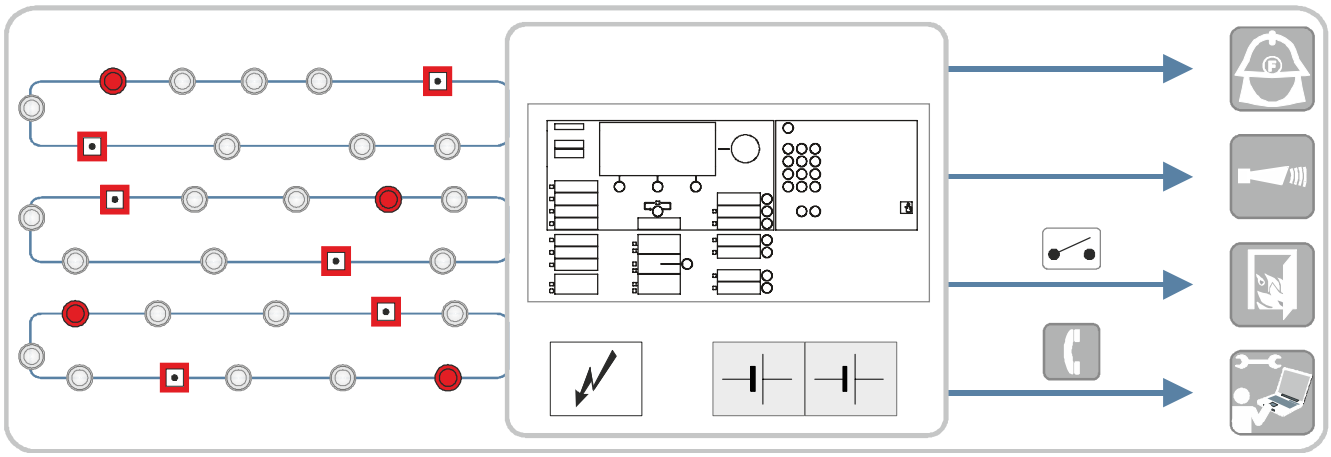


Figure 17: Graphic representation of a fire detection system

↑ Automatic fire detector

Sounder

Manual call point

Switching

Remote transmission

↑ Global alarming (e.g., fire brigade)

↑ Local alarming (e.g., horns)

↑ Fire control (e.g., doors)

Service intervention

Acquisition

Fire detectors detect fire phenomena, e.g., smoke, heat or carbon monoxide, and transmit signals to the control panel in the form of different ↑ danger levels.

Evaluation of the danger levels

The control panel evaluates the danger levels and decides whether to trigger alarms or not. In doing so, the control panel distinguishes between automatic and manual fire alarms, ↑ 'Pre-ALARM' and 'Degraded FIRE ALARM'.

Alarm events are allocated to the following event categories:

Event category for alarm events	Typical example	Activation/cause
'Pre-ALARM'	The detector detects a fire phenomenon with a low danger level	Detector sensor
'ALARM'	The detector detects a fire phenomenon with a high danger level	Detector sensor

Table 6: Event categories for alarm events

Evaluation of the system events

The fire control panel has comprehensive monitoring and self-monitoring functions. Deviations from the normal operation mode are recognized as a system event.

System events are allocated to the following event categories:

Event category for system events	Typical example	Activation/cause
'Fault'	• Faulty ↑ detector line • Mains failure detector	Short-circuit, open line or malfunction
'Isolation'	A detector zone has been switched off	Operation or control
'Test'	A detector zone is switched to Test	Operation
↑ 'Technical message'	Fault or danger from extraneous equipment	Sensor or contact
'Activation'	A control is activated	Operation or control
'Information'	• Access level • 'Manned operation' operation mode	State

Table 7: Event categories for system events

Alarming

The different fire alarms and system events are verified independently from one another. Depending on the configuration, ↑ local alarming or direct or delayed ↑ global alarming is actuated.

- Local alarming:

  Local ↑ alarming equipment (e.g., acoustic or optical alarm devices) is actuated in order to call up immediately available intervention personnel (e.g., in-house staff) and to alert people of a possible fire hazard.
- Global alarming:

  Global alarming equipment (e.g. remote transmission) is actuated and external intervention forces (e.g. the fire brigade) are alerted.

The following points influence the type of alarming:

- Configuration of the alarming process
- Position of 'Manned operation'/'Unmanned operation' operation mode
  - 'Manned operation': Personnel present on site
  - 'Unmanned operation': No personnel present on site
- Type of alarm activation (automatic or manual)

Control

In the event of fire it makes sense to initiate first, decisive actions automatically. Automatic measures are carried out by controls, e.g., by the control of building services, evacuation or ↑ extinguishing.

10.2 Topology

The configuration of an 'FS720' fire detection installation is created in the following structure trees:

- ↑ 'Hardware tree'
- ↑ 'Detection tree'
- ↑ 'Control tree'
- 'Operation tree'
- ↑ 'Network tree'

The structure is created by installing in the building and configuring the fire detection installation. The elements of the individual structure trees are assigned to one another via channels.

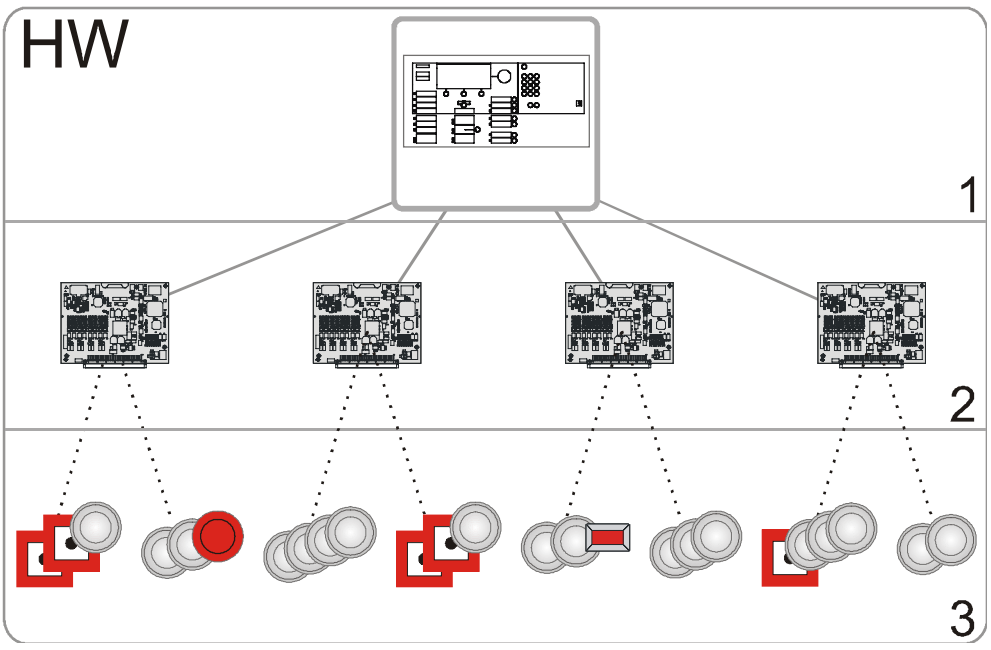
Thanks to a hierarchical topology and arrangement into zones, events can be assigned geographically and shown accordingly. This enables commands to be given to consolidated parts of the ↑ site, for example.

10.2.1 Hardware tree

The 'Hardware tree' represents the installed hardware. The individual elements of the 'Hardware tree' are structured as follows:

- ↑ 'Station'
- 'Module'
- 'Line'
- 'Device'
- ↑ 'Physical channel'

'Hardware tree' example



1	'Station'
2	'Module'
3	'Device'
Dotted line	'Line'

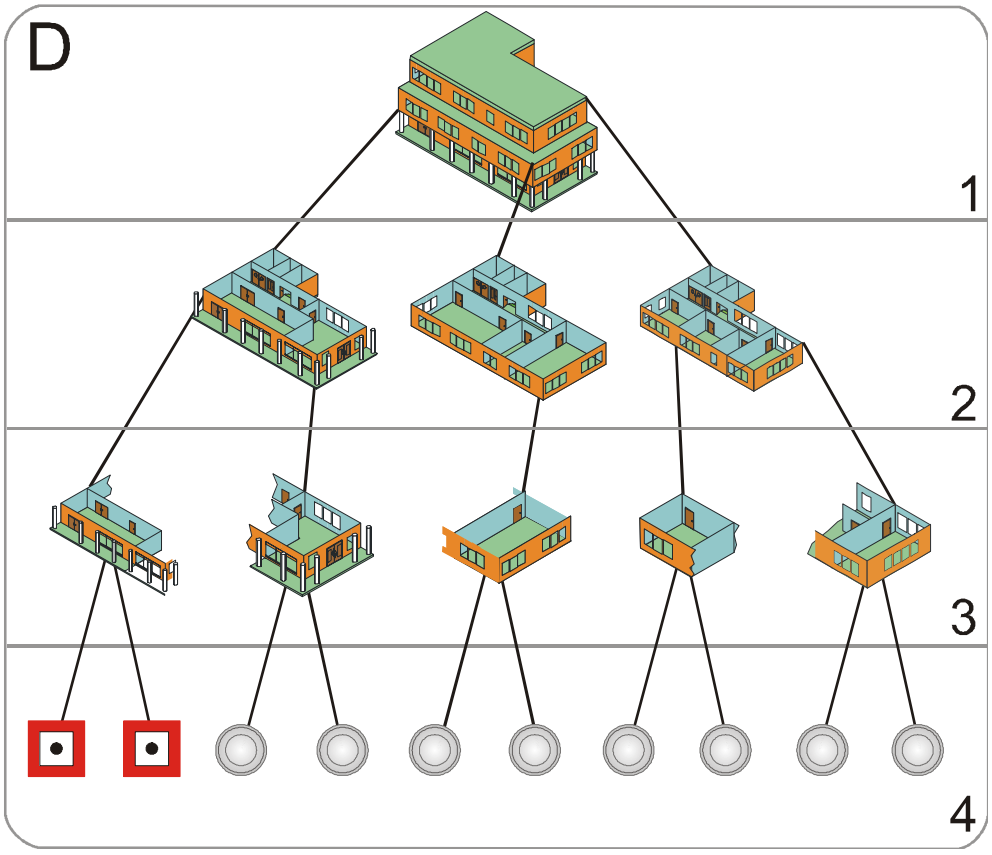
10.2.2 Detection tree

The 'Detection tree' is an image of the geographic and functional conditions in a ↑ 'Site'. It is adapted to the building structure and room use. The 'Detection tree' is independent from the line arrangement of the detector network.

'Detection tree' elements and typical representation

- ↑ 'Area'
  - Building
- ↑ 'Section'
  - Floor or staircase
- ↑ 'Zone'
  - Room
- 'Channel'
  - Logical detector function

'Detection tree' example



1 'Area'

2 'Section'

3 'Zone'

4 'Channel'/ 'Detector'

10.2.2.1 Elements of the detection tree

'Area'

- 'Area' typically corresponds to a building.
- 'Area' combines 'Sections' which are subject to the same 'Manned operation'/'Unmanned operation' operation mode.
- 'Area' actuates the ↑ alarming equipment (acoustic and ↑ optical alarm devices as well as remote transmission).
- 'Area' is assigned the following functions:
  - ↑ 'Manned operation'/↑ 'Unmanned operation' operation mode
  - Switching assigned 'Sections' on/↑ off

Several 'Areas' are possible per control panel:

- FC722, FC723, FC724: up to four 'Areas'
- FC726 up to eight 'Areas'

There is an 'Area' that groups together the functions of alarm verification (AVC), e.g. collective alarms and degraded mode operation.

'Section'

- 'Section' combines 'Zones' to form logical units. Such a unit can be e.g. a floor or a staircase.
- 'Section' is assigned the following function:
  - Switching assigned 'Zones' on/off

'Zone'

- 'Zone' generally combines the detectors in a room.
- 'Zone' evaluates the danger levels transmitted by the detectors. The configured combination of different danger levels defines the conditions upon which an 'ALARM' is triggered.
- The following fire alarm zone types exist:
  - 'Automatic zone'
  - 'Manual zone'
  - 'Technical zone'
  - 'FSE zone'
  - 'Flow switch zone' (sprinkler)
  - 'Sub-system zone'
- The following extinguishing zone types exist:
  - 'Sprinkler zone'
  - 'XC10 zone'

'Channel'

The 'Channel' in 'Detection tree' represents the functionality of the inputs and outputs of an C-NET device.

10.2.2.2 Operation modes of the detection tree elements

'Area'

- 'Manned operation'

  In 'Manned operation' operation mode, operating personnel are present and can investigate the fire location. The detectors are set to normal sensitivity, in accordance with the selected ↑ parameter set.

- 'Unmanned operation'

  In the 'Unmanned operation' operation mode, there are no operating personnel present to investigate the fire location. The sensitivity level of the detectors or their parameter sets are typically increased by switching to 'Unmanned operation' operation mode.

The settings for the 'Manned operation'/'Unmanned operation' operation modes are defined in the chapter Alarm Verification Concept (AVC).

'Zone'

- Switched on (normal operation)

  Danger levels are evaluated and 'ALARMS' produced in normal operation. The detectors have a normal sensitivity level, in accordance with the selected parameter set.

- Switched off

  If a 'Zone' is switched off, the channels assigned to the 'Zone' are isolated. No signals are evaluated, neither danger levels nor 'Faults'.

  There are two isolation functions:

  – Isolation without time limits
  – Isolation with time limits

- ' --Renovation mode'

  This operation mode is not assigned a function.

- 'Detector test'

  In the 'Detector test' operation mode, detectors can be actuated for test purposes. When a detector is triggered, a test activation message is generated.

  ↑ Alarm devices or controls are not activated.

  The following devices are activated:

  – Internal alarm indicators
  – ↑ External alarm indicators in accordance with the configuration
  – Base sounders if they are in the base of the activated detector

  During testing the detectors must react quickly so that the holding times are short. During the 'Detector test', the detectors are switched to increased sensitivity with the 'Test' parameter set for this purpose.

