

Sinteso™

Fire control panel (19", modular)

FC2080



Individually configurable, modular fire control panel without integrated operating unit, can be mounted in 19" pedestal cabinet.

- Fire control panel for max. 5000 addresses
- Optional, integrated single or multi-sector extinguishing
- Up to 64 stations, such as control panels and terminals, can be linked to form a network
- System with separate processor and communication card
- Can be optionally equipped with a second processor card for redundant operation
- Can be modularly extended by adding up to 37 module bus cards in a maximum of seven card cages
- Option to connect to Siemens 'Cloud for Buildings'
- Emergency power supply for emergency operating time of up to 72 hours
- Recognition, automatic read-in and immediate operational readiness of all FDnet devices with auto-configuration
- Flexible configuration of complex applications and controls
- Configuration data can be uploaded/downloaded via remote access
- Hot plug system: Module bus cards can be changed during operation

Features and Functions

System



The diagrams have been simplified and do not include additional network hardware or security components. Permissible applications are described in the A6V101039125 Network Security Guidelines document. Contact your Siemens IT security expert for more information.

System overview

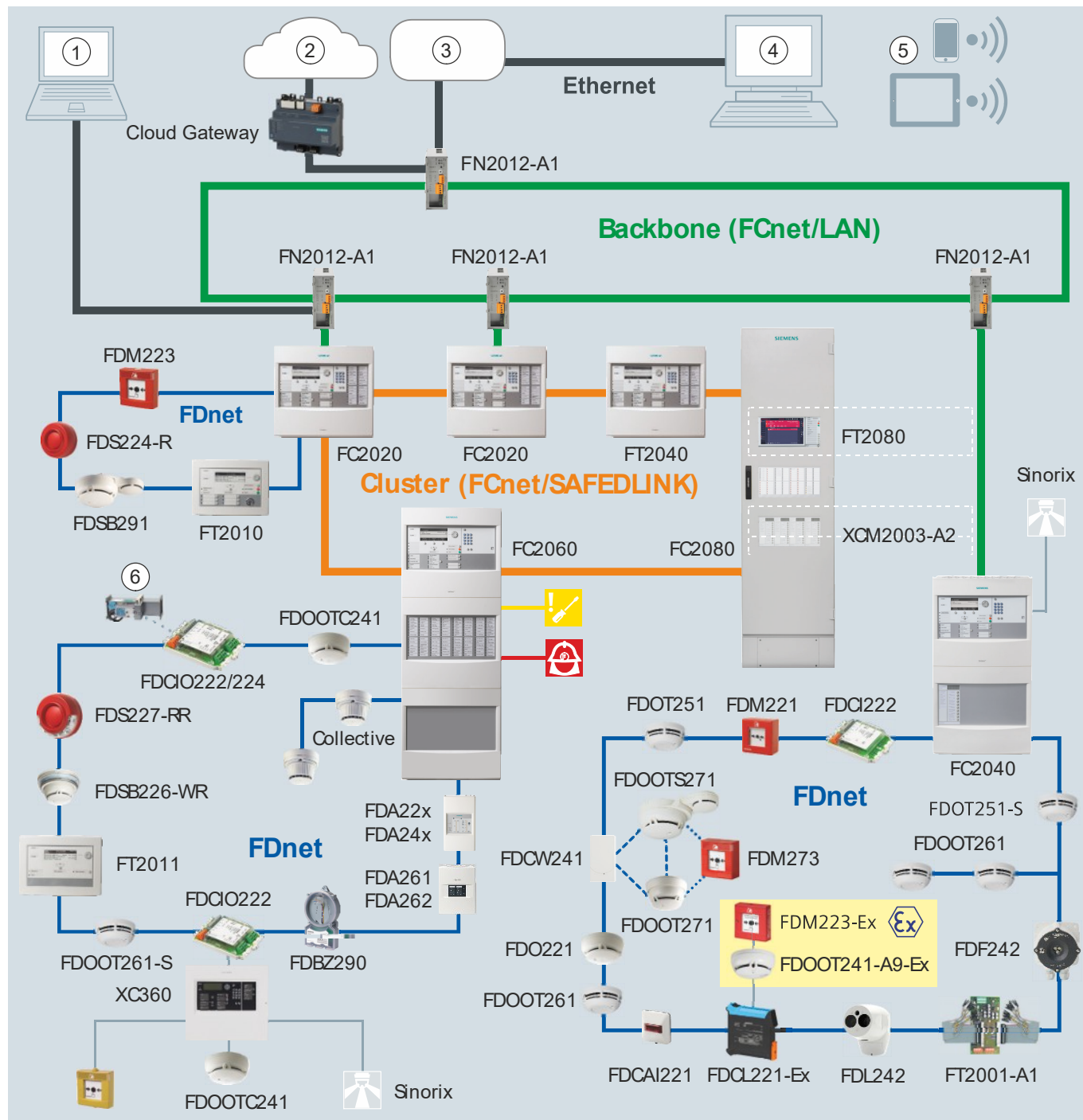


Fig. 1: System overview

1	Remote access with SintesoView
2	'Cloud for Buildings'
3	Customer network
4	Management platform
5	Remote access to management platform
6	Fire damper with actuator
	Transmission of a fault signal
	Transmission of an alarm signal

You will find a detailed labeled version of the diagram above along with further information in the A6V10906627 planning guide, see chapter 'Product documentation'.

