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Inspections Division
Approved with Conditions
Date: 09/18/17

ALL FIRE PROTECTION & SECURITY SYSTEMS

SALES & SERVICE | DESIGN | INSTALLATION | MONITORING

Submittal

Elks Lodge

1945 Congress St

Portland ME 04102

Install new fire & evax system

207-406-4840

14 Maine St
Suite 216 C
Box 70
Brunswick, ME 04011

info@allfireprotectionme.com

RESURGAM
CITY OF PORTLAND, MAINE
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Certificate of Completion

This certificate is awarded to

Brian Lafrance

For participating in the 8 hour factory training on the Addressable PFC-6000 Series Hardware & Software

(NTS/ESA Course #14-4179,8 CEU hours)

Anthony Moore

Trainer: Tony Moore

09/26/2016

Date

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NICET®

NATIONAL INSTITUTE FOR CERTIFICATION IN ENGINEERING TECHNOLOGIES®

Providing Certification Programs Since 1961

BE IT KNOWN THAT

Brian Lafrance

IS HEREBY AWARDED CERTIFICATION AT

LEVEL II

IN FIRE PROTECTION ENGINEERING TECHNOLOGY
FIRE ALARM SYSTEMS

BASED UPON SUCCESSFUL DEMONSTRATION OF REQUISITE KNOWLEDGE, EXPERIENCE AND WORK PERFORMANCE AS SET FORTH BY THIS INSTITUTE.

Certification Valid through October 1, 2019

CERTIFICATION NUMBER 143177

CHAIRMAN OF THE NICET BOARD OF GOVERNORS

A DIVISION OF THE NATIONAL SOCIETY OF PROFESSIONAL ENGINEERS

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PV

Voice Evacuation

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Features

- Clean Dead-front Construction
- Digitally Recorded Automatic Evacuation Message (Up to 20 Minutes of Message Capacity)
- 25 Watt Bullet-Proof Amplifier
- 25 or 70 VRMS Field Selectable
- Class A/B Speaker Circuit
- 120 VAC Power Supply and Battery Charger
- Live Microphone Override of Message and Tone
- Analog Addressable Compatible
- High Reliability, No Maintenance, Fully Supervised
- Easy Installation and Operation
- Studio Quality Voice Recordings
- Built in Alarm and Alert Signals
- Works with 12 VDC or 24 VDC Fire Alarm Panels
- Works with Microprocessor based and Network Fire Alarm Systems
- 3 Minute Message Restart on Microphone Key
- 24 Hour Backup with 12V 7AH Batteries
- Made in the USA

LISTED
S25376

6911-0328:0219

Description

The PVX-25 operates with any Fire Alarm Control Panel (FACP) and provides 25 Watts of speaker power. The PVX-25 has its own power supply and battery charger. The Panel must be wired with 120 VAC and standby batteries connected. The PVX-25 is housed in a surface or semi-flush mounted backbox with a hinged and key locked door.

A digital message repeater (DMR) is built into the PVX-25. The selector of alarm tone and automatic message repeats, as well as the 6 hour delay of the AC power failure reporting feature, is all field configurable.

The paging microphone is an integral component. Removal of the microphone from the panel will cause a “Trouble” condition which will be reported locally, as well as through the FACP.

The PVX-25 includes all necessary features to provide an effective voice evacuation system. With the addition of zone splitters, selection switches/inputs, remote microphone panels, and expander modules, the PVX-25 can be custom configured to satisfy the needs of most applications.

Technical Specifications

Primary Power	120VAC @1.4A
24VDC Battery Power	0.18A Standby 1.1A Alarm
Output	25 Watts @ 25/70 VRMS
Backbox Dimensions (WxHxD)	14.5 x 18 x 4”
Color	Red (standard) Charcoal Grey (optional)

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Typical Installation

Standard Message - 15 Seconds:

"Attention Please, there has been a report of an emergency.
Proceed calmly to the nearest exit and leave the building immediately.
Do not use the elevators, use stairwells where necessary.
All handicapped occupants shall use the building evacuation plan."

Engineering Specifications

The voice evacuation system shall be Potter PVX-25 or approved equal. The voice evacuation system shall provide 25 watts signal power and 25 watts voice power, and shall be UL listed. The voice evacuation shall be micro-processor based, and shall contain an integral microphone, 25W audio amplifier, tone generator, digital message repeater, 120VAC power supply and battery charger.

The voice evacuation message/signal shall be broadcast until the Fire Alarm Control Panel (FACP) is reset, or until fire emergency personnel interrupt the broadcast with a manual page. On reset system shall automatically return to standby (normal operating) condition. A secondary message shall be provided which can be triggered by the closure of a contact from either the FACP or from any normally open contact device. Remote paging microphone(s) will be supported by the system through a supervised circuit. Remote microphone(s) may be mounted up to 5000 feet away from the voice evacuation panel.

Ordering Information

Model Number	Stock Number	Description
PVX-25/4Z	3500001	25W Voice Evacuation System with: • Power Supply / Battery Charger • Paging Microphone • Digital Message Repeater • 4 Speaker Zones

OptionalComponents

- PVX-ZM Zone Module 4-Class B / 2-Class A Circuits
- PVX-SL8 8 Switch/LED Card
- PVX-IL8 8 Input/LED Card
- PVX-OL8 8 Output/LED Card
- PVX-RM / SC Remote MIC / Supervisory Card

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PFC-6075

FIRE ALARM CONTROL P

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S735 7165-0328:0195 NYC Fire Dept. Certificate of Approval 6157

Product includes a 5 year warranty

Features

- 75 Analog/Addressable Points in Any Combination
- 5 Amp Power Supply
- 4 NACS, 2 Regulated, Rated at 3 Amps each & 2 Input/Output (I/O) Circuits rated at 1 Amp each
- Strobe Synchronization and System Wide Sync for Potter/AMSECO®, Gentex®, Cooper Wheelock® and System Sensor® strobes
- 99 Software Zones
- Large LCD and Keypad for Ease of Operation
- Cabinet with enclosure rather than cabinet will house 8 or 18 AH batteries. Dead Front Cabinet for Clean Look.
- Smoke Detector Drift Compensation and Maintenance Alerts
- NFPA 72 Compliant Smoke Sensitivity Test Built-In
- System wide Class A or Class B
- 1,000 Event History Buffer
- Optional two line DACT (UD-1000)
- P-Link Communication Line for Annunciators and Accessories
- Ethernet Port for Programming and Network Connectivity
- E-Mail System Status, Reports, and Event Information
- Integrated, Listed IP Communicator
- Size (W x H x D): 16" x 17" x 3 7/8"

Electrical Specs: AC Mains

- 3.0 Amps @ 120 VAC 50/60 H2
- 2.0 Amps @ 240 VAC 50/60 H2

Battery:

- 130 mA Standby
- 220mA Alarm

Description

The PFC-6075 is a versatile seventy-five (75) point analog/addressable fire alarm control panel that utilizes the Potter/Nohmi device protocol that has a complete line of initiating and control devices. The SLC is capable of 50 ohms of resistance and does not require the use of twisted or shielded wire. The signaling line circuit may be any combination of smoke sensors, heat detectors or modules.

The PFC-6075 has a metal cabinet with a key lock and a dead front standard. The cabinet will house 8 Ah or 18 Ah batteries. The large viewing window allows easy viewing of the LCD and the standard LEDs. The keypad allows easy operation and navigation of the system menu.

The panel has a 5 amp power supply with two (2) notification circuits each rated at 3 amps and two (2) Input/Output (I/O) circuits each rated at 1 amp. All of the outputs are power limited, power regulated and may be programmed for Potter/AMSECO, Gentex®, CooperWheelock® and System Sensor® strobe synchronization. The outputs may be configured for any combination of strobe brands and all will sync. The outputs also may be configured for door holder power, auxiliary power and constant power.

