Conventional Fire Alarm Systems

FX-10RD, FX-10R, FX-5RD, FX-5R

Overview

Kidde brand conventional fire alarm systems consist of 5 and 10 zone fire alarm control panels (FACP), an optional integrated upload/download DACT (dialer), intelligent/analog type detector features, serial annunciator modules, and serial remote relay modules. All FACPs and components are Listed to the 10th edition of the ANSI/UL 864 standard and CSFM/FDNY approved.

These systems incorporate features designed to simplify installation, operation and maintenance, including front panel programming, one person walk testing, and selectable IDC and NAC types. In addition, when used with *CleanMe*® -compatible smoke detectors, these con-trol panels provide intelligent type features such as remote mainte-nance alert and automatic drift compensation that significantly reduce the chance of a false alarm and simplify maintenance calls.

Kidde systems are powerful enough to meet the demands of today's life safety installations while leaving plenty of room to grow in the future. They support Class A operation by combining pairs of on-board IDCs or NACs to provide the necessary Class A circuits. For example, the FX-10RD comes factory set to support 10 Class B IDCs and 4 NACs. But it can be field-configured to provide 5 Class A IDCs (no Class B IDC's), and 2 Class A NACs – or any other com-bination of circuits that fall within the circuit-pairing parameters.

	FX-10R(D)	FX-5R(D)
Class B IDCs	Up to 10	Up to 5
Class A IDCs	Up to 5	Up to 2
Class B NACs	Up to 4	Up to 2
Class A NACs	Up to 2	1
NAC Power	7.0 amps	3.5 amps
Auxiliary power	0.5 amps	0.5 amps

Notes: *Class A operation will reduce the number of available Class B IDCs and/or NACs, depending on the panel configuration. See Specifications for details.*

Standard Features

- Available in 5 and 10 zone (IDC) models
- *CleanMe*® feature provides remote annunciation of a dirty detector
- Automatic drift compensation with select detectors reduces false alarms and extends dust life
- Listed to ANSI/UL 864 10th Edition
- Models with fully integrated upload/download DACT enables PC programming
- Zone or NAC pairs convertible to single Class A circuits
- Combination Waterflow and Supervisory IDCs
- NACs programmable by zone and individually selectable for notification appliances, continuous, temporal outputs, or coded
- Front panel programmable simplifies installation and servicing
- Precision synchronization with compatible notification appli-ances and optional audible silence over two wires
- On-board relays for Alarm, Supervisory and Trouble
- Optional serial bus relay modules are programmable for Com-mon, Zone, or Matrix activation
- Optional serial bus remote annunciator family
- One person walk-test (audible or silent)
- Optional City Tie and Reverse Polarity Modules
- Trim ring available for semi-flush mounting

Application

Kidde conventional fire alarm systems provide smoke and fire detection, occupant notification and off-premises signaling for small- to medium-sized buildings.

Each IDC can be configured for either Class B or Class A operation and one of eight operating modes:

- Alarm –with or without smoke detector verification including discrimination of contact devices
- Waterflow Alarm;
- Waterflow Alarm/Supervisory (Combination IDC);
- Supervisory (Latching/non-latching);
- Monitor (non alarm or supervisory)
- Signal Silence
- Drill
- Cross zoning

NACs may also be configured for either Class B or Class A operation. Additionally, NACs can be individually configured for one of six outputs. These are Genesis, Genesis (A/V silenceable), Continuous, Temporal, Coded, and City Tie. The Genesis selection allows independent horn control over two wires and provides precision synchronization of notification appliances, all without the need for a signal master accessory.

When configured for compatible notification appliances, the Alarm Silence function will silence connected audible appliances but strobes will remain active until the panel is reset. When Genesis Mode is selected, both the horns and strobes on compatible notification appliances will be synchronized across all NACs.

Note: Zones may be selected for either latching or non-latching operation. Always check with your AHJ regarding approval of silencing audible while leaving strobes flashing.