Optional module bus cards for card cage

Type	Designation	Properties
FCL2008-A1	Line card (FDnet/C-NET, P)	4x loops of 1.5 A and max. 252 addresses per loop and max. 252 addresses per line card
FCL2002-A1	Line card (collective)	8x lines each with a maximum of 32 devices
FCL2005-A1	Line card (AnalogPLUS)	4x loops each with a maximum of 128 addresses, max. of 512 addresses per line card
FCL2006-A1	Line card (interactive)	1x loop with max. 128 devices or 1 stub with 32 devices
FCL2007-A1	Line card (interactive, Ex)	1x stub with max. 32 devices
FCI2007-A1	I/O card (RT)	Outputs for alarm, fault, local alarm
FCI2008-A1	I/O card (programmable)	12x freely programmable inputs/outputs per I/O card
FCI2009-A1	I/O card (horn/monitored)	8x monitored horn outputs or monitored outputs

Mixed usage possible, but with a maximum of 5,000 addresses per control panel.

Networking of fire control panels



The diagrams have been simplified and do not include additional network hardware or security components. Permissible applications are described in the A6V101039125 Network Security Guidelines document. Contact your Siemens IT security expert for more information.

Up to 32 control panels and terminals can be linked to form one FCnet network. If the FCnet network is connected to a danger management system via BACnet, up to 16 control panels and terminals can be networked.

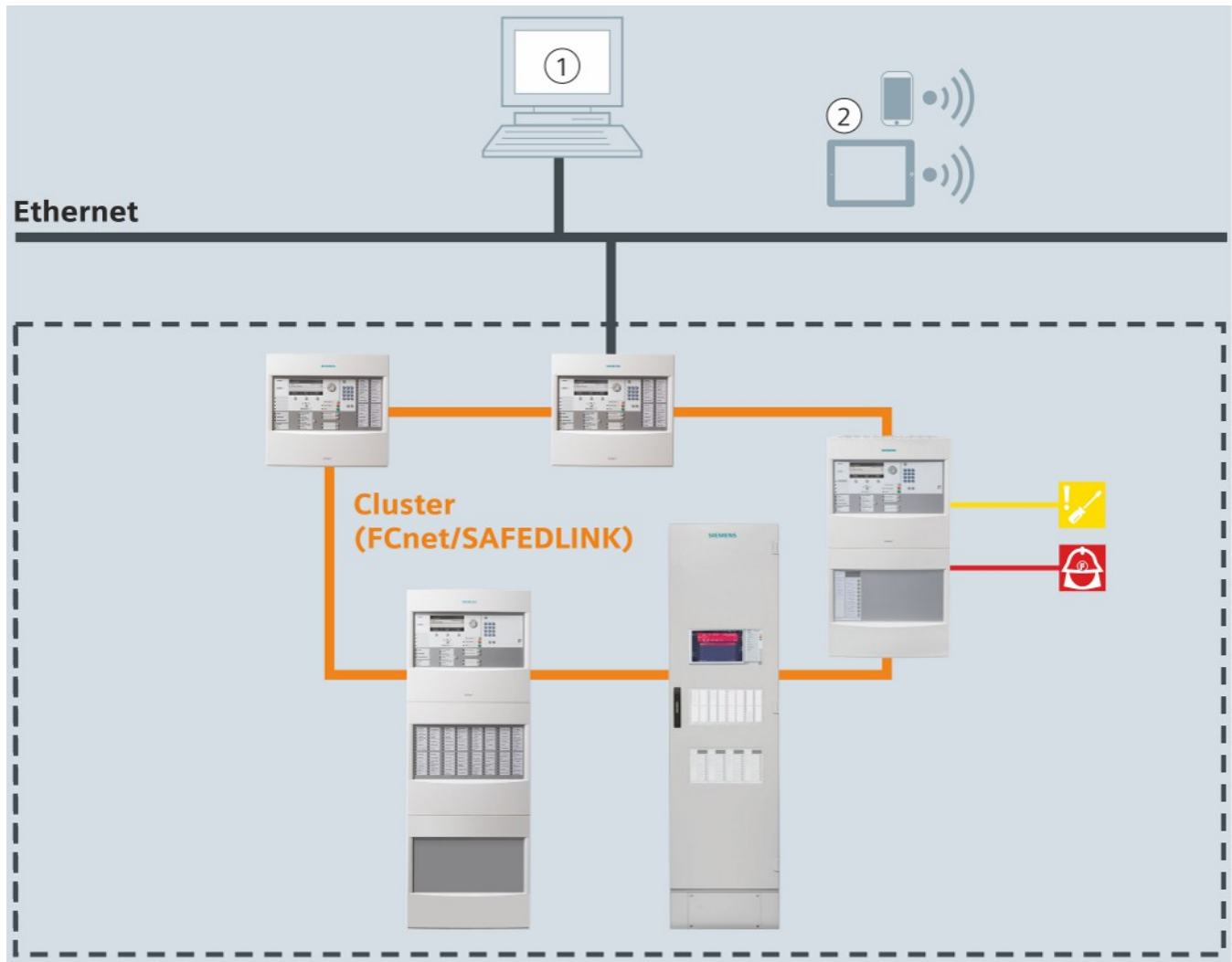


Fig. 2: Sub-net

1	Management platform
2	Remote access to management platform
	Transmission of a fault signal
	Transmission of an alarm signal

An optical FCnet/LAN network (without sub-networks) allows operation of a maximum of 64 stations in a single network.

