



**SILENT
KNIGHT**

by Honeywell

MODEL 5895XL

**Intelligent Power Module
for the 5820XL System**

**Installation and
Operations Manual**

Document 151142

Rev: H

151142:H

Content

Section 1

Overview 1-1

1.1	5895XL Description	1-1
1.1.1	Maximum Number of SBUS Modules	1-2
1.2	Agency Requirements	1-5
1.3	About This Manual	1-5
1.4	How to Contact Silent Knight	1-5

Section 2

Before You Begin Installing 2-1

2.1	What's in the Box?	2-1
2.2	Environmental Specifications	2-1
2.3	Preventing Water Damage	2-1
2.4	5895XL Board and Terminal Strip Description	2-2
2.5	Earth Fault Resistance	2-4
2.6	Calculating Current Draw and Standby Battery	2-5
2.6.1	Worksheet Requirements	2-5
	Filling in the Current Draw Worksheet, Table 2-4 (Section 2.6.2)	2-5
2.6.1.1	Maximum Battery Standby Load	2-5
2.6.2	Current Draw Worksheet	2-6
2.7	Wiring Specifications	2-7
2.7.1	Length Limitations	2-7
2.7.2	Calculating Wiring distance for SBUS modules	2-7
	Wiring Distance calculation example:	2-9
2.7.3	Wire Routing	2-10

Section 3

Hardware Installation 3-1

3.1	AC Power	3-1
3.2	Battery Connection	3-2
3.3	Connecting the 5895XL to the FACP	3-3
3.3.1	Setting the Device ID	3-5
3.4	Connecting SBUS Modules to the 5895XL	3-6
3.5	Flexputs™ I/O Circuits	3-7
3.5.1	Conventional Notification Appliance	3-7
3.5.2	Releasing Operations	3-7
3.5.2.1	Class B Notification Wiring	3-7
3.5.2.2	Class A Notification Wiring	3-8
3.5.3	Conventional Initiation Circuits	3-9
3.5.3.1		3-9
3.5.3.2	Class A Inputs	3-9

3.5.4	Installing 2-Wire Smoke Detectors	3-10
	Class B Installation	3-10
	2-Wire Class A Smoke Detector Installation	3-11
3.5.5	Installing 4-Wire Smoke Detectors	3-12
	Installing a Class B 4-Wire Smoke Detector	3-12
	Installing 4-Wire Class A Smoke Detectors	3-13
3.5.6	Auxiliary Power Configuration	3-13
	3.5.6.1 Door Holder Power	3-14
	3.5.6.2 Constant Power	3-14
	3.5.6.3 Resettable Power	3-14
3.6	Conventional Relay Installation	3-14

Appendix A

Compatible Devices A-1

A.1	Notification Appliances	A-1
A.2	Door Holder Device	A-12
A.3	Two-Wire Smoke Detectors	A-12
A.4	Four-Wire Smoke Detectors	A-15

Silent Knight Fire Product Warranty and Return Policy

Manufacturer Warranties and Limitation of Liability

Section 1

Overview

1.1 5895XL Description

The Model 5895XL Intelligent Power Module provides additional power and circuits to the IntelliKnight 5820XL FACP's. The 5895XL can power all IntelliKnight compatible modules, including SLC devices (via a Model 5815XL SLC Expander), remote annunciators (Model 5860); notification appliances, auxiliary power modules, and all other compatible modules.

Note: The 5808 does not use 5815XL SLC expanders.

The 5895XL has six Flexputs™ and two programmable relays. Outputs are rated 3.0 A (6.0 A total for each 5895XL). Relays are Form C rated at 2.5 A @ 24 VDC. Outputs and relays are fully programmable.

The 5895XL is optically isolated, providing ground loop isolation and transient protection. It functions as an SBUS repeater which conditions the RS-485 signal and allows the module to drive up to 6,000 feet of additional SBUS wiring.

The 5895XL is housed in a metal cabinet that is identical in size to the IntelliKnight 5820XL FACP cabinet. This cabinet is large enough to house two 17 AH batteries. Like the 5820XL cabinets, the 5895XL cabinet provides mounting studs for two Model 5815XL SLC Expander modules.

The 5895XL communicates to the main IntelliKnight FACP via the SBUS. Each 5895XL provides an additional 6,000 feet of SBUS wiring length to the main panel. As the drawings on the next pages illustrate, this allows you to distribute modules, SLC devices, and outputs throughout an extremely large facility.

As well as expanding the wiring length capabilities of IntelliKnight, the 5895XL also expands IntelliKnight's power capabilities by an additional 6.0 A of current.

1.1.1 Maximum Number of SBUS Modules

The chart below shows the maximum number of compatible modules that can be used in an IntelliKnight installation. Modules can be distributed among the main panel SBUS and each additional 5895XL SBUS in virtually any combination.

Module or Device	Maximum Number
5895XL Intelligent Power Module	8 per IntelliKnight installation
5860 Remote Annunciator	8 per IntelliKnight installation
5815XL SLC Expander	2 per IntelliKnight installation
5824 Serial/Parallel Modules	8 per IntelliKnight installation
Outputs	6 per 5820XL / 5895XL
Conventional Relays	2 per 5820XL / 5895XL

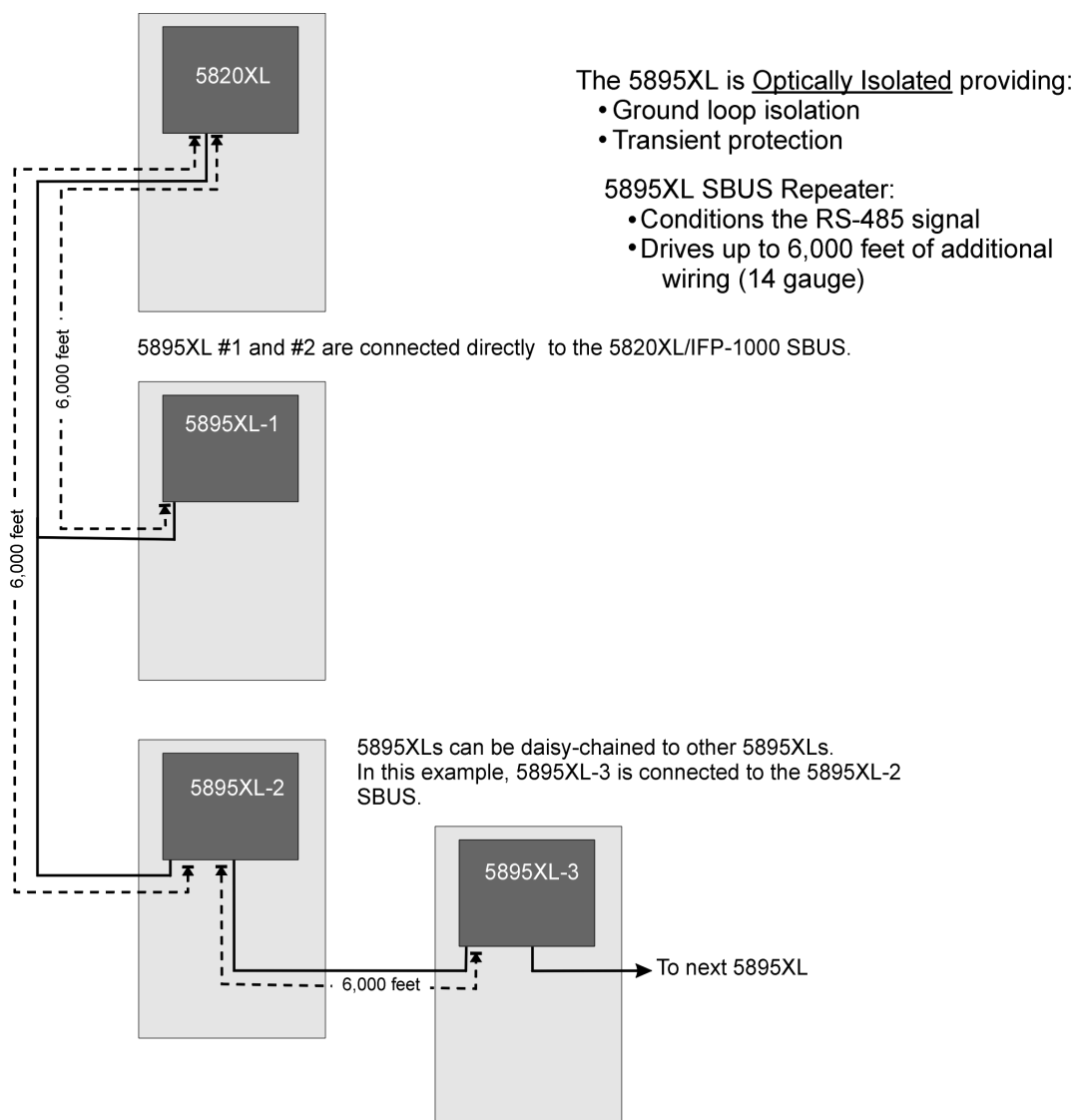


Figure 1-1 Example 5895XL Installation Overview

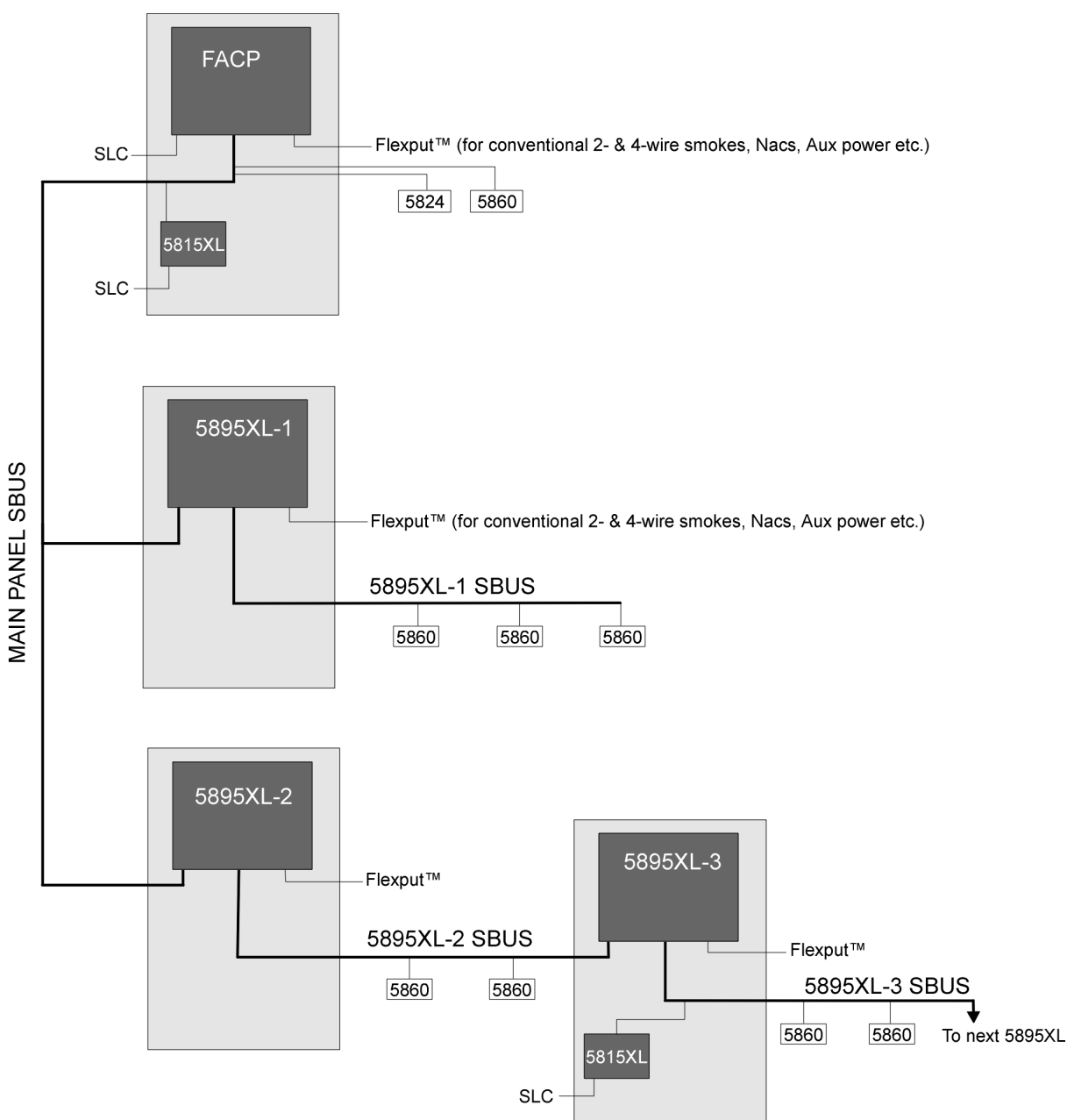


Figure 1-2 Example 5895XL Installation Overview (Details Added)

1.2 Agency Requirements

The 5895XL has the same requirements as the main control panel. These requirements are listed in the IntelliKnight 5820XL Installation Manual (P/N 151209).

