

Desigo® Fire Safety System

252-Point and 504-Point Addressable (FIRE-Only) Control Panel
Models FC2025 and FC2050

ARCHITECT AND ENGINEER SPECIFICATIONS

Addressable fire alarm control panel (FACP) intended for mid-size building applications

Comprised of the following system components:

- Operating units
- Periphery boards
- Power supplies
- System enclosures

System features:

- Supports 252-to-504 addressable devices:
 - Model FC2025: one (1) to four (4) 'Class B'; one (1) to two (2) 'Class A'
 - Model FC2050: one (1) to eight (8) 'Class B'; one (1) to four (4) 'Class A'
- Includes one (1) 'Class A', or two (2) 'Class B' notification appliance circuits (NACs)
- Releasing module supports activation of releasing valves in pre-action / deluge systems / agent release
- Resettable and non-resettable 24VDC, [nominal] auxiliary power
- Desigo Fire Safety Management Station can monitor and control up to 32 Models FC2025 and FC2050 FACP's
- Digital alarm communication transmitter (DACT)
- Connectivity to a leased-line / city-tie module
- Fast and easy set-up with auto-configuration feature

®UL 864 9th Edition Listed, ®ULC Listed;
FM, CSFM & NYC Fire Department Approved



Desigo operating unit with LEDs in a Two-Height-Unit (2HU) enclosure

Product Overview

The Desigo Fire Safety 252-point (Model FC2025) / 504-point (FC2050) addressable FACP is designed to meet the fire-protection needs of mid-size public and commercial buildings.

This advanced panel offers features typically required in mid-size buildings in a package that is easy to install. Models FC2025 and FC2050 are networkable, allowing the systems to fulfill the growing fire-protection needs of the building. The programming software for the 252 / 504-point fire systems is held in flash electrically erasable programmable read-only memory (EEPROM).

The following Desigo Fire Safety system components are used in the 252-point / 504-point FACP:

- Operating units
- Periphery boards
- Power supplies
- System enclosures

Other options are available to meet specific needs of the customer. Models FC2025 and FC2050 are FM (#3010); CSFM (#7165-0067:0259) and FDNY (#6104) Approved.

Specifications

Operating Interface Unit

The Operating Interface Unit (Model FCM2018-U2 or Model FCM2019-U2) serves as the operating interface and central microprocessor for each panel-type.

Either operating interface unit provides multi-use capability for each end-user to efficiently 'Acknowledge' events; to quickly control the NACs of the FACP, and to permit a manual reset of the respective system.

Detailed information about the nature and location of the events can also be displayed, via a backlit, 2" -x- 4-3/4" (5.1 cm. -x- 12.1 cm.) LCD screen and the four-way navigation push button at the top of the FACP.

Periphery Boards

The periphery boards (Models FCI2016-U1 and FCI2017-U1) serve as the main operating components for the 252 / 504-point FACP. Each module operates and monitors input-device identity; as well as controls the signaling-line circuits that communicate with smoke detectors and other field devices (i.e. - FDnet).

Desigo Panel (for mid-size buildings) **6815**

Specifications – (continued)

Power Supplies

All functions are supported by the 170W (Model FP2016-U1) or 300W (Model FP2012-U1) power supplies, which therefore eliminate the need for external power supplies.

Additionally, Models FP2016-U1 and FP2012-U1 provide primary, 24VDC nominal power for normal operation to Models FC2025 and FC2050.

Both power supplies are filtered and regulated. Model FP2016-U1 is rated at 6.5 Amps, while the rating of Model FP2012-U1 is 11.5A.

The 170-Watt power supply incorporates a 4.0A, non-resettable slow-blow fuse on the primary input, and includes a built-in AC-line filter for surge and noise suppression. Model FP2016-U1 mounts in the panel's enclosure, and there are no serviceable Desigo Fire Safety parts to be maintained.

