



Cerberus PRO – C-NET devices

Planning Tool

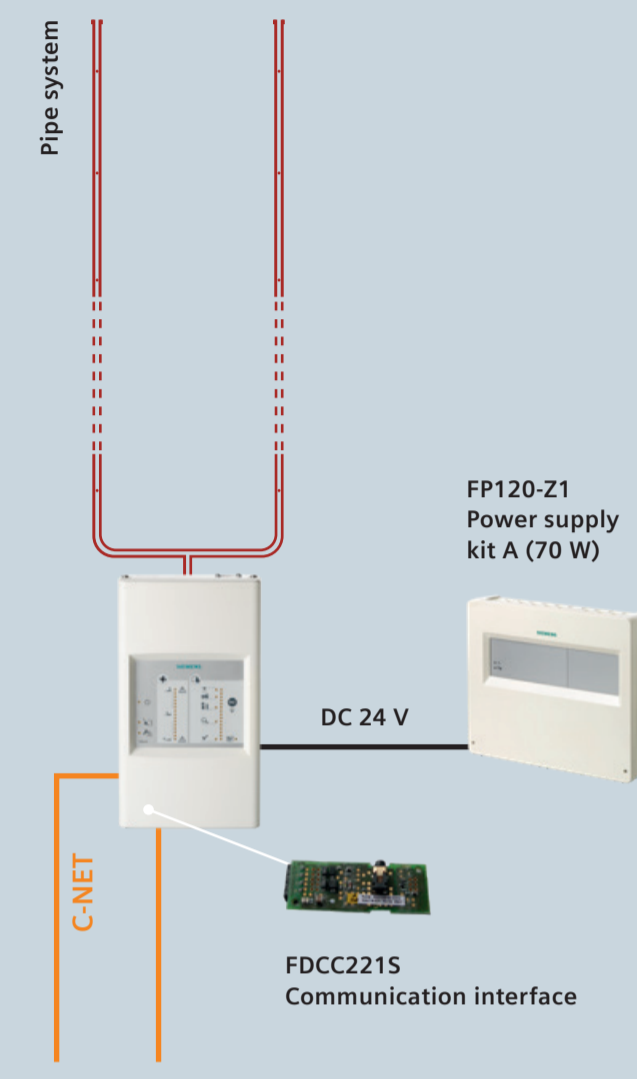
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Aspirating smoke detection

	FDA221	FDA241
Detection modes:	Ultra sense Automatic discrimination Robust	
Communication protocol	FDnet/C-NET	FDnet/C-NET
Operating voltage	DC 19...30 V	DC 19...30 V
Sound level	– High 33 dB – Medium 30 dB – Low 26 dB	– High 37 dB – Medium 33 dB – Low 30 dB
Display	– 3 alarm state indicators – Fault indicator – Bargraph for smoke and airflow level	– 4 alarm state indicators – Purge, dust, fault indicator – Bargraph for smoke and airflow level
Area coverage	up to 500 m²	up to 800 m²
Alarm threshold	– Prealarm and fire 1 (5 parameter sets) 0.14...2.0% obs/m – Fire 2 (5 parameter sets) 6.0...20% obs/m	– Inspect, prealarm and fire 1 (10 parameter sets) 0.03...2.0% obs/m – Fire 2 (10 parameter sets) 2.0...20% obs/m
Air inlet pipe	Metric: 21 mm ID...25 mm OD	Metric: 21 mm ID...25 mm OD
Pipe length	– 30 m single pipe length – 50 m total pipe length	– 60 m single pipe length – 120 m total pipe length
Relay outputs	3x 2 A / 30 V	4x 2 A / 30 V
Terminals	0.2...2.5 mm² (AWG 12...30)	0.2...2.5 mm² (AWG 12...30)
Dimensions (WxHxD)	162x285x120 mm	162x285x120 mm
Operating current	– 150 mA nominal – 250 mA in alarm	– 150 mA nominal – 250 mA in alarm
Operating temperature	-20...+60 °C	-20...+60 °C
Relative humidity	5...95% rel. (no condensation)	5...95% rel. (no condensation)
Protection category	IP30	IP30
Data sheet	A6V10331032	A6V10331032
Approvals	– CPR – VdS	– 0786-CPR-21270 – G213050

