



Cerberus PRO – panels, network and accessories

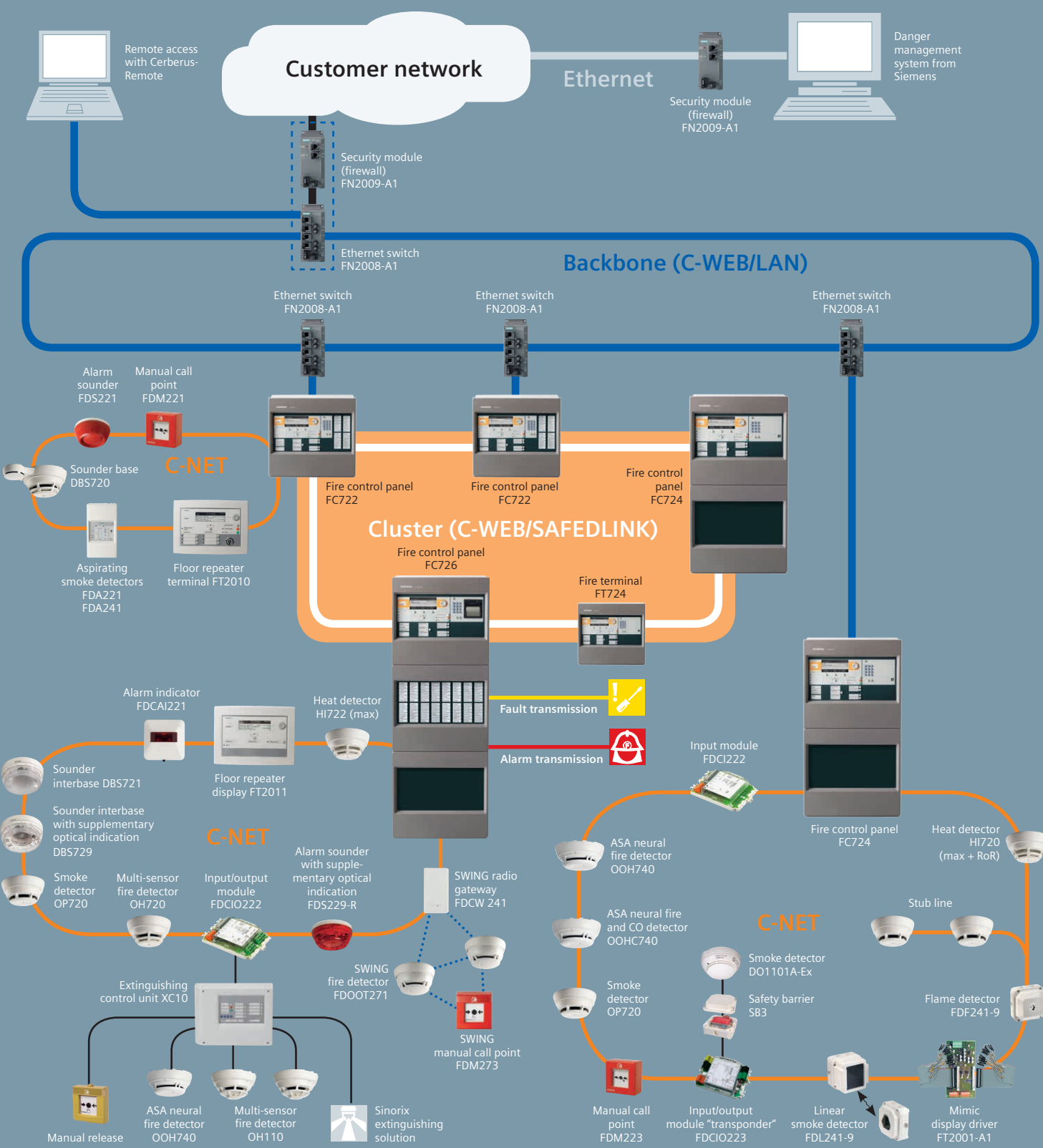
Planning Tool

Answers for infrastructure and cities.