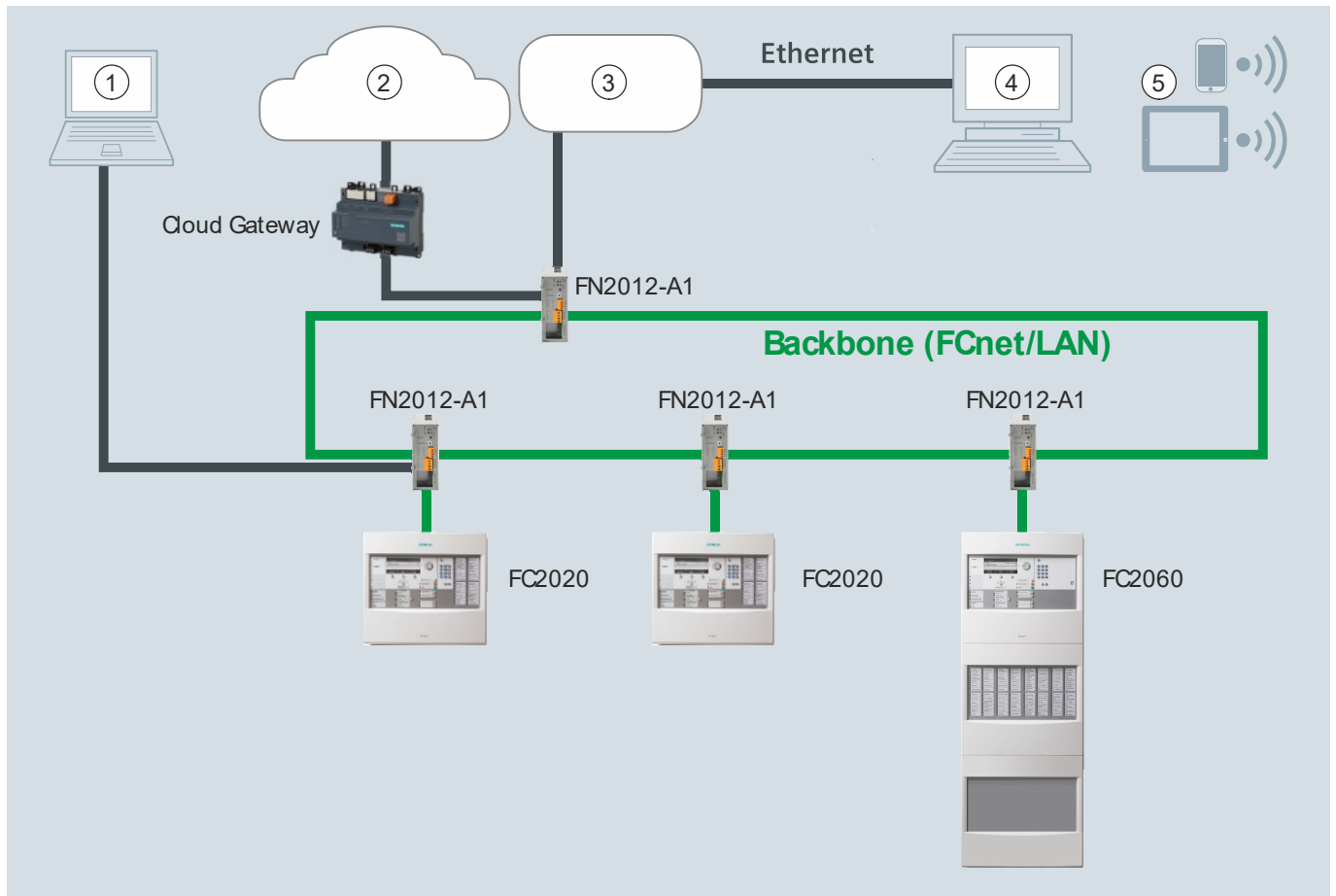


Fig. 3: Networking via 'FCnet/LAN' without a 'subnet'

1	Remote access with SintesoView
2	'Cloud for Buildings'
3	Customer network
4	Management platform
5	Remote access to management platform

You will find a detailed labeled version of the diagram above along with further information in the A6V10906627 planning guide, see chapter 'Product documentation'.

An extended redundant network via 'FCnet/LAN' without a sub-net is a glass fiber Ethernet network without 'SAFEDLINK sub-net'. This type of networking meets the requirements for communication in 'Degraded mode' and is EN-54-compliant.

The following preconditions/restrictions are applicable:

- To ensure EN-54 conformity, the following setting must be activated in the 'SintesoWorks': 'Degraded signal forwarding enabled'.
- The network must be implemented via one connection module (MoNet) FCA2031-A1 and one Ethernet switch (modular) FN2012 per 'Station' in each case.
- A maximum of 64 'Stations' can be networked via the 'FCnet/LAN' without a sub-net.

An optical FCnet/LAN network allows up to 14 sub-nets with up to 16 stations to be operated in one network. A maximum of 64 stations is supported in total.