1.3 About This Manual

This manual covers installation of 5895XL hardware. Software configuration information is contained in the IntelliKnight 5820XL Installation Manual (P/N 151209).

1.4 How to Contact Silent Knight

If you have a question or encounter a problem not covered in this manual, contact Silent Knight Technical Support at 800-446-6444.

To order parts, contact Silent Knight Sales at 800-328-0103 (or 203-484-7161).

Section 2

Before You Begin Installing

2.1 What's in the Box?

The Model 5895XL ships with the following hardware:

- A cabinet with all hardware assembled
- Two keys for the front door
- Ten 4.7K ohm end-of-line resistors

Note: For UL installations Model 7628 4.7k Ω end-of-line resistor (ordered separately) must be used.

- A battery cable for batteries wired in series

2.2 Environmental Specifications

It is important to protect the 5895XL control panel from water. To prevent water damage, the following conditions should be AVOIDED when installing the units:

- Do not mount directly on exterior walls, especially masonry walls (condensation)
- Do not mount directly on exterior walls below grade (condensation)
- Protect from plumbing leaks
- Protect from splash caused by sprinkler system inspection ports
- Do not mount in areas with humidity-generating equipment (such as dryers, production machinery)

When selecting a location to mount the 5895XL, the unit should be mounted where it will NOT be exposed to temperatures outside the range of 0°C-49°C (32°F-120°F) or humidity outside the range of 10%-93% at 30°C (86°F) noncondensing.

2.3 Preventing Water Damage

Water damage to the fire system can be caused by moisture entering the cabinet through the conduits. Conduits that are installed to enter the top of the cabinet are most likely to cause water problems. Installers should take reasonable precautions to prevent water from entering the cabinet. Water damage is not covered under warranty.

2.4 5895XL Board and Terminal Strip Description

Figure 2-1 shows the 5895XL circuit board including location of terminals, the DIP switch for setting module ID, and the LED.

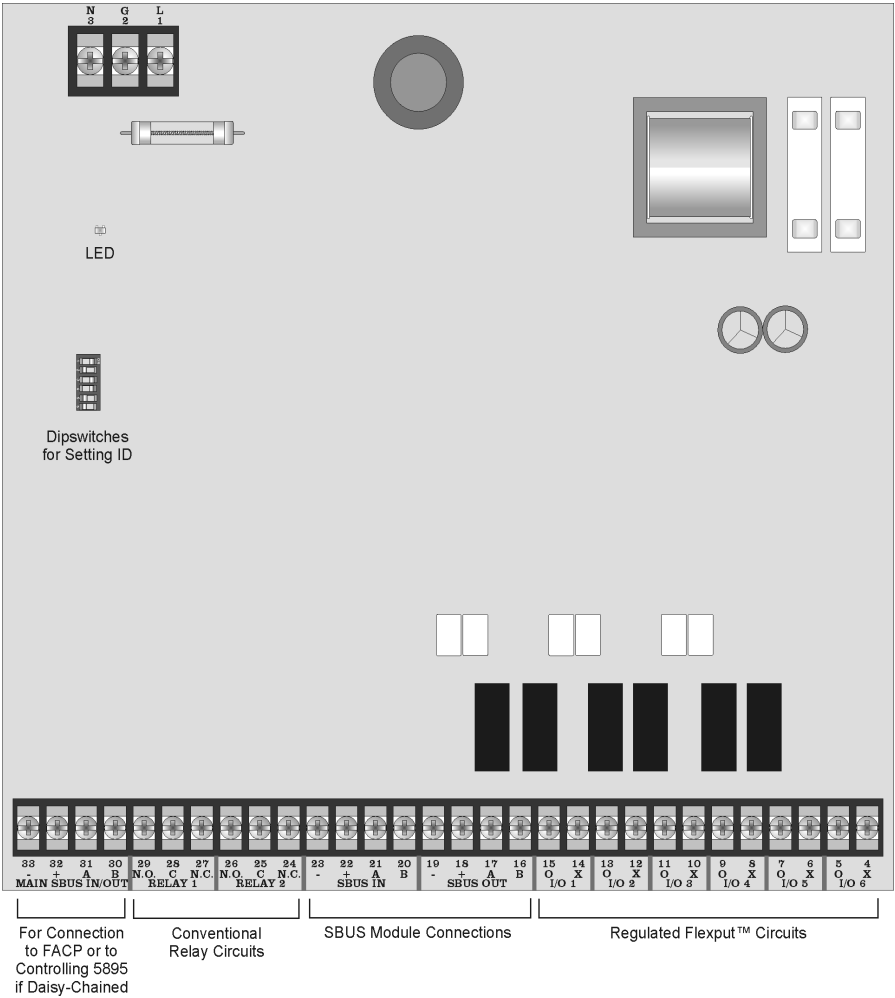


Figure 2-1 The 5895XL Board Layout

Table 2-1: Terminal Strip Description and Electrical Ratings

Terminal # and Label			Description	Rating	
				Voltage	Current
1	L		AC input (hot)	120/240 VAC, 50/60 Hz	2.7 A 1.4 A
2	G		Earth ground	N/A	N/A
3	N		AC input (neutral)	120/240 VAC, 50/60 Hz	2.7 A 1.4 A
4	X	I/O 6*	Flexput™ Circuit	24 VDC	3.0 A Notification Circuits
5	O				100 mA Initiation Circuits
6	X	I/O 5*	Flexput™ Circuit	24 VDC	3.0 A Notification Circuits
7	O				100 mA Initiation Circuits
8	X	I/O 4*	Flexput™ Circuit	24 VDC	3.0 A Notification Circuits
9	O				100 mA Initiation Circuits
10	X	I/O 3*	Flexput™ Circuit	24 VDC	3.0 A Notification Circuits
11	O				100 mA Initiation Circuits
12	X	I/O 2*	Flexput™ Circuit	24 VDC	3.0 A Notification Circuits
13	O				100 mA Initiation Circuits
14	X	I/O 1*	Flexput™ Circuit	24 VDC	3.0 A Notification Circuits
15	O				100 mA Initiation Circuits
16	B	SBUS OUT	SBUS communication	5 VDC	100 mA
17	A		SBUS power	24 VDC	1.0 A
18	+				
19	-	SBUS IN	Used for Class A installations		
20	B				
21	A				
22	+				
23	-	RELAY 2	General Purpose Relay 2	24 VDC	2.5 A
24	N.C.				
25	C				
26	N.O.	RELAY 1	General Purpose Relay 1	24 VDC	2.5 A
27	N.C.				
28	C				
29	N.O.	SBUS IN/ OUT	5895XL communication with main panel or to controlling 5895XL if daisy-chained	5 VDC	100 mA
30	B				
31	A	MAIN	5895XL SBUS power (from 5820XL)	24 VDC	10 mA
32	+				
33	-				

* Regulated/special application when used for releasing.

2.5 Earth Fault Resistance

Table 2-2 lists the earth fault resistance detection for each applicable terminal on the FACP.

Table 2-2: Earth Fault Resistance Values by Terminal

Function	Terminal Number	Terminal Label		Low Biased		High Biased	
		(Values in kohms)		High Trip	High Restore	Low Trip	Low Restore
Flexput™ Notification Circuits	4	X	I/O 6	-	-	0	0
	5	O		0	0	-	-
	6	X	I/O 5	-	-	0	0
	7	O		0	0	-	-
	8	X	I/O 4	-	-	0	0
	9	O		0	0	-	-
	10	X	I/O 3	-	-	0	0
	11	O		0	0	-	-
	12	X	I/O 2	-	-	0	0
	13	O		0	0	-	-
	14	X	I/O 1	-	-	0	0
	15	O		0	0	-	-
SBUS Communication	16	B	SBUS OUT	-	-	0	0
	17	A		-	-	0	0
SBUS Power	18	+		0	0	-	-
	19	-		-	-	0	0
Used for Class A Installations	20	B	SBUS IN	-	-	0	0
	21	A		-	-	0	0
	22	+		0	0	-	-
	23	-		-	-	0	0

2.6 Calculating Current Draw and Standby Battery

This section is for helping you determine the current draw and standby battery needs for your installation.

2.6.1 Worksheet Requirements

The following steps must be taken when determining 5895XL current draw and standby battery requirements.

Filling in the Current Draw Worksheet, Table 2-4 (Section 2.6.2)

1. For the 5895XL, the worst case current draw is listed for the panel, addressable devices, and SLC expanders. Fill in the number of addressable devices and expanders that will be used in the system and compute the current draw requirements for alarm and standby. Record this information in Table 2-4 at Line A.
2. Add up the current draw for all auxiliary devices and record in the table at Line B.
3. Add up all notification appliance loads and record in the table at Line C.
4. For notification appliances and auxiliary devices not mentioned in the manual, refer to the device manual for the current ratings.
5. Make sure that the total alarm current you calculated, including current for the panel itself, does not exceed 6.0 A. This is the maximum alarm current allowable.
6. Complete the remaining instructions in Table 2-4 for determining battery size requirements.

2.6.1.1 Maximum Battery Standby Load

Table 2-3 shows the maximum battery standby load for the 5895XL based on 24 and 60 hours of standby. The standby load calculations of line G in the Current Draw Calculation Worksheet (Table 2-4) must be less than the number shown in Table 2-3 for the battery size used and standby hours required.

Table 2-3: Maximum Battery Standby Load

Rechargeable Battery Size	Max. Load for 24 hrs. Standby, 5 mins. Alarm	*Max. Load for 60 hrs. Standby, 5 mins. Alarm
7 AH	270 mA	105 mA
12 AH	475 mA	190 mA
17 AH	685 mA	270 mA
33 AH	1370 mA	540 mA

* Required for NFPA 72 Auxiliary Protected Fire Alarm systems for Fire Alarm Service (City Box) and Remote Station Protected Fire Alarm systems (Polarity Reversal) and Digital Alarm Communicator/Transmitter (DACT).

Note: 33AH max battery size for FM (Factory Mutual) installations

2.6.2 Current Draw Worksheet

For *each 5895XL in the installation, use this worksheet to determine current requirements during alarm/battery standby operation. (Copy this page if additional space is required.)

Table 2-4: Current Draw Calculations

Device	Number of Devices	Current per Device		Standby Current	Alarm Current	
For each device use this formula: This column X This column = Current per number of devices.						
5895XL Intelligent Power Module (Current draw from battery)	1*	Standby:	40 mA	40 mA		
		Alarm:	160 mA		160 mA	
Additional 5895XL (Daisy-chained to this module)	(7 max.)	Standby:	10 mA			
		Alarm:	10 mA			
Addressable Devices	(381 max.)	Standby:	0.55 mA			
		Alarm:	0.55 mA			
5815XL SLC Expander	(2 max.)	Standby:	55 mA	mA		
		Alarm:	55 mA		mA	
5860 Remote Fire Alarm Annunciator	(8 max.)	Standby:	20 mA	mA		
		Alarm:	25 mA		mA	
5824 Serial / Parallel Module	(2 max.)	Standby:	45 mA	mA		
		Alarm:	45 mA		mA	
5865-4 LED Annunciator (with reset and silence switches)	(8 max.)	Standby:	35 mA	mA		
		Alarm:	145 mA		mA	
5865-3 LED Annunciator		Standby:	35 mA	mA		
		Alarm:	145 mA		mA	
5880 Generic LED Driver Module		Standby:	35 mA	mA		
		Alarm:	200 mA		mA	
Total System Current						
**Auxiliary Devices		Refer to devices manual for current rating.				
		Alarm/Standby:	mA	mA	mA	
		Alarm/Standby:	mA	mA	mA	
		Alarm/Standby:	mA	mA	mA	
		Alarm/Standby:	mA	mA	mA	
Auxiliary Devices Current						
		Alarm:	mA		mA	
		Alarm:	mA		mA	
		Alarm:	mA		mA	
		Alarm:	mA		mA	
Notification Appliances Current					mA	
Total current ratings of all devices in system (line A + line B + C)				mA	mA	
Total current ratings converted to amperes (line D x .001):				A	A	
Number of standby hours (24 or 60 for NFPA 72, chapter 1, 1-5.2.5):				H		
Multiply lines E and F. Total standby AH				AH		
Alarm sounding period in hours. (For example, 5 minutes = .0833 hours)					H	
Multiply lines E and H. Total alarm AH					AH	
***Add lines G and I. Total ampere hours required				AH		

* Use a separate worksheet for each 5895XL.

** If you are using door holders, you do not need to consider door holder current for alarm/battery standby, because power is removed during that time. However, during normal operation, door holders draw current and must be included in the 6.0 A total current that can be drawn from the panel.

