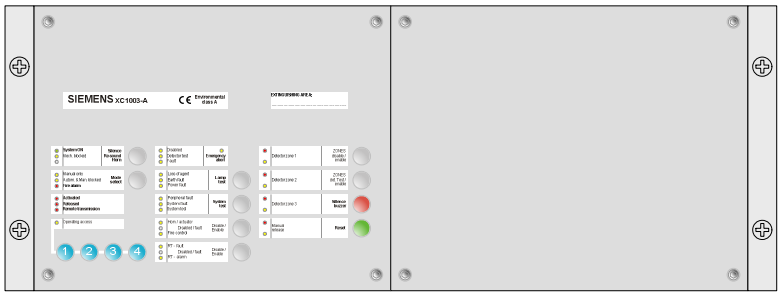
SIEMENS



XC1003-A

Extinguishing control unit

Operation

Building Technologies

Fire Safety & Security Products

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1 About this document

Objective and purpose
This document describes the operation of the XC1003-A extinguishing control unit. By consistently following the instructions correct reliable use is ensured.

Area of application
The information contained in this document is valid as of hardware/software version 2.7.

Target group
This document and the instructions contained herein are intended for persons, who operate the extinguishing control unit.

Brief description of chapter contents

Chapter	Content overview
1. About this document	General information on documentation and notes on the target group, for which the document was created.
2. Safety regulations	Describes the danger levels and safety regulations that are of significance to the operation of the extinguishing control unit.
3. System overview	Describes the basic structure of an extinguishing control unit.
4. Structure and function	Describes the functions of the control unit with regard to operation.
5. Operation	Describes the operating steps in the event of extraordinary situations.
6. Maintenance	Describes the recommended maintenance work.
7. Trouble shooting	Provides information on how to proceed in the event of faults.
8. Disposal and environmental protection	General notes on disposal.

Standard symbols

➔	Result, Note
' '	Quotation, reproduced identically
(...)	Parentheses contain supplementary text, suggestions, etc.

Index of changes

Version	Date	Brief description
A6V10099835_a_en	12.2007	First issue

2 Safety regulations

This chapter describes the danger levels and the safety regulations that are of significance to the use of Siemens Fire Safety & Security Products. Please read the operating instructions in this product documentation and especially in this chapter prior to any activity.

2.1 Danger levels

The following signal words indicate danger levels; that is, the severity and probability of a hazard and its consequences.

DANGER	Imminent danger! ➔ Severe physical injury or death.

WARNING	Possible dangerous situation ➔ Severe physical injury or death.

CAUTION	Possible dangerous situation ➔ Slight physical injury or property damage.

NOTE	Important information that requires special attention.

2.2 Safety-relevant operating instructions

Country-specific standards
The products are developed and produced in accordance with the relevant international and European safety standards. If additional country-specific, local safety standards or statutes apply to planning, mounting, installation, operation and disposal of the product at the locale of operation, then any such standards or statutes shall be observed in addition to those safety prescriptions in the product documentation.

Non-compliance with safety regulations
The products are designed for proper use and have been tested for correct function prior to delivery. We accept no liability for personal injury or property damage occurring as the result of abuse or by noncompliance with the instructions or danger notices listed in the documentation. This applies especially to:

- Personal injury or property damage that occurs as the result of inappropriate use and incorrect use.
- Personal injuries or property damage that occurs as the result of non-compliance with safety-relevant information in the documentation or on the product.
- Personal injury or property damage that occurs as the result of deficiently performed or non-performance of maintenance.

Components and replacement parts

- Components and replacement parts procured locally must comply with the technical requirements defined by the manufacturer. This is ensured in the case of OEM replacement parts supplied by us.
- Use only fuses having the prescribed characteristics.
- Incorrect battery types and improper exchange of batteries result in an explosion hazard. Use only the same battery type or an equivalent type recommended by us.
- Batteries require environmentally appropriate disposal. Bring them to the local collection centers.
- Note that the cylinders containing the extinguishing agent are under pressure and must be exchanged in accordance with local safety regulations.

Changes to system layout and products

Changes to the system and to individual products may result in faults and incorrect functioning. Please request from us, from the system installer or from the respective safety authorities a written authorization for planned changes and system expansions.

Check serviceability of products

- Notify persons in the event of mist and noise.
- Notify persons of the testing of the alarm devices and make provisions for possible panic reactions.
- Notify the alarm and fault reception points connected to the system of immanent test -remote transmission.
- When testing the extinguishing system, evacuate the extinguishing area and block it off.

Electrical installations

DANGER	Work on electrical systems must be carried out in accordance with electro-technical rules and only by a trained electrical technician or an instructed person under the management and supervision of an electrical technician. Work on fittings, on the pipe grid and on devices for supplying extinguishing agent must be undertaken only by an authorized technician and in compliance with the technical specifications in force.

DANGER	When performing work in areas at risk of explosion, comply with the respective safety procedures.

Maintenance work

If you perform maintenance yourself, please observe the following points:

- If you require assistance, you must use tools that are safe and intended for the task such as, for example, a ladder.
- If you are triggering fire controls for test purposes, there must be no damage caused to system components.
- Avoid unintended triggering of remote transmission.
- Before actuating manual release for test purposes, mechanically block the activation of extinguishing.
- Use or require the use of the "General installation instructions" as the guideline for extinguishing systems. This guideline is available from us on request.

3 System overview

An extinguishing system consists of the following components:

- Fire detector for automatic activation of extinguishing.
- Manual Release button for manual activation of extinguishing.
- Emergency hold button to temporary stop the extinguishing or abort button to cancel the initiated extinguishing release as long as activated time is running.
- Control unit for evaluating, displaying and operating all functions of an extinguishing area.
- Alarm horn and illuminated warning panel for on-site alarm notification.
- Remote transmission facility for transmitting alarms and faults.
- Control device for closing doors and fire protection flaps and shutting down of ventilation.
- Releasing elements for triggering the valves for activation of extinguishing.
- Devices to report the flooding and the loss of extinguishing agent.

