



## XC10 – combined fire detection and extinguishing control

Planning Tool for multi-sector applications

Siemens Switzerland Ltd  
Infrastructure & Cities Sector  
Building Technologies Division  
International Headquarters  
Gubelstrasse 22  
6301 Zug  
Switzerland  
Tel +41 41 724 24 24

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.

3M and Novac are trademarks of 3M Company.

© Siemens Switzerland Ltd, 2013 • Order no. 0-92313-en • 11304

### 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](http://www.siemens.com/XC10)

Answers for infrastructure.



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.

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.

## Compact panels for fire detection and extinguishing control



- 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
- Functions for single- and multi-sector applications
- Wide range of installations for extinguishing cylinders that saves space and costs
- Broad range of installations possible – single- and multi-sector applications
- Backed by decades of know-how and experience from Siemens
- XC10 control panels comply with international standards

### Highlights

## Covering sophisticated requirements with advanced control panels

Ensuring business continuity and extinguishing control. What's more, Siemens also provides all you need for a fire incident: Fast fire detection, alarm- ing and activation of an extinguishing system are essential and can ensure business continuity. XC10 – with a new family of control panels – enables rapid, safe and automatic interventions. The XC10 control panels immediately trigger the extinguishing process after having received a fire alarm from the connected detectors. The Sinorix™ portfolio comprises intelligent extinguishing systems that offer the latest technologies in extinguishing and can be tailored to individual needs. Whether independent or integrated, the XC10 panel family can protect either a single-sector or a multi-sector application. In room or a turbine, it can also be used to protect a room or an object, such as an XC10 multi-sector application. XC10 is used for single-sector applications. XC10 is the ideal choice for large applications with several up to 16 flooding zones, XC10 is the ideal choice for large applications with several products are continuously developed in cooperation with the 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.

When it comes to fire safety, every second counts. That's why it's important to have a fast, reliable and comprehensive fire safety system. With XC10, you receive easy combination of fire detection and extinguishing systems. 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 Planning Tool – multi sectors

Answers for infrastructure.

### Compatibility chart for fire detection

Fire detectors	Conventional line SynoLINE300	Collective line SynoLINE600	Detector base						Alarm indicators				
			DB1101A BPZ-4863650001	DB110 S54372-F5-A1	FDB221 ASQ00001664	FDB222 S54319-F1-A1	FDFR291 ASQ00003310	FDLR291 ASQ00003941	FA91C (frame mounting) S54370-F7-A1 FA92C (surface mounting) S54370-F8-A1	FA9A1 (frame mounting) S54370-F9-A1	FA9A2 (surface mounting) S54370-F3-A1	FA9A3 (flush mounting) S54370-F5-A1	
<b>Multi-sensor detectors</b>													
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
<b>Optical detectors</b>													
OP110554372-F4-A1	Yes	Yes	–	Yes	–	–	–	–	–	–	Yes	Yes	Yes
DO1101A BPZ-493020001	–	Yes	Yes	–	–	–	–	–	–	–	–	Yes	Yes
<b>Heat detectors</b>													
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
<b>Special detectors</b>													
<b>Flame detectors</b>													
FP221-9FP241-9 ASQ00003902 ASQ00003906	Yes	Yes	–	–	–	Yes	–	–	–	–	Yes	Yes	Yes
<b>Linear smoke detector</b>													
F0L241-9 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-Net	Detector base						Alarm indicators			
			DB721 S54319-F11-A1	FDB221 ASQ00001664	FDB222 S54319-F1-A1	FDFR291 ASQ00003310	FDLR291 ASQ00003941	FDCAI221 (addressable) S54370-F10-A1	FA9A1 (frame mounting) S54370-F9-A1	FA9A2 (surface mounting) S54370-F3-A1	FA9A3 (flush mounting) S54370-F5-A1	
<b>Multi-sensor detectors</b>												
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
<b>Optical detectors</b>												
OP220554310-F1-A1	–	Yes	Yes	–	–	–	–	–	Yes	Yes	Yes	Yes
F00221ASQ00016440	Yes	–	–	Yes	Yes	–	–	–	Yes	Yes	Yes	Yes
F00241ASQ00016441	Yes	–	–	Yes	Yes	–	–	–	Yes	Yes	Yes	Yes
<b>Heat detectors</b>												
H722554310-F3-A1	–	Yes	Yes	–	–	–	–	–	Yes	Yes	Yes	Yes
H720554310-F4-A1	–	Yes	Yes	–	–	–	–	–	Yes	Yes	Yes	Yes
FDT21ASQ00016444	Yes	–	–	Yes	Yes	–	–	–	Yes	Yes	Yes	Yes
FDT241ASQ00016445	Yes	–	–	Yes	Yes	–	–	–	Yes	Yes	Yes	Yes
<b>Special detectors</b>												
<b>Flame detectors</b>												
FP221-9FP241-9 ASQ00003902 ASQ00003906	Yes	Yes	–	–	–	Yes	–	–	Yes	Yes	Yes	Yes
<b>Linear smoke detector</b>												
F0L241-9 ASQ00002298	Yes	Yes	–	–	–	–	–	Yes	–	Yes	Yes	Yes
<b>Aspirating smoke detectors</b>												
FDA21S54333-F17-A1 FDA221S54333-F15-A1	Yes	Yes	–	–	–	–	–	–	Yes	Yes	Yes	Yes

