Honeywell

SILENT KNIGHT

Installation and Operation Guide

5496

Intelligent Power Module

Fire Alarm & Emergency Communication System Limitations

While a life safety system may lower insurance rates, it is not a substitute for life and property insurance!

An automatic fire alarm system—typically made up of smoke detectors, heat detectors, manual pull stations, audible warning devices, and a fire alarm control panel (FACP) with remote notification capability—can provide early warning of a developing fire. Such a system, however, does not assure protection against property damage or loss of life resulting from a fire.

An emergency communication system—typically made up of an automatic fire alarm system (as described above) and a life safety communication system that may include an autonomous control unit (ACU), local operating console (LOC), voice communication, and other various inter-operable communication methods—can broadcast a mass notification message. Such a system, however, does not assure protection against property damage or loss of life resulting from a fire or life safety event.

The Manufacturer recommends that smoke and/or heat detectors be located throughout a protected premises following the recommendations of the National Fire Protection Association Standard 72 (NFPA 72), manufacturer's recommendations, State and local codes, and the recommendations contained in the Guide for Proper Use of System Smoke Detectors, which is made available at no charge to all installing dealers. This document can be found at http://www.systemsensor.com/appguides/. A study by the Federal Emergency Management Agency (an agency of the United States government) indicated that smoke detectors may not go off in as many as 35% of all fires. While fire alarm systems are designed to provide early warning against fire, they do not guarantee warning or protection against fire. A fire alarm system may not provide timely or adequate warning, or simply may not function, for a variety of reasons:

Smoke detectors may not sense fire where smoke cannot reach the detectors such as in chimneys, in or behind walls, on roofs, or on the other side of closed doors. Smoke detectors also may not sense a fire on another level or floor of a building. A second-floor detector, for example, may not sense a first-floor or basement fire.

Particles of combustion or "smoke" from a developing fire may not reach the sensing chambers of smoke detectors because:

- Barriers such as closed or partially closed doors, walls, chimneys, even wet or humid areas may inhibit particle or smoke flow.
- Smoke particles may become "cold," stratify, and not reach the ceiling or upper walls where detectors are located.
- Smoke particles may be blown away from detectors by air outlets, such as air conditioning vents.
- Smoke particles may be drawn into air returns before reaching the detector.

The amount of "smoke" present may be insufficient to alarm smoke detectors. Smoke detectors are designed to alarm at various levels of smoke density. If such density levels are not created by a developing fire at the location of detectors, the detectors will not go into alarm.

Smoke detectors, even when working properly, have sensing limitations. Detectors that have photoelectronic sensing chambers tend to detect smoldering fires better than flaming fires, which have little visible smoke. Detectors that have ionizing-type sensing chambers tend to detect fast-flaming fires better than smoldering fires. Because fires develop in different ways and are often unpredictable in their growth, neither type of detector is necessarily best and a given type of detector may not provide adequate warning of a fire.

Smoke detectors cannot be expected to provide adequate warning of fires caused by arson, children playing with matches (especially in bedrooms), smoking in bed, and violent explo-sions (caused by escaping gas, improper storage of flammable materials, etc.).

Heat detectors do not sense particles of combustion and alarm only when heat on their sensors increases at a predetermined rate or reaches a predetermined level. Rate-of-rise heat detectors may be subject to reduced sensitivity over time. For this reason, the rate-of-rise feature of each detector should be tested at least once per year by a qualified fire protection specialist. Heat detectors are designed to protect property, not life.

IMPORTANT! Smoke detectors must be installed in the same room as the control panel and in rooms used by the system for the connection of alarm transmission wiring, communications, signaling, and/or power. If detectors are not so located, a developing fire may damage the alarm system, compromising its ability to report a fire.

Audible warning devices such as bells, horns, strobes, speakers and displays may not alert people if these devices are located on the other side of closed or partly open doors or are located on another floor of a building. Any warning device may fail to alert people with a disability or those who have recently consumed drugs, alcohol, or medication. Please note that:

- An emergency communication system may take priority over a fire alarm system in the event of a life safety emergency.
- Voice messaging systems must be designed to meet intelligibility requirements as defined by NFPA, local codes, and Authorities Having Jurisdiction (AHJ).
- Language and instructional requirements must be clearly disseminated on any local displays.
- Strobes can, under certain circumstances, cause seizures in people with conditions such as epilepsy.
- Studies have shown that certain people, even when they hear a fire alarm signal, do not respond to or comprehend the meaning of the signal. Audible devices, such as horns and bells, can have different tonal patterns and frequencies. It is the property owner's responsibility to conduct fire drills and other training exercises to make people aware of fire alarm signals and instruct them on the proper reaction to alarm signals.
- In rare instances, the sounding of a warning device can cause temporary or permanent hearing loss.

A life safety system will not operate without any electrical power. If AC power fails, the system will operate from standby batteries only for a specified time and only if the batteries have been properly maintained and replaced regularly.

Equipment used in the system may not be technically compatible with the control panel. It is essential to use only equipment listed for service with your control panel.

Telephone lines needed to transmit alarm signals from a premises to a central monitoring station may be out of service or temporarily disabled. For added protection against telephone line failure, backup radio transmission systems are recommended.

The most common cause of life safety system malfunction is inadequate maintenance. To keep the entire life safety system in excellent working order, ongoing maintenance is required per the manufacturer's recommendations, and UL and NFPA standards. At a minimum, the requirements of NFPA 72 shall be followed. Environments with large amounts of dust, dirt, or high air velocity require more frequent maintenance. A maintenance agreement should be arranged through the local manufacturer's representative. Maintenance should be scheduled monthly or as required by National and/or local fire codes and should be performed by authorized professional life safety system installers only. Adequate written records of all inspections

Installation Precautions

Adherence to the following will aid in problem-free installation with long-term reliability:

WARNING - Several different sources of power can be connected to the fire alarm control panel. Disconnect all sources of power before servicing. Control unit and associated equipment may be damaged by removing and/or inserting cards, modules, or interconnecting cables while the unit is energized. Do not attempt to install, service, or operate this unit until manuals are read and understood.

CAUTION - System Re-acceptance Test after Software Changes: To ensure proper system operation, this product must be tested in accordance with NFPA 72 after any programming operation or change in site-specific software. Re-acceptance testing is required after any change, addition or deletion of system components, or after any modification, repair or adjustment to system hardware or wiring. All components, circuits, system operations, or software functions known to be affected by a change must be 100% tested. In addition, to ensure that other operations are not inadvertently affected, at least 10% of initiating devices that are not directly affected by the change, up to a maximum of 50 devices, must also be tested and proper system operation verified.