*** Use next size battery with capacity greater than required.

2.7 Wiring Specifications

2.7.1 Length Limitations

This section contains information on calculating SBUS wire distances and the types of wiring configurations (Class A and B).

2.7.2 Calculating Wiring distance for SBUS modules

The following instructions will guide you in determining the type of wire and the maximum wiring distance that can be used with SBUS accessory modules.

To calculate the wire gauge that must be used to connect SBUS modules to the panel, it is necessary to calculate the total worst case current draw for all modules on a single 4-conductor bus. The total worst case current draw is calculated by adding the individual worst case currents for each module. The individual worst case values are shown in the table below.

Note: Total worst case current draw on a single SBUS cannot exceed 1 amp. If a large number of accessory modules are required, and the worst case current draw will exceed the 1 amp limit, then the current draw must be distributed using 5895XL Power Expanders. Each 5895XL Power Expander provides an additional SBUS, with an additional 1 amp of SBUS current. Wiring distance calculations are done separately for each 5895XL, and separately for the panel itself.

Model Number	Worst Case Current Draw
5860 Fire Annunciator	.100 amps
5824 Parallel/Serial Interface	.040 amps
5880 LED IO Expander	.250 amps
5865 LED Fire Annunciator	.200 amps
5895XL Intelligent Power Supply	.010 amps
5496 Intelligent Power Module	.010 amps

After calculating the total worst case current draw, Table 2-5 specifies the maximum distance the modules can be located from the panel on a single wire run. The table insures 6.0 volts of line drop maximum. In general, the wire length is limited by resistance, but for heavier wire gauges, capacitance is the limiting factor.

These cases are marked in the chart with an asterisk (*). Maximum length can never be more than 6,000 feet, regardless of gauge used. (The formula used to generate this chart is shown in the note below).

Table 2-5: Wire Distances Per Wire Gauge

Wiring Distance: SBUS Modules to Panel				
Total Worst Case Current Draw (amps)	22 Gauge	18 Gauge	16 Gauge	14 Gauge
0.100	1852 ft.	4688 ft.	* 6000 ft.	* 6000 ft.
0.200	926 ft.	2344 ft.	3731 ft.	5906 ft.
0.300	617 ft.	1563 ft.	2488 ft.	3937 ft.
0.400	463 ft.	1172 ft.	1866 ft.	2953 ft.
0.500	370 ft.	938 ft.	1493 ft.	2362 ft.
0.600	309 ft.	781 ft.	1244 ft.	1969 ft.
0.700	265 ft.	670 ft.	1066 ft.	1687 ft.
0.800	231 ft.	586 ft.	933 ft.	1476 ft.
0.900	206 ft.	521 ft.	829 ft.	1312 ft.
1.000 (Max)	185 ft.	469 ft.	746 ft.	1181 ft.

Note: The following formulas were used to generate the wire distance chart:

$$\text{Maximum Resistance (Ohms)} = \frac{6.0 \text{ Volts}}{\text{Total Worst Case Current Draw (amps)}}$$

$$\text{Maximum Wire Length (Feet)} = \frac{\text{Maximum Resistance (Ohms)}}{\text{Rpu}} \quad * 500$$

(6000 feet maximum)

where: Rpu = Ohms per 1000 feet for various Wire Gauges (see table below)

Table 2-6: Typical Wire Resistance Per 1000 ft.

Wire Gauge	Ohms per 1000 feet (Rpu)
22	16.2
18	6.4
16	4.02
14	2.54

Wiring Distance calculation example:

Suppose a system is configured with the following SBUS modules:

2 - Module 5860 Fire Annunciator

1 - 5895XL Intelligent Power Expander

1 - 5865 LED Fire Annunciator

1 - 5824 Parallel/Serial Interface

The total worst case current is calculated as follows:

5860 Current Draw	= 2 x .100 amps	= .200 amps
5895XL Current Draw	= 1 x .010 amps	= .010 amps
5865 Current Draw	= 1 x .200 amps	= .200 amps
5824 Current Draw	= 1 x .040 amps	= .040 amps
Total Worst Case Current Draw		= .450 amps

Using this value, and referring to the Wiring Distance table, it can be found that the available options are:

370 feet maximum using 22 Gauge wire

938 feet maximum using 18 Gauge wire

1493 feet maximum using 16 Gauge wire

2362 feet maximum using 14 Gauge wire

2.7.3 Wire Routing

You must follow power-limited wiring techniques, which includes maintaining one-quarter inch spacing between power-limited and nonpower-limited circuits and separating high and low voltage circuits.

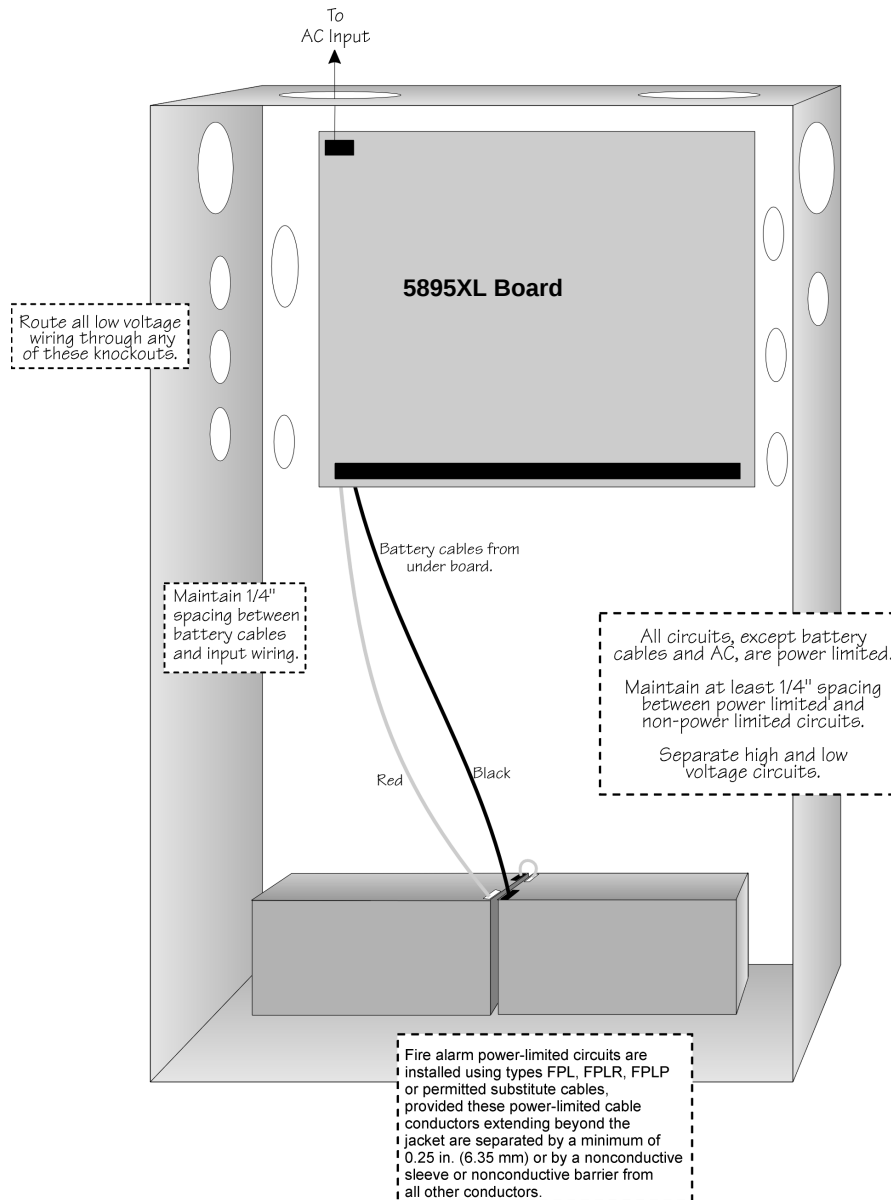


Figure 2-2 Wire Routing Example

Section 3

Hardware Installation

5895XL installation involves the following steps:

- AC power (Section 3.1) and backup battery connection (Section 3.2).
- Physical connection to the IntelliKnight 5820XL FACP or to the controlling 5895XL (see Section 3.3).
- Setting an ID for the 5895XL (Section 3.3.1).
- Physical connection of SBUS modules that will be powered by this 5895XL (Section 3.4).
- Physical connection of any outputs (conventional relays, notification appliances, auxiliary power modules, and so on) that will be powered by this 5895XL. See Section 3.5.1 for notification appliance wiring information. Refer to the IntelliKnight 5820XL Installation Manual (P/N 151209), for software configuration information and other information about installing outputs.

3.1 AC Power

At installation, connect the AC terminals to 120 VAC source as shown in Figure 3-1. It may be necessary for a professional electrician to make this connection.

The AC terminals are rated as 120 VAC, 50 or 60 Hz, 2.7 A.

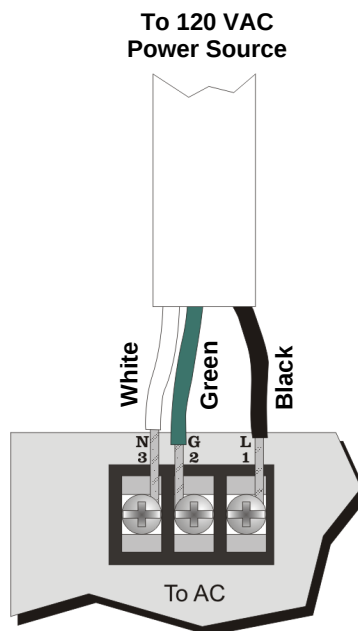


Figure 3-1 AC Power Connection

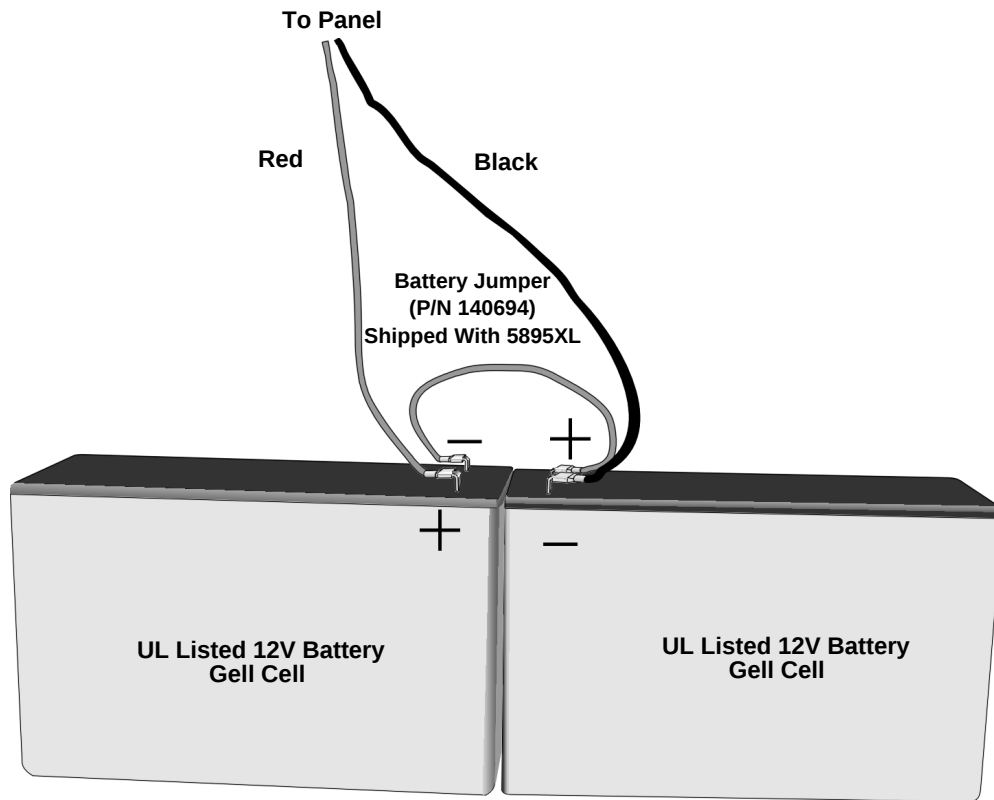
3.2 Battery Connection

The 5895XL battery charge capacity is 7.0 to 33.0 AH. Use 12V batteries of the same AH rating. Determine the correct AH rating as per your current load calculation (see Section Table 2-4).

Note: When your backup batteries requirements use backup batteries that are too large to fit into the 5895XL cabinet. The AB-33 cabinet holds batteries up to the 33 AH size. (Refer to Installation Manual P/N 151209 for AB-33 installation instructions.

** 33AH max battery size for FM (Factory Mutual) installations*

Wire batteries in series to produce a 24-volt equivalent. Do not parallel batteries to increase the AH rating.



Replace batteries every 5 years.

