SIEMENS

XC10
Extinguishing control unit
XC1001-A / XC1005-A / XC1003-A

Operation

MP2.1

Building Technologies

Fire Safety & Security Products

Technical specifications and availability subject to change without notice.

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1 About this document

Goal and purpose

This document describes the operation of the extinguishing control panel XC10. The reader shall become familiar with the possible indications and operating functions on the PMI, as well as with the functionality of the panel in the overall system. This understanding makes an adequate behavior possible in the event of fire or fault.

Scope of validity

This document applies to the extinguishing control panel of the type XC10, market package MP2.1.

Target groups

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

Target group	Activity	Qualification
Operating personnel	- Carries out procedures to correctly operate the product	- No particular basic training is needed - Has been instructed by the commissioning personnel
Commissioning personnel	- Configures the product at the place of installation according to customer-specific requirements - Checks the product operability and releases the product for use by the operator - Searches for and corrects malfunctions	- Has obtained suitable specialist training for the function and for the products - Has attended the training courses for commissioning personnel
Maintenance personnel	- Carries out all maintenance work - Checks that the products are in perfect working order - Searches for and corrects malfunctions	- Has obtained suitable specialist training for the function and for the products

Reference document

The reference version of this document is the international version in English. The international version is not localized.
The reference document has the following designation:
ID_x_en_--
x = modification index, en = English, -- = international

Document identification

Position	Information
Title page	- Product type - Product designation - Document type
Last page, bottom left	- Document ID - ID_ModificationIndex_Language_COUNTRY - Edition date
Last page, bottom right-hand side	- Manual - Register

Conventions for text marking

Markups

Special markups are shown in this document as follows:

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

Supplementary information

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

History of changes

Document ID	Edition date	Brief description
A6V10257477_a_en_--	12.2009	First edition
A6V10257477_b_en_--	01.2010	Corrections after field tests: - Chap. 3.1: Following text added "…pulsating tone, during this time, is not possible to silence / re-sound the sounders" - Chap 3.1: extinguishing sequence updated - Chap. 4.1: Text LED «Level 2» has changed to LED «Operating Access» - Chap. 4.2: key numbers added - Chap 7: PMI drawing added on th e top of the table

2 Safety

2.1 Safety notices

The safety notices must be observed in order to protect people and property. The safety notices in this document contain the following elements:

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

Symbol for danger

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

Additional danger symbols

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

General danger

Explosive atmosphere

Voltage/electric shock

Laser light

Battery

Heat

Signal word

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

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

Design for risk of injury

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

Design for possible damage to property

Information about possible damage to property is shown as follows:

	NOTICE
!	Nature and origin of the danger **Consequences if the danger occurs** - Measures / prohibitions for danger avoidance

2.2 Safety regulations for the method of operation

National standards, regulations and legislation

Siemens products are developed and produced in compliance with the relevant European and international safety standards. Should additional national or local safety standards or legislation concerning the planning, assembly, installation, operation or disposal of the product apply at the place of operation, then these must also be taken into account together with the safety regulations in the product documentation.

Electrical installations

⚠	WARNING
	Electrical voltage Electric shock - Work on electrical installations may only be carried out by qualified electricians or by instructed persons working under the guidance and supervision of a qualified electrician, in accordance with the electro technical 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 of installation.

- Produce earthing as stated in local safety regulations.

Assembly, installation, commissioning and maintenance

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

Testing the product operability

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

Modifications to the system layout and products

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

Modules and spare parts

- Components and spare parts must comply with the technical specifications defined by Siemens. Only use products specified or recommended by Siemens.
- Only use fuses with the specified fuse characteristics.
- Wrong battery types and improper battery changing lead to a risk of explosion.
- Only use the same battery type or an equivalent battery type recommended by Siemens.

- Batteries must be disposed of in an environmentally friendly manner. Observe national guidelines and regulations.

Disregard of the safety regulations

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

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

Disclaimer

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

We are grateful for any suggestions for improvement.

2.3 Standards and directives complied with

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

In order to satisfy Directive 89/106/EEC (the Construction Products Directive – CPD), the firmware of a newly installed fire detection installation must be of at least the current market package (MP) 2.1.

	NOTICE
!	**Firmware version of a newly installed extinguishing installation not updated** No CPD conformity - Compare the firmware version of a newly installed fire detection installation with the firmware version for MP2.1 - Update the firmware if necessary

2.4 Release notes

Limitations to the configuration or use of devices in fire detection or extinguishing 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 fire detection or extinguishing installation.
- Read the 'Release Notes' before you carry out a firmware update to a fire detection or extinguishing 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 or extinguishing installation
- Read the 'Release Notes' before you carry out a firmware update to a fire detection or extinguishing installation

3 Extinguishing system overview

An extinguishing system consists of the following components:

- Extinguishing control panel for evaluating, displaying and operating all functions of an extinguishing area.
- Fire detectors for automatic activation of extinguishing.
- Manual release button(s) for manual activation of extinguishing.
- Emergency hold button(s) to hold the extinguishing process or emergency abort button to cancel the initiated extinguishing release as long as the pre-warning time is running.
- Mechanical blocking device.
- Alarm sounder(s) and optical signaling panel(s) for on-site alarm notification.
- Remote transmission facility for transmitting alarms and faults
- Control devices 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.