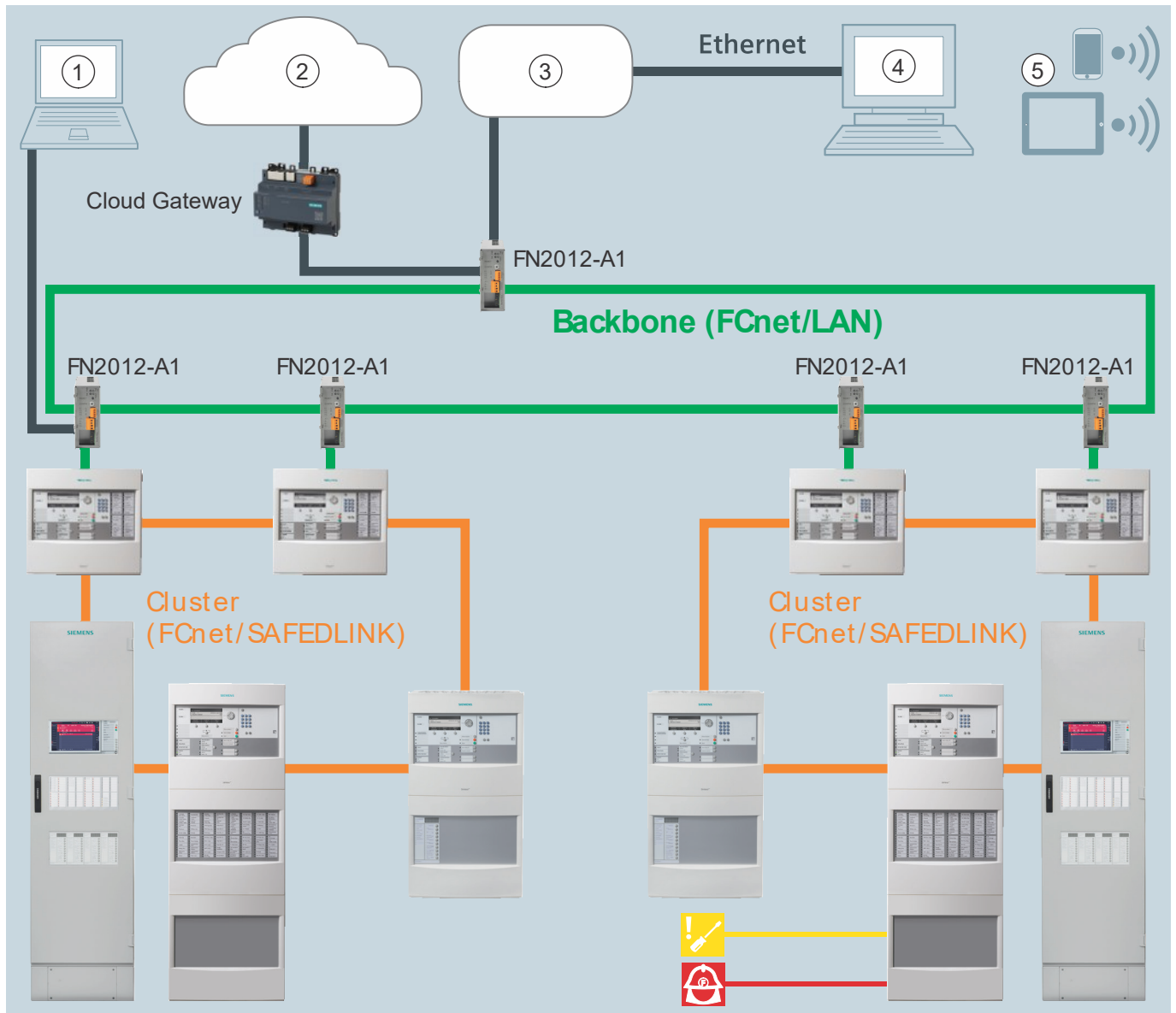


Fig. 4: Backbone

1	Remote access with SintesoView
2	'Cloud for Buildings'
3	Customer network
4	Management platform
5	Remote access to management platform
	Transmission of a fault signal
	Transmission of an alarm signal

You will find a detailed labeled version of the diagram above along with further information in the A6V10906627 planning guide, see chapter 'Product documentation'.

Control panels

General features and functions

- System with multiple redundancy
- Optionally available with redundant main processor
- Automatic recognition and addressing of module bus cards
- Processes the signals from the Sinteso FD20, Sinteso Nova detector series, and the signals from earlier detector series
- Floor repeater displays, terminals and alarm devices on the FDnet detector line with power supply via FDnet
- Interface to Siemens danger management system
- Supplied with the following pre-fitted interfaces:
 - 2x integrated FCnet interfaces
 - 1x separate Ethernet connection on CPU card for SintesoWorks
 - 4x Ethernet connections on a communication card, one of which features ground fault monitoring
 - Integrated RS485 and RS232 serial interface
- Modular energy supply concept, max. 2 FHA2064 power supply units
- Separate batteries for each power supply module
- Control and operation via other control panels on the network
- An operating unit with up to two operating add-ons can be optionally installed; operated as a separate fire terminal
- Mixed use of all module bus cards (line and I/O cards) possible.
- Integrated degraded mode function
- Freely configurable, time-dependent controls with optional weekly, monthly, and yearly switching programs
- Time and situation-dependent changeover of detector parameter sets
- Controls for synchronous activation of sounder bases/sounders (acoustic, optical, language)
- The control panel and the fire detection system are custom-configured using the 'SintesoWorks' software
- Firmware for all processor-controlled control panel components can be updated
- Customer texts can be adapted directly on the operating unit of the control panel or with the 'SintesoWorks' software
- Up to 13000 events can be called up from the event memory and filtered based on various criteria
- Automatic summer/normal time changeover

