



XC10 – combined fire detection and extinguishing control

Planning Tool for single-sector applications

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The information in this document contains general descriptions of technical options available, which do not always have to be present in individual cases. The required features should therefore be specified in each individual case at the time of closing the contract.

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Answers for infrastructure.

Our world is undergoing changes that force us to think in new ways: demographic change, urbanization, global warming and resource shortages. Maximum efficiency has top priority – and not only where energy is concerned. In addition, we need to increase comfort for the well-being of users. Also, our need for safety and security is constantly growing. For our customers, success is defined by how well they manage these challenges. Siemens has the answers.

“We are the trusted technology partner for energy-efficient, safe and secure buildings and infrastructure.”

www.siemens.com/XC10

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- Advanced control panels for detection and alarming as well for the activation of the extinguishing process
- Functions with different types of detectors and automated extinguishing systems
- Possible – single- and multi-sector – stand-alone or integrated into a larger fire safety system
- Backed by decades of know-how and experience from Siemens
- XC10 control panels comply with international standards

Covering sophisticated requirements with advanced control panels

Compact panels for fire detection and extinguishing control



Protecting people and assets, business processes and continuity are core aspects of fire safety. With XC10, Siemens offers a family of control panels for comprehensive fire safety: The panel family combines both fire detection and extinguishing control. After receiving a fire alarm from the connected fire detectors, the combined XC10 panels trigger the extinguishing process. XC10 panels are the ideal choice for protecting valuable objects, a single sector (one room) or multi sectors (multiple rooms) with sophisticated requirements. XC10 can be installed as an independent control panel or be integrated into a larger fire safety system.

Ensuring business continuity and extinguishing control. That's more, Siemens also provides all you need for control panels that combine fire detection and alarming as well for the activation of the extinguishing process. Functions with different types of detectors and automated extinguishing systems. Possible – single- and multi-sector – stand-alone or integrated into a larger fire safety system. Backed by decades of know-how and experience from Siemens. XC10 control panels comply with international standards.

Easy combination of fire detection and extinguishing systems that offer a comprehensive portfolio based on expert knowledge. The high-quality products and systems up to 16 flooding zones, XC10 is the ideal choice for large applications with several extinguishing sectors. Another advantage: products are continuously developed in cooperation with fire departments and scientific institutes. This includes testing in Siemens' own test laboratories. And it's a matter of course that all products comply with the latest international standards.

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Compatibility chart for fire detection

Fire detectors	Conventional line SynoLINE300	Collective line SynoLINE600	Detector base						Alarm indicators				
			DB1101A BPZ-4863650001	DB110 554372-F5-A1	FDR221 ASQ00001664	FDR222 554319-F1-A1	FDR291 ASQ00003310	FDR291 ASQ00003941	FA91C (frame mounting) 554370-F7-A1 FA92C (surface mounting) 554370-F8-A1	FA91 (frame mounting) 554370-F9-A1	FA92 (surface mounting) 554370-F3-A1	FA93 (flush mounting) 554370-F5-A1	
Multi-sensor detectors													
F0007241-9 ASQ00004813	Yes	Yes	–	–	Yes	Yes	–	–	–	–	Yes	Yes	Yes
OOH740554320-F7-A3	Yes	Yes	–	Yes	–	–	–	–	–	–	Yes	Yes	Yes
OH110554372-F11-A1	Yes	Yes	–	Yes	–	–	–	–	–	–	Yes	Yes	Yes
Optical detectors													
OP110554372-F4-A1	Yes	Yes	–	Yes	–	–	–	–	–	–	Yes	Yes	Yes
DO1101A BPZ-493020001	–	Yes	Yes	–	–	–	–	–	–	–	Yes	Yes	Yes
Heat detectors													
H1110554372-F9-A1	Yes	Yes	–	Yes	–	–	–	–	–	–	Yes	Yes	Yes
H112554372-F10-A1	Yes	Yes	–	Yes	–	–	–	–	–	–	Yes	Yes	Yes
DT1101A (rate of rise) BPZ-4931700001	–	Yes	Yes	–	–	–	–	–	–	–	Yes	Yes	Yes
DT1102A (rate of rise and maximum) BPZ-4931830001	–	Yes	Yes	–	–	–	–	–	–	–	Yes	Yes	Yes
Special detectors													
Flame detectors F0F221-90F241-9 ASQ00003902 ASQ00003096	Yes	Yes	–	–	–	Yes	–	–	–	–	Yes	Yes	Yes
Linear smoke detector FDL241-9 ASQ00002298	Yes	Yes	–	–	–	–	–	Yes	–	–	Yes	Yes	Yes