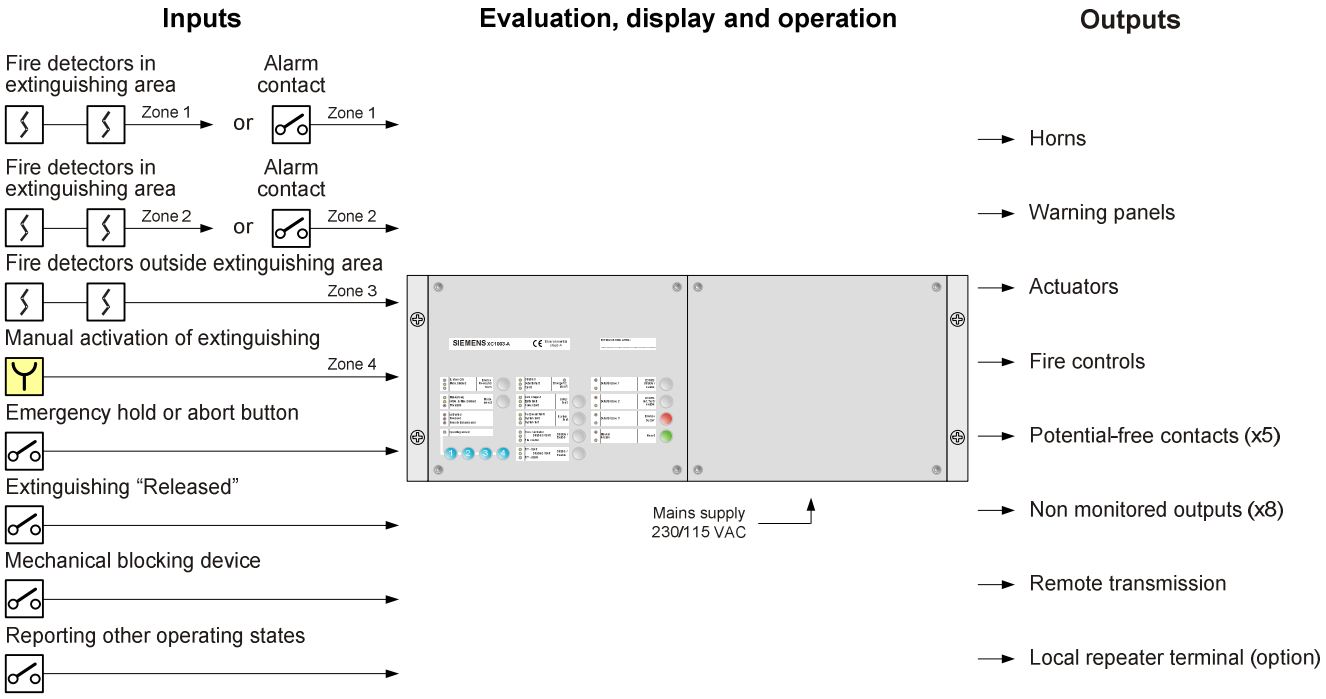


Fig. 1 Structure of the extinguishing system

Extinguishing control unit

The XC1003-A extinguishing control unit is used for displaying, operating and monitoring the functions of an extinguishing area and its immediate environs. All detectors, alarm horn, illuminated warning panel, monitoring devices and controllers are connected to the extinguishing control unit. If a detector triggers an alarm, it is transmitted to the extinguishing control unit. At the extinguishing control unit the decision is made how the alarm is to be processed. The same applies to faults. The processing of alarms and faults is different depending on the configuration of the system.

Power supply
The extinguishing control unit is connected to the power mains at all times. In the event of a mains power failure the extinguishing control unit is supplied by built-in batteries. Battery operation in the event of a mains power failure is for a limited time.

Fire detector
Several fire detectors are consolidated into a detector zone. Up to 32 fire detectors can be connected to each detector zone. In the event of fire, the detector zone of the alarming fire detector is indicated on the extinguishing control unit.
In the basic settings of the extinguishing control unit detector zones 1 and 2 serve the automatic activation of extinguishing. The extinguishing control unit assesses the zones in a so-called cross-zoning: in order to activate extinguishing, one fire detector from each group must trigger an alarm. This principle ensures high reliability so that extinguishing is not unjustified triggered.

Manual release button
Extinguishing can be manually activated by using a manual release button.

Alarm on site
"Fire alarm" is signaled with an alarm horn. State "Activated" and “Released” are signaled with an alarm horn and an illuminated warning panel.

Remote transmission
Along with on-site alarm notification, activation of extinguishing and faults can be transmitted via a remote transmission device to an external receiving station or passed on to a fire detection system.

Fire protection installations
As a rule, before automatic extinguishing is triggered, building fire protection installations must be set in the correct position. For example: door holding magnets are de-energized, fire protection flaps are closed and fans and air-conditioning systems are turned off.

Activation of extinguishing and monitoring
Valves on the extinguishing agent cylinders are triggered for activation of extinguishing. The effected activation of extinguishing is reported to the control unit via a pressure switch located at the cylinder bank. In addition, the weight or the pressure of the extinguishing agent cylinders are constantly checked using cylinder scales or manometers that trigger a contact if the value is too low.

Extinguishing blocking
During the activated time an activation of extinguishing already initiated can be temporarily stopped by pressing the Emergency hold button or canceled by pressing the Emergency abort button.
The automatic activation of extinguishing can be blocked as a precaution for maintenance work. In this instance, in the event of fire, it is possible to press the Manual release button for activation of extinguishing.

