

DISPLAY THIS CARD ON PRINCIPAL FRONTAGE OF WORK

# CITY OF PORTLAND BUILDING INSPECTION PERMIT

Please Read  
Application And  
Notes, If Any,  
Attached

PERMIT ISSUED  
Permit Number ~~10034~~ 10034 2010  
CITY OF PORTLAND

This is to certify that Pws Holdings - Cassidy Llc /Protection One

has permission to Install fire alarm system

AT 128 Cassidy Pt Rd

CBL 072-A002001

provided that the person or persons, firm or corporation accepting this permit shall comply with all of the provisions of the Statutes of Maine and of the Ordinances of the City of Portland regulating the construction, maintenance and use of buildings and structures, and of the application on file in this department.

Apply to Public Works for street line and grade if nature of work requires such information.

Notification of inspection must be given and written permission procured before this building or part thereof is lathed or otherwise closed-in. 24 HOUR NOTICE IS REQUIRED.

A certificate of occupancy must be procured by owner before this building or part thereof is occupied.

**OTHER REQUIRED APPROVALS**

Fire Dept. [Signature]

Health Dept. \_\_\_\_\_

Appeal Board \_\_\_\_\_

Other \_\_\_\_\_

Department Name

[Signature] 5/6/10  
Director - Building & Inspection Services

**PENALTY FOR REMOVING THIS CARD**

# City of Portland, Maine - Building or Use Permit Application

389 Congress Street, 04101 Tel: (207) 874-8703, Fax: (207) 874-8716

Permit No: 10-0341	Issue Date:	CBL: 072 A002001
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Location of Construction: 128 Cassidy Pt Rd	Owner Name: Pws Holdings - Cassidy Llc	Owner Address: Cassidy Pt Rd	Phone:
Business Name: Advantage Gases and Tools	Contractor Name: Protection One	Contractor Address: 10 Manuel Drive Portland	Phone 2073475316
Lessee/Buyer's Name	Phone:	Permit Type: Fire Alarm System	Zone:

Past Use: Commercial	Proposed Use: Commercial / Install fire alarm system. <i>forestry use: ADVANTAGE GASES &amp; TOOLS 4/29/10</i>	Permit Fee: \$100.00	Cost of Work: \$8,000.00	CEO District: 3
Proposed Project Description: Install fire alarm system.		FIRE DEPT: <i>of conditions</i> <input checked="" type="checkbox"/> Approved <input type="checkbox"/> Denied	INSPECTION: Use Group: <i>IBC-2003</i> Type: <i>Fire Alarm</i>	
		Signature: <i>[Signature]</i>	Signature: <i>[Signature]</i>	

PEDESTRIAN ACTIVITIES DISTRICT (P.A.D.)		
Action:	<input type="checkbox"/> Approved	<input type="checkbox"/> Approved w/Conditions
	<input type="checkbox"/> Denied	
Signature:	Date:	

Permit Taken By: gg	Date Applied For: 04/06/2010	<b>Zoning Approval</b>	
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<ol style="list-style-type: none"> <li>This permit application does not preclude the Applicant(s) from meeting applicable State and Federal Rules.</li> <li>Building permits do not include plumbing, septic or electrical work.</li> <li>Building permits are void if work is not started within six (6) months of the date of issuance. False information may invalidate a building permit and stop all work..</li> </ol>	<b>Special Zone or Reviews</b> <input type="checkbox"/> Shoreland <input type="checkbox"/> Wetland <input type="checkbox"/> Flood Zone <input type="checkbox"/> Subdivision <input type="checkbox"/> Site Plan Maj <input type="checkbox"/> Minor <input type="checkbox"/> MM <input type="checkbox"/> Date: <i>4/7/10</i>	<b>Zoning Appeal</b> <input type="checkbox"/> Variance <input type="checkbox"/> Miscellaneous <input type="checkbox"/> Conditional Use <input type="checkbox"/> Interpretation <input type="checkbox"/> Approved <input type="checkbox"/> Denied Date:	<b>Historic Preservation</b> <input checked="" type="checkbox"/> Not in District or Landmark <input type="checkbox"/> Does Not Require Review <input type="checkbox"/> Requires Review <input type="checkbox"/> Approved <input type="checkbox"/> Approved w/Conditions <input type="checkbox"/> Denied Date:
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### CERTIFICATION

I hereby certify that I am the owner of record of the named property, or that the proposed work is authorized by the owner of record and that I have been authorized by the owner to make this application as his authorized agent and I agree to conform to all applicable laws of this jurisdiction. In addition, if a permit for work described in the application is issued, I certify that the code official's authorized representative shall have the authority to enter all areas covered by such permit at any reasonable hour to enforce the provision of the code(s) applicable to such permit.

SIGNATURE OF APPLICANT	ADDRESS	DATE	PHONE
RESPONSIBLE PERSON IN CHARGE OF WORK, TITLE		DATE	PHONE

**City of Portland, Maine - Building or Use Permit**

389 Congress Street, 04101 Tel: (207) 874-8703, Fax: (207) 874-8716

Permit No: 10-0341	Date Applied For: 04/06/2010	CBL: 072 A002001
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Location of Construction: 128 Cassidy Pt Rd	Owner Name: Pws Holdings - Cassidy Llc	Owner Address: Cassidy Pt Rd	Phone:
Business Name: Advantage Gases and Tools	Contractor Name: Protection One	Contractor Address: 10 Manuel Drive Portland	Phone (207) 347-5316
Lessee/Buyer's Name	Phone:	Permit Type: Fire Alarm System	

Proposed Use: Commercial- Advantage Gases & Tools / Install fire alarm system.	Proposed Project Description: Install fire alarm system.
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Dept: Zoning	Status: Approved	Reviewer: Marge Schmuckal	Approval Date: 04/07/2010
Note:			Ok to Issue: <input checked="" type="checkbox"/>
Dept: Building	Status: Approved with Conditions	Reviewer: Jeanine Bourke	Approval Date: 05/06/2010
Note:			Ok to Issue: <input checked="" type="checkbox"/>
<ol style="list-style-type: none"> <li>1) Fire Alarm systems shall be installed per Sec. 907 of the IBC 2003</li> <li>2) Separate permits are required for any electrical, plumbing, sprinkler, fire alarm HVAC systems, heating appliances, commercial hood exhaust systems and fuel tanks. Separate plans may need to be submitted for approval as a part of this process.</li> </ol>			
Dept: Fire	Status: Approved with Conditions	Reviewer: Ben Wallace Jr.	Approval Date: 04/29/2010
Note:			Ok to Issue: <input checked="" type="checkbox"/>
<ol style="list-style-type: none"> <li>1) Supervision of the sprinkler system and heat detector in the compressed gases room shall be provided. Strobe candela shall be updated per NFPA 72-2010 edition</li> <li>2) Installation of a Fire Alarm system requires a Knox Box to be installed per city ordinance</li> <li>3) As-built documents shall be submitted in pdf to the Building Inspections Office upon completion of job.</li> <li>4) System acceptance and commissioning must be co-ordinated with alarm and suppression system contractors and the Fire Department. Call 874-8703 to schedule.</li> <li>5) All fire alarm records required by NFPA 72 should be stored in an approved cabinet located at the FACP labeled "FIRE ALARM RECORDS". Records cabinet, FACP, annunciator(s), and pull stations shall be keyed alike.</li> <li>6) The fire alarm system shall comply with the City of Portland Standard for Signaling Systems for the Protection of Life and Property. All fire alarm installation and servicing companies shall have a Certificate of Fitness from the Fire Department.</li> </ol>			



## **BUILDING PERMIT INSPECTION PROCEDURES**

**Please call 874-8703 or 874-8693 (ONLY )  
or email: [buildinginspections@portlandmaine.gov](mailto:buildinginspections@portlandmaine.gov)**

With the issuance of this permit, the owner, builder or their designee is required to provide adequate notice to the City of Portland Inspection Services for the following inspections. Appointments must be requested 48 to 72 hours in advance of the required inspection. The inspection date will need to be confirmed by this office.

- **Please read the conditions of approval that is attached to this permit!! Contact this office if you have any questions.**
- **Permits expire in 6 months, if the project is not started or ceases for 6 months.**
- **If the inspection requirements are not followed as stated below additional fees may be incurred due to the issuance of a "Stop Work Order" and subsequent release to continue with construction.**

  X   **Final inspection required at completion of work.**

**The project cannot move to the next phase prior to the required inspection and approval to continue, REGARDLESS OF THE NOTICE OR CIRCUMSTANCES.**

**IF THE PERMIT REQUIRES A CERTIFICATE OF OCCUPANCY, IT MUST BE PAID FOR AND ISSUED TO THE OWNER OR DESIGNEE BEFORE THE SPACE MAY BE OCCUPIED.**



## Benjamin Wallace - Advantage Gases and Tools - 128 Cassidy Pt Rd

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**From:** Benjamin Wallace  
**To:** kevininman@protectionone.com  
**Date:** 4/21/2010 1:15 PM  
**Subject:** Advantage Gases and Tools - 128 Cassidy Pt Rd  
**Attachments:** Benjamin Wallace.vcf

---

Hi Kevin,

How is supervision of the sprinkler system and heat detector(s) in the compressed gas rooms going to be accomplished? It's not indicated on the permit.

