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UD-2000
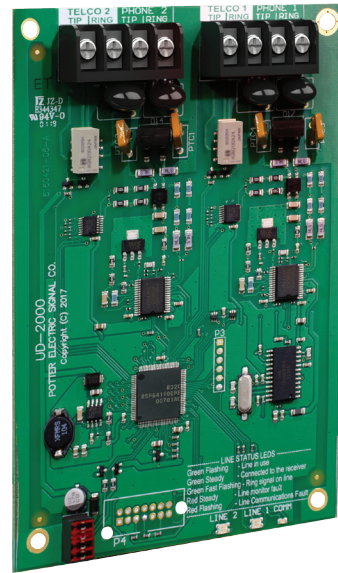*Digital Alarm Communicator*

Features

- Allows for communication to Monitoring Station
- Communicates using SIA-DCS or Ademco Contact ID Protocols
- For use with IPA, AFC, and ARC series Addressable Panels and PFC-4064 Conventional Panel
- Status LEDs indicate operation of DACT card
- Installs with ease behind main panel LCD display via User Interface bracket
- Device address is set internally to address 1
- Includes two (2) RJ45 phone cords

FM · UL LISTED

Description

The UD-2000 Digital Alarm Communicator Transmitter (DACT) provides for up to two (2) phone lines for communication to a monitoring station. The UD-2000 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.
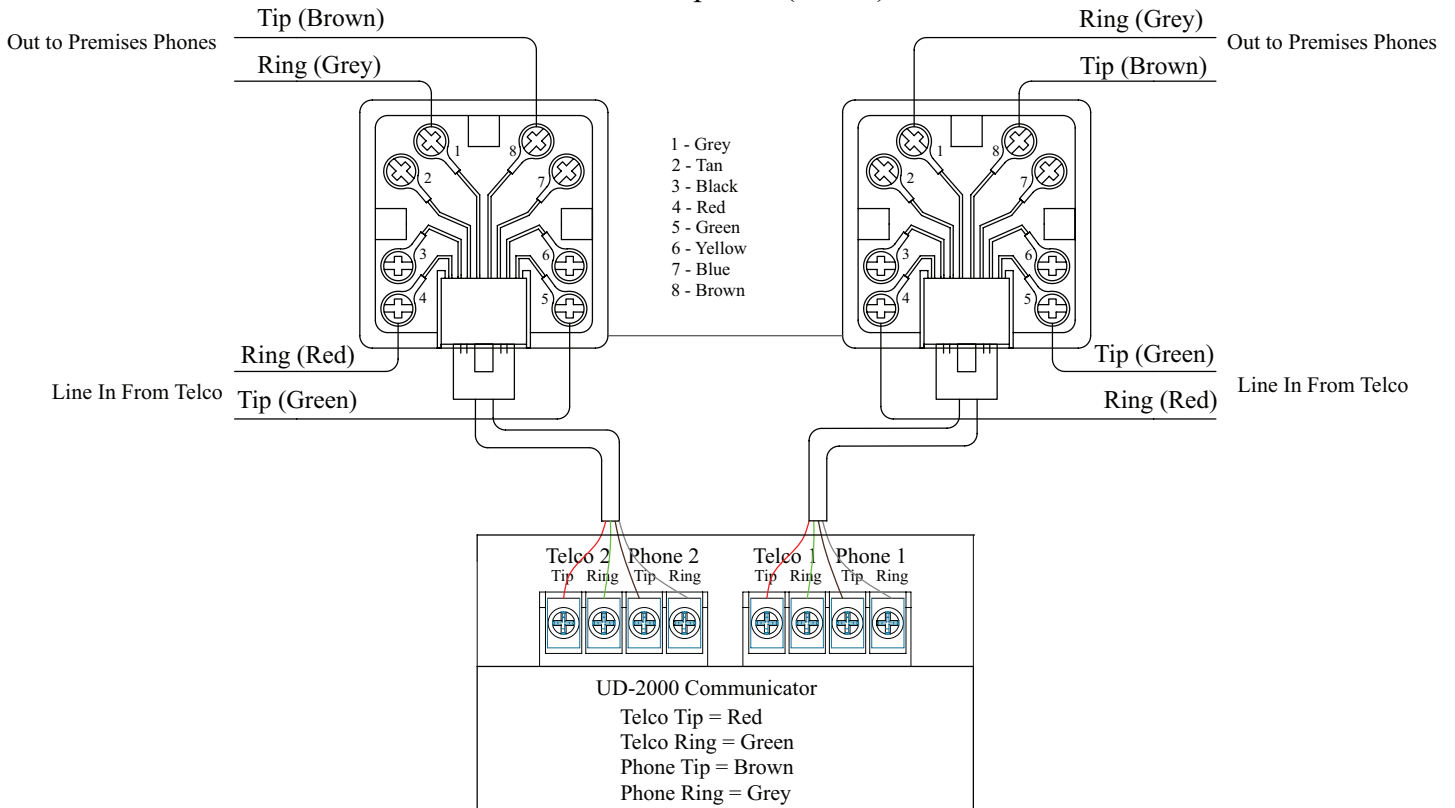
The DACT is provided with terminal blocks for each phone line and two RJ45 cords. In order for the DACT to work properly, it must be installed on a plain old telephone service (POTS) line or equivalent deemed by the authority having jurisdiction. The DACT must be installed before any other equipment 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-2000s 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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8830146 - REV B · 6/19

PAGE 1 OF 3

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RJ31X Phone Jack to UD-2000
Plain Old Telephone (POTS) lines

Out to Premises Phones

Tip (Brown)

Ring (Grey)

Ring (Grey)

Tip (Brown)

Out to Premises Phones

1 - Grey
2 - Tan
3 - Black
4 - Red
5 - Green
6 - Yellow
7 - Blue
8 - Brown

Ring (Red)

Tip (Green)

Tip (Green)

Ring (Red)

Line In From Telco

Line In From Telco

Telco 2 | Phone 2 | Telco 1 | Phone 1
Tip Ring | Tip Ring | Tip Ring | Tip Ring

UD-2000 Communicator
Telco Tip = Red
Telco Ring = Green
Phone Tip = Brown
Phone Ring = Grey

