

# SXL-EX<sup>®</sup> Fire Alarm Control Panel

## Conventional Zone Fire Alarm Control Panel

### ARCHITECT AND ENGINEER SPECIFICATIONS

- Four (4) zones – expandable to eight (8) zones
- Series '3' and '11' compatible detectors and accessories
- Microprocessor-based control
- Factory programmed – field configurable
- Two (2) Style Y notification appliance circuits (NACs)
- 3 Amps notification and auxiliary power
- 24 and 60-hour battery backup
- Eight (8) 'Form C' relay-output option
- 220/240 VAC, 50 Hz power-supply option
- Remote serial-annunciator option
- Sprinkler supervisory service
- Non-silenceable bell service
- Alarm verification by zone
- One-person test feature
- Zone / output bypass feature
- Subsequent *Alarm* and *Trouble* commands with 24-hour reminders
- *Alarm*, *Trouble* and *Supervisory* last-event records
- <sup>®</sup>UL 864 9<sup>th</sup> Edition Listed & <sup>®</sup>ULC Listed;  
CSFM Approved



### System Overview

Model SXL-EX from Siemens – Fire Safety is a microprocessor-based fire-alarm control panel (FACP) supplied with four (4) conventional zones, and is expandable to eight (8) conventional zones. Model SXL-EX also contains features, such as: field programmability; power-limited circuits, 'one-person' test; remote annunciation, and sufficient power to meet ADA requirements for signaling.

Model SXL-EX is designed to meet the varied fire-alarm needs for small office buildings, apartment buildings, department stores, hotels, strip malls or anywhere a cost-efficient, general-purpose FACP is required.

Additionally, the SXL-EX can be used to supply remote bell power for larger systems such as the MXL FACP.

### Initiating Circuits

Model SXL-EX has four (4) conventional, Style B (Class B) zones, which are typically compatible with the ionization detector (Model DI-3<sup>®\*</sup>); the photoelectric detector (Model PE-11\*) and the photo-thermal detector (Model PE-11T\*); Siemens Fire Safety thermal, flame and beam detectors, and the MS Series of manual stations. (Please refer to the detector-compatibility list in the wiring diagram for specific compatibility questions).

\* Asterisks shown in the second column denote Models DI-3C; PE-11C and PE-11TC, respectively, in *Canada*

## System Overview – (continued)

Any combination of 30 compatible smoke detectors can be combined on a given zone. Any number of thermal detectors, manual stations or other compatible direct shorting devices may be connected to each zone. All of these initiating devices can be mixed on the same zone, providing the total power requirement of the zone does not exceed 9mA supervisory current. Model SXL-EX has the additional capacity to support detector accessories such as: relays, remote alarm lamps and audible bases.

Initiating zones can be programmed for many functions. Alarm verification allows detector application in sensitive areas – with or without manual stations – mixed on the zone, as allowed by code. Manual station operation shall not be delayed on verified zones. Generic zone function allows the NACs in Model SXL-EX to follow the action of a master fire-alarm panel in the facility.

Initiating zones can also be bypassed as required for example during construction on the premises. The system is expanded through the (4) four-zone expander (Model SZE-4X), which has an additional four (4) initiating circuits, in addition to relays and open-collector outputs.

### Notification Appliance Circuits

Model SXL-EX has two (2) Style Y (Class B) NACs, each rated at 1.5 Amps. The total power output of the panel, between the two (2) notification circuits and the auxiliary output, is limited to 3 Amps, which is sufficient to provide power for many applications requiring appliances designed to ADA specifications. The SXL-EX notification circuits are power limited to reduce installation costs without the addition of any hardware.

NACs can be programmed for various codes. These include: temporal / march time, simplified zone code, and number of rounds. They can also be inhibited during test and programming functions.

The two (2) circuits can be individually programmed as non-silenceable. This steady operation can be used for strobes that must continue operation after audible devices are silenced.

### Relays and Outputs

Model SXL-EX has 'Form C' relays for general *alarm* and *trouble* commands, rated at 1 Amp, 30VDC. The optional (4) four-zone expander module (Model SZE-4X) has an additional four (4) general purpose, programmable relays at 2 Amps, 30VDC / 120VAC. All remote operations in the fire-alarm system are controlled from Model SZE-4X or the relay module (SRC-8) – each of which is situated within the actual Model SXL-EX enclosure.

### Visual and Audible Indicators

Model SXL-EX has visible LED annunciation by zone for *alarm* and *trouble* prompts.