  After terminating the 'Detector test' operation mode, the detectors and 'Zones' are reset to the condition they were in before the 'Detector test'.

- 'Installation test'

  An 'Installation test' can be performed during normal operation. The alarm devices and controls are activated.

  In the test the detectors must react quickly so that the holding times are short. During the 'Installation test', the detectors are switched to increased sensitivity with the 'Test' parameter set for this purpose.

  After terminating the 'Installation test' operation mode, the detectors and 'Zones' are reset to the condition they were in before the 'Installation test' operation mode.

'Channel'

- Switched on (normal operation)

  In the normal operation, the danger levels of the detector as well as any 'Faults' are transmitted to the 'Zone' for evaluation.
- Switched off

  If a 'Channel' is switched off, no signals are forwarded to the 'Zone', neither danger levels nor 'Faults'.

10.2.2.3 Functions of the detection tree elements

'Area': Switching the operating mode

- The 'Unmanned operation' operation mode is manually switched to 'Manned operation'. Switching is not possible when 'ALARMS' have occurred and need to be dealt with.
- The 'Manned operation' operation mode is automatically or manually (configurable) switched to 'Unmanned operation'. Four time settings can be configured for this, regardless of the day of the week:
  - The first time setting is for automatic changeover.
  - The second, third and fourth time setting is for safety reasons, in case somebody switches to 'Manned operation' after the expiry of the first, second or third automatic changeover.
- Blocking switchover
  - If an 'ALARM' has occurred in the 'Area' and is waiting for treatment, the switchover function from 'Manned operation' to 'Unmanned operation' is blocked.
  - It is still possible to switch from 'Unmanned operation' to 'Manned operation'.
- Switching functions on and ↑ off
  - All functions available for the 'Zones' are also available as collective functions at area level.

  Examples:
  - Switching all automatic 'Zones' on and off.
  - Switching all manual 'Zones' on and off.
- 'Poll alarm counter'
  - The alarm counter counts the number of alarm states of the 'Area'.
  - The alarm state is the state from the first 'ALARM' to the successful reset.

'Section': Switching the 'Zones' on and off

- All 'Zones' of the same kind (automatic/manual) can be switched off and on within the section. 'Zones' with automatic fire detectors and 'Zones' with manual call points are treated differently.

'Zone': Reset behavior of the manual call points

- The reset behavior of an activated manual call point can be selected:
  - 'ALARM' can always be reset; 'Glass broken' is indicated.

    or
  - 'ALARM' cannot be reset.
- ↑ Blocking of the isolation
  - If the isolation blocking function has been configured, the 'Zone' cannot be switched off.

- 'Detector test' timeout
  - After the expiry of a configurable delay the system automatically cancels the 'Detector test' state. This function can be deactivated.
- Switching devices back on
  - When devices are switched back on, they are in an undefined state for a short period. The ↑ 'Station' changes to the 'Not ready' state for this timespan.
- Simulation function
  - With the simulation function the 'Zone' switches from the normal operation mode to 'Pre-ALARM' and then to 'ALARM'. The controls are activated as if the detectors had triggered an 'ALARM'. Reset is performed by means of the keys on the ↑ PMI.

10.2.3 Control tree

The 'Control tree' represents the control in the fire detection system. ↑ control groups are grouping units for configuration and operation.

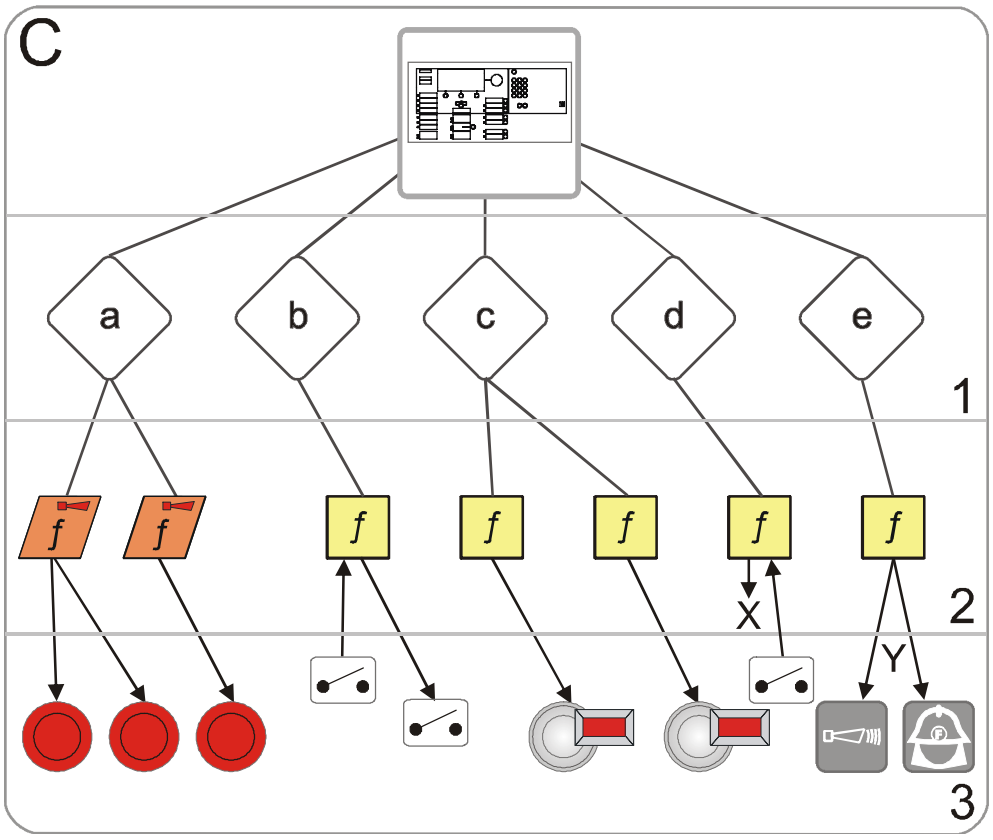
Control groups in 'Control tree'

- 'Alarming control group'
- ↑ 'Fire control group'
- 'Evac control group'
- 'Counter control group'

Each control group has one or more elements, each of which includes an input (cause) and an output (↑ effect).

- Elements of the 'Alarming control group' are controls for internal and external ↑ alarm devices
  - Remote transmission outputs for 'Fire' and 'Fault'
  - Eight more remote transmission outputs
- Elements of 'Fire control group' are controls for building equipment.
- Elements of 'Evac control group' are controls for alarm and announcement devices.

Effects in 'Control tree' (example)



C	'Control tree'
1	5 control groups (a - e)
2	Controls
3	Devices and remote transmission, 2 circuits
Lines	Logical ↑ assignment
Arrows	Signal transfer
a	'Evac control group'
b	'Fire control group', e.g., for door controls
c	'Fire control group' for alarm indicators (external AI)
d	'Fire control group' for commands
X	E.g., ↑ switching off, commands to other parts in the site
e	'Alarming control group' for alarm devices and remote transmission
Y	↑ Local or ↑ global alarming

10.2.4 Operating tree

The following elements and settings are represented in the Operation tree:

- Global system configuration
- Display and operator units such as:
  - ↑ Person Machine Interface (PMI)
  - ↑ Floor repeater terminal and ↑ floor repeater display
  - Mimic display
  - Event printer

Global system configuration

The global system configuration has the following elements:

- Global behaviour
  - Events (event configuration)
  - Commands ('Access level' assignment)

The behavior set here is always valid unless a different behavior is set locally.

- Master clock: The master clock is automatically assigned to the first ↑ station (address 1).
- Country settings: Settings are undertaken here for localization and changing between summer and winter time.

Person Machine Interface (PMI)

The PMI is a permanent part of the station. The following settings can be configured in the Operation tree:

- Basic settings with definition of default access level for the key switch and time period during which the display returns to the normal display from an operating display.
- ↑ Visibility:

  A detailed description of the visibility can be found in the corresponding chapter.
  - Standard visibility
  - Standby visibility
  - Expanded visibility
- LEDs for signaling events and statuses (causes):
  - Event with defined, local visibility.
  - Event with optional, global visibility on a particular element from the ↑ Hardware tree, ↑ Detection tree, or ↑ Control tree.
- Standard keys:

  Frequently used functions can be assigned to the configurable standard keys.
  - Views, e.g. message indicator, customer text view, fire brigade view
  - Commands, e.g. activate/deactivate, test, configuration ('Set PS MANNED', 'Switch to UNMANNED', etc.).
- Favorite keys:

  The favorite keys are in the display menu. There is a maximum of eight favorite keys of which three are preconfigured. Frequently used functions can be assigned to the favorite keys.

Floor repeater terminal FT2010

The following settings can be configured in the Operation tree:

- Visibility
- Cause for activating the LEDs
- Views and commands for the function keys

Floor repeater display FT2011

The following settings can be configured in the Operation tree:

- Visibility
- Cause for activating an LED

Mimic display

There are two possible ways of configuring the LED indicator (internal) FTO2002 and the LED module FTO2008-A1:

- Visibility of the 24 LED groups (red/yellow) or (red/green, yellow) on a ↑ Section or ↑ Zone.
- Visibility of each of the 48 LEDs on any event.

Mimic display driver FT2001

The mimic display driver activates up to 48 LEDs which are fitted on a ground plan panel. Communication is via the C-NET.

The mimic display driver also has two control outputs for local buzzer and 'System On' LED along with two inputs for 'Silence buzzer' and 'START LED test'.

Event printer

The event printer logs all events of the ↑ site in the configured view.

Fire brigade periphery [DE]

The fire brigade periphery comprises the following devices:

- Fire brigade operating panel (FBF)
- Fire brigade key depot (FSD)
- Fire brigade display terminal (FAT)
- FAT with FBF

FSD is assigned to the fire brigade periphery module FCI2001.

FBF can either be connected via the fire brigade periphery module FCI2001 or an RS485 interface.

FAT and FAT with FBF are connected to the station via a serial interface RS 485.

To configure the devices, the logical element must be created in the 'Operation' task card and assigned to the corresponding hardware element.

10.2.5 Network tree

The network tree represents the networking of an FS720 system.

Networking types

The ↑ stations in the fire detection system can be networked in the following way:

- ↑ SAFEDLINK (↑ system bus)
- SAFEDLINK, extended: Coupling of several SAFEDLINK sub-nets via C-WEB/LAN (optical Ethernet)
- Electric Ethernet (does not comply with EN 54)
- SAFEDLINK and Ethernet mixed (does not comply with EN 54)

Connection types/functions

The stations in the network can have the following connection types/functions:

- ↑ Standalone station
- ↑ SAFEDLINK station: Station in the SAFEDLINK network
- ↑ Router station: Station in the SAFEDLINK sub-net connected to the C-WEB/LAN
- ↑ Ethernet station: Station in the Ethernet sub-network to which no more stations are connected via SAFEDLINK
- ↑ GAP station: Station in the network for connecting to a ↑ management station (↑ BACnet client)
  - The GAP station has the function of a DHCP server (configurable)
  - The DHCP server automatically issues IP addresses to the clients from a defined IP address space. This enables a PC to receive local access, for example
- A route to an external IP router can be defined for the GAP station

Extended networking

↑ Extended networking is the merging of several SAFEDLINK sub-nets via C-WEB/LAN, which is managed as optical Ethernet in loop topology.

The sub-networks communicate via the router stations.

Private/external network

- Private network: FS720 fire detection installations have their own cabling. The IP addresses come from a reserved range for private networks
- External network: Fire detection installations can be incorporated in an existing IT infrastructure as sub-nets
- Integration in an external network does not comply with EN 54

Connection with management stations

The connection between management stations or other sub-systems and the FS720 sub-system is established via BACnet/Ethernet.

A management station is connected to the FS720 sub-system via the GAP's Ethernet interface. Every single station that is to use the BACnet protocol must be enabled with a ↑ license key. The license key must support the BACnet function for management stations.

You will find more information about license keys in document A6V10210362. See chapter 'Applicable documents'.

10.2.6 Assigning with the hardware tree

Components can be allocated to a geographical location in the system. This assignment is a ↑ link.

Geographical allocation

Each device in the ↑ 'Hardware tree' has a unique address. In ↑ 'Detection tree', it is possible to allocate room x on floor y to the device, for example.

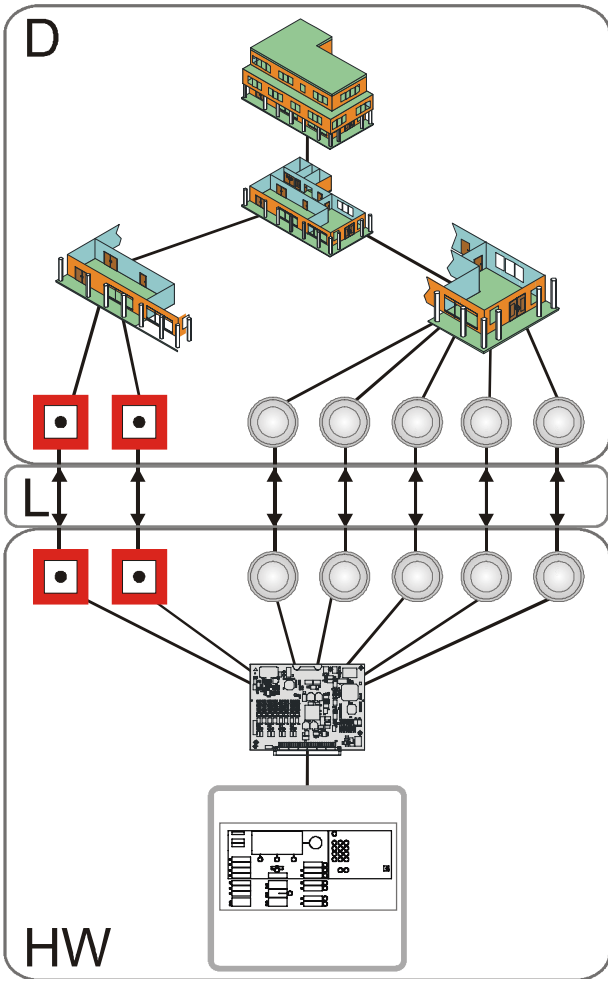


Figure 18: Sample assigning of the detection tree to the hardware tree

D	'Detection tree'
L	Assignment
HW	'Hardware tree'

The physical and the ↑ logical channel of a device are assigned between the 'Detection tree' and 'Hardware tree'.