For further products please see Cerberus PRO and Sinteso Planning Tools

Fire detectors	Sinteso FDiNet	Cerberus PRO C-NE1	Detector base						Alarm indicators			
			DB721 554319-F11-A1	FDR221 ASQ00001664	FDR222 554319-F1-A1	FDR291 ASQ00003310	FDR291 ASQ00003941	FDAI221 (addressable) 554370-F10-A1	FA91 (frame mounting) 554370-F9-A1	FA92 (surface mounting) 554370-F3-A1	FA93 (flush mounting) 554370-F5-A1	
Multi-sensor detectors												
F0007241-9 ASQ00004813	Yes	–	–	Yes	Yes	–	–	–	Yes	Yes	Yes	Yes
F0007221 ASQ00016442	Yes	–	–	Yes	Yes	–	–	–	Yes	Yes	Yes	Yes
OH720554310-F2-A1	–	Yes	Yes	–	–	–	–	–	Yes	Yes	Yes	Yes
OOH740554320-F7-A3	–	Yes	Yes	–	–	–	–	–	Yes	Yes	Yes	Yes
Optical detectors												
OP220554310-F1-A1	–	Yes	Yes	–	–	–	–	–	Yes	Yes	Yes	Yes
FD0221ASQ00016440	Yes	–	–	Yes	Yes	–	–	–	Yes	Yes	Yes	Yes
FD0241ASQ00016441	Yes	–	–	Yes	Yes	–	–	–	Yes	Yes	Yes	Yes
Heat detectors												
H722554310-F3-A1	–	Yes	Yes	–	–	–	–	–	Yes	Yes	Yes	Yes
H720554310-F4-A1	–	Yes	Yes	–	–	–	–	–	Yes	Yes	Yes	Yes
FD221ASQ00016444	Yes	–	–	Yes	Yes	–	–	–	Yes	Yes	Yes	Yes
FD241ASQ00016445	Yes	–	–	Yes	Yes	–	–	–	Yes	Yes	Yes	Yes
Special detectors												
Flame detectors F0F221-90F241-9 ASQ00003902 ASQ00003096	Yes	Yes	–	–	–	Yes	–	–	Yes	Yes	Yes	Yes
Linear smoke detector FDL241-9 ASQ00002298	Yes	Yes	–	–	–	–	–	Yes	Yes	Yes	Yes	Yes
Aspirating smoke detectors FDA21554333-F17-A1 FDA221554333-F15-A1	Yes	Yes	–	–	–	–	–	–	Yes	Yes	Yes	Yes

For further products please see Cerberus PRO and Sinteso Planning Tools

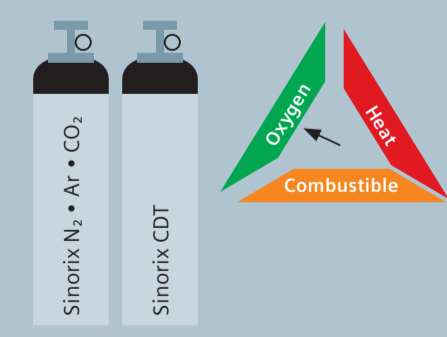
Sinorix extinguishing systems from Siemens

Automated extinguishing systems are designed on the basis of the following principle: Every fire needs three elements – oxygen, heat and a combustible. If only one of these elements is removed, a fire cannot spread and will inevitably go out.