www.siemens.com/cerberus

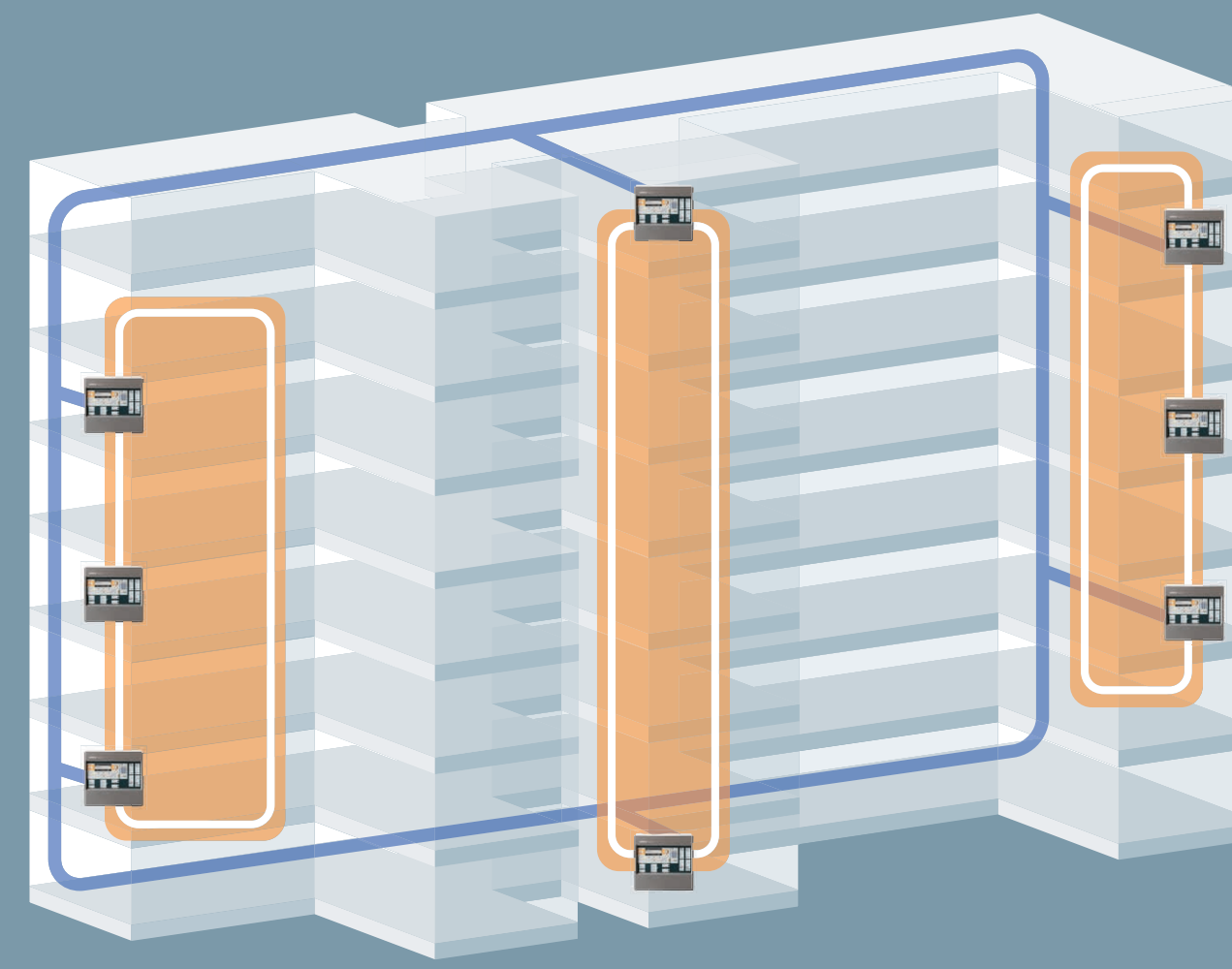
Our world is undergoing changes that force us to think in new ways: demographic changes, urbanization, global energy-efficient, safe and secure buildings and infrastructure. We are the trusted technology partner for infrastructure & cities sector. International headquarters Building Technologies Division Infrastructure & Cities Sector Siemens Switzerland Ltd 6901 Zug Gubelstrasse 22 Tel: +41 41 724 24 24

Your system for fire detection, alarming and control: Cerberus PRO



Application: complex building

Network in a complex building, for example a university.



Description

In complex buildings, the fire safety system can be adapted to the building structure. The control panels as well as fire terminals are networked via clusters (C-WEB/SAFEDLINK) with each other. These clusters are connected via industrial LAN technology per backbone (C-WEB/LAN) to an EN 54-conform overall system.