The ↑ physical channel is the lowest level in the 'Hardware tree' and maps the physical function of a device.

The logical channel is the lowest level in the 'Detection tree' and maps the logical function of a device.

10.2.7 Functional allocation

In the ↑ 'Control tree', a function is assigned to a device from the ↑ 'Hardware tree', for example a monitoring function (cause) is assigned to an input or a control function (effect) is assigned to an output.

In the 'Control tree', the function of a logical element from the ↑ 'Detection tree' is evaluated (cause) or controlled (effect). For example, the alarm condition of the 'Zone' is evaluated or the 'Zone' is switched on or off.

The figure below shows the interrelations of the aforementioned structures by way of example.

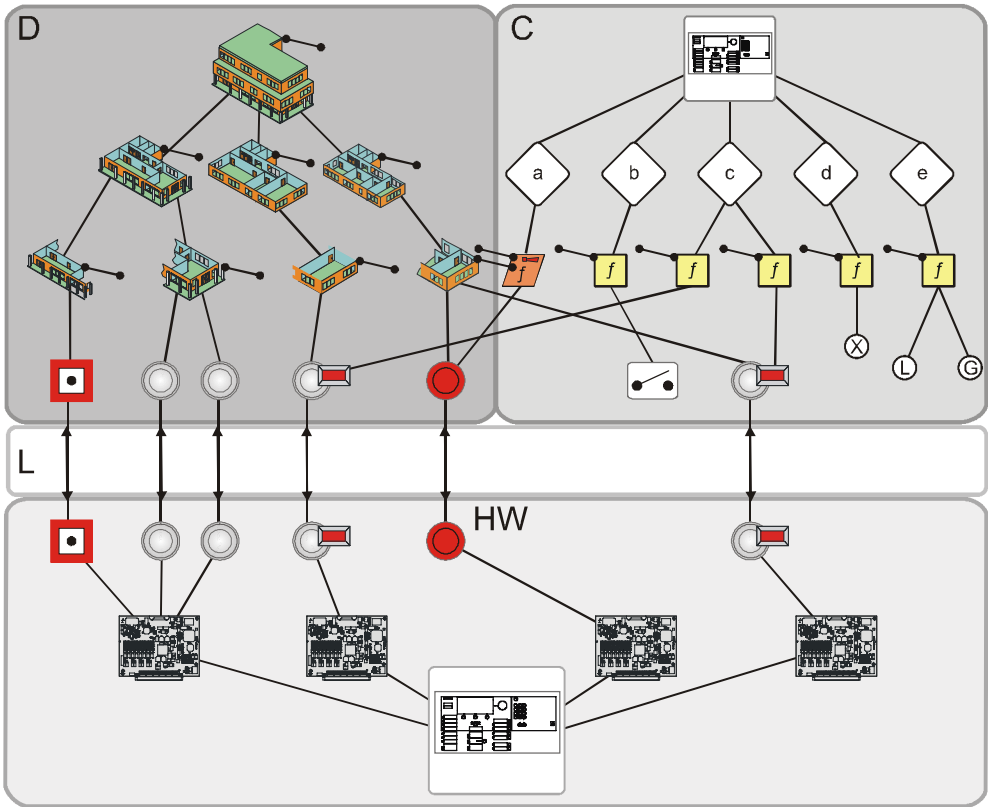


Figure 19: Example of functional assignment

D	'Detection tree'
C	'Control tree'
L	↑ Assignment
HW	'Hardware tree'
a - e	↑ Control groups
f	Controls
X	E.g., ↑ switching off, commands to other parts of the site

L	↑ Local alarming ↑ Alarming equipment (e.g., acoustic or optical alarm devices) is actuated in order to call up immediately available intervention personnel (e.g., in-house staff) and to alert people of a possible fire hazard.
G	↑ Global alarming Alarming equipment (e.g. remote transmission) is actuated and external intervention forces (e.g. the fire brigade) are alerted.
	Visualization of the assignment from causes and effects via controls
Lines	Signal transfer or logical assignment

10.3 Acquisition

The detectors detect the fire phenomena, e.g., smoke, heat, or carbon monoxide, and transmit the ↑ danger level to the ↑ 'Zone'.

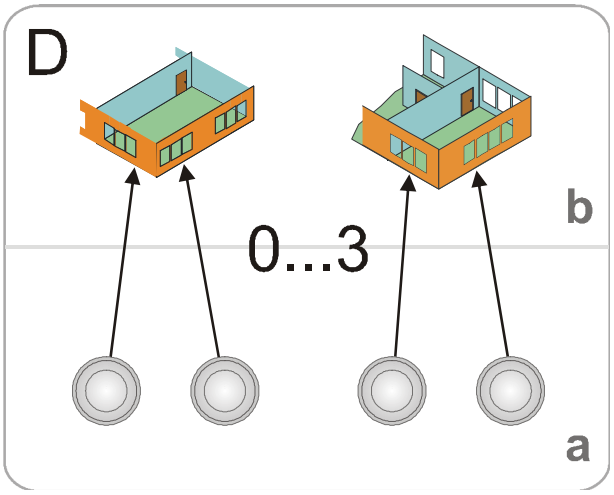


Figure 20: Information flow of the danger levels

D	↑ 'Detection tree'
a	Detector / channel
b	'Zone'
0…3	Danger levels

Overview of danger levels, divided according to line type and detector type

Danger level	Addressed detector line		↑ Collective detector line	Technical input
	Automatic	Manual		
0	No danger	No danger	No danger	No danger (entry contact opened)
1	Possible danger	Button not pressed	↑ Detector line resetting	–
2	Probable danger	–	Alarm verification of the first alarm is running	Danger • Input contact closed • Input configured as not relevant for degraded mode
3	Highly probable danger	Button pressed, danger	Highly probable danger	Danger • Input contact closed • Input configured as not relevant for degraded mode

Table 8: Danger levels

10.4 Evaluation

The evaluation of the ↑ danger level and the decision to trigger an 'ALARM' or not takes place in the ↑ 'Zone'.

The danger levels of several alarming detectors are combined in the 'Zone'. The following zone types exist:

- 'Manual zone'
- 'Automatic zone'
- 'Technical zone'
- 'FSE zone'
- 'Sprinkler zone'
- 'XC10 zone'

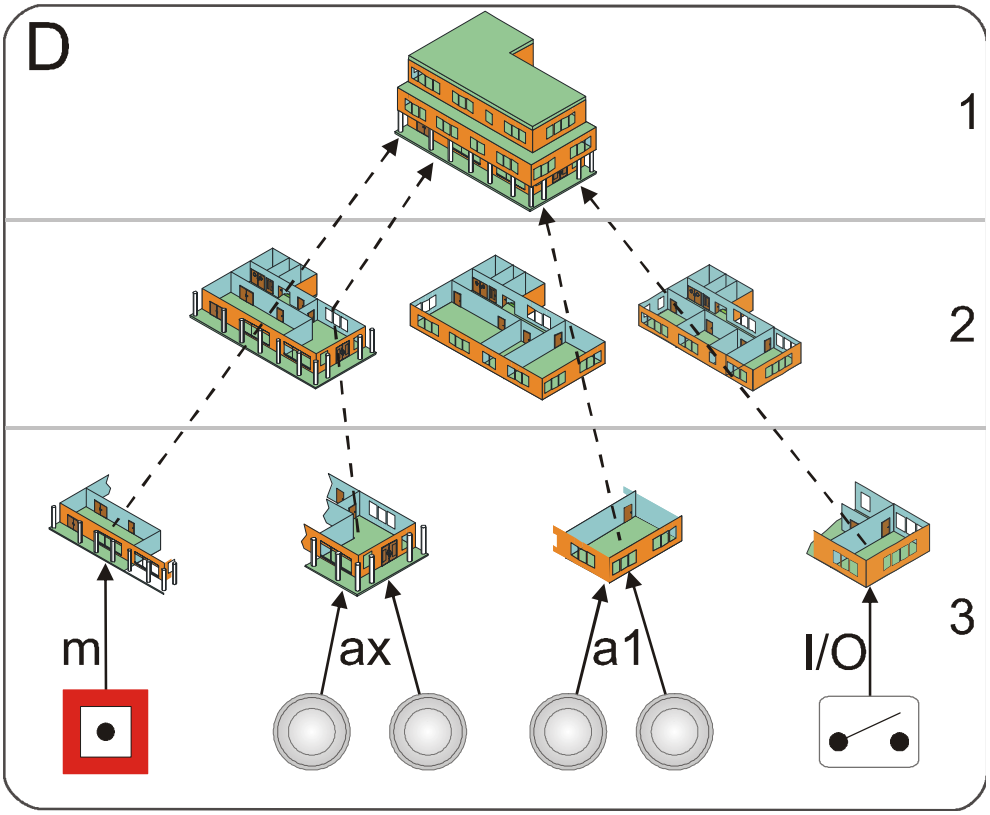


Figure 21: Information flow of alarm and pre-alarm

D	↑ 'Detection tree'
1	↑ 'Area'
2	↑ 'Section'
3	'Zone'
m	'Manual zone'
ax	Automatic detector zone with ↑ multi-detector dependency
a1	Automatic detector zone with ↑ single-detector dependency
I/O	'Technical zone'
Dashed arrows	'ALARM' / ↑ 'Pre-ALARM'

'Manual zone'

A 'Manual zone' combines the 'Manual call points'. Danger signals are evaluated by means of an OR relation. Each detector of a 'Manual zone' can generate 'ALARM', but not 'Pre-ALARM'.

'Automatic zone'

A 'Automatic zone' combines 'Automatic detectors'. The 'Automatic zone' can generate 'Pre-ALARM' and 'ALARM'. A distinction is made between the following detector dependencies:

- ↑ Multi-detector dependency

  With multi-detector dependency, the ↑ danger levels of several detectors are linked (AND relation) and evaluated. A 'Pre-ALARM' or 'ALARM' is generated when the defined danger levels have been reached.

  Several evaluation variants are possible in multi-detector dependency.

- ↑ Single-detector dependency

  With single-detector dependency the danger levels of one or more detectors are linked (OR relation). A 'Pre-ALARM' or 'ALARM' is generated as soon as at least one detector has reached the defined danger level.

Sample criteria for 'Pre-ALARM' or 'ALARM'

Alarm level	Single-detector dependency	Multi-detector dependency
'Pre-ALARM'	1 x danger level 2	1 x danger level 2 or 3
'ALARM'	1 x danger level 3	2 x danger level 2 or 3

Table 9: Alarm levels

'Technical zone'

In a 'Technical zone', inputs for ↑ technical messages are combined, e.g., fault or danger by extraneous equipment.

'FSE zone'

A release element is assigned to this zone. With the release element, a fire alarm is generated manually, which in turn releases the lock to the 'Key depots' with the keys for the building. To operate the release element, a key is required which is exclusively in the possession of the fire brigade.

'Sprinkler zone'

A sprinkler system is a piping system that is terminated at several locations with sprinkler heads. It is normally fed by the public network of hydrants.

The sprinkler station is installed directly after the house feed. It separates the sprinkler network from the hydrant network due to overpressure in the sprinkler network.

The sprinkler station signals when the sprinkler network is opened somewhere and water begins to flow. This condition is reported to the fire control panel via a contact (or two as an option) and triggers an alarm with immediate response from the fire brigade.

In larger sprinkler systems, the piping system is distributed over several floors and the supply network has an outlet on every floor. Flow rate indicators are built into each outlet.

The flow rate indicators generate a signal when there is a flow.

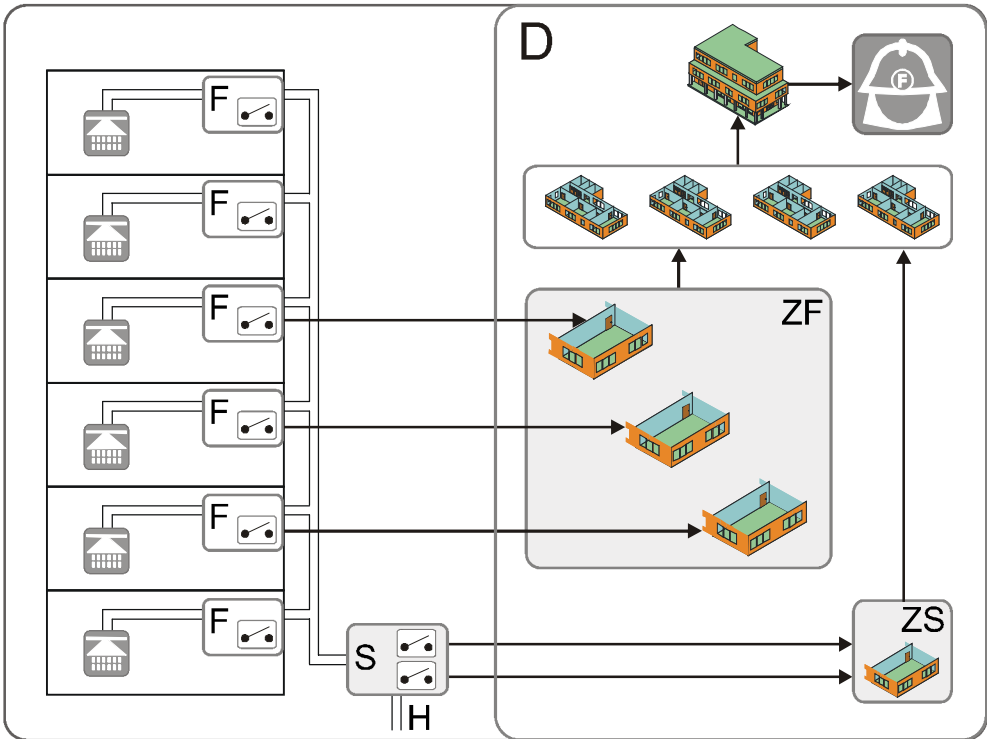


Figure 22: Information flow for sprinklers

D	↑ 'Detection tree'
F	Flow rate indicator
S	Sprinkler station with one or two contacts (cause)
H	Hydrant network
ZF	'Flow switch zone'
ZS	'Sprinkler zone'
Arrows	Signal transfer

'XC10 zone'

Extinguishing is actuated and monitored by the autonomous extinguishing control unit XC10.