The panel has auto-programming learn mode that will not affect the existing system when adding or deleting a device. The system is capable of 99 software zones, cross zoning and counting zones. The panel is fully programmed from a PC based software program that will work with Microsoft XP, Vista or Windows 7.0 operating systems.

The PFC-6075 has an Ethernet connection for programming network connectivity and IP reporting communicator. The system uses a simple patch cable for connecting a PC to the panel. In addition, the system may be connected to a building network and programmed while on the network. The system has a built in e-mail function and will send system E-mail reminders. The IP communicator is listed with the Sur-Gard III IP receiver.

The panel will support P-Link devices which include: the RA-6075, RA-6500 and LED-16 Annunciators, RLY 5 Relay Module, SPG-1000 Serial Parallel Gateway (printer card), FCB-1000 Remote Ethernet/IP connection (only 1), DRV-50 LED driver for 50 LEDs, PSN-1000 Remote Power Supplies (10 Amp) and FIB-1000 P-Link Fiber Interface Module. In addition, the panel allows for the installation of the UD-1000 dual line telephone line digital alarm communicator transmitter (DACT). The UD-1000 is programmable for a single line or dual line and is compatible with Ademco's Contact ID or SIA DCS protocols. The UDACT will report general, zone, or point

The complete system may be converted to Class A with a CA-6075 module. The CA-6075 provides the hardware necessary to convert the remote annunciators through the Potter P-Link connection protocol, the NACs and the SLC to Class A operation.

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SLC Loop Accessories

The control panel may be connected with up to seventy-five (75) addressable devices or modules in any combination. The SLC is not restricted by any special wire requirements and may be wired with any wire that complies with the NEC.

SLC Loop Devices

Device	Description
PSA	Analog Photoelectric Smoke Detector with a listed obscuration of 1.02 to 3.83 percent per foot.
PSHA	Combination Analog Photo Electric Smoke/Heat Detector – a smoke detector with a listed obscuration of 1.02 to 3.83 percent obscuration and a fixed temperature 135° Fahrenheit heat detector
FHA	Analog Fixed Temperature Heat Detector that is selectable from 135° F to 185°F
RHA	Analog Rate or Rise Heat Detector that has a fixed temperature selection from 135°F and 174°F and also will alarm if the temperature increase 12-15°F in one minute
DDA	Addressable Duct Smoke Detector
AB-6	6” round base that is mounted to an electrical box and wired for connection of one of the above sensors
AB-4	4” round base that is mounted to an electrical box and wired for connection of one of the above sensors
AIB	Isolator base that interrupts a short in a SLC and prevents the short from affecting protected devices on the loop
ARB	Addressable Relay Base that contains two relays controlled by the SLC. One relay is rated at 8 amps at 240 VAC/30VDC and the other is rated at 2 amps 240 VAC/30 VDC
ASB	Addressable Sounder Base that contains an addressable sounder module that may be configured for local, group and all call. The sounder follows the pattern sent to the device.

Modules

Device	Description
MCM	Miniature Contact Module provides a small foot print contact module for mounting inside an enclosure.
APS-SA	Single Action Addressable Pull Station
APS-DA	Dual Action Addressable Pull Station
SCM-4	Single Contact Module is a standard contact module with an LED that mounts into a 4” square electrical box.
DCM-4	Dual Contact Module is a device that can monitor two distinct inputs with a single device or in a Class A mode.
TRM-4	Twin Relay Module provides two form C relays that simultaneously active when the module is triggered by the control panel. Each relay is rated for 2 amps at 24VDC or 0.5 amps at 125VAC.
MOM-4	Monitored Output Module switches monitored power and is activated by the control panel.
CIZM-4	Conventional Input Zone Module is used to connect conventional smoke detectors.
SCI	Short Circuit Isolator interrupts a short on the SLC and prevents the short from affecting protected devices on the loop.

P-Link Devices

Device	Description
RA-6075	LCD/keypad remote annunciator with a metal enclosure and key lock.
RA-6500	160 Character LCD. Keypad remote annunciator with metal enclosure and key lock.
LED-16	LED remote annucniator capable of displaying alarms, supervisory, and trouble status for 16 zones.
PSN-1000	10 Amp Intelligent power supply.
RLY-5	5 Form C Relay Card.
SPG-1000	Serial/Parallel Printer Card, Optional Rack Mount.
FCB-1000	Fire Communications Bridge, 1 may be added for remote IP Communicator.
FIB-1000	Fiber Interface Module, used in pairs to convert P-Link over multimode fiber, optional rack mount.

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SLC Circuit Diagram

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UD-'

Digital Alarm Commu

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Features

- Allows for communication to Monitoring Station
- Communicates using SIA-DCS or Ademco Contact ID Protocols
- For use with 6000 series and P series Addressable Panels
- Status LEDs indicate operation of DACT card
- Installs with ease behind main panel LCD display via User Interface bracket
- Device address is set by dipswitches located on DACT card
- Installation materials including 4 pin connector and screw are supplied with DACT card

LISTED
S735

7165-0328:0195

Description

The UD-1000 Digital Alarm Communicator Transmitter (DACT) provides for up to two (2) phone lines for communication to a monitoring station. The UD-1000 communicates using the SIA-DCS or Ademco Contact ID protocols. When enabled, the DACT automatically monitors each phone line or voltage and has the ability to seize the line and connect with a remote receiver. Once the communication is complete, the DACT will hang up.

The DACT is provided with an RJ-11 jack for each phone line and a RJ-11 to RJ-33 cord. In order for the DACT to work properly, it must be installed on a plain old telephone service (POTS) line or equivalent deemed by the authority having jurisdiction. The DACT must be installed before any other equipment to ensure it can seize the phone line.

Phone lines are high voltage and should be run in a separate conduit from other circuits. The wire conductors connecting the DACT to the phone system should be 26 AWG or larger.

Technical Specifications

Operating Voltage	22.0-24.0V
Standby Current	16mA
Alarm Current	23mA
Max UD-1000s per panel	1
Dimensions	4”W * 6”H * 1-5/8”D
Operating Tempuratures	0°C - 49°C (32°F- 120°F)
Operating Humidity Range	10% - 93% @ 30°C (86°F) (non-condensing)
Mounting Options	In FACP Behind keypad
Shipping Weight	0.47 lbs

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UD-1000 DACT Installation on PFC-6030/6075R

Fig 1

UD-1000 DACT Installation on PFC-6800/6200

Fig 2

NOTICE

Install in accordance with compatible fire alarm control panel installation manual

Installation

The UD-1000 DACT is connected to the control panel using the provided four-wire cable connection (P/N 5210514) between P4 and UD-1000 P1. The connection is power limited and supervised.

1. Power system down.
2. Slide the UD-1000 into the card guides located under the User Interface bracket.
3. Secure the UD-1000 to the User Interface bracket using the provided #6-32x3/8" screw
4. Install the provided four-wire conductor jumper between UD-1000 P1 and P4.