3.1 Configuration of the system

Every extinguishing system is individually configured. The configuration has an effect on operation. The following table shows the configuration of your automatic extinguishing system.

Function	Configuration	
Activation of access level 2	[ ] using standard access code [ ] using individual access code	
Setting of activated time	..... seconds	
Setting of flooding time	..... seconds	
Sound mode of alarm horn	State “Fire alarm“	[ ] slow pulsating [ ] continuous [ ] not activated
	State “Activated“	[ ] continuous [ ] pulsating
	State “Released“	[ ] pulsating [ ] continuous
Fixed running time of alarm horn	[ ] yes .....minutes [ ] no	
Reminder beep every 4 minutes upon "Fault" and "Part of system off"	[ ] activated [ ] not activated	
Emergency hold button installed	[ ] yes [ ] no	
Emergency abort button installed	[ ] yes [ ] no	
Other blocking devices	.....	
Extinguishing agent monitoring	[ ] yes [ ] no	
Pressure switch for state "Released"	[ ] yes [ ] no	
Trigger condition for automatic activation of extinguishing	[ ] Detector zone 1 or 2 [ ] Detector zone 1 and 2 [ ] Detector zone 1 and 2 and 3	
Alarm verification activated	[ ] yes [ ] no	
Direct remote transmission	[ ] yes [ ] no	[ ] fire alarm [ ] activated [ ] extinguishing activated [ ] fault
Transmission to the fire detection control unit	[ ] yes [ ] no	[ ] fire alarm [ ] activated [ ] extinguishing activated [ ] fault [ ] blocked
Maximum operating time in the event of mains power failure	..... hours	
Fault delay in the event of power failure	..... minutes	
System reset not possible as long as alarm horn or manual release button or pressure switch (released) is active	[ ] yes [ ] no	
Faults must be reset after being eliminated	[ ] yes [ ] no	

4 Structure and function

This chapter describes the structure and function of the extinguishing control unit. It provides an overview of what options are offered by the extinguishing control unit. A more detailed description of the individual procedures is provided in the "Operation" and "Maintenance" chapters.

4.1 Indicators and operating elements

The figure below represents the indicators and the operating elements of the extinguishing control unit.

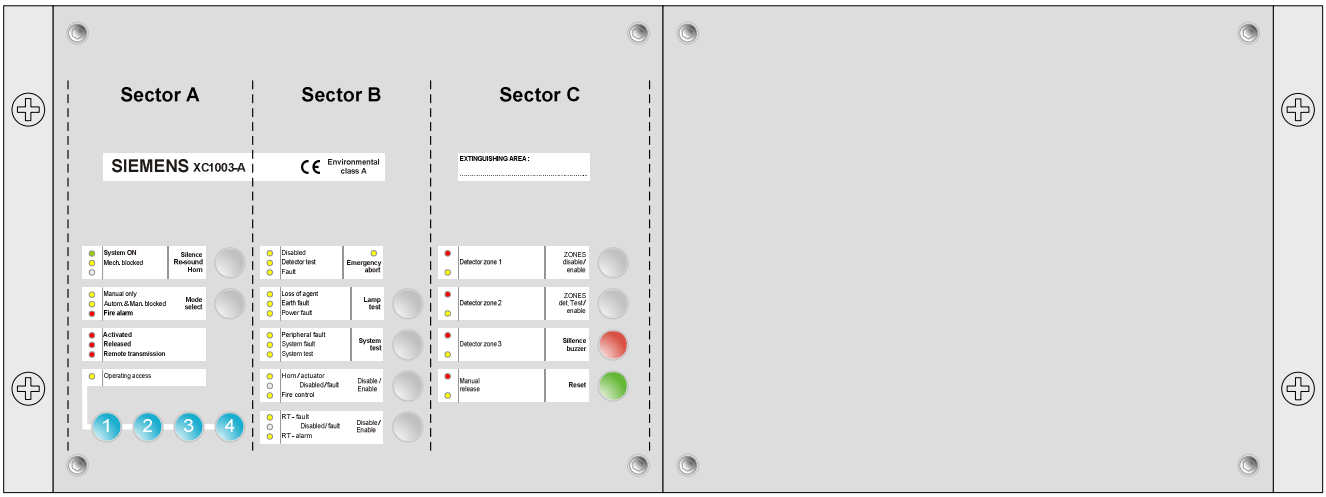
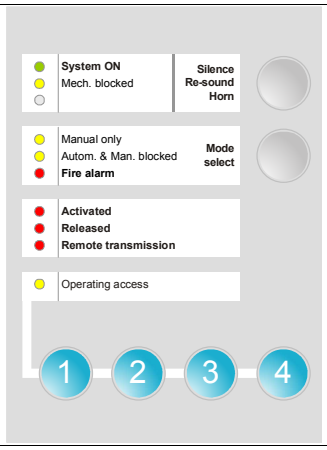
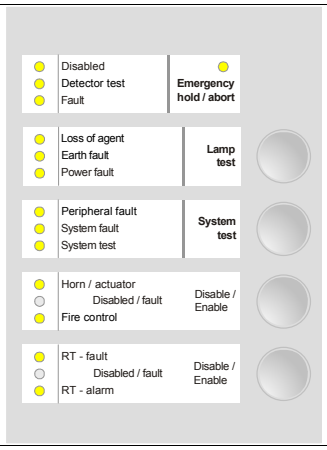


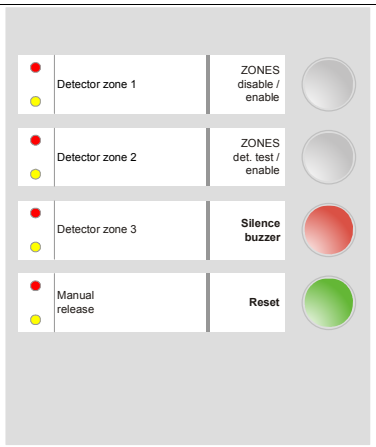
Fig. 2 Indicators and operating elements

The operating interface consists of the following elements:

- Light emitting diodes (LEDs):
  The red LEDs signify states "Fire alarm" (alarm detectors), "Activated" (activation of extinguishing initiated), or "Released" (extinguishing activated).
  The yellow LEDs signify system parts "Disabled" or in "Test mode" or "Fault".
- Keys:
  The keys are used for operating the extinguishing control unit and for entering the access code to allow system operating (Access level 2 enabled).