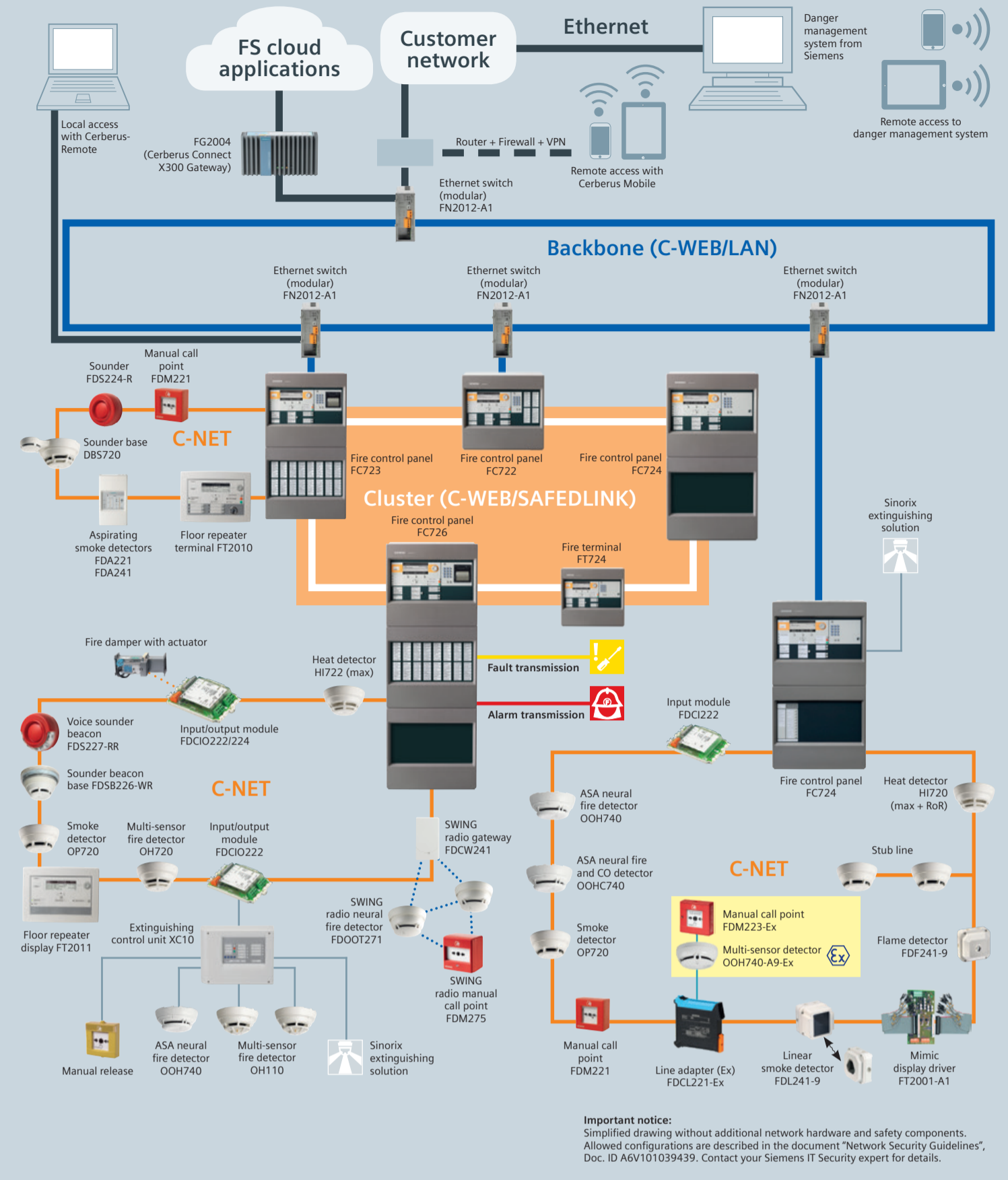
The aspirating smoke detector continually takes air from the monitored room using a connected pipe system with defined aspirating holes.

The position and size of the aspirating holes are calculated with the 'FXS2056 ASD Asyst vol V2' software.



Cerberus PRO – enjoy protecting

Powerful control panels, clever fire detectors and smart peripheral devices. This is what our comprehensive Cerberus™ PRO family offers. The overview below demonstrates the most important system components.



Important notices:
Simplified drawing without additional network hardware and safety components.
Allowed configurations are described in the document "Network Security Guidelines".
Doc. ID: A6V1033949. Contact your Siemens IT Security expert for details.