This system meets NFPA requirements for operation at 0-49º C/32-120º F and at a relative humidity.   However, the useful life of the system's standby batteries and the electronic components may be adversely affected by extreme temperature ranges and humidity. Therefore, it is recommended that this system and its peripherals be installed in an environment with a normal room temperature of 15-27º C/60-80º F.

Verify that wire sizes are adequate for all initiating and indicating device loops. Most devices cannot tolerate more than a 10% I.R. drop from the specified device voltage.

Like all solid state electronic devices, this system may operate erratically or can be damaged when subjected to lightning induced transients. Although no system is completely immune from lightning transients and interference, proper grounding will reduce susceptibility. Overhead or outside aerial wiring is not recommended, due to an increased susceptibility to nearby lightning strikes. Consult with the Technical Services Department if any problems are anticipated or encountered.

Disconnect AC power and batteries prior to removing or inserting circuit boards. Failure to do so can damage circuits.

Remove all electronic assemblies prior to any drilling, filing, reaming, or punching of the enclosure. When possible, make all cable entries from the sides or rear. Before making modifications, verify that they will not interfere with battery, transformer, or printed circuit board location.

Do not tighten screw terminals more than 9 in-lbs. Over-tightening may damage threads, resulting in reduced terminal contact pressure and difficulty with screw terminal removal.

This system contains static-sensitive components. Always ground yourself with a proper wrist strap before handling any circuits so that static charges are removed from the body. Use static suppressive packaging to protect electronic assemblies removed from the unit.

Follow the instructions in the installation, operating, and programming manuals. These instructions must be followed to avoid damage to the control panel and associated equipment. FACP operation and reliability depend upon proper installation.

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Documentation Feedback

Your feedback helps us keep our documentation up-to-date and accurate. If you have a question or encounter a problem not covered in this manual, contact Silent Knight Technical Support at 800-446-6444.

Please give the following information:

- Product name and version number (if applicable)
- Printed manual
- Topic Title
- Page number (for printed manual)
- Brief description of content you think should be improved or corrected
- Your suggestion for how to correct/improve documentation

To order parts, contact Silent Knight Sales at 800-328-0103.

Contents

Honeywell Fire Product Warranty and Return Policy

Manufacturer Warranties and Limitation of Liability

Section 1
Overview

1.1   5496 Description

The Model 5496 Intelligent Power Module provides additional power and notification circuits to a Silent Knight addressable FACP. The 5496 can power all IntelliKnight compatible notification appliances and auxiliary power modules.

The 5496 is capable of performing single or dual interlocking operations for pre-action and deluge releasing systems. See Section 8.6 of FACP installation manual.

The 5496 has four output circuits that can be configured as notification or auxiliary power circuits. Outputs are rated 3.0 A (6.0 A total for each 5496).

The 5496 is optically isolated, providing ground loop isolation and transient protection.

The 5496 provides configuration options that eliminate the need for sychronization modules when using AMSECO, Faraday, Gentex, System Sensor, or Wheelock synchronization appliances.

1.2   Agency Requirements

The 5496 has the same requirements as the main control panel. These requirements are listed in Silent Knight addressable FACP Installation Manuals. Silent Knight Addressable FACP Installation Manuals can be found on Silent Knight's web site at www.silentknight.com.

1.3   About This Manual

This manual covers installation of 5496 hardware. Software configuration information is contained in a Silent Knight addressable FACP Installation Manuals. Silent Knight Addressable FACP Installation Manuals can be found on Silent Knight's web site at www.silentknight.com.

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 5496 ships with the following hardware:

- A cabinet with all hardware assembled

- Two keys for the 5496 front door

- Ten 4.7K ohm end-of-line resistors

Note: For UL installations 4.7kΩ end-of-line resistor (ordered separately) must be used.

- A battery wiring harness and jumper to wire batteries in series

2.2   Environmental Specifications

It is important to protect the 5496 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 5496, 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) non-condensing.

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   5496 Board and Terminal Strip Description

Figure 2-1 shows the 5496 circuit board including location of terminals and the dipswitch for setting the module ID.
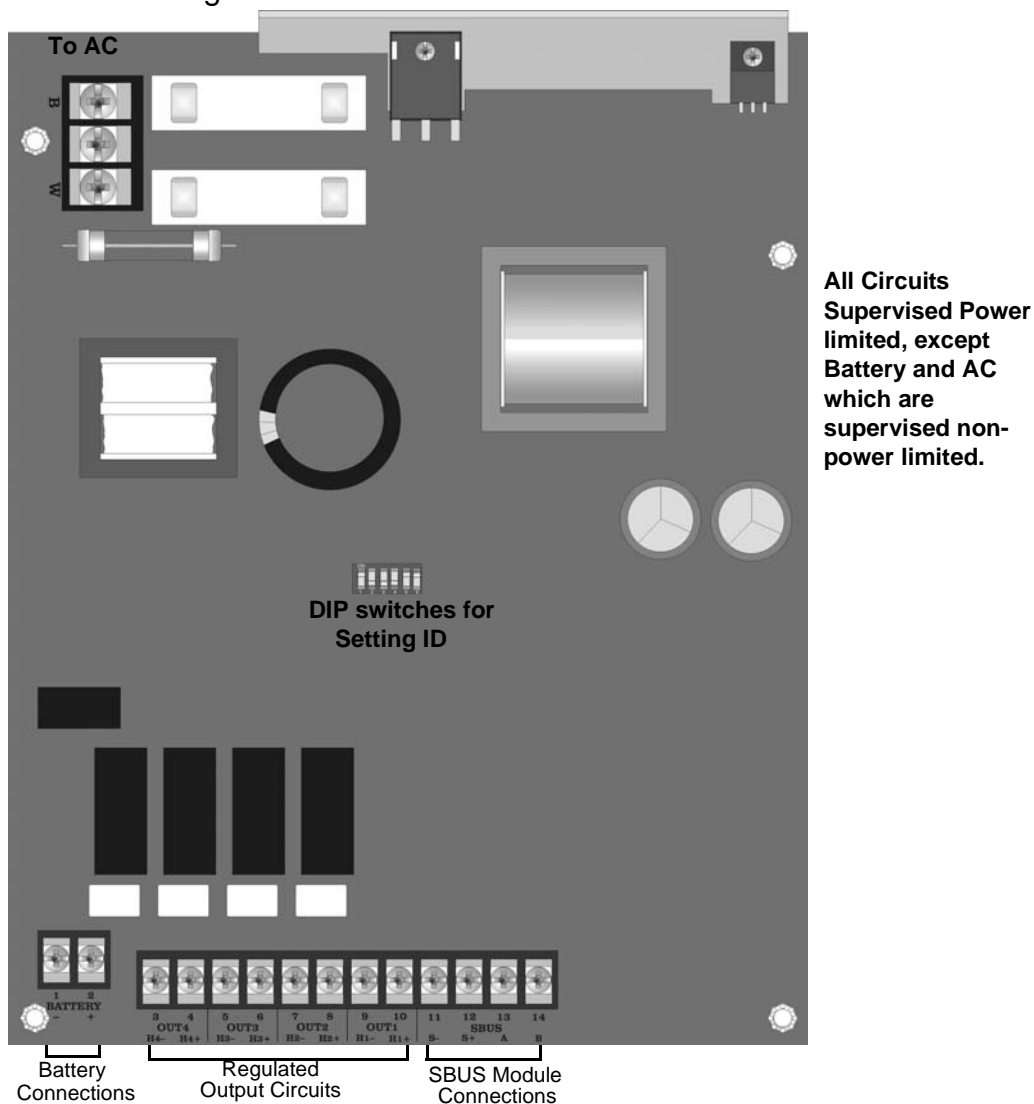
Figure 2-1 The 5496 Board Layout