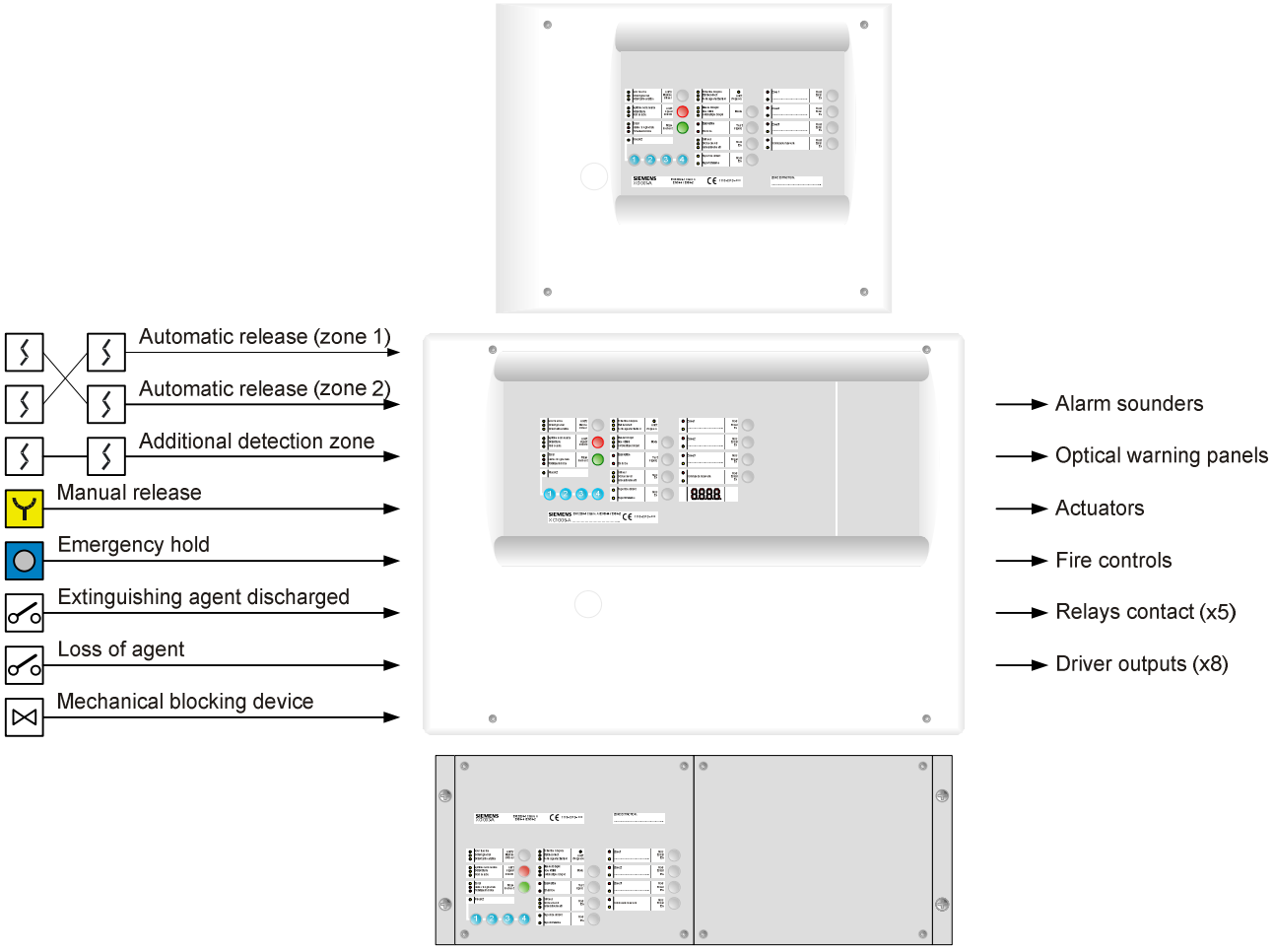


Fig. 1 Extinguishing system overview

Extinguishing control unit

The XC10 extinguishing control unit is used for displaying, operating and monitoring the functions of an extinguishing area and its immediate environs. All detectors, alarm sounders, 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.

Automatic release

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

Extinguishing can be manually activated by using Manual Release button(s).

Alarm on Site

"Fire alarm" is signaled with alarm sounder(s). State "Activated" and “Released” are signaled with alarm sounder(s) and illuminated warning panel(s).

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.

Emergency hold/abort

During the pre-warning 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.

Mechanical blocking
For the safety of the people, the extinguishing can be blocked mechanically by actuating the mechanical blocking device.

3.1 Extinguishing process

The following diagram describes the sequence of an extinguishing process under normal conditions, i.e. without blocking device actuation and with factory settings.