An interface to the extinguishing control unit makes it possible to send extinguishing control unit functions to the fire control panel, and to transmit commands from the fire control panel to the extinguishing control unit.

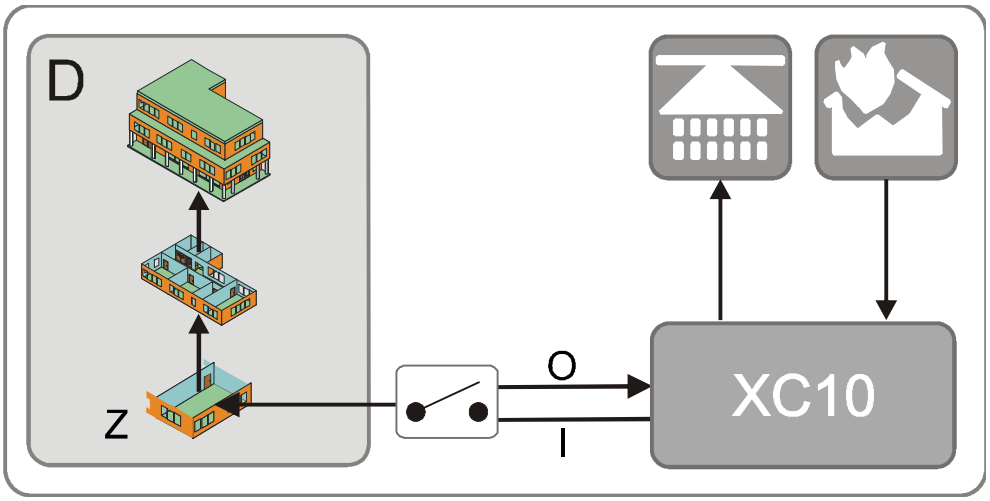


Figure 23: Information flow from the extinguishing control unit XC10

D	↑ 'Detection tree'
XC10	Extinguishing control unit
I	Extinguishing control unit inputs: 'Extinguishing activated', 'Fault', 'Pre-alarm', 'Autom. + manual extinguishing OFF'
O	Extinguishing control unit outputs: 'Reset', 'Autom. Blocking extinguishing activation, 'Autom. + manual extinguishing activation blocked'
Z	'XC10 zone'

You will find detailed information in the Technical Documentation of the extinguishing control unit XC10, document 008399. See chapter 'Applicable documents'.

10.5 Control

Alarm events and system events may occur in a fire detection installation. It is the task of the fire control unit to alert people and/or initiate appropriate actions based on the different event categories. This is achieved with the different control types:

- ↑ Alarming control
- 'Fire control'
- 'Evac control'
- ↑ Extinguishing control

The alarming control is described in the chapter "Alarm Verification Concept (AVC)".

Sample control

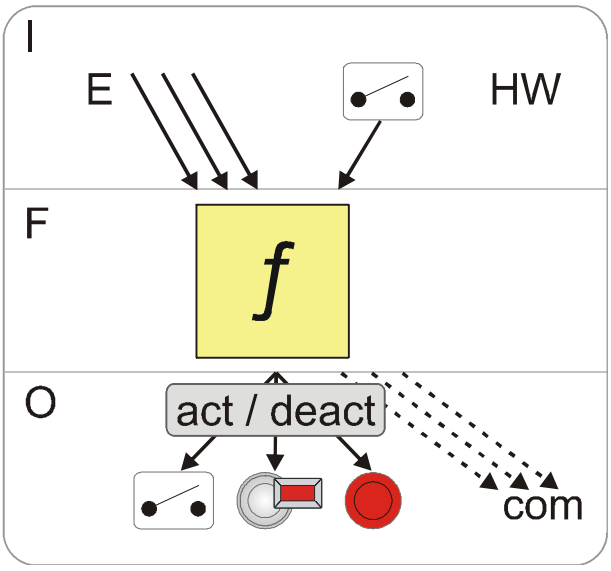


Figure 24: Sample control function

I	Causes
F	Control
O	↑ Effects
E	Events ('ALARM', 'Fault', 'Isolation', test mode, etc.)
act / deact	Activate / deactivate
com	Command

Causes are any events such as 'ALARM', 'Fault', 'Isolation', test mode as well as signal inputs (contacts).

The **control** has an 'OR / AND / NOT' combination of the causes that have occurred.

The **effects** of the control are the activation or deactivation of outputs. The actuated outputs can be combined with inputs for confirmation.

Effects are also commands within the fire detection system, e.g. for the isolation of a 'Zone' or for changing a detector parameter set.

10.5.1 Fire control

In the event of a fire, different measures are initiated automatically, such as:

- The closing of fire dampers and fire doors
- ↑ Switching off fans and air conditioning systems
- The descending of elevators

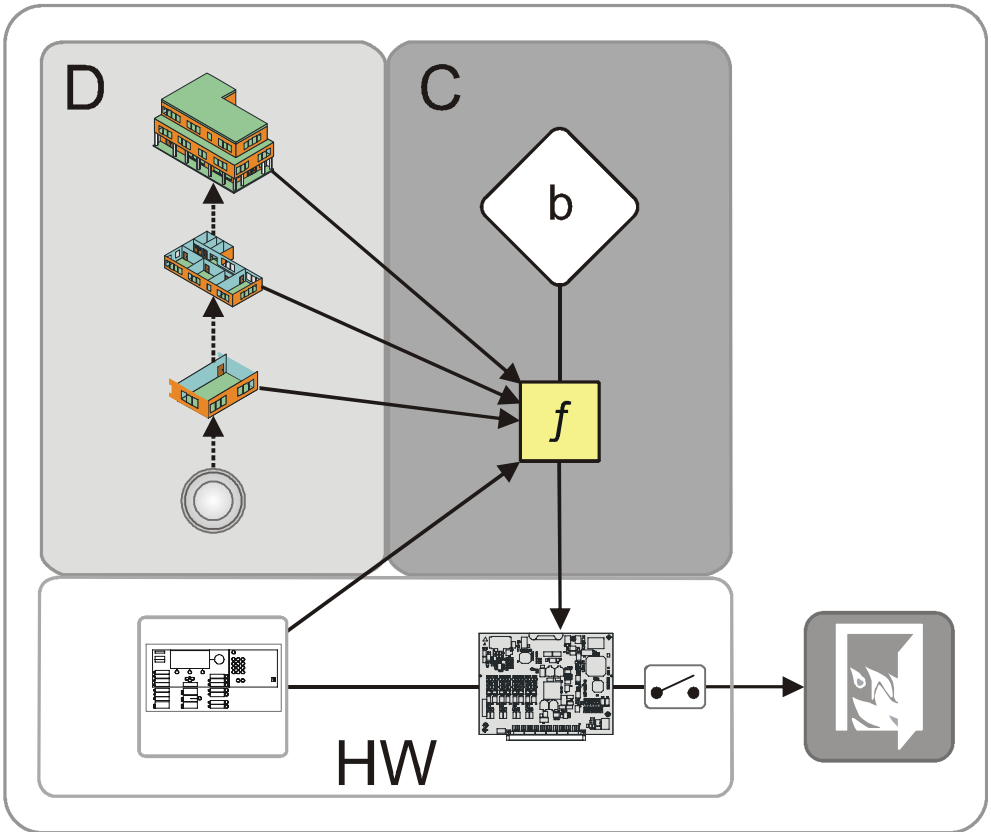


Figure 25: Information flow for fire control

D	↑ 'Detection tree'
C	↑ 'Control tree'
b	↑ 'Fire control group'
f	'Fire control'
HW	↑ 'Hardware tree'

10.5.2 Evacuation control

'Evac control' makes it possible to configure a complete evacuation function for each ↑ alarm device zone, e.g., on one floor.

Two function blocks are available for each control:

- 'Alert'
  - The assigning of all conditions, so that the corresponding alarm devices transmit a warning signal.
- 'Evac'
  - The assigning of all conditions, so that the corresponding alarm devices transmit an evacuation signal.

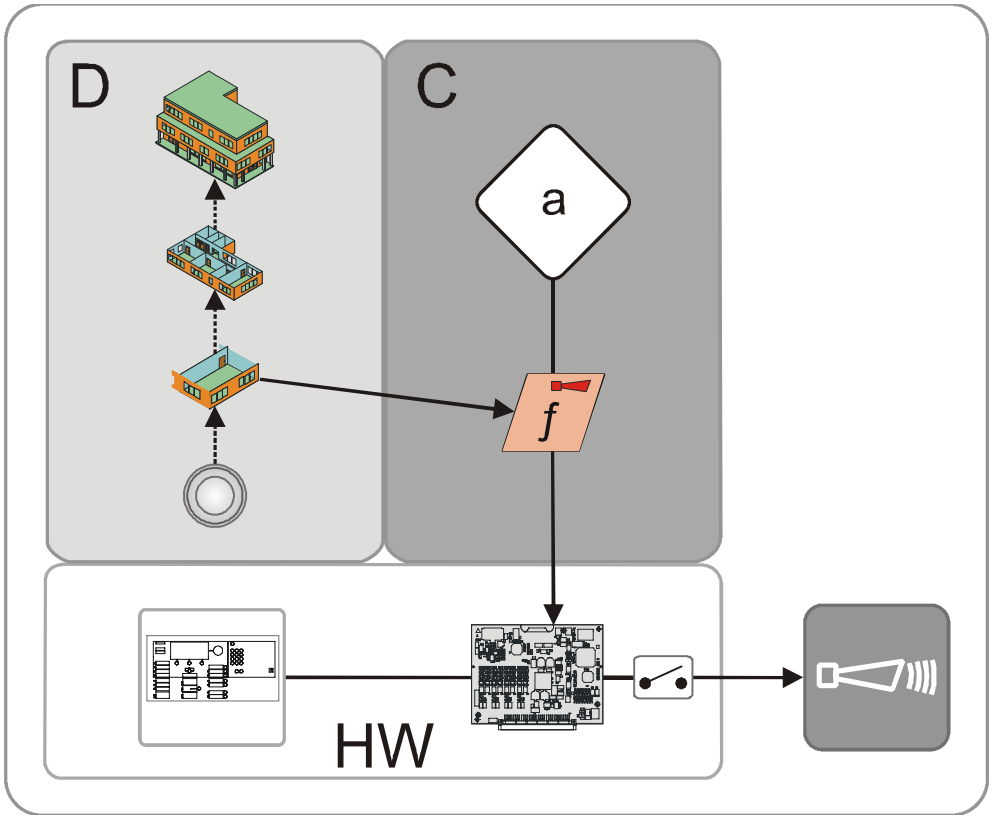


Figure 26: Information flow for evacuation control

D	↑ 'Detection tree'
C	↑ 'Control tree'
a	'Evac control group'
f	'Evac control'
HW	Hardware

In 'Evac control group' two different controls are possible:

- 'Universal sounder evac control' ('Evac')
- 'Phased sounder evac control' ('Alert' / 'Evac')
- 'Phased voice evac control' ('Alert' / 'Evac')
- 'Prioritized voice evac control' ('Alert' / 'Evac')

Events from ↑ 'Station', ↑ detector line, ↑ 'Section', or ↑ 'Zone' (cause) trigger an 'Evac control'.

'Universal sounder evac control'

'Universal sounder evac control' is suited for horns that do not allow two-phased (multi-channel) alarming.

For the ↑ alarming equipment (outputs, alarm devices) on the control outputs (effects), it is possible to choose different tones for alerting ('Alert') and evacuation ('Evac').

'Phased evac control'

With 'Phased evac control', initiation of the alarming equipment (outputs, alarm devices) is effected separately for alerting ('Alert') and evacuation ('Evac').

Application [GB]: First, all floors are warned ('Alert'). After that, the evacuation ('Evac') of individual floors is perfomed at particular intervals (phases), starting with the floor on which the seat of the fire is located, in order to prevent blocking of the escape routes.

This application may be different for different parts of a building.

- In the first phase the floor on which the fire is located as well as the one above and the two top floors, all basement floors and possibly the ground floor are evacuated.
- In additional phases, one upper and one lower floor are also evacuated at predefined intervals. If need be, additional floors can be evacuated during the same phase.

Example of evacuation in the event of a fire on the 4th Floor

Sequence 'Phased evac control'					
10		'Alert'	'Evac' → → →		
9		'Alert'	'Evac' → → →		
8		'Alert' → → →			'Evac' → → →
7		'Alert' → → →		'Evac' → → →	
6		'Alert' → → →		'Evac' → → →	
5		'Alert'	'Evac' → → →		
4		'Alert'	'Evac' → → →		
3		'Alert' → → →		'Evac' → → →	
2		'Alert' → → →		'Evac' → → →	
1		'Alert' → → →			'Evac' → → →
EG		'Alert' → → →			'Evac'
UG		'Alert'	'Evac' → → →		

1…10	Floor	'Evac'	Evacuation
EG	Ground floor	'Alert'	Alarming
UG	Basement		

The following 'Phased evac control' can be configured:

- 'Phased sounder evac control': For applications with pure alarm sounders without voice output
- 'Phased voice evac control': For applications with sounders that can play voice messages as well as tones

'Prioritized voice evac control'

Prioritized voice evac. controls are also suitable for phased evacuation applications with voice output. They do, however, have the following differences in comparison to phased voice evac controls:

- Except for the 'Causes EVAC FIRE (+DEGRADED MODE)' cause group, all other cause groups can be given an individual priority.
- For the 'Evac' phase, the 'Causes EVAC EMERGENCY' cause group can also be configured for emergencies that are not caused by fire.
- The 'Causes CUSTOM 1' and 'Causes CUSTOM 2' elements can be used to create cause groups for which all available voice messages can be configured.