NOTICE
Install in accordance with compatible fire alarm control panel installation manual
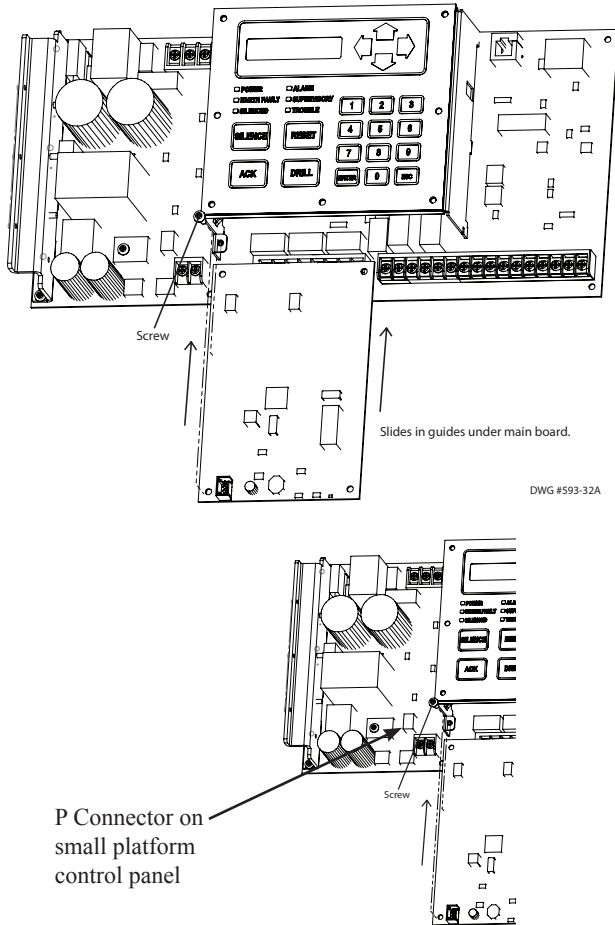
Installation

The UD-2000 DACT is connected to the control panel using the provided four-wire cable connection (P/N 5210514) between P4 and UD-2000 P1. The connection is power limited and supervised.

1. Power system down.
2. Slide the UD-2000 into the card guides located under the User Interface bracket.
3. Secure the UD-2000 to the User Interface bracket using the provided #6-32x3/8" screw
4. Install the provided four-wire conductor jumper between UD-2000 P1 and P4.
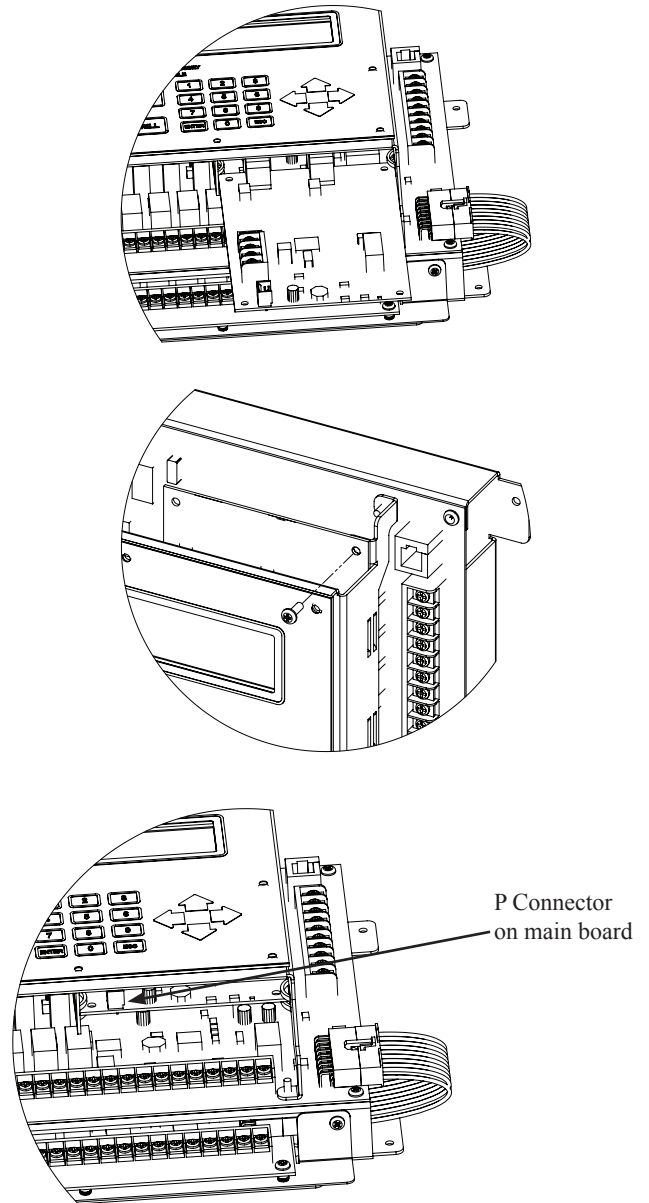
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8830146 - REV B • 6/19   PAGE 2 OF 3

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UD-2000 DACT Installation on Small Platform Panel
Fig 1

Screw

Slides in guides under main board.

DWG #593-32A

P Connector on small platform control panel

Screw

UD-2000 DACT Installation on Large Platform Panel
Fig 2

P Connector on main board

Ordering Information

Model	Description	Stock No.
UD-2000	Digital Alarm Communicator	3992769

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Knox-Box® 3200 Series
HINGED DOOR MODEL

High Security Industrial/Government Key Box

Recessed Mount
with Face Flange

Surface Mount

The number one high-security KNOX-BOX® is used for most commercial applications including businesses, schools, government and public buildings, community associations and apartment complexes. The 3200 Series KNOX-BOX holds keys, access cards and other small items necessary for emergency access.
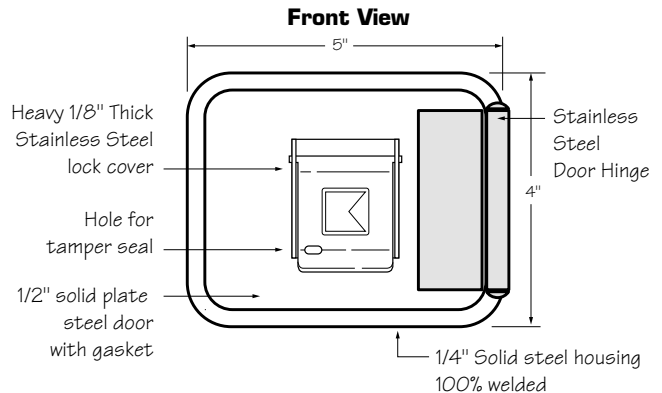
The hinged-door 3200 Series KNOX-BOX is more convenient than the lift-off door version because it allows single-handed operation and opened or closed, it's all one unit.
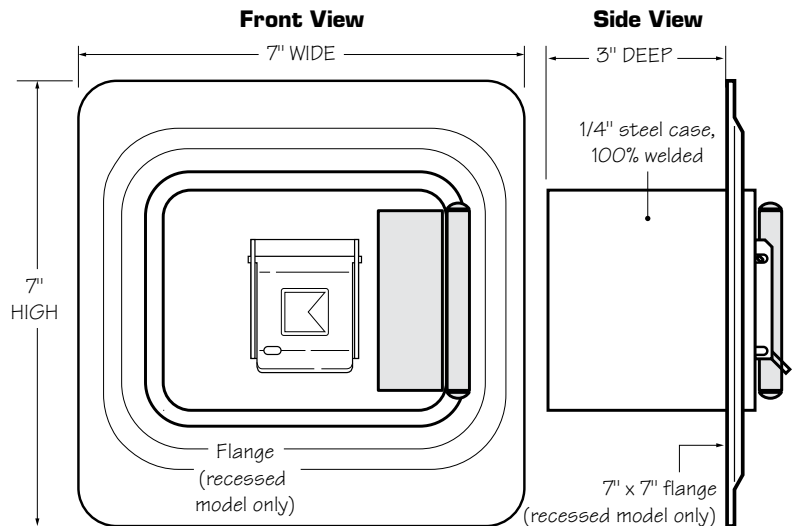
Features and Benefits

