



FS20

Sinteso™

Fire detection system



Market package 6

- **Control panel range with 4 types of station**
 - Microprocessor-controlled fire detection system
 - Modular and compact fire control panels for between 252 and 5000 addresses
 - PC-based operation (SintesoView) via Fast Ethernet
 - Integrated BACnet interface
 - Free control logic
 - Phased evacuation
- **Networking via clusters (FCnet/SAFEDLINK)**
 - Redundant network node
 - Increased safety (degraded mode)
 - Up to 16000 addresses and 32 stations (control panels, operating units)
 - Fast data transmission speeds of up to 312 kbps
- **Extended networks via Ethernet backbone (FCnet/LAN)**
 - Multi-cluster networks via Industrial Ethernet (fiber-optic)
 - Conforms to EN 54
 - Redundant data transmission
 - Up to 14 clusters (with up to 16 stations per cluster)
 - Up to 64 stations in entire network

- **Powerful peripherals**
 - Acoustic alarm sounders, floor repeater displays/terminals supplied via bus
 - All FD20 devices supported
- **Time-saving functions for mounting, commissioning, and service**
 - Ergonomic engineering tool (SintesoWorks) featuring familiar Windows mechanisms
 - Auto-configuration (self-addressing)
 - Zones and customer texts can be assigned without hardware read-in
 - Remote transmission of diagnosis data (e.g., firmware versions)

General functional principle

The intelligent Sinteso devices detect signals and then compare and evaluate them on the basis of stored patterns. If a fire is detected, the data is transmitted to the fire control panel and fire controls are actuated accordingly. The system remains just as effective regardless of whether the network is loop-shaped to make it failsafe, whether it takes the form of an Ethernet network, or whether it consists of a combination of the two. In the event of faults, degraded mode safeguards the operation of those parts of the site that are detrimentally affected by the fault. All signals are automatically displayed on the operating unit according to where they originate from or can be dealt with by means of operating functions. The messages are always entered in the event memory together with a time stamp so that the source of the fire can be determined at a later point.

System overview FS20

The FS20 fire detection system represents the latest generation of global fire control panels from Siemens. It combines the highest standards of safety with international product innovations and state-of-the-art technology.

The fire control panels and the fire terminals plus the shared cluster (FCnet/SAFEDLINK network) and backbone (FCnet/LAN) have all been designed in accordance with EN 54-2, EN 54-4, and other requirements that are applicable in Switzerland. Together, these form the heart of the FS20 fire detection system. When used in conjunction with the intelligent peripheral devices (FDnet), the system offers maximum detection reliability and can adapt perfectly to the conditions at the customer's site.



● FC2020 fire control panels

The size of this fire control panel makes it ideal for smaller applications, e.g., for use in workshops and hotels.

It allows you to connect a total of 2 (4) loops or 4 (8) stub lines with up to 252 addresses.

Its main strength lies in the compact design, which enables quick and efficient mounting.



● FC2040 fire control panels

Supporting either 4 (8) loops or 8 (16) stub lines, the FC2040 fire control panel provides sufficient capacity for medium-sized fire detection installations (e.g., regional banks and office complexes) with up to 504 addresses.



● Fire control panel FC2060

The FC2060 is a modular fire control panel with integrated operating unit for large sites and for modernizing large older fire detection installations.

The FC2060 processes signals from Sinteso, collective MS7/9/24, DS11, Synova 600, SIGMACON, and addressed MS9i devices.

It allows you to connect a total of 4 (8) loops or 8 (16) stub lines. An integrated card cage with 5 slots allows the use of

- FDnet line cards FCL2001-A1 (for extra lines, 4 per card)
- Collective line cards FCL2002-A1 (8 per line card)
- Line cards (MS9i) FCL2003-A1 (2 per line card)
- AnalogPLUS line cards FCL2005-A1 (4 per line card)
- Interactive line card (1 per line card)
- Interactive Ex line card (1 per line card)
- I/O card FCI2008-A1 (with 12 programmable inputs/outputs)

The FC2060 can handle up to 1512 addresses.