For further products please see Cerberus PRO and Sinteso Planning Tools

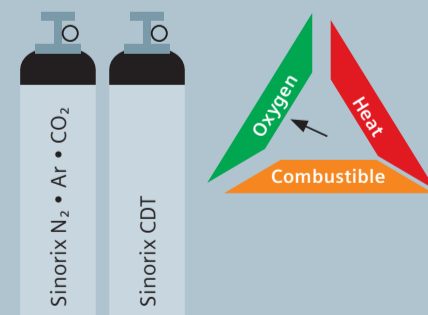
### Sinorix extinguishing systems from Siemens

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.

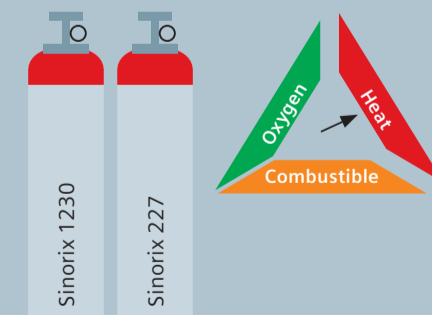


**Sinorix N<sub>2</sub> + Ar + CO<sub>2</sub>**  
Extinguishing systems with natural agents for maximum flexibility in system design and engineering.

**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.

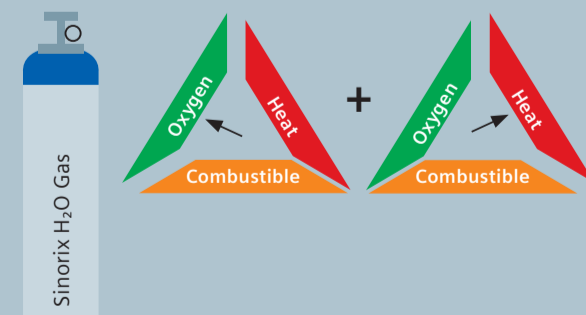


**Sinorix 1230**  
System based on the environmentally friendly extinguishing agent 3M™ Novac™ 1230 Fire Protection Fluid with 42-bar technology that enables highest extinguishing efficiency and flexibility in engineering.

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

#### Gas/water-combined system

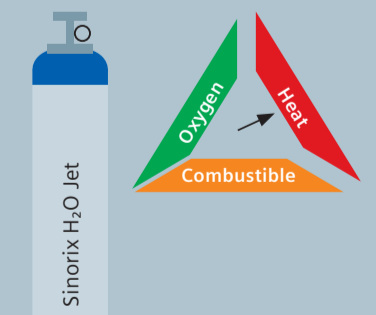
Gas/water-combined systems basically combine the displacing of oxygen with the positive cooling effect of water.



**Sinorix H<sub>2</sub>O 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 H<sub>2</sub>O 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.