Highlights for alarming

In the event of a fire it is essential to alert and evacuate people as fast as possible. A wide product portfolio range offers alarm devices for acoustic and optical alarming. All devices are loop powered and constantly monitored.

Sounder

The sounder creates an acoustic alarm signal in case of an event. All devices offer a broad range of tone patterns. The acoustic perception is outstanding because all tones are synchronized.

- Certified for acoustic alarming according to EN 54-3
- 3 different sound levels are selectable (minimum / medium / maximum)
- 16 integrated tone patterns

Voice

The devices with voice messages are able to play a precise instruction for different events in the building. With help of a voice message, the evacuation process is faster and the building occupants receive clear instructions. A voice message can be emitted in one or two languages with an attention tone:

Example for Voice messages in English:

- EVAC FIRE: Attention please, this is a fire alarm! Please leave the building immediately by the marked available exits.
- EVAC EMERGENCY: Attention, an incident has been reported in the building, please await further instructions. This is a test message, no action is required.
- ALERT: Attention please! All clear! The building alert has been resolved. All clear!

Beacon

Addressing two senses – an optical and an acoustical signal – speeds up the alert and evacuation process. We increase the awareness of the optical signal with a high flash intensity and a very short pulse length. The device has multiple options for brightness which can be adjusted.

- Certified for optical alarming according to EN 54-23
- Additional light intensity setting (supplementary optical indication) designed for system extensions or migration.

Wall devices

Category W – wall mounting

- White LED: High: W-3.2-10, Mid: W-2.4-7.5, Low: W-0.2-6.2
- Red LED: High: W-2.8-8.8, Mid: W-2.4-7.5, Low: W-0.2-6.2

Ceiling devices

Category C – ceiling mounting

- White LED: High: C-4-15, Mid: C-3-12, Low: C-0.5-6.5
- Red LED: High: C-3-12, Mid: C-3-10, Low: C-0.5-6.5

O = Open category: Wall mounted, cubic coverage as category W; Ceiling mounted, cylindrical coverage as category C

Robust or sensitive? The solution often lies somewhere in between.