Figure 3-2 Battery Connection

3.3 Connecting the 5895XL to the FACP

1. Connect the 5895XL to the appropriate SBUS. The 5895XL can be connected directly to the IntelliKnight 5820XL FACP or can be daisy-chained to another 5895XL. Figure 3-3 and Figure 3-4 show both connections.
2. Use on-board DIP switch to assign an ID#. (See Section 3.3.1) Figure 2-1 shows the location of the DIP switches on the 5895XL board.
3. Configure the 5895XL module by adding it to the system (through JumpStart or manually). You can also assign a name to the module. These procedures are described in the IntelliKnight 5820XL Installation Manuals (P/N 151209).

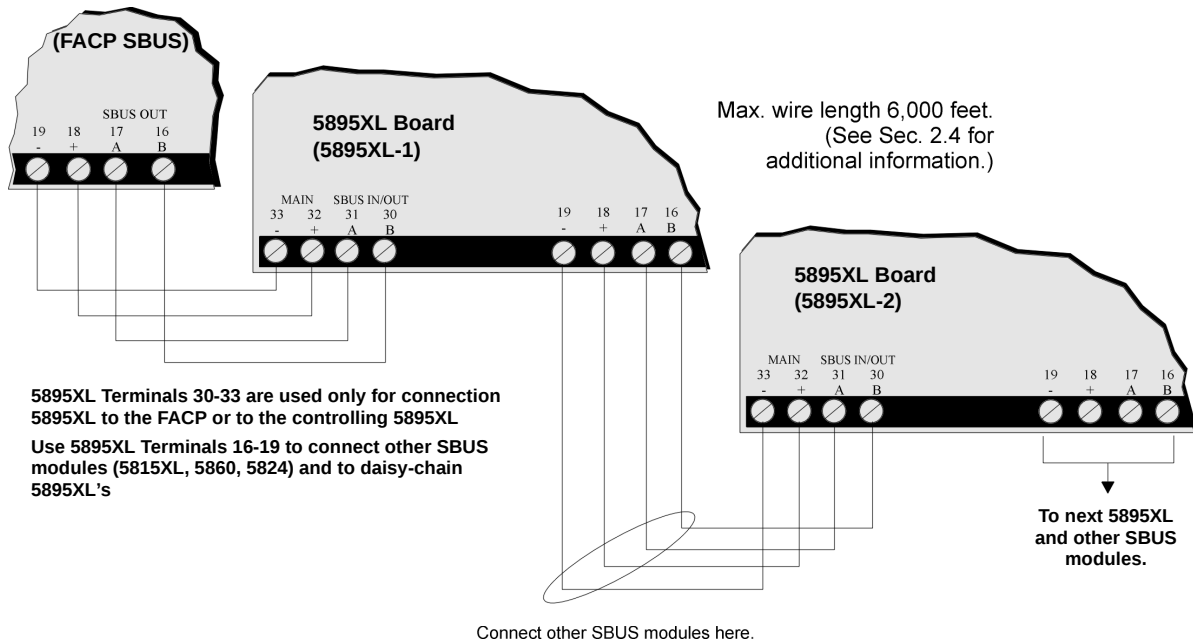


Figure 3-3 Class B 5895XL Connection to FACP

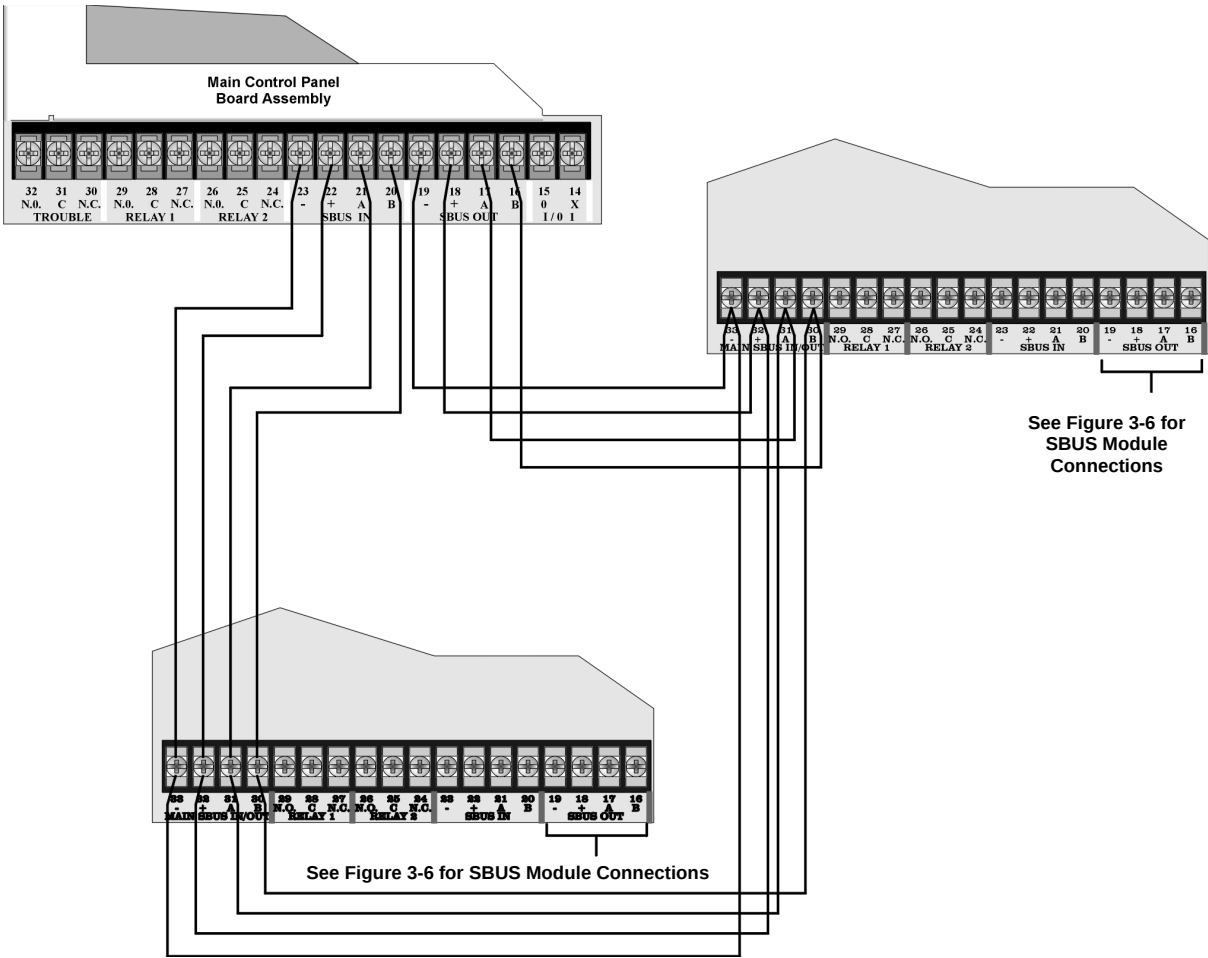
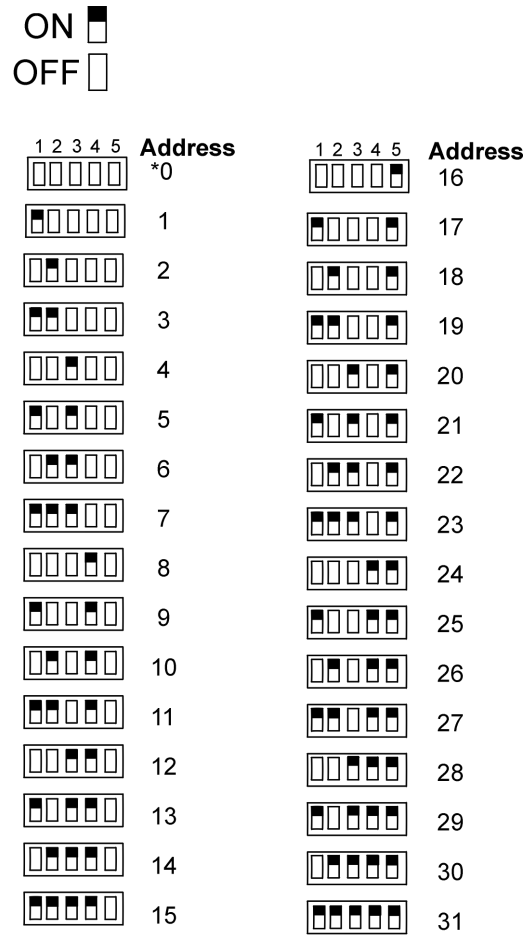


Figure 3-4 Class A 5895XL Connection to FACP

3.3.1 Setting the Device ID

board to set the module ID#. Figure 2-1 shows the location of the DIP switch on the board.



*Note: Address 0 cannot be used.

Figure 3-5 Possible Module Addresses

3.4 Connecting SBUS Modules to the 5895XL

1. Connect SBUS modules to the 5895XL as shown in Figure 3-6 or Figure 3-7.
2. All SBUS modules must have an ID. Use the DIP switches on the module board to assign an ID number (1-31) to the module. This number identifies the module to the 5895XL and must be unique.
3. Software configuration steps vary for each SBUS module. For more information, refer to the Installation Manual (P/N 151209) in the section that discusses the type of module you are installing.

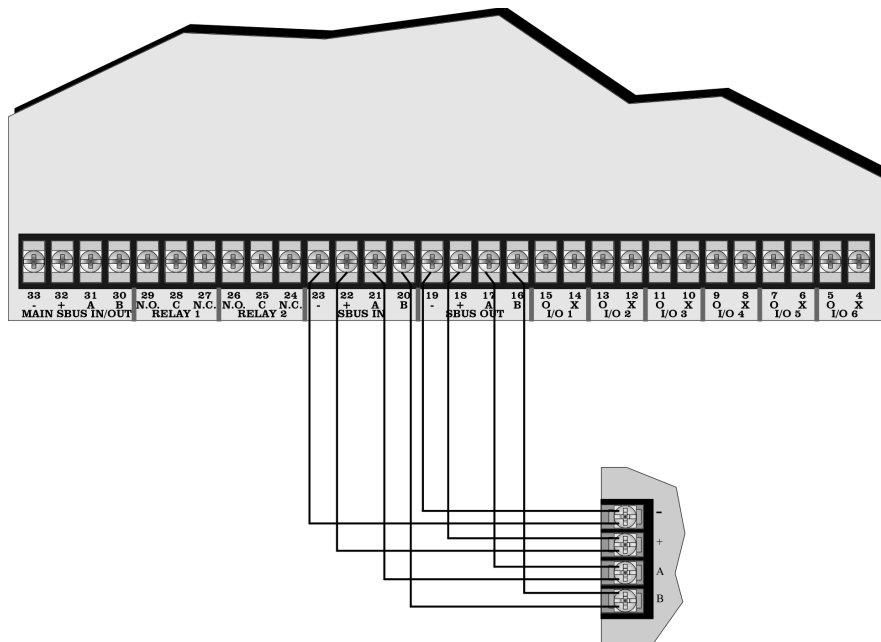


Figure 3-6 SBUS Class A Connection to 5895XL

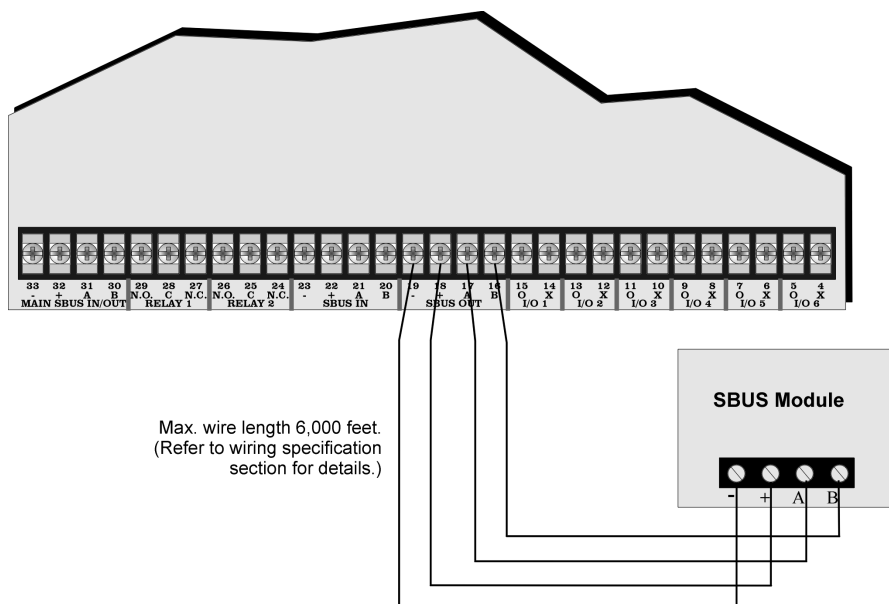


Figure 3-7 SBUS Class B Wiring to 5895XL

3.5 Flexputs™ I/O Circuits

The six Flexput™ circuits are an innovative and versatile feature of the 5895XL panel. They can be used as: Class A or B notification circuits, Class A or B initiation circuits (either 2 or 4 wire detectors), or as auxiliary power (resettable, continuous, or door holder).