● FC2080 fire control panel

The FC2080 is a modular fire control panel for large-scale and demanding sites. Optionally available with redundant main processor. It is mounted inside a 19" pedestal cabinet. The site can be expanded by adding up to 37 module bus cards in a maximum of 7 card cages.

The FC2080 processes signals from Sinteso, collective MS7/9/24, DS11, Synova 600, SIGMACON, and addressed MS9i devices.

It allows you to connect a total of 4 (8) loops or 8 (16) stub lines. It allows the use of the following:

- FDnet line cards FCL2001-A1
(4 loops with a max. total of 252 addresses)
- Collective line cards FCL2002-A1 (8 lines)
- Line cards (MS9i) FCL2003-A1
(2 loops with a max. total of 100 addresses)
- AnalogPLUS line cards FCL2005-A1
(4 loops with a max. total of 128 addresses)
- Interactive line cards FCL2006-A1
(1 loop with a max. total of 128 addresses)
- Interactive Ex line cards FCL2007-A1
(1 stub line with a max. total of 32 addresses)
- I/O card FCI2008-A1 (with 12 programmable inputs/outputs)
- I/O card FCI2009-A1 (with 8 monitored sounders or monitored outputs)
- I/O card FCI2007-A1 (alarm, fault, local alarm)

The FC2080 can handle up to 5000 addresses.



● Fire terminal FT2040

All FC20 fire control panels feature an integrated operating unit.

If you want to use remote operating units, the FT2040 fire terminal is available for this purpose.

The visibility of this compact Person Machine Interface can be freely assigned to include particular fire control panels. Up to five fire terminals are allowed to have system-wide visibility.



● Floor repeater terminals and floor repeater display

The messages from smaller coverage areas (e.g., hospital wards) can be detected by means of FT2011 floor repeater displays and can also be handled using FT2010 floor repeater terminals.

These devices are operated on the FDnet.

National extensions

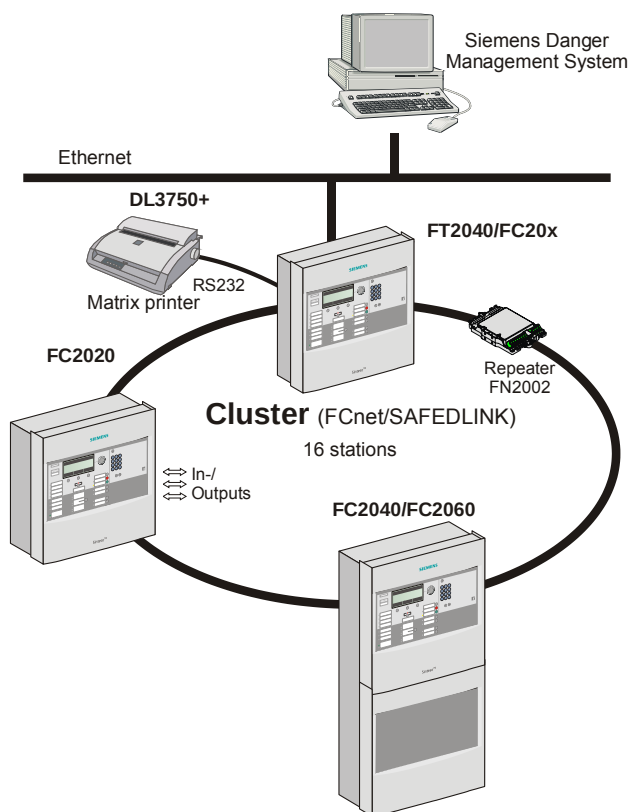
Control panel for fire controls
Evacuation operating panels