15 candela ceiling strobes are only good for a 20' x 20' room. The legend indicates all ceiling strobes are 15 candela.

Please re-compute and update the permit.

Thanks,

Benjamin A. Wallace Jr.  
Fire Prevention Officer  
Portland Fire Department  
380 Congress Street  
Portland, Maine 04101  
(207)756-8096  
wallaceb@portlandmaine.gov



# Fire Alarm Permit

If you or the property owner owes real estate or property taxes or user charges on any property within the city, payment arrangements must be made before permits of any kind are accepted.

Installation address: 128 Cassidy Point Dr CBL: 072 A002

Exact location: (within structure) beside front door

Type of occupancy(s) (NFPA & ICC): Business/warehouse

Building owner: Advantage Gases & Tools → Not A New owner use

System Designer (point of contact): Kevin Inman

Designer phone: 207-332-1204 E-mail: kevininman@protectionone.com

Installing contractor: Protection One Certificate of Fitness No: 1003

Contractor phone: 207-347-5316 E-mail: johnkempton@protectionone.com

This is a new application: YES  NO

This is an amendment to an existing permit: YES  NO  Permit no: \_\_\_\_\_

The following documents shall be provided with this application:

- Floor plans
- Wiring diagram
- Annunciator details
- Equipment data sheets
- Battery & voltage drop calculations
- Input/ Output Matrix
- Designer qualifications
- Electrical Permit Pulled (check alarm/com)

RECEIVED

APR - 6 2010

Dept. of Building Inspections  
City of Portland Maine

COST OF WORK:	<u>8000</u>
PERMIT FEE:	<u>100</u>
(\$10 PER \$1,000 + \$30 FOR THE FIRST \$1,000)	

The designer shall be the responsible party for this application. Download a new copy of this application at [www.portlandmaine.gov/fire](http://www.portlandmaine.gov/fire) for every submittal. Submit all plans in electronic PDF in addition to full sized plans to the Building Inspections Department, 389 Congress Street, Room 315, Portland, Maine 04101.

Prior to acceptance of any fire alarm system, a complete commissioning and acceptance test must be coordinated with all fire system contractors and the Fire Department, and proper documentation of such test(s) provided.

All installation(s) must comply with the City of Portland Technical Standard for Signaling Systems for the Protection of Life and Property, available at [www.portlandmaine.gov/fire](http://www.portlandmaine.gov/fire).

Applicant signature: [Signature] Date: 3/23/10



## IntelliKnight® 5808 Single Loop Addressable Fire Alarm Control System



**The convenience of an addressable fire alarm control panel in a cost-effective easy to use package.**

IntelliKnight Model 5808 is a 127 point class leading single loop addressable fire alarm control/communicator system. 5808 provides you with the revolutionary value and performance of addressable sensing technology combined with exclusive, built-in digital communication, distributed intelligent

power, easy to use interface. Powerful features such as drift compensation and maintenance alert are delivered in this powerful FACP from Silent Knight.

For more information about the IntelliKnight system, or to locate your nearest source, please call 1-800-328-0103, or in Connecticut, call 203-484-7161.

### Description

The basic 5808 system can be enhanced by adding modules such as 5860 remote annunciator, 5824 serial/parallel printer interface module (for printing system reports), and 5496 intelligent power module. 5808 supports Hochiki or SK protocol devices. 5808 also features a powerful built-in dual line fire communicator that allows for reporting of all system activity to a remote monitoring location.

### Features

- Built-in support for up to 127 Hochiki devices or 99 SK detectors and 99 SK modules
- Up to 125 zones and 125 output groups
- Uses standard wire—no shielded or twisted pair required
- Built-in digital communicator
- Central station reporting by point or by zone
- Supports Class B (Style 4) and Class A (Style 6 or 7) configuration for SLC
- Distributed, intelligent power
- Drift compensation
- 13 pre-programmed output cadences, (including ANSI-3.41), and 4 programmable outputs
- Notification circuits can be configured as 2 Class A (Style Z) or 4 Class B (Style Y), or auxiliary power for resettable, constant, or door holder power
- Built-in annunciator with 80-character LCD display
- RS-485 bus provides communication to system accessories
- Built-in RS-232 and USB interface for programming via a PC
- Upload or download programming, event history, or detector status via remote or direct connection
- Improvements in SKSS deliver five times faster upload/downloads
- Built-in synchronization for appliances from AMSECO, Gentex®, Faraday, System Sensor®, and Wheelock®
- One Form C trouble relay rated at 2.5A at 27.4 VDC and two Form C programmable relays rated at 2.5A at 27.4 VDC
- Programmable date setting for Daylight Saving Time
- Plex-2 door option combines a dead front cabinet door with a clear window, limiting access to the panel while providing single button operation of the reset and silence functions



Model 5808

- Integrated dead front panel protects operator from exposure to electrical components
- The FACP enclosure features a Plexiglass® viewing window to protect annunciator
- Acknowledge function allows operator to keep track of event status

### Installation

The 5800 can be surface or flush mounted.

### Compatibility

The 5808 SLC supports multiple device types of the same protocol:

- Hochiki
- SK

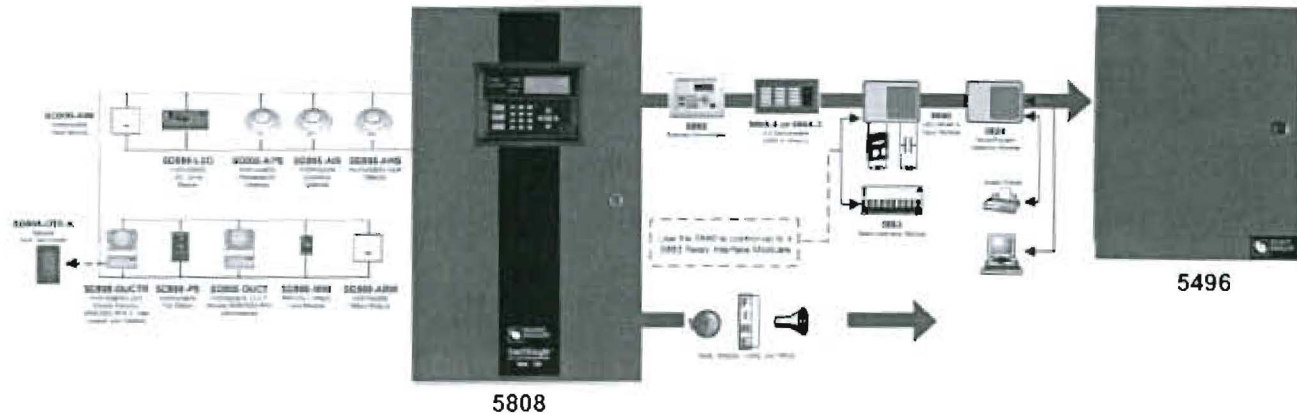
You cannot mix Hochiki and SK devices on a FACP. However, any combination of addressable devices of the same protocol can be used on the 5808.



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**Specifications**

**Electrical**

Primary AC: 120 VRMS at 50/60 Hz, 2.75A  
 Total Accessory Load: 6A @ 27.4 VDC  
 Notification Power: 6A @ 27.4 VDC, power-limited  
 Standby Current: 170 mA  
 Alarm Current: 325 mA  
 Notification & Auxiliary Circuits: 3A @ 27.4 VDC per circuit, power-limited  
 Battery Charging Capacity: 7.0-35.0 AH  
 Battery Size: 18 AH max. allowed in FACP. Larger capacity batteries can be housed in an RBB accessory cabinet

**Physical**

Flush Mount Dimensions:  
 14 5" W x 24.75" H x 3 5" D  
 (36.8 W x 62.9 H x 8.73 D cm)  
 Overall Dimensions  
 16" W x 26.4" H x 4.65" D  
 (40.6 W x 67 H x 11.8 D cm)  
 Weight: 28 lbs. (12.8 kg)  
 Color: Red  
 Telephone Requirements:  
 FCC Part 15 and Part 68 approved  
 Type of Jack: RJ31X (two required)

**Approvals**

NFPA 13, NFPA 15, NFPA 16, NFPA 70, & NFPA 72. Central Station, Remote Signalling; Local Protective Signalling Systems; Auxiliary Protected Premises Unit; & Water Deluge Releasing Service. Suitable for automatic, manual, waterflow, sprinkler supervisory (DACT non-coded) signalling services

Other Approvals: UL Listed; CSFM 7170-0559 142, MEA 429-92-E Vol. XIV

**S-BUS Accessories**

**5860/R Remote Fire Annunciator**  
 Features the same 80 character backlit LCD display keypad and firefighter's key switch as the 5808. 5860 is gray and 5860R is red.

**5496 Intelligent Power Module**  
 A 6 amp notification power expander that provides four additional power-limited notification appliance circuit outputs.

**5880 LED/IO Module**  
 Features 40 LED outputs, 8 normally open dry contact inputs and one piezo output.

**5865-3 and 5865-4 Remote LED Annunciator**  
 Features 30 programmable LED (15 red and 15 yellow) outputs and a piezo sounder. The 5865-4 adds a silence and reset switch to the package.