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ELK SERIES
BATTERIES

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UL Recognized

Features

- 24 month free replacement
- Long service life
- Maintenance free
- High power-to-weight ratio
- Wide operating temperature rating
- Ease of shipment
- No leakage -- sealed lead acid

Stock Number	Model Number	Volts	AH	Length	Width	Height	Weight
5130080	BT-6	6	5.0	2.75	1.85	4.17	1.98
5130095	BT-10	12	1.2	3.82	1.77	2.24	1.28
5130092	BT-40	12	4.5	3.50	2.75	4.17	3.75
5130084	BT-80	12	8.0	5.94	2.56	3.98	6.25
5130090	BT-120	12	12.0	5.94	3.90	3.94	8.82
5130086	BT-180	12	18.0	7.12	2.99	6.57	13.67
5130097	BT-260	12	26.0	6.53	6.89	4.96	20.06

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Specifications

BT6-4

Constant voltage use at 20°C

Standby use:

Voltage regulation: 6.75V ~ 6.90V

Initial current: < 1.5A

Cyclic use:

Voltage regulation: 7.2V ~ 7.50V

Initial current: < 1.5A

BT-10

Constant voltage use at 20°C

Standby use:

Voltage regulation: 13.50V ~ 13.80V

Initial current: < .39A

Cyclic use:

Voltage regulation: 14.40V ~ 15.0V

Initial current: < .39A

BT-40

Constant voltage use at 20°C

Standby use:

Voltage regulation: 13.50V ~ 13.80V

Initial current: < 1.2A

Cyclic use:

Voltage regulation: 14.40V ~ 15.0V

Initial current: < 1.2A

BT-80

Constant voltage use at 20°C

Standby use:

Voltage regulation: 13.50V ~ 13.80V

Initial current: < 2.3A

Cyclic use:

Voltage regulation: 14.40V ~ 15.0V

Initial current: < 3.6A

BT-120

Constant voltage use at 20°C

Standby use:

Voltage regulation: 13.50V ~ 13.80V

Initial current: < 3.6A

Cyclic use:

Voltage regulation: 14.40V ~ 15.0V

Initial current: < 3.6A

BT-180

Constant voltage use at 20°C

Standby use:

Voltage regulation: 13.50V ~ 13.80V

Initial current: < 5.4A

Cyclic use:

Voltage regulation: 14.40V ~ 15.0V

Initial current: < 5.4A

BT-260

Constant voltage use at 20°C

Standby use:

Voltage regulation: 13.50V ~ 13.80V

Initial current: < 7.8A

Cyclic use:

Voltage regulation: 14.40V ~ 15.0V

Initial current: < 7.8A

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6” Addressable Detec

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Features

- Terminals Marked with Polarity to assist with installation
- Duplicate terminals for in and out SLC wiring
- Terminals accept 22 to 14 AWG wire sizes
- Installs on single gang, double gang, octagon or 4” square box
- Locking tab prevents unauthorized detector removal
- Product includes 5 year warranty

Stock Number: 1430806

SIGNALING c UL US LISTED
S24776

7165-0328:0194

Application

The Potter AB-6 detector base is used to install Potter’s addressable smoke and heat detectors. The AB-6 will mount on a single gang, double gang, octagon or 4” square electrical box.

Description

The AB-6 is a low-profile, surface mount base used with Potter’s addressable detectors. The base uses screw-clamp terminals that accept wire ranging from 22 to 14 AWG. When installed on recessed electrical boxes the AB-6 is wide enough to completely cover the back box and the immediate surrounding area. The base is equipped with a locking tab to deter unauthorized removal of the attached detector.

Technical Specifications

Mounting Options	Single gang, double gang, octagon, and 4” square box
Terminals	Screw-Clamp Type
Wire Guage	22 to 14 AWG
Dimensions	5.9” diameter, 0.89” height without detector
Shipping Weight	0.34 lb.
Material	Durable Plastic

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Locking Feature

The AB-6 includes a locking feature that prevents removal of the detector without using a tool.

1. To eliminate this feature, break off the locking tab, and then install the detector.

Break the plastic tab by twisting it toward the center of the base

2. To remove the detector from the base when the locking feature has been enabled, insert a small screw driver into the slot on the base to push the plastic tab while simultaneously turning the detector head counter-clockwise

Use the small bladed screwdriver to push the locking tab

Wiring Diagram

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PSA
PHOTOELECTRIC SMO SENSOR

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c UL us LISTED

S24776 7165-0328:0194

Product includes a 5 year warranty

Features

- Low profile, less than 2 inches with the base
- Wide selectable sensitivity range of 1.05 to 3.82%/foot
- Sensor communicates sensitivity to control panel
- UL listed smoke calibration and sensitivity
- Optional locking tab to prevent unwanted removal
- Simple and accurate address setting without mechanical switches
- LEDs for 360° viewing

Description

The Photoelectric Smoke Sensor is a listed Analog Addressable smoke sensor compatible with any fire alarm control panel that has the Potter/Nohmi protocol. The PSA is a low profile smoke sensor with a wide sensitivity range. The sensor and base (not included) are made of a durable plastic in an eggshell white to blend in with the ceiling.

The PSA has a sensitivity range of 1.05 to 3.82% per foot and is UL and cUL listed. The PSA may be configured for drift compensation and has built in dirty detector warning as well as. The PSA and the control panel communicate over a proven and robust digital communication path and the system analyzes the level of alarm at the particular device. The total polling speed is less than five (5) seconds, well under the UL requirements.

The PSA has two LEDs that allow for 360° viewing. The sensor is compatible with any of the Potter/Nohmi bases and simply twists on. The PSA is addressed using the hand held programmer or the control panel addressing function.

Air Velocity Ratings

The PSA has an Open Area of Protection air velocity rating of 0 to 300 feet per minute.

The system has a maximum of 13 LEDs that can be turned on simultaneously. If the system already has 13 LEDs on, the PSA will operate even though the LED will not illuminate.

Setting the Address

Each addressable module, smoke sensor, heat detector and combination sensor/detector must have the address set before connecting the device to the SLC loop. The address is set using the hand held device programmer or the addressing feature on the control panel.

Before connecting a device to the SLC loop, take the following precautions to prevent potential damage to SLC or device. Verify the following:

1. Power to the device is removed
2. Field wiring is correctly installed.
3. Field wiring has no open or short circuits.

Document discrepancies and notify appropriate personnel.

Specifications

Item	PSA
Working voltage range	22.0 to 24.0 V
Standby current	325 µA
Alarm indicator	2 LEDs
Alarm indicator current	1.2 mA D.C.
Alarm set-point range	1.05 to 3.82 %/ft / 3.4 to 12.0 %/m
Installation temperature range	32 to 120 ° F / 0 to 49 ° C
Operating relative humidity range	0% to 93% (Non-condensing)
Start-up time	Max. 1 sec.
Maximum number of addresses per loop	127
Maximum number of lighted indicators in alarm per zone.	13
Color	Eggshell White
Weight (without base)	84g (2.96oz)
Dimensions (without base)	Height: 1.33 in (34mm)
	Diameter: 4.0 inches (99mm)
Approvals / Listings	UL, cUL, CSFM

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Operation

The PSA is an analog addressable sensor that uses one address on the Signaling Line Circuit (SLC) of a compatible fire alarm control panel. The unit communicates with the control panel as it is polled. The LEDs flash every time the unit is polled and they will latch steady if the unit is in an active status.

The PSA is a proven design being in service throughout the world. The PSA with the AB-4 or AB-6 base has a low profile of less than two (2) inches to blend into the surrounding environment. The sensor includes an insect screen to prevent foreign objects from reaching the chamber and the entire unit can be cleaned with a simple vacuum.

Sensor Sensitivity

The PSA and the compatible control panel work in tandem to keep the sensitivity consistent. As the sensor is installed over time, the sensor compensates for the dirt in the unit until it is out of range. At that time, the panel will indicate a dirty sensor. The sensor will then have to be cleaned or replaced.

Anytime the PSA is being polled, the sensitivity may be viewed or printed from the control panel.

Note: As required by NFPA, do not install the sensors until all construction is complete and the work area has been thoroughly cleaned. If the sensors have been installed in a construction environment, they should be cleaned or replaced before the system is placed into service.

Spacing

The PSA is UL/ULC listed with a recommended maximum spacing of 30 feet. Refer to NFPA 72 for specific information regarding detector spacing, placement and special applications.

Compatible Bases

All bases will mount on a single gang, double gang, octagon, 4” square or mud ring electrical box.

Device	Description
AB-4	4” Standard Base
AB-6	6” Standard Base
AIB	6” base with an isolator module included. The base is pre-wired with a pluggable jumper to the module.
ARB	6” base with a dual relay module included. One relay is rated for 8 amps at 240 VAC/30 VDC and the second is rated for 2 amps at 240 VAC/30 VDC. The base is pre-wired with a pluggable jumper to the module.
ASB	6" base with sounder module included. Sound pattern is provided from external source. The base is pre-wired with a pluggable jumper into the module.