Fire brigade operating panels

- France
- France
- Netherlands
- Germany
- Switzerland
- Scandinavia

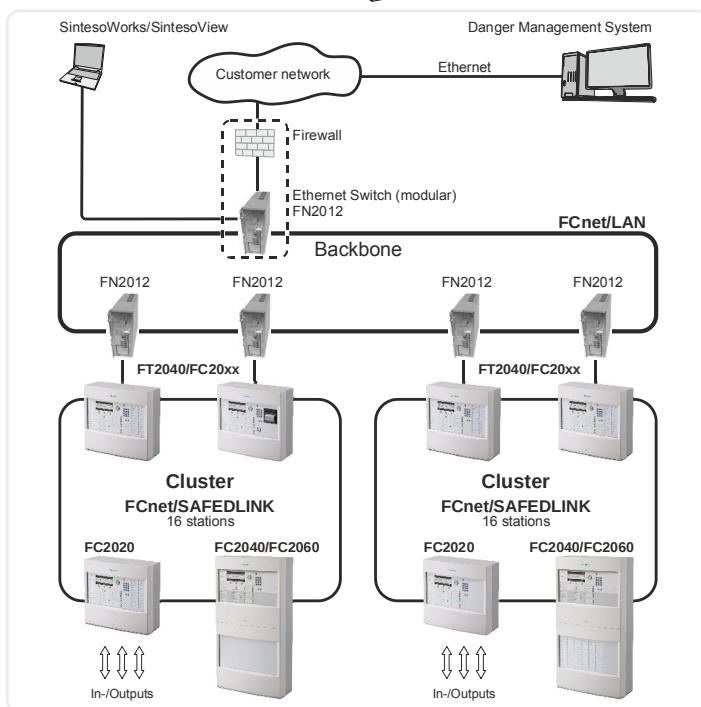
Interfaces

FDnet	Network for connecting Sinteso devices
FCnet/SAFEDLINK	Network for connecting stations (max. 32)
FCnet/LAN	Network for connecting multiple clusters via fiber-optic Industrial Ethernet (max. 64 stations)
Ethernet	Connection to Siemens danger management system



● Cluster (FCnet/SAFEDLINK)

Up to 32 control panels and terminals can be connected to form a single cluster (FCnet/SAFEDLINK network) or – if the cluster is connected to a danger management system – up to 16 stations. The innovative redundant network node not only sets new standards in terms of failsafe characteristics but also for high-speed data transmission. In addition, you have the option of connecting a repeater between neighboring stations to increase the length of the system bus.