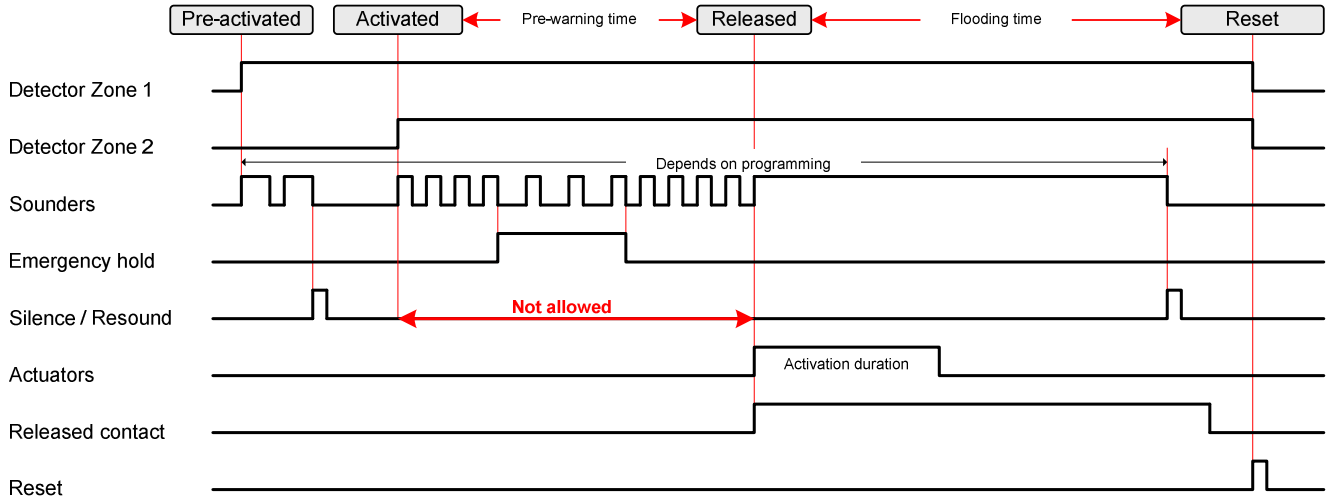


Fig. 2 Extinguishing process sequence

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 and it 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 this time, it is not possible to silence / re-sound the sounders and all people must evacuate the area to be flooded. The pre-warning time can be set to between 5 to 60 seconds.

After expiry of the pre-warning 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 sound. After several seconds, the pressure switch at the cylinder bank reports the release of extinguishing agent. From this point on, the alarm sounder(s) can be silenced. The

system can be reset only after completion of the flooding time. The flooding time can be set to between 10s to 30mn.

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.

3.2 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 pre-warning time. During that time, people can evacuate the room to be flooded. When the Hold Button is pressed, the pre-warning time is suspended and the alarm sounder(s) changes its tonality. When the Hold Button is released, the pre-warning time is restarted.

When not in pre-warning time, as a rule, the Hold Button is inoperable.

Emergency abort button
The Emergency Abort Button is used for canceling the initiated extinguishing during the pre-warning time. During the pre-warning 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 pre-warning 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 contact(s)
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. This blocking option is generally used in electrical equipment cabinet or object protection.

4 Operation

All display and control elements, except the 4-digit display for XC1001-A and XC1003-A versions, are accessible to the operator:

- LED 1 to 32 for operating conditions indication,
- Keys 1 to 15 allowing:
  - ➔ to enter level 2 access code
  - ➔ operation (reset, disabled, test, etc.)
- 4-digit display allowing:
  - ➔ pre-warning time countdown
  - ➔ alarm counter