This section of the manual explains how to install conventional notification appliances and initiating devices to be used with the 5895XL.

3.5.1 Conventional Notification Appliance

This sub-section of the manual explains how to install conventional notification appliances for Class A (Style Z) and Class B (Style Y) configurations.

3.5.2 Releasing Operations

Approved releasing solenoids are list in Table 3-1. Do not mix cross alarming zones with smoke verification zones. There must be at least two automatic detection devices in each protected space. Spacing must be reduced to 0.7 times the linear spacing in accordance with NFPA 72.

Table 3-1: Approved Releasing Solenoids

Manufacturer	Part Number	Rating	Current	Freq
Asco	T8210A107	24 VDC	3A max	0 Hz
	8210G207	24 VDC	3A max	0 Hz

3.5.2.1 Class B Notification Wiring

You must use an appliance from the list of compatible appliances in the Appendix A.

To install a Class B notification appliance circuit:

1. Wire Class B Notification appliances as shown in Figure 3-8.
2. Configure the circuit through programming.

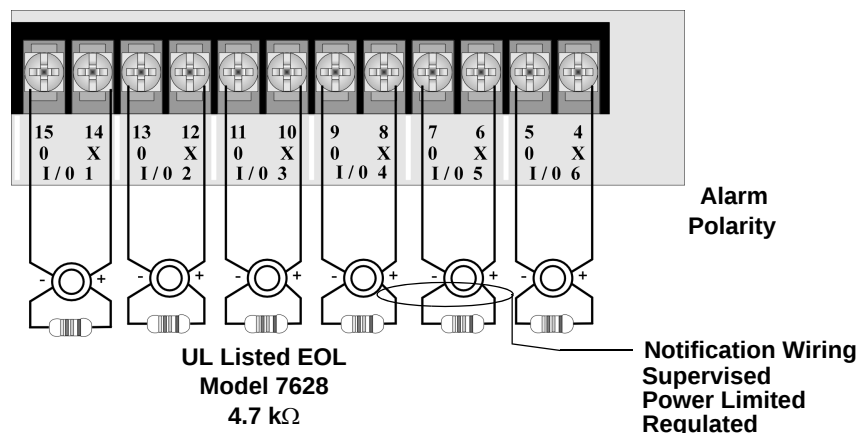


Figure 3-8 Class B Notification Appliance Circuit Wiring

3.5.2.2 Class A Notification Wiring

You must use an appliance from the list of compatible appliances in the Appendix A at the back of this manual.

To install a Class A notification appliance circuit:

1. Wire the Class A notification appliances as shown in Figure 3-9.
2. Configure the circuit for Class A in programming (see Section 7.4 of the *Installation Manual P/N 151209*).

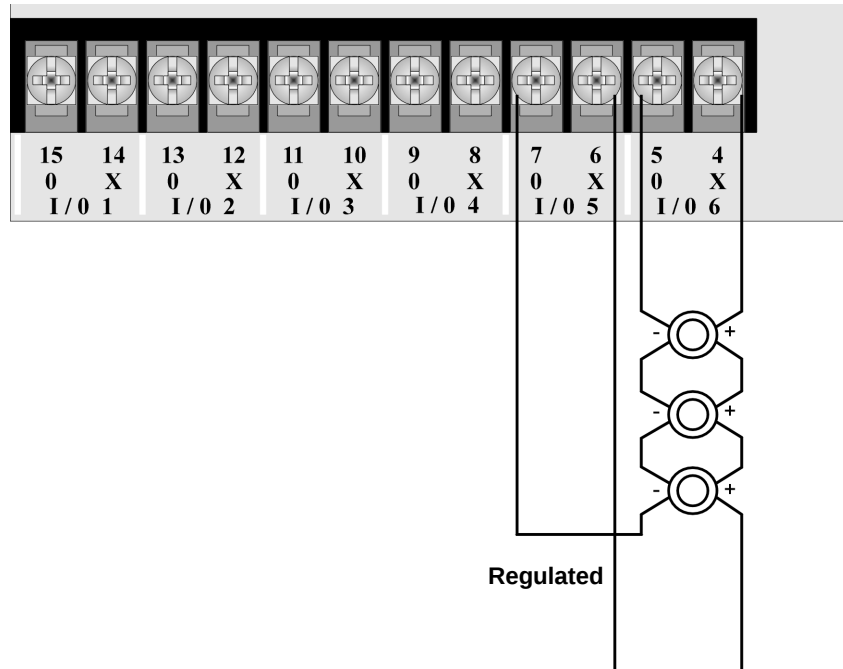


Figure 3-9 Class A Notification Appliance Circuit Configuration

Note: In programming any point that uses multiple I/O circuits are always referred to as the lowest I/O circuit number used. For example, Figure 3-9 uses both I/O circuit 5 and 6, so in programming it would be referred to as point 5.

3.5.3 Conventional Initiation Circuits

This section of the manual explains how to install conventional initiating devices for Class A (Style D) or Class B (Style B) configurations.

3.5.3.1 Class B Inputs

You can connect conventional Class B switches, such as waterflow switches and pull stations, directly to the I/O circuits of the 5895XL panel.

To install a Class B switch:

1. Wire the Class B switch as shown in Figure 3-10.
2. Configure the circuit through programming (see Section 7.4 of the *Installation Manual P/N 151209*).

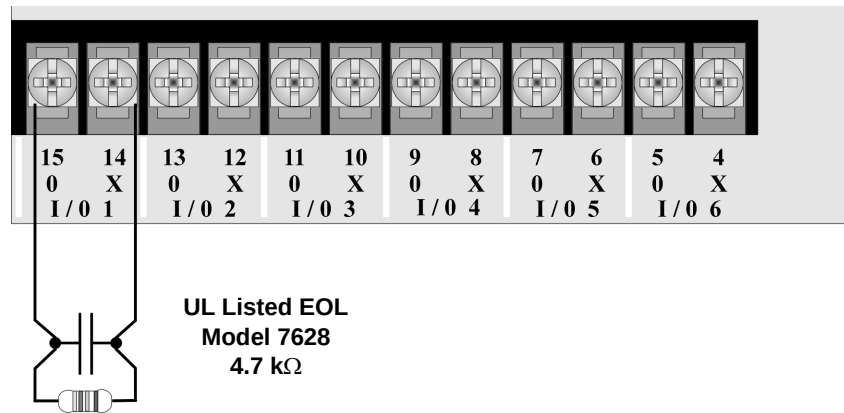


Figure 3-10 Class B Input Switches

3.5.3.2 Class A Inputs

You can connect conventional Class A switches, such as waterflow switches and pull stations, directly to the I/O circuits of the 5895XL panel.

To install a Class A switch:

1. Wire the Class A switch as shown in Figure 3-11.

2. Configure the circuit through programming (see Section 7.4 of the *Installation Manual* 151209).

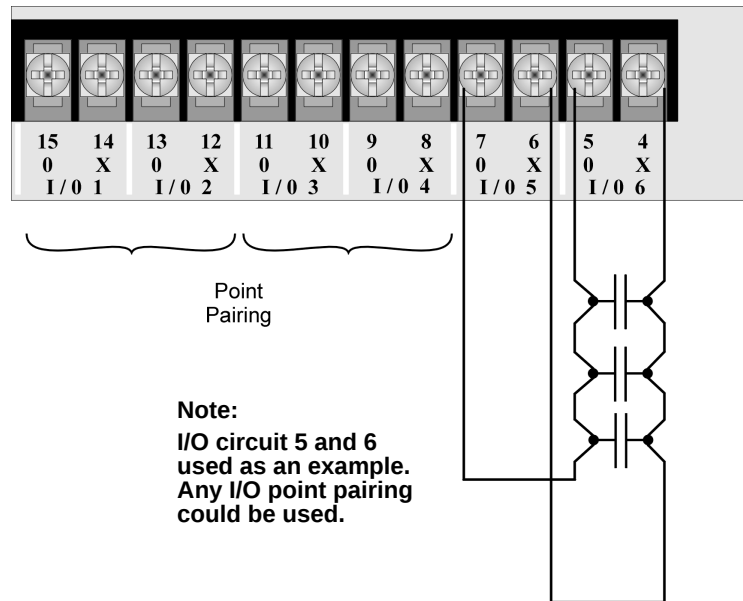


Figure 3-11 Class A initiating Switches

Note: In programming any point that uses multiple I/O circuits are always referred to as the lowest I/O circuit number used. For example, Figure 3-11 uses both I/O circuit 5 and 6, so in programming it would be referred to as point 5.

3.5.4 Installing 2-Wire Smoke Detectors

Any compatible U.L. listed two-wire smoke detector can be used with the 5895XL panel (see Appendix A for list of compatible smoke detectors). Figure 3-12 and Figure 3-13 illustrate how to connect a UL listed 2-wire detector to the control panel.

Class B Installation

To install a Class B two-wire smoke detector, wire as shown in Figure 3-12.

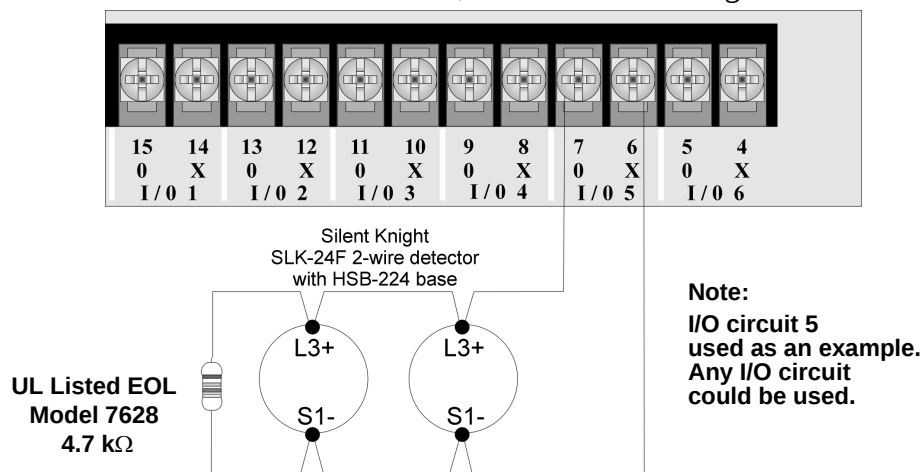


Figure 3-12 Two-Wire Class B Smoke Detector

2-Wire Class A Smoke Detector Installation

To install a Class A two-wire smoke detector, wire as shown in Figure 3-13.

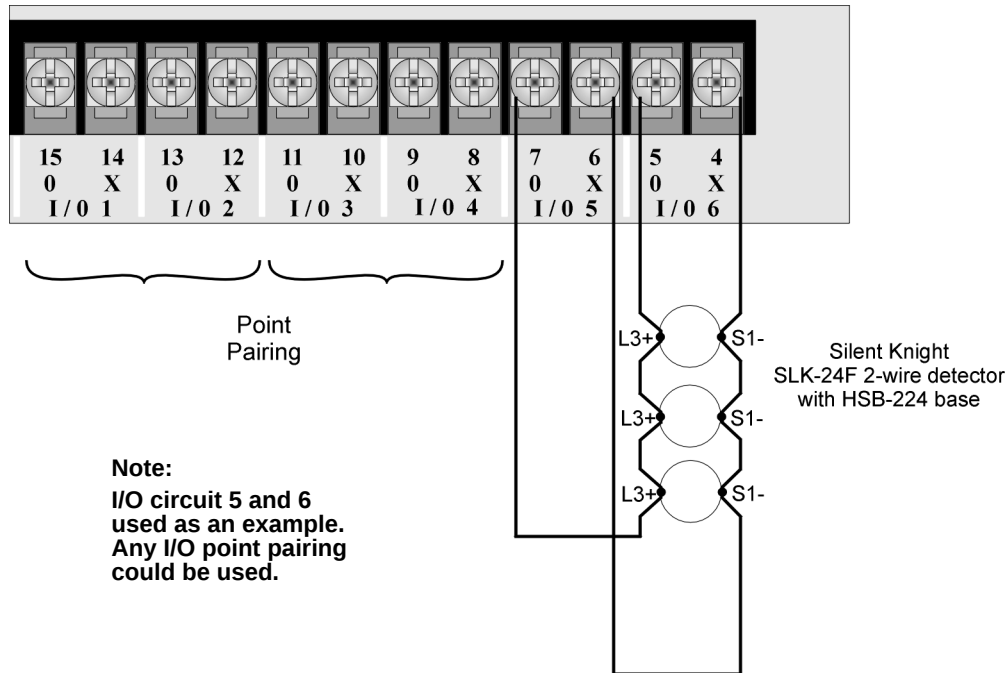


Figure 3-13 Two-Wire Class A Smoke Detector Connections

Note: In programming any point that uses multiple I/O circuits are always referred to as the lowest I/O circuit number used. For example, Figure 3-13 uses both I/O circuit 5 and 6, so in programming it would be referred to as point 5.