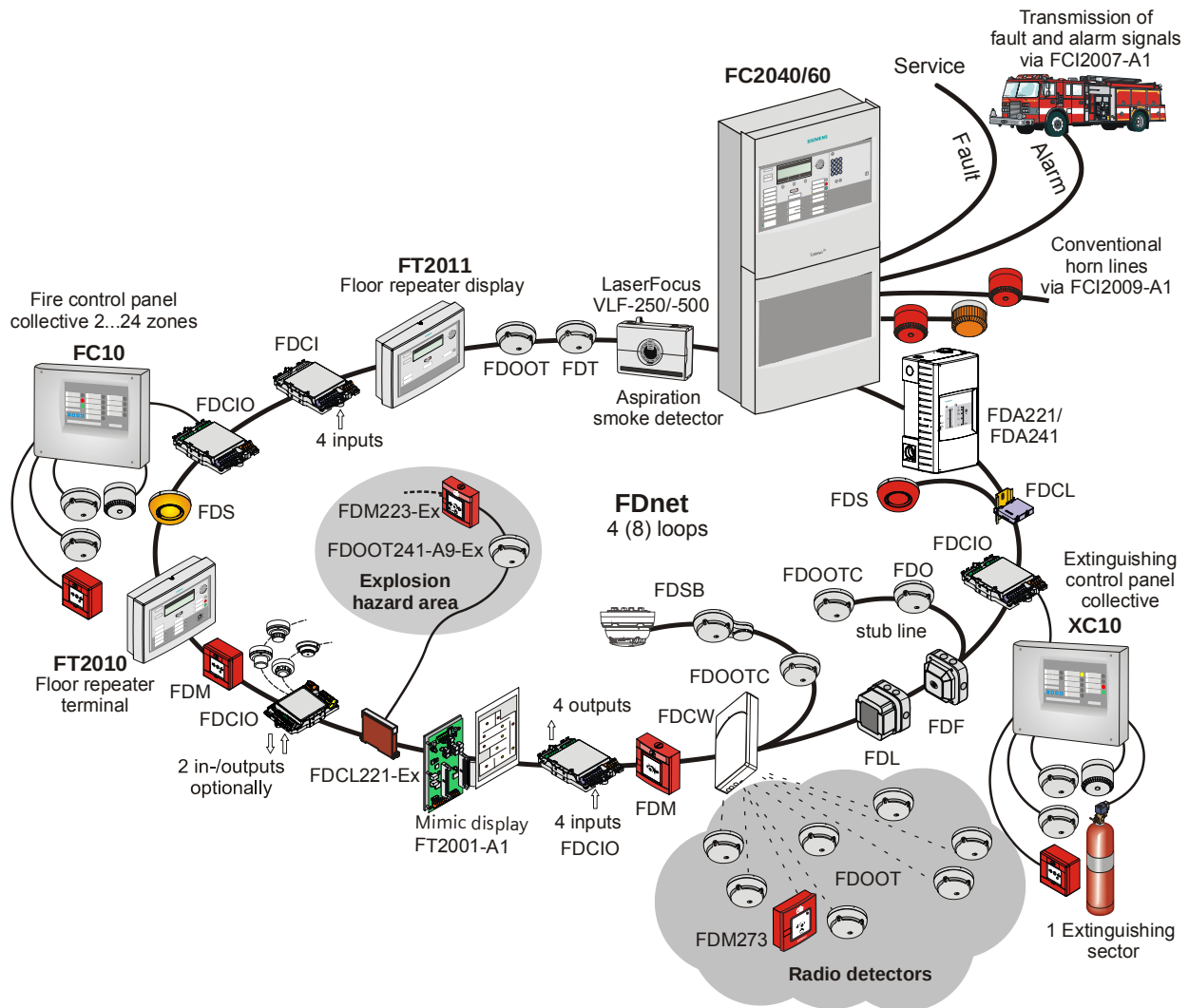


● Backbone (FCnet/LAN)

The use of a fiber-optic backbone (FCnet/LAN) allows up to 14 clusters with up to 16 control panels to be operated on one network. With anything up to 64 control panels and terminals, this topology conforms to EN 54.

● Management system

A danger management system can be connected directly to each network: standalone control panel, cluster (FCnet/SAFEDLINK), or hierarchical network (FCnet/LAN). If a customer network is used for networking purposes, a firewall is required (and a VPN connection, if the danger management system is not located within the user network).



Performance characteristics

Optimum use of customer resources

- Integration of intranet
- Individual control panels or an entire network can be operated from a customer PC using the Visualizer software (SintesoView)
- Redundancy cabling replaced by redundant network nodes
- Floor repeater display and terminals operated on field bus (FDnet)

High availability

- Remote connection via Internet
- Efficient troubleshooting thanks to remote transmission of diagnosis data
- Maximum reliability and secure detection
- Auto-configuration for primary site protection

Easy handling

- Easy and time-saving operation thanks to user-friendly and self-explanatory menu structure
- Efficient mounting thanks to pre-assembled control panels
- All system devices can be accessed remotely via a network device
- Topology (peripherals and installation) can be uploaded to tool
- Minimal training overheads thanks to integrated operating and hardware concept and one engineering tool (SintesoWorks) for the entire system

High speed

- Fast data transmission rate of 312 kbps in failsafe cluster and 100 Mbps in a backbone Ethernet network
- Short download and upload times
- Logical configuration data created prior to site installation