Detectors with intelligent features at a conventional price

When combined *CleanMe®* -compatible smoke detectors, Kidde systems provide intelligent features at a conventional price. If a *CleanMe®* detector drifts out of the UL sensitivity range, Kidde's patented remote maintenance reporting sends an alert to the control panel. This feature reduces the chance of a false alarm and simplifies service calls. In addition, *CleanMe®* -compatible smoke detectors have built-in drift compensation that extends the time between cleanings. If cleaning is ever necessary, it is literally a snap with the Kidde exclusive replaceable optical chamber. For a complete list of *CleanMe®* compatible smoke detectors, visit *http://Kidde-fire.com.*

Panel LED Display

The following system LEDs display the panel's status:

- *Alarm* – panel is in the alarm state;
- *Trouble* – panel is in the trouble state;
- *Supervisory* – panel is in the supervisory state;
- *Power* – indicates the status of the AC power source;
- *Disable* – indicates when any IDC, NAC, relay or the DACT is disabled;
- *Annunciator Trouble* – indicates trouble on the remote annunciator bus;
- *Battery Trouble* – indicates battery or charging problems;
- *Ground Fault* – indicates a short between any panel circuit and ground;
- *Walk Test* – indicates that one or more IDCs are in the walk test mode;
- *Alarms Silenced* – indicates that the panel is in the alarm state with one or more NACs silenced.
- *Waterflow* – indicates that one or more circuits have detected an active waterflow switch.
- *Service Detector* – indicates the presence of a dirty detector with *CleanMe®* compatible ESL smoke detectors.
- *Remote Disconnect* – indicates off site communication has been disabled.

Each IDC has a disable switch and three LEDs:

- Alarm – *red* – indicates that the IDC is in the alarm state;
- Trouble – *yellow* – indicates that the IDC is in the trouble state or is disabled (when flashing);
- Supervisory/Monitor – *yellow* – indicates that the IDC is in the supervisory state or the monitor state (when flashing).

Each NAC also has a disable switch and a trouble/disable LED.

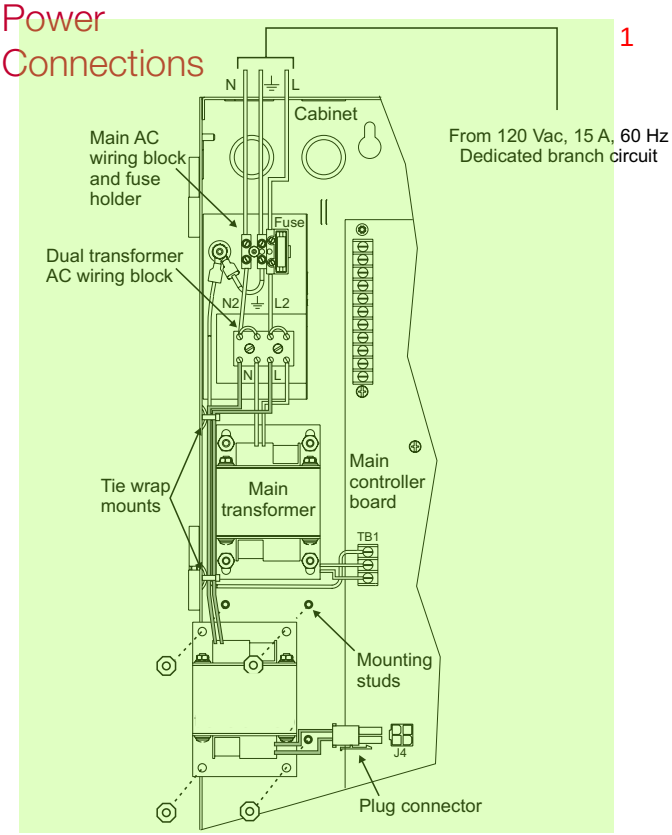
Status indication with the DACT/Dialer installed

The optional upload/download dialer's LCD display provides two lines x 16 characters of text. For programming, the top line displays the programming step and the lower line displays the selected option. All system events are displayed on the LCD with custom zone messages. During normal operation, the LCD will display any off-normal condition present in the panel.