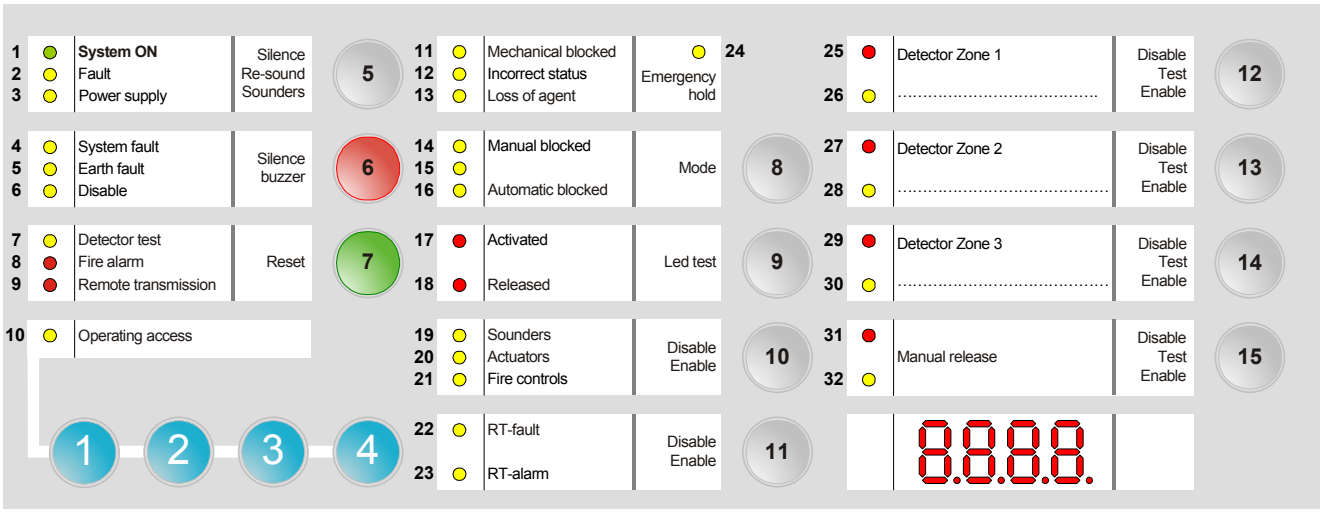


Fig. 3 User interface XC10xx-A

Indicators		State	Description
N°	Color		
1	Green	Fixed	The control panel is in operation
2	Yellow	Fixed	The control panel is not able to function any more
		Fast	Fault on at least one component in the system
3	Yellow	Slow	Mains fault
		Fast	Batteries fault
4	Yellow	Fixed	Microprocessor fault
		Slow	Jumper buzzer (X3 - XCM1002 board) not connected (remainder)
5	Yellow	Fast	At least one component connected to the control panel is grounded
6	Yellow	Fixed	– At least one component in the system is disabled – Calibration in progress or error – Programming in progress
7	Yellow	Slow	At least one detection zone and/or extinguishing manual control is being tested
8	Red	Fixed	At least one detection zone is in alarm
9	Red	Fixed	Remote transmission activated
10	Yellow	Fixed	Level 2 operating access granted
		Slow	System test activated
11	Yellow	Fixed	Mechanical blocking device is in the blocked position
12	Yellow	Fast	– Mechanical blocking device is in a wrong position – Selector valve is in a wrong position (used for multi-sector applications)
13	Yellow	Fast	Loss of agent

Indicators		State	Description
N°	Color		
14	Yellow	Fixed	– Manual release is blocked or being tested
15	Yellow	Fixed	– Standard = not used – Alternative = automatic and manual release granted (UK)
16	Yellow	Fixed	– Automatic release is blocked – At least one detection zone which starts the extinguishing is off or being tested
17	Red	Fixed	– All detection zones which start the extinguishing are in alarm condition – One of the electrical manual triggering device (DM1103-L) is actuated
		Fast	One of the detection zones which start the extinguishing is in alarm condition
18	Red	Fixed	Extinguishing agent is released
		Slow / Fast	Discharged contact is not activated within 30 seconds after actuators control
19	Yellow	Fixed	Sounders are disabled
		Slow	Sounders test is in progress (real activation)
		Fast	At least, an output programmed as Sounders is in fault condition (break or short-circuit)
20	Yellow	Fixed	Actuators are disabled
		Slow	Actuators test is in progress (simulated activation)
		Fast	– At least, one output programmed as actuators is in fault condition (break or short-circuit) – Calibration in progress or error or no calibration data
21	Yellow	Fixed	Fire controls are disabled
		Slow	Warning panels test is in progress (real activation)
		Fast	At least, one output programmed as fire controls is in fault condition (break or short-circuit)
22	Yellow	Fixed	RT-fault is disabled
		Slow	RT-fault test is in progress (real activation)
23	Yellow	Fixed	RT-alarm is disabled
		Slow	RT-alarm test is in progress (real activation)
		Fast	At least, one output programmed as RT-alarm is in fault condition (break or short-circuit)
24	Yellow	Fixed	Emergency abort is activated
		Slow	Emergency hold is activated (DM1101-S)
		Fast	At least, one input programmed as emergency hold/abort is in fault condition (break or short-circuit)
25	Red	Fixed	Detection zone 1 is in alarm condition
		Slow	Detection zone 1 is in alarm condition (first alarm)
26	Yellow	Fixed / Slow	Detection zone 1 is disabled (fixed) / being tested (slow)
		Fast	Detection zone 1 is in fault condition (break or short-circuit)
27	Red	Fixed	Detection zone 2 is in alarm condition
		Slow	Detection zone 2 is in alarm condition (first alarm)
28	Yellow	Fixed / Slow	Detection zone 2 is disabled (fixed) / being tested (slow)
		Fast	Detection zone 2 is in fault condition (break or short-circuit)
29	Red	Fixed	Detection zone 3 is in alarm condition
		Slow	Detection zone 3 is in alarm condition (first alarm)
30	Yellow	Fixed / Slow	Detection zone 3 is disabled (fixed) / being tested (slow)
		Fast	Detection zone 3 is in fault condition (break or short-circuit)
31	Red	Fixed	Manual release is activated (DM1103-L line)
		Slow	Manual release is activated (DM1103-L line) – First alarm
32	Yellow	Fixed / Slow	Manual release is disabled (fixed) / being tested (slow)
		Fast	Manual release is in fault condition (break or short-circuit)

