

Desigo™ Fire Safety System

252-Point and 504-Point Addressable Fire Alarm 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
 - Digital alarm communication transmitter (DACT)
 - Connectivity to a leased-line / city-tie module
 - Fast and easy set-up with auto-configuration feature
-  ULC Listed;
FM, CSFM & NYC Fire Department Approved



Desigo two-height-unit enclosure with one (1) window

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 buildings.

This advanced panel offers features typically required in mid-size buildings in a package that is easy to install and competitively priced. Additionally, 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 FCM2035-U2) functions as the operating interface and central microprocessor for Models FC2025, FC2050.

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, 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) **6815C**

Specifications – (continued)

Power Supplies

All functions are supported by the 170W (Model FP2011-U1) or 300W (Model FP2012-U1) power supplies, which eliminate the need for external power supplies.

Further, Models FP2011-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 FP2011-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 FP2011-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 and modules.

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 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: 70cm. (27.5") high; 54.6cm. (21.5") wide and 14.6cm. (5.75") deep. The weight, without any attached components, is approximately 2858g (6.3 Lbs.)

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)

Accessories

NAC Expansion Module

The notification-appliance circuit (NAC) expansion module (Model FCI2011-U1) provides additional NACs to the 252 / 504-point panel:

- 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.

Digital Alarm Communication Transmitter (DACT)

The Digital Alarm Communicator Transmitter (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. The releasing module is installed on the periphery board, and supports 'Class B' releasing circuits.

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.

Leased-Line / City-Tie Module

Model FCI2020-U1, which is installed on the periphery board of the FACP, provides a local-energy output for municipal call-box connection, and gives a reverse-polarity output for leased-line connection.

When used for connection to a municipal call box, the city-tie function supports *Alarm*-event transmission.

When used for leased-line connection, the module supports two (2) leased telephone lines for transmitting *Alarm*, *Trouble* and *Supervisory* events.

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 FCM2035-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 5.1 cm. –x– 12.1 cm. 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 an integral 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 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 cULC Listed, 24VDC power source.

Inner Door

Used exclusively for Canadian-required installations, the Inner Door (Model FHD2012-U1) is used for fastening to a Siemens Model FT201-series remote display terminal, prior to the mounting of the actual remote display terminal into a Desigo Fire Safety 252 / 504-point addressable FACP.

Model FHD2012-U1 has an indentation and opening, allowing the front end of the remote display terminal to easily fit into the enclosure back box. Manufactured only in black, each inner door is also comprised of 16-gauge, 0.15 cm. (0.06") cold-rolled sheet metal.

Remote Peripheral Module

The Remote Peripheral Module (Model FCA2018-U1) provides a means of connecting a Desigo FACP to a parallel printer (Model PAL-1) for creating hard copies of system-status and configuration reports. Model FCA2018-U1 is a supervised, intelligent module that has built-in transient protection and plain-decimal addressing.

Model FCA2018-U1 is remotely connected to the Model FCA2016-U1 RS–485 communication bus from any Desigo Fire Safety system enclosure. Model FCA2018-U1 uses 'Class B' (Style 4) or 'Class A' (Style 6) wiring, and provides two (2) RS–232 serial ports and a one (1) parallel port, thus connecting to Model PAL-1.

Graphics Input / Output Driver

The Graphics Input / Output (I/O) Driver (Model FT2003-U1) is a fire-system accessory on the RS–485 (Model FCA2016-U1) interface circuit. Model FT2003-U1, which serves as a combination standalone remote display / operating unit, provides the ability to build a graphic annunciator for the Desigo Fire Safety 252 / 504-point addressable FACPs.

Model FT2003-U1, which comes without an enclosure or display panel, consists of an indicator printed circuit board (PCB) and a driver PCB that are screwed together. Each I/O driver has 32 outputs to drive highly programmable LEDs, and also contains 16 inputs to accommodate user-defined system commands, such as: *Acknowledge*; *Silence* or *Reset*.

Battery Disconnect Module

Required for Canadian installations, 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 Model FC2025, which is the 252-point Desigo FACP, or to Model FC2050, which is the 504-point Desigo FACP. The mounting of each Model FCA2032-U1 module is juxtaposed with the Digital Alarm Communicator Transmitter [DACT], Model FCA2015-U1.

Temperature and Humidity Range

Models FC2025 and FC2050 are cULC Listed for indoor dry locations within a temperature range of 49+/-2°C (120+/-3°F) to 0+/-2°C (32+/-3°F) and a relative humidity of 93+/-2% at a temperature of 32+/-2°C (90+/-3°F).

Details for Ordering

Model Number	Part Number	Description
FCA2032-U1	S54400-B145-A1	Battery Disconnect Module
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
FCM2035-U2	S54400-C139-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, Solid Black
FHD2006-U1	S54400-C46-A1	Clear-Lens Window
FHD2012-U1	S54400-C135-A1	Inner Door, used with FT-series Remote Display Terminals
FP2011-U1	500-450222	170-Watt Power Supply
FP2012-U1	S54400-Z60-A1	300-Watt Power Supply

Electronics Packages

Note: Please refer to datasheet, 6800C, for a complete rundown of Siemens Canada Limited Electronic Packages available for use with Desigo Fire Safety.

Accessories

Model Number	Part Number	Description
FCA2015-U1	S54400-A63-A1	Digital Alarm Communication Transmitter (DACT)
FCA2016-U1	S54400-A39-A1	RS-485 Module
FCA2018-U1	S54400-A65-A1	Remote Peripheral Module
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]
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
FT2003-U1	S54400-C136-A1	Graphics Input / Output Driver
FT2014-U2	S54400-F67-A1	Remote Display Terminal
FT2014-R2	S54400-B75-A1	Remote Display Terminal, Red
FT2015-U2	S54400-F68-A1	Display Terminal with key
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

Related Documentation

Product	Data Sheet Number
Desigo Fire Safety (Canada) System Overview	6800C
Operating Units	6801C
Periphery Boards	6802
Fire Terminals and Equipment	6803C
Digital Alarm Communication Transmitter (DACT)	6804
SafeDLINK / FCnet Module	6805
Power Supplies	6806C
Desigo Enclosures	6807
Inner Door (ULC required)	6807C
NAC Expansion Module	6808
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Remote Periphery Module	6811
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Single-mode / Multi-mode Fiber Modules	6814
LED / Blank option modules	6816
Graphics Input / Output Driver	6818
Battery Disconnect Module	6819

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.