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DC

Dual Contact

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Features

- Single module with dual contact monitoring inputs
- Two (2) Class B or one (1) Class A monitoring inputs
- SLC Class A (Style 6,7) & Class B (Style4)
- Mounts in a standard 4” or double gang box
- Wiring terminals accessible when mounted in box
- All wiring terminals accept 22 to 14 AWG
- Product includes a 5 year warranty

NOTE: This addressable module does not support 2-wire smoke detectors.

Stock Number: 1430822

c UL us LISTED
S2930

7165-0328:0196

Application

The DCM-4 is compatible with Potter’s PFC-6000 series and PFC-8500 addressable fire alarm control panels. The DCM-4 is an interface module used to monitor dry contact devices such as sprinkler water flow, valve tamper switches, or conventional pull stations. The module is capable of monitoring two separate Class B or one Class A circuits.

Description

The DCM-4 uses two (2) consecutive SLC loop addresses when monitoring two (2) Class B circuits or one (1) address when monitoring a single class A (Style D) circuit. The module mounts on either a 4” square or double gang box. The module is capable of monitoring two (2) separate class B circuits making it ideal for monitoring sprinkler waterflow and valve tamper switches when they are located in the same proximity. The DCM-4 includes one red LED to indicate the modules status. In normal condition, the LED flashes when the device is being polled by the control panel. When a contact is activated, the LED will light continuously and in case of an open circuit, the LED will turn off.

Technical Specifications

Operating Voltage	22.0-24.0V
Max SLC Standby Current	325 µA
Aux Power Required	1mA
Max Wiring Resistance of IDC	100 Ω
Max Wiring Cpacitance of IDC	1µF
EOL Resistor	5.1K Ω
Operating Tempurature Range	32 to 120ºF (0 to 49ºC)
Operating Humidity Range	0 to 93% (non-condensing)
Max no. of Module Per Loop	127 units (Class A) or 63 units (Class B)
Dimensions	4.17” (106mm)L × 4.17” (106mm)W × 1.14” (29mm)D
Mounting Options	Standard 4” Square or Double Gang Box
Shipping Weight	0.6 lbs

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Setting the Address

Each addressable module, smoke sensor, heat detector and combination sensor/detector must be assigned an address prior to installing the device. The address is set using either the hand held device programmer or the addressing feature on the PFC 6000 /PFC 8500 Series control panels. When the DCM-4 is used to monitor two individual Class B circuits a single device address is assigned, with the second address number assigned automatically by the module assuming the next consecutive address. For example, if the first address number is assigned as “2”, the second address number will automatically be assigned as SLC device address “3”.

Before connecting a device to the SLC loop, take the following precautions to prevent potential damage to the panel or device verify the following:

1. Power to the device is removed
2. Field wiring is correctly installed.
3. Field wiring has no open or short circuits.

Installation Using Compatible Electrical Box

Wiring Diagrams

DCM-4 With One Class A Circuit

DCM-4WithTwoClassB Circuits

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Mini Contact M

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Date: 09/18/17

Features

- One Class B (Style B) contact monitoring input
- Small size allows mounting in most electrical boxes
- SLC Class A (Style 6,7) & Class B (Style4)
- Wiring terminals accept 22 to 14 AWG
- Product includes a 5 year warranty

Stock Number: 1430820

c UL us LISTED
S2930

7165-0328:0196

Application

The miniature contact module (MCM) is compatible with Potter's PFC-6000 series and PFC-8500 addressable fire alarm control panels. Generally the MCM is used to monitor pull stations and other devices where the module is installed in an electrical box or enclosure behind the device being monitored.

Description

The MCM is used to monitor the status of an initiating device(s) that contain a normally open set of dry contacts. The module is enclosed in a plastic case to protect against inadvertent shorts and ground faults. The case can be mounted using the screw tabs or the tabs may be snipped off for installation in an electrical box. The MCM does not contain a status indication LED.

Technical Specifications

Operating Voltage	22.0-24.0V
Max SLC Standby Current	325 µA
Max SLC Alarm Current	325 µA
IDC Input Circuit Wiring Style	Class B
Max Wiring Resistance of IDC	100 Ω
Max Wiring Cpacitance of IDC	1µF
EOL Resistor	5.1K Ω
Operating Tempurature Range	32 to 120ºF (0 to 49ºC)
Operating Humidity Range	0 to 93% (non-condensing)
Max no. of Module Per Loop	127 units
Dimensions	2.58" (65.5mm)L × 2.32" (59mm)W × .29" (24mm)D
Mounting Options	2-1/2" (64mm) deep single-gang box
Shipping Weight	0.3 lbs

Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 09/18/17

Setting the Address

Each addressable SLC device must be assigned an address prior to installation. The address is set using either the hand held device programmer or the addressing feature on the PFC-6000 / PFC-8500 series control panels.

Before connecting a device to the SLC loop, take the following precautions to prevent potential damage to the panel or device verify the following:

1. Power to the device is removed
2. Field wiring is correctly installed.
3. Field wiring has no open or short circuits.

Wiring Diagram

POTTER
The Symbol of Protection

APS-SA

Addressable Pull
Single/Dua

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Date: 09/18/17

Features

- Single or Dual Action versions
- Durable die-cast construction
- Reset key matches the fire alarm control panels
- Compatible with all PFC-6000, PFC-8000, and P Series panels
- Product includes a 5 year warranty

Stock Numbers

- APS-SA Addressable Pull Station, Single Action – 1430810
- APS-DA Addressable Pull Station, Dual Action – 1430811

7150-0328:0201 S25236

Application

The APS-SA/DA is compatible with Potter's PFC-6000 series and PFC-8500 addressable fire alarm control panels. It is a non-coded addressable pull station available in either a single or dual action model and installs on a single box or surface mounts using the P32-BB or P32-DBB (deep) back box.

Description

The APS-SA (Single Action) is activated by simply pulling the white "T" bar handle down. The APS-DA (Dual Action) is activated by lifting the front cover and then pulling the white "T" bar handle down. Once activated, the "T" bar cannot be reset without opening the front cover. Opening the front cover will also activate the pull station. To reset the APS Series, use the Potter WS-93 key to unlock and open the front cover. Once the cover is open, push the "T" bar back into the normal position and re-secure the front cover.

Technical Specifications

Operating Voltage	22.0 – 24.0 VDC
Max SLC Standby Current	0.325mA
Max SLC Alarm Current	0.325mA
Environmental Limitations	32°F - 120°F (0° - 49°C) Indoor Only
Dimensions	4.75" H x 3.25" W x 1.75" D
Relative Humidity Range	0 - 93% (non-condensing)
Mounting Options	Single gang box or Potter P32-BB/DBB
Shipping Weight	APS-SA - 1.22 lbs. APS-DA - 1.46 lbs.

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Inspections Division
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Date: 09/18/17

Setting the Address

The APS Series uses one SLC address which must be assigned prior to installation of the device. The address is set using either the handheld device programmer or the device addressing feature built into each Potter fire alarm control panel.

Pull Station Front View

APS-DA

APS-SA

Pull Station Back View and Wiring

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The Symbol of Protection

S-24 & HS-24

SELECTABLE CANDEI
STROBE & HORN/STROL

Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 09/18/17

Features

- 24VDC units have field selectable candela options of 15, 30, 60, 75, & 110
- Super-Slide® Bracket - Ease of Supervision Testing
- Checkmate® - Instant Voltage Verification
- Synchronize strobe and/or horn with AVSM Control Module
- Prewire entire system, install mounting bracket, then install signals
- Documented lower installation and operating costs
- Input terminals accept 12 to 18 AWG
- Switch selection for high or low dBA
- Switch for chime, whoop, mechanical and 2400Hz tone
- Tamperproof re-entrant style grill
- Switch for continuous or temporal 3 tone (not available on whoop tone)
- Surface mount with the AVBB (Surface Mount Back Box)
- Silence audible while visual appliance will remain flashing (for use in accepted jurisdictions)
- Faceplate available in red or off-white

Operating Temperature

- 32°F to 120°F (0°C to 49°C). The HS and S Series are **not** listed for outdoor use.