Keys	Description
1 … 4	Operating access code input (level 2, programming, system test, etc.)
5	Silence / Restart sounders by successive pressing: – 1st pressing: silence sounders – 2nd pressing: restart sounders – 3rd pressing: silence sounders … ➔ Operating access level required = level 2 (silence sounders is not possible during pre-warning time)
6	Silence buzzer ➔ Operating access level required = level 1 or 2 or 2 only (*)
7	1) Reset of the system. Reset is not possible : – during pre-warning time, emergency stop and flooding time – if buzzer and/or sounders are not silenced – if manual release button and/or discharged contact are not reset (*) ➔ Operating access level required = level 2
	2) Fault reset (*) ➔ Operating access level required = level 2
8	Mode of operating, by successive pressing: – 1st pressing: automatic blocked – 2nd pressing: automatic and manual blocked – 3rd pressing: normal mode ➔ Operating access level required = level 2
9	Led and buzzer test (duration = 6 seconds) : All led indicators are activated and the buzzer sounds continuously (during the first three seconds, all the segments of the display are activated, then the SW version is displayed) ➔ Operating access level required = level 1
10	Disable / Enable by successive pressing: – 1st pressing: actuators are disabled – 2nd pressing: sounders and actuators are disabled – 3rd pressing: fire controls are disabled – 4th pressing: all is disabled – 5th pressing: all is enabled ➔ Operating access level required = level 2
11	Disable / Enable by successive pressing: – 1st pressing: RT-fault is disabled – 2nd pressing: RT-fault is enabled / RT-alarm is disabled – 3rd pressing: RT-fault and RT-alarm are disabled – 4th pressing: all are enabled ➔ Operating access level required = level 2
12	Disable / Enable by successive pressing (not possible in case of fault or alarm): – 1st pressing: zone 1 is disabled – 2nd pressing: zone 1 is tested – 3rd pressing: zone 1 is in normal condition ➔ Operating access level required = level 2
13	Disable / Enable by successive pressing (not possible in case of fault or alarm): – 1st pressing: zone 2 is disabled – 2nd pressing: zone 2 is tested – 3rd pressing: zone 2 is in normal condition ➔ Operating access level required = level 2
14	Disable / Enable by successive pressing (not possible in case of fault or alarm): – 1st pressing: zone 3 is disabled – 2nd pressing: zone 3 is tested – 3rd pressing: zone 3 is in normal condition ➔ Operating access level required = level 2
15	Disable / Enable by successive pressing (not possible in case of fault or alarm): – 1st pressing: manual release is disabled – 2nd pressing: manual release is tested – 3rd pressing: manual release is in normal condition ➔ Operating access level required = level 2

4.1 Operating access levels

XC10xx-A operation is organized in several operating access levels.

Operating access level 1

This level gives access to:
- silence buzzer
- led test
- fault detailed display
- alarm counter display (XC1005-A only)

Operating access level 2

This operating access level gives access, after code input on keyboard (4 2 3 3 by default or personalized) or by key (option), to the following controls:
- silence buzzer
- silence / re-sound sounders
- automatic blocked / automatic and manual blocked
- disable / enable
- test of zones 1...4
- reset
- test of sounders, warning panels, RT-alarm and RT-fault

Operating access level 2 is automatically disabled after 4 minutes if no handling is carried out for this period.

To enable operating access level 2, enter the default code « **4 2 3 3** » on the keypad or insert the key into the lock and turn it 90° clockwise (to the right):

➔ LED « Operating access » (10) lights up (fixed)

In order to again block operating access Level 2, turn the key to the starting position and remove it from the lock:

➔ LED « Operating access » (10) is no longer lit

Operating access level 2 is automatically disabled after 4 minutes if no handling is carried out for this period.

In normal operation, only the green LED « System on » (1) is lit up and only operating access level 1 operations can be carried out. However, note that:

- yellow LED « Manual blocked » (14) or « Automatic blocked » (16) or both can be lit up (fixed)
- yellow LED « Extinguishing blocked » (11) can be lit up (fixed)

4.2 Extinguishing process

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
- The red Leds "Detector Zone 1" or "Detector Zone 2" light up
- The red Led “Fire alarm” light up
- The red Led "Activated" flashes, indicating the pre-activated condition

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" (6) key
2. Enable operating access level 2 (access code or key)
3. Press the "Silence Re-sound Horn" (5) key
4. Press the "Mode Select" (8) key
   ➔ yellow LED « Automatic blocked » (16) and « Disabled » (6) light up (fixed)

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 operating access level 2 (access code or key)
2. Press the "Reset" (8) key
   ➔ yellow LED « Automatic blocked » (16) and « Disabled » (6) are no longer lit

Activated
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 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" (17) changes from flashing to fixed
- the Led « Remote transmission » (9) lights up
- the pre-warning time starts counting down (adjustable from 0 to 60 seconds - 30 seconds by default)
- the 4 digit display show the pre-warning time count down (for XC1005-A)

At this stage, no action can be carried out to prevent extinguishing release. All people in the area to be flooded must immediately evacuate it. However, you have the option of temporary hold or abort extinguishing (only a local intervention, provided this device is installed).

1. Press the Emergency Hold Button, until all people have left the room or press the Emergency Abort Button, if you want to abort the initiated extinguishing

Flooding Time
The extinguishing actuator is triggered after pre-warning time elapsing and flooding time beginning.

- the red Led "Activated" is on (continuous)
- 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 operating access level 2 (access code or key)
2. Press the "Silence Re-sound Horn" (5) key

Note: Horn silence is only accepted after state “Released” is reported

Released condition is shown as soon as actuators are triggered or after “extinguishing agent release” contact as been activated (if this contact is used).

Reset
After the flooding time (adjustable from 1 to 30mn - 1mn by default), you can reset the control unit by pressing the « Reset » key (7).

The reset can be only carried out after flooding time elapsed, internal buzzer and sounders silenced, discharged contact restored and manual release button restored (if it was actuated).

Fire Controls
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 “Activated” or "Released" conditions.

If the extinguishing control unit is connected to a fire detecting system, then as a rule "Fire alarm", “Activated” and “Released” conditions are forwarded.

5 Disabling part of the system

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!

5.1 Disabling detection zones and/or manual release

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 or the manual release:

1. Enable operating access level 2
2. Press key « Disable/Test/Enable » (12 to 15) next to the part to disable or test:
- 1st press: Disable (corresponding yellow Led lit up fixed),
- 2nd press: Test (corresponding yellow Led flashes slowly),
- 3rd press: Enable (corresponding yellow Led off).