Table 2-1 describes the 5496 connections and provides electrical ratings where appropriate.

Table 2-1: Terminal Strip Description and Electrical Ratings

Terminal # and Label			Description	Rating	
				Voltage	**Current**
	B		AC input (hot)	120 VAC, 60 Hz	2.7 A
	⏚		Earth ground	N/A	N/A
	W		AC input (neutral)	120 VAC, 60 Hz	2.7 A
1	-	Battery	Battery	24 VDC	0.75 A
2	+				
3	-	I/O 4*	Output circuit	24 VDC	3.0 A Notification Circuits
4	+				
5	-	I/O 3*	Output circuit	24 VDC	3.0 A Notification Circuits
6	+				
7	-	I/O 2*	Output circuit	24 VDC	3.0 A Notification Circuits
8	+				
9	-	I/O 1*	Output circuit	24 VDC	3.0 A Notification Circuits
10	+				
11	-	SBUS	SBUS power	24 VDC	1.0 A
12	+				
13	A		SBUS communication	5 VDC	100 mA
14	B				

* 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		Value (in ohms)
Battery	1	-	BATTERY	0
	2	+		0
Notification Appliance Circuit 4	3	H4-	OUT4	0
	4	H4+		0
Notification Appliance Circuit 3	5	H3-	OUT3	0
	6	H3+		0

Table 2-2: Earth Fault Resistance Values by Terminal

Function	Terminal Number	Terminal Label		Value (in ohms)
Notification Appliance Circuit 2	7	H2-	OUT2	0
	8	H2+		0
Notification Appliance Circuit 1	9	H1-	OUT1	0
	10	H1+		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

Follow the steps below to determine 5496 current draw and standby battery requirements.

Filling in the Current Draw Worksheet

Refer Table 2-4 in Section 2.6.2 to complete the following steps.

1. Add up the current draw for all auxiliary devices and record in the table at Line B.

2. Add up all notification appliance loads and record in the table at Line C.

3. For notification appliances and auxiliary devices not mentioned in the manual, refer to the device manual for the current ratings.

4. 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.

5. Complete the remaining instructions in Table 2-4 to determine battery size requirements.

2.6.1.1   Maximum Battery Standby Load

Table 2-3 shows the maximum battery standby load for the 5496 based on 24 and 60 hours of standby. The standby load calculations of line J 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

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
18 AH	685 mA	270 mA
35 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: 33 max battery size for FM (Factory Mutual) installations

2.6.2   Current Draw Worksheet

For each 5496 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 Calculation Worksheet

	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.*	
	5496 Intelligent Power Module	1	Standby:	40 mA	40 mA	
	(Current draw from battery)		Alarm:	160 mA		160 mA
A			**5496 Current**		40 mA	160 mA
	Auxiliary Devices	*Refer to device manual for current ratings.*				
			Alarm/Standby	mA	mA	mA
			Alarm/Standby	mA	mA	mA
			Alarm/Standby	mA	mA	mA
			Alarm/Standby	mA	mA	mA
B		**Auxiliary Devices Current**			mA	mA
	Notification appliances	*Refer to device manual for current ratings.*				
			Alarm:	mA	0 mA	mA
			Alarm:	mA	0 mA	mA
			Alarm:	mA	0 mA	mA
			Alarm:	mA	0 mA	mA
C		**Notification Appliances Current**			0 mA	mA
D	Total current ratings of all devices in system (line A + line B + line C)				mA	mA
E	Total current ratings converted to amperes (line D x .001):				A	A
F	Number of standby hours (24 or 60 for NFPA 72, Chapter 1, 1-5.2.5).				H	
G	Multiply lines E and F. **Total standby AH**				AH	
H	Alarm sounding period in hours. (For example, 5 minutes = .0833 hours.)					H
I	Multiply lines E and H.**Total alarm AH**					AH
J	Add lines G and I.**Total standby and alarm AH**				AH	

2.6.3   Wire Routing

You must follow power-limited wiring techniques, which include maintaining one-quarter inch spacing between power-limited and non-power limited circuits and separating high and low voltage circuits.
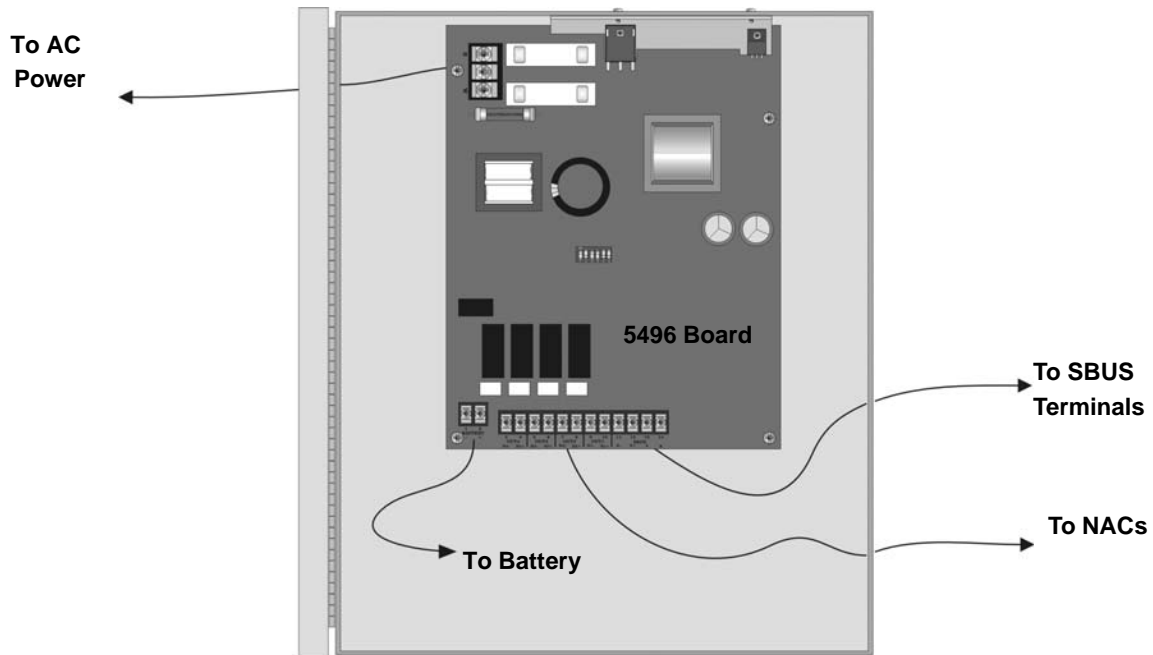
Figure 2-2 Wire Routing Example