High Suppression (PS8)	Suppression (PS5)	Suppression CO (PS12)	High Compensation (PS7)	Robust (PS2)	Balanced (PS4)	Balanced CO (PS10)	Fast Response (PS6)	High Sensitive Fast (PS9)	Super Sensitive (PS11)
<p>Application area For operating conditions susceptible to heavy optical deceptive phenomena. Examples include dance floors in discotheques (deceptive phenomena: dry ice) or churches during special services (deceptive phenomena: frankincense).</p> <p>Description The signal from the smoke sensor will not create a fire alarm signal until a simultaneous increase in the thermal signal is also detected. In the event of dry ice, there is no temperature increase and the detector will not create an unwanted alarm. With a rise in temperature of only 8K (open fire), the optical sensors will be further analyzed and if the signal corresponds to a fire, an alarm will be triggered. The detector will also trigger an alarm as a rate-of-rise heat detector or if its static temperature limit is exceeded.</p> <p>Expert advice "High Suppression" has clear advantages over traditional concepts where smoke detection is turned off completely and replaced by thermal detection during events where dry ice is used. This parameter set allows much faster detection than switching to purely thermal detection. This enhances safety at critical times where visibility is reduced and large numbers of people are in attendance. Further options include the ability to switch between parameter sets so that a more sensitive detection mode can be used when no dry ice is likely. The detector complies with the norm EN 54-5 and in some jurisdictions heat detector spacing may be applicable.</p>	<p>Application area Difficult environments subject to heavy deceptive phenomena. Application examples include canteen kitchens or manufacturing areas with operational-related deceptive aerosols.</p> <p>Description Highly robust behavior, therefore very suitable for applications with deceptive phenomena such as steam, heavy cigarette smoke or exhaust gases. At the same time, the detector reacts with the ASA parameter set quickly and reliably in case of a real fire due to the dynamic influencing of the parameters.</p>	<p>Application area Difficult environments subject to heavy deceptive phenomena. Application examples include manufacturing areas with operational-related aerosols. Additional separate CO toxic gas detection and environmental monitoring.</p> <p>Description Highly robust behavior, thus very suitable for applications with deceptive phenomena such as steam, cigarette smoke, etc. At the same time, the detector reacts with the ASA parameter set quickly and reliably in case of a real fire due to the dynamic influencing of the parameters. Sensitivity is also influenced by the CO concentration. Separate CO alarming and control for the detection of dangerous carbon monoxide build up. Separate signaling of environmental thermal thresholds.</p>	<p>Application area Applications with deposits resulting from excessive dust or dirt over a long-time period. Here, optical detectors usually reach their limit quickly, resulting in a reduced operational lifetime.</p> <p>Description This parameter set is identical to the "Robust" setting except that the drift compensation is extended. This parameter set is therefore especially suited for rooms in which a lot of dust and other deposits can be expected to build up over a period of time. The detector maintains the set detector sensitivity and resistance to deceptive phenomena. The detector reacts quickly and reliably in case of a real fire.</p>	<p>Application area Difficult environmental conditions. Examples are event locations or underground garages with moderate deceptive phenomena and risks to individuals.</p> <p>Description Designed for robust behavior. This ASA parameter set is particularly suitable for applications with deceptive phenomena such as cigarette smoke, dust and exhaust gases. At the same time, the detector reacts very quickly and reliably in case of a real fire. Compared to the "Suppression" parameter set, the "Robust" parameter set may be used to improve detection speed on higher ceilings while still retaining sufficient resistance to false alarms.</p>	<p>Application area Standard applications. Rooms with moderate deceptive phenomena.</p> <p>Description For use in normal environments. This parameter set has a balanced response characteristic: sensitive in case of a fire but still tolerant of transient deceptive phenomena. Due to its distinct dynamic, the detector reacts quickly to open fires as well as smoldering fires. This ASA parameter set reacts robustly to deceptive phenomena such as cigarette smoke or small amounts of steam.</p> <p>Additional Information This parameter set is often used when the system is set in unattended mode (e.g. at night).</p>	<p>Application area Rooms where an increased CO concentration in the event of a fire is possible. Moderate deceptive phenomena.</p> <p>Description Using the three criteria: smoke, heat and CO the device is more sensitive to fires creating CO than the parameter set "Balanced" without the CO signal. The device is robust with deceptive phenomena such as cigarette smoke or a small amount of steam. This parameter also offers early alarming in the event of fires generating a large amount of CO, e.g. mattress fires.</p>	<p>Application area Rooms in which sensitive and quick detection is essential such as rooms with high ceilings, warehouses with flammable material (increased risk of fire) and application areas where the detectors trigger an extinguishing system.</p> <p>Description This parameter set reacts in a fast and highly sensitive manner. It is thus especially suited for rooms without deceptive phenomena, where the priority is on detecting fires as early as possible.</p> <p>Expert advice The high thermal influence from open fires transports the dark smoke particles that are typical for this kind of fire quickly to the ceiling. Due to the backward scattering and the "Fast Response" setting, the detector is sensitive. This makes the detector a perfect replacement in situations where ionization detectors would normally have been considered optimal.</p>	<p>Application area Rooms in which especially high sensitivity to smoldering and open fires is required. Examples include museums with high ceilings, clean production halls or applications where adequate life protection can only be ensured by the fastest possible detection. Due to special thermal algorithms, usage at low temperatures is also possible.</p> <p>Description This parameter set allows for fast and highly sensitive detection for both open and smoldering fires. It is therefore intended for use in clean environments with no deceptive phenomena.</p>	<p>Application area Applications in clean environments like data centers or clean rooms, where the fastest and most sensitive detection of smoldering and open fires is required to ensure business continuity.</p> <p>Description This parameter set allows for the fastest possible and highly sensitive detection for both open and smoldering fires. It is therefore intended for use in clean environments with no deceptive phenomena.</p>
Complies with the norm EN 54-5	Complies with the norm EN 54-5, EN 54-7	Complies with the norm EN 54-5, EN 54-7	Complies with the norm EN 54-5, EN 54-7	Complies with the norm EN 54-5, EN 54-7	Complies with the norm EN 54-5, EN 54-7	Complies with the norm EN 54-5, EN 54-7	Complies with the norm EN 54-5, EN 54-7	Complies with the norm EN 54-5, EN 54-7	Complies with the norm EN 54-5, EN 54-7
<p>Application examples Multi-purpose halls, theater stages, churches, dance floors in discotheques</p>	<p>Application examples Canteen kitchens, production areas with operational-related deceptive phenomena</p>	<p>Application examples Production areas with operational-related deceptive phenomena</p>	<p>Application examples Paper mills, carpenter's workshops, textile production, recycling plants</p>	<p>Application examples Event locations, conference rooms, smoking rooms, gastronomy, industry, production, underground garages</p>	<p>Application examples Offices, open-plan offices, hallways, hotel rooms, out of hours use in harsh environments</p>	<p>Application examples Same as for "Balanced", but with increased sensitivity to smoldering fires creating CO gas</p>	<p>Application examples High-ceilinged rooms, storage rooms/warehouses with flammable material. It rooms and control of extinguishing systems</p>	<p>Application examples Hospital rooms, museums, operating rooms, cold storage, high-ceilinged rooms, when highly sensitive detection is of great importance</p>	<p>Application examples Clean rooms, data centers, museums, hospital rooms, operating rooms, cold storage, high-ceilinged rooms, when highly sensitive detection is of great importance</p>