Types of station in FCnet

Housing with integrated Operating unit	FC2020	FC2020	FC2040	FC2060	FC2080	FT2040
						
Housing type	Standard	Comfort	Comfort	Modular	Modular	Eco
Dimensions (W x H x D) mm	430 x 398 x 160	430 x 796 x 160	430 x 796 x 160	430 x 796 x 260	600 x 2200 x 600	430 x 398 x 80
– Without cover cap	430 x 398 x 188	430 x 796 x 188	430 x 796 x 188	430 x 796 x 288		430 x 398 x 108
Number of loops (with loop extension) or Number of stub lines	2 (4)		4 (8)	4 (8)	4 (8)	–
	4 (8)		8 (16)	8 (16)	8 (16)	
Number of slots for extra lines or I/O cards	–		–	5	37	–
Max. number of addresses	252		504	1512	5000	–
Alarm outputs						
– Monitored control output	1		1	1	8	–
– Potential-free changeover contact	1		1	1		
Outputs for conv. sounders, monitored (with sounder module)	1 (4)		2 (8)	2 (8)	8 (per FCI2009)	–
Freely programmable inputs/outputs 24 V (integrated)	8		12	12	12	–
Freely programmable inputs/outputs (max.)	–		–	60	444	–
Battery capacity (internal)	2 x 12 V, 12 Ah	2 x 12 V, 26 Ah	2 x 12 V, 26 Ah	2 x 12 V, 45 Ah	2 x 12 V, 100 Ah	2 x 12 V, 7 Ah (optional)
Ethernet connection	Yes		Yes	Yes	Yes	Yes
Degraded mode and emergency supply	Yes		Yes	Yes	Yes	Yes
Emergency power supply	Emergency operation in degraded mode for up to 72 h (depending on configuration)					
Organizational logic	The alarm verification concept (AVC) allows the control panels to be organized in accordance with customer requirements.					
Time functions	In the event of site testing or if detector zones are isolated, timeout functions ensure that these detector zones get reactivated.					
Event memory	Up to 2000 events can be retrieved for each station based on various criteria.					
Ground fault monitoring	All the outgoing detector lines running out from the control panels are monitored for ground faults.					

Hardware extensions

Station	FC2020	FC2040	FC2060	FC2080	FT2040
Network module (SAFEDLINK)	✓	✓	✓	✓	✓
Redundancy module for networking	✓	✓	✓	✓	✓
Repeater (SAFEDLINK)	✓	✓	✓	✓	✓
Loop extension (FDnet)	✓	✓	✓	✓	–
Line card (FDnet)	–	–	✓	✓	–
Line card (collective)	–	–	✓	✓	–
Line card (MS9i)	–	–	✓	✓	–
Line card (AnalogPLUS)			✓	✓	
Line card (interactive)			✓	✓	
Line card (interactive Ex)			✓	✓	
I/O card (programmable)	–	–	✓	✓	–
Sounder module	✓	✓	✓	✓	–
RS232 module (isolated)	✓	✓	✓	✓	✓
RS485 module (isolated)	✓	✓	✓	✓	✓
Fire brigade periphery module (DE)	✓	✓	✓	✓	–
Event printer	✓	✓	✓	✓	✓
LED indicators	✓	✓	✓	✓	✓

You will find details of the FCnet stations in the following product data sheets:

FC2020-xx	009383
FC2040-xx	009384
FC2060-xx	A6V10087844
FC2080-xx	A6V10275515
FT2040-xx	009386

You will find details of various FDnet devices, such as the floor repeater terminal, floor repeater display, mimic display driver, collective fire control panel, and extinguishing control panel, in the following product data sheets:

FT2010-A1, FT2010-C1, FT2011-A1	009393
FT2001-A1	A6V10082691
FC10	A6V10277145, A6V10277147
XC10	008496

Please refer to the relevant product data sheets for details of the other peripheral devices.

Intelligent peripheral devices in the FDnet

FDO, FDOOT, FDT, FDF, FDL, FDM



- Devices with the latest generation of evaluation algorithms.
- Signals are processed using **ASAtechnology™**.
- Time-dependent and process-dependent detection behavior.
- Maximum detection reliability thanks to unique detector properties.