Control panel-specific features

FH2080-AA	Housing (19" pedestal cabinet)
	• 5000 addresses • 30...240 lines (depending on line card and configuration) • Max. 2 power supply units (FHA2064) • Max. battery capacity 100 Ah per power supply unit • Max. 7 card cages for module bus cards • Max. 5 module bus cards per card cage • Max. 37 module bus cards • Max. 8 flooding zones; max. 16 flooding zones with additional 19" pedestal cabinet

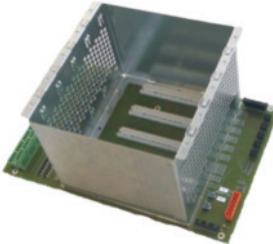
Features of the basic components

FCC2002-A1 	Processor unit (19", FC2080) • Basic component for the FC2080 • Incl. cable kit for connecting an optional operating unit • Includes 19" carrier with cable duct, a card cage (CPU), and a card cage (5 slots) • Incl. a CPU card (FC2080) and communication card (FC2080) • One slot in the card cage (CPU) is reserved for a redundant CPU card (FC2080) • Two slots in the card cage (CPU) are reserved for module bus cards
FHA2064-A1 	Carrier (19", power supply) • Basic component for the fire control panel FC2080 • Guarantees the required energy supply. • Mounted on the side wall of the 19" pedestal housing FH2080-AA. • Consists of the following elements: – 1 carrier plate with DIN rails and cable ducts – max. 1 power supply (250 W) – 1 terminal strip for the primary supply – 1 terminal strip for the secondary supply The FC2080 can be equipped with a second FHA2064-A1 with a separate batteries set.

Extensions



You will find information on the integrated extinguishing system and the individual extinguishing components that are available in a separate data sheet with the document ID 'A6V10880701'.

FCA2008-A1 	Card cage (5 slots) • For installation in fire control panel FC2080 • For holding a maximum of 5 module bus cards • Also requires the carrier (19", card cage) FHA2023 as a mounting support • Max. 2 card cages can be mounted to the mounting support
FCC2004-A1 	CPU card (FC2080) • Optional second CPU card for extension to redundant CPU operation of the fire control panel FC2080 • Inserted in the free slot of the card cage (CPU)

FCM2028-A2 	Operating unit • Optional standard operating unit for the fire control panel FC2080 • From a configuration perspective, this is considered as a separate station FT2040 and has the same functions
FCM2030-C2 	Operating unit (+FBA term.) • Optional operating unit with FBA terminal for Switzerland for the fire control panel FC2080 • From a configuration perspective, this is considered as a separate station FT2040 and has the same functions
FCM2037-A2 	Operating unit (+LED indicator) • Optional operating unit fire control panel FC2080 with 24 indicator groups and LEDs • From a configuration perspective, this is considered as a separate station FT2040 and has the same functions
FCM2036-A2 	Operating add-on (4xLED indicator) • Optional operating add-ons with 96 indicator groups and two LEDs each: 1x red/green LED and 1x yellow LED
FCM2038-A2 	Operating add-on (2xLED indicator) • Optional operating add-ons with 48 indicator groups and two LEDs each: 1x red/green LED and 1x yellow LED
FTO2001-A1 	Event printer • Thermal printer for installation in operating units or operating add-ons • Can be controlled via the RS232 module FCA2001-A1 (order separately) • Logs all important events, such as alarms, faults, isolations, and test functions

Use

For large applications with high redundancy requirements, e.g., airports, power generation facilities, and systems with extinguishing systems.

As part of a modernization process, for a gradual and seamless transition from older systems to Sinteso.

Design

Function elements

Processor unit

The basic module of the FC2080 includes a CPU with a main processor on the CPU card (FC2080), a communication card (FC2080), and slots for an optional second CPU card, as well as two slots for any module bus cards.

In the card cage (five slots), which is mounted on the same 19" carrier, five additional module bus cards can be installed.

Power supply

The power supply feeds the hardware and charges the batteries.

In the event of a power cut, the batteries provide emergency current.

A maximum of two independent circuits can be operated with their own emergency batteries. Each power supply module (FHA2064) can accept a maximum of one 250-W power supply.

Card cage

Up to six additional card cages can be mounted for inserting up to five module bus cards.

Module bus cards

Line cards for incorporating peripheral devices or I/O cards for fire controls and integration with other systems.

19" carrier

19" carriers can be used to mount card cages, power supplies, batteries, and options inside the 19" housing.

Housing

The housing consists of a 19" pedestal cabinet with a base that can accommodate FC2080 components.

The housing is supplied with pre-fitted cable ducts and a cabinet door with cut-outs for accommodating the operating unit and operating add-ons. There are various support components for mounting electrical modules in accordance with your individual requirements.

Operating unit and operating add-ons

The operating unit and operating add-ons are optional and are installed in the door of the FC2080 pedestal cabinet. They have the function of a separate station.

Configuration

The following software allows the system to be customized:

- SintesoWorks

Operation

The control panel can be operated via a FT2040 or FT2080 (Touch) operating terminal. The operating terminal can be integrated into the cabinet door or operated remotely. The FC2080 can also be operated via another FS20 control panel on the network.

You will find details and more information in the product data sheets 009386 and A6V10378271.