Section 3
Hardware Installation

5496 installation involves the following steps:

- Connect AC power (Section 3.1) and backup battery (Section 3.2).

- Make physical connection to a Silent Knight addressable FACP (see Section 3.3).

- Set an ID for the 5496 (Section 3.3.1).

- Make physical connection to any outputs that will be powered by this 5496. See Section 3.4 for notification appliance wiring information. Refer to Silent Knight addressable FACP Installation Manuals for software configuration information and other information about installing outputs. Silent Knight Addressable FACP Installation Manuals can be found on Silent Knight's web site at www.silentknight.com.

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, 2.5 A.
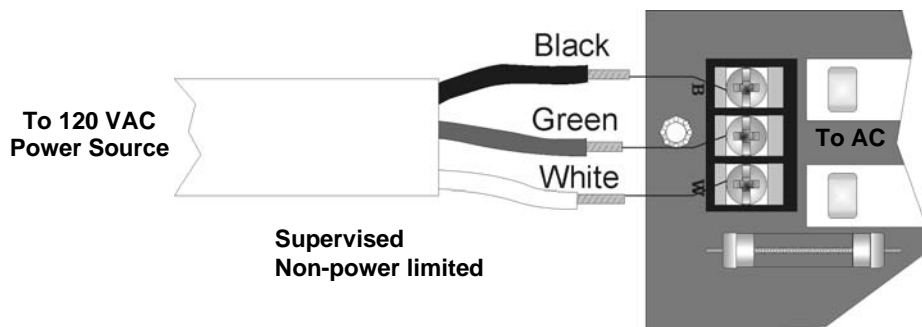
Figure 3-1 AC Power Connection

3.2   Battery Connection

The 5496 battery charge capacity is 7.0 AH not to exceed 35.0 AH. Use 12V batteries of the same AH rating. It is recommended that you replace batteries every five years. Determine the correct AH rating per your current load calculation (see Table 2-4).

Note: If you require the power of back up batteries that are too large for the 5496, you can use the RBB cabinet. The RBB Remote Battery Box, holds batteries up to the 35 AH size. (Refer to P/N 151306 for RBB installation instructions.

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

To Panel

Red   **Black**

**Battery Jumper
(P/N 140694)
Shipped With 5496**

**Supervised
Non-Power Limited**

**UL Listed 12V Battery
Gell Cell**   **UL Listed 12V Battery
Gell Cell**
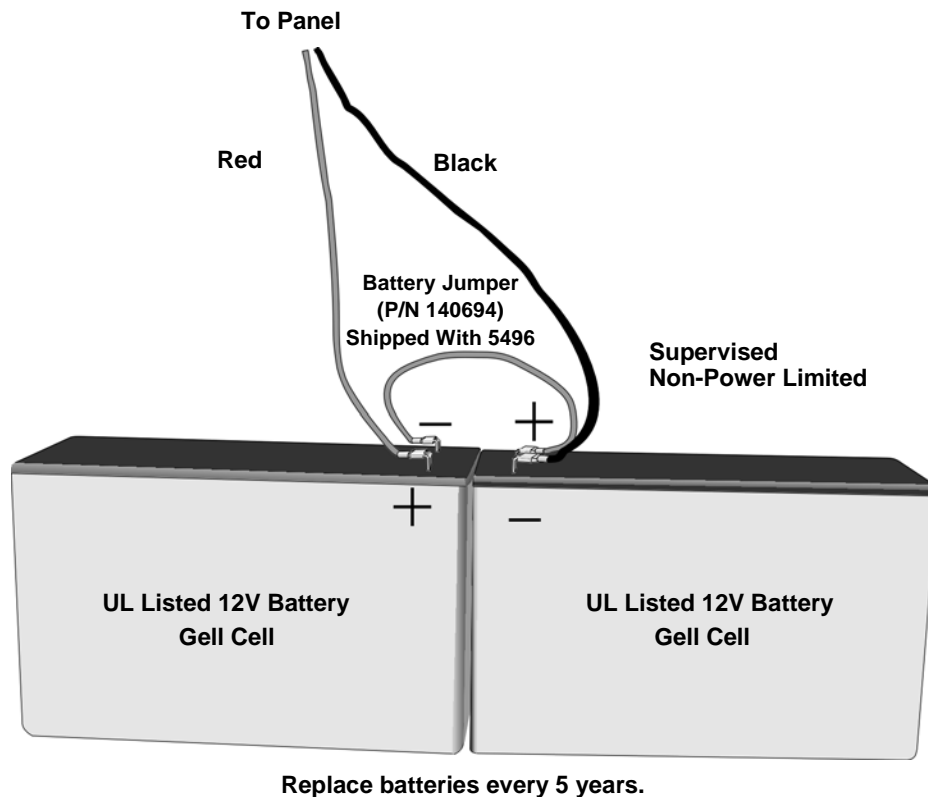
Replace batteries every 5 years.

Figure 3-2 Battery Connection

3.3   Connecting the 5496 to the FACP

1. Connect the 5496 to the appropriate SBUS. The 5496 is connected directly to a Silent Knight addressable FACP.

2. Use the on-board dipswitch to assign an ID number to the 5496. (See Section 3.3.1) Figure 2-1 shows the location of the dipswitches on the 5496 board.