3.5.5 Installing 4-Wire Smoke Detectors

Any compatible U.L. listed four-wire smoke detector can be used with the 5895XL panel (see Appendix A for list of compatible smoke detectors). Figure 3-12 and Figure 3-13 illustrate how to connect a UL listed four-wire detector to the control panel.

Installing a Class B 4-Wire Smoke Detector

Figure 3-14 illustrates how to install a 4-wire Class B smoke detector.

Conventions used for wiring 4-wire Class B loops:

1. Up to three Class B 4-wire smoke detector loops can be connected to the control panel at once.
2. Each Class B loop input is paired with a unique power source as shown in Figure 3-14.
3. Each loop gets smoke power from the even numbered I/O circuit and the contact input is connected to the odd numbered I/O circuit.

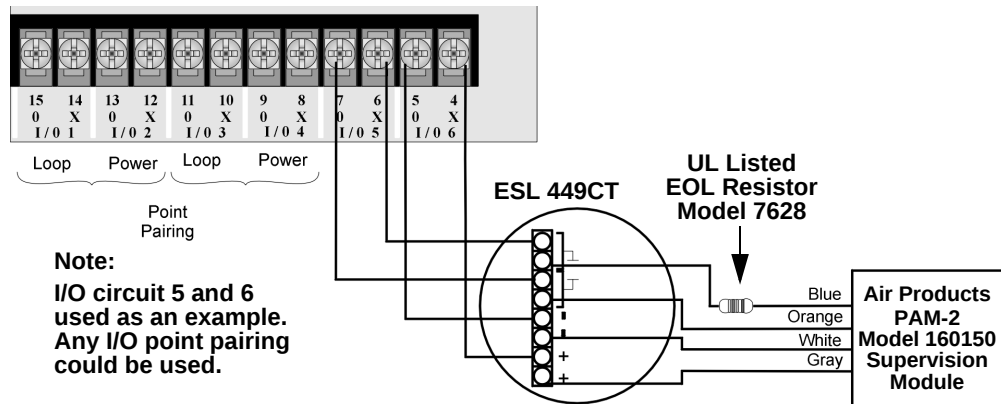


Figure 3-14 Class B 4-Wire Smoke Detector Connections

Note: In programming any point that uses multiple I/O circuits are always referred to as the lowest I/O circuit number used. For example, Figure 3-14 uses both I/O circuit 5 and 6, so in programming it would be referred to as point 5.

Installing 4-Wire Class A Smoke Detectors

Figure 3-15 illustrates how to install 4-wire Class A detectors.

Conventions used for wiring 4-wire Class A loops:

1. Up to two Class A 4-wire loops can be connected to the control panel at once.
2. Smoke power is supplied to each Class A loop as shown in Figure 3-15.

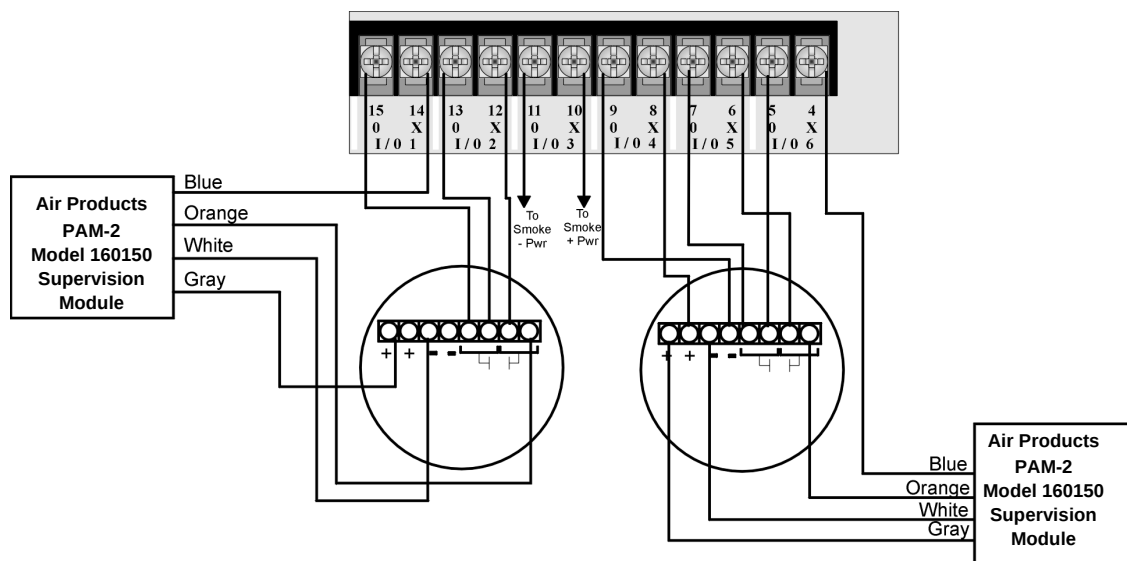


Figure 3-15 Class A 4-Wire Smoke Detector Connections

Note: In programming any point that uses multiple I/O circuits are always referred to as the lowest I/O circuit number used. For example, Figure 3-15 uses I/O circuits 1, 2, 3 together and 4, 5, 6 together. In programming (1, 2, 3) would be referred to as point 1, and (4, 5, 6) would be referred to as point 4.

3.5.6 Auxiliary Power Configuration

Flexput circuits 1-6 on the control panel can be used as auxiliary power circuits. The three types of auxiliary power available are:

- Door Holder (see Section 3.5.6.1 for description)
- Constant (see Section 3.5.6.2 for description)
- Resettable (see Section 3.5.6.3 for description)

Auxiliary power circuits are power limited. Each circuit can source up to 3A (total current for all Flexput circuits must not exceed 5A).

To configure a Flexput circuit as auxiliary power:

1. Wire the Flexput circuit(s) that will be used for auxiliary power. See Figure 3-16 for location of Flexput circuits.

2. Configure the auxiliary power output through programming for Door Holder, Constant or Resettable power.

When used as auxiliary power; terminals labeled "0" are negative, terminals labeled "X" are positive.

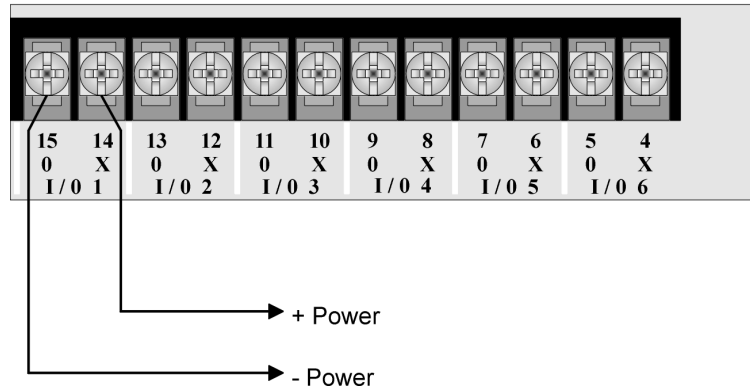


Figure 3-16 Flexput Circuits Used as Auxiliary Power

3.5.6.1 Door Holder Power

Door holder is intended for fire door applications. When there are no alarms in the system and the panel has AC power, door holder circuits have 24-volt power present at their terminals. Any alarm will cause power to discontinue. Power will be re-applied when the system is reset. If AC power is off for more than 15 seconds the auxiliary door holder power will be discontinued to conserve the battery backup power. When AC power is restored, power is immediately restored to the door holder circuits.

3.5.6.2 Constant Power

Use constant power for applications that require a constant auxiliary power source. Power is always present at Constant circuits.

3.5.6.3 Resettable Power

Resettable power is typically used to power beam detectors, flame detectors, and conventional 4-wire smoke detectors. For circuits selected as Resettable, 24-volt power is always present at the terminals unless a system reset occurs. If a system reset occurs, power is removed from the terminals for 30 seconds, then re-applied.

3.6 Conventional Relay Installation

5895XL relay circuits are installed in exactly the same way as 5820XL main panel relay circuits. For ease of installation, the 5895XL output terminals use the same numbering scheme as 5820XL terminals. Refer to the Installation Manual P/N 151209 for information on installing conventional relays.

Appendix A

Compatible Devices

A.1 Notification Appliances

For proper operation, you must use polarized devices with a Model 7628 4.7k ohm EOL resistor on each loop. All supervised notification appliances used with the 5895XL must be polarized.

Note: Not all devices can use the Sync feature, be sure to check Table A-1 to ensure the device you have chosen will work with this feature. This control is UL listed for panel wide Synchronization.

Table A-1 below lists notification appliances compatible with the fire alarm control panel. Appliances which can be synchronized indicate the type of sync available in the columns marked Audio and/or Visual.

Table A-1: Compatible Notification Appliances

Manufacturer	Model	Audio	Visual	Type
AMSECO	SH24W-153075	✓	✓	Horn/Strobe
	SAD24-153075		✓	Strobe
	SAD24-75110		✓	Strobe
	SL24W-75110		✓	Strobe
	SL24C-3075110		✓	Strobe
	SLB24-75		✓	Strobe
	RSD24-153075		✓	Strobe
	RSD24-75110		✓	Strobe
	SH24W-75110	✓	✓	Horn/Strobe
	SH24W-3075110	✓	✓	Horn/Strobe
	SHB24-75	✓	✓	Horn/Strobe
	SCM24W-153075	✓		Chimes/Strobe
	SCM24W-75110	✓		Chimes/Strobe
	SCM24C-3075110	✓		Chimes/Strobe
	SCM24C-177	✓		Chimes/Strobe
	H24W	✓		Horn
	H24R	✓		Horn

Table A-1: Compatible Notification Appliances

Manufacturer	Model	Audio	Visual	Type
Faraday	446			Vibrating Bell
	476			Vibrating Bell
	477			Single Stroke Bell
	2700 -M, -R, -T, -Y, -Z			Strobe
	2701 Series			Strobe
	2705 Series			Strobe
	2820	✓	✓	Sync Temporal Horn/Strobe
	2821	✓	✓	Sync Temporal Horn/Strobe
	2824	✓	✓	Horn Strobe
	5333			Multi-Tone Horn)
	5336			Multi-Tone Horn/Strobe
	5337			Multi-Tone Horn/Strobe
	5338			Multi-Tone Horn/Strobe
	5343			Single Tone Horn/Strobe
	5346			Electronic Horn with Strobe
	5347			Electronic Horn with Strobe
	5348			Single Tone Horn/Strobe
	5373			8-Tone Horn/Strobe
	6321			Sync Mini Horn/Strobe
	6322			Mini Horn/Sync Strobe
	6380			8-Tone Electronic Signal/Strobe
	5376			8-Tone Horn/Strobe
	5377			8-Tone Horn/Strobe
	5378			8-Tone Horn/Strobe
	5383			8-Tone Horn/Strobe with Sync Strobe
	5386			8-Tone Horn/Strobe with Sync Strobe
	5387			8-Tone Horn/Strobe with Sync Strobe
	5388			8-Tone Horn/Strobe with Sync Strobe
	5508			Single Gang Sync Strobe
	5509			Strobe

Table A-1: Compatible Notification Appliances

Manufacturer	Model	Audio	Visual	Type
Faraday con't	5510			Strobe
	5511			Strobe
	5512			Strobe
	5516			Strobe
	5517			Strobe
	5518			Strobe
	5519			Strobe
	5521			4" Square Sync Strobe
	5522			4" Square Sync Strobe
	6120			Horn
	6140			Horn
	6223			Horn
	6226			Horn/Strobe
	6227			Horn/Strobe
	6228			Horn/Strobe
	6243			Electron-Mechanical Horn
	6244			Electron-Mechanical Horn
	6245			Electron-Mechanical Horn
	6246			Electron-Mechanical Horn/Strobe
	6247			Electron-Mechanical Horn/Strobe
	6248			Electron-Mechanical Horn/Strobe
	6300			Mini-Horn
	6301			Mini-Horn
	6302			Mini-Horn
	6310			Mini-Horn/Strobe
	6311			Mini-Horn/Strobe
	6312			Mini-Horn/Strobe
	6314 Series -M, -R, -T, -Y, -Z			Strobe
	6320			Sync Mini Horn/Strobe