IP and Cellular Communications

Several popular third-party IP/Cellular communicators have been tested with the FX conventional control panels and are compatibility listed to UL864. The IP/Cellular communicators meet NFPA72 2013 edition requirements for sole or secondary transmission paths. Using IP/Cellular communicators can reduce the cost of ownership by eliminating POTS lines. Please see the FX conventional control panel compatibility documentation part number 3101019-EN for a full list of compatible communicators.

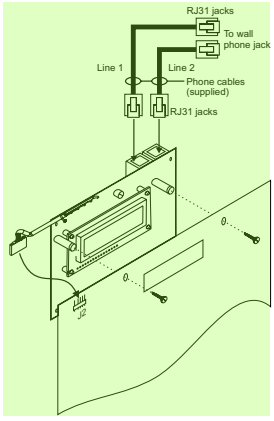
Power Connections 1



Upload/Download DACT/Dialer 2

3 **The DACT/Dialer installs behind the front panel display.** 5

4 The built-in DACT/Dialer is a multifunction module that provides communications, modem capability, and LCD display functions. Its primary function is as a Digital Alarm Communicator Transmitter (DACT). As a DACT, it transmits event messages to a Digital Alarm Communicator Receiver (DACR) at a monitoring facility. The monitoring facility then notifies the fire department and other responsible parties of the event. Programmable options include split or dual reporting to two DACRs.



7 The DACT module can also be used as a modem to connect the panel to both local and remote computers for uploading and downloading of configuration data (programming), panel status and event history. For security, the modem can be configured to accept programming on incoming calls or it can be required to call a preprogrammed number before accepting downloads and sending uploads.

Note: All panel versions are available with factory installed DACT. See order table for ordering information. 8

9 The DACT module can be configured to work as all of the above, or as only an LCD display or LCD display and modem.

Options 10

Off-premise communication 11

A fully integrated upload/download dialer is available for reporting events to a monitoring facility. The DACT also supports uploading or downloading of system configuration, status and event history. The DACT is programmable for either single or dual line operation. It also supports split and dual reporting for two digital alarm receivers. 12

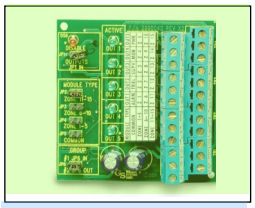
The DACT brings additional features to the panel including a 32-character alphanumeric LCD display, local or remote PC programming and an event history log. 13

Remote Annunciators and Relays 14

The serial bus standard on Kidde conventional control panels is another installation time-saver. This circuit allows the connection of Remote System Indicators (FSRSI), Remote Zone Indicators (FSRZI-A, FSRZI-SA) and Remote Relay Modules (FSRRM24) over a four-wire (data and power) circuit. Annunciator and relay modules can be installed up to 1,000 feet from the panel on 18-gauge wire. 15

Modules are also available for City Tie (CTM) and Reverse Polarity (RPM) connections. 16

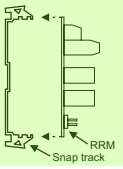
Remote Relay Module 17



19 **The Remote Relay Module mounts on a plastic track inside an MFC-A cabinet.** 20

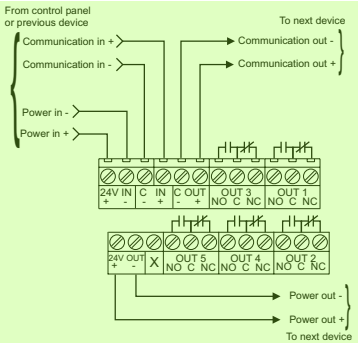
18 The Remote Relay Module (FSRRM24) is one feature of the system that sets these systems apart from other panels in their class. This module has five Form C relays rated at 1 amp each. It can be configured to function in either a zone relay mode or a common system mode.

21 When configured in the zone relay mode, relays energize when the associated IDC is active. The module can be configured for activation by IDCs 1 through 5 or IDCs 6 through 10. One relay is automatically associated with each IDC.



