

Wiring Diagram

This wiring diagram describes circuit connections for all models of the VF1810 and K1810 Series Elite XT / Sigma A-XT Releasing Fire Control Panel.

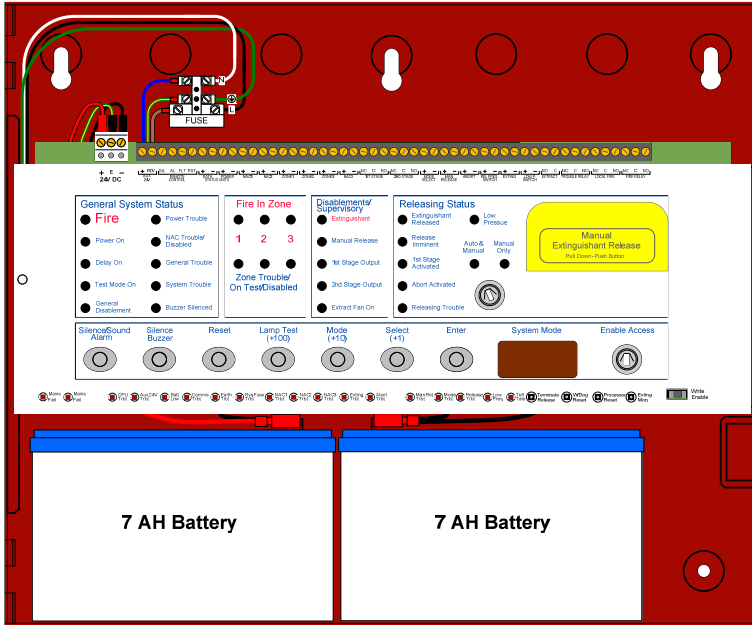
The operation of this product is intended for indoor use only.

Contents	Page
Front View, Wire Gauge and Related Documentation.....	2
Connection Diagram.....	3
Main Supply Circuit	4
Rechargeable Battery Circuit	5
Ground Fault Indications	6
Power Output Circuits	7
Limited-Energy Circuits	7
Supervised Circuits	7
Initiating Device Circuit	8 - 9
Notification Appliance Circuit	10 -13
Releasing-Device Circuits	14
Abort Function	15
Status Units (Data and Power)	16
Relay Circuits	17
AUX 24V	17



Front View, Wire Gauge and Related Documentation Of The Elite XT / Sigma A-XT Releasing Fire Control Panel

Front View



Wire Gauge

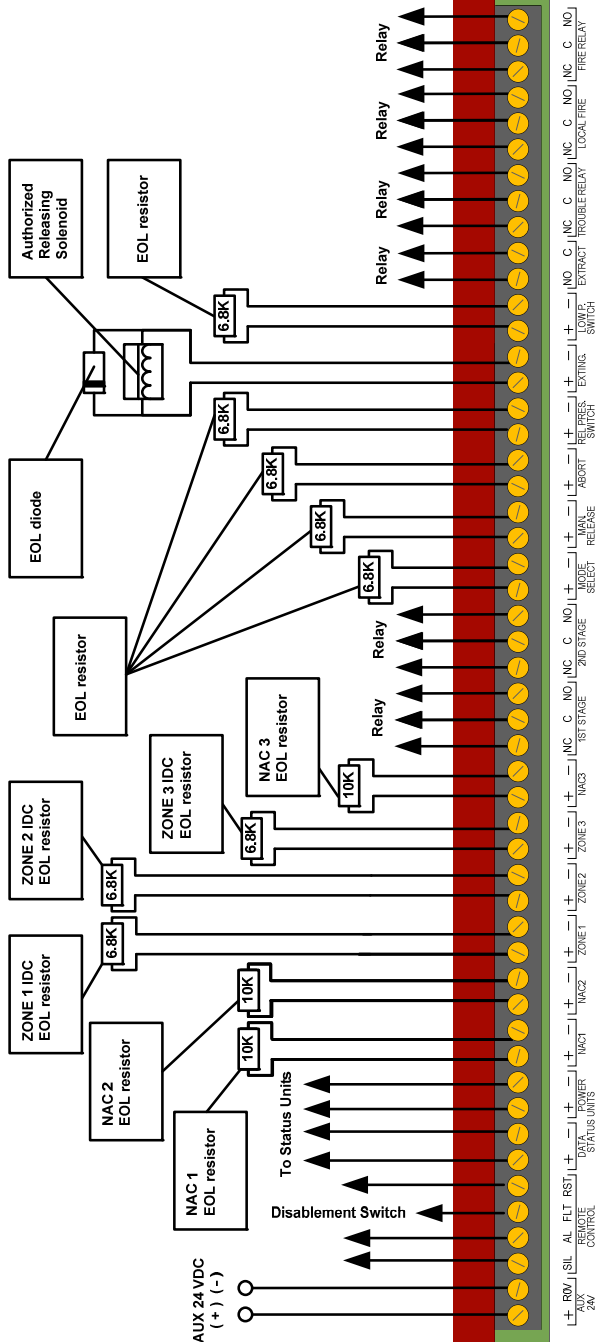
Connect 18 to 14 AWG wiring for all field terminations except the AC input. Connect 14 AWG wiring for line, neutral and ground terminations of the AC input.