10.5.3 Extinguishing control with sprinkler

A sprinkler system is a piping system that is terminated at several locations with sprinkler heads. It is normally fed by the public network of hydrants.

The sprinkler station is installed directly after the house feed. It separates the sprinkler network from the hydrant network due to overpressure in the sprinkler network.

The sprinkler station signals when the sprinkler network is opened somewhere and water begins to flow. This condition is reported to the fire control panel via a contact (or two as an option) and triggers an alarm with immediate response from the fire brigade.

In larger sprinkler systems, the piping system is distributed over several floors and the supply network has an outlet on every floor. Flow rate indicators are built into each outlet.

The flow rate indicators generate a signal when there is a flow.

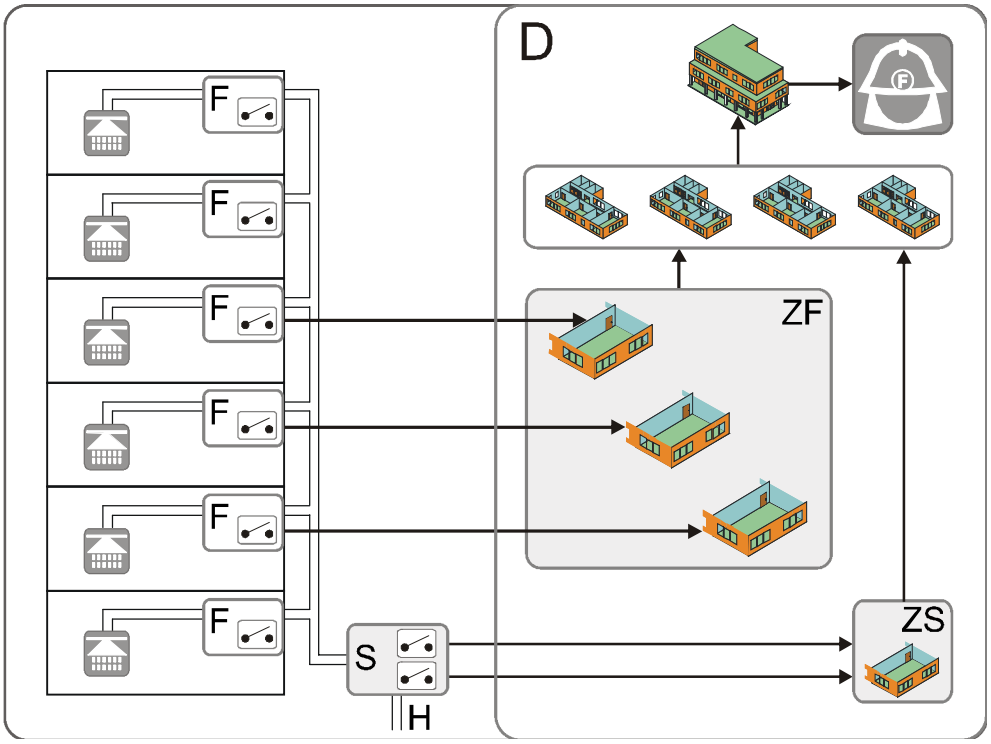


Figure 27: Information flow for sprinklers

D	↑ 'Detection tree'
F	Flow rate indicator
S	Sprinkler station with one or two contacts (cause)
H	Hydrant network
ZF	'Flow switch zone'
ZS	'Sprinkler zone'
Arrows	Signal transfer

10.5.4 Extinguishing control with extinguishing control unit XC10

Extinguishing is actuated and monitored by the autonomous extinguishing control unit XC10.

An interface to the extinguishing control unit makes it possible to send extinguishing control unit functions to the fire control panel, and to transmit commands from the fire control panel to the extinguishing control unit.

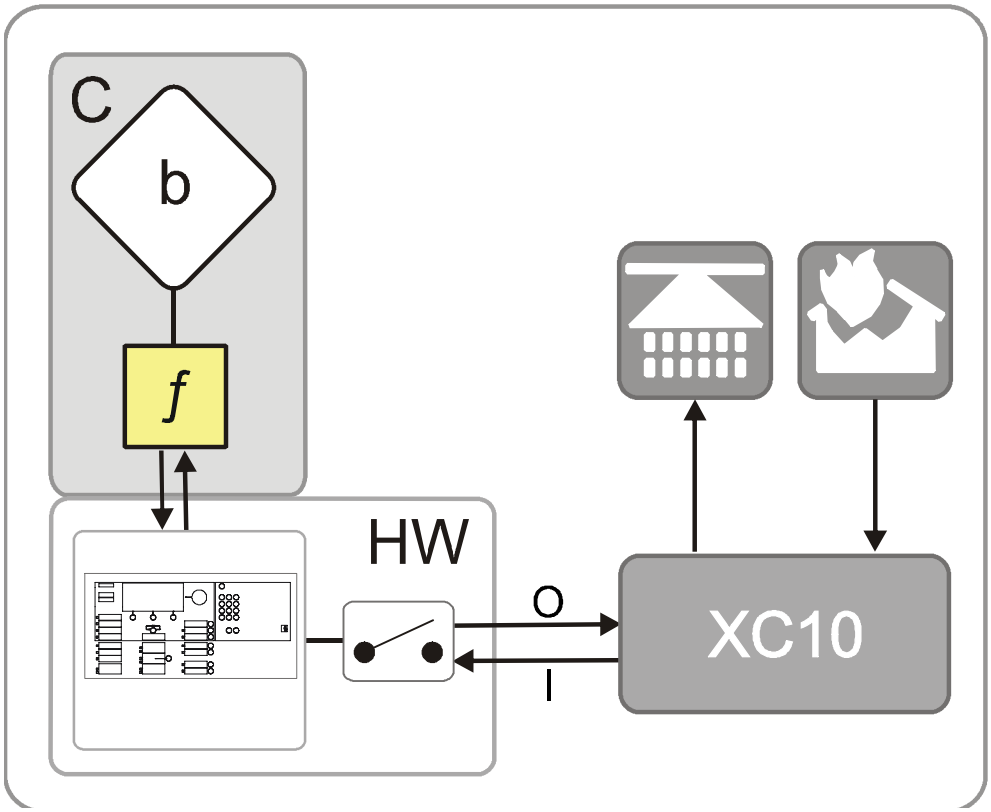


Figure 28: Information flow for extinguishing control

C	Control tree	XC10	Extinguishing control unit
b	Extinguishing control group	I	Extinguishing control unit inputs: 'Extinguishing activated', 'Fault', 'Pre-alarm', 'Autom. + manual extinguishing OFF'
f	Extinguishing control	O	Extinguishing control unit outputs: 'Reset', 'Autom. Blocking extinguishing activation, 'Autom. + manual extinguishing activation blocked'

Detailed information can be found in the Technical Documentation of the extinguishing control unit XC10, document ID 008399.

10.5.5 Damper control

Damper control actuates fire dampers and/or smoke dampers via input/output modules on the C-NET.

Example of fire damper control

A fire damper control corresponds to the ventilation zone.

Fire damper control could be activated by a fire alarm, for example. In the event of a fire alarm, the open fire dampers are closed.

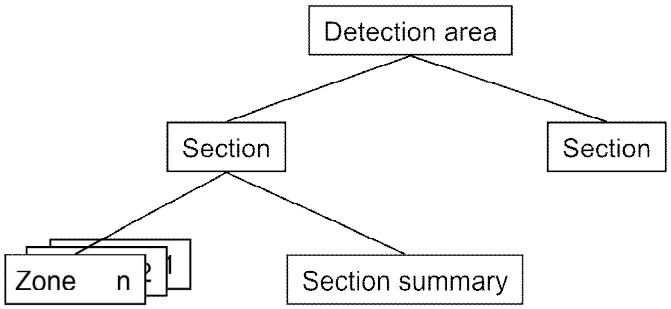
Example of smoke damper control

Smoke damper control could be activated by an input, for example. If the input is activated by the fire brigade, the smoke dampers are opened.

Communication with Desigo PX sub-system

FS720 uses BACnet objects of the 'Binary Value' and 'Multi-State Value' types to communicate with the Desigo PX sub-system so that the fans can be controlled via Desigo PX controllers. FS720 monitors the connection to the Desigo PX sub-system so that the fire dampers will be closed if the connection is lost. FS720 communicates the following events to the Desigo PX sub-system:

- Fire alarm combinations, so the Desigo PX controllers will switch off the fans in the event of a fire:
  - The 'Section summary' uses the 'BACnet alarm notification in section enabled' property to send alarm information to the subsystems via a binary value object at section level. The 'Section summary' shows a fire alarm below the relevant section in the subtree. The 'Section summary' is activated in the 'Global behaviour' element in Engineering Tool. You will find more information in document A6V10210424.



- Status of dampers

Operating the dampers via Desigo PX

The Desigo PX sub-system transmits manual commands for opening or closing the dampers to FS720 over BACnet. For example, the fire brigade can open the dampers manually once the fire has been extinguished in order to extract the smoke. For this purpose, a key switch can be connected to Desigo PX.

Subject to the configuration of the BACnet priorities, manual commands from Desigo PX can take priority over the commands of the automatic damper control.

Configuring BACnet priorities

The BACnet priorities for automatic damper controls and for manual damper control via an FS720 operating terminal are configured in the 'Global behaviour' element in Engineering Tool. See document A6V10210424.

EDE export

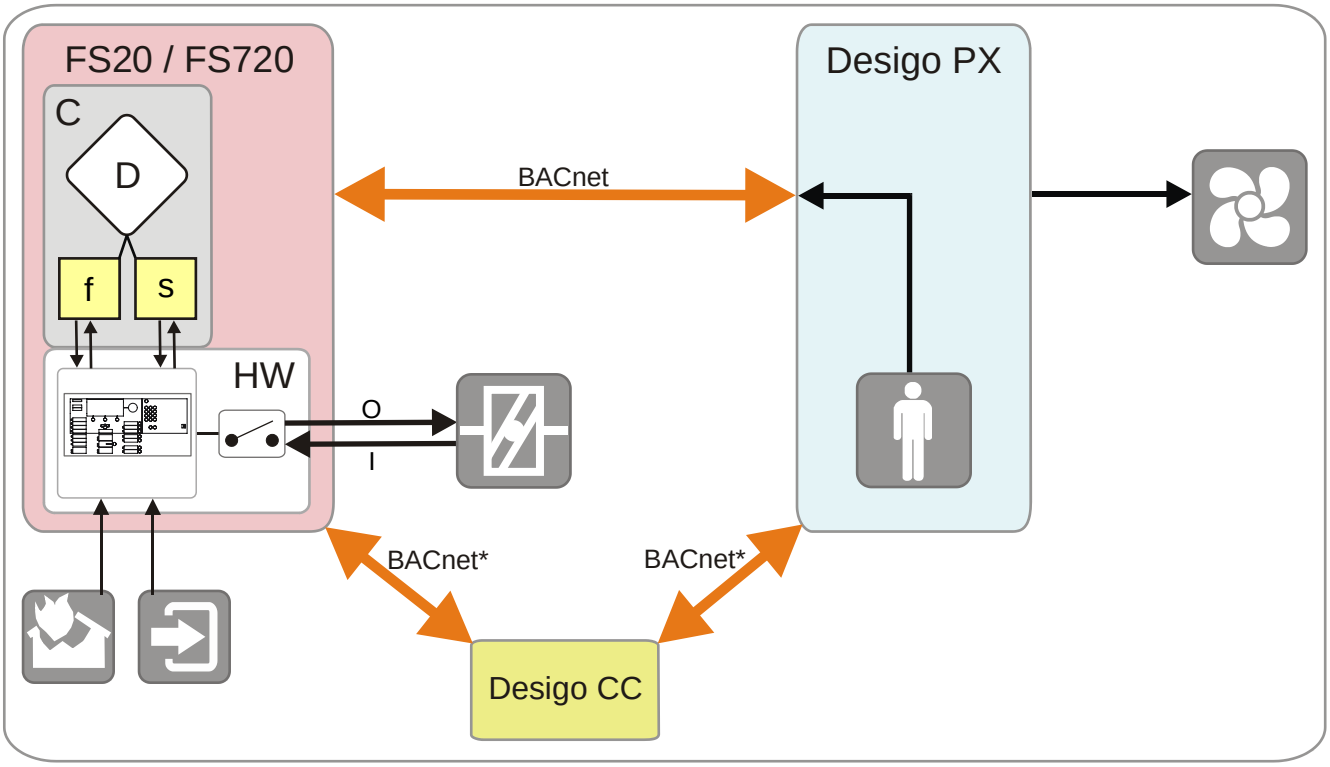
The BACnet parameters for damper control and for the fire alarm combinations can be exported to an EDE file in Engineering Tool. The EDE file can then be used in Desigo PX to configure the Desigo PX controller so that BACnet communication with the FS720 takes place correctly.

You will find more information on performing an EDE export in document A6V10210424.

Communication with Desigo CC

As an option, the FS720 and the Desigo PX sub-system can communicate with Desigo CC over BACnet. FS720 transmits the status of the dampers to Desigo CC. The Desigo PX sub-system transmits the status of the fans to Desigo CC.