22 *Up to two RRM24s can be mounted in an FSRRM-S11 snap track. Up to two FSRRM-S11s can be mounted in an MFC-A.*

23 When configured in the common system mode, relays energize or de-energize when the panel changes state. One relay is available for each of the following functions: Alarm, Supervisory, Trouble, Power Loss, Monitor. 24



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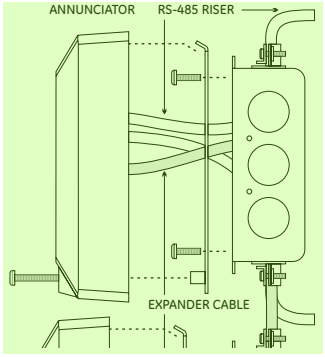
26 The FSRRM24 mounts on a plastic snap track and can be installed in an MFC-A enclosure. The panel will support two RRMs of each configuration for a total of six on the 10-zone panel.

Remote Annunciators 1

2

This family of systems has several remote annunciation options. The serial remote annunciator bus can be run up to 1000 feet (305 m) on untwisted non-shielded 18-gauge cable. Several annunciator models round out the family to provide a range of features and functions. As many as three annunciator modules may be mounted in a standard electrical box, sharing an attractive trim plate that blends with any decor. 3

The FSRSI can be installed alone or with one or more FSRZI-As. The FSRSI and FSRZI-A require trim plates (ordered separately). These are available in one, two or three gang models. Each panel will support two FSRSIs. 4



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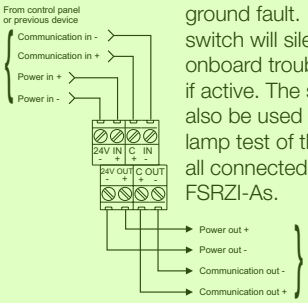
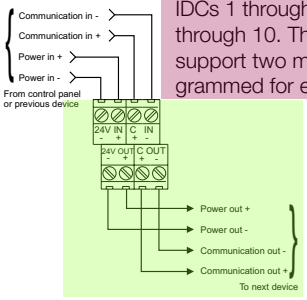
Remote System Indicator (FSRSI) 6

The FSRSI is ideal for common system annunciation. It includes five LEDs and a local silence/lamp test switch. The LEDs indicate power status, alarm, supervisory, trouble and ground fault. The silence switch will silence the onboard trouble sounder if active. The switch can also be used to initiate a lamp test of the LEDs on all connected FSRSIs and FSRZI-As.



Remote Zone Indicator (FSRZI-A) 8

The FSRZI-A is used to indicate zones in the alarm state. It contains five red LEDs. Depending on the jumper setting selected, the LEDs will indicate either IDCs 1 through 5 or IDCs 6 through 10. The panel can support two modules programmed for each selection. 9



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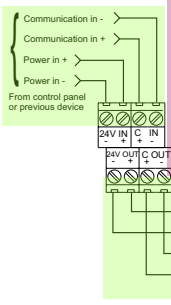
Remote Zone Indicator (FSRZI-SA) 10

The FSRZI-SA indicates zones in the Alarm or Supervisory state. It contains five red and yellow LEDs for Common, Zone, or Matrix activation. Depending on the jumper setting, the LEDs will indicate either IDCs 1- 5 or 6 - 10. The panel supports two modules for each selection, and can be jumper selected to provide Alarm or Supervisory indications. 12



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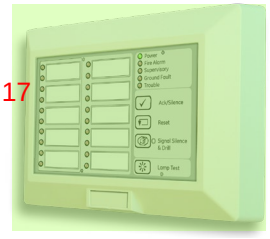
FSRA10, FSRA10C Remote LED annunciators 16