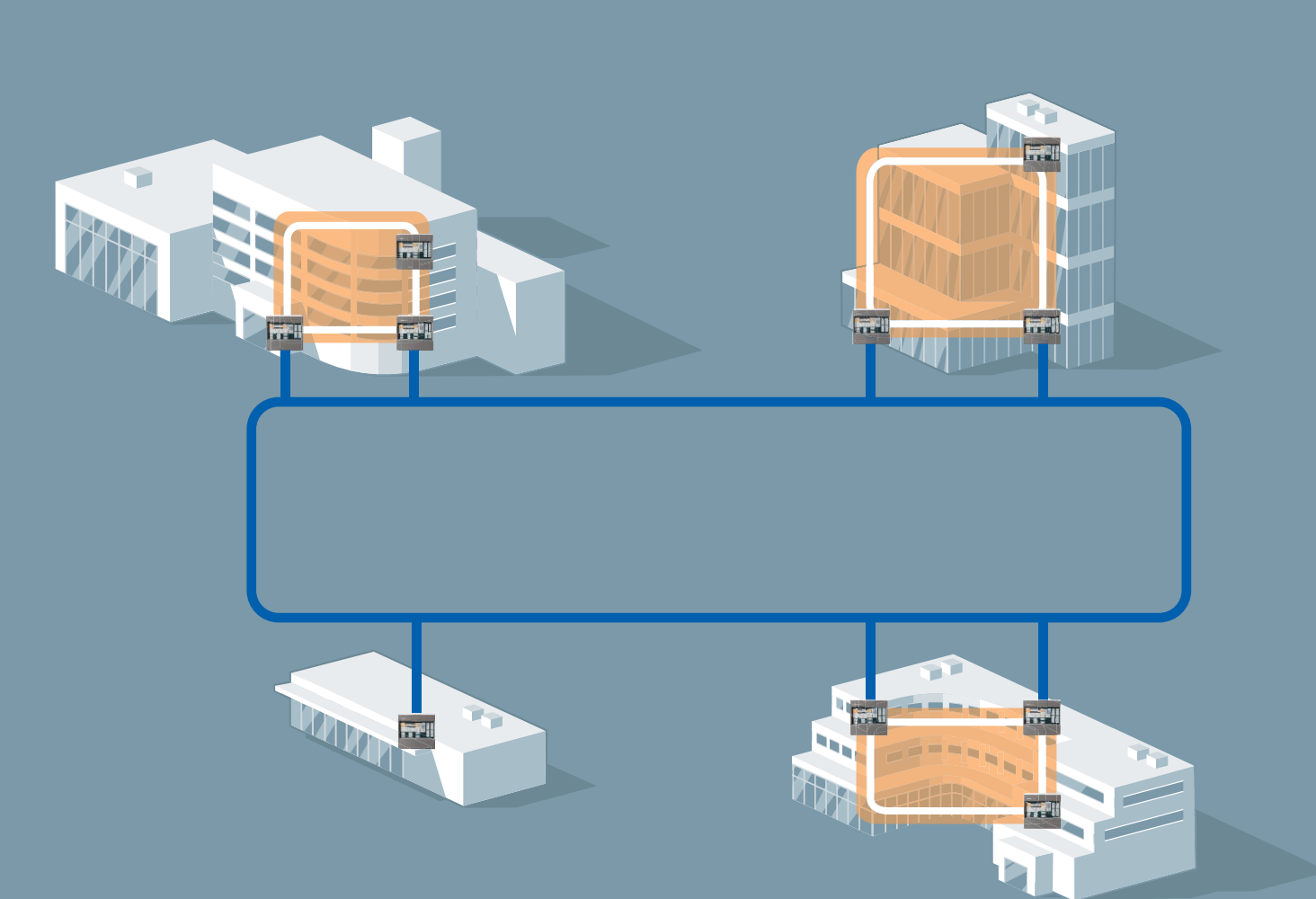
Benefits

- Only one remote transmission to fire brigade for entire system necessary
- One interface to common pager system
- Visibility of entire system from any, configured terminal
- Fiber-optic backbone with high immunity against electromagnetic disturbances
- System-wide EN 54-conform operation
- Timely handover due to parallel commissioning of individual panels or clusters
- Distributed intelligence: A cluster maps entire fire control; this enables ideal adaptation to structural as well as process requirements

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

Application: extensive campus

Very large network spanning large distances, for example for a university campus.



Description

A campus comprises different, independent buildings. These have their own organization and structure that can be mapped ideally with a cluster of up to 16 panels. The backbone connects these clusters to a common, EN 54-conform network.