Information flow for damper control



C	Control tree	*	Optional
D	Damper control group		Fan
f	Fire damper control with causes and effects		Damper
s	Smoke extraction control with causes and effects		Manual commands on the Desigo PX sub-system
HW	Hardware		Fire
O	Outputs to fire dampers		Input, e.g., switch for manual operation
I	Inputs from fire dampers		

10.5.5.1 Damper control states and message texts on the display

When the damper control is activated/deactivated, the operating states of the damper actuators are shown on the display. This makes it possible to analyze any faults that occur while the actuator is opening or closing.

The damper control state and the display of this state on the PMI are dependent on the parameter value for 'Tolerance 'open'' OR on the state of the 'Main damper'.

Fire damper control

Control state	Message text on the display	Operating state of the fire damper actuator
Active	Damp.ct1 Closed/confirmed Damper 1/1 Closed/confirmed Damper 1/3 Closed/confirmed	Closed
	Damp.ct1 Closed/confirmed Damper 1/1 Closed/confirmed Damper 1/3 NOT closed	Not fully closed
	Damp.ct1 Closed/confirmed Damper 1/1 Closed/confirmed Damper 1/3 Open/unexpected	Actuator not moving; mechanical problem
		Open line
Transition from active > inactive	Opening..	Transition from closed > open Damper opening
Inactive	No message	Open
	Damp.ct1 NOT open Damper 1/3 NOT open	Not fully open
	Damp.ct1 NOT open Damper 1/3 Closed/unexpected	Actuator not moving; mechanical problem
		Open line
		Thermostat active or in test mode
Transition from inactive > active	Closing..	Transition from open > closed Damper closing
Active or inactive	Position undefined	Both actuator switches are closed due to a fault

Smoke damper control

The following table shows an example. The actual operating state that is assumed by the damper actuator when the control is activated and deactivated depends on the wiring. See chapter 'Assignment of effects dependent on wiring' in document A6V10210424.

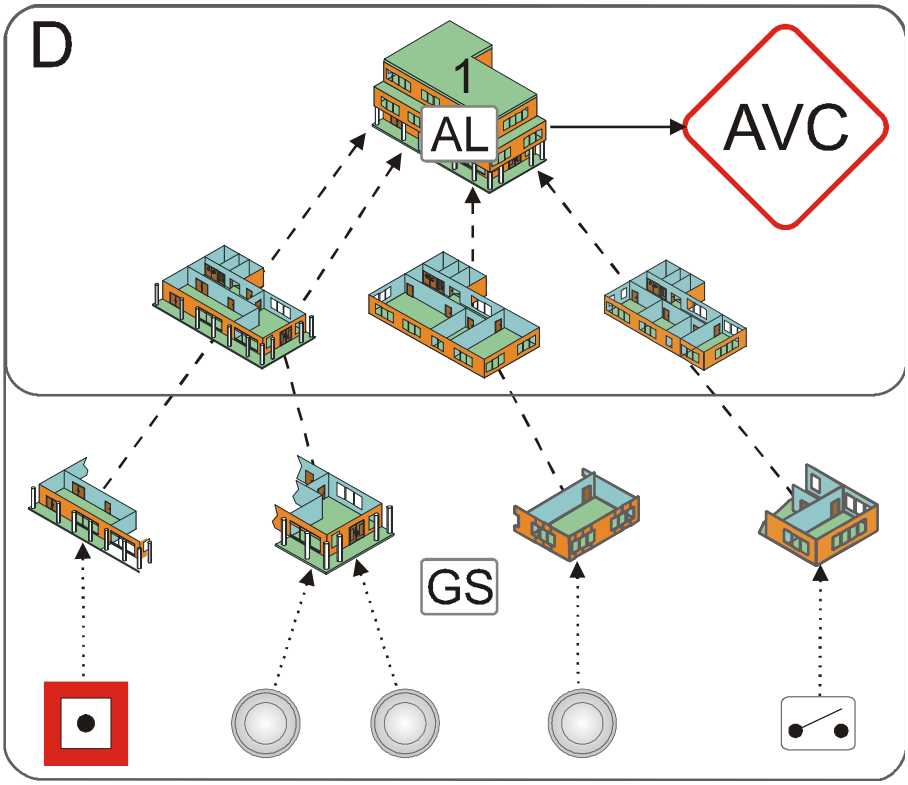
Control state	Message text on the display	Operating state of the smoke damper actuator
Activation	Damp.ct2 Active/confirmed Damper 2/1 Active/confirmed	Open
	Damp.ct2 Active/confirmed Damp.ct2 NOT active Damper 2/1 NOT active	Not fully open
	Damp.ct2 NOT active Damper 2/1 Unexp. quiet pos.	Actuator not moving; mechanical problem
		Open line
Deactivation	No message	Closed
	Damper 2/1 NOT in quiet pos.	Not fully closed
	Damp.ct2 NOT in quiet pos. Damper 2/1 Active/unexpected	Actuator not moving; mechanical problem
		Open line
Active or inactive	Position undefined	Both actuator switches are closed due to a fault

10.6 Alarm verification concept (AVC)

The 'Alarm Verification Concept' serves the purpose of delayed alarm transmission and takes into account the interaction of the operating personnel in the alarming sequence.

Operating personnel are able to examine the indicated fire location in the event of a fire alarm. In the event of a ↑ false alarm or ↑ minor incident, the intervention of the fire brigade can be avoided.

Information flow of 'ALARM' and 'Pre-ALARM'



D	↑ 'Detection tree'	AL	↑ 'Pre-ALARM' / 'ALARM'
AVC	Alarm verification concept	GS	↑ Danger levels
1	↑ 'Area'		

The 'Area' receives 'Pre-ALARMS' or 'ALARMS' from 'Zones'. Alarm verification takes place at 'Area' level.

Configuration for 'Pre-ALARMS' and 'ALARMS' is not related within 'AVC'. The type of verification and alarming can be separately configured for the 'Manned operation' and 'Unmanned operation' operation modes.

'ALARMS' of 'Manual zones' and 'Automatic zones' 'Zones' as well as 'Degraded FIRE ALARM' can be configured differently.

A maximum of one 'AVC' is possible per 'Area'.

10.6.1 Attendance check

Should an event ('Pre-ALARM', 'ALARM') arise, the operating personnel may acknowledge presence within the time t1. After acknowledgement, the investigation time t2 starts. If presence is not acknowledged within the given time t1, ↑ global alarming is activated.

10.6.2 Investigation time

During the investigation time t2 the operating personnel may examine the indicated source of alarm and check the cause of the 'ALARM':

- Is it a real fire = Major incident?
- Is it a smoldering waste-paper basket = Minor incident?
- Has the ↑ installation detected a deceptive phenomenon = False alarm?

In the event of a major incident (emergency), the nearest 'Manual call points' or <Alarm delay off> must be pressed. "Immediate global alarming" is then triggered.

In the case of a ↑ minor incident or ↑ false alarm the operator may reset the 'ALARM' and cancel alarming.

If the 'ALARM' is not reset within the given time t2, 'Immediate global alarming' is activated.

10.6.3 Example of a verification process

Alarm verification proceeds as follows:

- An alarm event activates ↑ local alarming and starts the time t1 for attendance check.
- Operating personnel acknowledge 'ALARM' on the operating terminal prior to the expiry of t1. Acknowledging normally silences local alarming (configurable feature).

If there is no acknowledgment, ↑ global alarming is activated after the expiry of t1.

- After acknowledgement, the investigation time t2 starts. During time t2 operating personnel investigate the fire location.
  - In the case of a minor incident the operator resets the 'ALARM' at the nearest operating terminal. The alarming process stops, and no global alarming is activated.
  - In the event of a fire, the nearest 'Manual call points' or <Alarm delay off> must be pressed. 'Immediate global alarming' is triggered.

If there is no reset, 'Immediate global alarming' is also activated after the expiry of t2.

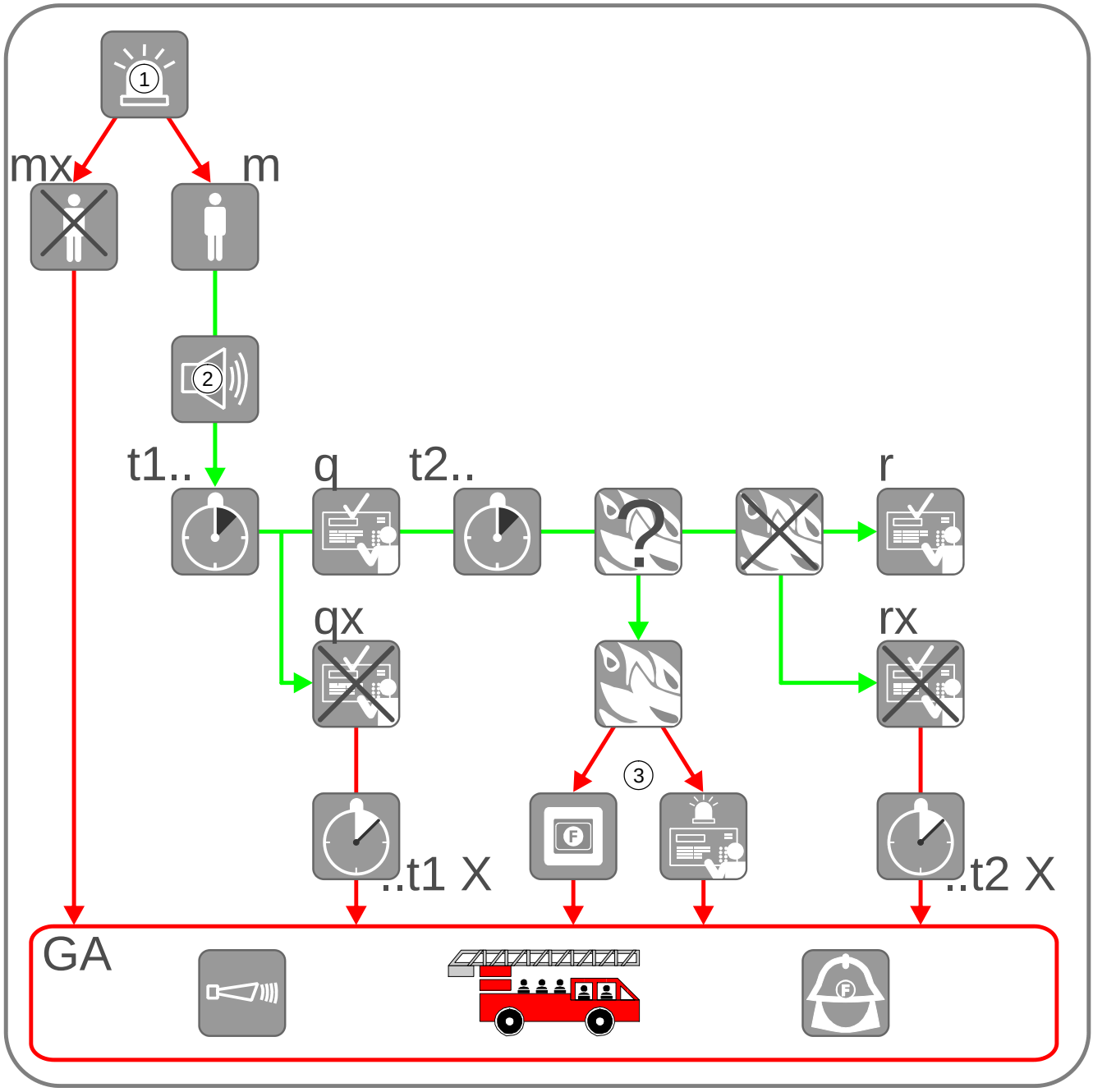


Figure 29: Alarm verification

1	Alarm event	q	Acknowledge at 'Station'
2	Local alarming	qx	Not acknowledged
3	Manual call point or <Alarm delay off> on 'Station'	t2..	Time t2 to investigate the source of alarm / the fire location
mx	'Unmanned operation' operation mode	..t2 X	Time t2 has expired
m	'Manned operation' operation mode	r	Reset on 'Station'
t1..	Time t1 for attendance check	rx	Not reset
..t1 X	Time t1 has expired	GA	Global alarming

10.6.4 Fire alarming

Alarming is controlled at ↑ 'Area' level. During alarming the ↑ alarming equipment is activated, e.g., ↑ alarm devices and remote transmission devices.

Alarm devices

For ↑ local and ↑ global alarming, acoustic alarm devices, beacons, digital outputs, etc., can be used. The tone of the alarm devices can be configured differently for local and global alarming (the alarm devices must be suitable for this).

Remote transmission

The alarm message is transmitted to an intervention station. In the case of local alarming, this is usually the company fire brigade and for global alarm usually the state fire brigade. A remote transmission device must be used to transmit alarm messages via the public telephone network.

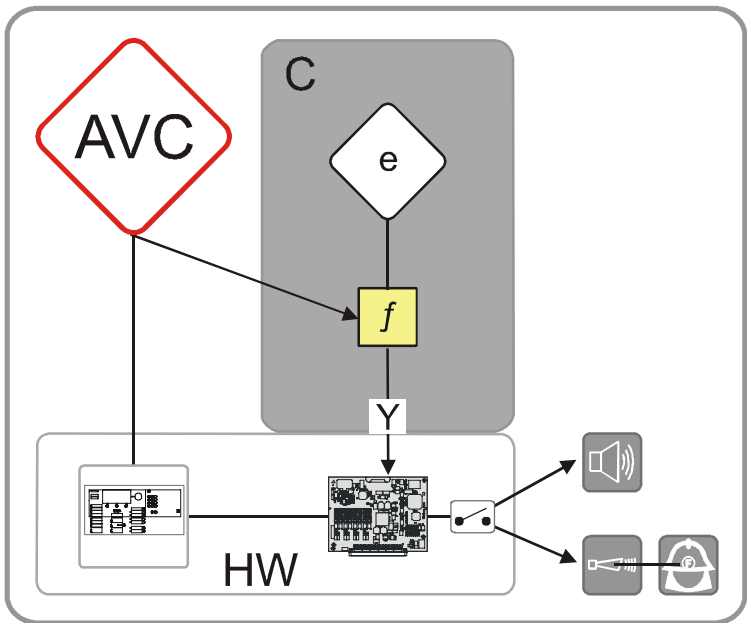


Figure 30: Information flow during alarming

AVC	'Alarm Verification Concept'	f	↑ Alarming control
C	↑ 'Control tree'	Y	Local and global alarming
e	'Alarming control group'		

The alarm devices and the remote transmission can be separately configured for:

- Alarm type (only with automatic zones)
  - 'Pre-ALARM'
  - 'ALARM'
- Zone type (only with 'ALARMS')
  - Manual alarm
  - Automatic alarm
  - Degraded fire alarm
- Operation mode:
  - 'Manned operation'
  - 'Unmanned operation'
- Alarming type:
  - 'Local alarming only'
  - 'Delayed alarming'
  - 'Global alarming only'

10.7 Intervention concept (IC)

The fire control panel features comprehensive monitoring and self-monitoring functions.