Unit Dimensions

- 5” (12.7 cm) high x 4.5” (11.43 cm) wide x 2.5” (6.35 cm) deep

UL LISTED
S3247

Description

The S-24/HS-24 Series is a low profile strobe and horn/strobe combination that offers dependable audible and visual alarms and the absolute lowest current available.

The S-24 & HS-24 Series 24VDC offers tamperproof field selectable candela options of 15, 30, 60, 75, and 110 candela.

The Strobe and Horn/Strobe offers a continuous or sync temporal three in 2400Hz and mechanical tone, a chime and whoop tone. All tones are easy for the professional to change in the field by the use of switches.

The S-24 & HS-24 Series has a minimal operating current and has a minimum flash rate of 1Hz regardless of input voltage.

This Series is shipped with a standard 4" metal mounting plate which incorporates the popular Super-Slide® feature that allows the installer to easily test for supervision. The product also features a locking mechanism which secures the product to the bracket without any screws showing.

The S-24/HS-24 also features the patented Checkmate® - Instant Voltage Verification feature which allows the installer to check the voltage drop draw and match it to the blueprint.

The S-24 & HS-24 Series appliances are ANSI/UL 464 and ANSI/UL 1971, listed for use with fire protective systems and are warranted for three years from date of purchase.

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Inspections Division
Approved with Conditions
Date: 09/18/17

Tone Switch Locations

TONE	SWITCH POSITION		
	3	4	5
Mechanical Temporal 3	ON	ON	ON
Mechanical - Continuous	OFF	ON	ON
2400Hz - Temporal 3	ON	OFF	ON
2400Hz - Continuous	OFF	OFF	ON
Chime - Temporal 3	ON	ON	OFF
Chime - Continuous	OFF	ON	OFF
Whoop	ON	OFF	OFF
Whoop	OFF	OFF	OFF

NOTE:
- Switch Positions 1 and 2 in the OFF position to select isolated horn and strobe power inputs
- Switch Position 6 ON = HIGH dBA
- Switch Position 6 OFF = LOW dBA

Super Slide® Mounting Bracket
Allows the installer to pre-wire the system, test for system supervision, remove the signal head until occupancy, switch out signals without changing mounting brackets and has locking edge connector for snap-in-place installation.

Checkmate® Instant Voltage Verification
It is often necessary to confirm the voltage drop along a line of devices. The access holes are provided in the back of the terminal block to allow the voltage to be measured directly without removing the device. Typically, this would be done at the end of line to confirm design criteria. Most measurements will be taken using the S+ and S- locations althouhg access is provided to other locations.

NOTE: Care should be taken to not short the test probes.

Candela selection slider switch. Depress center and slide switch to desire brightness level.

Break off pin and insert into hole at the bottom of the selector to lock candela setting. Signal must be removed from bracket and pin pushed forward from backside out of hole to change candela.

To remove bezel, grip both sides of bezel and pull in a download and outward motion.

CITY OF PORTLAND, MAINE RESURGAM
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Date: 09/18/17

S-24 24 VDC Selectable Candela, Low Profile Evacuation Strobe

Model Number	Part Number	Nominal Voltage	Candela (ANSI/UL 1971)
S-24WR	4890010	24 VDC	15, 30, 60, 75, 110
S-24WW	4890011	24 VDC	15, 30, 60, 75, 110

HS-24 24 VDC Selectable Candela, Low Profile Evacuation Horn/Strobe

Model Number	Part Number	Nominal Voltage	Candela (ANSI/UL 1971)	Reverberant dBA at 10 ft., per ANSI/UL 464	In Anechoic Room dBA at 10 ft.
HS-24WR	4890030	24 VDC	15, 30, 60, 75, 110	62-82	100
HS-24WW	4890031	24 VDC	15, 30, 60, 75, 110	62-82	100

S-24 & HS-24 Product Strobe Current Ratings (mA)

	24 VDC (16-33 Volts)	
Candela	**24 VDC**	UL Max[1]
15 cd	**30 mA**	42 mA
30 cd	**35 mA**	58 mA
60 cd	**66 mA**	97 mA
75 cd	**80 mA**	116 mA
110 cd	**103 mA**	161 mA

Model Designations:
W = Wall Mount
R = Red Faceplate W = White Faceplate

All units are available in plain (no lettering).
Plain units are non-returnable.

ALERT bezel available for order.
ALERT bezel available for order.

S-24 & HS-24 Product Horn Current Ratings

	Horn Decibel Levels		Horn Current Ratings
Horn Mode	Minimum SPL at 10 ft., per ANSI/UL 464 (HIGH)	Minimum SPL at 10 ft., per ANSI/UL 464 (LOW)	Regulated 24 VDC Max. Operating @ High Setting (mA)
Temp 3 2400 Hz	78 dBA	71* dBA	28 mA
Temp 3 Mechanical	76 dBA	70* dBA	25 mA
Temp 3 Chime	70* dBA	66* dBA	15 mA
Continuous 2400 Hz	81 dBA	74* dBA	28 mA
Continuous Mechanical	80 dBA	72* dBA	25 mA
Continuous Chime	70* dBA	66* dBA	15 mA
Whoop	82 dBA	69* dBA	56 mA

NOTES:

- For nominal and peak current across ANSI/UL regulated voltage range for filtered DC power and unfiltered (FWR [Full Wave Rectified]) power, see installation manual.
- Potter does nto recommend usign a coded or pulsing signaling circuit with any of our strobe products.
- The sound output for the temporal 3 tone is rated lower since the time the horn is off is averaged into the sound output rating. While the horn is producing a tone in the temporal 3 mode its sound pressure is the same as the continuous mode.

* Operating the horn in this mode at this voltage will result in not meeting the minimum ANSI/UL 464 reverberant sound level required for public mode fire protection service. These settings are acceptable only for private mode fire alarm use. Use the high dBA setting for public mode application (not applicable when using the chime tone. The chime tone is always private mode).

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Inspections Division
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Date: 09/18/17

Architect & Engineering Specifications

The audible and/or visible signal shall be Potter S-24 strobe and Potter HS-24 horn/strobe Series or approved equal and shall be listed by Underwriters Laboratories, Inc. per ANSI/UL 1971 and/or ANSI/UL 464. The notification appliance shall also be listed with Factory Mutual Listing Service (FM) and the California State Fire Marshal (CSFM).

The notification appliance (combination audible/visible) shall produce a peak sound output of 100dBA or greater at 24VDC as measured in an anechoic chamber. The signaling appliance shall also have the capability to silence the audible signal while leaving the visible signal energized with the use of a single pair of power wires. Additionally, the user shall be able to select either continuous or temporal tone output with the temporal signal having the ability to be synchronized.

Unit shall be capable of being installed so that any unauthorized attempt to change the candela setting will result in a trouble signal at the fire alarm control panel.

The audible/visible and visible signaling appliance shall also maintain a minimum flash rate of 1Hz or up to 2Hz regardless of power input voltage. The strobe appliance shall have an operating current of 42mA or less at 24VDC for the 15Cd strobe circuit.

The appliance shall be polarized to allow for electrical supervision of the system wiring. The unit shall be provided with a mounting bracket with terminals and barriers for input/output wiring and be able to mount to a single gang or double gang box or double workbox without the use of an adapter plate. The unit shall have an input voltage range of 16-33 volts with either direct current or full wave rectified power for 24VDC models.

The appliance shall be capable of testing supervision without disconnecting wires, verify voltage without removing unit and be capable of mounting to a surface back box.