When building technology creates perfect places – that's ingenuity for life.

Never too cold. Never too warm. Always safe. Always secure.

With our knowledge and technology, our products, our solutions and our services, we turn places into perfect places.

We create perfect places for their users' needs – for every stage of life.

#CreatingPerfectPlaces

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Cerberus PRO Planning Tool

C-NET devices



Cerberus PRO fire control panels

Cluster (C-WEB/SAFEDLINK)

Fire control panel FC726, Fire control panel FC723, Fire control panel FC724, Fire control panel FC722

Cerberus PRO fire detectors

Sounder base DBS720, Detector base DB721, Detector base DB722

Flame detector base FDFB291

Flame detector FDF241-9, Linear smoke detector FDL241-9

Conventional

Single action DMA1104D, Double action DMA1103D, DMA1192-AA, Infrared flame detector FCA1209-21, Multi-sensor detector OOH740-A9-Ex, Base for infrared flame detectors DF119x, Safety barrier SB3

Addressable

Alarm indicator FCA1209-21, Multi-sensor detector OOH740-A9-Ex, Alarm indicator FCA193-Ex, Detector base flat, addressable FDB222, Detector base addressable FDB221

Shared properties FT2010 and FT2011:

- Backlit display with plain text (6 lines of 40 characters each)
- Power supply and communication (individual addressed) via C-NET, additional DC 24 V feed possible - 282x207x79 mm (WxHxD)
- Max. 8 FT2010/FT2011 per FC721/FC722
- Max. 16 FT2010/FT2011 per FC724
- Max. 50 FT2010/FT2011 per FC726

Fire control panel FC722, Floor repeater terminal FT2010-A1, Mimic display driver FT2001-A1

Detector base accessories

Detector base seal RS720, Designation plate FDBZ291, Detector locking device LP720, Base attachment BA720, Base attachment wet BA721, Detector heating FDBH291, Protection cage DBZ1194

Flame detector base FDFB291

Flame detector FDF241-9, Linear smoke detector FDL241-9, Mounting bracket MV1, Short-distance filter 7-10 m DLF1191-AA, Short-distance filter 5-8 m DLF1191-AB, Short-distance reflector DLR1193

Conventional

Input/output module "transponder" FDCIO223, Air sampling smoke detection kit FDBZ290, Detector base DB721, ASA neural fire detector OOH740, Long-distance reflector DLR1191 (Prism), Mid-distance reflector DLR1192, Short-distance reflector DLR1193

Addressable

Line adapter (Ex) FDC121-Ex, Aspiring smoke detectors FDC221, Output module (230 V) FDC121-Ex, Input/output module FDCIO221, Input/output module FDCIO222, Input/output module FDCIO223

Multi-line separator module FDC121-M

Up to 9 stubs

Test equipment

Adapter FDU491, Detector tester for heat detectors RE7T, Detector tester for linear smoke detectors RE10, Detector tester for smoke detectors RE6, Test lamp for flame detectors 'EX' StabexHF, Test lamp for flame detectors LE3, Line tester FDU121, Telescope rod FDMU291, Scorpion controller SCORP 8000, Scorpion ASD head unit SCORP 2001

Flame detector base FDFB291

Flame detector FDF241-9, Linear smoke detector FDL241-9, Rain hood DFZ1190, Rain hood (plastic) FDFZ241

Conventional

FP120-21, Housing FDC221

Addressable

Input/output module FDCIO221, Input/output module FDCIO222, Input/output module FDCIO223