3. Configure the 5496 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 Silent Knight addressable FACP Installation Manuals. Silent Knight Addressable FACP Installation Manuals can be found on Silent Knight's web site at www.silentknight.com.
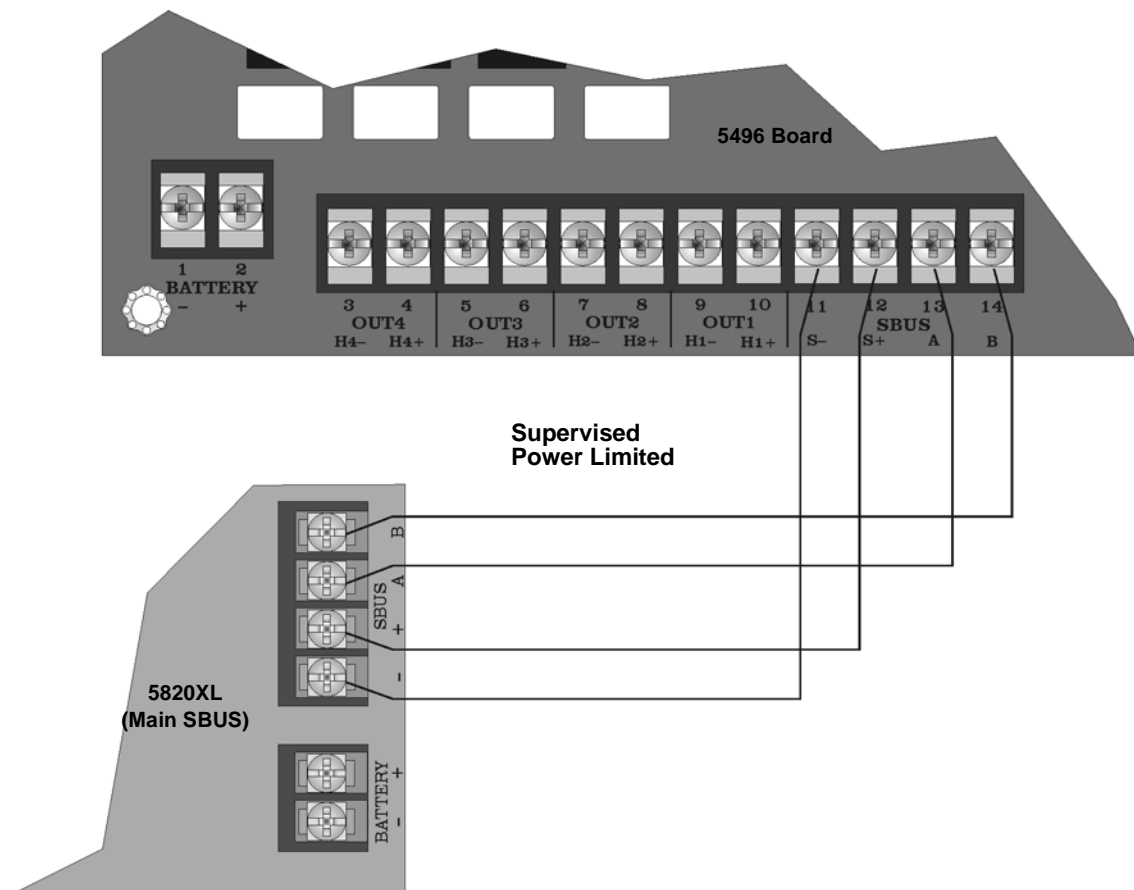
Figure 3-3 Class B 5496 Connection to FACP

3.3.1 Setting the Device ID

All SBUS modules in the system must have a unique number (1-31) to identify them to the FACP. Use the DIP switch on the 5496 board to set the module ID number. Figure 2-1 shows the location of the dipswitch on the board. Figure 3-4 shows dipswitch setting and the corresponding module ID numbers.

Figure 3-4 Possible Module Addresses

3.4   Notification Appliance Wiring

Note: *Not all devices can use the Sync feature. Be sure to check Table A-1 in Appendix A to ensure the device you have chosen will work with this feature.*

3.4.1   Class A Supervised Wiring

Figure 3-5 shows how to wire for Class A output supervision. Use in/out wiring methods for proper supervision. Refer to Section 4 for notification appliances compatible with the 5496.

Class A Output Notification Circuits

The configuration shown in Figure 3-5 shows two, 3-amp devices wired as Class A circuits. When you are using the outputs as Class A circuits, loop the wiring back to the corresponding circuit pair. For Class A wiring, no external EOL is necessary since it is built into the 5496 board.
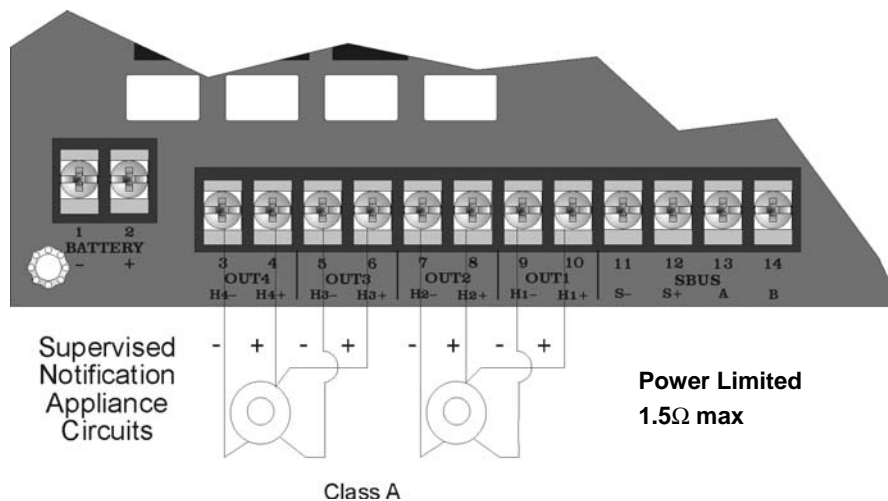
Figure 3-5 Class A Supervised Input/Output Connections

3.4.2   Class B Supervised Wiring

Figure 3-6 shows how to wire for Class B output supervision. Use in/out wiring methods for proper supervision. Refer to Section 4 for notification appliances that must be used with the 5496.

Class B Output Notification Circuits

Figure 3-6 shows four, 1.5 amp devices wired as Class B circuits.