LED functions	Sector A	Key functions
Show the current operating mode and the process in the event of an activation of extinguishing.		Silence Re-sound Horn. Block and clear activation of extinguishing. Enter access code for system operating (Access level 2).

LED functions	Sector B	Key functions
Show the system parts of the extinguishing control unit that are currently disabled or on fault.		Lamp test, horn test and illuminated warning panel test. System test (only for maintenance). Disable and enable horn/actuator and fire controls. Disable and enable remote transmission for alarm and fault.

LED functions	Sector C	Key functions
Indicate the operating states of the detector zones and manual release.		Disable and enable detector zones and manual release. Enable and cancel test mode of detector zones and manual release. Silence buzzer upon alarm and fault. Reset unit upon alarm and possibly also upon fault.

4.2 Function

4.2.1 Access levels

The extinguishing control unit is protected by access levels against unauthorized manipulation.

- Access level 1: operation is possible at any time.
- Access level 2: operation is possible only using an access code.

In Access level 1, as a rule, only the buzzer can be silenced in the event of an alarm or a fault. All other commands can be accessed in Access level 2.

4.2.2 Typical extinguishing process

The following block diagram shows a normal extinguishing process in the basic setting of the control unit and with an unblocked activation of extinguishing.

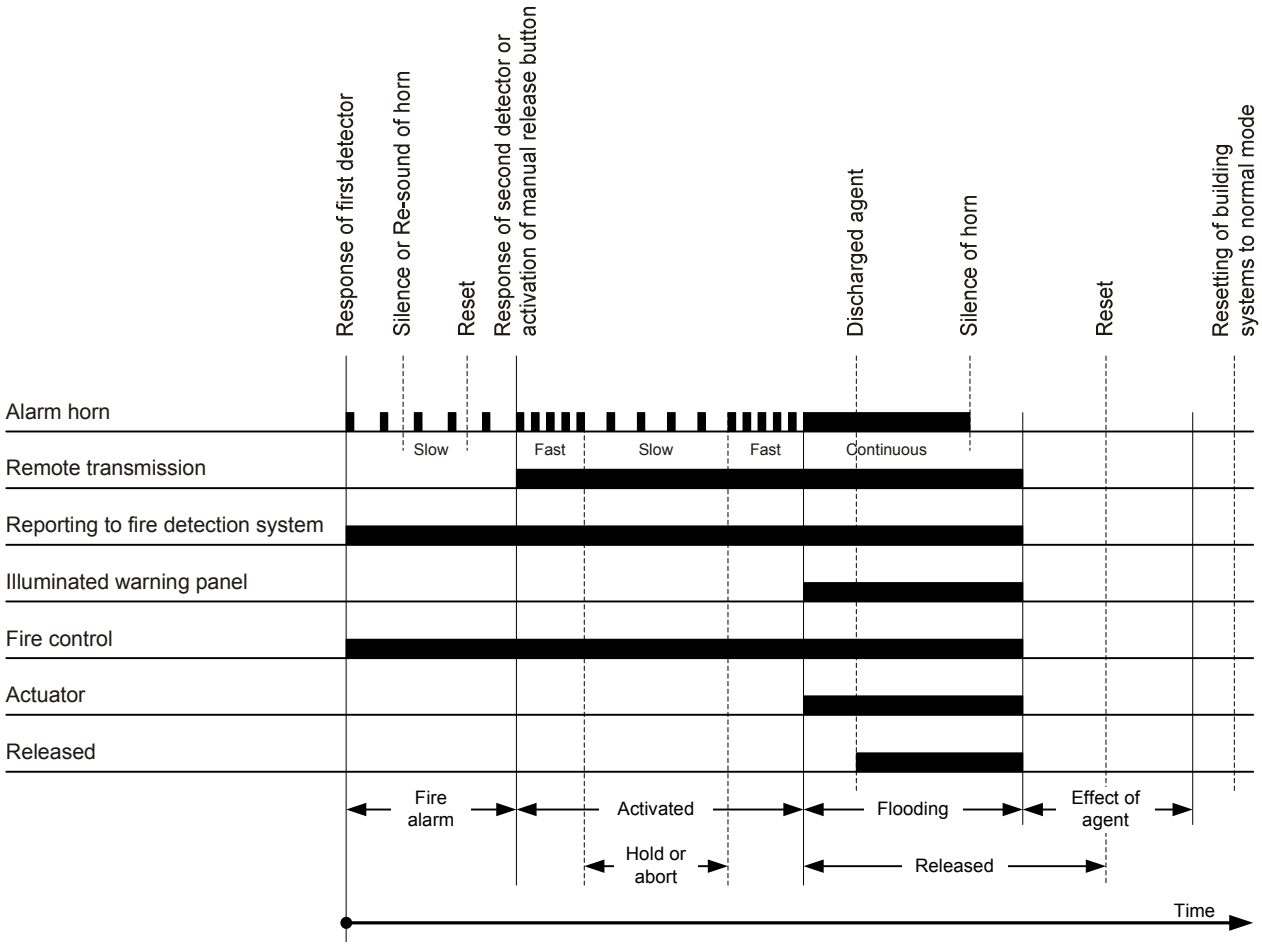


Fig. 3 Block diagram process

An automatic extinguishing is enabled after the control unit has run through two alarm levels "Fire alarm" and "Activated".
If a detector detects a fire in the extinguishing area (zone 1 or 2), it triggers a "Fire alarm". The alarm horn sounds slow pulsating. In the case of "Fire alarm" the alarm horn can be silenced and the system reset. The fire detectors from zone 3 monitor as a rule the areas adjacent to the extinguishing area. Zone 3 can also be unused.