The 300-Watt power supply incorporates two (2) 6.3A replaceable, non-resettable slow-blow fuses on the primary input and includes a built-in AC line filter for surge and noise suppression. Model FP2012-U1 mounts in the panel's enclosure, and there are no serviceable Desigo Fire Safety parts to be maintained.

System Enclosures

The Desigo fire-alarm enclosures and their accessories provide a complete set of hardware for mounting all Desigo main-system and remote terminal cards, as well as Desigo modules that are housed in each enclosure.

The hardware allows this Desigo system to be configured for a variety of applications, as well as for future system upgrades. Included in the enclosure series are back box and door sets; removable mounting plates and clear lenses; and blank plates for use with the enclosure doors.

All enclosures come with ground straps for the inner and outer doors, shield termination lugs, grounding lugs, and tie wrap lances for securing wire. All Desigo two height-unit (2HU) enclosures can also mount system back-up batteries up to 33AH in capacity.

Models FC2025 and FC2050 utilize a two-height-unit enclosure. The following components comprise a complete two-height-unit enclosure:

- One (1) back box, (Model FHB2002-U1 / R1)
- One (1) or two (2) inner doors, (Models FHD2004-U1 or FHD2005-U1)
- One (1) outer door, (Model FHD2002-U2 / R2, or FHD2003-U2 / R2)
- One (1) or two (2) clear windows, (Model FHD2006-U1)

Note: One (1) window is installed for Model FHD2002-U2 / R2 outer door, and two (2) windows are required for Model FHD2003-U2 / R2.

The approximate size for each two-height-unit enclosure is: 27.5" (70cm.) high; 21.5" (54.6cm.) wide, and 5.75" (14.6cm.) deep. The weight, without connected components, is approximately 6.3 Lbs. (2858 g).

Additionally, the two-height-unit enclosure supports the following components:

- Enclosure trim kit (for flush-mounting)
- Battery bracket (to comply with seismic certification)
- DIN rail kit (provides connection between internal-system wiring and field wiring)

Optional Accessories

Digital Alarm Communication Transmitter (DACT)

The DACT is used to provide communication between Models FC2025 and FC2050 and with either a central or remote monitoring station.

The Model FCA2015-U1 module mounts directly on the back enclosure and connects to the periphery boards. The DACT enables remote transmission of alarms and events via a public telephone line.

Releasing Module

The releasing module (Model XCI2001-U1) supports activation of releasing valves in pre-action / deluge systems (including double-interlock pre-action systems, or Sinorix® Engineered Fire Suppression systems). Activation can be event-controlled or performed by addressable manual pull stations.

When installed on Models FC2025 / FC2050, the releasing module contains an integral manual-disconnect switch for releasing circuits. This essential feature protects the releasing circuits from accidental discharge during maintenance.

Battery Disconnect Module

The Battery Disconnect Module (Model FCA2032-U1) is specifically designed to disconnect the backup battery on the Desigo Fire Safety 252 / 504-point addressable FACP when its voltage drops below 19VDC. The cut-off function of Model FCA2032-U1 prevents the battery from operating beyond its normal power level for basic system operation.

The battery-disconnect module remains disconnected until AC power is restored to a Desigo 252 / 504 FACP.

Migration Hardware Kit

Model FHA2056-series kits are specifically designed for the seamless transition of an existing Siemens FS-250 (FireSeeker) control panel into a fully operational 252 or 504-point addressable Desigo Fire Safety fire-alarm FACP, [FC2025 or FC2050, respectively].

Each shipment of the Model FHA2056-series kits contains the following pieces of equipment:

- One (1) outer door
- One (1) inner door
- One (1) hinge-assembly bracket
- One (1) back plate
- One (1) inner-door bracket

Note: The five (5) items that comprise one (1) Model FHA2056-series hardware-migration kit cannot be ordered individually.

Specifications – (continued)

Network Module

The SafeDLINK network module (Model FN2001-U1) is used to network up to 16 FACPs or fire terminals, via the FCnet system bus. Model FN2001-U1 is plugged into the Operating Unit (Models FCM2018-U2 / R2 and FCM2019-U2 / R2).