**5824 Serial/Parallel Printer Interface Module**  
 Provides one parallel and one RS-232 serial port for connecting a printer to 5808. Use to print a real-time log of system events, detector status reports, and event history.

**5883 Relay Board**  
 Features 10 general purpose Form C relays. Used with 5880 module.

**Miscellaneous Accessories**

**5660 Silent Knight Software Suite**  
 PC-base software for FACP programming. Upload and view panel account information, event history, and detector status.

**5670 Silent Knight Software Suite**  
 End-user facility management software allows viewing of detector status and event history via modem or direct connection.

**Plex-2 Door**  
 Dead front cabinet door with clear window to limit access to the FACP.

**RBB**  
 Remote Battery Box Accessory Cabinet. Use if backup batteries are too large to fit into FACP cabinet. Dimensions:  
 16" W x 10" H x 6" D (406 mm W x 254 mm H x 152 mm D)

**SD505-DTS-K**  
 Remote test switch that provides remote key operated test function and annunciation of detector alarm with SD505-DUCTR.

**Hochiki and SK Devices**  
 See the specification sheets listed below for a complete listing of the Hochiki and SK devices.

53624	Hochiki Devices Specification Sheet
53623	SK Device Protocol Devices Specification Sheet



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 350386 Rev. F  
 ECN 09-520 09/09  
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## SK-Heat, SK-Heat-HT and SK-Heat-ROR



### Addressable thermal heat and rate-of-rise detectors

The SK-Heat, SK-Heat-HT, and SK-Heat-ROR are plug in thermal detectors, with integral communication, that provide features that surpass conventional detectors. These thermal detectors are for use with Silent Knight IntelliKnight series Fire Alarm Control Panels (FACPs).

IntelliKnight heat detectors are an essential component in virtually any IntelliKnight installation. The IntelliKnight panel recognizes each detector by its specific address, so precious seconds are not wasted in determining location of an alarm.

### Description

SK-Heat, SK-Heat-HT and SK-Heat-ROR are intelligent sensors that utilize a state-of-the art thermistor sensing circuit for fast response. Sensitivity is continuously monitored and reported to the FACP. Point ID capability allows each detector's address to be set with rotary address switches, providing exact detector locations for selective maintenance when chamber contamination reaches unacceptable levels.

SK-Heat is a fixed temperature thermal detector that uses a thermistor sensing circuit to produce 135°F (57°C) fixed thermal detection.

SK-Heat-HT is a high temperature detector that provides fixed temperature alarm at 190°F.

SK-Heat-ROR is a fixed temperature and rate-of-rise thermal detector that uses a thermistor sensing circuit to produce 135°F (57°C) thermal protection.

### Features

- Sleek, low-profile design
- Reliable analog communications for trouble-free operation
- Age resistant polymer housing
- Innovative thermistor sensing circuit
- Superior EMI resistance for reliability
- Variety of mounting options to meet any application

- Dual LED indicators for 360° visibility
- Detector transmits signal to indicate maintenance is required
- Plug-in mounting provides ease of installation
- Optional remote LED annunciator (System Sensor® PN RA100Z)
- Tamper-proof feature available on mounting bases
- Rotary address switches for fast installation
- UL Listed

### Specifications

#### Physical

Height: 2.0" (51 mm)  
Diameter: 6.1" (155 mm) installed in B210LP base  
Shipping Weight: 4.8 oz (137 g)

#### Electrical

Operating Voltage: 15 to 32 Volts DC Peak  
Standby Current: 300µA @ 24 VDC  
LED Current: 6.5 mA @ 24 VDC

### Environmental

#### Operating Temperature

SK-Heat & SK-Heat-ROR: -4° – 100°F (20°C – 38°C)

SK-Heat-HT: -4° – 150°F (20°C – 66°C)

Humidity: 10% – 93% noncondensing

#### Thermal Ratings

SK-Heat: Fixed temperature setpoint 135°F (57°C)



SK-Heat (base included)

SK-Heat-HT: High temperature heat 190°F (88°C)

SK-Heat-ROR: Rate-of-rise detection 15°F/min (8.3°C/min)

### Compatibility

The SK-Ion is compatible with the following IntelliKnight FACP's:

5700  
5808  
5820XL

The SK-Heat, SK-Heat-HT and SK-Heat-ROR are compatible with the following detector bases:

B210LP	(included) 6" base
B501	2 wire base
B224BI	Isolator base
B224RB	Relay base
B501BH-2	Sounder base
B501BHT-2	Temporal base



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# Model SK-Heat, SK-Heat-HT, SK-Heat ROR Addressable Thermal and Rate-of-Rise Thermal Detectors

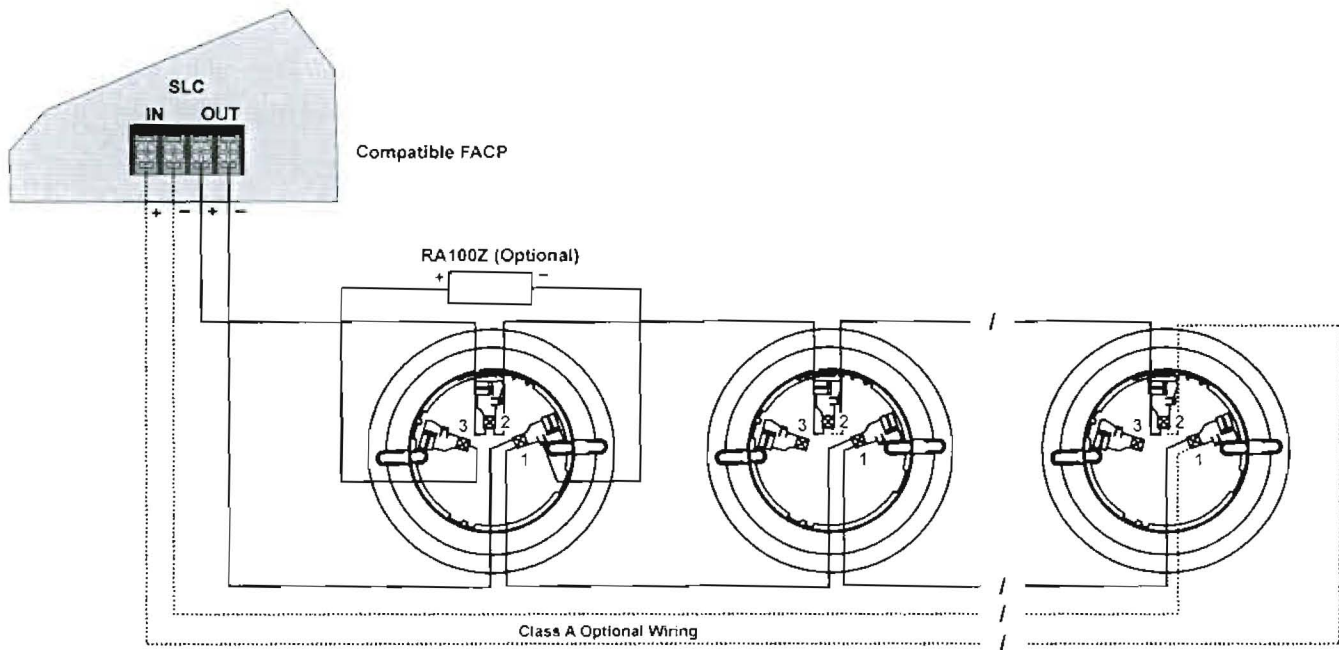


## Engineering Specifications

The contractor shall furnish and install where indicated on the plans, Intelligent Thermal Sensor Silent Knight Model SK-Heat, SK-Heat-HT or SK-Heat-ROR. The base included shall be B210LP.

The smoke detector shall have a flashing status LED for visual supervision. When the detector is actuated, the flashing LED will latch on steady at full brilliance. The detector may be reset by actuating the control panel reset switch.

The vandal-resistant, security locking feature shall be used in those areas as indicated on the drawing. The locking feature shall be field removable when not required. Voltage and RF/transient suppression techniques shall be employed to minimize false alarm potential.



Wiring SK-Series Detector Mounting Bases

### Accessories

RA100Z - Remote LED Annunciator.

RMK400 - Recessed Mounting Kit. Provides low profile for use with B501.

XR2B - Detector Removal Tool. A removal and re- placement tool for SK plug-in detectors. Includes the T55-127-000.

M02-04-01 - Replacement Test Magnet.

M02-09-00 - Test Magnet with Telescoping Handle.

XP-4 - Extension Pole for XR2B. Extends from 5 – 15 ft.

T55-127-000 - Detector Removal Head

BCK-200B - Black Detector Kit. For SK-series detectors.

\* Unless otherwise noted, specifications apply to all SK thermal detectors.



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FORM# 350120 Rev. A

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## SK-Photo and SK-Photo-T



### Intelligent Photoelectric Smoke Sensors

The SK-Photo is a photoelectric smoke detector and the SK-Photo-T is a photoelectric smoke detector with thermal. These plug-in smoke detectors, with integral communication, provide features that surpass conventional detectors and are for use with Silent Knight IntelliKnight Fire Alarm Control Panels (FACPs).