Conventional Wiring Diagrams for Emergency Notification Evacuation Series

NOTES:

- All strobes are designed to flash as specified with continuous applied voltage. Strobes should not be used on coded or pulsing signaling circuits. However, use of the Potter AVSM control module or Gentex synchronization protocol is permitted to synchronize the strobe, horn, and/or mute the horn.
- **FOR SYNCHRONIZATION WIRING INFORMATION, REFERENCE AVSM CONTROL MODULE DATA SHEET (8830050) AND/OR AVSM CONTROL MODULE MANUAL FOR SYNCHRONIZATION MODULE WIRING DIAGRAMS. AVSM CONTROL MODULE DATA SHEET AND MANUAL CAN BE OBTAINED AT http://pottersignal.com OR CALL POTTER ELECTRIC AT 1-800-325-3936.**

SPKSTR-24

Indoor Low Profile Wal
Speaker/Strob

Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 09/18/17

Features

- 24VDC tamperproof selectable candela options of 15, 30, 60, 75, and 110
- Speaker voltage 25 or 70.7 VRMs standard, field selectable
- Field selectable power taps: 1/8W, 1/4W, 1/2W, 1W, 2W, 4W
- Xenon strobe maintains constant flash rate (1Hz)
- High quality dBA output (intelligible)
- Frequency range 400-4000 Hz
- Screw Terminals, separate in/out wiring (18-12 gauge)
- Tamperproof grill
- Faceplate available in red or off-white
- Product includes a 5 year warranty

LISTED
S2657

7320-0328:0207

Application

The Potter SPKSTR-24WLP is a wall mount, low profile, field adjustable speaker/strobe designed to meet code requirements for audio, visual, and voice communications. The SPKSTR-24WLP Series are quality speaker products offering dependable evacuation signaling, visual alarms, or a combination of both.

Description

The SPKSTR-24WLP has high output tamperproof candela selections of 15, 30, 75, 95, and 115.The SPKSTR-24WLP provides a 25 or 70.7 VRMs speaker with field selectable power taps of 1/8W, 1/4W, 1/2W, 1W, 2W, or 4W. The SPKSTR-24WLP strobes can be synchronized using the Potter AVSM Synchronization Control Module, FACP, or power supplies that produce a Gentex Synchronization Protocol.

The SPKSTR-24WLP can be mounted to a 4" X 2 1/8" deep back box without an extension ring or Potter SPKRBB surface back box.

The SPKSTR-24WLP is constructed of high textured plastic.

Product Listings

- ANSI/UL 1638, ANSI/UL1971 and ANSI/UL 1480
- CSFM 7320-0328:0207

Product Compliance

- Americans with Disabilities Act (ADA)
- NFPA 72
- IBC/IFC/IRC

Technical Specifications

Speaker Operating Voltage	25VRMs or 70.7VRMs
Strobe Operating Voltage	16-33VDC
Synchronization Module	Potter AVSM
Environmental Limitations	32°F to 120°F Indoor Only
Unit Dimensions	6.1" (15.494cm) square X 1.88" (4.7752cm) deep
Back Box	4" X 2 1/8" deep box or Potter SPKRBB surface back box
Shipping Weight	1.5 lbs.

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Inspections Division
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Date: 09/18/17

SPKSTR-24CLP Product Strobe Current Ratings					
Candela	15 cd	30 cd	60 cd	75 cd	110 cd
24 VDC	55 mA	63 mA	88 mA	112 mA	136 mA
UL Max	78 mA	96 mA	137 mA	180 mA	224 mA

Speaker dBA @ 10 ft.		
Input Watts	25 Volts	70.7 Volts
1/8	74.6 dBA	73.7 dBA
1/4	77.7 dBA	76.7 dBA
1/2	80.5 dBA	79.6 dBA
1	83.1 dBA	82.5 dBA
2	85.6 dBA	85.4 dBA
4	87.9 dBA	87.9 dBA

NOTE:

- Potter does not recommend using a coded or pulsing signaling circuit with any of our strobe products.

Low Profile Evacuation Speakers		
Model Number	Description	Stock Number
SPKSTR-24WLPR	Speaker/Strobe Red	4890210
SPKSTR-24WLPW	Speaker/Strobe White	4890211
SPKSTR-24WLPPR	Speaker/Strobe Plain Red	4890212
SPKSTR-24WLPPW	Speaker/Strobe Plain White	4890213

Model Designations

P = Plain (No Lettering)

W = Off-White Faceplate

R = Red Faceplate

Plain units are non-returnable

Architect and Engineering Specifications

The fire alarm speaker shall be Potter SPKSTR-24WLP or equivalent. The speaker shall be capable of producing alarm tones or voice on all 25 or 70.7 VRMs audio systems. The speaker shall provide incremental tap settings of 1/8, 1/4, 1/2, 1, 2, or 4 watts. Minimum dBA ratings at 1/4 watt shall be 76.7 dBA and at 4 watts 87.9dBA. Tap settings shall be adjustable with field selectable jumper pins. The speaker shall also have an optional visual signal capability.
The visual signal shall have a 1 Hz flash rate regardless of input voltage. All field wiring connections shall be made via separate in-out terminal connections and the speaker or speaker strobe shall be ANSI/UL, CSFM listed and comply with all local, state and federal fire alarm codes/standards.

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Inspections Division
Approved with Conditions
Date: 09/18/17

SPKSTR-24WLP Candela Selection

Adjust candela setting by turning dial with screwdriver. Candela selection is displayed on front of unit.

Power Tap Selection

Adjust Power taps using needle nose pliers.

Mounting Diagram

Mounts to a standard 4” square X 2 1/8” back box or Potter SPKRBB surface back box.

Wiring Diagram

WIRE CONDUCTIVITY	
18 AWG	60
16AWG	95
14AWG	153
12AWG	244

NOTE: **DO NOT USE LOOPED WIRE UNDER TERMINALS. BREAK WIRE RUN TO PROVIDE SUPERVISION OF CONNECTION.**

- **MAX WIRE DISTANCE -** $\dfrac{\text{PANEL VOLTAGE - DEVICE MINIMUM VOLTAGE}}{\text{TOTAL CURRENT DRAW}}$ **- X WIRE CONDUCTIVITY**
- **CAUTION: APPLIES ONLY TO REGULATED SUPPLIES.**
- **NOTICE: POWER IS SUPPLIED TO DEVICES WHEN CONTROL PANEL IS LATCHED.**

Reviewed for Code Compliance
Inspections Division
Portland, Maine
Date: 09/18/17

1 | ELECTRICAL LIFE SAFETY PLAN
1/8" = 1'-0"

FACP FIRE ALARM CONTROL PANEL

ANN FIRE ALARM ANNUNCIATOR PANEL

V 30 MH FIRE ALARM AUDIO/VISUAL, MOUNT 6'-8"AFF, NUMBER DENOTES CANDELA RATING. "MH" DENOTES MINIHORN, "V" DENOTED VOICE EVACUATION. NO DESIGNATION EQUALS 15cd

F FIRE ALARM PULL STATION, MOUNT 48"AFF

15 CL SP FIRE ALARM VISUAL STROBE ONLY, FLUSH MOUNT 6'-8" AFF, NUMBER DENOTES CANDELA RATINGS. "CL" DENOTES CEILING MOUNTED

SD/CO SYSTEM CONNECTED SMOKE / CARBON MONOXIDE DETECTOR, PHOTOELECTRIC TYPE

135° HD SYSTEM CONNECTED FIXED TEMPERATURE HEAT DETECTOR

SD SMOKE DETECTOR, PHOTOELECTRIC TYPE, SYSTEM CONNECTED.

ER SD SMOKE DETECTOR, PHOTOELECTRIC TYPE, SYSTEM CONNECTED. "ER" DENOTES ELEV RECALL

SB SD SYSTEM CONNECTED SMOKE DETECTOR, PHOTOELECTRIC TYPE, WITH SOUNDER BASE

CO CARBON MONOXIDE DETECTOR

SD DUCT SMOKE DETECTOR & TEST STATION

FD/SD FIRE/SMOKE DAMPER, SUPPLIED AND INSTALLED BY MECHANICAL CONTRACTOR. ELECTRICAL CONTRACTOR TO PROVIDE ALL WIRING CONNECTIONS AND FIRE ALARM DUCT SMOKE DETECTORS, ADDRESSABLE MODULES AND PROGRAMMING.