Table A-1: Compatible Notification Appliances

Manufacturer	Model	Audio	Visual	Type
FCI	S2415-FC			Strobe
	S241575-FC			Strobe
	S2430-FC			Strobe
	130-3117C			Mini Horn
	130-3147C			Mini Horn
	BLV-6			Vibrating Bell
	BLV-10			Vibrating Bell
	BLVCH			Vibrating Chime
	H12/24-FC			Horn
	H12/24W-FC			Horn
	H12/24K-FC			Horn
	HC12/24-FC			Horn
	HC12/24W-FC			Horn
	HC12/24K-FC			Horn
	P2415-FC			Horn/Strobe
	P2415W-FC			Horn/Strobe
	P2415K-FC			Horn/Strobe
	P241575-FC			Horn/Strobe
	P241575W-FC			Horn/Strobe
	P241575F-FC			Horn/Strobe
	P241575K-FC			Horn/Strobe
	P2430-FC			Horn/Strobe
FCI	P2430W-FC			Horn/Strobe
	P2430K-FC			Horn/Strobe
	P2475-FC			Horn/Strobe
	P2475W-FC			Horn/Strobe
	P2475K-FC			Horn/Strobe
	P24110-FC			Horn/Strobe
	P24110W-FC			Horn/Strobe
	P24110K-FC			Horn/Strobe
	S2430W-FC			Strobe
	S2430K-FC			Strobe
	S2475-FC			Strobe
	S2475W-FC			Strobe
	S2475K-FC			Strobe
	S24110-FC			Strobe
	S24110W-FC			Strobe
	S24110K-FC			Strobe
Federal Signal	450			Horn
	VALS			Horn/Strobe

Table A-1: Compatible Notification Appliances

Manufacturer	Model	Audio	Visual	Type
Gentex	GEC-24-15	✓	✓	Horn/Strobes
	GEC-24-30	✓	✓	Horn/Strobes
	GEC-24-60	✓	✓	Horn/Strobes
	GEC-24-75	✓	✓	Horn/Strobes
	GEC-24-177	✓	✓	Horn/Strobes
	GEC-24-110	✓	✓	Horn/Strobe
	GEC-24-15/75	✓	✓	Horn/Strobe
	GX91	✓		MiniHorn Steady Tone
	GX93	✓		MiniHorn Temporal Tone
	HG124			Horn
	HS24-15	✓	✓	Horn/Strobe
	HS24-30	✓	✓	Horn/Strobe
	HS24-60	✓	✓	Horn/Strobe
	HS24-75	✓	✓	Horn/Strobe
	HS24-110	✓	✓	Horn/Strobe
	HS24-1575	✓	✓	Horn/Strobe
	GCC24	✓	✓	Multi Candella Horn/Strobe Ceiling Mount
	GCCR24	✓	✓	Multi Candella Horn/Strobe Ceiling Mount
	GCS24		✓	Multi Candella Strobe Ceiling Mount
	GCSR24		✓	Multi Candella Strobe Ceiling Mount
	GECR-24	✓	✓	Multi Candella Horn/Strobe
	GES24-15		✓	Strobes
	GES24-30		✓	Strobes
	GES24-60		✓	Strobes
	GES24-75		✓	Strobes
	GES24-110		✓	Strobes
	GES24-15/75		✓	Strobes
Gentex con't	GES24-177		✓	Strobes
	GES3-24		✓	Multi Candella Strobe
	GESR-24		✓	Multi Candella Strobe
	GEH-24	✓		Horn
	ST24-30		✓	Strobe
	ST24-60		✓	Strobe
	ST24-75		✓	Strobe
	ST24-110		✓	Strobe
	ST24-1575		✓	Strobe
	WGEC24-75W	✓	✓	Weatherproof Horn/Strobe
	WGES24-75W		✓	Weatherproof Strobe
	WGMS-24-X			Horn/Strobe

Table A-1: Compatible Notification Appliances

Manufacturer	Model	Audio	Visual	Type
System Sensor	CHR	✓		Chime
	CHW	✓		Chime
	CHSR	✓	✓	2-Wire Chime/Strobe
	CHSW	✓	✓	2-Wire Chime/Strobe
	HR	✓	✓	Horn
	HW		✓	Horn
	HRK		✓	Horn
	P2R	✓	✓	2-Wire Horn/Strobe
	P2R-P	✓	✓	2-Wire Horn/Strobe
	PC2R	✓	✓	2-Wire Horn/Strobe
	PC2R-P	✓	✓	2-Wire Horn/Strobe
	P2RH	✓	✓	2-Wire Horn/Strobe High Candela
	P2RH-P	✓	✓	2-Wire Horn/Strobe High Candela
	PC2RH	✓	✓	2-Wire Horn/Strobe High Candela
	PC2RH-P	✓	✓	2-Wire Horn/Strobe High Candela
	P2W	✓	✓	2-Wire Horn/Strobe
	P2W-P	✓	✓	2-Wire Horn/Strobe
	PC2W	✓	✓	2-Wire Horn/Strobe
	PC2W-P	✓	✓	2-Wire Horn/Strobe
	P2WH	✓	✓	2-Wire Horn/Strobe High Candela
	P2WH-P	✓	✓	2-Wire Horn/Strobe High Candela
	PC2WH	✓	✓	2-Wire Horn/Strobe High Candela
	PC2WH-P	✓	✓	2-Wire Horn/Strobe High Candela
	P2RK	✓	✓	2-Wire Horn/Strobe
	PC2RK	✓	✓	2-Wire Horn/Strobe
	P2RHK	✓	✓	2-Wire Horn/Strobe High Candela
	PC2RHK	✓	✓	2-Wire Horn/Strobe High Candela
	P4R	✓	✓	4-Wire Horn/Strobe
	PC4R	✓	✓	4-Wire Horn/Strobe
	P4RH	✓	✓	4-Wire Horn/Strobe High Candela
	P4W	✓	✓	4-Wire Horn/Strobe

Table A-1: Compatible Notification Appliances

Manufacturer	Model	Audio	Visual	Type
System Sensor con't	PC4W	✓	✓	4-Wire Horn/Strobe
	P4WH	✓	✓	4-Wire Horn/Strobe High Candela
	PC4WH	✓	✓	4-Wire Horn/Strobe High Candela
	P4RK	✓	✓	4-Wire Horn/Strobe
	PC4RK	✓	✓	4-Wire Horn/Strobe
	P4RHK	✓	✓	4-Wire Horn/Strobe High Candela
	PC4RHK	✓	✓	4-Wire Horn/Strobe High Candela
	PC4RH	✓	✓	4-Wire Horn/Strobe High Candela
	SR		✓	Strobe
	SR-P		✓	Strobe
	SCR		✓	Strobe
	SCR-P		✓	Strobe
	SRH		✓	Strobe High Candela
	SRH-P		✓	Strobe High Candela
	SCRH		✓	Strobe High Candela
	SCRH-P		✓	Strobe High Candela
	SW		✓	Strobe
	SW-P		✓	Strobe
	SCW		✓	Strobe
	SCW-P		✓	Strobe
	SWH		✓	Strobe High Candela
	SWH-P		✓	Strobe High Candela
	SCWH		✓	Strobe High Candela
	SCWH-P		✓	Strobe High Candela
	SRK		✓	Strobe
	SCRK		✓	Strobe
	SRHK		✓	Strobe High Candela
	SCRHK		✓	Strobe High Candela

Table A-1: Compatible Notification Appliances

Manufacturer	Model	Audio	Visual	Type
Wheelock	AH-12	4		Horn
	AH-24	✓		Horn
	AH-12WP	✓		Horn Weatherproof
	AH-24WP	✓		Horn Weatherproof
	AMT-241575W	✓	✓	Multi-Tone Horn Strobe
	AMT-24MCW		✓	Multi-Tone Horn Strobe
	AMT-241575W-NYC	✓	✓	Multi-Tone Horn Strobe
	AMT-12/24	✓		Multi-tone Horn
	AMT-12/24 NYC	✓		Multi-tone Horn
	AS-121575W		✓	Horn/Strobe
	NH-12/24	✓		Horn
	AS-241575W	✓	✓	Horn/Strobe
	AS-24MCC	✓	✓	Horn/Strobe
	AS-24MCCH	✓	✓	Horn/Strobe
	AS-24MCW	✓	✓	Horn/Strobe
	AS-24MCWH	✓	✓	Horn/Strobe
	ASWP-2475W	✓	✓	Horn/Strobe Weatherproof
	ASWP-2475C	✓	✓	Horn/Strobe Weatherproof
	ASWP-24MCWH	✓	✓	Horn/Strobe
	ASWP-24MCCH	✓	✓	Horn/Strobe
	CH-70	✓		Chime
	CH-90	✓		Chime
	CH70-241575W		✓	Chime/Strobe
	CH70-24MCW		✓	Chime/Strobe
	CH70-24MCWH		✓	Chime/Strobe
	CH90-24MCC		✓	Chime/Strobe

Table A-1: Compatible Notification Appliances

Manufacturer	Model	Audio	Visual	Type
Wheelock con't	CH90-24MCCH		✓	Chime/Strobe
	HS-24	✓		Horn
	HS4-241575W	✓	✓	Horn/Strobe
	HS4-24MCW	✓	✓	Horn/Strobe
	HS4-24MCWH	✓	✓	Horn/Strobe
	HS4-24MCC	✓	✓	Horn/Strobe
	MIZ-24S	✓	✓	Mini Horn Strobe
	MT-121575W		✓	MultitoneHorn Strobe
	MT-241575W	✓	✓	Multitone Horn Strobe
	MT-24MCW		✓	Multitone Horn Strobe
	MTWP-2475W		✓	Multitone Horn Strobe
	MTWP-2475C		✓	Multitone Horn Strobe
	MTG-121575W	✓	✓	Multitone Horn Strobe
	MTR-121575W	✓	✓	Multitone Horn Strobe
	MTWPA-2475W	✓	✓	Multitone Horn Strobe
	MTWPB-2475W	✓	✓	Multitone Horn Strobe
	MTWPG-2475W	✓	✓	Multitone Horn Strobe
	MTWPR-2475W	✓	✓	Multitone Horn Strobe
	MTWPA-24MCCH	✓	✓	Multitone Horn Strobe
	ZNH	✓		Horn
	NS-121575W	✓	✓	Horn/Strobe
	NS-241575W	✓	✓	Horn/Strobe
	NS-24MCW	✓	✓	Horn/Strobe
	NS-24MCC	✓	✓	Horn/Strobe
	NS-24MCCH	✓	✓	Horn/Strobe
	ZNS-MCW	✓	✓	Horn/Strobe
	ZNS-MCWH	✓	✓	Horn/Strobe
	ZNS-24MCC	✓	✓	Horn/Strobe
	ZNS-24MCCH	✓	✓	Horn/Strobe

Table A-1: Compatible Notification Appliances

Manufacturer	Model	Audio	Visual	Type
Wheelock con't	RSS-121575W		✓	Strobe
	RSS-241575W		✓	Strobe
	RSS-24MCC		✓	Strobe
	RSS-24MCCR		✓	Strobe
	RSS-24MCCH		✓	Strobe
	RSS-24MCCHR		✓	Strobe
	RSS-24MCW		✓	Strobe
	RSS-24MCWH		✓	Strobe
	RSSP-121575W		✓	Strobe
	RSSP-241575W		✓	Strobe
	RSSR-2415W		✓	Strobe
	RSSR-2415C		✓	Strobe
	RSSR-2475W		✓	Strobe
	RSSR-2475C		✓	Strobe
	RSSR-24110C		✓	Strobe
	RSSA-24110W		✓	Strobe
	RSSB-24110W		✓	Strobe
	RSSG-24110W		✓	Strobe
	RSSR-24110W		✓	Strobe
	RSSA-24MCC		✓	Multi-Cd Strobe
	RSSB-24MCC		✓	Multi-Cd Strobe
	RSSG-24MCC		✓	Multi-Cd Strobe
	RSSR-24MCC		✓	Multi-Cd Strobe
	RSSWPA-2475W		✓	Strobe Weatherproof
	RSSWPA-24MCCH		✓	Strobe Weatherproof
	RSSWPG-24MCCH		✓	Strobe Weatherproof
	RSSWPR-24MCCH		✓	Strobe Weatherproof
	RSSWP-2475W		✓	Strobe Weatherproof
	RSSWP-2475C		✓	Strobe Weatherproof

Table A-1: Compatible Notification Appliances

Manufacturer	Model	Audio	Visual	Type
Wheelock con't	RSSWP-24MCWH		✓	Strobe Weatherproof
	ZRS-MCWH		✓	Strobe
	ZRS-24MCC		✓	Strobe
	ZRS-24MCCH		✓	Strobe
	MB-G6-24			Motor Bell
	MB-G10-24			Motor Bell
	MB-G6-12			Motor Bell
	MB-G10-12			Motor Bell
	MIZ-24-R			Mini-Horn
	MT-12/24-R	✓	✓	Multitone Horn
	MT4-12/24	✓	✓	Multitone Horn
	ZRS-MCW		✓	Strobe
	MTWPR-24MCCH	✓	✓	Multitone Horn Strobe
	NH-12/24R	✓		Horn
	HSR		✓	Horn/Strobe
	HSW		✓	Horn/Strobe
	STR		✓	Strobe
	STW		✓	Strobe
	HNR		✓	Horn
	HNW		✓	Horn

A.2 Door Holder Device

The following UL listed door holder can be used with the 5895XL: ESL DHS-1224

A.3 Two-Wire Smoke Detectors

Table A-2 lists two-wire smoke detectors that are compatible with the panel. The table is organized by manufacturer. The columns show the number of detectors per loop that can be used.