• Holds up to 10 keys or 1 access card in interior compartment

• Ensures high security. Box and lock are UL® Listed

• Includes a Knox-Coat® proprietary finishing process that protects Knox products up to four times better than standard powder coat

• Resists moist conditions with a weather resistant door gasket

• Hinged door allows single-handed operation

• Colors: Black, Dark Bronze or Aluminum
  Weight: Surface mount - 8 lbs.
                    Recessed mount - 9 lbs.

Options

• Alarm tamper switches (UL Listed)

• Additional rust and corrosion protection (Aluminization)

• Recessed Mounting Kit (RMK) for recessed models only

• Inside switch for use on electrical doors, gates and other electrical equipment

Front View

5"

4"

Heavy 1/8" Thick
Stainless Steel
lock cover

Stainless
Steel
Door Hinge

Hole for
tamper seal

1/2" solid plate
steel door
with gasket

1/4" Solid steel housing
100% welded

3200 Surface Mount

Front View

7" WIDE

7"
HIGH

Flange
(recessed
model only)

Side View

3" DEEP

1/4" steel case,
100% welded

7" x 7" flange
(recessed model only)

3200 Recessed Mount

Ordering Specifications

To insure procurement and delivery of the 3200 Series KNOX-BOX, it is suggested that the following specification paragraph be used:

KNOX-BOX surface/recessed mount with hinged door, with/without UL Listed tamper switches. 1/4" plate steel housing, 1/2" thick steel door with interior gasket seal and stainless steel door hinge. Box and lock UL Listed. Lock has 1/8" thick stainless steel dust cover with tamper seal mounting capability.

Exterior Dimensions: Surface mount body- 4"H x 5"W x 3 1/4"D
                                        Recessed mount flange- 7"H x 7"W
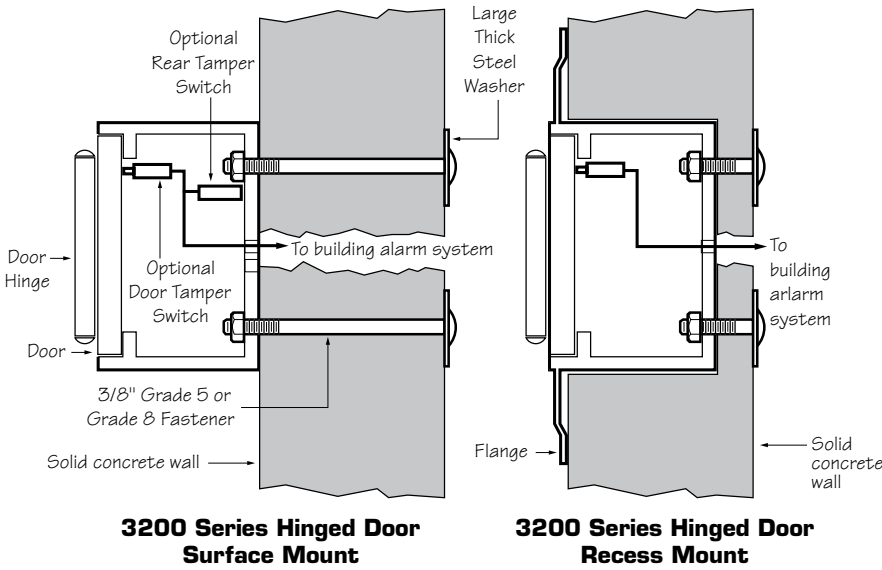Lock: UL Listed. Double-action rotating tumblers and hardened steel pins accessed by a biased cut key.
Finish: Knox-Coat® proprietary finishing process
Colors: Black, Dark Bronze or Aluminum
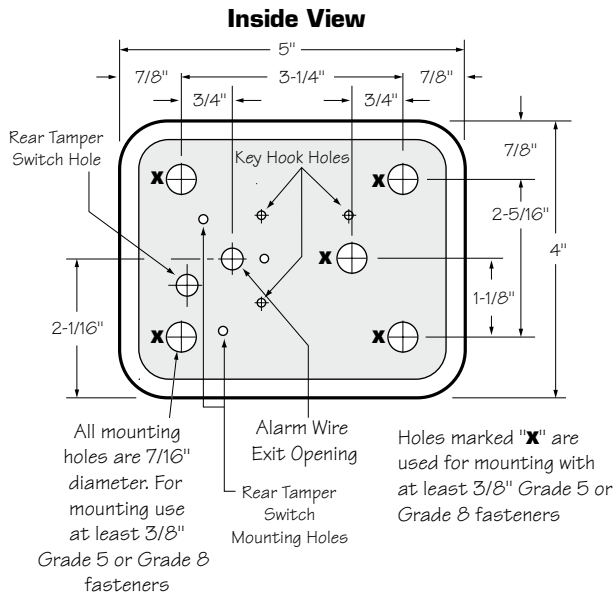P/N: 3200 Series KNOX-BOX (mfr's cat. ID)
Mfr's Name: **KNOX COMPANY**

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Knox-Box® 3200 Series
HINGED DOOR MODEL - MOUNTING DIAGRAM

**Suggested minimum mounting height
6 feet above ground**

Optional Rear Tamper Switch
Large Thick Steel Washer
Door Hinge
To building alarm system
Optional Door Tamper Switch
Door
3/8" Grade 5 or Grade 8 Fastener
Solid concrete wall
To building alarm system
Flange
Solid concrete wall

**3200 Series Hinged Door
Surface Mount**

**3200 Series Hinged Door
Recess Mount**

Inside View

5"
7/8" 3-1/4" 7/8"
3/4" 3/4"
7/8"
2-5/16"
4"
1-1/8"
2-1/16"

Rear Tamper Switch Hole
Key Hook Holes

All mounting holes are 7/16" diameter. For mounting use at least 3/8" Grade 5 or Grade 8 fasteners

Alarm Wire Exit Opening
Rear Tamper Switch Mounting Holes

Holes marked "**x**" are used for mounting with at least 3/8" Grade 5 or Grade 8 fasteners

Attention: KNOX-BOX® is a very strong device that MUST be mounted properly to ensure maximum security and resist physical attack.