If yet another detector of the detector zones detects a fire outbreak in the extinguishing area (one detector from each of zones 1 and 2) or if the manual release button is activated (zone 4), the control unit goes over to the "Activated" state. The alarm horn changes from slow to a pulsating tone. During the pre-warning time all people must evacuate the area to be flooded. The activated time can be set to between 5 and 60 seconds.
After expiry of the activated time the releasing element (actuator) is triggered and the flooding time begins. At the same time the illuminated warning panel is activated, and the alarm horn changes from pulsating to a continuous tone. After several seconds, the pressure switch at the cylinder bank reports ejection of extinguishing agent. From this point on, the alarm horn can be silenced. The system can be reset only after completion of the flooding time. The flooding time can be set to between 30 and 120 seconds.
The fire control (shut off air conditioning, smoke protection flaps and doors to the extinguishing area) is triggered as a rule in the case of "Fire alarm" or at the start of activated time. After resetting the system, the fire control will be enabled again. As soon as extinguishing is finished, an authorized person can reset the building systems to normal mode again.

4.2.3 Blocking functions

The extinguishing control unit can be equipped with different blocking devices as described below.

Emergency hold button
The Emergency hold button is used for temporary **stopping** the extinguishing initiated during the activated time.
During the activated time, people can evacuate the room to be flooded. When the hold button is pressed, the activated time is suspended and the alarm horn changes its tonality. When the hold button is released, the activated time is restarted.

Emergency abort button
The Emergency abort button is used for **canceling** the initiated extinguishing during the activated time.
During the activated time, pressing the abort button cancels the initiated extinguishing and the alarm horn changes its tonality. The system remains in this operating state until reset. After reset, the system remains blocked until the mechanical locking of the abort button is cleared by an authorized person.
When not in activated time, the abort button is used for blocking the automatic and manual activation of extinguishing.

Mechanical blocking device
The mechanical blocking device is used for blocking the activation of extinguishing during maintenance work. As a rule it is used in CO_2-extinguishing systems and cannot be influenced by the extinguishing control unit. The mechanical blocking device can be set to "closed" or "open" mostly by turning a lever. The "closed" position is shown on the extinguishing control unit. If the mechanical blocking device is in neither the "closed" nor the "open" position, the extinguishing control unit reports a "Fault" of the mechanical blocking device.

Door latch contact
The door latch contact is used for blocking the activation of extinguishing in case of maintenance work. This blocking option is used as a rule in unattended extinguishing areas. As soon as the door to the extinguishing area is unlocked, the automatic activation of extinguishing is blocked; the manual activation, however, remains active.

4.2.4 Faults

The extinguishing control unit has an extensive self-monitoring functionality. If the control unit detects an error such as, for example, loss of extinguishing agent, then it will be indicated as a fault. Faults are normally transmitted to a receiving station. Faults should always be eliminated as soon as possible.

4.2.5 Maintenance options

The extinguishing system must be serviced on a regular basis. Only in this way is it possible for the system to function perfectly even in a serious event. Therefore, carry out the following maintenance work on a regular basis:

- Check the control unit
- Check the detectors
- Check the alarm horn and the illuminated warning panel
- Check the remote transmission or forwarding to the fire detection system
- Check the fire control (ventilation control, door closer)
- Check the blocking devices (Emergency hold or abort button)
- Check the status of extinguishing agent storage

5 Operation

Alternative configuration (Sector A)

Standard configuration (Sector A)

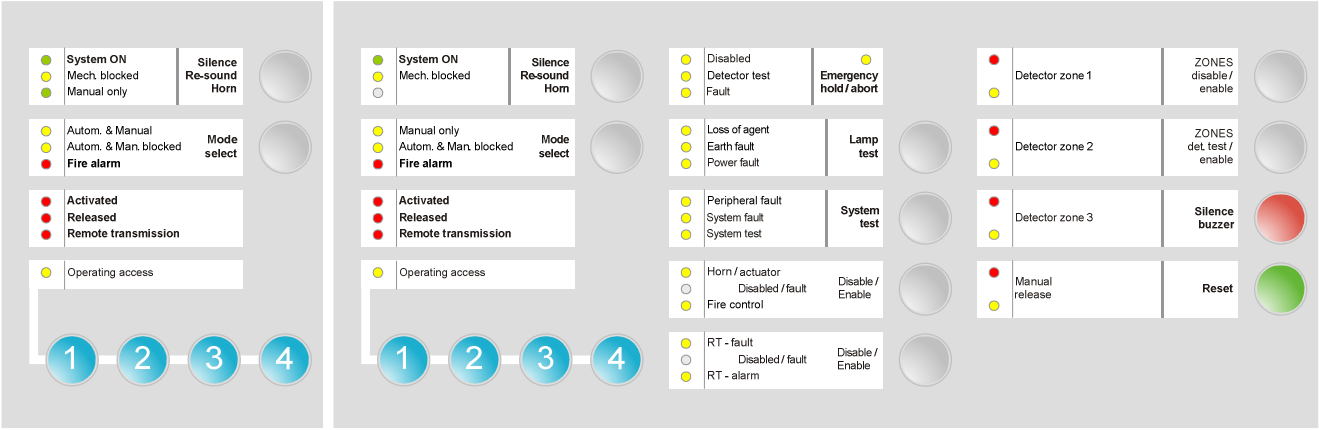


Fig. 4 Front view for operation

5.1 Normal operation

The indicators in sector A of the operating interface are configured in your system according to either "Standard" or "Alternative".