For more information about the IntelliKnight system, or to locate your nearest source, please call 800-328-0103 or in Connecticut, call (203) 484-7161.

#### Description

SK-Photo and SK-Photo-T are plug-in type smoke sensors that combine a photoelectric sensing chamber with addressable analog communications. Point ID capability allows each detector's address to be set with rotary address switches, providing exact detector locations for selective maintenance when chamber contamination reaches unacceptable levels.

SK-Photo and SK-Photo-T have a unique optical sensing chamber that is engineered to sense smoke produced by a wide range of combustion sources. In the SK-Photo-T, dual electronic thermistors add 135°F (57°C) thermal technology to maximize detection.

#### Features

- Sleek, low-profile design
- Base included
- Reliable analog communications for trouble-free operation
- Age resistant polymer housing
- Dual electronic thermistor design on the SK-Photo-T
- Superior EMI resistance for reliability
- Simple field cleaning for code compliance
- Variety of mounting options to meet any application
- Dual LED indicators for 360° visibility
- Detector transmits signal to indicate maintenance is required
- Optional remote LED annunciator (System Sensor® PN RA100Z)

- Plug-in mounting provides ease of installation
- Tamper-proof feature available on mounting bases
- Listed for use in duct applications
- Rotary address switches for fast installation
- UL Listed
- FM Approved

#### Specifications

##### Physical

Height: 2.0" (5.0 cm)  
Diameter: 4.1" (10.4 cm)  
Shipping Weight: 5.2 oz. (147 g)

##### Electrical

Operating Voltage: 15–32 VDC  
Standby Current:  
300 µA @ 24 VDC Maximum  
Alarm Current: 6.5 mA @ 24 VDC max  
(with LED on)

##### Environmental

Operating Temperature  
SK-Photo: 32° – 120°F (0°C – 49°C)  
SK-Photo-T 32° – 100°F (0°C – 38°C)  
Humidity: 10% – 93% non-condensing

##### Other Ratings

SK-Photo-T Thermal: Fixed  
temperature set point 135°F (57°C)  
Velocity: 0 – 4000 fpm (0 – 20 m/sec)  
SK-Photo Insect Screen Hole Size:  
0.016" (0.41 mm) nominal



SK-Photo (Base included)

#### Compatibility

The SK-Photo and SK-Photo-T are compatible with the following IntelliKnight FACPs:

5700  
5808  
5820XL

SK-Photo and SK-Photo-T are compatible with the following detector bases:

B210LP	(included) 6" base
B501	2 wire base
B501BHT-2	Temporal base
B224RB	Relay base
B224BI	Isolator base
B501BH-2	Sounder base



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# Model SK-Photo and SK-Photo-T Intelligent Photoelectric Smoke Sensors



## Engineering Specifications

The contractor shall furnish and install where indicated on the plans, Intelligent photoelectric smoke sensors Silent Knight SK-Photo or SK-Photo-T with thermal. The combination detector head, and twist-lock base, shall be UL listed and compatible with Silent Knight's IntelliKnight fire control panels.

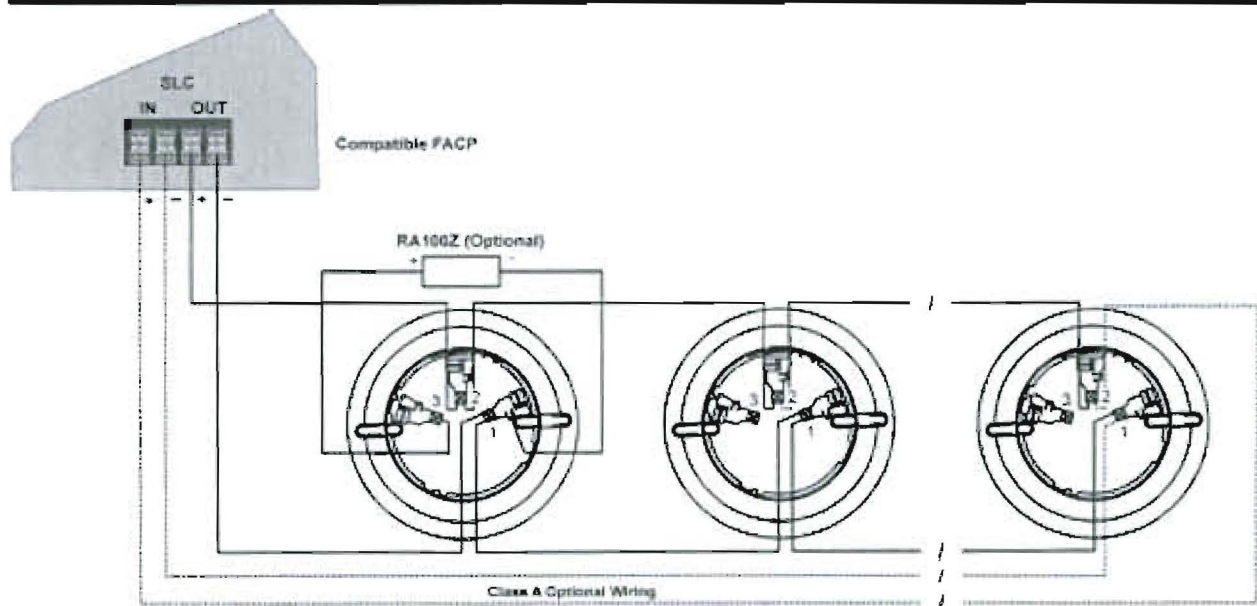
The base shall permit direct interchange with SK-Photo or SK-Photo-T. Base shall be the appropriate twist-lock base part number B210LP (included).

The smoke detector shall have a flashing status LED for visual supervision. When the detector is actuated, the flashing LED will latch on steady. The detector may be reset by actuating the control panel reset switch.

The calibration of the detector shall be capable of being selected and measured by the control panel without the need for external test apparatus.

The vandal-resistant, security locking feature shall be used in those areas as indicated on the drawing. The locking feature shall be field selectable as required.

The SK-Photo shall automatically perform a functional test of the detector. The test method shall simulate effects of products of combustion in the chamber to ensure testing of detector circuits.



Wiring SK-Series Detector Mounting Bases



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## SK-Pull-SA and SK-Pull-DA



### Intelligent Pull Stations

The SK-Pull-SA and SK-Pull-DA are a single action or dual action addressable fire alarm pull station for use with Silent Knight's IntelliKnight fire control panel. Extremely easy to operate, the SK-Pull-DA/SA provides a fast and practical means of manually initiating a fire alarm signal. The IntelliKnight panel recognizes each manual pull station by its specific address saving precious seconds in determining the location of an alarm.

For more information about the IntelliKnight system, or to locate your nearest source, please call 1-800-328-0103 or in Connecticut, call (203) 484-7161.

### Description

The SK-Pull-SA is a single action pull station requiring only one motion to activate the station. The SK-Pull-DA is a dual action pull station requiring two motions to activate the station. Both pull stations are designed to work with Silent Knight IntelliKnight series fire alarm control panels (FACPs).

### Features

- Installer can open station without causing an alarm condition
- Dual-color LED is visible through handle of station blinks green to indicate normal operation and remains steady red in an alarm condition
- Key operated test and reset lock using lock plate actuator
- Key matches compatible FACP locks
- Meets the Americans with Disabilities Act Accessibility Guidelines (ADAAG) controls and operating mechanisms guidelines (Section 4.1.3(13))
- Meets ADA requirement for 5 lbs maximum pull force to activate
- Shell, door, and handle molded from durable LEXAN®
- Reliable analog communications for trouble-free operation
- Braille text on station handle
- Handle latches in down position and the word *Activated* appears, clearly indicating the station has been pulled
- Rotary address switches for fast installation
- UL Listed, including UL 38, Standard of Manually Actuated Signaling System



SK-Pull-SA



SK-Pull-DA

### Compatibility

The SK-Beam and SK-Beam-T are compatible with the following IntelliKnight FACP's:

5700  
5808  
5820XL



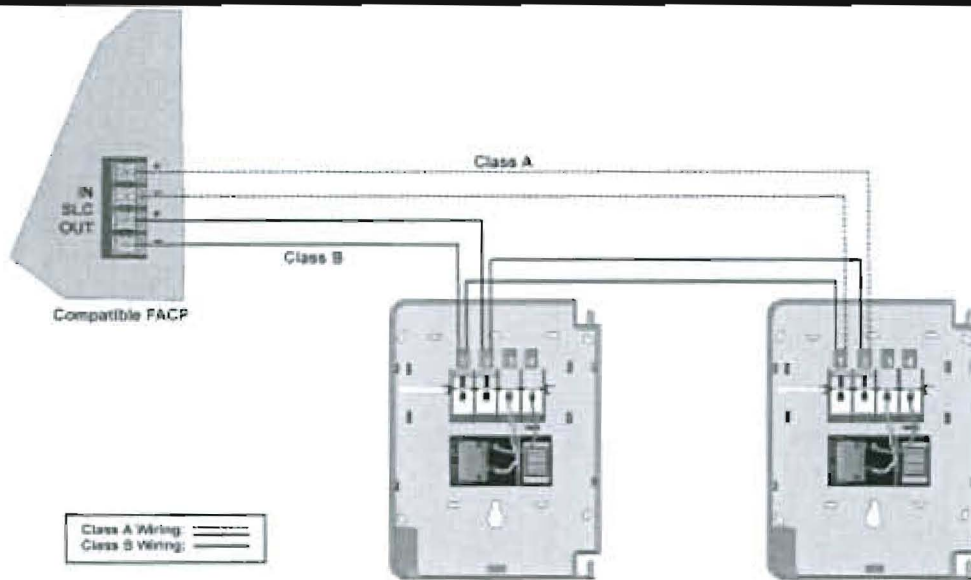
# Model SK-Pull-Da and SK-Pull-SA



## Engineering Specifications

The contractor shall furnish and install where indicated on the plans, Addressable Pull Stations, Silent Knight model SK-Pull-SA single action pull station or SK-Pull-DA, dual action pull station.