Knox® Rapid Entry System
The Knox Company manufacturers a complete line of high security products including Knox-Box key boxes, key vaults, cabinets, key switches, padlocks, locking FDC caps, plugs and electronic master key security systems. For more information or technical assistance, please call Customer Service at 1-800-552-5669.

Recessed Mounting Kit

The 3200 Recessed Mounting Kit (RMK) is used for recessed models only. It contains a shell housing and mounting hardware to be cast-in-place in new concrete or masonry construction. After construction is completed, the KNOX-BOX mounts inside the RMK. The RMK may only be used in new concrete or masonry construction.

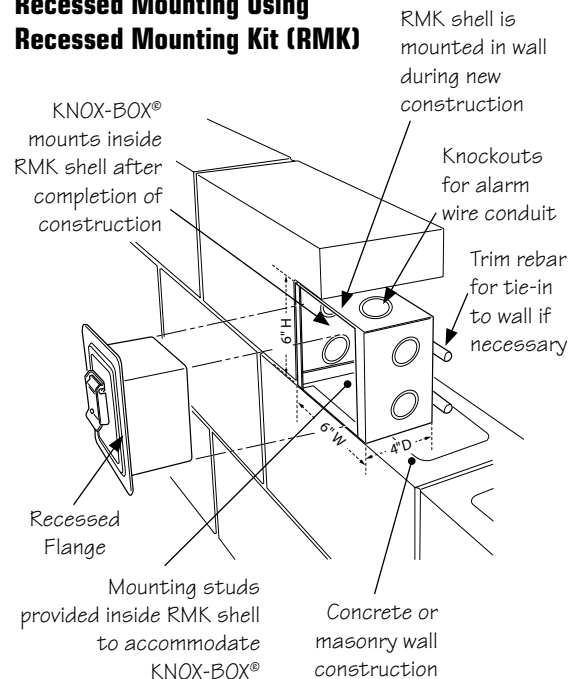## Installation In Cast Concrete

The optional Recessed Mounting Kit is for use in new concrete or masonry construction only. The kit includes a shell housing and mounting hardware to be cast-in-place. The KNOX-BOX is mounted into the shell housing after construction is completed.

Dimensions

Rough-in Dimensions: 6-1/2"H x 6-1/2"W x 5"D

IMPORTANT: Care should be taken to insure that the front of the RMK shell housing, including the cover plate and screw heads, is flush with the finish wall. The RMK must be plumbed to insure vertical alignment of the vault.

Recessed Mounting Using Recessed Mounting Kit (RMK)

KNOX-BOX® mounts inside RMK shell after completion of construction

RMK shell is mounted in wall during new construction

Knockouts for alarm wire conduit

Trim rebar for tie-in to wall if necessary

6"H
6"W
4"D

Recessed Flange

Mounting studs provided inside RMK shell to accommodate KNOX-BOX®

Concrete or masonry wall construction

MKT-KBSPEC-0019-B

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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, Class X & Class B

• Mounts in a standard 4" or double gang box

• Wiring terminals accessible when mounted in box

• All wiring terminals accept 22 to 12 AWG

• Product includes a 5 year warranty

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

Description

The PAD100-DIM uses one (1) SLC loop address when monitoring two (2) Class B circuits or one (1) Class A 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 PAD100-DIM includes one red LED to indicate the module's status. In normal condition, the LED flashes when the device is being polled by the control panel. When an input is activated, the LED will flash at a fast rate.

Application

The PAD100-DIM is compatible with Potter's IPA series addressable fire alarm control panels. The PAD100-DIM is an interface module used to monitor dry contact devices such as sprinkler waterflow, valve tamper switches, or conventional pull stations. The module is capable of monitoring two separate Class B or one Class A circuits.

Setting the Address

Each addressable SLC device must be assigned an address. The address is set using the DIP switch located on the PAD100-DIM. When the PAD100- DIM is used to monitor two individual Class B circuits a single device address is assigned, each input is then identified as a sub-point of the module address. For example, if the address number is assigned as "8", the first input will be "8.1" and the second input will be "8.2".

Before connecting a device to the SLC loop, take the following precautions to prevent potential damage to the panel or device:
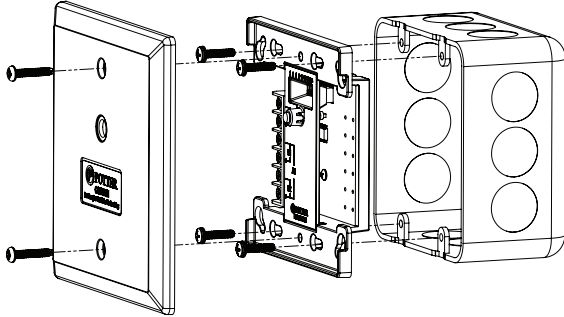
1. Power to the device is removed.

2. Field wiring is correctly installed.

3. Field wiring has no open or short circuits.

Technical Specifications

Operating Voltage	24.0V
Max SLC Standby Current	240µA
Max SLC Alarm Current	240µA
Max Wiring Resistance of IDC	100 Ω
Max Wiring Capacitance of IDC	1µF
EOL Resistor	5.1K Ω
Operating Temperature Range	32 to 120ºF (0 to 49ºC)
Operating Humidity Range	0 to 93% (non-condensing)
Max no. of Module Per Loop	127 units
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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Installation Using Compatible Electrical Box
Fig 1

Wiring Diagrams

PAD100-DIM With One Class A Circuit
Fig 2

MOVE THE "CL-A" DIP SWITCH
TO "UP" POSITION
FOR CLASS A WIRING

FROM FACP OR
PREVIOUS MODULE

TO NEXT MODULE

SLC

IN1

IN2

NOTE:
END-OF-LINE RESISTOR
IS NOT REQUIRED
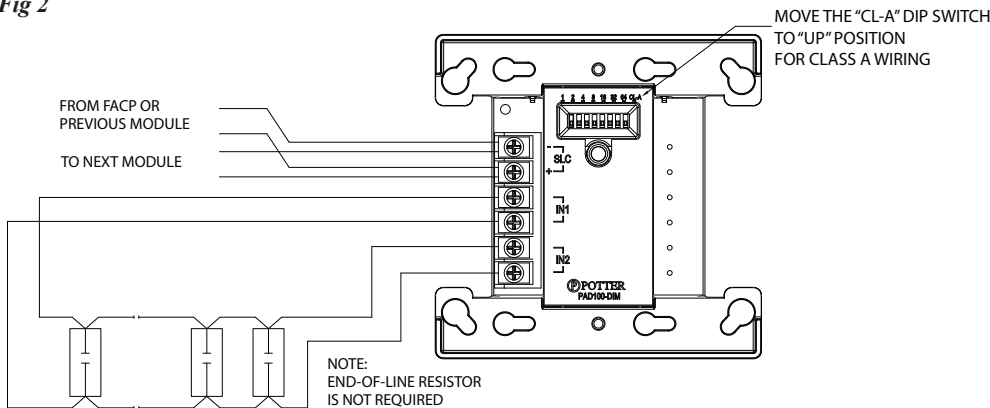
PAD100-DIM With Two Class B Circuits
Fig 3