Extinguishing panel standard XC1001-A

Alarm indicator (addressable) FDCAI221

Alarm equipment for audible and visible alarming

Base (wall mounting) FDB226-R, Base (wall mounting) FDB226-W, Base deep (wall mounting, IP65) FDB227-R, Base deep (wall mounting, IP65) FDB227-W

Manual call points and accessories

Manual call point FDM221, Manual call point FDM226, Manual call point FDM227, Manual call point FDM228, Manual call point FDM229, Manual call point FDM230, Manual call point FDM231, Manual call point FDM232, Manual call point FDM233, Manual call point FDM234, Manual call point FDM235, Manual call point FDM236, Manual call point FDM237, Manual call point FDM238, Manual call point FDM239, Manual call point FDM240, Manual call point FDM241, Manual call point FDM242, Manual call point FDM243, Manual call point FDM244, Manual call point FDM245, Manual call point FDM246, Manual call point FDM247, Manual call point FDM248, Manual call point FDM249, Manual call point FDM250

C-NET

The C-NET is a modern, multi-purpose bus system. It allows rapid, fail-safe communication between the Cerberus PRO bus elements and the fire control panel.

Characteristics:

- Use of all cable types (shielded or unshielded)
- Integration of star-shaped cable networks without modifications to cable network
- Acoustic and visual signaling on the loop
- Up to 40 T-taps
- Up to 252 bus elements on one loop
- Cable lengths up to 3.3 km with up to 252 bus elements
- 2-wire loop
- Power supply to all bus elements via the C-NET (except transponder FDC123, FDCIO223, LaserFOCUS, extinguishing control unit XC10, ASD FDCAI221, FDCAI241)
- Integrated turbo isolator in every loop participant

Shared characteristics:

- Up to 13 different tones, incl. "evacuate" as specified in DIN 33404-3
- Different volume and sound for prealarm and main alarm
- Without additional power supply
- Integrated line separator

Detailed planning information

Detailed information for planning of the system are available in the planning document, Doc. ID A6V10210362.

Alarm equipment for audible and visible alarming

Sounder base DBS720, Voice sounder FDS224-R, Voice sounder FDS224-W, Voice sounder FDS225-R, Voice sounder FDS225-W, Sounder beacon FDS226-WR, Voice sounder beacon FDS227-WR, Standard voice messages, Customized voice messages, Sounder beacon FDS226-WW, Voice sounder beacon FDS227-WW, Standard voice messages, Customized voice messages

Manual call points and accessories

Manual call point FDM221, Manual call point FDM226, Manual call point FDM227, Manual call point FDM228, Manual call point FDM229, Manual call point FDM230, Manual call point FDM231, Manual call point FDM232, Manual call point FDM233, Manual call point FDM234, Manual call point FDM235, Manual call point FDM236, Manual call point FDM237, Manual call point FDM238, Manual call point FDM239, Manual call point FDM240, Manual call point FDM241, Manual call point FDM242, Manual call point FDM243, Manual call point FDM244, Manual call point FDM245, Manual call point FDM246, Manual call point FDM247, Manual call point FDM248, Manual call point FDM249, Manual call point FDM250

Legend for the designation of fire detectors:

- Backbone (C-WEB/LAN)
- Cluster (C-WEB/SAFEDLINK)
- C-NET
- C-NET-Ex

Network for connecting clusters
Network for connecting panels
Network for connecting Cerberus PRO addressable devices
Network for connecting Cerberus PRO addressable Ex devices

Mounting example

Detector base DB721, Fire detector, Mounting bracket MV1, Short-distance filter 7-10 m DLF1191-AA, Short-distance filter 5-8 m DLF1191-AB, Short-distance reflector DLR1193

SWING radio fire detection

Radio gateway FDCW241, Radio manual call point FDM273, Manual call point FDM274, Manual call point FDM275, Manual call point FDM276, Manual call point FDM277, Manual call point FDM278, Manual call point FDM279, Manual call point FDM280, Manual call point FDM281, Manual call point FDM282, Manual call point FDM283, Manual call point FDM284, Manual call point FDM285, Manual call point FDM286, Manual call point FDM287, Manual call point FDM288, Manual call point FDM289, Manual call point FDM290, Manual call point FDM291, Manual call point FDM292, Manual call point FDM293, Manual call point FDM294, Manual call point FDM295, Manual call point FDM296, Manual call point FDM297, Manual call point FDM298, Manual call point FDM299, Manual call point FDM300