The different events in the system are acquired, classified into corresponding event categories and evaluated by the 'Intervention Concept'. After the evaluation, the 'Intervention Concept' activates the corresponding alarming equipment.

Flow of information to 'IC'

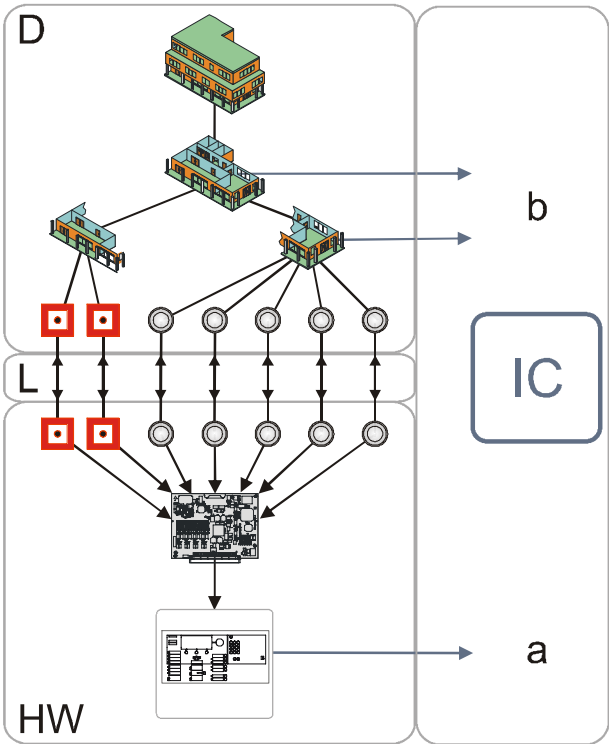


Figure 31: Information flow for intervention

D	↑ 'Detection tree'
HW	↑ 'Hardware tree'
IC	'Intervention Concept'
a	Events from 'Hardware tree'
b	Events from 'Detection tree' and ↑ 'Control tree'
L	↑ Assignment

The 'Intervention Concept' ('IC') is an integral part of the fire control panel and takes into account the interaction of the operating personnel. The 'Intervention Concept' can be used to define an intervention process which is initiated should an event occur or once a particular delay time has lapsed.

For each of the following event categories the behavior can be defined separately:

- 'Fault'
- 'Isolation'
- Test
- ↑ 'Technical message'
- 'Activation'
- 'Information'

The 'Intervention Concept' has two independent, parallel intervention processes:

- Attendance check (t1)
- Intervention monitoring (ts)

The intervention process can be configured according to the 'Manned operation'/'Unmanned operation' operation mode.

A triggered intervention process (t1 and/or ts running) is not restarted when a 'Fault' of the same category occurs for a second time.

10.7.1 Attendance check

Attendance check with the 'IC' serves for immediate intervention. Events such as technical deficiencies, 'Faults' and malfunctions can be investigated and possibly remedied directly by the operating personnel.

If an event is not acknowledged within the configured timespan (e.g. up to one hour), an external intervention station is informed (global alarming).

The ↑ remote transmission for 'Faults' is not interrupted by the acknowledgment.

The external intervention center is also informed when the 'Fault' is acknowledged but the cause of the 'Fault' is not rectified after a specified time.

This is ensured by parallel checking by the intervention center.

10.7.2 Intervention monitoring

Intervention monitoring is used to safeguard a service intervention. Events such as a 'Fault' caused by a soiled detector are monitored during a preconfigured period of time (up to one week).

If the normal operation conditions are not re-established within this period of time, service intervention is started and/or the maintenance personnel are informed.

10.7.3 Example of an intervention process

- A 'Fault' activates ↑ local alarming and starts the time t1 for attendance check.
- Operating personnel acknowledge presence on the operating terminal prior to the expiry of t1. Acknowledging silences the local ↑ alarming equipment. If there is no acknowledgment, ↑ global alarming is activated after the expiry of t1.
- The time ts for service intervention monitoring starts in parallel to the time t1. If the 'Fault' is not eliminated prior to the expiry of ts, maintenance personnel are called up.

A triggered intervention process (t1 and/or ts running) is not restarted when a 'Fault' of the same category occurs for a second time.

The figure below shows an exemplary intervention process for the 'Fault' event category.

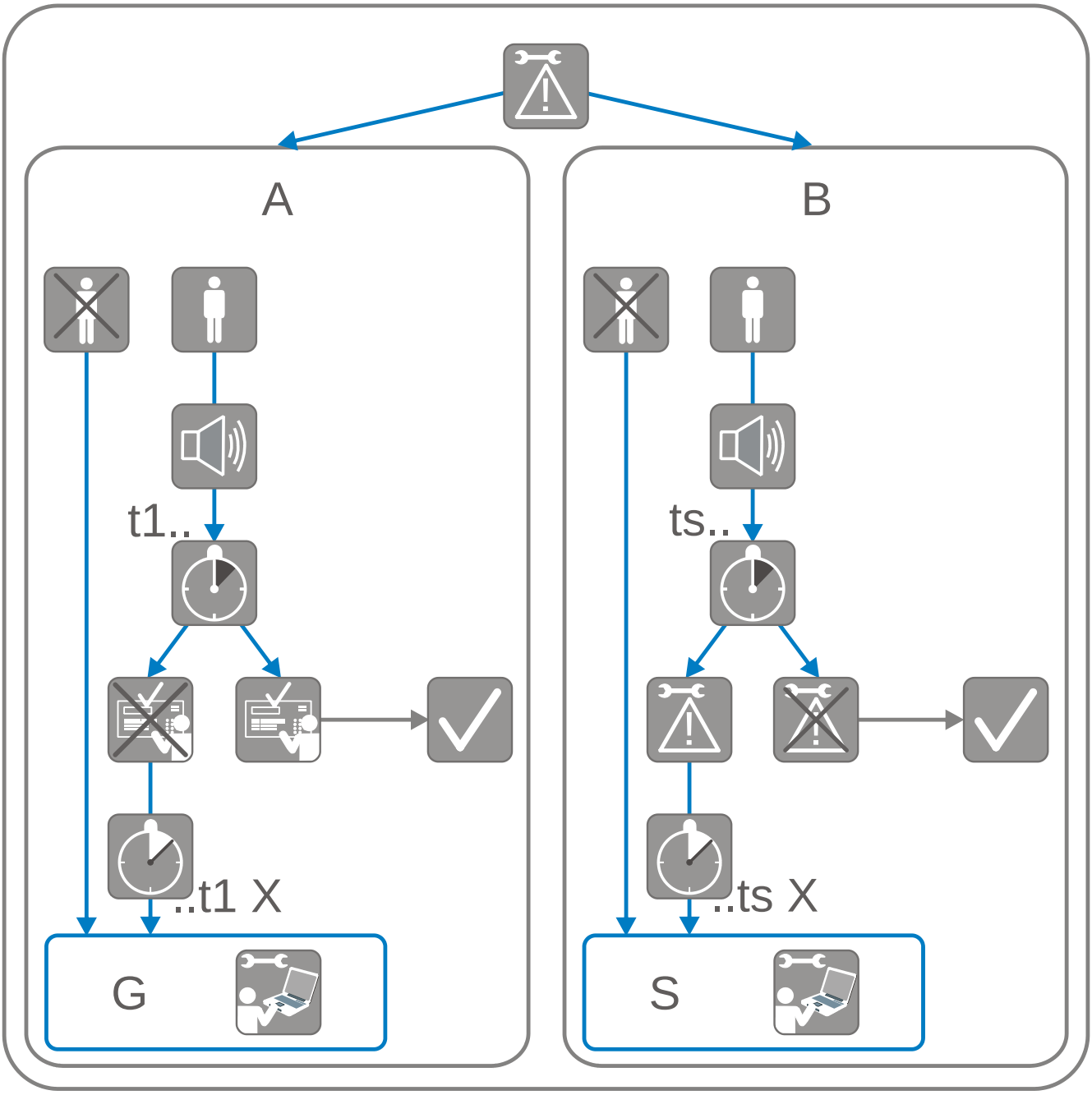


Figure 32: Intervention in case of fault

A	Attendance check	B	Intervention monitoring
t1..	Time t1 for attendance check	ts..	Time ts for service intervention monitoring
..t1 X	Time t1 has expired	..ts X	Time ts has expired
G	Global alarming	S	Service intervention

10.7.4 Intervention alarming

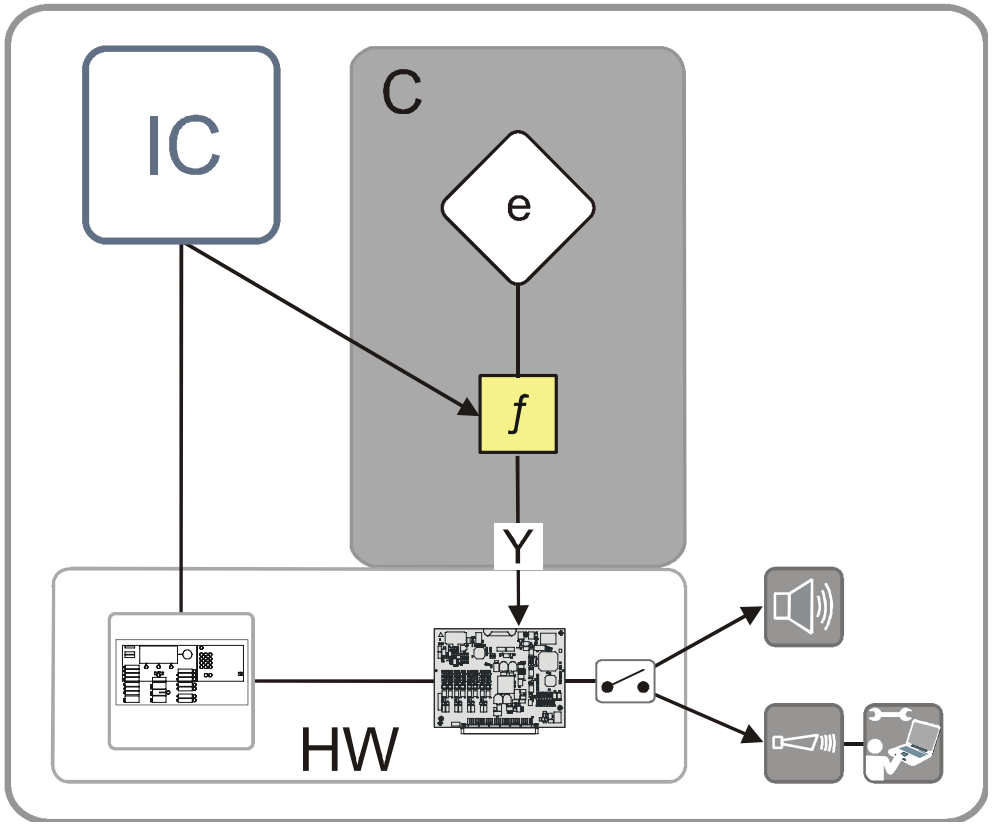
The ↑ alarming equipment, such as ↑ alarm devices and remote transmission devices, can be selected separately for 'Manned operation' and 'Unmanned operation':

Alarm devices

Alarm devices, strobes, digital outputs, etc. can be used for local and global alarming. The tone of the alarm devices can be configured differently for local and global alarming.

Remote transmission

For service intervention the event message is transmitted to intervention forces, in general the maintenance personnel. A remote transmission device must be to transmit event messages via the public telephone network.



IC	'Intervention Concept'	f	↑ Alarming control
C	↑ 'Control tree'	Y	Intervention alarming
e	'Alarming control group'	HW	↑ 'Hardware tree'

Table 10: Intervention alarming

The alarm devices and the remote transmission can be separately configured for:

- Operation mode:
  - 'Manned operation'
  - 'Unmanned operation'

- Immediate intervention:
  - 'Local intervention only'
  - 'Delayed intervention'
  - 'Global intervention only'
- Service intervention:
  - 'Delayed intervention'
  - 'Direct intervention'

10.8 Events

See also

Event memory [→ 236]

10.8.1 Event categories

The fire detection system evaluates received signals and indicates them as events. Additionally, all events are stored and can be indicated in the 'Event memory' menu item.

There are the following event categories:

- 'ALARM'
- ↑ 'Pre-ALARM'
- 'Fault'
  Detector, output and system errors
- 'Isolation'
  Detector, output and system isolations
- Test
  Inspection messages and conditions, test messages
- ↑ 'Technical message'
- 'Activation'
  Activation of inputs and outputs
- 'Information'
  Operating conditions, other system messages, information

10.8.2 Event status identification

Event messages shown on the display are provided with an identification.

This identification provides information on the status of the message.