Siemens offers Sinorix – a comprehensive range of automated extinguishing systems based on natural and chemical agents as well as gas/water-combined and water mist systems. They can all be tailored to individual customer requirements.

Systems with natural agents

Systems with inert gases work principally by displacing the oxygen, inerting the protected area, they thus extinguish the fire.

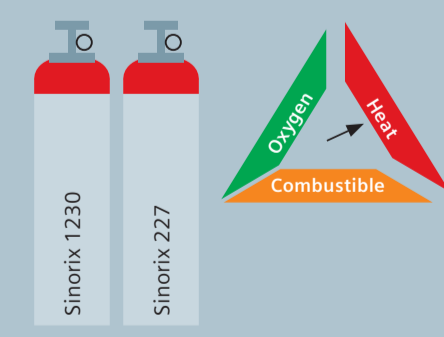


Sinorix N₂ + Ar + CO₂
Extinguishing systems with natural agents for maximum flexibility in system design and engineering.

Sinorix CDT
Innovation based on extinguishing with natural agents to provide constant gas discharge that allows a reduction of overpressure flaps by up to 70%.

Systems with chemical agents

Systems with chemical gases absorb heat from a fire, leaving it without energy, they thus extinguish the fire.

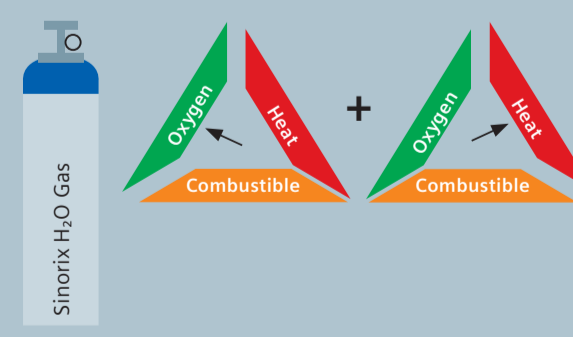


Sinorix 1230
System based on the environmentally friendly extinguishing agent 3M™ Novac™ 1230 Fire Protection Fluid with 42-bar technology that enables highest extinguishing efficiency and flexibility in engineering.

Sinorix 227
Extinguishing system based on the globally known HFC 227ea with 42-bar technology for fast and reliable extinguishing.

Gas/water-combined system

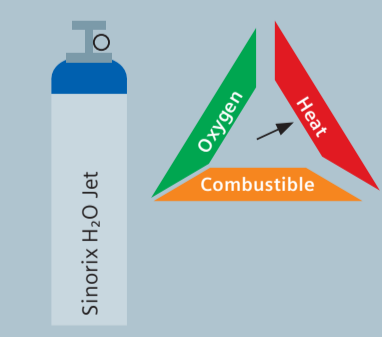
Gas/water-combined systems basically combine the displacing of oxygen with the positive cooling effect of water.



Sinorix H₂O Gas
Highly efficient combination of nitrogen and water extinguishing technology with an additional positive cooling effect – for secure extinguishing and reliable room protection.

Water mist system

Water mist systems absorb heat from a fire. Leaving it without energy, they thus control or extinguish the fire.



Sinorix H₂O Jet
Unique two-phase flow technology that generates fine water droplets at low hydraulic pressure – for efficient control of open fires as well as for effective object protection thanks to accurate extinguishing.

Worth knowing when planning extinguishing systems

When planning an extinguishing system for an object or a room (or several), there are some basic aspects which are worthwhile to consider as they greatly influence the choice of the right system and agent. Some of these aspects are:

Applications/risks of fire
Depending on the type of application, e.g. data center, archives, turbines, etc., different risks of fire occur. Such risks of fire can be open fires, smoldering fires, deep-seated fires, etc. They influence the choice of extinguishing system and agent.

Space requirements
In some cases, space plays a major role (e.g. due to space restrictions) when choosing the appropriate system and agent. Chemical agents usually require less space than natural agents, high-pressure systems may also influence the space requirements.