SK-Pull-DA or SK-Pull-SA meet the ADAAG controls and operating mechanisms guidelines, and the ADA requirements for a 5 lb. maximum pull force to activate the pull station.



Wiring SK-Pull-SA & SK-Pull-DA Pull Stations

### Specifications

#### Physical

Height: 5.5" (14 cm)

Width: 4" (10.2 cm)

Depth: 5.4 oz. (3.7 cm)

Housing Material: LEXAN polycarbonate resin

#### Bi-Colored LED:

Blinking Green: Normal

Steady Red: Alarm

Switch: Single pole, single throw (SPST) normally open (N/O) switch which closes upon activation of the pull station

#### Electrical

Operating Voltage: 15–32 VDC

Average Operating Current (LED flashing): 300  $\mu$ A

Wire Gauge: Up to 12 AWG (3.1 mm<sup>2</sup>)

#### Environmental

Operating Temperature: 32° – 120°F (0°C – 49°C)

Humidity: 10% – 93% non-condensing

#### Accessories

BG-TR

Optional trim ring.

SB-I/O

Surface backbox



by Honeywell

This document is not intended to be used for installation purposes. We try to keep our product information up-to-date and accurate. We cannot cover all specific applications or anticipate all requirements. All specifications are subject to change without notice. For more information, contact Silent Knight  
12 Clintonville Road, Northford, CT 06472-1610 Phone: (800) 328-0103, Fax: (203) 484-7118. [www.silentknight.com](http://www.silentknight.com)

**MADE IN AMERICA**

FORM# 350135 Rev A

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## Selectable Output Horns, Strobes, and Horn/Strobes

*SpectrAlert® Advance selectable-output horns, strobes, and horn/strobes are rich with features guaranteed to cut installation times and maximize profits.*

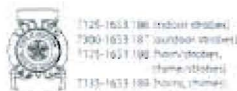


**SPECTRAlert**  
ADVANCE  
from system sensor

### Features

- Electrically compatible with existing SpectrAlert products
- Automatic selection of 12- or 24-volt operation at 15 and 15/75 candela
- Plug-in design
- Field selectable candela settings on wall and ceiling units: 15, 15/75, 30, 75, 95, 110, 115, 135, 150, 177, 185
- Same mounting plate for wall- and ceiling-mount units
- Shorting spring on mounting plate for continuity check before installation
- Tamper resistant construction
- Outdoor wall and ceiling products rated from -40°F to 151°F
- Design allows minimal intrusion into the back box
- Horn rated at 88+ dbA at 16 volts
- Rotary switch for horn tone and three volume selections
- Outdoor products UL listed to UL 1638 (strobe) and UL 464 (horn) outdoor requirements
- Outdoor products NEMA 4X rated
- Compatible with MD1 sync module

### Agency Listings



The SpectrAlert Advance series of notification appliances is designed to simplify installations, with features such as plug in designs, instant feedback messages to ensure correct installation of individual devices, and 11 field-selectable candela settings for wall and ceiling strobes and horn/strobes.

When installing Advance products, first attach a universal mounting plate to a four-inch square, four-inch octagon or double-gang junction box. The two-wire mounting plate attaches to a single-gang junction box.

Next, connect the notification appliance circuit wiring to the SEMS terminals on the mounting plate.

Finally, attach the horn, strobe or horn/strobe to the mounting plate by inserting the product's tabs in the mounting plate's grooves. The device will rotate into position, locking the product's pins into the mounting plate's terminals. The device will temporarily hold in place with a catch until it is secured with a captured mounting screw.

The SpectrAlert Advance series includes outdoor notification appliances. Outdoor strobes and horn/strobes (two wire and four wire) are available for wall or ceiling. Outdoor horns are available for wall only. All System Sensor outdoor products are rated between minus 40 degrees Fahrenheit and 151 degrees Fahrenheit in wet or dry applications.



## SpectrAlert Advance Specifications

### Architect/Engineer Specifications

#### General

SpectrAlert Advance horns, strobes and horn/strobes shall mount to a standard 4 x 4 x 1½-inch back box, 4-inch octagon back box or double-gang back box. Two-wire products shall also mount to a single-gang 2 x 4 x 1½-inch back box. A universal mounting plate shall be used for mounting ceiling and wall products. The notification appliance circuit wiring shall terminate at the universal mounting plate. Also, SpectrAlert Advance products, when used with the Sync-Circuit™ Module accessory, shall be powered from a non-coded notification appliance circuit output and shall operate on a nominal 12 or 24 volts. When used with the Sync-Circuit Module, 12-volt rated notification appliance circuit outputs shall operate between nine and 17.5 volts; 24-volt rated notification appliance circuit outputs shall operate between 17 and 33 volts. Indoor SpectrAlert Advance products shall operate between 32 and 120 degrees Fahrenheit from a regulated DC, or full-wave rectified, unfiltered power supply. Strobes and horn/strobes shall have field-selectable candela settings including 15, 15/75, 30, 75, 95, 110, 115, 135, 150, 177, 185.

#### Strobe

The strobe shall be a System Sensor SpectrAlert Advance Model \_\_\_\_\_ listed to UL 1971 and shall be approved for fire protective service. The strobe shall be wired as a primary signaling notification appliance and comply with the Americans with Disabilities Act requirements for visible signaling appliances, flashing at 1Hz over the strobe's entire operating voltage range. The strobe light shall consist of a xenon flash tube and associated lens/reflector system.

#### Horn/Strobe Combination

The horn/strobe shall be a System Sensor SpectrAlert Advance Model \_\_\_\_\_ listed to UL 1971 and UL 464 and shall be approved for fire protective service. The horn/strobe shall be wired as a primary signaling notification appliance and comply with the Americans with Disabilities Act requirements for visible signaling appliances, flashing at 1Hz over the strobe's entire operating voltage range. The strobe light shall consist of a xenon flash tube and associated lens/reflector system. The horn shall have three audibility options and an option to switch between a temporal three-pattern and a non-temporal (continuous) pattern. These options are set by a multiple position switch. On four-wire products, the strobe shall be powered independently of the sounder. The horn on horn/strobe models shall operate on a coded or non-coded power supply.

#### Outdoor Products

SpectrAlert Advance outdoor horns, strobes and horn/strobes shall be listed for outdoor use by UL and shall operate between minus 40 degrees and 151 degrees Fahrenheit. The products shall be listed for use with a System Sensor outdoor/weatherproof back box with half inch and three-fourths inch conduit entries.

#### Synchronization Module

The module shall be a System Sensor Sync-Circuit model MCL listed to UL 464 and shall be approved for fire protective service. The module shall synchronize SpectrAlert strobes at 1Hz and horns at temporal three. Also, while operating the strobes, the module shall silence the horns on horn/strobe models over a single pair of wires. The module shall mount to a 4¼ x 4¼ x 2½-inch back box. The module shall also control two Style Y (class B) circuits or one Style Z (class A) circuit. The module shall synchronize multiple zones. Daisy chaining two or more synchronization modules together will synchronize all the zones they control. The module shall not operate on a coded power supply.

### Physical/Electrical Specifications

Standard Operating Temperature	32°F to 120°F (0°C to 49°C)
K Series Operating Temperature	-40°F to 151°F (-40°C to 66°C)
Humidity Range	10 to 93% non-condensing (indoor products)
Strobe Flash Rate	1 flash per second
Nominal Voltage	Regulated 12DC/FWR or regulated 24DC/FWR <sup>1</sup>
Operating Voltage Range <sup>2</sup>	8 to 17.5 V (12V nominal) or 16 to 33 V (24 nominal)
Input terminal wire gauge	12 to 18 AWG
Ceiling mount dimensions (including lens)	6.8" diameter x 2.5" high (173 mm diameter x 64 mm high)
Wall mount dimensions (including lens)	5.6 L x 4.7 W x 2.5 D (142 mm L x 119 mm W x 64 mm D)
Horn dimensions	5.6 L x 4.7 W x 1.3 D (142 mm L x 119 mm W x 33 mm D)
Wall-mount back box skirt dimensions (BBS-2, BBSW-2)	5.9 L x 5.0 W x 2.2 D (151 mm L x 128 mm W x 56 mm D)
Ceiling-mount back box skirt dimensions (BBSC-2, BBSCW-2)	7.1" diameter x 2.25" high (180 mm diameter x 57 mm high)
Wall-mount weatherproof back box dimensions (SA-WBB)	5.7 L x 5.1 W x 2.0 D (145 mm L x 130 mm W x 51 mm D)
Ceiling-mount weatherproof back box dimensions (SA-WBBC)	7.1" diameter x 2.0" high (180 mm diameter x 51 mm high)
Wall-mount trim ring dimensions (TR-HS, TRW-HS)	5.7 L x 4.812 W x 0.35 D (146 mm L x 122 W mm x 9 D mm)
Ceiling-mount trim ring dimensions (TRC-HS, TRCW-HS)	6.9" diameter x 0.35 high (176 mm diameter x 9 mm high)

#### Notes:

1. Full Wave Rectified (FWR) voltage is a non-regulated, time varying power source that is used on some power supply and panel outputs.
2. P, S, PC, and SC products will operate at 1.2 V nominal only for 15 and 15/75 cd.