The following identifications are used:

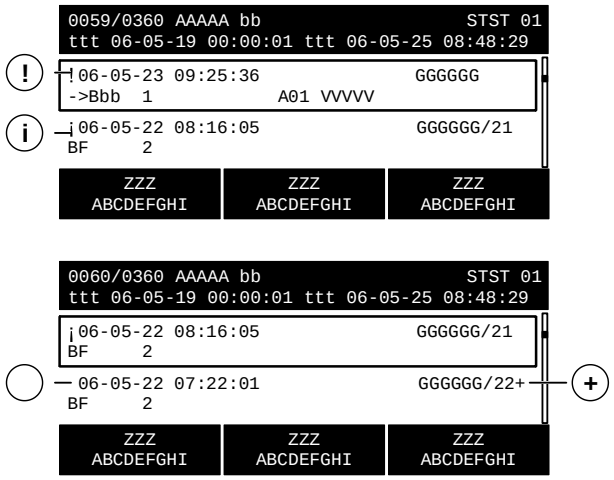


Figure 33: Event status identification

Labeling	Meaning
!	Message not acknowledged
¡	Cause of message no longer available
No identification	Message acknowledged
+	More than one detector is active
#	Message from a station which has lost its connection

10.8.3 Event memory

All events that have occurred in the fire detection installation are stored in the event memory . You can display a list of all events under the 'Event memory' menu item.

The list is sorted chronologically and can be filtered by category, date and time.

The figure below shows an example of a 'Event memory' list:

0008 / 0069 Events		Station 01
from 06-03-06 09-34-50 to	06-03-06 09-34-50	
06-03-06 10-34-50		OFF
Zone 13	Office 21	
06-03-06 10-34-50		OFF
Autom. 13	A02 Window side	
Select Event category	Select Date/time range	More Options

See also

Select events [→ 72]

10.8.4 Message overview

The 'Message summary' main menu item includes messages in connection with events. The messages are combined in message categories and may be opened as message lists.

In the 'Message summary' main menu item only those message categories in which messages (events) have actually occurred are indicated.

The figure below shows an example of a message overview with 1 'Pre-ALARM', 8 'Faults' and 10 'Isolations':

'Message summary' list

Message summary Exit with <C>			
001	Pre-ALARMS	(001 Messages unconfirmed)	(2)
008	Faults		(3)
010	Isolations		(4)
003	Activations		(7)
	Function On/Off	Function All	LED test

After pressing the short-cut button (2) the detailed view of the 'Pre-ALARM' message category is indicated:

'Pre-ALARM' detailed view

Remote transmission activated 001 Pre-ALARM			
001	Pre-ALARM	Zone	14
!	Office 22		
	Execute Commands	Show Intervention text	More Options

10.9 List representation and list types

By the list representation and the possibility to search in lists, a large number of list entries and list positions can be indicated on the display.

There are the following types of lists:

- Event lists
- Element lists
- Selection lists

10.9.1 Event lists

Event lists include events that have occurred in the fire detection installations and belong to different categories.

In the 'Message summary' main menu item messages are combined in event categories. These event categories may be opened as an event list.

In the 'Message summary' main menu item only those event categories are indicated in which events have actually occurred.

In accordance with the event categories, there are the following event lists:

- 'ALARM'
- ↑ 'Pre-ALARM'
- 'Fault'
- 'Isolation'
- Test
- ↑ 'Technical message'
- 'Activation'
- 'Information'

All events are also included in the event list in the 'Event memory'. This 'Event memory' list has a different layout as well as additional functions. For this reason, a separate chapter 'Event memory' is included.

The figure below shows an example of an 'Isolation' event list.

Waiting for confirmation RT 002 Isolations			
Autom.	Zone	OFF	001
Sounder 2		OFF	002
Execute Commands	Show Intervention text	More Options	

See also

Event memory [→ 236]

10.9.2 Element lists

Element lists contain elements of the ↑ site, as well as element data, e.g., configuration data.

An element list is indicated as e.g. the result of an element search.

The figure below shows a sample 'Element search':

025	Elements
Station	1
Area	1
PMI	1
Network	1
Execute Commands	Execute commands Topology

Table 11: Example of an element list

Details of		Station 1
==========	Element Properties	==========
ElementId:	1/1	
Discipline:	FIRE	
ElementType	PanelFc2020Elem	
Jump Back		

Table 12: Example data of an element

10.9.3 Selection lists

Selection lists are used to select actions or categories.

There are selection lists for the following actions or categories:

- Commands
- Options
- Elements
- Events (to filter the event memory)

The table below shows an example of a 'Select command' selection list:

Select command	
Set customer text	(1)
ON	(2)
OFF	(3)
OFF/timer	(4)
Activate	(5)

10.10 Version display for station / configuration data

You can display information about the ↑ 'Station' and the configuration data version in the topology tree.

A description of the calling-up of the indication can be found in the chapter in account.

See also

Show version [→ 110]

11 Faults / Troubleshooting

If the ↑ site displays 'Fault', you will find in the table below a list with possible 'Faults' including information on possible causes.

If a 'Fault' cannot be rectified with the help of these operation instructions, please contact the service engineer.

'Fault'	Cause	Remedy
Automatic detector	Detector is missing	Re-insert detector
	Detector is out of order	Replace the detector. **NOTICE! Any defective detector must always be replaced by another detector of the same type.**
Manual call point	Glass pane broken	Replace glass pane
	Other damages	Contact service provider
Mains failure	Mains failure in the public network	No action required. Emergency power supply is ensured by batteries during at minimum 12 hours; depending on the customer specification up to 72 hours.
	Fuse damaged	Check fuses (current distributor of the building) and replace them if necessary.
Paper out	Paper roll in the printer has been used up	Insert printing paper

With all other 'Faults', the service provider in account must be contacted.

See also

Insert printing paper [➞ 109]

12 System maintenance

Regular maintenance of the ↑ 'Site' is necessary in order to ensure the system will function reliably.

The fire detection installation has a reminder function that informs you of imminent maintenance. When the service reminder is displayed, regular maintenance by the service technician is required.

Depending on national regulations, the maintenance intervals can be set differently from the following maintenance recommendation.

12.1 Maintenance recommendation

You will find detailed instructions for maintaining the ↑ site in document A6V10210416.

Please adhere to the local provisions.

Carry out the recommended maintenance work at regular intervals or have it carried out by a service engineer.

Maintenance work	Interval
Testing detectors	Annually
Testing the control panel	Annually
Simulating alarm	Annually
Simulating fault	Annually

12.2 Opening the control panel [DE]

It is possible that the housing of the control panel may have to be opened for maintenance work.

If a class 3 key safe (fire brigade key safe, FSD) forms part of the fire detection installation, the door contact kit FCA2009-A1 must be installed in the housing of the control panel.

The door contact kit triggers a 'Sabotage ALARM' if the cover cap is removed from the control panel.

NOTICE

Sabotage ALARM by opening the control panel

Measures for 'Sabotage ALARM' are triggered unnecessarily.

- Switch off sabotage evaluation before you open the control panel.

See also

Switching off sabotage evaluation [DE] [→ 63]

Glossary

Alarm device

Element in the fire detection system for acoustic and/or visual alarming, e.g. alarm sounder, beacon.

Alarm indicator

Visual display to signal an alarm or pre-alarm.

Alarming control

Monitoring and controlling the alarming equipment

Alarming equipment

Alarm devices and remote transmissions

Area

The top level in the detection tree. Sections and zones are assigned to the area.

Assignment

Creating a reference between two elements, e.g., logical channel and physical channel.

Auto-configuration

A zone is created for each sensor channel (automatic detector and manual call point). A control is created for each alarm sounder. IO-modules, FT2010, FT2011, and external alarm indicators are not auto-configured.

Automatic fire detector

Device which measures a physical parameter (e.g. warmth) in order to detect a fire.

AVC

Abbreviation for 'Alarm Verification Concept'.

BACnet

Abbreviation for 'Building Automation and Control Networks'. It is a network protocol for standardized communication between devices from different manufacturers in building automation, such as for communication between a management station (MMS) and a fire detection installation.

BDV

Abbreviation for 'Base Data Variant'. Configuration files for the embedded software. A BDV contains country-specific templates, all texts, specifications for message layout, menu definitions, specifications for activating the LEDs on the PMI, detector parameter set settings, definitions for system-specific parts of the tool interface, etc.

Blocking of the isolation

Setting to ensure that a zone cannot be switched off.

Collective detector line

Detector line technology in which all detectors that are connected to the same detector line have a collective address. This makes it impossible to identify individual detectors.

Control group

Combination of several similar controls.

Control tree

Structure tree with control group and control.

Danger level

A fire detector signal which conveys the possibility of fire. Automatic fire detectors, for example, have danger levels 0 to 3. Manual call points only have danger levels 0 and 3. 0 = no danger, 1 = possible danger, 2 = probable danger, 3 = highly probable danger.

Detection tree

Diagram of the geographical and organizational arrangements of sensors in a building. This is a hierarchical structure comprising the area, section, and zone.

Detector line

Electrical connection between the detectors and the fire control panel. There are collective detector lines and addressed detector lines.

Effect

An impact caused by a control, e.g., activation of a hardware output or a command.

Ethernet station

Participants in the Ethernet sub-net without local connection for the PC.

Extended networking

Connection of several SAFEDLINK networks.

External alarm indicator

Optical element for displaying the fire location, which is at some distance from the detector. It is normally mounted in the room at the point where the corresponding detector is accessible.

Extinguishing control

Control which controls a connected extinguishing system and evaluates and displays its states.

False alarm

Alarm not triggered by a danger.

Fire control

Control which is activated in the event of a fire alarm.

Floor repeater display

A display device without operating elements.

Floor repeater terminal

A display device with operating elements for acknowledging and resetting alarms and faults.

GAP

Abbreviation for 'Global Access Point'. Participant in the Ethernet sub-net for the connection between the Ethernet sub-net and a management station (BACnet client) and / or for remote access with the PC. If there is a secondary GAP, the GAP becomes the main GAP. Can be operated as a DHCP server in the Ethernet sub-net.

Global alarming

Global alarming equipment (e.g., remote transmission) is actuated and external intervention forces (e.g., the fire brigade) are alerted.

Hardware tree

Depiction of the hardware of a fire detection installation.

IC

Abbreviation for 'intervention concept'

Intervention concept

Concept with two independent verifications: Attendance check for quick intervention on-site and intervention check for servicing measures.

Isolation

Status of one part of the fire detection installation, which suppresses the evaluation of all signals.

License key

Hardware modules for activating functions.

Local alarming

Local alarming equipment (e.g. acoustic or optical) is actuated in order to call up intervention personnel and to alert people of a possible fire hazard.

Logical channel

Depiction of a logical device function in the detection or control tree. The logical channel is always the bottom level in the structure tree.

Management station

A superordinate system for monitoring and operating safety-related sites and buildings, e.g., fire, intrusion, access, heating, ventilation.

Manned

Switching status of the alarm organization, if operating personnel are present and can intervene should an event arise (alarm, fault).

Minor incident

Alarm situation which the operating personnel can handle themselves and does not, therefore, trigger global alarming.

Multi-detector dependency

When using multi-detector dependency, the danger levels of several detectors are included in the alarm decision. Measures such as alarming or closing the fire doors are only initiated when the defined dependencies occur (e.g., two detectors detect danger level 3).

Network tree

Figure of the network in a fire detection installation.

Normal operation

The fire detection installation is supplied with mains voltage.

Parameter set

Defined detector behavior, e.g. in terms of sensitivity, resistance to deceptive phenomena, response time. Detectors can be operated with different parameter sets.

Physical channel

Depiction of a device's physical function in the hardware tree. The physical channel is always the bottom level in the hardware tree.

PMI

The arrangement of operating and display elements on a fire control panel or on a fire terminal. Includes the LEDs, buttons, the display, and the operation options such as the key switch, fire brigade control and display (FBA), and the EVAC NL Person Machine Interface.

PMI

Abbreviation for 'Person Machine Interface'. The arrangement of operating and display elements on a fire control panel or on a fire terminal.

Pre-alarm

Stage before an alarm for information early on, should an event occur.

Pre-configuration

A sub-configuration of the hardware tree, detection tree, and control tree created before commissioning the fire detection installation.

Remote transmission

Remote transmission.

Router station

Participant in the SAFEDLINK sub-net for the connection between the SAFEDLINK sub-net and the Ethernet sub-net (FCnet/C-WEB/LAN) via the Ethernet switch (modular) FN2012-A1.

RT

The abbreviation for 'remote transmission'.

SAFEDLINK

Physical network of an FS20 / FS720 fire detection system with the network module (SAFEDLINK) and the network cable.

SAFEDLINK station

Participants in the SAFEDLINK sub-net with local connection for the PC.

Section

Level in detection tree of the fire detection system. The section is assigned to the area. It is used for combining zones.

Single-detector dependency

With single-detector dependency, the alarm decision depends on the danger level of one detector. The first detector in the zone which detects the corresponding danger level, triggers the fire alarm.

Site

Depiction of fire detection installation: The top level in the figure showing the installed system. Combines hardware tree, detection tree, and control tree.

Soft keys

Softkeys are buttons which you can use to carry out functions and which are displayed in the three fields of the softkey line on the display. These three black fields contain the names of the functions in white font. The functions of the softkeys change dynamically depending on the situation and the contents of the display. Always the most important functions are assigned to the softkeys 1 and 2.

Standalone station

Standalone station with local connection for the PC.

Station

Unit for system control. Fire control panel or fire terminal.

System bus

Loop-shaped, redundant networking by means of FCnet / C-WEB / SAFEDLINK.

Technical message

Events (e.g., from third-party systems) evaluated via sensors or contacts which are forwarded to the fire control panel.

Test activation

Activation of fire detectors in the detector test or effects in the control test.

Universal control group

Level in control tree of the fire detection system. The fire control group contains the fire controls.

Unmanned

Switching status of the alarm organization, if operating personnel are not present and cannot intervene should an event arise (alarm, fault).

Visibility

Defines which part of a site is visible and can be operated on a station.

Zone

Level in the detection tree. The zone has at least one fire detector. The decision on alarm is made at zone level. The zone is assigned to a section or an area.

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Issued by
Siemens Switzerland Ltd
Building Technologies Division
International Headquarters
Theilerstrasse 1a
CH-6300 Zug
+41 58 724 2424
www.siemens.com/buildingtechnologies