K KNOX BOX

SPRINKLER SYSTEM FLOW SWITCH
SPRINKLER SYSTEM TAMPER SWITCH
} SUPPLIED BY SPRINKLER CONTRACTOR WIRED BY EC, VERIFY LOCATIONS WITH SPRINKLER CONTRACTOR.

SELF CONTAINED EMERGENCY LIGHT W/2 HEADS DUAL-LITE (LED) MODEL LZ65I-03L, 65 WATTS FOR 90 MINUTES, COLOR BY ARCHITECT

UNIVERSAL MOUNTED, DOUBLE FACED EXIT LIGHT PROVIDE DIRECTIONAL ARROWS AS INDICATED ON PLAN

UNIVERSAL MOUNTED, SINGLE FACED EXIT LIGHT PROVIDE DIRECTIONAL ARROWS AS INDICATED ON PLAN

2 | ELECTRICAL SYMBOLS
NOT TO SCALE

STATE OF MAINE
STEVEN M. MONASON
#8468
LICENSED
PROFESSIONAL ENGINEER

Prepared For:

Consultant:
BENNETT ENGINEERING
MECHANICAL • ELECTRICAL
(207) 865-9475

Architect:
ARCHETYPE architects
48 Union Wharf Portland, Maine 04101
(207) 772-6022 ARCHETYPE@ARCHETYPEPA.COM

Project:
Elks Lodge
Portland, Maine

Revisions:

Scale: 1/8" = 1'-0"

Date: 04/12/2017

ELECTRICAL LIFE SAFETY

ELS-1

Approved as to Content
Fire Marshal's Office
Date: 09/18/17

Fire Alarm Symbol Legend

SYMBOL	DESCRIPTION	PART NUMBER	MODEL	QUANTITY
30CD 0.125W	SPEAKER/STROBE, M-C, WALL, WH	SPKSTR-24WLPW	SPKSTR-24WLPW	6
15CD	STROBE, M-C, RED, WALL	S-24WR	4890010	4
15CD	HORN/STROBE, 2 WIRE, M-C, RED, WALL	HS-24WR	4890030	6
30CD	HORN/STROBE, 2 WIRE, M-C, RED, WALL	HS-24WR	4890030	2
F	PULL STATION, SINGLE ACTION, ADDRESSABLE	APS-SA	APS-SA	6
S	PHOTO SMOKE DETECTOR	PSA	PSA	1
MM 1	MONITOR MODULE	MCM	MCM	1
CM 1 2	DUAL INPUT CONTACT MODULE	DCM-4	DCM-4	1
FACP	FACP, ADDRESSABLE, 75 PT	PFC-6075	PFC-6075	1
EVAC	25 WATT 1 CIRCUIT VOICE EVAC PANEL	PVX-25	PVX-25	1
30CD 0.125W	SPEAKER/STROBE, M-C, WALL, RED	SPKSTR-24WLPR	SPKSTR-24WLPR	1

ALL Fire Protection & Security Systems
14 Maine St Box 70 Suite 216C
Brunswick ME 04011
207-406-4840
www.allfireprotectionme.com

REVISION 1:
7/19/2017 11:42:16 AM

REVISION 2:
7/19/2017 11:42:16 AM

REVISION 3:
7/19/2017 11:42:16 AM

ELks Lodge
1945 Congress St
Portland ME 04102

Floor Plan

DESIGNED BY:
Bennett Engineering

DATE:
7/31/17

JOB NUMBER:
1

SHEET NUMBER:
FA-1 Floor Plan

N

Approved as to Compliance
09/18/17
Date:

ALL Fire Protection & Security Systems
14 Maine St Box 70 Suite 216C
Brunswick ME 04011
207-406-4840
www.allfireprotectionme.com

REVISION 1:
7/31/2017 11:29:10 AM

REVISION 2:
7/31/2017 11:29:10 AM

REVISION 3:
7/31/2017 11:29:10 AM

Elks Lodge
1945 Congress St
Portland ME 04102

Riser Diagram

DESIGNED BY:

DATE:
7/31/17

JOB NUMBER:
1034

SHEET NUMBER:
FA-2 Riser Diagram

Approved as to Form and Content
Fire Marshal
Date: 09/18/17

Fire Alarm Symbol Legend

SYMBOL	DESCRIPTION	PART NUMBER	MODEL	QUANTITY
MICD 0.125W	SPEAKER/STROBE, M.C, WALL, WH	SPKSTR-24WLPW	SPKSTR-24WLPW	6
HICD	STROBE, M-C, RED, WALL	S-24WR	4890010	4
HICD	HORN/STROBE, 2 WIRE, M-C, RED, WALL	HS-24WR	4890030	6
HICD	HORN/STROBE, 2 WIRE, M-C, RED, WALL	HS-24WR	4890030	2
F	PULL, STATION, SINGLE ACTION, ADDRESSABLE	APS-SA	APS-SA	6
S	PHOTO SMOKE DETECTOR	PSA	PSA	1
M	MONITOR MODULE	MCM	MCM	1
M	DUAL INPUT CONTACT MODULE	DCM-4	DCM-4	1
FACP	FACP, ADDRESSABLE, 75 PT	PFC-6075	PFC-6075	1
EVAC	25 WATT 1 CIRCUIT VOICE EVAC PANEL	PVX-25	PVX-25	1
MICD 0.125W	SPEAKER/STROBE, M.C, WALL, RED	SPKSTR-24WLPR	SPKSTR-24WLPR	1

Battery Calculations for Panel: P1

Part No:PFC-6075 - FACP, ADDRESSABLE, 75 PT

Job number: 1 Job name: Elks Lodge
Address 1: 1945 Congress St
Address 2: Portland ME 04102
Phone: 207-865-9475 Fax:
Designing engineer: Bennett Engineering

Part No.	Qty.	Description	Standby	Total Standby	Alarm	Total Alarm
		Panel Equipment				
PFC-6075_MB	1	MOTHER BOARD 6075	130.0000mA	130.0000mA	220.0000mA	220.0000mA
UD-1000	1	DACT	16.0000mA	16.0000mA	23.0000mA	23.0000mA
			Total Panel Stby:	146.0000mA	Total Panel Alarm:	243.0000mA
		Peripheral Devices				
PVX-25	1	25 WATT 1 CIRCUIT VOICE EVAC PANEL, PVX-25_MB (Notification)	0.4000mA	0.4000mA	0.4000mA	0.4000mA
SPKSTR-24WLPW	6	SPEAKER/STROBE, M-C, WALL, WH (Notification)	0.0000mA	0.0000mA	96.0000mA	576.0000mA
HS-24WR	6	HORN/STROBE, 2 WIRE, M-C, RED, WALL (Notification)	0.0000mA	0.0000mA	70.0000mA	420.0000mA
HS-24WR	2	HORN/STROBE, 2 WIRE, M-C, RED, WALL (Notification)	0.0000mA	0.0000mA	86.0000mA	172.0000mA
SPKSTR-24WLPR	1	SPEAKER/STROBE, M-C, WALL, RED (Notification)	0.0000mA	0.0000mA	96.0000mA	96.0000mA
S-24WR	4	STROBE, M-C, RED, WALL (Notification)	0.0000mA	0.0000mA	42.0000mA	168.0000mA
APS-SA	6	PULL STATION, SINGLE ACTION, ADDRESSABLE (Signaling line)	0.3250mA	1.9500mA	0.3250mA	1.9500mA
PSA	1	PHOTO SMOKE DETECTOR (Signaling line)	0.3250mA	0.3250mA	1.2000mA	1.2000mA
MCM	1	MONITOR MODULE (Signaling line)	0.3250mA	0.3250mA	0.3250mA	0.3250mA
DCM-4	1	DUAL INPUT CONTACT MODULE (Signaling line)	0.3250mA	0.3250mA	1.0000mA	1.0000mA
			Total Peripheral Stby:	3.3250mA	Total Periph.Alarm:	1436.8750mA
			Total Standby Amps:	149.3250mA	Total Alarm Amps:	1679.8750mA