Model FN2001-U1, which connects to system input / output bus, has ground-fault monitoring, as well as an integrated degrade-mode feature. Redundant networking is accomplished with one (1) network module per panel [Simple-Loop Trouble]. There is electrical isolation between the system bus and the FACP.

Remote Display Terminals

The Remote Display Terminals (Models FT2014-U2 / R2 and FT2015-U2 / R2) are remote annunciators that show the existing status of Models FC2025 / FC2050.

Light-emitting diodes (LEDs) will illuminate for any given *Alarm*, *Supervisory* and *Trouble* Desigo-system event.

A LCD screen will give details of the event in alphanumeric form. The display screen can be scrolled, via the four-way navigation button, to reveal additional events.

Model FT2014 is a display-only, remote annunciator that has one (1) button used to silence the local sounder. Model FT2015 has three (3) control buttons for 'acknowledging' events, 'silencing' audible circuits and 'resetting' the system. Additionally, there are three (3) user-programmable buttons available. Model FT2015 has a key switch that enables the control buttons to operate.

The remote display terminals are remotely connected to Models FC2025 and FC2050, via the RS-485 interface. Models FC2025 and FC2050 require the Model FCA2016-U1 RS-485 interface module to provide communication to the remote display terminals. Model FCA2016-U1 supports Style 4 or Style 6 wiring. Up to eight (8) modules can be supported on a RS-485 bus.

The remote display terminals require 24VDC [nominal] power, and the necessary power can be provided from the Desigo FACP or from another @UL Listed, 24VDC power source.

Note: A Model FHD2012-U1 inner door can be optionally purchased in @UL markets. The inner door mounts with the optional Model FT201x-series Remote Display terminals. Having a Model FHD2012-U1 inner door installed can assist in preventing unauthorized access to the RDT.

S-series License Key

The S1 license key (Model FCA2033-A1) allows for virtual monitoring and control between a Desigo 252 / 504-point addressable fire-only panel and a personal computer.

The S2 license key (Model FCA2034-A1) is a BACnet output, and is used for monitoring-only purposes by a 3rd-party system for life-safety objects.

The S3 license key (Model FCA2035-A1) is a combination license key that allows for virtual monitoring and control, as well as for distribution of BACnet (monitoring-only) communications. A four-digit personal identification number (PIN) must be used in order to prevent unauthorized access.

Tabular Annunciators

The Desigo tabular annunciators allow system events sent from Desigo addressable panels to be displayed remotely in real-time. The Model FT2008 series of tabular annunciators has 16 zones, and the Model FT2009 series uses 96 LEDs for 32 zones. Up to two (2) light-emitting diodes (LEDs) can be used per zone.

Tabular annunciators provide outputs for system and zone status, and are orderable in either **black** or **red**.

LED Annunciator Driver

The Model FT2007-U1 LED Annunciator Driver provides custom graphic annunciators on addressable Desigo FACPs. This optional system module provides 96 highly programmable outputs to drive LED indicators.

There are 16 inputs to accommodate user-system commands: *Silence*, *Unsilence*, *Reset*, *Acknowledge* and *Lamp Test*. Model FT2007-U1 is supervised via a RS-485 interface. A maximum eight (8) modules are allowed on each RS-485 communication bus.

NAC Expansion Module

The NAC expansion module (Model FCI2011-U1) provides either of the following additional NACs to a Desigo Fire Safety 252 / 504-point FACP:

- one (1) 'Class A', or
- two (2) 'Class B' NACs

Each NAC is rated at 3 Amps. Each NAC expansion module is monitored for open-line and short-circuit conditions.