Place a 4.7k ohm EOL resistor (provided) at the end of each circuit to enable supervision when using all outputs as Class B notification appliance circuits. The 4.7k EOLs must be wired to the terminals whether or not you are using all output terminals.
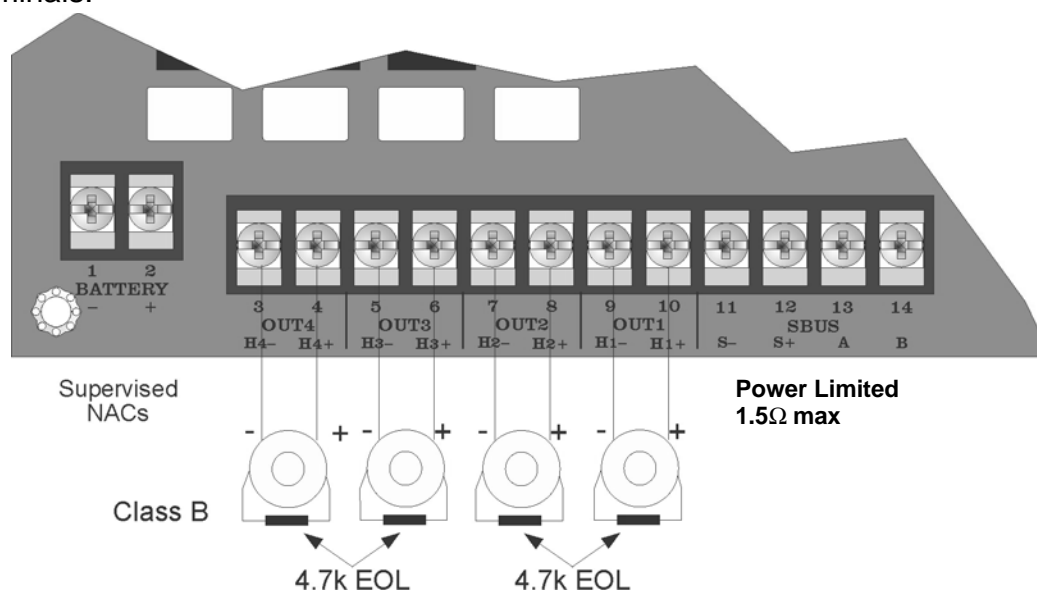
Figure 3-6 Regulated Class B Supervised Input/Output Connections

3.4.3   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

3.4.4   Auxiliary Power Configuration

Output circuits 1-4 on the control panel can be used as auxiliary power circuits. The three types of auxiliary power available are:

- Door Holder (see Section 3.4.4.1 for description)

- Constant (see Section 3.4.4.2 for description)

- Resettable (see Section 3.4.4.3 for description)

- Sounder Sync Power

Auxiliary power circuits are power limited. Each circuit can source up to 3A (total current for all output circuits must not exceed 6 A).

To configure an output circuit as auxiliary power:

1. Wire the output circuit(s) that will be used for auxiliary power. See Figure 3-7 for location of the output circuits.

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

Power Limited
Supervised when used with the
Power Supervision Relay (PN160150)
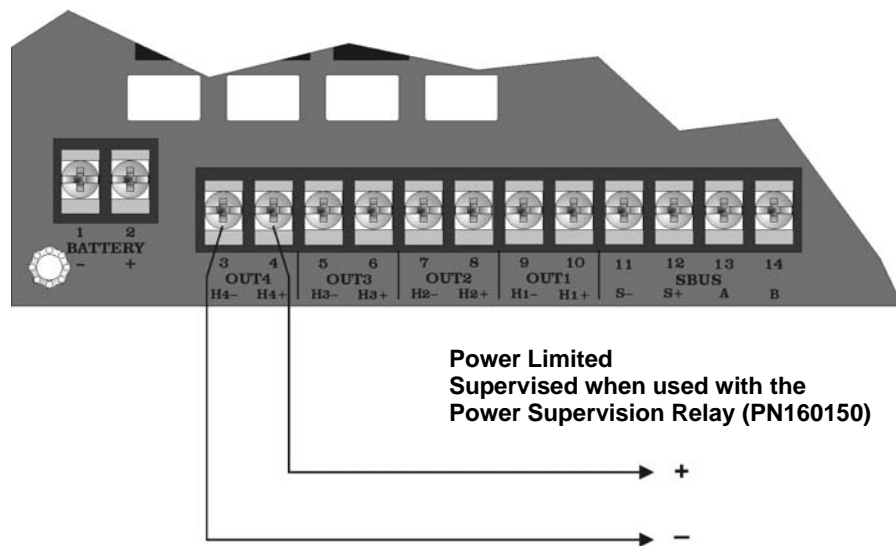
Figure 3-7 Output Circuits Used as Auxiliary Power

3.4.4.1 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.

3.4.4.2 Constant Power

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

3.4.4.3 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.

3.4.4.4 Sounder Sync Power

Sounder Sync Power continuously outputs the System Sensor synchronization pattern and is intended for use with B200S sounder bases

Appendix A
Compatible Devices

For proper operation, you must use polarized devices with a Model 7628 4.7k ohm EOL resistor on each circuit. All supervised notification appliances used with the 5496 must be polarized.

A.1   Notification Appliances

Note: Not all devices can use the Sync feature, be sure to check A.1 to ensure the device you have chosen will work with this feature. This control is UL listed for single circuit 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	x	x	Horn/Strobe
	SAD24-153075		x	Strobe
	SAD24-75110		x	Strobe
	SL24W-75110		x	Strobe
	SL24C-3075110		x	Strobe
	SLB24-75		x	Strobe
	RSD24-153075		x	Strobe
	RSD24-75110		x	Strobe
	SH24W-75110	x	x	Horn/Strobe
	SH24W-3075110	x	x	Horn/Strobe
	SHB24-75	x	x	Horn/Strobe
	SCM24W-153075	x		Chimes/Strobe
	SCM24W-75110	x		Chimes/Strobe
	SCM24C-3075110	x		Chimes/Strobe
	SCM24C-177	x		Chimes/Strobe
	H24W	x		Horn
	H24R	x		Horn

Table A-1: Compatible Notification Appliances

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

Table A-1: Compatible Notification Appliances

Manufacturer	Model	Audio	Visual	Type
	GEC-24-15	x	x	Horn/Strobe
	GEC-24-30	x	x	Horn/Strobe
	GEC-24-60	x	x	Horn/Strobe
	GEC-24-75	x	x	Horn/Strobe
	GEC-24-177	x	x	Horn/Strobe
	GEC-24-110	x	x	Horn/Strobe
	GEC-24-15/75	x	x	Horn/Strobe
	GX91	x		MiniHorn Steady Tone
	GX93	x		MiniHorn Temporal Tone
	HG124	x		Horn
	HS24-15	x	x	Horn/Strobe
	HS24-30	x	x	Horn/Strobe
	HS24-60	x	x	Horn/Strobe
	HS24-75	x	x	Horn/Strobe
	HS24-110	x	x	Horn/Strobe
	HS24-1575	x	x	Horn/Strobe
	GCC24	x	x	Multi Candella Horn/Strobe Ceiling Mount
	GCCR24		x	Multi Candella Horn/Strobe Ceiling Mount
	GCS24		x	Multi Candella Strobe Ceiling Mount
	GCSR24		x	Multi Candella Strobe Ceiling Mount
Gentex	GECR-24	x	x	Multi Candella Horn/Strobe
	GES24-15		x	Strobe
	GES24-30		x	Strobe
	GES24-60		x	Strobe
	GES24-75		x	Strobe
	GES24-110		x	Strobe
	GES24-15/75		x	Strobe
	GES24-177		x	Strobe
	GES3-24		x	Multi Candella Strobe
	GESR-24		x	Multi Candella Strobe
	GEH-24	x		Horn
	ST24-30		x	Strobe
	ST24-60		x	Strobe
	ST24-75		x	Strobe
	ST24-110		x	Strobe
	ST24-1575		x	Strobe
	WGEC24-75W	x	x	Weatherproof Horn/Strobe
	WGES24-75W		x	Weatherproof Strobe
	WGMS-24-X	x	x	Horn/Strobe