	5895XL
Identifier	24H
Operating Voltage Range	18.5–27.4 VDC

The maximum number of smoke detectors per zone is determined by both the current draw and the impedance of the smoke detector. If too many smoke detectors are used on any zone, false alarms could occur.

Do not mix different models of detectors on any zone; false alarms could occur.

Do not mix detectors of different models unless the system is specifically intended to be installed in that configuration.

Control unit Smoke Reset Time must be programmed for a number greater than or equal to the maximum reset time of the smoke detector.

Table A-2 lists two-wire smoke detectors that are compatible with the 5895XL panel. The table is organized by manufacturer. The columns show the number of detectors per loop that can be used.

Table A-2: Compatible Two-Wire Smoke Detectors

Manufacturer	Model Name or Number (Base model name or number in parentheses.)	Compatibility ID		# per Loop
		Head	Base	
Apollo	55000-350 (45681-200)	55000-350	45681-200	24 / loop
	55000-250 (45681-200)	55000-250	45681-200	24 / loop
Apollo	55000-225	55000-225	45681-255, 226, 256	15 / loop for Ion Detectors
	55000-226	55000-226		
	55000-227	55000-227		
	55000-325	55000-325	45681-200, 220, 230, 232, 251, 252	15 / loop for Photo Electric Detectors
	55000-328	55000-328		
	55000-326	55000-326		
	55000-327	55000-327		

Table A-2: Compatible Two-Wire Smoke Detectors

Manufacturer	Model Name or Number (Base model name or number in parentheses.)	Compatibility ID		# per Loop
		Head	Base	
Detection Systems	DS200 (MB200-2W)	A	A	30 / loop
	DS200HD (MB200-2W)	A	A	30 / loop
	DS230	N/A	N/A	30 / loop
	DS250 (MB2W or MB2WL)	B	A	30 / loop
	DS250HD (MB2W or MB2WL)	B	A	30 / loop
	DS250TH (MB2W or MB2WL)	B	A	30 / loop
	DS282	B	N/A	30 / loop
	DS283 (MB2W or MB2WL)	N/A	N/A	30 / loop
	DS283TH (MB2W or MB2WL)	N/A	N/A	30 / loop
ESL	425 (S10)			30 / loop
	425C (S11)			30 / loop
	425CR (S11)			30 / loop
	425CRT (S11)			30 / loop
	425CT (S11)	S10	N/A	30 / loop
	429C (S10A)	N/A	S10A	30 / loop
	429CRT (S11A)	N/A	S11A	30 / loop
	429CST (S11A)	N/A	S11A	30 / loop
	429CT (S10A)	N/A	S10A	30 / loop
	521BXT	N/A	S11A	30 / loop
	521B	N/A	S11A	30 / loop
	609U01-11	S10	S00	40 / loop
	609U02-11	S10	S00/S03	40 / loop
	611U (601U or 602U)	S10	S00/S03	40 / loop
	611UD (601U or 602U)	S10	S00/S03	40 / loop
	611UT (601U or 602U)	S10	S00/S03	40 / loop
	612U (601U or 602U)	S10	S00/S03	40 / loop
	612UD (601U or 602U)	S10	S00/S03	40 / loop
	711U (701E or 701U)	N/A	S10A	25 / loop
	712U (701E or 701U)	N/A	S10A	25 / loop
	713-5U (702E or 701U)	N/A	S10A	25 / loop
	713-6U (702E or 701U)	N/A	S10A	25 / loop
	721-U (S10A)	N/A	S10A	30 / loop
	721-UT (S10A)	N/A	S10A	30 / loop
Kidde-Fenwall	PSD 7156 (FE01A) (P56FE1)	P56FE1	FE01A	30 / loop
	PSD 7156 (FE51A) (P56FE1)	P56FE1	FE51A	30 / loop
	PSD 7155 (FE01A) (P55FE1)	P55FE1	FE1A	30 / loop
	PSD 7155 (FE51A) (P55FE1)	P56FE1	FE1A	30 / loop
	CPD 7051 (FE01A) (I51FE1)	CPD 7051	FE51A	30 / loop
	CPD 7051 (FE01A)	CPD 7051	FE01A	30 / loop
	CPD 7051 (FE51A)	CPD 7051	FE51A	30 / loop

Table A-2: Compatible Two-Wire Smoke Detectors

Manufacturer	Model Name or Number (Base model name or number in parentheses.)	Compatibility ID		# per Loop
		Head	Base	
Falcon	525	FDT1	N/A	17 / loop
	525T	FDT1	N/A	17 / loop
Faraday	9374			30 / loop
	9375			30 / loop
	9376			30 / loop
Hochiki	SIH-24F (HS-224D OR HSD-224)	HD-3	HB-5	30 / loop
	SLK-12			30 / loop
	SLK-24F (HS-224D)	HD-3	HB-5	30 / loop
	SLK-24FH (HS-224D)	HD-3	HB-5	30 / loop
	SLR-24 V			30 / loop
	SLR-835B-2 (HD-6)			30 / loop
System Sensor	1100T	A	N/A	30 / loop
	1100TB	A	N/A	30 / loop
	1151 (110LP)	A	A	30 / loop
	1400	A	N/A	20 / loop
	1451 (B401B)	A	A	20 / loop
	1800	A	N/A	30 / loop
	1851B (B101B)	A	A	30 / loop
	1851DH (DH1851DC)	A	A	30 / loop
	2100	A	N/A	30 / loop
	2100D	A	N/A	30 / loop
	2100S	A	N/A	30 / loop
	2100T	A	N/A	30 / loop
	2100TB	A	N/A	30 / loop
	2100TS	A	N/A	30 / loop
	2151 (B110LP)	A	N/A	30 / loop
	2300T	A	N/A	30 / loop
	2300	A	N/A	30 / loop
	2300TB	A	N/A	30 / loop
	2400	A	N/A	30 / loop
	2400 (DH400)	A	N/A	30 / loop
	2400AIT	A	N/A	30 / loop
	2400AT	A	N/A	30 / loop
	2400TH	A	N/A	30 / loop

Table A-2: Compatible Two-Wire Smoke Detectors

Manufacturer	Model Name or Number (Base model name or number in parentheses.)	Compatibility ID		# per Loop
		Head	Base	
System Sensor (cont.)	2451 (B401B)	A	N/A	30 / loop
	2451DH (DH 400)	A	N/A	30 / loop
	2451TH (B401B)	A	N/A	30 / loop
	2800	A	N/A	30 / loop
	2800TH	A	N/A	30 / loop
	2851B (B101B)	A	A	30 / loop
	2851BTH (B101B)	A	A	30 / loop
	2851DH	A	A	30 / loop
	2851TH (B101B)	A	A	30 / loop
	i ³ 2W-B	A	N/A	30 / loop
	i ³ 2WT-B	A	N/A	30 / loop

A.4 Four-Wire Smoke Detectors

Table 3-2: Compatible Four-Wire Smoke Detectors

Manufacturer	Model
Silent Knight	SD-P24F with SD-B4 base
Detection Systems	DS200/DS200HD MB200 Base
ESL	445 Series 449 Series
Gentex	624 824 2040-24 Power Supervision Unit
Hochiki	SIH-24F HS-224D or SHB-224 Base SLK-24F HS-224D Base SLK-23FH HS-224D Base
System Sensor	1851B 2851/2851BTH DH200ADCD

Silent Knight Fire Product Warranty and Return Policy

General Terms and Conditions

- All new fire products manufactured by Silent Knight have a limited warranty period of 36 months from the date of manufacture against defects in materials and workmanship. See limited warranty statement for details.
- This limited warranty does not apply to those products that are damaged due to misuse, abuse, negligence, exposure to adverse environmental conditions, or have been modified in any manner whatsoever.

Repair and RA Procedure

- All products that are returned to Silent Knight for credit or repair require a RMA (Return Authorization) number. Call Silent Knight Customer Service at 800-328-0103 or 203-484-7161 between 8:00 A.M. and 5:00 P.M. EST, Monday through Friday to obtain a return authorization number.
- Silent Knight Technical Support is available at 800-446-6444 between 8:00 A.M. and 5:00 P.M. CST, Monday through Friday.
- All returns for credit are subject to inspection and testing at the factory before actual determination is made to allow credit.
- RMA number must be prominently displayed on the outside of the shipping box. See return address example under Advanced Replacement Policy.
- Include a packing slip that has the RMA number, a content list, and a detailed description of the problem should be included with each return.
- All products returned to Silent Knight must be sent freight pre-paid. After product is processed, Silent Knight will pay for shipping product back to customer via UPS ground.
- Return the Silent Knight product circuit board only. Products that are returned in cabinets will be charged an additional \$50 to cover the extra shipping and handling costs over board only returns. **Do not return batteries.** Silent Knight has the authority to determine if a product is repairable. Products that are deemed un-repairable will be returned to the customer.
- Product that is returned that has a board date code more than 36 months from date of manufacture will be repaired and the customer will be assessed the standard Silent Knight repair charge for that model.

Advanced Replacement Policy

- Silent Knight offers an option of advance replacement for fire product printed circuit boards that fail during the first 6 months of the warranty period. These items must be returned with transportation charges prepaid and must be accompanied by a return authorization.
- For advance replacement of a defective board contact your local Silent Knight Distributor

or call Silent Knight at 203-484-7161 to obtain a RMA (Return Authorization) number and request advanced replacement,

- A new or refurbished board will be shipped to the customer. The customer will initially be billed for the replacement board but a credit will be issued after the repairable board is received at Silent Knight. All returned products must comply with the guidelines described under “General Terms and Conditions”.
- The defective board must be returned within 30 days of shipment of replacement board for customer to receive credit. No credit will be issued if the returned board was damaged due to misuse or abuse.
- Repairs and returns should be sent to:
Silent Knight / Honeywell
Attn: Repair Department
12 Clintonville Road
Northford, CT 06472
USA

RMA Number:_____

Manufacturer Warranties and Limitation of Liability

Manufacturer Warranties. Subject to the limitations set forth herein, Manufacturer warrants that the Products manufactured by it in its Northford, Connecticut facility and sold by it to its authorized Distributors shall be free, under normal use and service, from defects in material and workmanship for a period of thirty six months (36) months from the date of manufacture (effective Jan. 1, 2009). The Products manufactured and sold by Manufacturer are date stamped at the time of production. Manufacturer does not warrant Products that are not manufactured by it in its Northford, Connecticut facility but assigns to its Distributor, to extent possible, any warranty offered by the manufacturer of such product. This warranty shall be void if a Product is altered, serviced repaired by anyone other than Manufacturer or its authorized Distributors. This warranty shall also be void if there is a failure to maintain the Products and the systems in which they operate in proper working conditions.

MANUFACTURER MAKES NO FURTHER WARRANTIES, AND DISCLAIMS ANY AND ALL OTHER WARRANTIES, EITHER EXPRESSED OR IMPLIED, WITH RESPECT TO THE PRODUCTS, TRADEMARKS, PROGRAMS AND SERVICES RENDERED By MANUFACTURER INCLUDING WITHOUT LIMITATION, INFRINGEMENT, TITLE, MERCHANTABILITY, OR FITNESS FOR ANY PARTICULAR PURPOSE. MANUFACTURER SHALL NOT BE LIABLE FOR ANY PERSONAL INJURY OR DEATH WHICH MAY ARISE IN THE COURSE OF, OR AS A RESULT OF, PERSONAL, COMMERCIAL OR INDUSTRIAL USES OF ITS PRODUCTS.

This document constitutes the only warranty made by Manufacturer with respect to its products and replaces all previous warranties and is the only warranty made by Manufacturer. No increase or alteration, written or verbal, of the obligation of this warranty is authorized. Manufacturer does not represent that its products will prevent any loss by fire or otherwise.

Warranty Claims. Manufacturer shall replace or repair, at Manufacturer's discretion, each part returned by its authorized Distributor and acknowledged by Manufacturer to be defective, provided that such part shall have been returned to Manufacturer with all charges prepaid and the authorized Distributor has completed Manufacturer's Return Material Authorization form. The replacement part shall come from Manufacturer's stock and may be new or refurbished. THE FOREGOING IS DISTRIBUTOR'S SOLE AND EXCLUSIVE REMEDY IN THE EVENT OF A WARRANTY CLAIM.



**SILENT
KNIGHT**

by Honeywell

Silent Knight
12 Clintonville Road
Northford, CT 06472-1610
203-484-7161
Fax: 203-484-7118

www.silentknight.com