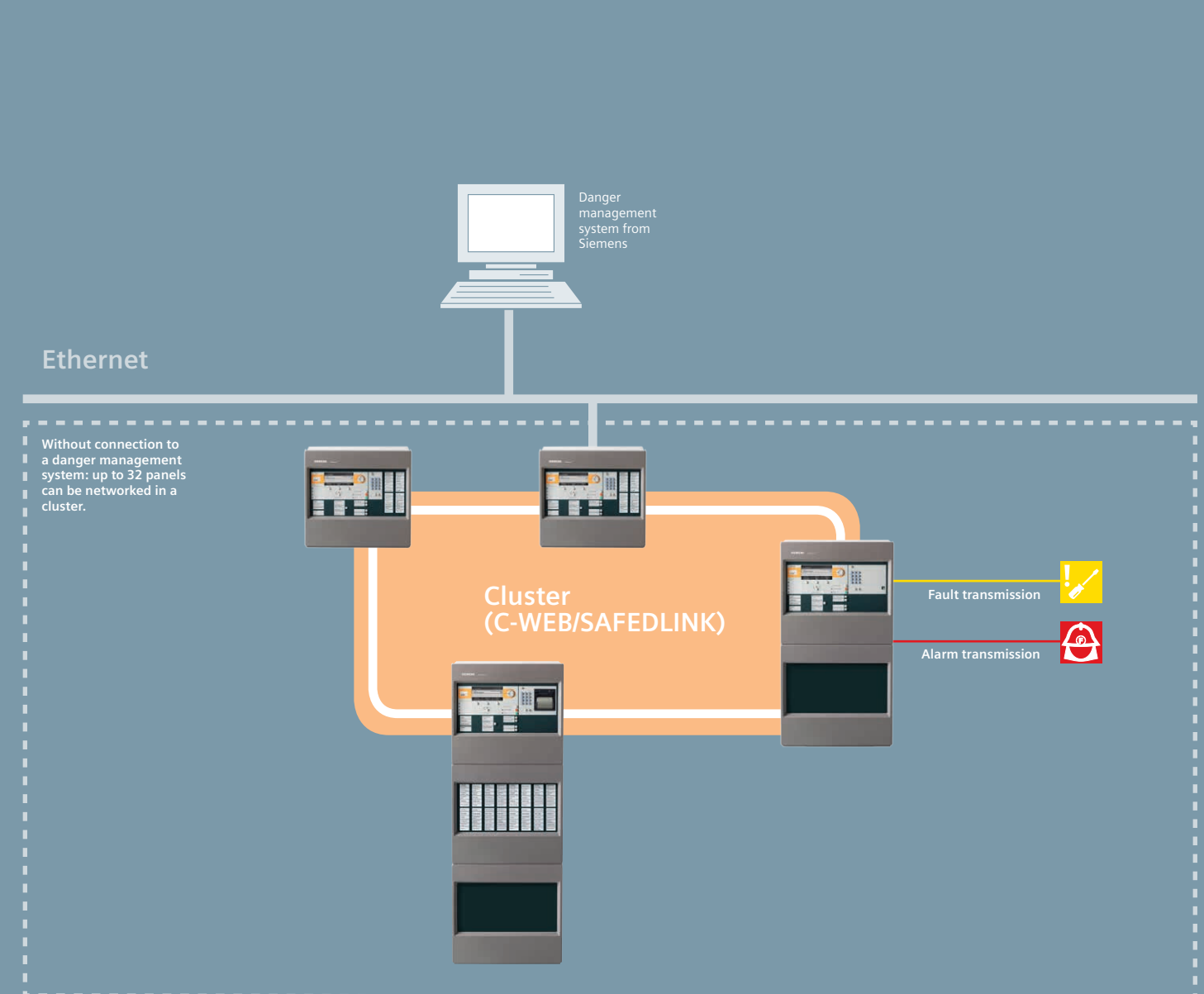
Benefits

- Smartly arranged network structure with clear clusters
- Only one control panel necessary to access entire system with all subnets
- Backbone is EMC-protected and EN 54-conform
- Commissioning is possible at several places simultaneously (gain in time)
- Only one central connection to pager system for entire system
- Distributed intelligence: A cluster maps entire fire control; this enables ideal adaptation to structural and process conditions
- Security personnel has entire campus in view
- The right information at the right place: Predefined views can be displayed according to customer requirements over the entire system; all controls can be configured to specific requirements

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

Topology 1

Up to 16 panels can be networked in a cluster (C-WEB/SAFEDLINK) – if connected to a danger management system. Without a danger management system, even up to 32 panels can be networked.



Characteristics of topology example

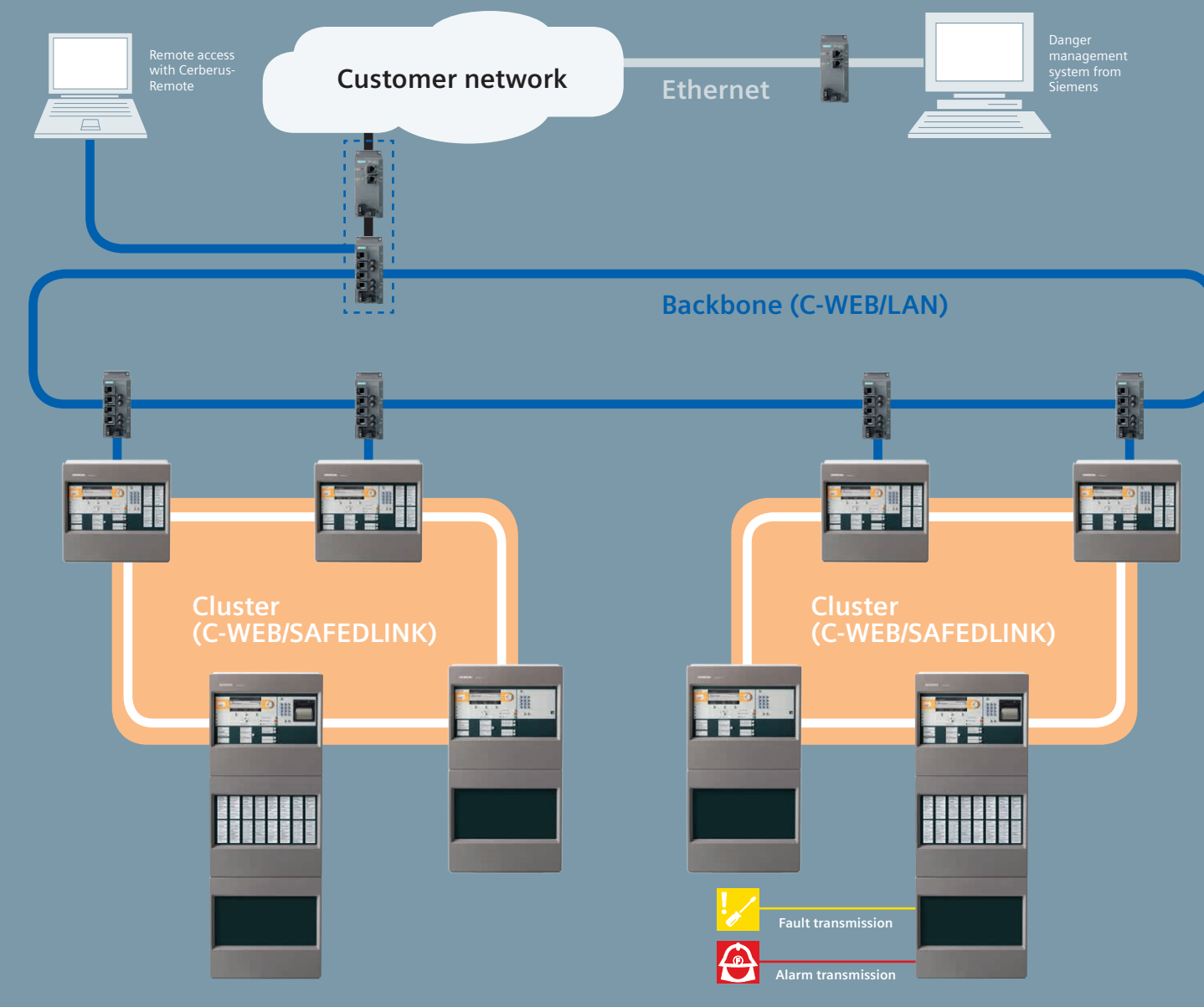
- Easy networking of panels
- Operation of panels as stand-alone solution or networked with a total length of up to 460 km
- Data rate can be adapted to line quality

Key data

- Max. number of networkable panels:	32
- Max. number of networkable panels if connected to a danger management system:	16
- Max. distance between panels with copper cable:	1,000 m
- without repeater:	2,000 m
- with repeater:	2,000 m
- Max. distance between panels with fiber-optic cable:	2,500 m
- multi mode:	15,000 m
- single mode:	15,000 m
- Max. number of panels with system-wide view:	5

Topology 2

Up to 64 panels in one EN 54-conform system with different combinations of clusters and backbone – and with connection to a danger management system via a customer network.