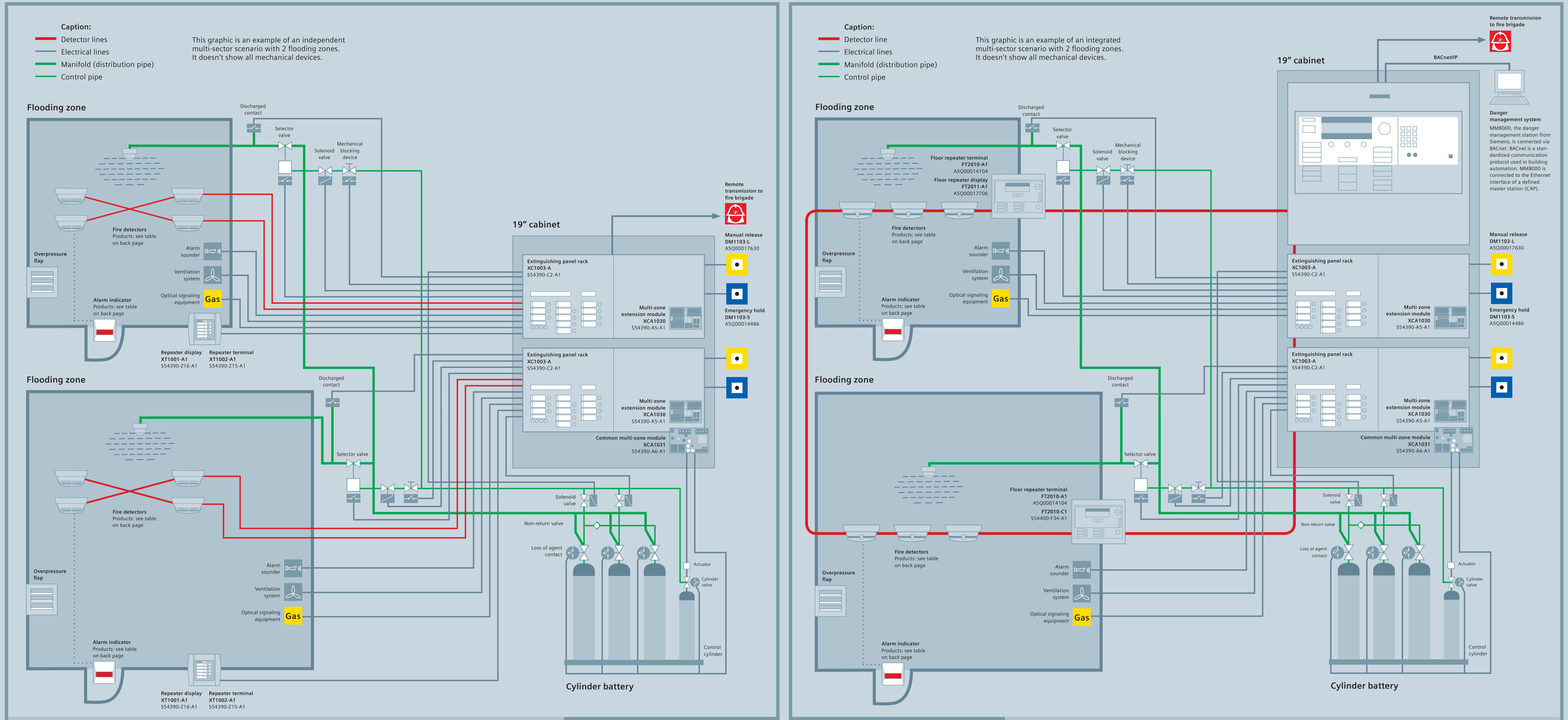
**Personnel safety implications**  
Some systems require special personnel safety measures. They are necessary if the oxygen concentration drops below 10 vol-% in the protected area at complete flooding or due to some extinguishing agents, e.g. CO<sub>2</sub>. These measures ensure that the required evacuation time is met.

**Approvals and regulations**  
Some national regulations and approval requirements can influence the choice of system and agent, e.g. the required amount of agent can vary from regulation to regulation. Furthermore, systems with specially approved components usually offer higher reliability.

**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

# XC10 Planning Tool – multi sectors

Answers for infrastructure.



## Independent scenario

This graphic shows the combined fire detection and extinguishing control panel XC10 operating as an independent (stand-alone) control unit. Several XC10 control panels can be combined to monitor and control medium- to large-sized multi-sector applications. 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. XC10 works with most types of extinguishing systems for room or object protection.

The graphic above shows two extinguishing control panels combined in a fire detection cabinet. Each XC10 controls one entire flooding zone. The panels are networked so that they can exchange information.

**Advantage of this kind of application:**  
 – Multi-sector extinguishing panels are capable of controlling several flooding zones. This makes XC1003-A a space-saving and economic solution, as less cylinders are needed.

## XC10 panels

**XC10 multi-sector extinguishing panel for up to 16 flooding zones to control medium- to large-sized extinguishing installations. Self-contained control panel including fire detection and extinguishing control.**

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

**Technical details:**  
 – 3 detector lines for automatic activation  
 – 1 line for manual activation  
 – 4 monitored inputs  
 – 4 control inputs  
 – 2 monitored valve controls 24 V/2 A  
 – 3 monitored outputs 24 V/500 mA  
 – 13 outputs

## Extinguishing panel rack XC1003-A

Order no. 554390-C2-A1  
 – 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)

## Multi-sector extension module XCA1030

Order no. 554390-A5-A1  
 This module is the multi-sector extension for the XC10 panels. It has to be mounted in each panel. Please order for each multi-sector panel separately.

**Technical details:**  
 – 1 monitored input for selector valve position  
 – 1 monitored input programmable  
 – 2 control lines outputs for actuators

## Common multi-zone module XCA1031

Order no. 554390-A6-A1  
 This module receives extinguishing activation from XC10 panels and controls the control cylinder of the cylinder battery. In addition, it monitors the loss of agent.

**Technical details:**  
 – 1 monitored input for loss of agent supervision  
 – 1 redundant control line output to trigger the control cylinder (fuse protection)

## Fire safety system integration scenario

XC10 control panels can be easily integrated into a fire detection system as shown in the graphic. In this application, the status of the extinguishing control panel is forwarded to the fire detection control unit. In addition, the fire detectors can be part of the fire detection panel and extinguishing information can be sent to the extinguishing control panel. You can choose from a wide range of addressable fire detectors as well as special detectors. Other commands from the fire detection control unit are transmitted to the extinguishing control panel. Up to 16 flooding zones are monitored.

The graphic above shows two extinguishing control panels combined in a fire detection cabinet. Each extinguishing control panel controls one entire flooding zone. XC10 works with most types of extinguishing systems for room or object protection. The panels are networked so that they can exchange information.

## Advantages of this kind of application:

- You can integrate XC10 in an existing fire safety system
- XC10 control panels can be mounted in one cabinet
- 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