## UL Current Draw Data

UL Max. Strobe Current Draw (mA RMS)						UL Max. Horn Current Draw (mA RMS)					
	Candela	8-17.5 Volts		16-33 Volts		Sound Pattern	dB	8-17.5 Volts		16-33 Volts	
		DC	FWR	DC	FWR			DC	FWR	DC	FWR
Standard Candela Range	15*	123	128	66	71	Temporal	High	57	55	69	75
	15/75*	142	148	77	81	Temporal	Medium	44	49	58	69
	30*	NA	NA	94	96	Temporal	Low	38	44	44	48
	75*	NA	NA	158	153	Non-temporal	High	57	56	69	75
	95*	NA	NA	181	176	Non-temporal	Medium	42	50	60	69
	110	NA	NA	202	195	Non-temporal	Low	41	44	50	50
High Candela Range	115	NA	NA	210	205	Coded	High	57	55	69	75
	135	NA	NA	228	207	Coded	Medium	44	51	56	69
	150	NA	NA	246	220	Coded	Low	40	46	52	50
	177	NA	NA	281	251						
	185	NA	NA	286	258						

UL Max. Current Draw (mA RMS), 2-wire Horn/Strobe, Standard Candela Range (15-115 cd)										
	8-17.5 Volts				16-33 Volts					
	15	15/75	30	75	95	110	115			
DC Input										
Temporal High	137	147	79	90	107	126	194	212	218	
Temporal Medium	132	144	69	80	97	157	182	201	210	
Temporal Low	132	143	66	77	93	154	179	198	207	
Non-temporal High	141	152	91	100	116	176	201	221	229	
Non-temporal Medium	133	145	75	85	102	163	187	207	216	
Non-temporal Low	131	144	68	79	96	156	182	201	210	
FWR Input										
Temporal High	136	155	88	97	112	168	190	210	218	
Temporal Medium	129	152	78	88	103	160	184	202	206	
Temporal Low	129	151	76	86	101	160	184	194	201	
Non-temporal High	142	161	103	112	126	181	203	221	229	
Non-temporal Medium	134	155	85	95	110	166	189	208	216	
Non-temporal Low	132	154	80	90	105	161	184	202	211	

UL Max. Current Draw (mA RMS), 2-wire Horn/Strobe, High Candela Range (135-185 cd)										
	16-33 Volts				FWR Input	16-33 Volts				
	135	150	177	185		135	150	177	185	
DC Input										
Temporal High	245	259	290	297	Temporal High	215	231	258	265	
Temporal Medium	235	253	288	297	Temporal Medium	209	224	250	258	
Temporal Low	232	251	282	292	Temporal Low	207	221	248	256	
Non-temporal High	255	270	303	309	Non-temporal High	233	248	275	281	
Non-temporal Medium	242	259	293	299	Non-temporal Medium	219	232	262	267	
Non-temporal Low	238	254	291	295	Non-temporal Low	214	229	256	262	

## Candela Derating

For K-series products used at low temperatures, listed candela ratings must be reduced in accordance with this table.

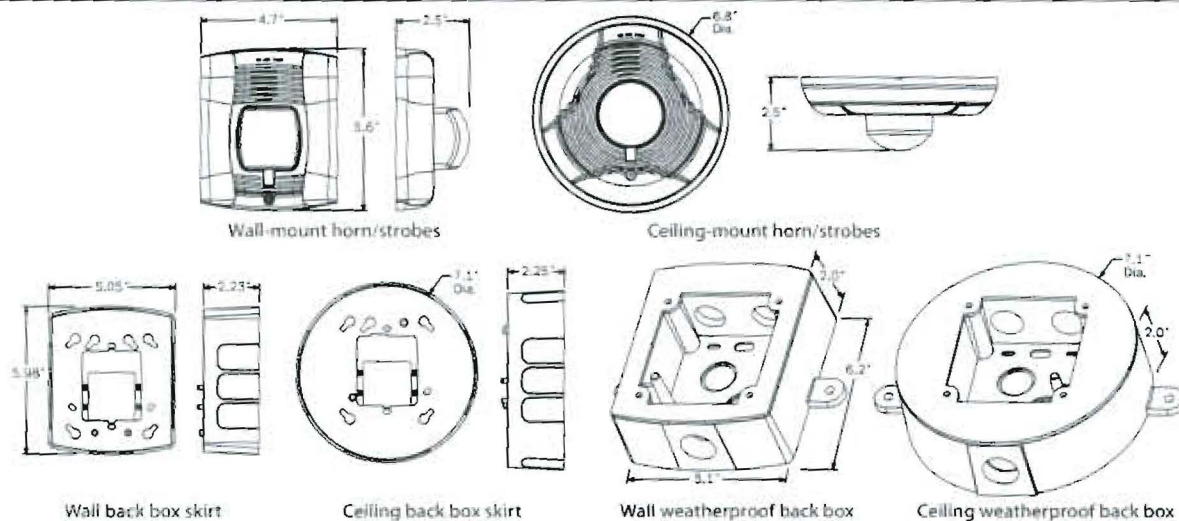
Strobe Output (cd)	
Listed Candela	Candela rating at -40°F
15	Do not use below 32°F
15/75	
30	
75	
95	44
110	70
115	110
135	115
150	135
177	150
185	177

## Horn Tones and Sound Output Data

Horn and Horn/Strobe Output (dBA)											
Switch Position	Sound Pattern	dB	8-17.5 Volts		16-33 Volts		24 Volt Nominal				
			DC	FWR	DC	FWR	Reverberant		Anechoic		
			DC	FWR	DC	FWR	DC	FWR	DC	FWR	
1	Temporal	High	78	78	84	84	88	88	99	98	
2	Temporal	Medium	74	74	80	80	86	86	96	96	
3	Temporal	Low	71	73	76	76	83	80	94	89	
4	Non-temporal	High	82	82	88	88	93	92	100	100	
5	Non-temporal	Medium	78	78	85	85	90	90	98	98	
6	Non-temporal	Low	75	75	81	81	88	84	96	92	
7 <sup>†</sup>	Coded	High	82	82	88	88	93	92	101	101	
8 <sup>†</sup>	Coded	Medium	78	78	85	85	90	90	97	98	
9 <sup>†</sup>	Coded	Low	75	75	81	81	88	85	96	92	

<sup>†</sup>Settings 7, 8, and 9 are not available on 2-wire horn/strobe

## SpectrAlert Advance Dimensions



## SpectrAlert Advance Ordering Information

Model	Description
<b>Wall Horn/Strobes</b>	
P2R*	2-wire Horn/Strobe, Standard cd, Red
P2RH*	2-wire Horn/Strobe, High cd, Red
P2RK**	2-wire Horn/Strobe, Standard cd, Red, Outdoor
P2RHK*	2-wire Horn/Strobe, High cd, Red, Outdoor
P2W*	2-wire Horn/Strobe, Standard cd, White
P2WH*	2-wire Horn/Strobe, High cd, White
P4R*	4-wire Horn/Strobe, Standard cd, Red
P4RH*	4-wire Horn/Strobe, High cd, Red
P4RK**	4-wire Horn/Strobe, Standard cd, Red, Outdoor
P4RHK*	4-wire Horn/Strobe, High cd, Red, Outdoor
P4W*	4-wire Horn/Strobe, Standard cd, White
P4WH*	4-wire Horn/Strobe, High cd, White
<b>Wall Strobes</b>	
SR*	Strobe, Standard cd, Red
SRH*	Strobe, High cd, Red
SRK**	Strobe, Standard cd, Red, Outdoor
SRHK*	Strobe, High cd, Red, Outdoor
SW*	Strobe, Standard cd, White
SWH*	Strobe, High cd, White
<b>Ceiling Horn/Strobes</b>	
PC2R*	2-wire Horn/Strobe, Standard cd, Red
PC2RH*	2-wire Horn/Strobe, High cd, Red
PC2RK*	2-wire Horn/Strobe, Standard cd, Red, Outdoor
PC2RHK*	2-wire Horn/Strobe, High cd, Red, Outdoor
PC2W**	2-wire Horn/Strobe, Standard cd, White
PC2WH**	2-wire Horn/Strobe, High cd, White
PC4R	4-wire Horn/Strobe, Standard cd, Red
PC4RH	4-wire Horn/Strobe, High cd, Red
PC4RK	4-wire Horn/Strobe, Standard cd, Red, Outdoor
PC4RHK*	4-wire Horn/Strobe, High cd, Red, Outdoor