Additionally, there is a system *alarm* light-emitting diode (LED) and a system *trouble* LED. *Supervisory* zones utilize the zone trouble LED flashing in sync with a system *supervisory* LED to indicate an abnormal system event.

LEDs for AC power bypass and test / program mode are clustered with the system *alarm*, *trouble* and *supervisory* LEDs. A (7) seven-segment display – used during testing and programming functions – reports a code for each system *trouble* event. *Trouble* conditions are also announced by a piezo-electric sounder housed inside Model SXL-EX.

Remote annunciation is accomplished through a serial connection with Model LED-3 or Model LED-4, (8) eight-zone LED annunciators. Models LED-3 and LED-4 display *alarm*, *supervisory* and *trouble* conditions for eight (8) zones. A total of two (2) modules can be attached to each system. Model LED-3 comes with a black enclosure, while Model LED-4 uses a white enclosure.

### Auxiliary Power

Model SXL-EX contains a 1/2 Amp auxiliary power circuit that is used to drive remote devices. The total power for Model SXL-EX, between the auxiliary output and the two (2) NACs, is 3 Amps.

### Power Supply / Battery Charger

The power supply accepts a 120VAC, 60 Hz. Input or, optionally, a 220 / 240VAC, 50 Hz. Input. On loss of AC power, the system switches to battery operation, indicating a loss of power by flashing the AC power LED on the display. Battery capacities of 24 and 60 hours are available.

### Manual Controls

Model SXL-EX has four (4) switches for acknowledging *alarm*, *supervisory* and *trouble* conditions; silencing NACs; resetting the system, and for the drill function. These switches are also used when programming the control unit.

### Field Programmability and Test Functions

The following functions of Model SXL-EX are field programmable, and are generally not programmed in the unit, since the each unit is shipped 'as received' from the factory. Field programming is accomplished through the display, and does not require the use of a computer or any proprietary tools.

#### Initiating Circuits:

- Alarm Verification by Zone; Zone Bypass; Supervisory Zone, or Generic Zone [when Model SXL-EX is used to provide remote NACs]

**Note:** The default mode is an alarm-causing zone.

#### Notification Appliance Circuits:

- Non-silenceable, Simple Zone Coding, March Time, Temporal, Silence Inhibit, Cutoff Timers and Reminders

**Note:** The default mode is a steady signal.

## System Overview – (continued)

### Outputs:

– Bypass Outputs / Relays

### System Programming:

– Zone to Output Matrix and Password Maintenance

System-test features include: one-person test feature, a lamp test, search and clear of the *alarm*, *trouble* and *supervisory* history buffer.

## Specifications

The fire-alarm control panel (FACP) shall be a Siemens Fire Safety SXL-EX; shall utilize conventional zones and shall be microprocessor based and fully field programmable. The base panel shall include four (4) initiating zones, relays for general *alarm* and *trouble* and two (2) power-limited notification circuits capable of a total of 3 Amps of power.

The system shall be expandable via an expander module (model SZE-4X), which contains an additional four (4) conventional zones; four (4) general-purpose relays and four (4) general-purpose, open-collector outputs.

The fire-alarm system shall have the following features: subsequent *alarm* and *trouble* prompts; one person test feature; brown out protection, and 24 or 60 hour battery backup. Model SXL-EX also has the following selectable features: supervisory zones; alarm verification by zone; non-latching zones; *alarm*, *trouble* and *supervisory* history, NAC coding, *alarm* / *trouble* 24-hour reminder, and zone / output bypass.

Any initiating-device circuit shall have the capability of being mapped to any optional output, via the system-programming function.

The FACP shall be ®UL / ®ULC Listed, and meet the requirements of NFPA 72 for local fire alarm control for automatic or manual service, and for sprinkler supervisory and waterflow service.

Model SLX-EX shall meet NFPA 72 requirements for central-station service when connected to Model 5128 or Model 5129 digital fire communicator.

The system can alternately be expanded through the expander module (Model SZE-8AX), which has an additional four (4) Class A (Style D) initiating circuits. Model SZE-8AX also converts the four (4) initiating circuits and the two (2) notification circuits on the main SXL-EX to Style D (Class A) and Style Z (Class A), respectively.