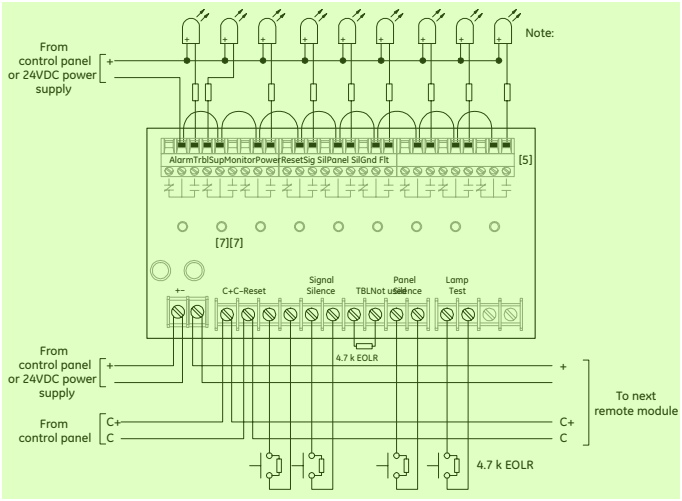
The FSRA10 is a remote annunciator with capacity for up to ten zones. It includes ten bi-color LEDs (red/yellow) for indicating active zones, and ten yellow LEDs for indicating zone troubles. The (C) option adds common control switches. Both versions mount to standard North American 4-inch square electrical boxes. A surface box is also available. Works only with 10 zone panel.



17 18

FSUIM Graphic Driver/Interface 19

The FSUIM is a universal interface module that can be used by to drive graphic annunciators. It also allows control panels to control, or be controlled by, other control panels. The FSUIM provides five supervised switch inputs and nine dry contact relay outputs. Nine LEDs provide visual confirmation when each relay is energized. The FSUIM is shipped with a plastic snap track for mounting in an MFC-A enclosure. 20



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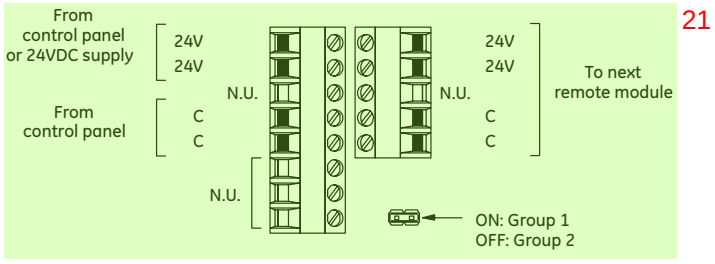
FSRA10, FSRA10C Wiring 22



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Remote Annunciator Specifications

General	
Agency Listings	UL864 (S3000), ULC, CSFM, FDNY

1

Remote Annunciators	FSRSI Remote System Indicator	FSRZI-A/FSRZI-SA Remote Zone Indicator
Maximum per System	All panels: 2	10 zone panel: 4 5 zone panel: 2
Current Requirements	Standby: 17 mA Alarm: 56 mA	Standby: 8 mA Alarm 76 mA
Voltage Range	Minimum: 18.8 Vdc; Maximum: 27.3 Vdc	
Maximum Circuit Capacitance	0.03 µF	
Maximum Circuit Resistance	13 Ohms	
Wire Size	18 - 12 AWG (0.75 mm^2 - 2.5 mm^2)	
Mounting	ANSI/NEMA OS1-1996 1-3 gang electrical box	
Operating Environment	Temperature: 32 - 120° F (0 - 49° C); Humidity: 93% RH, non-condensing	

2

Remote Relay Module – FSRRM24	Configured for Zone Mode	Configured for Common Mode
Maximum per system	10 zone panel: 4; 5 zone panel: 2	All panels: 2
Current Requirements	Standby: 10 mA; Alarm: 70 mA	Standby: 26 mA; Alarm: 70 mA
Voltage Range	Minimum: 18.8 Vdc; Maximum: 27.3 Vdc	
Contact Rating	1 A @ 30 Vdc	
Maximum Circuit Capacitance	0.03 µF	
Maximum Circuit Resistance	13 Ohms	
Wire Size	18 - 12 AWG (0.75 mm^2 - 2.5 mm^2)	
Mounting	Single FSRRM24 mounts in plastic track (included) or up to two FSRRM24s in an FSRRM-S11 11" track ordered separately. FSRRM24s should be installed in an MFC-A enclosure.	
Operating Environment	Temperature: 32 - 120° F (0 - 49° C); Humidity: 93% RH, non-condensing	
Dimensions	2-3/4" W x 3-3/8" H x 1-1/2" D (65.9 mm W x 85.7 mm H x 38.1 mm D)	