Model	Description
<b>Ceiling Horn/Strobes (cont'd)</b>	
PC4W	4-wire Horn/Strobe, Standard cd, White
PC4WH	4-wire Horn/Strobe, High cd, White
<b>Ceiling Strobes</b>	
SCR*	Strobe, Standard cd, Red
SCRH*	Strobe, High cd, Red
SCRK*	Strobe, Standard cd, Red, Outdoor
SCRHK*	Strobe, High cd, Red, Outdoor
SCW**	Strobe, Standard cd, White
SCWH**	Strobe, High cd, White
<b>Horns</b>	
HR	Horn, Red
HRK*	Horn, Red, Outdoor
HW	Horn, White
<b>Accessories</b>	
BBS-2	Back Box Skirt, Wall, Red
BBSW-2	Back Box Skirt, Wall, White
BBSC-2	Back Box Skirt, Ceiling, Red
BBSCW-2	Back Box Skirt, Ceiling, White
TR-HS	Trim Ring, Wall, Red
TRW-HS	Trim Ring, Wall, White
TRC-HS	Trim Ring, Ceiling, Red
TRCW-HS	Trim Ring, Ceiling, White

### Notes:

\* Add \*-P\* to model number for plain housing (no "HIRE" marking on cover), e.g., P2R-P

† Add \*-SP\* to model number for "FUEGO" marking on cover, e.g., P2R-SP

‡ "Standard cd," refers to strobes that include 15, 15/75, 30, 75, 95, 110, and 115 candela settings. "High cd," refers to strobes that include 135, 150, 177, and 185 candela settings.

All outdoor units ending in "K" include a weatherproof back box.

§ Add \*-R\* to model number for weatherproof replacement device (no back box included).



3825 Ohio Avenue • St. Charles, IL 60174  
Phone: 800-SENSOR2 • Fax: 630-377-6495

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456-0191-005 - 8-08 - 40018





**SILENT KNIGHT**

5808 Calculations  
Version 08.19.09

Global Project Values:

Project Name:   
Project ID:   
Prepared By:   
Date:

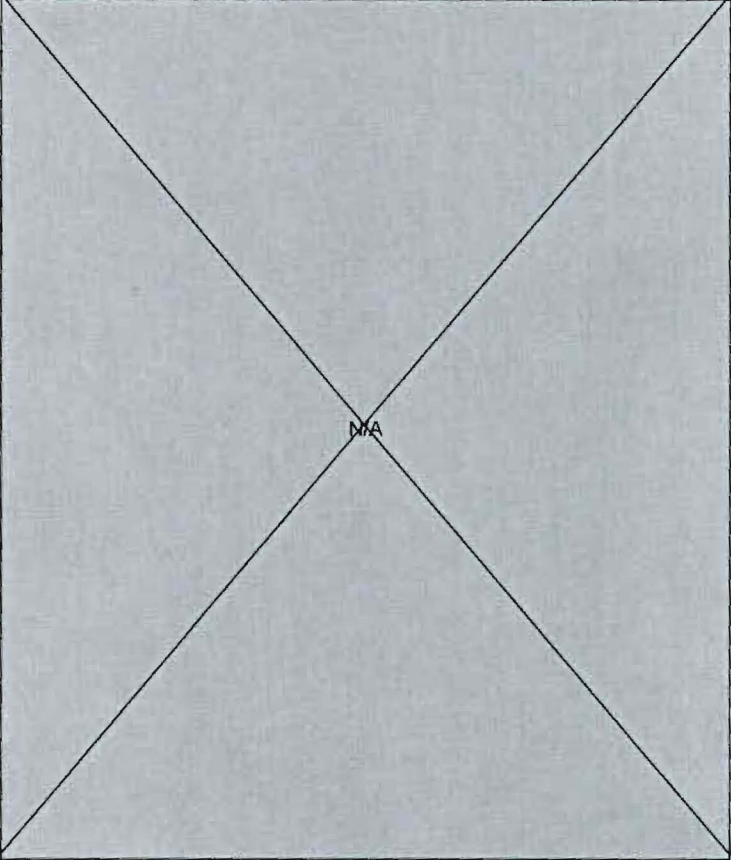
Standby Hours:   
Alarm Mins:   
Derating Factor:   
Voltage Drop Warning  
Threshold %:

Panel ID:   
Location:

Model: 5808 Add. Fire Alarm Control Panel  
Volts: 24 VDC

Max NAC Current: 3.0 Amps  
Max Panel Current: 6.0 Amps

Ckt #	Circuit Name	Qty	Current Draw		Wire AWG & Type	Ohms Per 1000 Ft.	Length(ft) One-Way	Actual Ohms	Volts @ EOL	%Drop
			Standby	Alarm						
5808	5808 CTRL Panel	1	0.170	0.325						
SK	Photo, Photo-T	4	0.001	0.001						
SK	Ion		0.000	0.000						
SK	Heat, Heat-HT		0.000	0.000						
SK	Heat ROR	25	0.008	0.008						
SK	Beam, Beam-T		0.000	0.000						
SK	Duct		0.000	0.000						
SK	Acclimate		0.000	0.000						
SK	Control		0.000	0.000						
SK	Control-6		0.000	0.000						
SK	Monitor, Minimon		0.000	0.000						
SK	Monitor-2		0.000	0.000						
SK	Monitor-10		0.000	0.000						
SK	Pull-SA, Pull-DA	6	0.002	0.002						
SK	Relay		0.000	0.000						
SK	Relay-6		0.000	0.000						
SK	Zone		0.000	0.000						
SK	Zone-6		0.000	0.000						
SK	Isolator Module		0.000	0.000						
SSB224BI	Isolator Base		0.000	0.000						
SSB501BHT	Sounder Base		0.000	0.000						
SSB224RB	Relay Base		0.000	0.000						
SSRTS151	Magnetic Remote Test		0.000	0.000						
SSRTS151KEY	Key Activated Test		0.000	0.000						
SSRA100Z	Remote LED		0.000	0.000						
5860	LCD Remote Annunc		0.000	0.000						
5824	Serial/Parallel Module		0.000	0.000						
5496	Power Expander		0.000	0.000						
5895XL	Power Expander		0.000	0.000						
5865-4	LED Annunciator (4G)		0.000	0.000						
5865-3	LED Annunciator (3G)		0.000	0.000						
5880	LED Driver Module		0.000	0.000						
5883	Relay Module		0.000	0.000						
NAC #1	Notification Appl Circuit		0.000	0.231	#14 Solid	2.52	160	0.81	20.21	0.91%
NAC #2	Notification Appl Circuit		0.000	0.425	#14 Solid	2.52	120	0.60	20.14	1.26%
NAC #3	Notification Appl Circuit		0.000	0.309	#14 Solid	2.52	125	0.63	20.21	0.95%
NAC #4	Notification Appl Circuit		0.000	0.429	#14 Solid	2.52	60	0.30	20.27	0.64%
Total Standby Current (Amps)			0.181	1.730	Total Alarm Current (Amps)					
Standby Time In Hours			24	0.083	Alarm Time In Minutes / 60 (5 Mins)					
Total Standby AH Required			4.340	0.144	Total Alarm AH Required					
Total Combined AH Required			4.48							
Multiply By The Derating Factor			1.20							
Minimum Battery AmpHours Required			5.38							