Setup

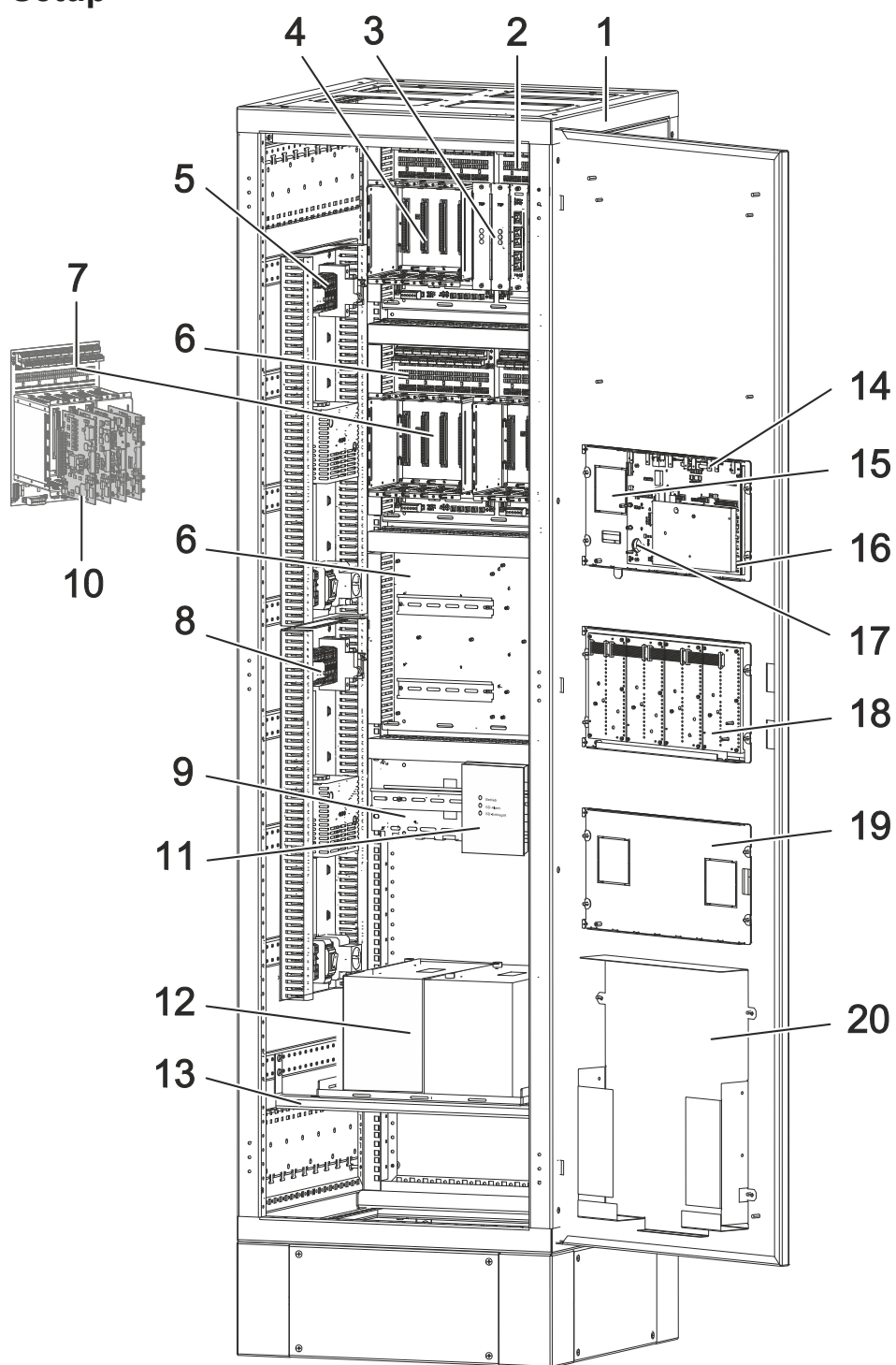


Fig. 5: Setup of FC2080

Position	Designation	Type	Note
Basic equipment			
1	Housing (19" pedestal cabinet)	FH2080-AA	19" pedestal cabinet for accommodating FC2080 components
2	Processor unit (19", FC2080)	FCC2002-A1	Basic module incl. 1x CPU card and 1x communication card (FC2080), 2x network modules, and 1x card cage (5 slots)
3	2x free slots for module bus cards		In card cage (CPU) of processor unit to allow extension through the addition of any two module bus cards
4	5x slots for module bus cards		In card cage (5 slots) of processor unit to allow extension through the addition of any five module bus cards
5	Carrier (19", power supply)	FHA2064-A1	Power supply module incl. 1x 250 W power supply
Extensions			
(2)	CPU card (FC2080)	FCC2004-A1	For extension to redundant CPU operation
6	Carrier (19", card cage)	FHA2023-A1	For mounting a maximum of two card cages or other modules in the 19" cabinet
7	Card cage (5 slots)	FCA2008-A1	For mounting on carrier (19", card cage) to allow extension through the addition of any five module bus cards
8	Carrier (19", power supply)	FHA2064-A1	For use as an additional 2nd power supply module with separate batteries
9	Carrier (19", option)	FHA2024-A1	For mounting options (e.g., FDCIOxxx, relays) in the 19" cabinet
10	Module bus cards:		
	Line card (FDnet/C-NET, P)	FCL2008-A1	For four additional FDnet lines of 1.5 A each (max. 252 addresses per card)
	Line card (collective)	FCL2002-A1	For eight MS7/9/24, DS11, Synova 600, SIGMACON collective lines
	Line card (AnalogPLUS)	FCL2005-A1	For four addressed AnalogPLUS lines
	Line card (interactive)	FCL2006-A1	For one addressed interactive line
	Line card (interactive, Ex)	FCL2007-A1	For one addressed interactive Ex line
	I/O card (RT)	FCI2007-A1	For transmission of alarms and faults
	I/O card (programmable)	FCI2008-A1	Twelve programmable inputs/outputs
	I/O card (horn/monitored)	FCI2009-A1	Eight sounders
11	Key safe adapter	SDA 3000	For controlling the fire brigade key depot (available from IFAM)
12	Battery (12 V, 65 Ah, VdS)	FA2008-A1	For the emergency power supply NOTICE! A separate battery kit is required for each power supply
	Battery (12 V, 100 Ah, VdS)	FA2009-A1	
13	Battery tray (19")	FHA2021-A1	For holding batteries within the 19" cabinet, max. of two per cabinet
14	Optional operating unit		