- When zones 1 and/or 2 are disabled or in test, yellow Led « Automatic blocked » (16) is lit up (fixed)
- When manual release is disabled or in test, yellow Led « Manual blocked » (14) is lit up (fixed)

Disable
To disable a detection zone or the manual release whereas an alarm or a fault is displayed, it is necessary to reset then apply the procedure above before the alarm or fault reappears (assigned time ≈ 10 seconds).

Test
Sequentially trigger an alarm on all the detectors / manual release buttons and check that the red Led of the zone / manual release and the alarm indicator of the detector / of the manual release button lights up (fixed) during ≈ 10 seconds.

During the test, neither sound nor control is enabled.

Take care to reset the manual control button **before** leaving the “Test” position, otherwise the extinguishing cycle will be triggered.

5.2 Disabling alarm sounders, actuators and fire controls

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

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

Here's how to proceed, in order to disable the alarm sounders and the fire controls:

1. Enable operating access level 2
2. Press key « Disable / Enable » (10) until obtaining the desired disabling (corresponding yellow LED lit up fixed):
- 1st press: actuators
- 2nd press: actuators + sounders
- 3rd press: fire controls
- 4th press: actuators + sounders + fire controls
- 5th press: all enabled, the system is again in normal operation

The horns cannot be disabled independently of the actuators.

5.3 Disabling Remote transmission

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

WARNING	Blocked remote transmissions are also not activated in the event of an activation of extinguishing 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 operating access level 2
2. Press key « Disable / Enable » (11) until obtaining the desired disabling (corresponding yellow LED lit up fixed):
- 1st press: RT-fault blocked
- 2nd press: RT-alarm blocked
- 3rd press: RT-fault and RT-alarm blocked
- 4th press: all enabled, the system is again in normal operation

5.4 Setting Automatic blocked / Manual blocked operating modes

1. Enable level 2 access,
2. Press the « Mode select » key (8) until obtaining the desired operating mode (corresponding yellow LED lit up fixed):
- 1st press: Automatic blocked
- 2nd press: Automatic blocked + Manual blocked
- 3rd press: No blocking

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.

Depending on national regulations, the maintenance intervals can be set differently from the following maintenance recommendation.

Inspections to be carried out weekly:
- all panel indications
- press "Lamp test"

Inspections to be carried out every 3 months:
- manual release button
- emergency hold button and/or the emergency abort button
- cylinder bank

Inspections to be carried out annually:
- check alarm counter
- automatic activation and manual activation
  - sounders and optical warning devices activation
  - fire controls activation
- released condition by activation of the discharged contact
- mechanical blocking device
- loss of agent indication (pressure or weight of the cylinders)
- battery voltage (only possible by a service engineer)

Inspections to be carried out every 2 years:
- clean the control panel with soft soap. Do not use any aggressive solvent or containing abrasive material
- product labels legibility and exactitude
- each operating key
- operating access levels

Inspections to be carried out every 4 years:
- all fire detectors
- all detection circuit shorts and breaks and earthing connection
- replace the batteries and the pyrotechnical actuators (is used)

6.1 Checking all Led and internal buzzer

1. Press the key « Lamp test » (9) and check that:
➔ all Led light up
➔ internal buzzer sounds
➔ all display segments light up and software version appears (requires plastic cover remove for XC1001-A and XC1003-A models)

6.2 Checking alarm sounders

1. Enable operating access level 2
2. Press and hold down « Key 1 » on numeric keypad then press key « Silence/Re-sound sounders » (5) within 5 seconds:
   ➔ sounders are enabled for 30 seconds
   ➔ « Sounder » Led (19) flashes slowly
3. Press « Lamp test » key (9) to end the test before 30 seconds, if necessary

6.3 Checking optical warning panels

1. Enable operating access level 2
2. Press and hold down « key 2 » on numeric keypad then press key « Silence/Re-sound sounders » (5) within 5 seconds:
   ➔ optical warning panels are activated for 30 seconds
   ➔ « Fire controls » Led (21) flashes slowly
3. Press « Lamp test » key (9) to end the test before 30 seconds, if necessary

6.4 Checking Remote Transmission alarm

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

1. Enable operating access level 2
2. Press and maintain « key 3 » on numeric keypad then press key « Silence/Re-sound sounders » (5) within 5 seconds:
   ➔ RT-alarm is enabled for 30 seconds and RT-alarm Led (23) flashes slowly
3. Press « Lamp test » key (9) to end the test before 30 seconds, if necessary

6.5 Checking Remote Transmission fault

1. Enable operating access level 2,
2. Press and maintain « key 4 » on numeric keypad then press key « Silence/Re-sound sounder » (5) within 5 seconds:
   ➔ RT-fault is enabled for 30 seconds and RT-fault Led (22) flashes slowly
3. Press « Lamp test » key (9) to end the test before 30 seconds, if necessary.