LaserFocus VLF-250/-500



- This aspirating smoke detector is designed to detect smoke at a very early stage and is intended for protecting small areas that are classed as operationally critical.
- The detector works by continually sucking in air samples through extraction openings in a network of pipes.
- The air is filtered and then fed into a detection chamber, where laser technology is used to detect the presence of smoke in minuscule quantities.

FDV241



- The Video Fire Controller can be used to make video recordings of alarms and events such as arson, sabotage, and vandalism.
- Local video recording on Compact Flash card including recording of pre-alarm and post-alarm.
- Video Fire Controller can be easily installed and assigned to detectors via fire control panel.

FDS, FDSB



- Instead of having to go through the laborious process of installing additional cabling, the Sinteso technology allows you to operate sounder bases, alarm sounders, and/or alarm sounders with a beacon on the detector bus, i.e., power is supplied and communication takes place via the FDnet.

FDCW, FDM



- Radio fire detection system for full integration into FDnet
- The wireless coupling (mesh technology) does away with the need for costly or visible cable installations, making this solution particularly attractive to museums, churches, and so on. Another advantage is that installation work can be carried out without interrupting operation.
- Radio gateway FDCW241 communicates with up to 30 radio detectors (smoke detectors and manual call points), with up to 16 overlapping radio cells supported at each point.

FDCI, FDCIO



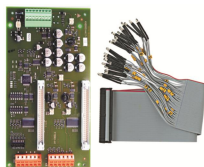
- Statuses can be monitored using the input module. (E.g., door monitors, fan controls, or for the activation of sprinkler alarms).
- Input/output modules are used for the decentralized control of fire doors, fans, etc. The inputs can be used for confirmation purposes or for monitoring statuses, or for controlling the standard extinguishing interface (SST) in accordance with VdS.
- The transponder has two inputs/outputs, which can be configured as follows:
 - For connecting Siemens/Cerberus collective limit value detectors or a Synova 300 (GMT line, GMT line with safety barrier (SB3) for areas at risk of explosion)
 - For monitored control of alarm devices

FDCL221, FDCL221-M



- Line separators can be interconnected to ensure that several stub lines do not fail in the event of a short-circuit.
- The line separator should be inserted at the point where multiple stubs connect to the FDnet, provided that no other Sinteso device is required between the branches.

FT2001-A1



- The mimic display driver, which is operated via the FDnet, has 2x 24 outputs for controlling mimic display LEDs
- Two control outputs for 'Local buzzer' and 'LED operation'
- Two inputs for 'Silence buzzer' and 'LED test'
- The LEDs are connected via flat cable F50F410 (50-pin, 24 red LEDs, cable length 1 m).

FC10, XC10



- Collective fire control panel FC10 and extinguishing control panel XC10 can be integrated into the FDnet as autonomous control panels (via FDCIO input/output modules).
- Relevant events are transmitted to the connected fire control panel.
- It is possible to connect FDOOT 241-9 fire detectors from the Sinteso series.

FDA241, FDA221



- The FDA241 and FDA221 are aspirating smoke detectors that use dual-wavelength technology to trigger an alarm at the earliest possible moment. They are designed to protect small and medium-sized business-critical environments of up to 800 m² (FDA241) or 500 m² (FDA221).
- The detector continually sucks in air through a network of pipes via its aspirating holes. The air is fed into a uniquely designed detection chamber, in which tiny smoke particles are detected by scattered light.

FT2010-x1, FT2011-A1



- The FT2010 floor repeater terminals and FT2011 floor repeater displays on the FDnet can also be used to operate/display certain areas of the fire detection system.
- The responsible customer personnel (e.g., ward nurses) have access to a clear and well laid-out user interface. This displays customer-specific plain text messages to enable pinpointing of events.
- The display is of the same type as fire terminal FT2040.