Command Shortcuts



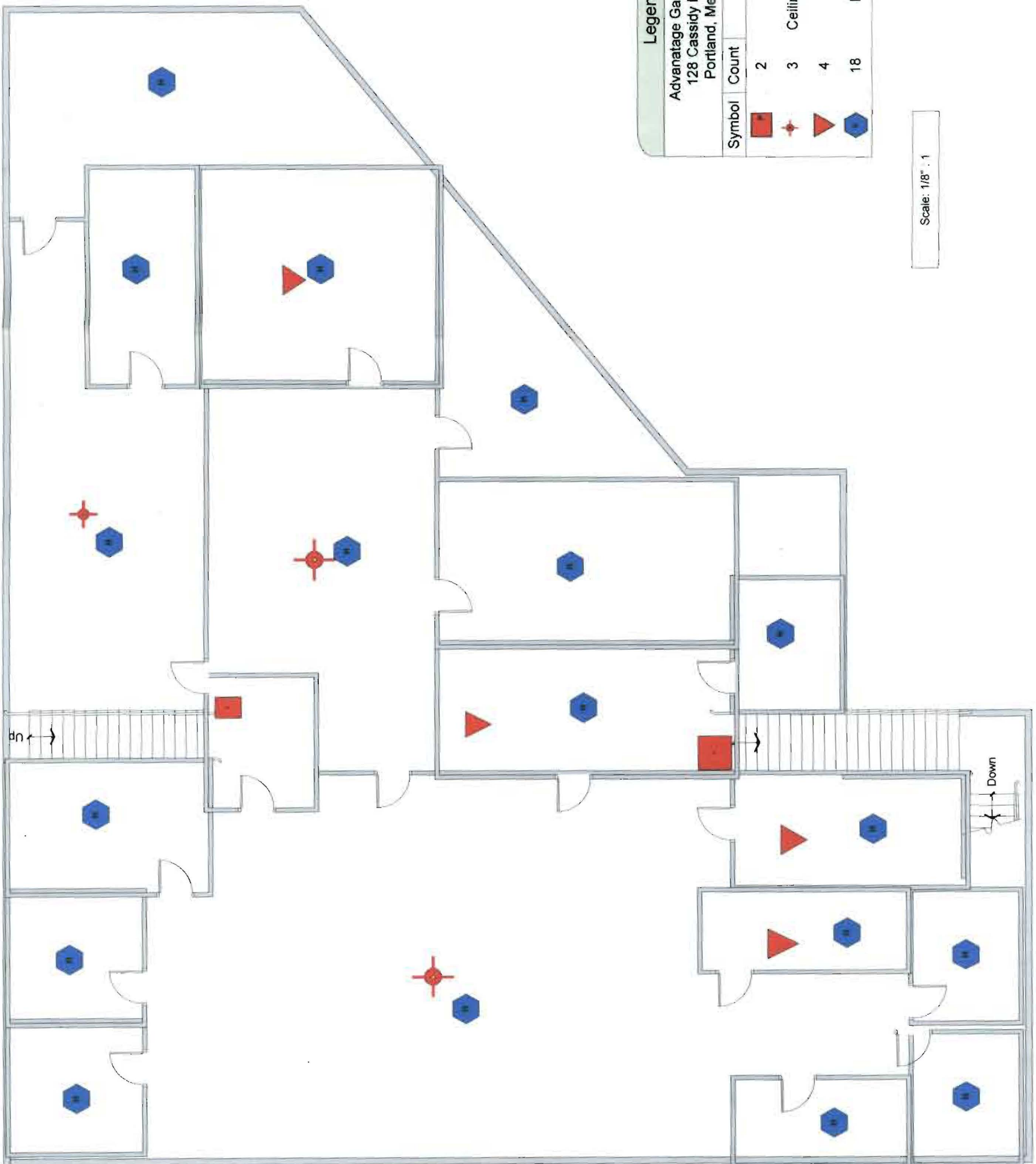




Kevin Inman, Certified Engineering Technician, NICET Cert. # 52435

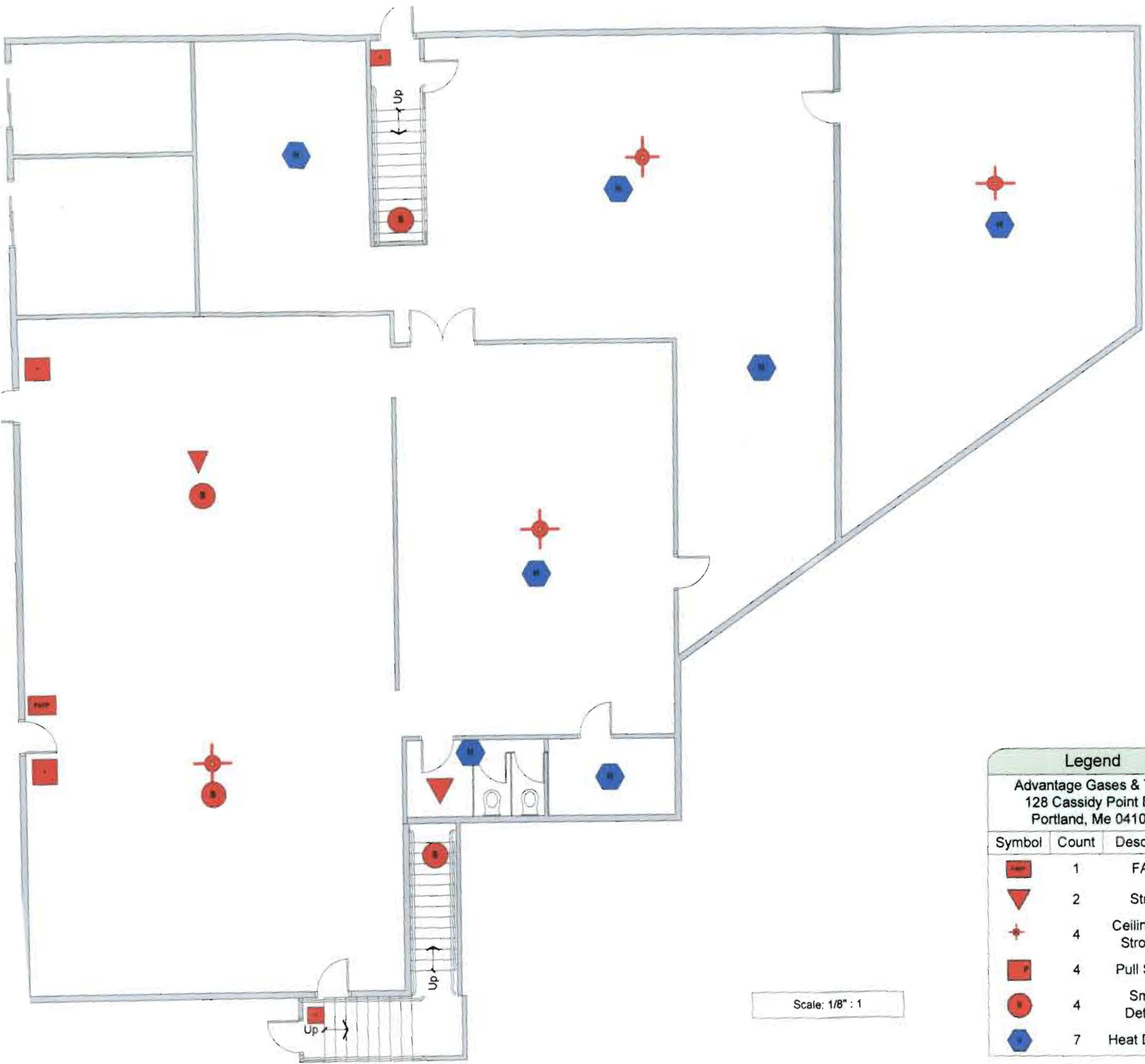
10 Manuel Drive, Portland, Maine 04103 (207) 347-5318

3/17/10



Legend		
Symbol	Count	Description
	2	Pull Station
	3	Ceiling Horn Strobe. 15
	4	Strobe
	18	Heat Detector

Scale: 1/8" = 1'



Scale: 1/8" = 1'

Legend		
Advantage Gases & Tool 128 Cassidy Point Dr. Portland, Me 04101		
Symbol	Count	Description
	1	FACP
	2	Strobe
	4	Ceiling Horn Strobe.15
	4	Pull Station
	4	Smoke Detector
	7	Heat Detector



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3/17/10

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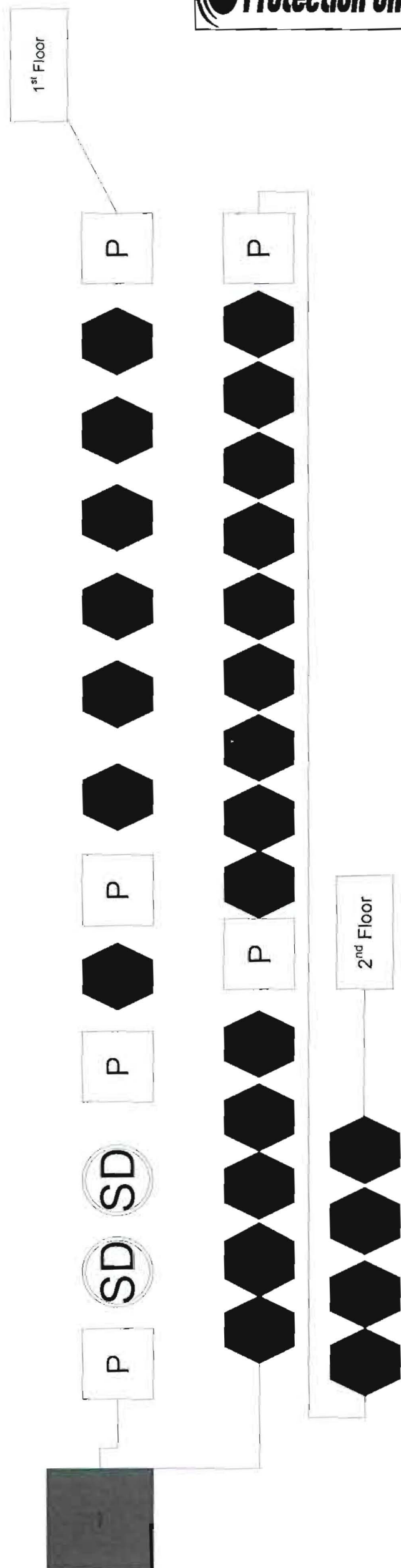




Kevin Inman, Certified Engineering Technician, NICET Cert. # 52435

10 Manuel Drive, Portland, Maine 04103 (207) 347-5318

3/23/10



Fire Alarm Wiring Diagram  
 Advantage Gases & Tools  
 128 Cassidy Point Dr.  
 Portland, Me 04101

Symbol	Count	Description