MOVE THE "CL-A" DIP SWITCH
TO "DOWN" POSITION
FOR CLASS B WIRING

FROM FACP OR
PREVIOUS MODULE

TO NEXT MODULE

SLC

IN1

IN2

END-OF-LINE
RESISTOR
5.1K OHM ½ W
Part #3005013

END-OF-LINE
RESISTOR
5.1K OHM ½ W
Part #3005013
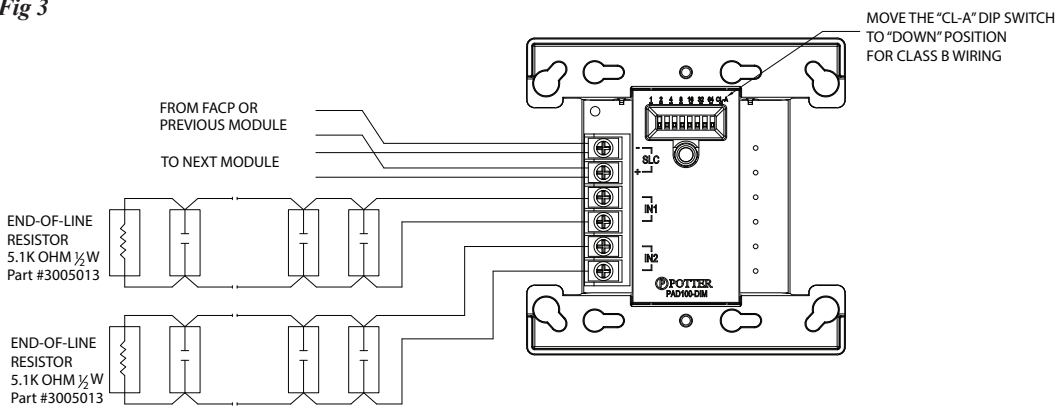
Ordering Information

Model	Description	Stock No.
PAD100-DIM	Dual Input Module	3992703

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Features

- One (1) Form C relay contact
- SLC Class A, Class X & Class B
- Mounts in a standard 4" or double gang box
- Wiring terminals accessible when mounted in box
- All wiring terminals accept 22 to 12 AWG
- Product includes a 5 year warranty
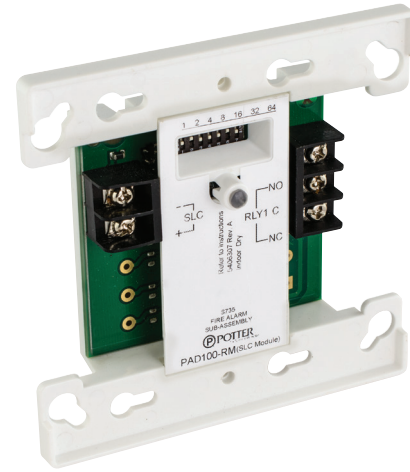
Description

The PAD100-RM uses one (1) SLC loop address to provide one (1) Form C relay contact. The module mounts on either a 4" square or double gang box. The PAD100-RM includes one red LED to indicate the module's status. In normal condition, the LED flashes when the device is being polled by the control panel.

Application

The PAD100-RM is compatible with Potter's IPA series addressable fire alarm control panels. The PAD100-RM is an interface module providing one (1) Form C relay contact.

Setting the Address

Each addressable SLC device must be assigned an address. The address is set using the DIP switch located on the PAD100-RM. The PAD100-RM uses a single device address to identify relay contacts.

Before connecting a device to the SLC loop, take the following precautions to prevent potential damage to the panel or device:
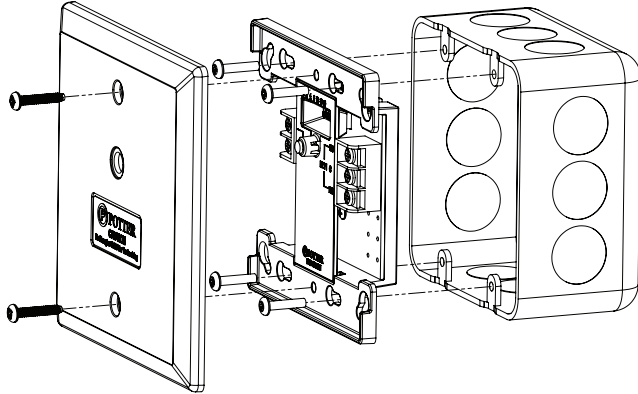
1. Power to the device is removed.
2. Field wiring is correctly installed.
3. Field wiring has no open or short circuits.

Technical Specifications

Operating Voltage	24.0V
Max SLC Standby Current	240µA
Max SLC Alarm Current	240µA
Relay Contacts	2A @30VDC, 0.5A @125VAC
Operating Temperature Range	32 to 120ºF (0 to 49ºC)
Operating Humidity Range	0 to 93% (non-condensing)
Max no. of Module Per Loop	127 units
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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Installation Using Compatible Electrical Box
Fig 1

Wiring Diagram
PAD100-RM Relay Circuit
Fig 2

FROM FACP OR
PREVIOUS MODULE

TO NEXT MODULE

SLC

RLY1 C

NO

NC

ONE (1) FORM C
RELAY CONTACTS
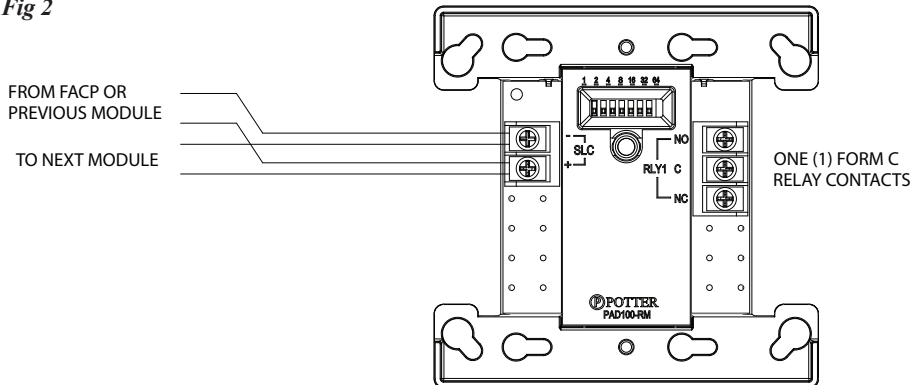
NOTICE

It is possible that the internal relay in the PAD100-RM may be shipped in the non-normal / activated state. To ensure that the internal relay is set to the normal state, connect the module to the SLC loop and reset the control panel before terminating the wiring to the modules output.