Characteristics of topology example

- EN 54-conform networking of up to 64 panels via backbone
- Very large networks spanning long distances
- Highest system availability thanks to system-wide redundancy
- Panels on different clusters can communicate with each other
- Only one remote transmission to fire brigade over entire system necessary
- Distributed building complexes can be ideally protected
- Backbone is realized with fiber-optic cable

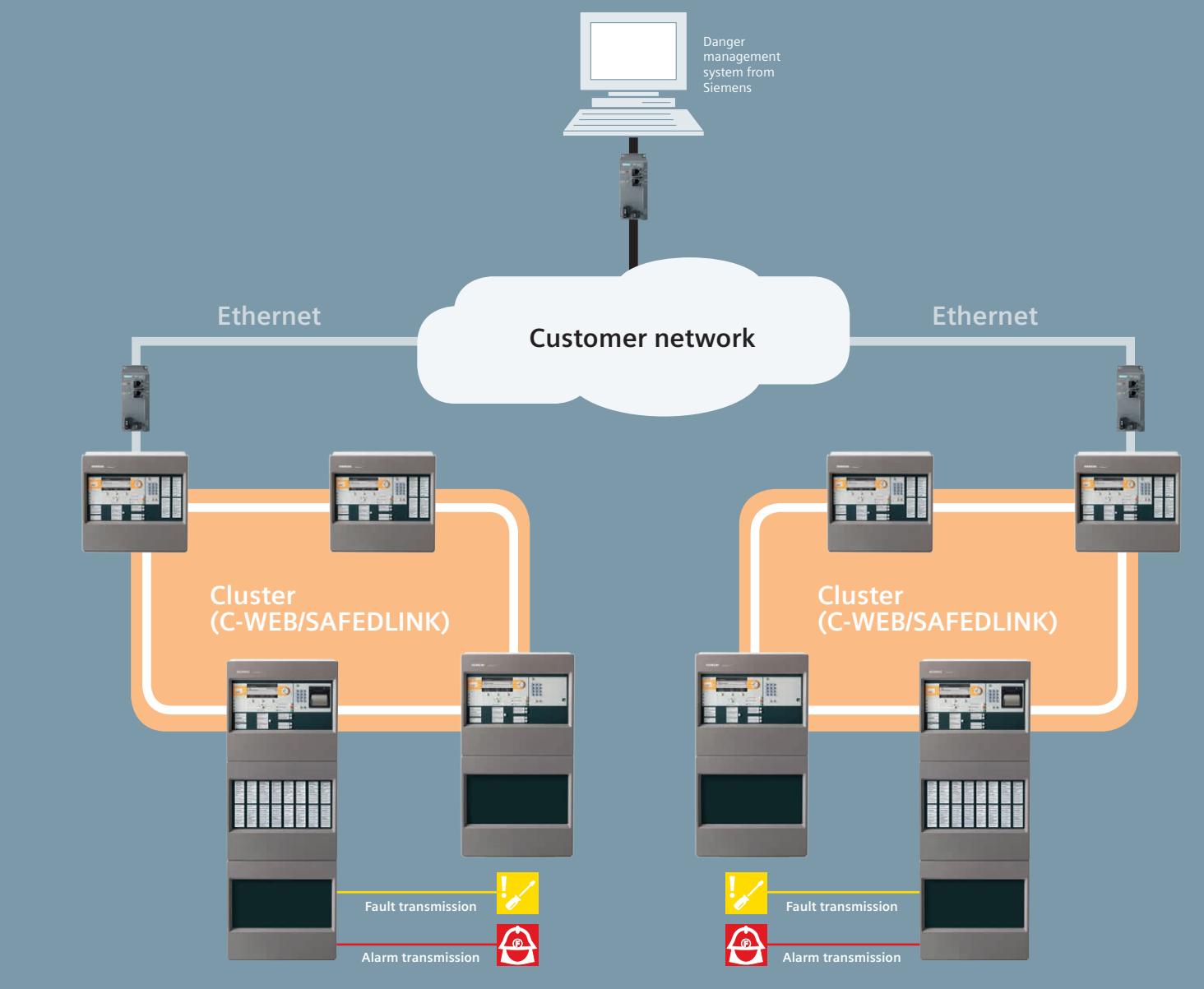
Key data

- Max. number of networkable panels incl. clusters (EN 54-conform):	64
- Max. number of clusters:	14
- Max. number of networkable panels per cluster:	16
- Number of panels with system-wide view:	5*

* and more with respective system topology

Topology 3

Using a customer network to transmit relevant information from several localities to one central danger management station.



Characteristics of topology example

- Connecting independent locations via IT network provided by your customer with a danger management station
- Reduced installation or maintenance costs (thanks to usage of customer networks)
- Autonomous clusters with their own remote transmission to fire brigade (to fulfill EN 54 regulations)

Key data

- Max. number of networkable panels per cluster:	16
- The maximum number of additional clusters, panels or data points depends on the management station.	