Table A-1: Compatible Notification Appliances

Manufacturer	Model	Audio	Visual	Type
System Sensor	CHR	x		Chime
	CHW	x		Chime
	CHSR	x	x	2-Wire Chime/Strobe
	CHSW	x	x	2-Wire Chime/Strobe
	HR	x	x	Horn
	HW		x	Horn
	HRK		x	Horn
	HWL		x	Horn WHT Wall 4x4
	HRL		x	Horn Red Wall 4x4
	HGRL		x	Horn Red Wall 2x4
	HGWL		x	Horn WHT Wall 2x4
	CHWL	x		Chime WHT Wall 4x4
	CHRL	x		Chime Red Wall 4x4
	CHSRL	x	x	Chime/Strobe Red Wall 4x4
	CHSWL	x	x	Chime/Strobe WHT Wall 4x4
	CHSCRL	x	x	Chime/Strobe Red Ceil 4x4
	CHSCWL	x	x	Chime/Strobe WHT Ceil 4x4
	P2R	x	x	2-Wire Horn/Strobe
	P2R-P	x	x	2-Wire Horn/Strobe
	PC2R	x	x	2-Wire Horn/Strobe
	PC2R-P	x	x	2-Wire Horn/Strobe
	P2RH	x	x	2-Wire Horn/Strobe High Candela
	P2RH-P	x	x	2-Wire Horn/Strobe High Candela
	PC2RH	x	x	2-Wire Horn/Strobe High Candela
	PC2RH-P	x	x	2-Wire Horn/Strobe High Candela
	P2W	x	x	2-Wire Horn/Strobe
	P2W-P	x	x	2-Wire Horn/Strobe
	PC2W	x	x	2-Wire Horn/Strobe
	PC2W-P	x	x	2-Wire Horn/Strobe
	P2WH	x	x	2-Wire Horn/Strobe High Candela
	P2WH-P	x	x	2-Wire Horn/Strobe High Candela
	PC2WH	x	x	2-Wire Horn/Strobe High Candela
	PC2WH-P	x	x	2-Wire Horn/Strobe High Candela
	P2RK	x	x	2-Wire Horn/Strobe
	PC2RK	x	x	2-Wire Horn/Strobe
	P2RHK	x	x	2-Wire Horn/Strobe High Candela
	PC2RHK	x	x	2-Wire Horn/Strobe High Candela
	P4R	x	x	4-Wire Horn/Strobe
	PC4R	x	x	4-Wire Horn/Strobe
	P4RH	x	x	4-Wire Horn/Strobe High Candela

Table A-1: Compatible Notification Appliances

Manufacturer	Model	Audio	Visual	Type
	P4W	x	x	4-Wire Horn/Strobe
	PC4W	x	x	4-Wire Horn/Strobe
	P4WH	x	x	4-Wire Horn/Strobe High Candela
	PC4WH	x	x	4-Wire Horn/Strobe High Candela
	P4RK	x	x	4-Wire Horn/Strobe
	PC4RK	x	x	4-Wire Horn/Strobe
	P4RHK	x	x	4-Wire Horn/Strobe High Candela
	PC4RHK	x	x	4-Wire Horn/Strobe High Candela
	PC4RH	x	x	4-Wire Horn/Strobe High Candela
	P2RL, P2RL-P, P2RL-SP*	x	x	Horn/Strobe 2W Red Wall 4x4
	P2WL, P2WL-P, P2WL-SP*	x	x	Horn/Strobe 2W WHT Wall 4x4
	PC2RL	x	x	Horn/Strobe 2W Red Ceil 4x4
	PC2WL	x	x	Horn/Strobe 2W WHT Ceil 4x4
	P2GRL	x	x	Horn/Strobe 2W Red Wall 2x4
	P2GWL	x	x	Horn/Strobe 2W WHT Wall 2x4
	P4RL	x	x	Horn/Strobe 4W Red Wall 4X4
	P4WL	x	x	Horn/Strobe 4W WHT Wall 4X4
	PC4RL	x	x	Horn/Strobe 4W Red Ceil 4X4
System Sensor (cont.)	PC4WL	x	x	Horn/Strobe 4W WHT Ceil 4X4
	SR		x	Strobe
	SR-P		x	Strobe
	SCR		x	Strobe
	SCR-P		x	Strobe
	SRH		x	Strobe High Candela
	SRH-P		x	Strobe High Candela
	SCRH		x	Strobe High Candela
	SCRH-P		x	Strobe High Candela
	SW		x	Strobe
	SW-P		x	Strobe
	SCW		x	Strobe
	SCW-P		x	Strobe
	SWH		x	Strobe High Candela
	SWH-P		x	Strobe High Candela
	SCWH		x	Strobe High Candela
	SCWH-P		x	Strobe High Candela
	SRK		x	Strobe
	SCRK		x	Strobe
	SRHK		x	Strobe High Candela