Ordering Information

Model	Description	Stock No.
PAD100-RM	Relay Module	3992705

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PAD100-DRTS
Duct Remote Test Switch

Features

- Supervised Duct Detector Test Switch
- Active and Pilot LED indicators
- Key matches the fire alarm control panels
- Compatible with PAD100-DUCTR Duct Detector
- Mounts in a single gang box
- All wiring terminals accept 22 to 12 AWG
- Product includes a 5 year warranty

UL LISTED

Description

The PAD100-DRTS module does not require an SLC loop address. The PAD100-DRTS provides a supervised remote test switch for the PAD100-DUCTR duct detector. Active and Pilot LEDs provide status of the PAD100-DUCTR detector. Keyed switch allows remote testing of the PAD100-DUCTR duct detector.
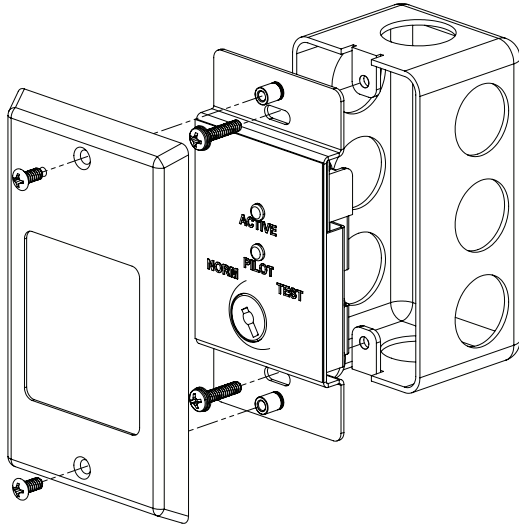
Application

The PAD100-DRTS is compatible with Potter's PAD100-DUCTR Duct detector. It installs on a single gang box.

Technical Specifications

Operating Voltage	24.0V
Max Standby Current	10mA
Max Alarm Current	15mA
Environmental Limitations	32°F - 120°F (0° - 49°C) Indoor Only
Operating Humidity Range	0 to 93% (non-condensing)
Max no. of Modules Per PAD100-DUCTR	1 unit
Dimensions	4.75" (187mm) H x 2.75" (108mm)W x 1" (40mm)D
Mounting Options	Single gang box or Potter P32-BB/DBB
Shipping Weight	0.65 lbs

PAD100-DRTS
Duct Remote Test Switch

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Installation Using Compatible Electrical Box

Fig 1

PAD100-DRTS Back View and Wiring

Fig 2

SSABLE
DUCTR
ECTOR
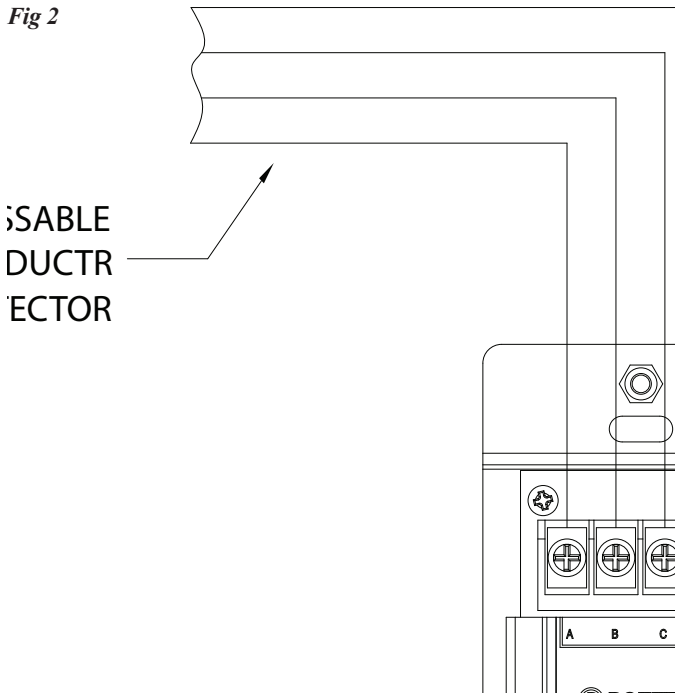
Ordering Information

Model	Description	Stock No.
PAD100-DRTS	Duct Remote Test Switch	3992711

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Features

- Single or Dual Action versions
- Durable die-cast construction
- Reset key matches the fire alarm control panels
- Compatible with IPA Series panels
- SLC Class A, Class X & Class B
- Product includes a 5 year warranty

UL LISTED

Description

The PAD100-PSSA (Single Action) is activated by simply pulling the white "T" bar handle down. The PAD100-PSDA (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 PAD100-PS 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.

Application

The PAD100-PSSA/PSDA is compatible with Potter's IPA series 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 gang box or surface mounts using the P32-BB or P32-DBB (deep) back box.

Technical Specifications

Operating Voltage	24.0 VDC
Max SLC Standby Current	200uA
Max SLC Alarm Current	200uA
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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Setting the Address

The PAD100-PS Series uses one SLC address assigned to the device. The address is set using the DIP switch located on the back of the PAD100-PS device.