3

F-Series Remote Annunciators	FSRA10	FSRA10C
Common Controls	No	Yes
Compatibility	10-Zone Panels Only.	
Dimensions	5-5/8" x 8½" x 1 ½" in (14.3 cm x 21.4 cm x 3.8 cm)	
Mounting	North American 4-inch square electrical box	
Power Wiring	18 to 12 AWG (0.75 to 2.50 sq mm)	
Data Wiring	18 to 12 AWG (0.75 to 2.50 sq mm) twisted pair (6 twists per foot minimum)	
Operating voltage	18.8 to 27.3 Vdc Supply must be UL/ULC listed for fire protective signaling systems. Do not use FACP accessory power outputs that are interrupted when the panel is reset.	
Standby current	17 mA	
Alarm current	98 mA	
Operating environment	Temperature: 32 to 120 °F (0 to 49 °C); Humidity: 0 to 93% RH, noncondensing at 90 °F (32 °C)	

4

FSUIM Universal Input Module	
Mounting	MFC-A enclosure
Wire size	12 to 18 AWG (0.75 to 2.5 sq mm)
Operating voltage	21.2 to 27.3 Vdc
Circuit capacitance	0.03 µF, max.
Circuit resistance	13 ohms, max.
Switch inputs	Quantity: 5 End-of-line resistor: 4.7 k ohms ½ W
Relay outputs	Quantity: 9 Type: Common Style: Form C
Contact rating	30 Vdc at 1 A (resistive load)
Standby Current	53 mA
Alarm Current	114 mA
Operating environment	Temperature: 0 to 49 °C (32 to 120 °F); Humidity: 0 to 93% RH, noncondensing at 32 °C (90 °F)

5

Control Panel Specifications

Control Panels		FX-10R(D)						FX-5R(D)		
Initiating Device Circuits – IDCs (Available combinations shown at right)	Class B	10	8	6	4	2	0	5	3	1
	Class A	0	1	2	3	4	5	0	1	2
Notification Appliance Circuits – NACs (Available combinations shown at right)	Class B	4	2	2		0		2	0	
	Class A	0	1	1		2		0	1	
Power Supply		7.5 amps total						4.25 amps total		
NAC Voltage Rating		24 Vfwr								
Maximum NAC current		2.0 amps each, 7.0 amps total						2.0 amps each 3.5 amps total		
AC Input 120 Vac 60 Hz... 230 Vac 50/60Hz...		2.2 amps 1.1 amps						1.25 amps 0.6 amps		
Base Panel Current Draw Standby... Alarm...		128 mA 242 mA						104 mA 224 mA		
Panel Battery Charge Capacity (sealed lead acid only)		Up to two 24 Ah batteries, 18 Ah in cabinet						Up to 24 Ah, 10 Ah max in cabinet *		
Auxiliary Current		0.5 amps max. May be programmed as resettable.								
Auxiliary Output		24 Vdc regulated								
IDC Alarm Current		3.0 mA (Consult detector compatibility list p/n 3101019-EN for maximum detectors per circuit)								
IDC Circuit		Maximum loop resistance: 26 Ohms; Maximum loop capacitance: 0.03 µF								
IDC Operating Voltage		16.9 to 29 Vdc								
UL Detector ID		100								
Alarm Contact (normally open Form C)		30 Vdc @ 1 A (resistive load)								
Trouble Contact (Form C)		30 Vdc @ 1 A (resistive load)								
Supervisory Contact (normally open Form C)		30 Vdc @ 1 A (resistive load)								
Operating Environment		Temperature: 32 - 120° F (0 - 49° C); Humidity: 5 - 93% RH, non-condensing								
Terminals (wire gauge)		18 - 12 AWG (0.75 mm² - 2.5 mm²)								
Asynchronous Serial Communications		Maximum resistance: 13 Ohms; Maximum capacitance: 0.03 µF								
Agency Listings		UL864 (S3000), ULC-S527, CSFM, FDNY								