Standard configuration
In normal operation only the green LED "System ON" is lit.
If the automatic activation of extinguishing is blocked, then the LED "Manual only" is lit.
If the automatic and manual activation of extinguishing is blocked, then the LED "Autom. & Man. blocked" is lit.

Alternative configuration
In normal operation the green LED "System ON" and the yellow LED "Autom. & Manual" are lit. The latter indicates that there is no blocking of the activation of extinguishing.
If the automatic activation of extinguishing is blocked, then the LED "Manual only" is lit and LED "Autom. & Manual" is de-activated.
If the automatic and manual activation of extinguishing is blocked, then the LED "Autom. & Man. blocked" is lit.

State "Mechanical blocked"
If the mechanical blocking device is activated, then LED "Mech. blocked" is activated. However, the triggering of the electrical actuator is not blocked. Only the flooding of the extinguishing area is prevented.

5.2 Enabling access level 2

General
Normally, operation of the extinguishing control unit is blocked. Operation "Access level 2" is enabled by using the access code.

Access code
In order to enable access level 2 by using the access code, here's how:
1. Enter the access code "4233" via the numeric keys:
➔ The LED "Operating access" lights up and operation is enabled.
2. In order to again block access level 2, you must wait. Access level 2 will be automatically blocked again three minutes after the last entry:
➔ The LED "Operating access" is no longer lit.

5.3 Activation of extinguishing

General
In the event of fire, an extinguishing process normally occurs automatically and triggers the two alarm stages "Fire alarm" and "Activated" before extinguishing is activated. As explained in the following, there are different operating options to affect the extinguishing process.

Fire alarm
A fire detector in the extinguishing area has detected a fire:
➔ The buzzer in the control unit is activated and the alarm horn signal "Fire alarm", as a rule, with a slow pulsating tone is activated.
➔ The red LEDs "Detector Zone 1" or "Detector Zone 2" lights up.
➔ The red LED "Activated" flashes.
In the case of a fire that justifies extinguishing, the second fire detector triggers within a few seconds. If the second fire detector does not trigger for a longer period of time, you can inspect the fire location, silence the alarm horn and the buzzer and block automatic activation of extinguishing.

Here's how to proceed, in order to block the automatic activation of extinguishing:
1. Press the "Silence buzzer" key.
2. Enable "Access level 2".
3. Press the "Silence Re-sound horn" key.
4. Press the "Mode select" key:
➔ Once to set the control unit in "Manual only" mode, or
➔ Twice to set the control unit in "Autom. & Manual blocked" mode.

If you find the alarming fire detector and the cause, you can reset the system and cancel the blocking of the automatic activation of extinguishing.

Here's how to proceed, in order to cancel the blocking of the automatic activation of extinguishing:
1. Enable "Access level 2".
2. Press the "Reset" key.
3. Press the "Mode select" key once or twice (depends on blocking mode selected).

Activated time

The second fire detector in the extinguishing area has detected a fire or you have activated extinguishing manually by pressing the Manual release button:

➔ The alarm horn becomes a fast pulsating tone. The illuminated warning panel is activated.

➔ The red LEDs "Detector Zone 1" and "Detector Zone 2" or possibly the red LED "Manual release (Zone 4)" light up.

➔ The red LED "Activated" lit.

All people in the area to be flooded must immediately evacuate it. Depending on the installed blocking device, you have the option of temporary stop or canceling extinguishing, if required:

1. Press the "Emergency hold button", until all people have left the room then release, or

2. Press the "Emergency abort button", if you want to cancel the initiated extinguishing.

Flooding time

The extinguishing element is triggered after activated time elapsing and flooding time beginning:

➔ The red LED "Activated" is lit.

➔ After several seconds the alarm horn changes to continuous sound.

➔ The pressure switch reports the released condition of the extinguishing agents, then the red LED "Released" is activated.

You can now silence the alarm horn:

1. Enable "Access level 2".

2. Press the "Silence Re-sound Horn" key.
Note: Horn silence is only accepted after state "Released" is reported.

3. Press the "Reset" key.
Note: Reset is only accepted after the flooding time is elapsed.

In the event of "Fire alarm" or "Activated", different building services have been included in the defined fire position. These can be set back to their normal operating states after successful extinguishing and resetting the system.

Remote transmission

If the extinguishing control unit is connected to remote transmission device, then it is activated as a rule only in the event of "Released".
If the extinguishing control unit is connected to a fire detecting system, then as a rule "Fire alarm" and “Released” is forwarded.

5.4 Disabling system part

In certain situations (e.g. maintenance work) it is reasonable to disable parts of the system. If a system part is disabled (isolated), then the LED "Disabled" is lit continuously.

WARNING	Disabled system parts can under certain circumstances prevent the correct acquisition or processing of alarms or faults as well as activation of extinguishing. Therefore, re-enable all disabled system parts as soon as normal conditions prevail!

5.4.1 Disabling detector zones

In order to prevent unintentional alarm messages or activation of extinguishing, in exceptional cases detector zones must be isolated from the system. The instances wherein a detector zone should be disabled depend on the detectors used and the fault dimensions (e.g. smoke or dust).

WARNING	Switched-off detector zones prevent activation of extinguishing! Therefore, enable all switched-off system parts again, as soon as normal conditions prevail!