6.6 Alarm counter

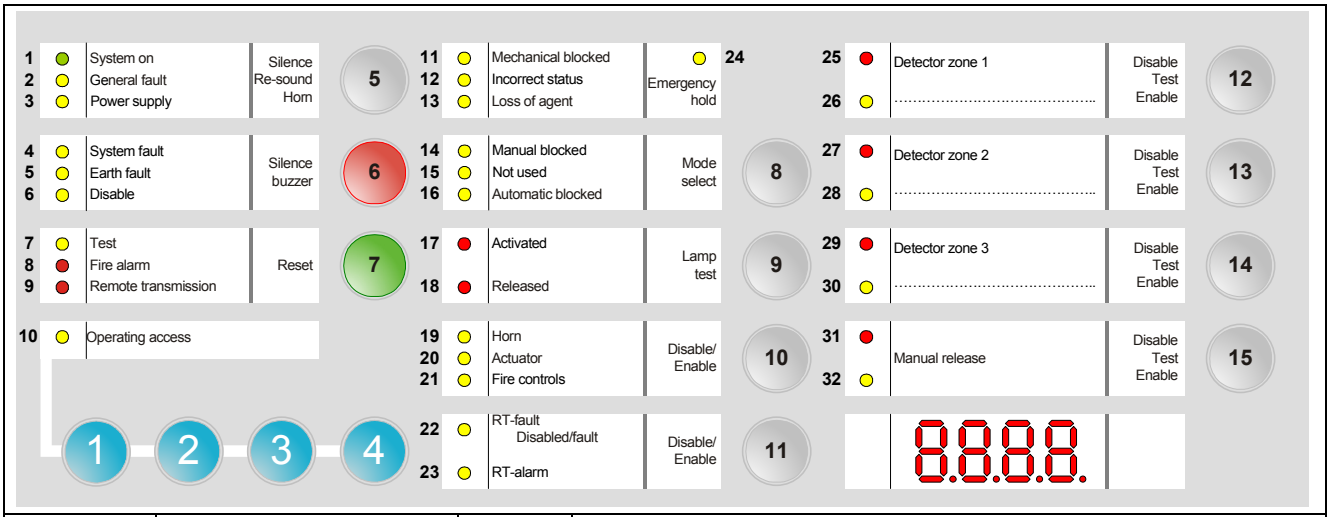
1. Press simultaneously the keys “1” and “2” on the numeric keypad:
   ➔ The number of alarms appears on the 4 digit-display for 5 seconds (requires plastic cover remove for XC1001-A and XC1003-A models).

7 Faults / Troubleshooting

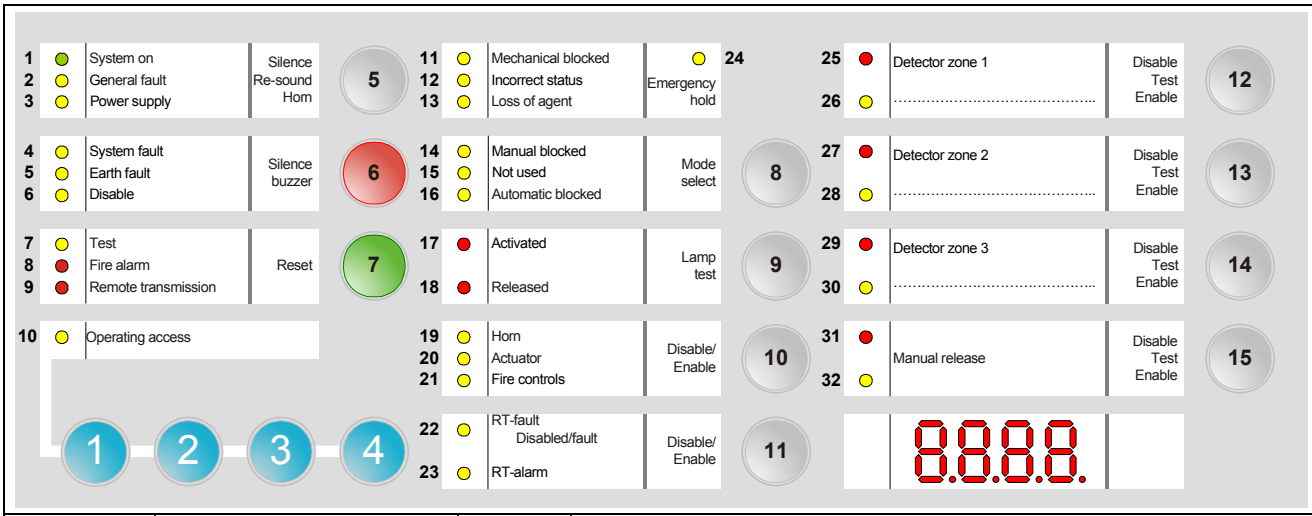
The control panel has an extended auto-test function. In case the system indicates a fault or is not in normal operating mode, the following table presents a listing of possible faults with notes on possible causes.