## Details for Ordering

Model	Part Number	Description
SXL-EX Planning Bill (Black Enclosure)	500-695884	EN-SX Enclosure
	500-696000	SXL-XLCON
SXL-EX-RED Planning Bill (Red Enclosure)	500-696011	EN-SX Enclosure (Red)
	600-696000	SXL-XLCON
SXL-EX-DF Planning Bill (Dead Front, Black Enclosure)	500-695884	EN-SX Enclosure
	500-696000	SXL-XLCON
	500-695889	DF-SX Dead Front
SXL-EX-INT (International, Black Enclosure)	500-695884	EN-SX Enclosure
	500-696010	SXL-EX-INT Board, Transformer & Hardware

### SXL-EX Optional Modules

Model	Part Number	Description
SZE-4X	500-696006	SXL-EX 4-Zone Expander (with outputs)
SZE-8AX	500-696007	SXL-EX 8-Class "A" Zone Module
SRC-8	500-692972	SXL-EX 8-Relay Module
RPR-1	500-694998	Remote Polarized 24VDC Relay (with SXL, MXL and System™ 3 FACP's)
SLT-1	500-093285	SXL-EX Leased Line / Municipal Tie Module
MM-SX	500-696008	Meter Module for SXL-EX
LED-3	500-693062	LED-3 Annunciator

### SXL-EX Control Equipment Components

SXL-XCON	500-696000	SXL-EX Board, Transformer & Hardware
SXL-XCON-INT	500-696010	SXL-EX-INT Board, Transformer & Hardware
EN-SX	500-695884	SXL-EX Enclosure, Black
EN-SXR	500-696011	SXL-EX Enclosure, Red
DF-SX	500-695889	SXL-EX Dead Front Kit. Black Only
FT-SX	500-695890	SXL-EX Semi-Flush Trim Kit
FT-SXR	500-696104	SXL-EX Semi-Flush Trim, Red
SXL-AK	500-696358	SXL-EX / ENS-S Adapter Kit
SXL-MAIN	500-695992	SXL-X Main PCB Assembly Pkg.

### SXL-EX Batteries & Power Supplies

BT-33	175-387141	6AH Battery Set
BT-34	175-387140	10AH Battery Set
BP-61	175-387194	15AH Battery Set
PAD-4-ENCL	500-050081	PAD-unit enclosure
PAD-4-MB	500-650217	PAD-unit main board
PAD4-BATT-BRKT	S54430-B4-A1	Battery bracket for NAC Expander
PAD-4-LUA	S54389-C1-A1	PAD-4 Laptop-Upload Adapter
PAD-4-CLSA	500-850254	'Class A' Adapter Card
S3AP	500-650257	PAD-4 NAC Expander Adapter Plate
PAD-3	599-699189	P/S NAC EXT (6 Amps)
PAD-3R	599-699190	P/S NAC EXT, Red
PAD-3-MB	500-699080	Main Board Only for PAD-3
EN-PAD	310-099073	Black Enclosure for PAD-3
EN-PADR	310-099150	Red Enclosure for PAD-3
PAD-3-UK	500-648449	PAD-3-UK Upgrade Kit