Related Documentation

The following documents shall be used to provide additional information for installing and operating the VF1810 or K1810 series Elite XT / Sigma A-XT Releasing Fire Control Panel:


- Installation and Operation Manual, Man-1145 (K / VF1812-00), Rev. E03.XX
- Operating Instructions, Man-1146 (K / VF1825-00), Rev. E01.XX
- UL Compliance Label, Lab-1846, Rev. E02.XX

Connection Diagram Of the Elite XT / Sigma A-XT Releasing Fire Control Panel



Main Supply Circuit

Line Connection

Terminals	Description	Voltage
L	AC Line	115 VAC @ 50 / 60Hz
		230 VAC @ 50 / 60Hz
N	AC Neutral	
G 	Earth-Ground	

Power Supply

Rating		115 VAC - 125 VA 230 VAC - 126 VA
AC Input Fuse		1.6 Amp, 250 VAC, slow-blow, 5 x 20mm
Input (Supervised)		115 or 230 VAC 50/60Hz
Transfer Voltage		115 VAC transfer @ 90 VAC, 230 VAC transfer @ 180 VAC

Rechargeable Battery Circuit

Standby-Battery Type	Two 12 VDC, 7 AH, sealed lead acid, batteries , flame retardant UL94:V-0
Standby-Battery Charging	Two standby batteries wired in series
Charge Current	700 mA maximum
Output Current	0 - 2 Amps
Standby-Operating Time	24 Hours
Battery Charge Voltage	27.6 VDC
Fire Control Panel Current Draw From Battery While In Mains Fail, Standby And Not in Alarm	100 mA with buzzer sounding
Maximum Current Draw of FACP, In Alarm	620 mA (Current does not include loads from NACs, Solenoid, Status Units, Ancillary Boards and Auxiliary equipment)
Maximum Current Draw From Batteries	2 Amps

Caution

**RISK OF EXPLOSION IF BATTERY IS REPLACED BY AN INCORRECT TYPE.
DISPOSE OF USED BATTERIES ACCORDING TO THE INSTRUCTIONS**

Ground Fault Indications

A ground fault indication occurs when 30K Ohms or less exists between earth-ground and the following field terminals of the Elite XT / Sigma A-XT Releasing Fire Control Panel:

- AUX 24V
- POWER, STATUS UNITS
- NAC 1, NAC 2 and NAC 3
- ZONE 1, ZONE 2, ZONE 3
- MODE SELECT
- MAN RELEASE
- ABORT
- REL. PRES. SWITCH
- EXTING.
- LOW P. SWITCH
- DATA, STATUS UNITS

Power Output Circuits

Special application outputs are provided on the following terminals of the Elite XT / Sigma A-XT Releasing Fire Control Panel :

- NAC 1
- NAC 2
- NAC 3
- AUX 24V
- POWER, STATUS UNITS
- EXTING

Limited Energy Circuits

All circuits of the Elite XT / Sigma A-XT Releasing Fire Control Panel are power limited except AC input/output, battery, transformer input/output and bridge rectifier input/output.

Supervised Circuits

All circuits of the Elite XT / Sigma A-XT Releasing Fire Control Panel are supervised except relay terminals for 1ST STAGE, 2ND STAGE, EXTRACT, TROUBLE RELAY, LOCAL FIRE and FIRE RELAY.

Initiating Device Circuit

Initiating Device Circuits are Class B, Style C

Authorized initiating devices are two-wire smoke and closed-contact-type detectors.

Terminals

ZONE 1 ZONE 2 ZONE 3	Supervised input: 6.8K Ohm EOL resistor S2027, 470 Ohm trigger resistor S2051 and 270 Ohm trigger resistor S2052 Detectors – 470 Ohm Pull Stations - 270 Ohm
MODE SELECT MAN. RELEASE ABORT REL. PRESS. SWITCH LOW PRESS. SWITCH	Supervised input: 6.8K Ohm EOL resistor S2027 and 470 Ohm trigger resistor S2051. Mode Select must include the 6.8K Ohm EOL resistor S2027 to maintain the supervised input.
EXTING.	Supervised output: 1N504-G EOL diode S2029

Pull stations authorized for use with the Elite XT and Sigma A-XT Releasing Fire Control Panel are non-addressable and UL listed.