Here's how to disable a detector zone:

1. Enable "Access level 2".
   ➔ The LED "Operating access" lights up.

2. Press the key "ZONES Disable/Enable" until the yellow LED is lit at the desired detector zone. After disabling, you can perform the required work on the detector zone, without the risk of alarm or fault.
   – The first pressing disables detector zone 1:
     ➔ The yellow LEDs "Detector Zone 1"/"Disabled"/"Manual only" light up.
   – The second pressing disables detector zone 2:
     ➔ The yellow LEDs "Detector Zone 2"/"Disabled"/"Manual only" light up.
   – The third pressing disables detector zones 1 and 2:
     ➔ The yellow LEDs "Detector Zone 1 and 2"/"Disabled"/"Manual only" light up.
   – The fourth pressing disables detector zone 3:
     ➔ The yellow LEDs "Detector Zone 3"/"Disabled" light up.
     ➔ The yellow LED "Manual only" is no longer lit (depending on programming).
   – The fifth pressing disables detector zone 4:
     ➔ The yellow LEDs "Manual Release (Zone 4)"/"Disabled" light up.
   – The sixth pressing disables all detector zones:
     ➔ The yellow LEDs "Zones 1 to 4"/"Disabled"/"Autom. & Man. blocked" light up.
   – The seventh pressing re-enables all detector zones:
     ➔ The yellow LEDs "Zones 1 to 4"/"Disabled"/"Autom. & Man. blocked" are no longer lit.

3. The system is again in normal operation.

5.4.2 Disabling alarm Horn, releasing element and fire controls

In order to prevent unintentional activation of the alarm horn, releasing element (actuator) and fire controls can be disabled in exceptional cases. Together with the alarm horn, also the releasing element is disabled.

WARNING	Disabled alarm horns and fire controls are not activated in the event of an alarm! Therefore, re-enable disabled alarm horns and fire controls again as soon as normal conditions prevail!

Here's how to proceed, in order to disable the alarm horn, the releasing element (actuator) and the fire controls:

1. Enable "Access level 2".
   ➔ The LED "Operating access" lights up.

2. Press the "Disable/Enable" key ("Horn/Actuator"/"Fire control") until the desired disabling is displayed. After disabling, you can proceed with the desired work, without the alarm horn/actuator and the controls being activated.
   – The first pressing disables the alarm horn and the actuator:
     ➔ The yellow LEDs "Horn/Actuator"/"Disabled" light up.
   – The second pressing disables the fire control:
     ➔ The yellow LEDs "Fire control"/"Disabled" light up.
   – The third pressing disables the alarm horn, the actuator and the fire control:
     ➔ The yellow LEDs "Horn/Actuator"/"Fire control"/"Disabled" light up.
   – The fourth pressing enables the alarm horn, the actuator and the fire control:
     ➔ The yellow LEDs "Horn/Actuator"/"Fire control"/"Disabled" are no longer lit.

3. The system is again in normal operation.

5.4.3 Blocking remote transmission of activation of extinguishing and fault

This function may be inoperable.

If, in exceptional cases, alarm or fault shall not be remotely transmitted, remote transmission of the alarm or the fault must be blocked.

WARNING	Blocked remote transmissions are also not activated in the event of an alarm or a fault! Therefore, enable blocked remote transmission again as soon as normal conditions prevail!

Here's how to proceed, in order to block remote transmission:

1. Enable "Access level 2".
   ➔ The LED "Operating access" lights up.

2. Press the "Disable/Enable" key ("RT-alarm"/"RT-fault") until the desired blocking is displayed. After blocking, you can proceed with the desired work.
   – The first pressing blocks the remote transmission of faults:
     ➔ The yellow LEDs "RT-fault"/"Disabled" light up.
   – The second pressing blocks the remote transmission of alarm:
     ➔ The yellow LEDs "RT-alarm"/"Disabled" light up.
   – The third pressing blocks the remote transmission of fault and alarm:
     ➔ The yellow LEDs "RT-fault"/"RT-alarm"/"Disabled" light up.
   – The fourth pressing re-enables the remote transmission of fault and alarm:
     ➔ The yellow LEDs "RT-fault"/"RT-alarm"/"Disabled" are no longer lit.

3. The system is again in normal operation.

6 Maintenance

Only a well-serviced extinguishing system is also functional in an emergency. Therefore, carry out the recommended maintenance work on a regular basis or have the work done by a service engineer. At all events, comply at all times with local regulations.

Every three months visual inspections to be carried out:
- Visually check the Manual release button.
- Visually check the Emergency hold or abort button.
- Visually check the cylinder bank.

Annually inspections of functions to be carried out:
- Check the extinguishing agent storage (pressure or weight of the cylinders).
- Check the optical and acoustic elements of the control unit (see § 6.1).
- Check the alarm horn (see § 6.2).
- Check the illuminated warning panel (see § 6.3).
- Check all fire detectors in "Detector test" mode (see § 6.4).
- Check manual release in "Detector test" mode (see § 6.4).
- Check the battery (only possibly by a service engineer).

6.1 Checking all optical and acoustic elements of the control unit

Check whether the optical and acoustic elements of the control unit function correctly.

Proceed as follows:
1. Press the "Lamp test" key:
➔ All LEDs light up and the buzzer sounds for approx. 5 seconds.
2. Check whether all LEDs light up and the buzzer sounds.

6.2 Testing the alarm horn

Check the alarm horn for correct function.

Proceed as follows:
1. Enable "Access level 2".
➔ The LED "Operating access" lights up.
2. Press and hold the key "Digit 3" and press the "Lamp test" key:
➔ The alarm horn is activated for 30 seconds.
3. Press the "Silence Re-sound Horn" or the "Lamp test" key:
➔ The alarm horn is silenced before 30 seconds elapse.