Overpressure flaps
Overpressure flaps can be quite complex to implement due to structural conditions. Systems that provide constant gas discharge or systems using chemical agents offer significant advantages.

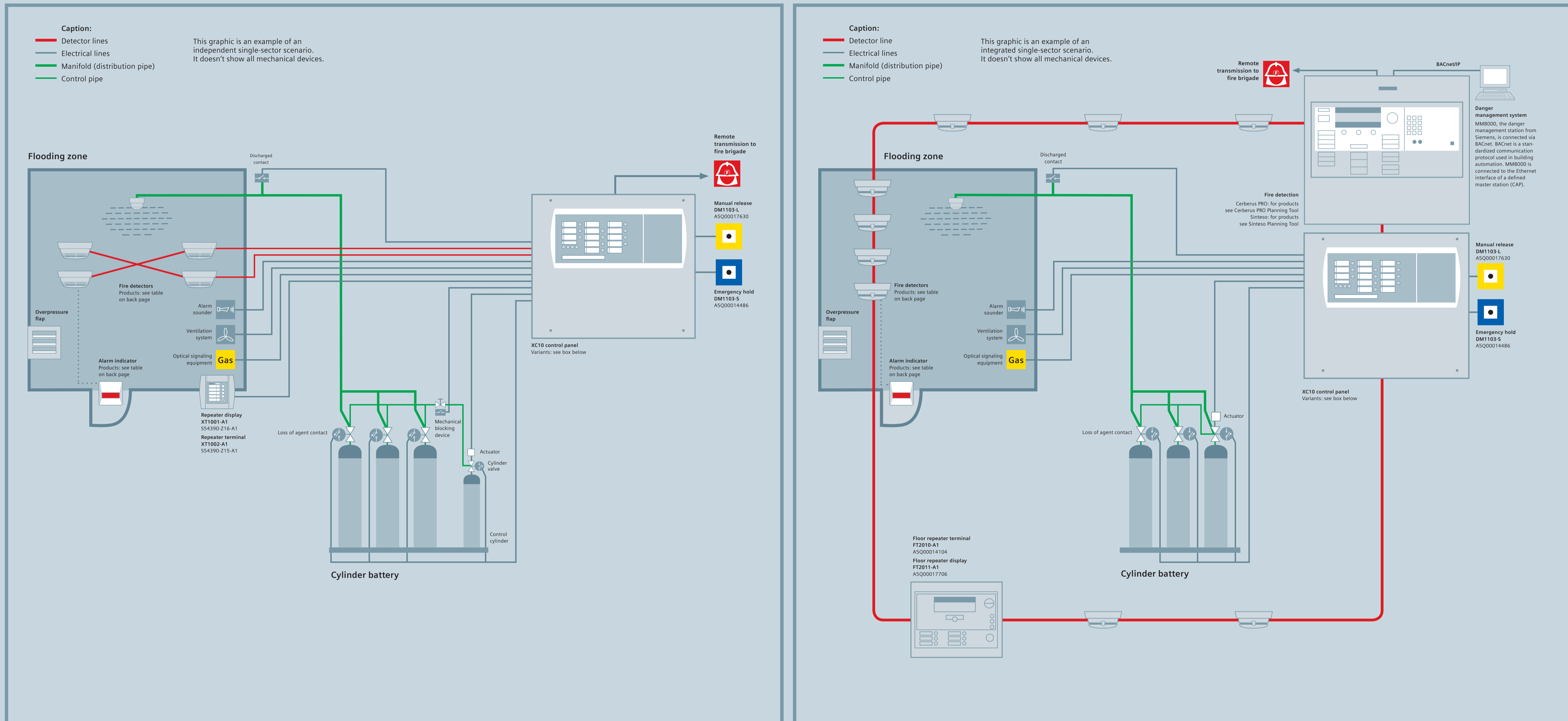
Personnel safety implications
Some systems require special personnel safety measures. They are necessary if the oxygen concentration drops below 10 vol-% in the protected area at complete flooding or due to some extinguishing agents, e.g. CO₂. These measures ensure that the required evacuation time is met.