Initiating Device Circuit

Adjustable

Extinguishant Output Delay	Adjustable 0 to 60 seconds (+/- 10%) in 5 second intervals
Extinguishant Duration	Adjustable 60 to 300 seconds (+/- 10%) in 5 second intervals
Short Circuit Threshold	Adjustable
Remote Control Inputs	No Connect (NC) terminals.
Mode Select	No Connect (NC) terminal

Ratings

Maximum Operating Voltage	21.6 VDC
Maximum Short Circuit Current	65 mA
Maximum Line Impedance	20.3 Ohms

Notification Appliance Circuit

Polarized Appliance Requirement

NAC outputs of the Elite-XT / Sigma A-XT Releasing Fire Control Panel accept devices that are polarized only. A trouble condition is reported when non-polarized NAC devices are connected to these NAC outputs. Field connections must include symbol-markings for plus (+) and minus (-) on all polarized appliance terminations.

Connection

Rating

NAC 1 and NAC 2 (+), (-)

*EOL Part
#S2027*

Special Application: 18 to 28 VDC @ 500 mA continuous
Regulated: 18 to 28 VDC @ 50 mA continuous
Fused: Electronic 1.1 A
Supervision: Voltage reversing DC
Short Circuit Threshold: 130 Ohms +/- 20%
Maximum line-voltage-drop: 2 VDC
Class B, Style Y operation

NAC 3 (+), (-)

*EOL Part
#S2027*

Releasing Output Only
Special Application: 18 to 28 VDC @ 500 mA pulsed and continuous
Regulated: 18 to 28 VDC @ 50 mA pulsed and continuous
Fused: Electronic 1.1 A
Supervision: Voltage reversing DC
Short Circuit Threshold: 130 Ohms +/- 20%
Maximum line-voltage-drop: 2 VDC
Class B, Style Y operation

Notification Appliance Circuit

NAC Synchronization

The Elite XT / Sigma A-XT Releasing Fire Control Panel supports special application outputs of NAC 1 and NAC 2 when operating:

- Amseco NAC devices with Amseco synchronization modules
- Gentex NAC devices with Gentex synchronization modules
- System Sensor NAC devices with System Sensor synchronization modules
- Wheelock NAC devices with Wheelock synchronization modules

NAC channels 1 and 2 of the Elite XT / Sigma A-XT Releasing Fire Control Panel provide single and dual circuit synchronization. Single circuit synchronization provides a synchronized output on one channel of two NAC channels. Dual circuit synchronization provides a synchronized output on NAC 1 and NAC 2.

Maximum Current

A maximum current of 1.5 Amps is available for powering NAC 1, NAC 2 and NAC 3 when a maximum load of 500 mA exists on any one of the NAC outputs.

Notification Appliance Circuit

The following statements for NAC synchronization are necessary for UL qualification and exclude device-loading combinations that are common in most FACP installations:

Amseco	NAC 1 and NAC 2 of the Elite XT / Sigma A-XT Releasing Fire Control Panel can each operate a maximum of seven Amseco SL-1224 strobes when configured for 15cd outputs and synchronized with an Amseco SMD10-3A synchronization module.
Gentex	NAC 1 and NAC 2 of the Elite XT / Sigma A-XT Releasing Fire Control Panel can each operate a maximum of six Gentex GES3-24 strobes when configured for 15cd outputs and synchronized with a Gentex AVSM synchronization module.
System Sensor	NAC 1 and NAC 2 of the Elite XT / Sigma A-XT Releasing Fire Control Panel can each operate a maximum of eight System Sensor S1224MC strobes when configured for 15cd outputs and synchronized with a System Sensor MDL synchronization module.
Cooper/ Wheelock	NAC 1 and NAC 2 of the Elite XT / Sigma A-XT Releasing Fire Control Panel can each operate a maximum of eight Cooper/Wheelock RSS-24MCW strobes when configured for 15cd outputs and synchronized with a Cooper/Wheelock SM-24 synchronization module.

Notification Appliance Circuit

NAC outputs of the Elite XT / Sigma A-XT Releasing Fire Control Panel are not limited by conditions other than the maximum rated current threshold. NAC outputs of the Elite XT / Sigma A-XT Releasing Fire Control Panel can operate combinations of VES authorized NAC devices as long as the circuit load does not exceed 500 mA.