Table A-1: Compatible Notification Appliances

Manufacturer	Model	Audio	Visual	Type
System Sensor (cont.)	SCRHK		x	Strobe High Candela
	SRL, SRL-P, SRL-SP*		x	Strobe Red Wall 4x4
	SWL, SWL-P, SWL-ALERT SWL-CLR-ALERT*		x	Strobe White Wall 4x4
	SCRL		x	Strobe Red Ceil 4x4
	SCWL		x	Strobe White Ceil 4x4
	SCWL-CLR-ALERT		x	Strobe WHT Ceil CLR Lens 4x4
	SGRL		x	Strobe Red Wall 2x4
	SGWL		x	Strobe White Wall 2x4
	P2RH-LF	x	x	2-Wire Low Frequency Sounder Strobe
	P2WH-LF	x	x	2-Wire Low Frequency Sounder Strobe
	HR-LF	x		Low Frequency Sounder
	HW-LF	x		Low Frequency Sounder
* P=Plain, ALERT=Pad Printing ALERT, SP=Fuego				
Wheelock	AH-12	x		Horn
	AH-24	x		Horn
	AH-12WP	x		Horn Weatherproof
	AH-24WP	x		Horn Weatherproof
	AMT-241575W	x	x	Multi-Tone Horn Strobe
	AMT-24MCW		x	Mutli-Tone Horn Strobe
	AMT-241575W-NYC	x	x	Multi-Tone Horn Strobe
	AMT-12/24	x		Multi-tone Horn
	AMT-12/24 NYC	x		Multi-tone Horn
	AS-121575W		x	Horn/Strobe
	NH-12/24	x	x	Horn
	AS-241575W	x	x	Horn/Strobe
	AS-24MCC	x	x	Horn/Strobe
	AS-24MCCH	x	x	Horn/Strobe
	AS-24MCW	x	x	Horn/Strobe
	AS-24MCWH	x	x	Horn/Strobe
	ASWP-2475W	x	x	Horn/Strobe Weatherproof
	ASWP-2475C	x	x	Horn/Strobe Weatherproof
	ASWP-24MCWH	x	x	Horn/Strobe
	ASWP-24MCCH	x	x	Horn/Strobe
	CH-70	x		Chime
	CH-90	x		Chime
	CH70-241575W		x	Chime/Strobe
	CH70-24MCW		x	Chime/Strobe
	CH70-24MCWH		x	Chime/Strobe
	CH90-24MCC		x	Chime/Strobe
	CH90-24MCCH		x	Chime/Strobe

Table A-1: Compatible Notification Appliances

Manufacturer	Model	Audio	Visual	Type
	HS-24	x		Horn
	HS4-241575W	x	x	Horn/Strobe
	HS4-24MCW	x	x	Horn/Strobe
	HS4-24MCWH	x	x	Horn/Strobe
	HS4-24MCC	x	x	Horn/Strobe
	MIZ-24S	x	x	Mini Horn Strobe
	MT-121575W		x	MultitoneHorn Strobe
	MT-241575W	x	x	Multitone Horn Strobe
	MT-24MCW		x	Multitone Horn Strobe
	MTWP-2475W		x	Multitone Horn Strobe
	MTWP-2475C		x	Multitone Horn Strobe
	MTG-121575W	x	x	Multitone Horn Strobe
	MTR-121575W	x	x	Multitone Horn Strobe
	MTWPA-2475W	x	x	Multitone Horn Strobe
	MTWPB-2475W	x	x	Multitone Horn Strobe
	MTWPG-2475W	x	x	Multitone Horn Strobe
	MTWPR-2475W	x	x	Multitone Horn Strobe
	MTWPA-24MCCH	x	x	Multitone Horn Strobe
	ZNH	x		Horn
Wheelock	NS-121575W	x	x	Horn/Strobe
(cont.)	NS-241575W	x	x	Horn/Strobe
	NS-24MCW	x	x	Horn/Strobe
	NS-24MCC	x	x	Horn/Strobe
	NS-24MCCH	x	x	Horn/Strobe
	ZNS-MCW	x	x	Horn/Strobe
	ZNS-MCWH	x	x	Horn/Strobe
	ZNS-24MCC	x	x	Horn/Strobe
	ZNS-24MCCH	x	x	Horn/Strobe
	RSS-121575W		x	Strobe
	RSS-241575W		x	Strobe
	RSS-24MCC		x	Strobe
	RSS-24MCCR		x	Strobe
	RSS-24MCCH		x	Strobe
	RSS-24MCCHR		x	Strobe
	RSS-24MCW		x	Strobe
	RSS-24MCWH		x	Strobe
	RSSP-121575W		x	Strobe
	RSSP-241575W		x	Strobe
	RSSR-2415W		x	Strobe
	RSSR-2415C		x	Strobe

Table A-1: Compatible Notification Appliances

Manufacturer	Model	Audio	Visual	Type
	RSSR-2475W		x	Strobe
	RSSR-2475C		x	Strobe
	RSSR-24110C		x	Strobe
	RSSA-24110W		x	Strobe
	RSSB-24110W		x	Strobe
	RSSG-24110W		x	Strobe
	RSSR-24110W		x	Strobe
	RSSA-24MCC		x	Multi-Cd Strobe
	RSSB-24MCC		x	Multi-Cd Strobe
	RSSG-24MCC		x	Multi-Cd Strobe
	RSSR-24MCC		x	Multi-Cd Strobe
	RSSWPA-2475W		x	Strobe Weatherproof
	RSSWPA-24MCCH		x	Strobe Weatherproof
	RSSWPG-24MCCH		x	Strobe Weatherproof
	RSSWPR-24MCCH		x	Strobe Weatherproof
	RSSWP-2475W		x	Strobe Weatherproof
	RSSWP-2475C		x	Strobe Weatherproof
	RSSWP-24MCWH		x	Strobe Weatherproof
Wheelock (cont.)	ZRS-MCWH		x	Strobe
	ZRS-24MCC		x	Strobe
	ZRS-24MCCH		x	Strobe
	MB-G6-24	x		Motor Bell
	MB-G10-24	x		Motor Bell
	MB-G6-12	x		Motor Bell
	MB-G10-12	x		Motor Bell
	MIZ-24-R	x		Mini-Horn
	MT-12/24-R	x	x	Multitone Horn
	MT4-12/2z	x	x	Multitone Horn
	ZRS-MCW		x	Strobe
	MTWPR-24MCCH	x	x	Multitone Horn Strobe
	NH-12/24R	x		Horn
	HSR		x	Horn/Strobe
	HSW		x	Horn/Strobe
	STR		x	Strobe
	STW		x	Strobe
	HNR		x	Horn
	HNW		x	Horn

Door Holder Device

The following UL listed door holder can be used with the 5496: ESL DHS-1224.

Honeywell Fire Product Warranty and Return Policy

General Terms and Conditions

- All new fire products manufactured by Honeywell 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 RMA Procedure

- All products that are returned to Honeywell for credit or repair require a RMA (Return Authorization) number. Call 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.

- Honeywell Silent Knight and Farenhyt Series 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.

- Included with each return should be: a packing slip that has the RMA number, a content list, and a detailed description of the problem.

- All products returned by Honeywell must be sent freight pre-paid. After the product is processed, Honeywell will pay for shipping product back to customer via UPS ground.

- Return the Honeywell 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.** Honeywell 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 Honeywell Silent Knight repair charge for that model.

Advanced Replacement Policy

- Honeywell Silent Knight and Farenhyt Series 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 Honeywell Silent Knight distributor or call Honeywell Silent Knight at 800-328-0103 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 Honeywell Silent Knight. All returned products must comply with the guidelines described under "General Terms and Conditions" and "Repair and RMA Procedure".

- 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:
  Honeywell Fire Systems
  Attn: Repair Department / RA Number_____
  12 Clintonville Road
  Northford, CT 06472   USA

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, service 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.

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