6.3 Testing illuminated warning panel

Check the illuminated warning panel for correct function.

Proceed as follows:

1. Enable "Access level 2".
➔ The LED "Operating access" lights up.

2. Press and hold the key "Digit 4" and press the "Lamp test" key:
➔ The illuminated warning panel is activated for 30 seconds.

3. Press the "Silence Re-sound Horn" or the "Lamp test" key:
➔ The illuminated warning panel is de-activated before 30 seconds elapse.

6.4 Checking all fire detectors

Check all fire detectors annually. This way you are ensuring the serviceability of the extinguishing system.

Here's how to check the fire detectors:

1. Enable "Access level 2".
➔ The LED "Operating access" lights up.

2. Press the "ZONES det. test/enable" until the yellow LED is lit (slow flashing) at the desired detector zone.
- The first pressing sets detector zone 1 to "Detector test":
  ➔ The yellow LEDs "Detector Zone 1"/"Detector test"/"Disabled"/"Manual only" light up.
- The second pressing sets detector zone 2 to "Detector test":
  ➔ The yellow LEDs "Detector Zone 2"/"Detector test"/"Disabled"/"Manual only" light up.
- The third pressing sets detector zones 1 and 2 to "Detector test":
  ➔ The yellow LEDs "Detector Zone 1 and 2"/"Detector test"/"Disabled"/ "Manual only" light up.
- The fourth pressing sets detector zone 3 to "Detector test":
  ➔ The yellow LEDs "Detector Zone 3"/"Detector test"/"Disabled" light up.
  ➔ The yellow LED "Manual only" is no longer lit (depending on programming).
- The fifth pressing sets detector zones 1, 2 and 3 to "Detector test":
  ➔ The yellow LEDs "Detector Zone 1 to 3"/"Detector test"/"Disabled"/"Manual only" light up.
- The sixth pressing sets the "Manual release (Zone 4)" to "Detector test":
  ➔ The yellow LEDs "Detector Zone 4"/"Detector test"/"Disabled" light up.
  ➔ The yellow LED "Manual only" is no longer lit.
- The seventh pressing sets all detector zones to "Detector test":
  ➔ The yellow LEDs of "Zones 1 to 4"/"Detector test"/"Disabled"/"Autom. & Man. blocked" light up.
- The eighth pressing re-enables all detector zones:
  ➔ The yellow LEDs of "Zones 1 to 4"/"Detector test"/"Disabled"/"Autom. & Man. blocked" are no longer lit.

3. The system is again in normal operating mode.

Note:
Sequentially trigger an alarm on all detectors of the zone. The red zone LED at the control unit and the alarm indicator at the detector light up for approx. 10 seconds. No acoustic alarm is initiated

6.5 Checking the remote transmission of alarm

If you must periodically check -on a weekly basis, for example the "Remote transmission of alarm (RT-alarm)", you can simulate the enabling of manual release. When doing this, however, exercise extreme caution: first of all, always block the automatic and manual activation of extinguishing as well as the alarm horn and disable the fire control.

WARNING	Before checking the remote transmission, ensure that activation of extinguishing is in fact blocked, the alarm horn and the controls are disabled and the receiving station is notified of the immanent test.

Disable extinguishing, alarm horn and fire controls

1. Enable "Access level 2":
   ➔ The LED "Operating access" lights up.
2. Press the "Mode select" key twice:
   ➔ The LED "Autom. & Manual blocked" lights up.
3. Press the "Enable/Disable" key ("Horn/actuator"/"Fire control") three times:
   ➔ The LEDs "Horn/Actuator" and "Fire control" light up.

Simulate state "Released" at the pressure switch

1. Activate manually the pressure switch in order to initiate state "Released".
2. Check whether state "Released" and "Remote transmission" is indicated:
   ➔ Alarm horn and Fire control are not activated.
   ➔ The red LEDs "Released" and "Remote transmission" are lit.
3. Check whether remote signal is received at the receiving station.
4. Restore the pressure switch, if mechanically locked, and reset system.

7 Troubleshooting

In this chapter information is provided in case the system indicates a fault or is not in normal operating mode. The following table presents a listing of possible faults with notes on possible causes.

Fault	**Cause/Solution**
LED "Fault" flashes	Technical failure in the system Check whether another yellow LED is flashing If no other yellow LED is flashing, contact the service desk
LED "Mech. blocked" flashes	Problem at mechanical blocking device Check the position of the mechanical blocking device (it must be either on “open” or “closed”) If the position is O.K. contact the service desk
LED "Power fault" flashes	Failure in the power supply Check the external mains power fuse If the power fuse is O.K., contact the service desk
Yellow zone LED flashes	Problem in detector circuit: Check whether all detectors are inserted in their bases If all detectors are inserted, contact the service desk
LED "Loss of agent" flashes	Loss of extinguishing agent detected: Try to find out in which cylinder the pressure is too low or has triggered the cylinder scales, before you contact the service desk
LED "Earth fault" flashes	Other problem in the system: Contact the service desk
LED "System fault" flashes	
LED "Horn/actuator" flashes	
LED "Fire control" flashes	
LED "RT-fault" flashes	
LED "RT-alarm" flashes	
LED "Peripheral fault" flashes	

8 Disposal and environmental protection

The user assumes responsibility for disposal of the system. If any questions arise at the time of proper disposal and which represent a hazard to persons or to the environment, the technical customer service of Siemens Building Technologies Ltd. is available for information.

8.1 Unit disposal

WARNING	Mains power! Disconnect the power supply prior to removing the system.

Functional units

When disposing of the unit, take into account the following components in particular:

- Batteries
- Electronic components (control units, all detectors)
- Control cabinets
- Extinguishing agent cylinders

Disposal regulations

When disposing of the system, comply at all times with the national and regional laws and directives.

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