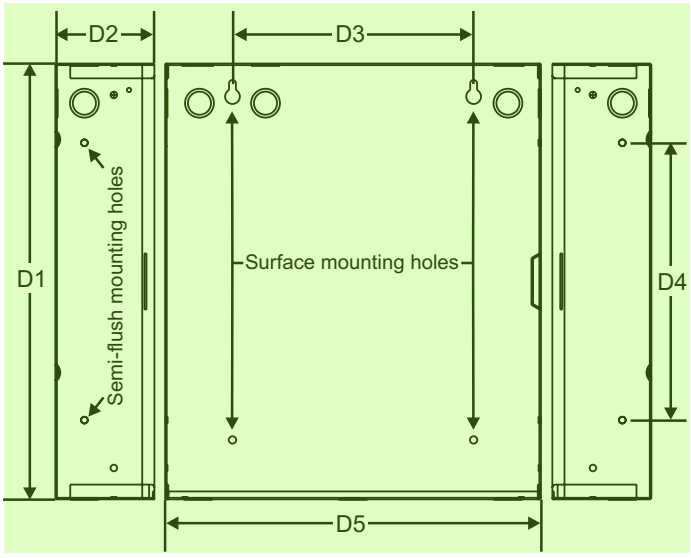
** If larger batteries are required, use an external battery cabinet.*

DACT – F-DACT (mounts in panel)	
Receivers	Supports two receivers with two phone numbers each
Communications Protocol	Contact ID (SIA DC-05), 4/2 (SIA DC-02 P3)
Programming	Front panel controls or PC with appropriate software
Telephone line connection	Two RJ31X (plug-to-plug) cords supplied with DACT
Telephone lines	Two or one loop start lines on the public switched telephone network. Pulse or DTMF.
Telephone wall connector	RJ31X/CA31X equiv. or RJ38X/CA38X equiv.
Communications Compliance	Industry Canada CS-03; FCC/CFR 47 Parts 15 & 68; NFPA 72; UL 864; ULC S527
Operating Environment	Temperature: 32-120° F (0-49° C); Humidity: 93% RH, non-condensing
Current requirements	Standby: 65 mA; Alarm: 107 mA
Agency Listings	UL864 (S3000), CSFM, FDNY

Dimensions

Model	D1*	D2	D3	D4	D5*
Five-zone	19.5 in (49.5 cm)	3.75 in (9.5 cm)	9.13 in (23.2 cm)	10.5 in (26.67 cm)	14.23 in (36.14 cm)
Ten-zone	30 in (76.2 cm)	3.75 in (9.5 cm)	7.75 in (19.7 cm)	21.27 in (54.0 cm)	15.0 in (38.1 cm)