Approvals and regulations
Differences in calculations can occur due to different code of practices in the countries, e.g. false ceiling – USA: A false ceiling is not incorporated in the protected area – Europe: A false ceiling has to be incorporated in the protected area

Code of practice
Differences in calculations can occur due to different code of practices in the countries, e.g. false ceiling – USA: A false ceiling is not incorporated in the protected area – Europe: A false ceiling has to be incorporated in the protected area

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Stand-alone scenario

This graphic shows the combined fire detection and extinguishing control panel XC10 operating as an independent (stand-alone) system. The fire detectors as well as the peripheral devices are directly connected to XC10. You can choose from a wide range of conventional and collective fire detectors as well as special detectors. The detectors are mounted in a cross-zoning. XC10 works with most types of extinguishing systems for room or object protection.

A single-sector installation consists of a single set of cylinders placed in a storage area. In case of a fire, the extinguishing agent flows through the manifolds to the protected room and is distributed there by the nozzles.

A single actuator (electromagnetic or pyrotechnical) triggers a pilot cylinder which then activates the main cylinders pneumatically. In some countries, cylinders can be individually installed next to the protected zone. In such cases, there is no need for manifolds as the nozzle is directly connected to the top of each cylinder.

Advantages of this kind of application:
 - Simple planning as few cabling is needed
 - XC10 control panel monitors and controls all functions
 - Especially suitable for small installations

XC10 panels

XC10 single-sector extinguishing panels for one flooding zone to control small- and medium-sized extinguishing installations. Self-contained control unit including fire detection and extinguishing control.

Two valve control lines, both compatible for activation of solenoids and pyrotechnical actuators.

Shared properties:
 - 2 detector lines for automated activation
 - 1 line for manual activation
 - 1 additional detector line
 - 4 monitored inputs
 - 4 control inputs
 - 2 monitored valve controls 24 V/2 A
 - 3 monitored outputs 24 V/500 mA
 - 5 outputs dry contact 30 V/1 A
 - 8 open collector outputs 24 V/40 mA

Extinguishing panel standard XC1001-A
 Order no. 554390-C1-A1
 For small to medium installations
 - Power supply: 3.5 A/105 W
 - Max. battery back-up time: 12 h
 - Max. battery capacity: 2x 4.5 Ah
 - Housing: 370x286x90 mm (WxHxD)
 - Up to 2x relays modules Z38171 (BPZ:4843830001)

Extinguishing panel rack XC1003-A
 Order no. 554390-C2-A1
 For medium to large installations
 - Power supply: 3.5 A/105 W
 - Max. battery back-up time: 72 h
 - Max. battery capacity: 2x 17 Ah
 - Housing: 482.6 (19")x177.8 (4 U)x187 mm (WxHxD)

Extinguishing panel comfort XC1005-A
 Order no. 554390-C3-A1
 For medium to large installations
 - Power supply: 3.5 A/105 W
 - Max. battery back-up time: 72 h
 - Max. battery capacity: 2x 17 Ah
 - Housing: 505x375x125 mm (WxHxD)
 - Up to 6x relays modules Z38171 (BPZ:4843830001)

Fire safety system integration scenario

XC10 control panels can be easily integrated into a fire safety system as shown in the graphic. The fire detectors are part of the fire detection loop. You can choose from a wide range of addressable fire detectors as well as special detectors. Other commands from the fire detection control unit can also be transmitted to the extinguishing control panel (reset, acknowledge, etc.). In this application, the status of the extinguishing control panel is forwarded to the fire detection control unit.

Advantages of this kind of application:
 - You can use XC10 together with existing fire safety systems
 - Flexible integration ensures minimal cabling for a wide application range
 - Connection of Cerberus PRO/Sinteso control panel to a danger management system possible. It provides remote status indication and allows to receive remote control operation
 - Increased reliability due to advanced safety features, addressable fire control panels and fire detectors