Position	Designation	Type	Note
	Operating unit	FCM2028-A2	Standard operating unit
	Operating unit (+ LED indicator)	FCM2037-A2	Operating unit with 24x LED groups
	Operating unit (+ Nord. key switch)	FCM2028-B2	Operating unit with key switch (nordic)
	Operating unit (+ EVAC term.)	FCM2030-N2	Operating unit incl. 10x evacuation zones
	Operating unit	FCM2028-F2	Operating unit for France only
	Operating unit (+ FBA terminal)	FCM2030-C2	Operating unit for Switzerland only
15	Event printer (internal)	FTO2001-A1	For logging system events
16	License key Sx	FCA20xx	For special functions
17	Key switch (Kaba)	FTO2005-C1	For operating access authorization
	Key switch (nordic)	FTO2006-B1	
18 + 19	Optional operating add-ons:		Maximum of 2 operating add-ons per FC2080
	Operating add-on (2xLED indicator)	FCM2038-A2	With 2 LED modules
	Operating add-on (4xLED indicator)	FCM2036-A2	With 4 LED modules
20	Plan compartment A3	--	Installed in door
	Connect X200 Gateway	CXG3.X200	Not pictured. For connecting an FS20 station to Cloud for Buildings The cables required and an AC/DC converter must be purchased separately. Can be installed in an empty housing directly adjacent to the station if there is no space for installation in the station.

Type Overview

	Housing
	
Type	FH2080-AA
Order number	S54400-C103-A1
Number of FDnet addresses	5000
Lines	30...240 (depending on line card and configuration)
Power supply	Max. 2 sets of 1 x 250 W
Max. battery capacity	100 Ah
Number of module bus cards in the card cage	Max. 5
Total number of module bus cards	Max. 37

Details for ordering

Basic equipment

Type	Designation	Weight	Order number
FH2080-AA	Housing (19" pedestal cabinet)	120.000 kg	S54400-C103-A1
FCC2002-A1	Processor unit (19", FC2080) incl. CPU card (FC2080) FCC2004-A1 and communication card (FC2080) FCC2005-A1	4.600 kg	S54400-B17-A1
FHA2064-A1	Carrier (19", power supply)	5.2 kg	S54400-B12-A1

Extensions



You will find information on the integrated extinguishing system and the individual extinguishing components that are available in a separate data sheet with the document ID 'A6V10880701'.

Type	Designation	Weight	Order number
FCA2008-A1	Card cage (5 slots)	1.479 kg	S54400-B28-A1
FCC2004-A1	CPU card (FC2080)	0.200 kg	S54400-A18-A1
FCI2007-A1	I/O card (RT)	0.111 kg	S54400-A20-A1
FCI2008-A1	I/O card (programmable)	0.097 kg	S54400-A6-A1
FCI2009-A1	I/O card (horn, monitored)	0.109 kg	S54400-A21-A1
FCL2008-A1	Line card (FDnet/C-NET, P)	0.119 kg	S54400-A182-A1
FCL2002-A1	Line card (collective)	0.117 kg	A5Q00010502
FCL2005-A1	Line card (AnalogPLUS)	0.120 kg	S54400-A107-A1
FCL2006-A1	Line card (interactive)	0.117 kg	S54400-A108-A1
FCL2007-A1	Line card (interactive, Ex)	0.117 kg	S54400-A134-A1
FCM2028-A2	Operating unit	2.392 kg	S54400-F83-A1
FCM2028-B2	Operating unit (+nord. key switch)	2.441 kg	S54400-F83-A2
FCM2028-F2	Operating unit (FR)	2.413 kg	S54400-F83-A3
FCM2030-C2	Operating unit (+FBA terminal)	2.568 kg	S54400-F93-A1
FCM2030-N2	Operating unit (+EVAC terminal)	2.569 kg	S54400-F93-A2
FCM2036-A2	Operating add-on (4xLED indicator)	3.905 kg	S54400-B147-A1
FCM2037-A2	Operating unit (+LED indicator)	2.506 kg	S54400-B148-A1
FCM2038-A2	Operating add-on (2xLED indicator)	2.516 kg	S54400-B146-A1
FHA2007-A1	Mounting plate	0.800 kg	A5Q00010151
FHA2021-A1	Battery tray (19")	2.000 kg	S54400-B23-A1
FHA2023-A1	Carrier (19", card cage)	1.600 kg	S54400-B25-A1
FHA2024-A1	Carrier (19", option)	1.600 kg	S54400-B26-A1
FN2006-A1	Fiber network module (SM)	0.792 kg	S54400-A109-A1
FN2007-A1	Fiber network module (MM)	0.792 kg	S54400-A110-A1
FTO2001-A1	Event printer	0.141 kg	A5Q00010126
-	Spare printer reels (10 reels)	0.090 kg	A5Q00017619
FTO2005-C1	Key switch (Kaba)	0.083 kg	A5Q00010113