Pull Station Front View
Fig 1

PAD100-PSDA
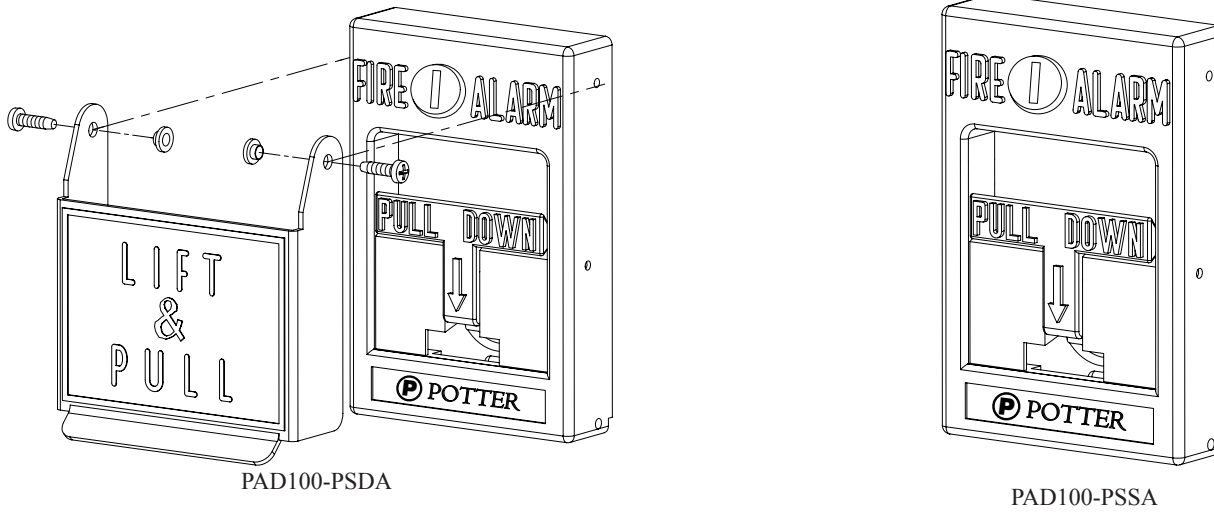
PAD100-PSSA

Pull Station Back View and Wiring
Fig 2

FACTORY WIRED CONTACTS

FROM FACP OR
PREVIOUS DEVICE
TO NEXT DEVICE
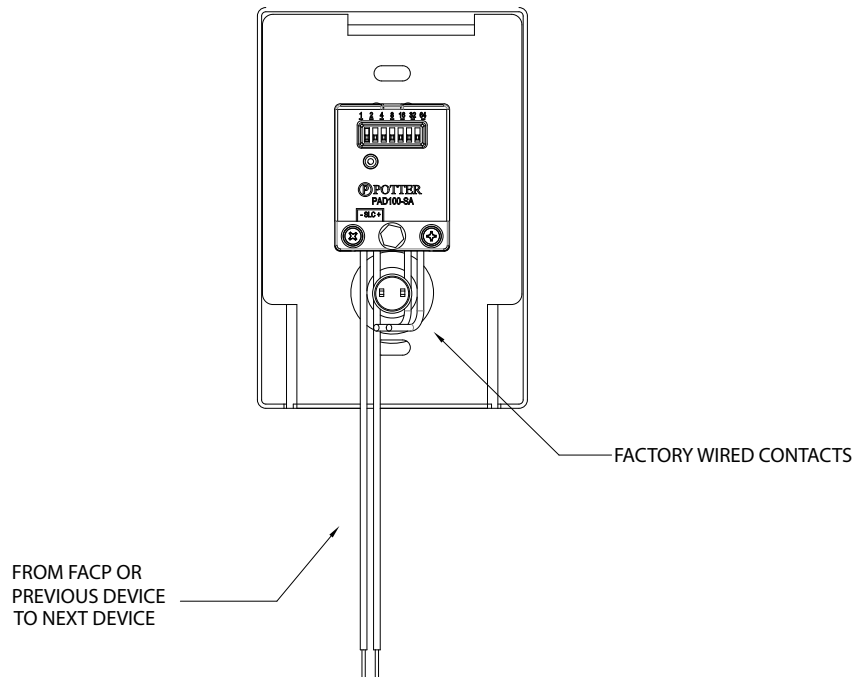
Ordering Information

Model	Description	Stock No.
PAD100-PSSA	Addressable Pull Station, Single Action	3992721
PAD100-PSDA	Addressable Pull Station, Dual Action	3992720

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Features

- Detects smoke in building HVAC ducts
- Ships complete with housing and detector
- Compatible with addressable IPA series panels
- SLC Class A, Class X & Class B
- Installation without removing the detector
- Listed Air Velocity of 100 to 4,000 ft/minute
- No screens or filters in housing
- Durable plastic enclosure and clear cover
- Integrated cover tamper switch
- Utilizes simple snap in sampling tubes STN series
- One form C relay
- Compatible with supervised PAD100-DRTS remote test switch, MS-RA and MS-KA/P/R remote indicators
- Product includes a 5 year warranty

UL LISTED

Description

The PAD100-DUCTR is designed and built to meet all local requirements, as well as the NFPA regulations regarding duct smoke detectors. Air sampling is accomplished by two tubes which protrude into the duct. An exhaust tube of one standard length (7") is supplied in the installation kit with the smoke duct unit. Once the duct width has been determined the air intake sampling tubes must be ordered. Sampling tubes are supplied in three standard lengths: 2.5 ft., 5 ft., and 10 ft. and cut to size to fit the duct. Mounting the duct smoke unit is accomplished by the use of a template and 2 sheet metal screws, which are provided. Mounting can be achieved without the removal of the clear cover which is secured by 4 capture screws.

Application

The Potter Electric PAD100-DUCTR duct smoke detector provides early detection of smoke and products of combustion present in air moving through HVAC ducts in commercial, industrial and residential applications. The PAD100-DUCTR is compatible with the IPA series addressable fire alarm control panels.

Technical Specifications

Duct Detector Model Number	PAD100-DUCTR
Operating Voltage	24 VDC
Current Draw	500 µA
Detector Head Model	PAD100-DD
Detector Head Type	Photoelectric
Sensitivity Test Method	Self diagnostic test
Air Velocity	100 to 4000 ft./min
Ambient Temperature	32°F to 120°F (0°C to 49°C)
Humidity	10% to 85% Relative humidity (non-condensing)
Housing Material	Plastic backbox, clear plastic cover
Finish	Gray backbox with clear cover
Dimensions	13 1/2"L x 4 1/2" W x 2 1/4" H
Maximum Net Weight	2 lbs.
Sampling Tubes	2.5 ft., 5 ft., or 10 ft.
Relay contact rating	8A@30VDC, 10A@120VAC, 10A@250VAC

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Engineering Specifications

Air duct smoke detectors shall be Potter Electric PAD100-DUCTR Series. The detectors shall be listed by Underwriters Laboratories per UL 268A. The detectors shall operate at air velocities from 100 feet per minute to 4000 feet per minute. The duct detector housings shall be of plastic construction and complete mechanical installation may be performed without removal of detector cover. Visual indication of alarm and power must be provided on detector front. Detector heads shall not require additional filters or screens which must be maintained. The housing shall contain a detector base and PAD100-DD duct smoke detector head. Terminal connections shall be of the screw type and be a minimum of # 12 screw. All wiring must comply with local codes and regulations. Detector shall use the STN series of sampling tubes.