Cerberus PRO Planning Tool

Panels, network and accessories

To enable remote operation with Cerberus-Remote, the PC has to be connected to an Ethernet switch of the backbone. Access to a certain panel in a cluster will be granted by installing an L1 license key into this panel.

Backbone (C-WEB/LAN)

Clusters can be networked via an Ethernet backbone, using industrial LAN technology. Siemens is the first manufacturer who offers this as an EN 54-approved solution. With this architecture that is standard in IT, building structures and organizational processes can be ideally depicted.

Characteristics of networking via backbone

- Ethernet switch to connect a cluster to the backbone
- Redundant transmission thanks to circular wiring
- Redundant connection possible due to two Ethernet switches
- Increased EMC protection thanks to fiber-optic cabling
- Easily programmable, EN 54-conform system-wide control
- Configurable view of single panels
- All panels can be used as router panel (for further information on FC726, please have a look into the separate documentation).

Key data

- Max. number of panels in EN 54 system: 64
- Max. number of panels in a cluster: 16
- Max. number of networkable clusters: 14
- Number of panels placed directly on backbone: 4*
- Number of panels with system-wide view: 5**
- Max. distance between clusters (fiber optic; multi mode): 3,000 m

* and more with respective system topology

The following guidelines must be observed:

- To fulfill the EN 54 norms, you need only 1 Ethernet switch to connect control panels with less than 512 fire detectors to the backbone.

Cluster (C-WEB/SAFEDLINK)

Via the powerful cluster, up to 32 panels can be networked (fire control panels and fire terminals).

Characteristics of networking via the system bus

- Wiring with two wires
- Redundant transmission thanks to circular wiring
- Increased safety due to degrade mode using a second network module
- No additional cabling necessary for degrade mode, even for systems with more than 512 fire detectors
- Configurable view of individual panels

Key data

- Max. number of networkable panels: 32
- Max. number of networkable panels if connected to a danger management system: 16
- Max. distance between panels with copper cable
- without repeater: 1,000 m
- with repeater: 2,000 m
- Max. distance between panels with fiber-optic cable
- multi mode: 2,500 m
- single mode: 15,000 m
- Max. number of panels with system-wide view: 5

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.

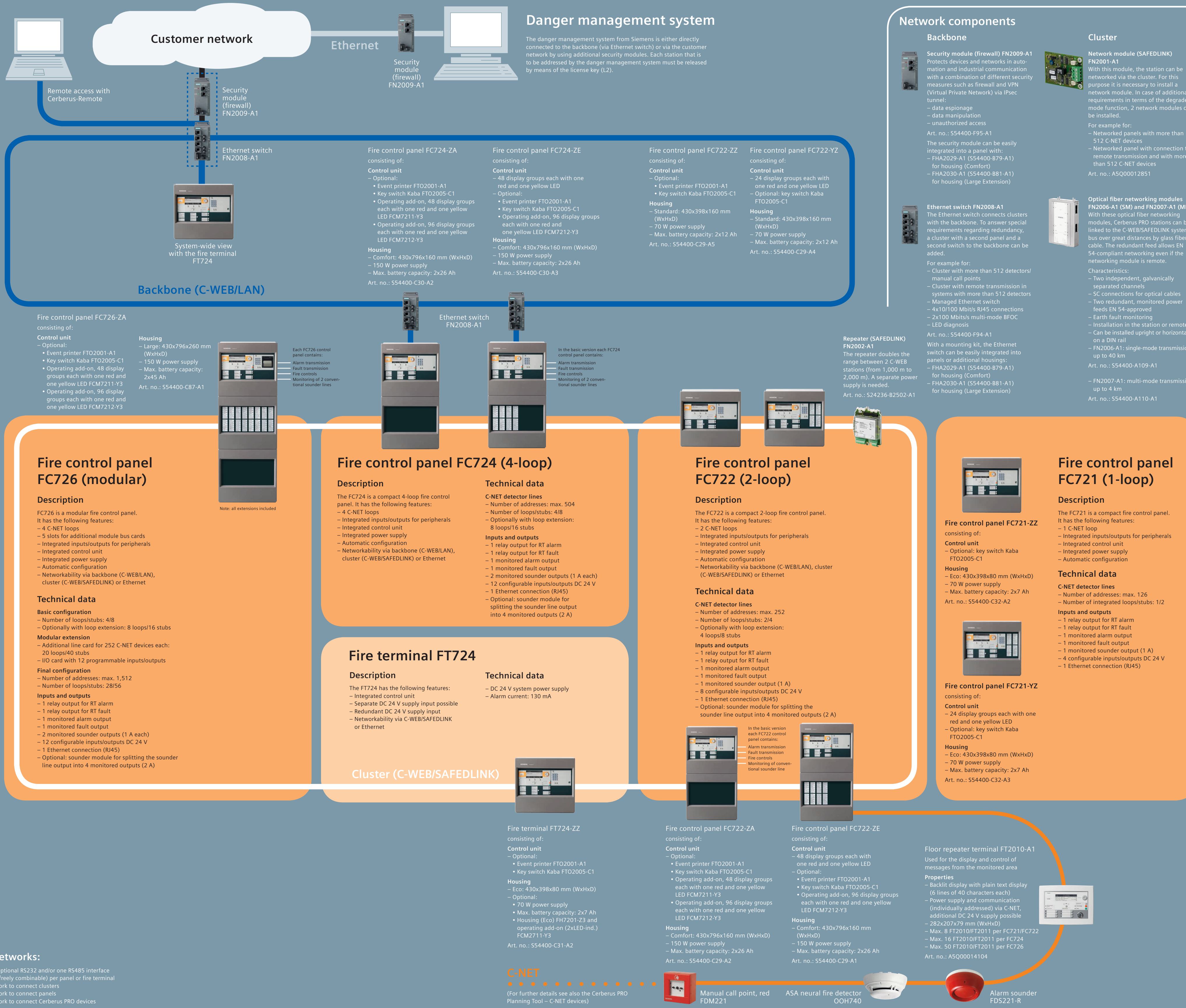
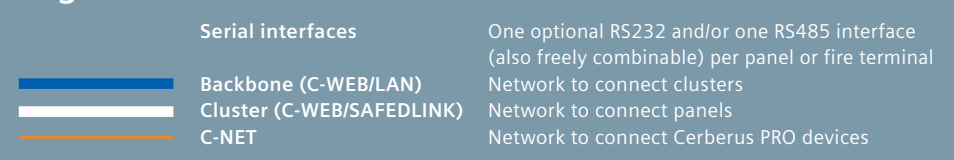
Characteristics of networking via the detector bus