### SXL-EX Upgrade Kits

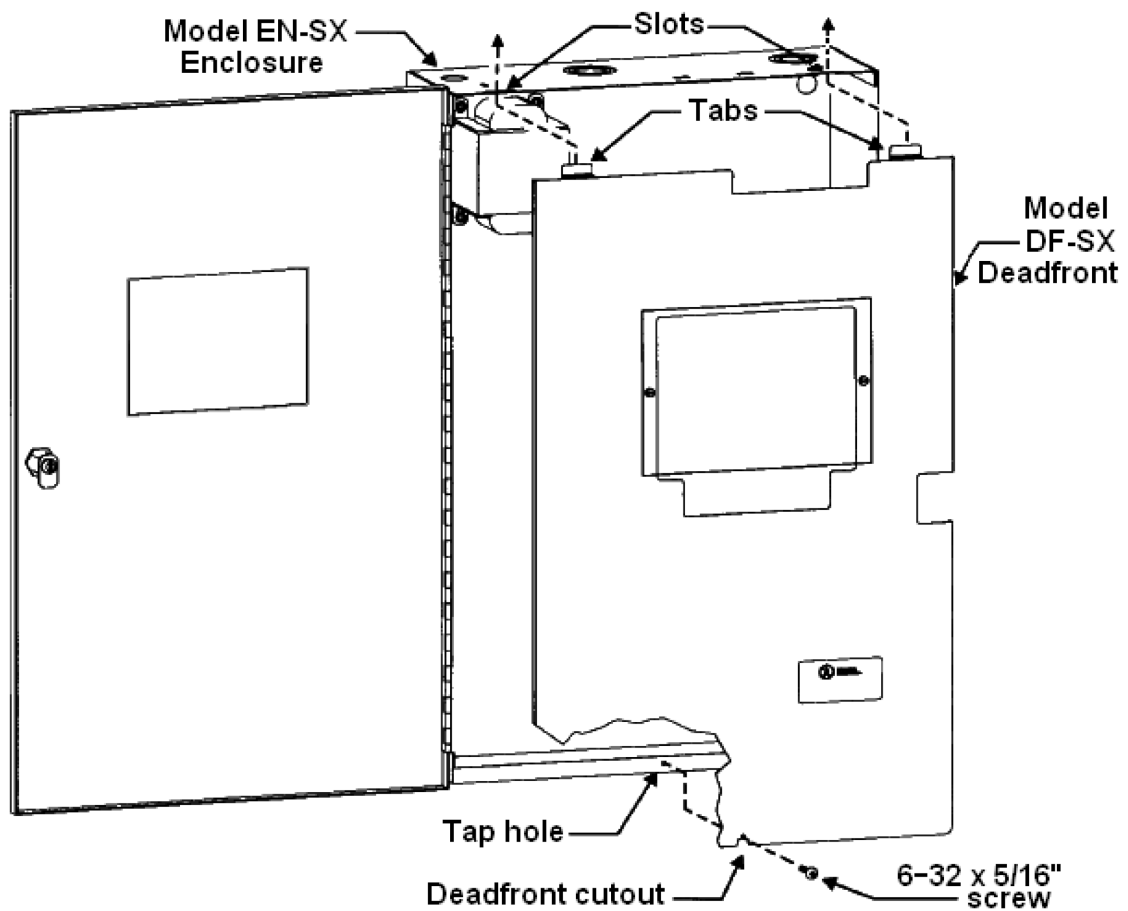
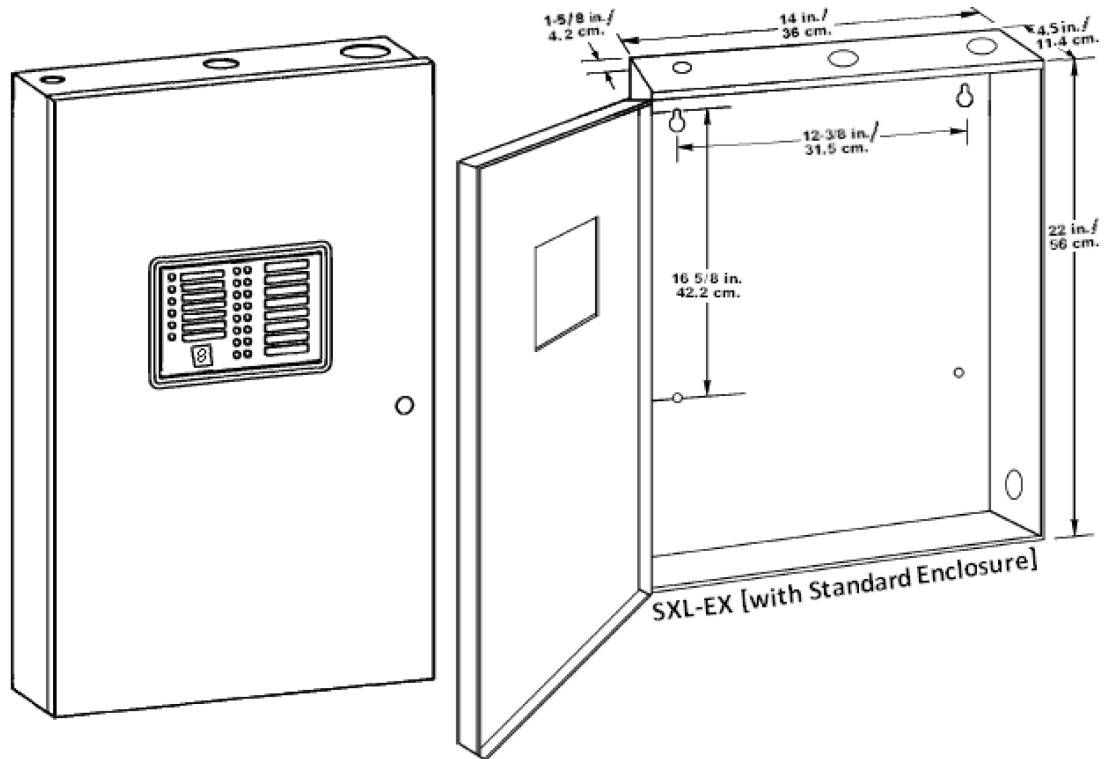
SXL-EX-UK	500-363009	SXL-EX-UK F/W Upgrade Kit
SLT-1-UK	500-699052	SLT-1F/W Upgrade Kit
LED-UK	500-696205	LED-3/4 Upgrade Kit