Related Documentation

Product	Data Sheet Number
Desigo operating units	6801
Desigo periphery boards	6802
Desigo fire terminals	6803
Desigo DACT	6804
SafeDLINK / FCnet module	6805
Power supplies	6806
Desigo enclosures	6807
NAC expansion module	6808
Desigo releasing module	6809
Leased-Line / city-tie module	6810
Remote periphery module	6811
Desigo Remote display terminals	6812
Single / multi-mode fiber modules	6814
LED / Blank option modules	6816
Battery disconnect module	6819
'S'-series license key	6820
Marine-specific equipment	6822
LED annunciator driver	6824
16-and-32-zone tabular annunciators	6825
Hardware Migration Kit	6826

Details for Ordering

Model	Part Number	Description
FCI2016-U1	S54400-A55-A1	Desigo Periphery Board {for 252-point system}
FCI2017-U1	S54400-A56-A1	Desigo Periphery Board {for 504-point system}
FCM2018-U2	S54400-C40-A1	Desigo Operating Interface Unit
FCM2019-U2	S54400-C41-A1	Operating Interface Unit w/ LEDs
FHB2001-U1	S54400-B47-A1	1HU Back Box, Black
FHB2001-R1	S54400-B47-A2	1HU Back Box, Red
FHB2002-U1	S54400-B48-A1	2HU Back Box, Black
FHB2002-R1	S54400-B48-A2	2HU Back Box, Red
FHD2001-U2	S54400-B49-A1	1HU Outer Door, Black
FHD2001-R2	S54400-B49-A2	1HU Outer Door, Red
FHD2002-U2	S54400-B50-A1	2HU Outer Door w/ 1 Window, Black
FHD2002-R2	S54400-B50-A2	2HU Outer Door w/ 1 Window, Red
FHD2003-U2	S54400-B51-A1	2HU Outer Door w/ 2 Windows, Black
FHD2003-R2	S54400-B51-A2	2HU Outer door w/ 2 windows, Red
FHD2004-U1	S54400-B52-A1	Inner Door, Black
FHD2005-U1	S54400-B53-A1	Inner Door, Black (full plate)
FHD2006-U1	S54400-C46-A1	Clear-Lens Window
FP2011-U1	500-450222	170-Watt Power Supply
FP2012-U1	S54400-Z60-A1	300-Watt Power Supply

Optional Accessories

Model	Part Number	Description
FCA2015-U1	S54400-A63-A1	Digital Alarm Comm. Transmitter [dACT]
FCA2016-U1	S54400-A39-A1	RS-485 Interface Module
FCA2018-U1	S54400-A65-A1	Remote Peripheral Module
FCA2032-U1	S54400-B145-A1	Battery Disconnect Module
FCA2033-U1	S54400-P154-A1	S ₁ License Key
FCA2034-U1	S54400-P155-A1	S ₂ License Key: BACnet monitoring
FCA2035-U1	S54400-P156-A1	S ₃ License Key: Rem. View w/ BACnet
FCI2011-U1	S54400-A54-A1	NAC Expansion Module
FCI2020-U1	S54400-A57-A1	Leased-Line / City-Tie Module
FCM2022-U2	S54400-C44-A1	Blank Option Module
FCM2023-U2	S54400-C45-A1	LED Option Module: [RED / GREEN bi-color LED; one (1) YELLOW LED]
FCM2034-U2	S54400-C137-A1	LED Option Module: [RED / YELLOW bi-color LED; one (1) YELLOW LED]
FHA2056-U1	S54400-B18-A1	Desigo Fire Safety Hardware Migration Kit, Black
FHA2056-R1	S54400-B19-A1	Desigo Fire Safety Hardware Migration Kit, Red
FHD2012-U1	S54400-C145-A1	Inner Door, Black (optional)
FN2001-U1	S54400-A60-A1	SafeDLINK / FCnet Network Module
FN2006-U1	S54400-A61-A1	Single-Mode Fiber-Optic Module
FN2007-U1	S54400-A62-A1	Multi-Mode Fiber-Optic Module
FT2007-U1	S54400-A142-A1	LED Annunciator Driver
FT2008-U1	S54400-A143-A1	16-Zone Tabular Annunciator, Black
FT2008-R1	S54400-A144-A1	16-Zone Tabular Annunciator, Red
FT2009-U1	S54400-A145-A1	32-Zone Tabular Annunciator, Black
FT2009-R1	S54400-A146-A1	32-Zone Tabular Annunciator, Red
FT2014-U2	S54400-F67-A1	Remote Display Terminal, Black
FT2014-R2	S54400-B75-A1	Remote Display Terminal, Red
FT2015-U2	S54400-F68-A1	Display Terminal with key, Black
FT2015-R2	S54400-B15-A1	Display Terminal with key, Red
FTI2001-U1	S54400-A58-A1	Fire Terminal Board
XCI2001-U1	S54400-A69-A1	Releasing Module