WARNING Always eliminate faults as soon as possible

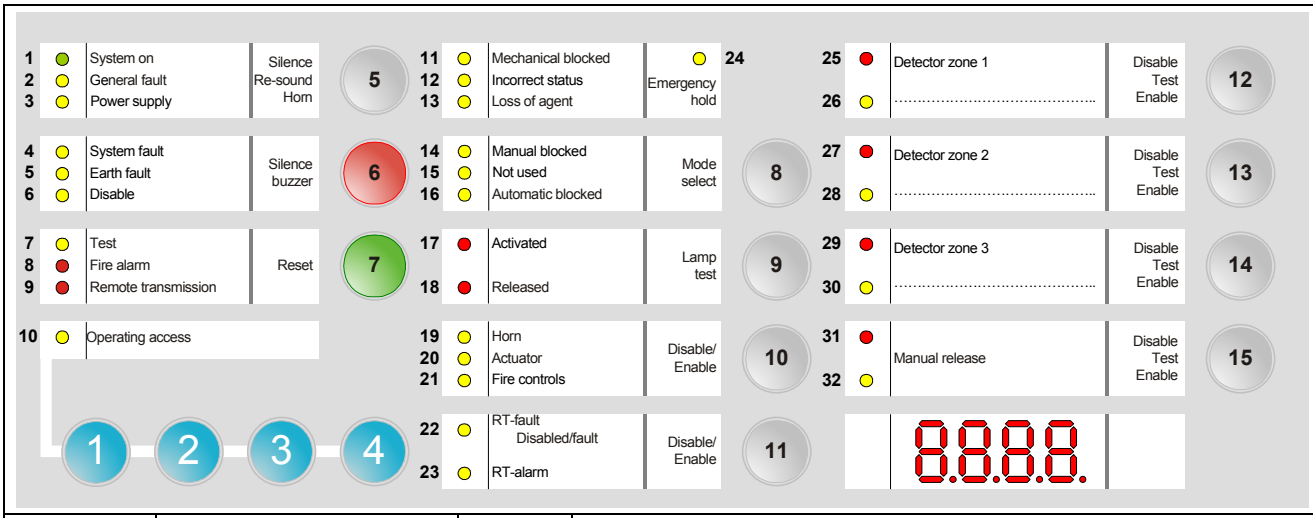
Press simultaneously keys “1” and “3” of the numeric keypad:
- Faults appear for 5 seconds according to the table below



LED		Designation	State	Significance	
N°	Color				
2	Yellow	Fault	Fixed	Multi-sector function: individual module (XCA1030) disconnected	
			Slow	Multi-sector function: RS485 bus (OL / SC / communication fault)	
3	Yellow	Power supply fault	Fixed	Multi-sector function: loss of agent	
			Slow	Multi-sector function: loss of agent (OL / SC)	
5	Yellow	Earth fault	Fixed	Multi-sector function: earth fault	
6	Yellow	Disable	Fixed	Multi-sector function: actuator (OL / SC)	
			Slow	Multi-sector function: inter-blocking (OL / SC)	
			Fast	Multi-sector function: actuator + inter-blocking (OL / SC)	
7	Yellow	Test	Fixed	Multi-sector function: selector valve (SC)	
			Slow	Multi-sector function: selector valve (OL)	
			Fast	Multi-sector function: selector valve (incorrect status)	
8	Red	Fire alarm	Fixed	Multi-sector function: actuator blocked	
9	Red	Remote transmission	Fixed	Multi-sector function: power supply fault	
11	Yellow	Mechanical blocked	Fixed	Short circuit	Monitored input 1
			Slow	Break	
12	Yellow	Incorrect status	Fixed	Short circuit	Monitored input 2
			Slow	Break	



LED		Designation	State	Significance	
N°	Color				
13	Yellow	Loss of agent	Fixed	Short circuit	Monitored input 3
			Slow	Break	
			Fast	Incorrect status	
14	Yellow	Manual blocked	Fixed	Short circuit	Monitored input 4
			Slow	Break	
15	Yellow	Not used	Fixed	24 V output fuse blown	
16	Yellow	Automatic blocked	Fixed	Key enabled more than 5 mn	
19	Yellow	Sounders	Fixed	Short circuit	Monitored output 1
			Slow	Break	
20	Yellow	Actuators	Fixed	Short circuit	Monitored output 2
			Slow	Break	
21	Yellow	Fire controls	Fixed	Short circuit	Monitored output 3
			Slow	Break	
22	Yellow	RT-Fault	Fixed	Short circuit	Monitored output 4
			Slow	Break	
			Fast	Calibration error	
23	Yellow	RT-Alarm	Fixed	Short circuit	Monitored output 5
			Slow	Break	
			Fast	Calibration error	
25	Red	Zone 1	Fixed	Alarm < 15 s after reset	Detection line 1
26	Yellow	Zone 1	Fixed	Short circuit	
			Slow	Break	
27	Red	Zone 2	Fixed	Alarm < 15 s after reset	Detection line 2
28	Yellow	Zone 2	Fixed	Short circuit	
			Slow	Break	
29	Red	Zone 3	Fixed	Alarm < 15 s after reset	Detection line 3
30	Yellow	Zone 3	Fixed	Short circuit	
			Slow	Break	



LED		Designation	State	Significance	
N°	Color				
31	Red	Manual release	Fixed	Enabled < 15 s after reset	Manual release line
32	Yellow	Manual release	Fixed	Short circuit	
			Slow	Break	

For any faults listed above, the service provider in account must be contacted

CAUTION

Any electrical fault (break or short circuit) on the following lines may have a direct consequence on the extinguishing process, or in some cases prevent it.

- Detector lines
- Manual release line
- Monitored control output 1 to 5
- Monitored inputs 1 to 4

It is imperative to fix any fault in a short delay in order to not jeopardize an extinguishing process.

8 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.

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

- Batteries
- Electronic components (control units, main-board and all detectors)
- Plastic cover
- Cabinets
- Extinguishing agent cylinders

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

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

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