**Add 1½ inches (3.81 cm) to D1 and D5 dimensions for trim kit.*



Ordering Information

Part Number	Description	Ship Wt. lb. (kg.)
Control Panels		
FX-10R	Conventional Fire Alarm Control Panel, Red – 10 Class B IDCs and 4 Class B NACs, 7.0A NAC power, (Pairs of IDCs and NACs convertible to single Class A circuits), 120VAC power source, 24VDC output	
FX-10RD	Conventional Fire Alarm Control Panel, Red – 10 Class B IDCs and 4 Class B NACs, 7.0A NAC power, (Pairs of IDCs and NACs convertible to single Class A circuits), upload/download DACT/modem, 120VAC power source, 24VDC output	30.5 (13.8)
FX-10RF	Conventional Fire Alarm Control Panel, Red – 10 Class B IDCs and 4 Class B NACs, 7.0A NAC power, (Pairs of IDCs and NACs convertible to single Class A circuits), 120VAC power source, 24VDC output, French Canada	
FX-5R	Conventional Fire Alarm Control Panel, Red – 5 Class B IDCs and 2 Class B NACs, 3.5A NAC power, (Pairs of IDCs and NACs convertible to single Class A circuits), 120VAC power source, 24VDC output	
FX-5RD	Conventional Fire Alarm Control Panel, Red – 5 Class B IDCs and 2 Class B NACs, 3.5A NAC power, (Pairs of IDCs and NACs convertible to single Class A circuits), upload/download DACT/modem, 120VAC power source, 24VDC output	24.4 (11.1)
FX-5RF	Conventional Fire Alarm Control Panel, Red, 5 Class B IDCs and 2 Class B NACs, 3.5A NAC Power, 120V, 24Vdc Output, French Canada	
F-TRIM35R	Semi-flush trim ring for FX-5R(D)	1.7 (0.8)
F-TRIM10R	Semi-flush trim ring for FX-10R(D)	2.2 (1.0)
Related Items		
F-XTR120	Expander Transformer, 120 Vac - For FX-10 only	4.0 (1.8)
EOL3.6-1.1	Required UL listed End of Line Resistors – One 3.6K Ohm and one 1.1K Ohm. One required for each IDC configured as combination waterflow and supervisory.	0.1 (0.5)
EOL-P1	Required ULC listed End of Line Resistor Plate - includes one 1.1K, 3.6K and 4.7K Ohm resistor	1.0 (0.5)
Off Premises Communications		
F-DACT	Upload/dowload digital Communicator/modem/LCD module (Mounts in control panel)	1.0 (0.5)
F-DACT1	Digital Communicator/Modem/LCD module (Compatible with new v4.0 control panels)	
F-DACT1F	Digital Communicator/Modem/LCD module (Compatible with new v4.0 control panels), French	
CTM	City Tie Module (Requires 4" square or 2-gang North American electrical box)	1.0 (0.5)
RPM	Reverse Polarity Module (Requires MFC-A or other listed fire alarm enclosure)	3.0 (1.4)
Remote Annunciation		
FSRSI	Remote System Indicator – Includes LEDs for display of Power, Alarm, Supervisory, Trouble and Ground Fault, trouble sounder and silence/lamp test switch. Single gang trim plate included, multi-gang plates ordered separately. Mounts in a single or multi-gang North American electrical box.	0.3 (0.1)
FSRZI-A	Remote Zone Indicator – Includes red LEDs for five IDCs. Single gang trim plate included, multi-gang plates ordered separately. Mounts in single or multi-gang North American electrical box.	0.3 (0.1)
FSRZI-SA	Remote Zone Indicator – Includes LEDs for five IDCs. Single gang trim plate included, multi-gang plates ordered separately. Mounts in single or multi-gang North American electrical box. Jumper selected Alarm (red) or Supervisory (amber) indications.	0.3 (0.1)
FSAT1	Annunciator Trim Plate, 1 gang	0.1 (0.05)
FSAT2	Annunciator Trim Plate, 2 gang	0.1 (0.05)
FSAT3	Annunciator Trim Plate, 3 gang	0.1 (0.05)
FSAT4	Annunciator Trim Plate, 4 gang	0.1 (0.05)
K-FSRA10	Single Unit 10 zone remote annunciator for FX-10	
K-FSRA10F	Single Unit 10 zone remote annunciator for FX-10, French	
K-FSRA10C	Single Unit 10 zone remote annunciator for FX-10 (with common controls)	
K-FSRA10CF	Single Unit 10 zone remote annunciator for FX-10 (with common controls), French	
FSUIM	Common Function Graphic Driver/Interface - 9 relays and 5 switch inputs for common system indicators & controls	
Remote Relay Module		
FSRRM24	Remote Relay Module – Five Form C relays. Configurable for IDCs 1-5, or 6-10, or common system indications or matrix mode. Requires MFC-A or other listed fire alarm enclosure.	0.4 (0.2)
FSRRM-S11	11" Mounting track. Holds up to two FSRRM24s.	0.4 (0.2)
Accessories		
MFC-A	Multi-function Cabinet (fire alarm accessory enclosure)	7.0 (3.2)
Programming Tools		
FA-CU	Fire alarm configuration utility. This CU is available for download only. Visit *www.kiddefx.kidde.com*.	