Electronics Packages

Model	Part Number	Description
FC2025-US	S54400-C4-A1	252-Point Fire System with 170 Watt Power Supply and standard operator interfaces
		Includes: FP2016-U1 (1 Qty.) FCI2016-U1 (1 Qty.) FCM2018-U2 (1 Qty.)
FC2050-US	S54400-C5-A1	504-Point Fire System with 170 Watt Power Supply and standard operator interfaces
		Includes: FP2016-U1 (1 Qty.) FCI2017-U1 (1 Qty.) FCM2018-U2 (1 Qty.)
FC2025-UE	S54400-C6-A1	252-Point Fire System with 170 Watt Power Supply and standard operator interfaces (with 24-zone LEDs)
		Includes: FP2016-U1 (1 Qty.) FCI2016-U1 (1 Qty.) FCM2019-U2 (1 Qty.)
FC2050-UE	S54400-C7-A1	504-Point Fire System with 170 Watt Power Supply and standard operator interfaces (with 24-zone LEDs)
		Includes: FP2016-U1 (1 Qty.) FCI2017-U1 (1 Qty.) FCM2019-U2 (1 Qty.)
FT2050-US	S54400-C8-A1	Network Terminal w/ standard operator interface
		Includes: FTI2001-U1 (1 Qty.) FCM2018-U2 (1 Qty.)
FT2050-UE	S54400-C9-A1	Network Terminal w/ standard operator interface (with 24-zone LEDs)
		Includes: FTI2001-U1 (1 Qty.) FCM2019-U2 (1 Qty.)
FC2025-UT	S54400-C10-A1	252-Point Fire System with 300 Watt Power Supply and standard operator interfaces
		Includes: FP2012-U1 (1 Qty.) FCI2016-U1 (1 Qty.) FCM2018-U2 (1 Qty.)
FC2050-UT	S54400-C11-A1	504-Point Fire System with 300 Watt Power Supply and standard operator interfaces
		Includes: FP2012-U1 (1 Qty.) FCI2017-U1 (1 Qty.) FCM2018-U2 (1 Qty.)
FC2025-UF	S54400-C12-A1	252-Point Fire System with 300 Watt Power Supply and standard operator interfaces (with 24-zone LEDs)
		Includes: FP2012-U1 (1 Qty.) FCI2016-U1 (1 Qty.) FCM2019-U2 (1 Qty.)
FC2050-UF	S54400-C13-A1	504-Point Fire System with 300 Watt Power Supply and standard operator interfaces (with 24-zone LEDs)
		Includes: FP2012-U1 (1 Qty.) FCI2017-U1 (1 Qty.) FCM2019-U2 (1 Qty.)

Temperature and Humidity Range

Desigo Fire Safety 252 / 504-point addressable systems are ©UL 864 9th Edition Listed for indoor dry locations within a temperature range of 120 +/- 3°F (49 +/- 2°C) to 32 +/- 3°F (0 +/- 2°C) and a relative humidity of 93 +/- 2% at a temperature of 90 +/- 3°F (32 +/- 2°C).

Notice: This marketing data sheet is not intended to be used for system design or installation purposes. For the most up-to-date information, refer to each product's installation instructions.

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January 2018
Supersedes sheet dated 4/2016
(Rev. 6)