- Use of all cable types (shielded or unshielded)
- Integration of star-shaped cable networks without modifications to cable network
- Shielding not necessary
- 2-wire loop
- Power supply to all bus elements via the C-NET (except transponder FDCIO223, LaserFOCUS, extinguishing control unit XC10)

Key data

- 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

Legend for the interfaces and networks:



Network components

Backbone

Security module (firewall) FN2009-A1

Protects devices and networks in automation and industrial communication with a combination of different security measures such as firewall and VPN (Virtual Private Network) via IPsec tunnel:

- data espionage
- data manipulation
- unauthorized access

Art. no.: S54400-F95-A1

The security module can be easily integrated into a panel with:

- FHA209-A1 (S54400-B79-A1) for housing (Comfort)
- FHA2030-A1 (S54400-B81-A1) for housing (Large Extension)

Ethernet switch FN2008-A1

The Ethernet switch connects clusters with the backbone. To answer special requirements regarding redundancy,

- Cluster with remote transmission in systems with more than 512 detectors
- Managed Ethernet switch
- 4x10/100 Mbit/s RJ45 connections
- 2x100 Mbit/s multi-mode BFOC
- LED diagnosis

Art. no.: S54400-F94-A1

With a mounting kit, the Ethernet switch can be easily integrated into panels or additional housings:

- FHA2029-A1 (S54400-B79-A1) for housing (Comfort)
- FHA2030-A1 (S54400-B81-A1) for housing (Large Extension)

Cluster

Network module (SAFEDLINK) FN2001-A1

With this module, the station can be networked via the cluster. For this purpose it is necessary to install a network module. In case of additional requirements in terms of the degrade mode function, 2 network modules can be installed.

For example for:

- Networked panels with more than 512 C-NET devices
- Networked panel with connection to remote transmission and with more than 512 C-NET devices

Art. no.: ASQ00012851

Optical fiber networking modules FN2006-A1 (SM) and FN2007-A1 (MM)

With these optical fiber networking modules, Cerberus PRO stations can be linked to the C-WEB/SAFEDLINK system bus over great distances by glass fiber cable. The redundant feed allows EN 54-compliant networking even if the networking module is remote.

Characteristics:

- Two independent, galvanically separated channels
- SC connections for optical cables
- Two redundant, monitored power feeds EN 54-approved
- Earth fault monitoring
- Installation in the station or remote
- Can be installed upright or horizontally on a DIN rail

Art. no.: S54400-A109-A1

FN2007-A1: multi-mode transmission up to 4 km

Art. no.: S54400-A110-A1

Housings

Housing (Eco) FH7201-Z3

- Max. battery capacity: 2x7 Ah
- 430x398x80 mm (WxHxD)

Optional:

- Power supply kit (70 W) FP2003-A1
- Event printer FTO2001-A1
- Operating add-on (2xLED-ind.) FCM7211-Y3
- Operating add-on (4xLED-ind.) FCM7212-Y3

Art. no.: S54400-872-A1

Housing (Standard) FH7202-Z3

- Max. battery capacity: 2x26 Ah
- 430x398x160 mm (WxHxD)

Optional:

- Power supply kit (70 W) FP2003-A1 or additional power supply (150 W) FP2005-A1
- Event printer FTO2001-A1
- Operating add-on (2xLED-ind.) FCM7211-Y3
- Operating add-on (4xLED-ind.) FCM7212-Y3

Art. no.: S54400-870-A1

Housing (Comfort) FH7203-Z3

- Max. battery capacity: 2x26 Ah
- 430x398x160 mm (WxHxD)

Optional:

- Power supply kit (70 W) FP2003-A1 or additional power supply (150 W) FP2005-A1
- Event printer FTO2001-A1
- Operating add-on (2xLED-ind.) FCM7211-Y3
- Operating add-on (4xLED-ind.) FCM7212-Y3

Art. no.: S54400-871-A1

Housing (Large) FH7204-Z3

- Max. battery capacity: 2x100 Ah
- 430x398x260 mm (WxHxD)

Optional:

- Power supply kit (70 W) FP2003-A1
- Power supply kit (150 W) FP2004-A1
- Power supply kit (150 W) FP2005-A1
- Event printer FTO2001-A1
- Operating add-on (2xLED-ind.) FCM7211-Y3
- Operating add-on (4xLED-ind.) FCM7212-Y3

Art. no.: S54400-886-A1

Housing (Large Extension) FH7204-Z3

- Max. battery capacity: 2x100 Ah
- 430x398x260 mm (WxHxD)

Optional:

- Power supply kit (70 W) FP2003-A1
- Power supply kit (150 W) FP2004-A1
- Power supply kit (150 W) FP2005-A1
- Event printer FTO2001-A1
- Operating add-on (2xLED-ind.) FCM7211-Y3
- Operating add-on (4xLED-ind.) FCM7212-Y3

Art. no.: S54400-889-A1

Flush mounting bezel one HU FHA2016-A1

Optional bezel for flush mounting installation for all fire control panels and FT24 fire terminal; 530x500 mm (WxH)

Art. no.: ASQ00024719

Flush mounting bezel two HU FHA2015-A1

Optional bezel for flush mounting installation for all fire control panels and FT24 fire terminal; 530x886 mm (WxH)

Art. no.: ASQ00024621

Mounting kit (marine) FHA2035-A1

Mounting kit to fasten a fire control panel in a housing (Comfort) to a wall without vibrations and to shield against EMC influences; 430x796x37 mm (WxHxD)

Art. no.: S54400-S111-A1

19" mounting kit FHA2016-A1

Enables all fire control panels and fire terminals to be mounted in a 19" frame; 430x100x324 mm (WxHxD)

Art. no.: ASQ00020179

Expansion options

Loop extension (C-NET) FC2003-A1

The loop extension makes it possible to double the number of loops (e.g. from 2 loops to 4 loops or from 4 loops to 8 loops) while retaining a constant total number of addresses on the C-NET line card (e.g. 2 loops with 126 addresses each or 4 loops with 63 addresses each).

Art. no.: ASQ00010136

RS232 module (isolated) FCA2001-A1

This module is needed, for example, for operating an event printer. It is plugged into the PMI mainboard. The RS232 module is not contained in the set for the event printer.

Art. no.: ASQ00005327

RS485 module (isolated) FCA2002-A1

This is needed, for example, for operating the following modules:

- Fire department display panel (FAT and FBF) [DE and CA]
- EVAC module [NL]

The RS485 module (isolated) is plugged into the PMI mainboard.

Art. no.: ASQ00009923

Sounder module FCA2005-A1

The sounder module has connections for 4 conventional sounder lines (primary lines; 4x up to 1 A, max. 2 A total). The sounder module is screwed to the assembly plate FHA2007-A1.

Art. no.: ASQ00014866

License key L1 FCA2012-A1

Activates the Cerberus-Remote function. For operating Cerberus-Remote, only the station which is to act as the CAP needs to have an L1 installed.

Art. no.: ASQ00018856

License key L2 FCA2013-A1

Activates the Cerberus-Remote function and the connection to the danger management system. Every station that needs to be accessed by a management system must have L2 installed.

Art. no.: ASQ00018857

Operating add-ons

Operating add-on (2xLED-ind.) FCM7211-Y3

This contains 48 display groups each with one red and one yellow LED. Any events can be allocated to the LEDs; 427x200x25 (WxHxD)

Optional: event printer FTO2001-A1

Art. no.: S54400-F75-A1

Operating add-on (4xLED-ind.) FCM7212-Y3

This contains 96 display groups each with one red and one yellow LED. Any events can be allocated to the LEDs; 427x200x25 (WxHxD)

Art. no.: S54400-F88-A1

Key switch Kaba FTO2005-C1

Kaba lock cylinder with installation accessories and keys (Kaba 8 #100). Usable optionally for enabling operation.

Art. no.: ASQ00010113

Key switch Nordic FTO2006-B1

Key set with mounting accessories. Optimally applicable for operation clearance.

Art. no.: ASQ00010129

Event printer FTO2001-A1

The event printer FTO2001-A1 is installed directly in the control panel or in the terminal. It is a thermal printer which logs all events. An RS232 module (isolated) FCA2001-A1 is required for operating the event printer. This is not contained in the printer set and must be ordered separately.

Art. no.: ASQ00010126

Event printer DL3750+

Monitored external event printer for serial connection via Ethernet. Optional: RS232 module (isolated) FCA2001-A1.

Art. no.: ASQ00023962

Module bus cards for FC726

Line card (C-NET) FCL2001-A1

For 252 C-NET devices on 4 loops or 8 stubs.

Art. no.: ASQ00009875

I/O card (RT) FC12007-A1

For alarm and fault transmission.

Art. no.: S54400-A20-A1

I/O card (programmable) FC12008-A1

12 programmable inputs/outputs with defined behavior in degrade mode.

Art. no.: S54400-A6-A1

I/O card (horn/monitored) FC12009-A1

8 monitored horn lines or monitored outputs.

Art. no.: S54400-A21-A1

Power supply

Power supply kit (70 W) FP2003-A1

For the independent power supply of fire terminals such as FT24-ZZ.

Art. no.: ASQ00016005

Power supply kit (150 W) FP2004-A1

Power supply for installation in empty housings. Optional: additional power supply with FP2005-A1 is possible.

Art. no.: ASQ00020825

Additional power supply (150 W) FP2005-A1

Additional power supply can be connected in the housing directly after FP2004-A1.

Art. no.: ASQ00018779

C-NET