Type	Designation	Weight	Order number
FTO2006-B1	Key switch (nordic)	0.046 kg	A5Q00010129
SDA3000	Key safe adapter	1.500 kg	9102.0648

Auxiliary power supply

Type	Designation	Weight	Order number
FHA2064-A1	Carrier (19", power supply)	5.2 kg	S54400-B12-A1

Network (backbone)

Type	Designation	Weight	Order number
FCA2031-A1	Connection module (MoNet)	0.081 kg incl. cable	S54400-A153-A1
FHA2029-A1	Mounting kit (switch)	1.261 kg	S54400-B79-A1
FN2012-A1	Ethernet switch (modular)	0.600 kg	S54400-B152-A1
VN2002-A1	Ethernet module (MM)	0.026 kg	S54400-A43-A1
VN2003-A1	Ethernet module (SM)	0.026 kg	S54400-A44-A1

Cloud Gateway

Type	Designation	Weight	Order number
CXG3.X200	Connect X200 Gateway	0.300 kg	S55842-Z131-A100
FCA2056-A1	Accessory kit + ACDC (X200)	0.200 kg	S54400-S115-A1

Batteries

Type	Designation	Weight	Order number
FA2008-A1	Battery (12 V, 65 Ah, VdS)	21.300 kg	A5Q00019357
FA2009-A1	Battery (12 V, 100 Ah, VdS)	32.000 kg	A5Q00023101
FHA2061-A1	Mounting kit for batteries	–	S54400-B91-A1

License keys

Type	Designation	Weight	Order number
FCA2033-A1	License key (S1)	0.010 kg	S54400-P154-A1
FCA2034-A1	License key (S2)	0.010 kg	S54400-P155-A1
FCA2035-A1	License key (S3)	0.010 kg	S54400-P156-A1
FCA2036-A1	License key (S4)	0.010 kg	S54400-P157-A1

Product documentation

Title	Document ID
System documentation	
System description	008836
Product data	008837
Planning	008843
Mounting/Installation	008851
System data sheet	
FS20 – Fire detection system	008955
Data sheets	
FC2020 - fire control panel	009383
FC2030 - fire control panel for modernization	A6V10087532
FC2040 - fire control panel	009384
FC2060 - fire control panel (modular)	A6V10087844
FC2080 - fire control panel (19", modular)	A6V10275515
FT2040 - fire terminal	009386
FT2080 - fire terminal (Touch)	A6V10378271
Fire detection system with integrated single or multi-sector extinguishing	A6V10880701
Network Security Guidelines	A6V101039125
Planning overview	A6V10906627

Related documents such as the environmental declarations, declarations of conformity, etc., can be downloaded from the following Internet address:

www.siemens.com/bt/download



Guarantee

Technical data on specific applications are only valid together with Siemens products listed under "Equipment combinations". Siemens rejects any and all warranties in the event that third-party products are used.

Technical data

Fire control panel (19", modular) FC2080		
Supply	Mains voltage	AC 115/230 V +10/-15 %
	Power supply	> 250 W
	Operating voltage	DC 21...28.4 V
	Operating current	>3 A
	Battery capacity	2x 12 V, max. 100 Ah
	Battery monitoring	Yes
	Network monitoring	Yes
Inputs / outputs	Connectible detector series	Sinteso, collective, DS11, interactive, interactive Ex
	Number of addresses	Max. 5000
	Number of lines in the maximum configuration:	
	• FDnet (4 per line card)	Max. 120
	• Collective (8 per line card)	Max. 240
	• Interactive (1 per line card)	Max. 30
	• Interactive, Ex (1 per line card)	Max. 30
	• AnalogPLUS (4 per line card)	Max. 120
	Input/output cards:	
	• I/Os (programmable)	12 per FCI2008-A1
	• I/Os (horn)	8 per FCI2009-A1
	• I/Os RT alarm (monitored and relay)	1 + 1 per FCI2007-A1
Interfaces	• I/Os RT fault (monitored and relay)	1 + 1 per FCI2007-A1
	• I/Os local alarm	1 per FCI2007-A1
	Operating unit	optional
	RS232, RS485 serial interfaces	1 + 1 (integrated)
	Slots for network modules (on CPU and COM cards)	1 per FCC2004-A1 (Main) 1 per FCC2005-A1 (Degrade)
	Slots for module bus cards	Max. 37
Ambient conditions	Ethernet port RJ45	3
	Operating temperature	-8...+42 °C
	Storage temperature	-20...+60 °C
	Air humidity (no condensation permitted)	≤95% rel.
Mechanical data	Maximum height above sea level	3,700 m
	Dimensions (W x H x D):	
	• Pedestal cabinet incl. base	600 x 2200 x 600 mm
	Protection category (IEC 60529)	IP30
	Color	~RAL 7035 light gray
Approvals	VdS	G212027
	Standards	EN 54-2, EN 54-4, VdS 2095

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