Reference manufacturer data sheets for individual device loads and then total the loads to determine if the sum exceeds the 500 mA threshold of each NAC output.

Releasing Device Circuits

Exting.

Releasing output: 18 to 28 VDC, with 1.0 Amp maximum load for 5 minutes and voltage reversing DC. Maximum line-voltage-drop: 2.4 VDC
Fused at 1.6 Amps

Authorized Releasing Valves

Manufacturers	Model
ASCO	HV2185328
ASCO	8210G207
Viking	11591, 11592, 11595, 11596, 11601, 11602
Solenoid Solutions	2823A-2NB-A4F6—>Manufactured for: Snap-Tite, Sevo Systems, Orient, Chemori
Sevo Systems	SOL EA45, The SOL EA45 is equivalent to Sevo Systems 510006 and TLX Technologies PA0036-3
Firetrace, TLX Technologies	Linear Actuator-FTF500125 or 01-501462; TLX Technologies PA0128-5
Kidde	K-45-8017, The K-45-8017 is equivalent to Kidde-Fenwall 486500-01
Kidde	B6793-859, The B6793-859 is equivalent to Kidde-Fenwall 81-100000-001
Victaulic	Series 753-E FireLock
Fire Eater	305450 Ci IS8B Solenoid
Fire Eater	305451 Ci IS8B Solenoid and Manual
Safety Hi-Tech	SH21006403
Safety Hi-Tech	SH21006404
Janus	18481

The extinguishant release output of the Elite XT / Sigma A-XT Releasing Fire Control Panel is 1 Amp. All solenoids must operate using 1 amp or less.
The solenoid releasing valves above are authorized for use as Fire Protection-Service Valves on the Elite XT / Sigma A-XT Releasing Fire Control Panel.

Special Releasing Accessories

Manufacturer	Description	Model
Kentec Electronics	Sequential Activator	FP-SA/GEN3.0 [Standard Cabinet] VF/K1824-10 or -40 (Red or Gray) FP-SA/GEN3.0 [Large Cabinet] VF/K1824-11 or -41 (Red or Gray)
FirePro	Fixed Condensed Aerosol Extinguishing Units	See Models Below
FP-20SE (FNX-20S) FP-40S (FNX-40S), FP-80S (FNX-80S), FP-100S (FNX-100S), FP-200S (FNX-200S), FP-500S (FNX-500S), FP-1200 (FNX-1200), FP-1200T (FNX-1200T), FP-2000 (FNX-2000), FP-2000T (FNX-2000T), FP-3000 (FNX-3000), FP-3000T (FNX-3000T), FP-4200T (FNX-4200T), FP-5700 (FNX-5700), FP-5700T (FNX-5700T),	FP-20T (FNX-20T), FP-40T (FNX-40T), FP-80T (FNX-80T), FP-1200S (FNX-1200S), FP-1200TS (FNX-1200TS), FP-2000S (FNX-2000S), FP-2000TS (FNX-2000TS), FP-3000S (FNX-3000S), FP-3000TS (FNX-3000TS), FP-4200TS (FNX-4200TS), FP-5700S (FNX-5700S), FP-5700TS (FNX-5700TS)	

Please refer to instructions included with Sequential Activator for proper wiring

Abort Function

Override Operation

The abort function overrides the manual release when the manual release is activated before the abort.

The manual release overrides the abort function when the abort is activated before the manual release.

Connection

Monitored input EOL 6.8K Ohm +/- 5% resistor, S2027, activation impedance 470 Ohms

Status Units (Data and Power)

Data

RS485 Serial Bus

Two-wire RS485, Maximum line impedance 120 Ohms, SLC Class B Style 4

Connector Terminals

14 to 18 AWG wire

Maximum Number of Units

Maximum Number of Units 7 Status Units, 7 Ancillary Boards. A separate power source must be used if the total-load-current at the STATUS UNIT, POWER terminals exceed 500 mA.

Power

Maximum Output Rating

Maximum Output Rating 18 to 28 VDC, 1.1 A electronic fuse, 500 mA maximum load

Connector Terminals

14 to 18 AWG wire

Maximum Number of Units

Load dependant, 500 mA maximum in alarm

Relay Circuits

Operation	Common
Current	1A maximum, volt free change over contact
Voltage	30 VDC
Power Factor	1.0 PF

AUX 24V

Terminal	Rating
AUX 24V (+ / R0V)	18 – 28 VDC Special Application output, 500 mA maximum