### Digital Fire Communicators

5128C	500-693213	4-Channel Slave Communicator
5129	500-693214	4-Channel Communicator [in enclosure]
5230K	500-693215	Programmer / Annunciator [5128 / 5129]
TIK-5128	500-693218	(1) Dual-Pack-RJ331X Block & Cord

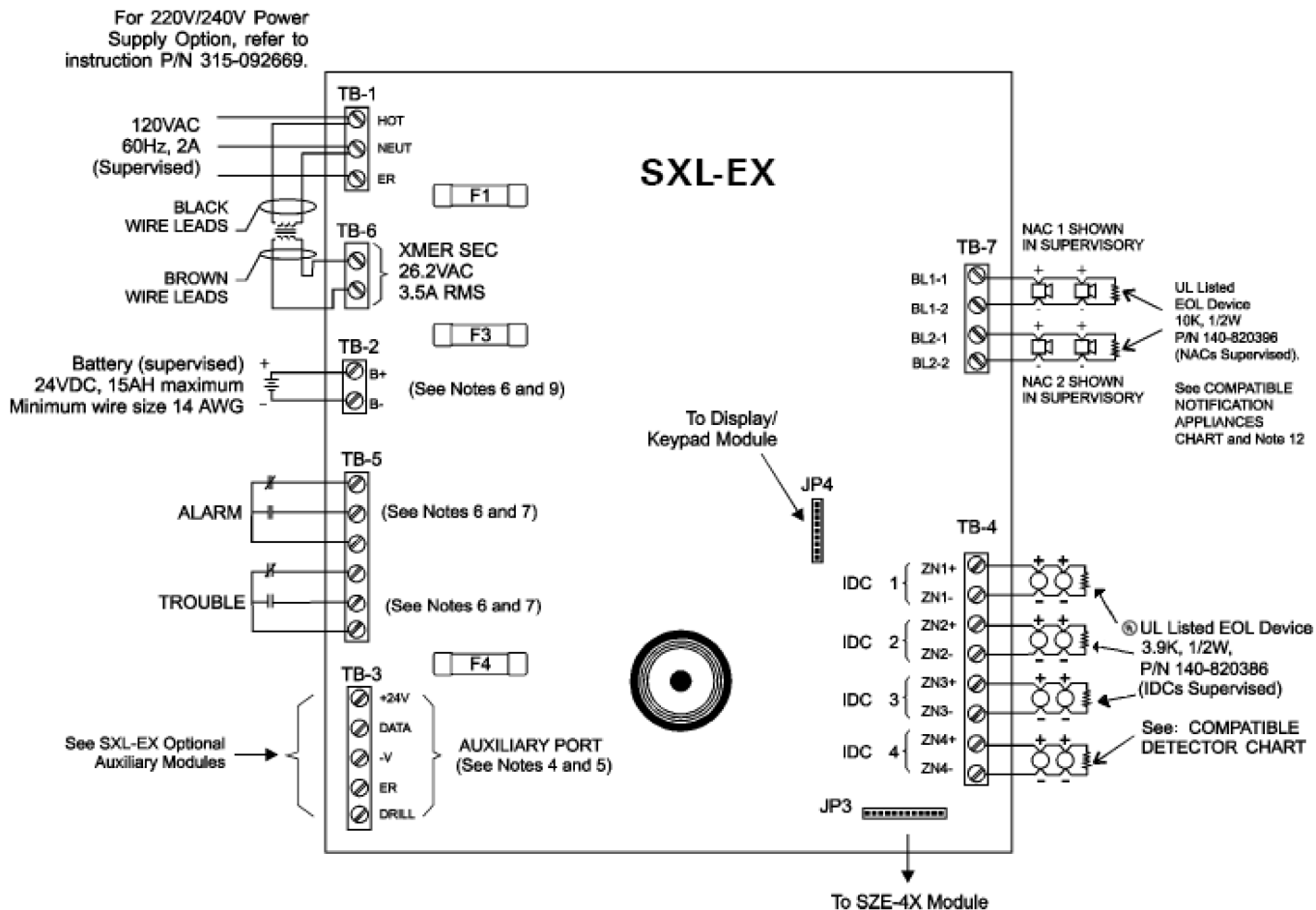
**Note:** Model BP-61 requires a separate enclosure (i.e. – BB-55)