Standby time: 24 Hrs 3.584Ah
Alarm time: 5 Min 0.140Ah
Battery requirement: 3.724Ah
Compensation Factors - Standby: 1.2 Alarm: 1.2 Requirement with compensation: 4.469Ah

Battery Calculations for Panel: P2

Part No:PVX-25 - 25 WATT 1 CIRCUIT VOICE EVAC PANEL

Job number: 1 Job name: Elks Lodge
Address 1: 1945 Congress St
Address 2: Portland ME 04102
Phone: 207-865-9475 Fax:
Designing engineer: Bennett Engineering

Part No.	Qty.	Description	Standby	Total Standby	Alarm	Total Alarm
		Panel Equipment				
PVC-ZM	1	ZONE SPLITTER, 4 CLASS B OR 2 CLASS A	51.0000mA	51.0000mA	130.0000mA	130.0000mA
PVX-25_MB	1	25 WATT, 1 CIR, VOICE EVAC MOTHER BOARD	180.4000mA	180.4000mA	1100.4000mA	1100.4000mA
			Total Panel Stby:	231.4000mA	Total Panel Alarm:	1230.4000mA
		Peripheral Devices				
SPKSTR-24WLPW	6	SPEAKER/STROBE, M-C, WALL, WH (Notification)	0.0000mA	0.0000mA	0.0000mA	0.0000mA
SPKSTR-24WLPR	1	SPEAKER/STROBE, M-C, WALL, RED (Notification)	0.0000mA	0.0000mA	0.0000mA	0.0000mA
			Total Peripheral Stby:	0.0000mA	Total Periph.Alarm:	0.0000mA
			Total Standby Amps:	231.4000mA	Total Alarm Amps:	1230.4000mA

Standby time: 24 Hrs 5.554Ah
Alarm time: 5 Min 0.103Ah
Battery requirement: 5.656Ah
Compensation Factors - Standby: 1.2 Alarm: 1.2 Requirement with compensation: 6.787Ah

Part No:PVX-25 - 25 WATT 1 CIRCUIT VOICE EVAC PANEL

Job number: 1 Job name: Elks Lodge
Address 1: 1945 Congress St
Address 2: Portland ME 04102
Phone: 207-865-9475 Fax:
Designing engineer: Bennett Engineering

Standby time: 24 Hrs 5.554Ah
Alarm time: 5 Min 0.103Ah
Battery requirement: 5.656Ah
Compensation Factors - Standby: 1.2 Alarm: 1.2 Requirement with compensation: 6.787Ah

Circuit Calculations Panel: P1 Card: 00

Terminal Voltage: 20.4VDC Amperage: 3.0000A
Cable: 14/2 SOL JKT FPLR 1M RL RED #14
Calculations based on Lump Sum Length.
Design Criteria: Ambient temperature: 167°F Max. operating voltage drop: 10%

Circuit	Description	Type	Total Len	SPKSTR-24WLPR, 30CD, 96.000mA	HS-24WR, 30CD, 86.000mA	SPKSTR-24WLPW, 30CD, 96.000mA	HS-24WR, 15CD, 70.000mA	Total Amps	Gauge	V Drop %	V Drop	Resistance	Max Len
NAC 1		Notification	293'-0	1	2	3	2	696.0000mA	#14	5.14	1.2521V	1.8 Ohms	477'-0

Circuit Calculations Panel: P1 Card: 00

Terminal Voltage: 20.4VDC Amperage: 3.0000A
Cable: 14/2 SOL JKT FPLR 1M RL RED #14
Calculations based on Lump Sum Length.
Design Criteria: Ambient temperature: 167°F Max. operating voltage drop: 10%

Circuit	Description	Type	Total Len	S-24WR, 15CD, 42.000mA	HS-24WR, 15CD, 70.000mA	SPKSTR-24WLPW, 30CD, 96.000mA	Total Amps	Gauge	V Drop %	V Drop	Resistance	Max Len
NAC 2		Notification	330'-0	4	4	3	736.0000mA	#14	7.31	1.4913V	2.0 Ohms	451'-0

Circuit Calculations Panel: P1 Card: 00 Circuit:SLC1

CircuitName: SLC1
Circuit Type: Signaling line/Potter - SLC Terminal Voltage: 20.2VDC Amperage: 560.0000mA
Cable: 18/2 SOL JKT FPLR 1M RL RED #18
Calculations based on Running Total Length.
Design Criteria: Ambient temperature: 167°F Max. operating voltage drop: 10%

Device	Part No	Appliance Desc	Distance	Current	Voltage	Voltage Drop
	PFC-6075	Panel			20.2V	
01	PSA	PHOTO SMOKE DETECTOR	9'-0	0.3250mA	20.1996V	(0.0004V)
02	APS-SA	PULL STATION, SINGLE ACTION,ADDRESSABLE	20'-0	0.3250mA	20.1988V	(0.0008V)
03	APS-SA	PULL STATION, SINGLE ACTION,ADDRESSABLE	27'-0	0.3250mA	20.1978V	(0.0010V)
04	APS-SA	PULL STATION, SINGLE ACTION,ADDRESSABLE	109'-0	0.3250mA	20.1945V	(0.0033V)
05, 06	DCM-4	DUAL INPUT CONTACT MODULE	30'-0	0.3250mA	20.1938V	(0.0008V)
07	APS-SA	PULL STATION, SINGLE ACTION,ADDRESSABLE	12'-0	0.3250mA	20.1935V	(0.0002V)
08	APS-SA	PULL STATION, SINGLE ACTION,ADDRESSABLE	27'-0	0.3250mA	20.1931V	(0.0004V)
09	MCM	MONITOR MODULE	44'-0	0.3250mA	20.1927V	(0.0004V)
10	APS-SA	PULL STATION, SINGLE ACTION,ADDRESSABLE	69'-0	0.3250mA	20.1923V	(0.0002V)
			347'-0	2.9250mA		

Total Current: 2.9250mA
(Total VDrop Percent:0.04%) Total Voltage Drop: 0.0077V

Circuit Calculations Panel: P2 Card: 01 Circuit:SPK3

Design Criteria: Ambient temperature: 167°F Maximum dB Drop: 3 dB

Circuit	Description	Type	Total Len	SPKSTR-24WLPR	SPKSTR-24WLPW	Total Watts	Gauge	dB Loss	Max Allowable Len
SPK3		Notification/Audio 25v	160'-0	1	3	0.50 Watts	#18	-0.02 dB	35108'

Circuit Calculations Panel: P2 Card: 01 Circuit:SPK4

Design Criteria: Ambient temperature: 167°F Maximum dB Drop: 3 dB

Circuit	Description	Type	Total Len	SPKSTR-24WLPW	Total Watts	Gauge	dB Loss	Max Allowable Len
SPK4		Notification/Audio 25v	240'-0	3	0.38 Watts	#18	-0.02 dB	46811'

Circuit Legend

Abbreviation	Type	Name
V1	Notification	Notification
S	Notification	Audio 25v
S1	Audio	25V Channel 1 Audio
U	Signaling line	Potter - SLC

N

ALL Fire Protection & Security Systems
14 Maine St Box 70 Suite 216C
Brunswick ME 04011
207-406-4840
www.allfireprotectionme.com

REVISION 1:
7/19/2017 11:42:16 AM

REVISION 2:
7/19/2017 11:42:16 AM

REVISION 3:
7/19/2017 11:42:16 AM

Elks Lodge
1945 Congress St
Portland ME 04102

Calculation

DESIGNED BY:
Bennett Engineering

DATE:
7/31/16

JOB NUMBER:
1034

SHEET NUMBER:
FA-3 Calculation