## Dimensions



**SXL-EX [with Deadfront Enclosure]**

# SXL-EX Main Board Connection Diagram



## Fuse Replacement

Model	Part Number	Description
F1	105-217858	AC Input, 8 Amps
F2	105-224090	Batteries, 15 Amps
F3	105-280300	AUX Port, 0.75 Amps

### Notes:

- All field wiring must be in accordance with NFPA 70, Article 760.
- Make no wiring connections while the system is powered.
- Alarm Relay contacts are shown de-energized, and Trouble Relay contacts are shown energized. Suitable for resistive load only.
- Auxiliary output rate 0.5 Amps @ +24VDC, filtered. Maximum line impedance of 5 ohms.
- Combined current output for NAC1, NAC2 and auxiliary outputs is limited to 3.0 Amps.
- Equipment connected to these terminals must be located within the same room.
- Refer to the SXL-EX Operation, Installation and Maintenance Manual (IOM): P/N 315-095997, for further details.
- No T-tapping allowed.
- Connect *standby* batteries only to Terminals B+ and B-. The batteries may be installed in either the bottom of the cabinet, or in a UL Listed battery enclosure.
- In all cases, the Siemens Fire Safety model number is the compatibility identifier, including the control panel, module(s), and all compatible initiating devices.
- When using the SLT-1 module, not suitable for remote station protected premises service where separate transmission circuits are required for Alarm, Trouble and Supervisory signals.
- All power-limited wiring requires separation from non-power-limited wiring. Refer to the SXL-EX Power Limited Wiring Instructions: P/N 315-095994.

## Electrical Ratings

Alarm / Trouble Relay
244 mmHg., 41 kPa @ 20°C
11.6 (ref std.: Air = 1)

## Compatible Detection Devices

Detector	Quantity per Loop	Base	Installation Instructions Part Number
DI-3 / 3H	30	DB-3S	315-081943
DI-A3 / A3H	30	DB-3S	315-081943
DI-B3 / B3H	30	AD-31	315-093234
DT-3P-135	30	DB-3S	315-084401
DT-11	30	DB-11 DB-3S with DB-ADPT	315-095429 315-095429
HI121	30	DB-11 DB-3S with DB-ADPT	A6V10281365
OH121	30	DB-11 DB-3S with DB-ADPT	A6V10281367
OP121	30	DB-11 DB-3S with DB-ADPT	A6V10281367
PB-119A	1	PB-1191B	315-095424
PE-3 / 3T	30	DB-3S AD-3ILP	315-090875 315-093234
PE-11 / 11T	30	DB-11 DB-3S with DB-ADPT	315-094198 315-094198

## Electrical Ratings

Notification Appliance Circuits (NACs)	
<b>Voltage:</b>	24VDC
<b>Supervisory Current:</b>	1.5mA, max.
<b>Alarm Current:</b>	1.5A, max.

- Each NAC is rated at 1.5 Amps, +24VDC
- Maximum line impedance, 3.0 ohms per circuit
- All NACs are supervised
- Each NAC must use at least 14 American Wire Gauge (AWG), 300V insulation, color-coded wire
- All NACs are power limited per NFPA 70, Article 760 for non-coded applications

## Electrical Ratings – (cont.'d)

Initiating Device Circuit	
<b>Voltage:</b>	16.4 – 26.4VDC
<b>Supervisory Current:</b>	9mA, max.
<b>Alarm Current:</b>	120mA, max.

- Maximum line impedance of 25 ohms per IDC zone
- All IDC zones are supervised and power limited, per NFPA 70, Article 760
- Each IDC zone must use at least 18 AWG, 300V insulation, color-coded wire for low-voltage circuits where local codes require conduit. Where local codes permit, use limited-energy shielded cable rated at 300V.
- Each IDC zone will support one (1) initiating device in *alarm* mode. The IDC zone compatibility is an unlimited number of shorting-type devices.  
For smoke-detector compatibility, see: **Compatible Detection Devices** chart.

Model SZE-4X 'Form C' Relay
2.0 Amps @ 30 VDC, Resistive Only
0.5 Amps @ 30 VAC, Resistive Only

Open Collector
50mA, max. @ 26.4 VDC, max.

**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.