Wiring Diagrams

PAD100-DRTS Wiring
Fig 1
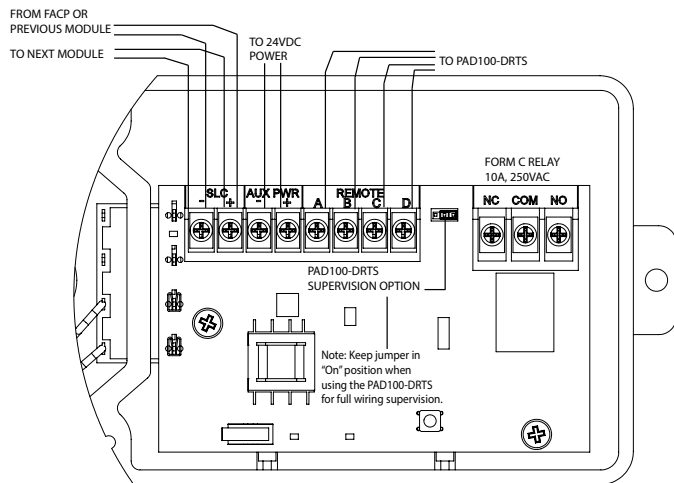
MS-KA/P/R Wiring
Fig 2
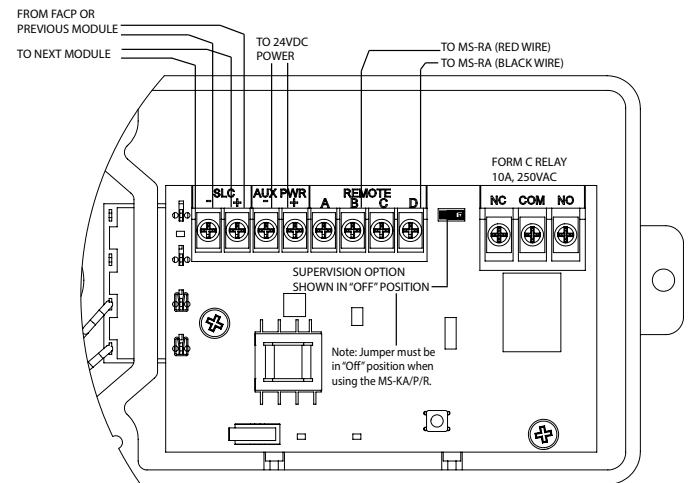
Ordering Information

Model	Description	Stock No.
PAD100-DUCTR	Analog Addressable Duct Detector	3992712
PAD100-DRTS	Duct Remote Test Switch	3992711
MS-RA	Remote Annunciator	1000256
MS-KA/P/R	Remote Annunciator with Test Switch	1000253

Model	Description	Stock No.
STN-2.5	2.5' Sampling Tube	1000274
STN-5	5' Sampling Tube	1000275
STN-10	10' Sampling Tube	1000276

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IPA-4000
Fire Alarm Control Panel

Features

- 4,064 addresses available on this analog addressable system
- Additional system capacity achieved via multi-point SLC modules
- 1500 software zones
- NFPA 72 Compliant Smoke Sensitivity Test Built-In
- System Operates as Class A or Class B for SLC, P-Link and NACs
- 10 Amp Power Supply, Expandable to 315 amps
- 6 NACS, Regulated, Rated at 3 Amps each, expandable to 192
- 4 Input/Output (I/O) Circuits for system flexibility rated at 1 Amp each, ideal for manual release and abort
- Strobe Synchronization and System Wide Sync for Potter/AMSECO®, Gentex®, Cooper Wheelock® and System Sensor® strobes
- Dedicated Alarm, Supervisory and Trouble Relays
- 4,000 Event History Buffer
- Cabinet will house up to 18 AH batteries
- Optional two line DACT with UD-1000 that can report General, Zone or Point Information
- Built in IP communicator
- Ethernet Port for Programming and Network Connectivity
- E-Mail System Status, Reports and Event Information
- Product includes 5 year warranty

UL LISTED

Description

The IPA-4000 is an expandable analog/addressable releasing fire alarm system with a total system capacity of 4,064 addresses. Additional capacity on the system is achieved using multi-point SLC modules The control panel utilizes the exclusive Potter protocol that includes a complete line of sensors and modules. The system is expandable with a total of thirty-one additional addressable Signaling Line Circuits (SLC) each with a maximum of 127 devices. Each SLC may be comprised of any combination of smoke sensor, heat detectors or modules and allows for a total of 50 ohms of impedance and may use any wire compliant with the National Electrical Code (NEC).

The IPA-4000 has a 10 Amp power supply with six Notification Appliance Circuits (NACs) and four Input/Output (I/O) circuits. The NACs are rated at 3 Amps each and the I/Os are rated at 1 Amp each. Each output is regulated and power limited. In addition, each output is uniquely programmable and may be configured for steady signal, strobe synchronization, constant power, door holder power, or releasing. The strobe synchronization includes Potter/AMSECO, Gentex, System Sensor and Cooper/Wheelock and with the exclusive Quadrasync each output may have a unique brand and all strobes will flash together. The I/Os are designed for inputs such as manual release stations and abort switches that will not require polling and react nearly instantaneously.

The IPA-4000 is listed for releasing of fire suppression systems. The software allows cross zones, counting zones, and timers for suppression. The system is capable of multiple release outputs across multiple hazards. In addition, the PSN-1000 may be used to extend releasing capability.
The NACs may be expanded using the PSN-1000 series intelligent power supplies. Each PSN-1000 adds another 10 Amps of power, 2 additional input circuits and the IPA-4000 will support up to 31 power supplies. The system will synchronize the strobes system wide. In addition, the PSN-1000E has space to allow the installation of up to six PAD100-SLCE SLC loop expansion cards. The cards mount on a stacker bracket that allows access to all SLC circuit connections.

Technical Specifications

Dimensions	18 $^{15}/_{16}$"W x 27 $^5/_{16}$"H x 4 $^7/_{16}$"D
AC Mains	5.0 Amps @ 120 VAC 50/60 HZ 3.0 Amps @ 240 VAC 50/60 HZ
Enclosure	16 gauge cold rolled steel with removable locked door with Lexan viewing window
Battery	Standby Current-130 mA Alarm Current-200 mA • 10 Amps power for NACs, I/O, and P-Link • 3 Amps per NAC, regulated • 1 Amp per I/O circuit, regulated • Battery Charger range 8-55 Ah • Battery Charger voltage 27.3 VDC • P-Link maximum current of 1 Amp
Temperature and Humidity Range	32° to 120° (0°C to 49°C) with a maximum humidity of 93% non-condensing.
Standards	• NFPA 12, 12A, 13, 15, 16, 17, 17A, 70, 72, 750, and 2001 • ANSI/UL 864 - Local (L), Remote Station (RS), Central Station (CS), Propriety (PPU), Auxiliary (AUX).Type of Service: Automatic (A), Manual (M), Water flow (WF) Sprinkler Supervisory (SS) Type of Signaling: Digital Alarm Communicator (DAC), March Time (March), Non Coded (NC), Reverse Polarity (Rev Pol), Other Technologies (OT) • IBC 2000, 2003, 2006, 2009, 2012

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SLC Loop Accessories

The control panel may be connected with up to 4,064 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
PAD100-PD	Analog Photo Electric Smoke Detector is a smoke detector with a listed obscuration of 1.02 to 3.83 percent per foot.
PAD100-PHD	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.
PAD100-HD	Analog Fixed Temperature Heat Detector that is selectable from 135° F to 185°F.
PAD100-DUCTR	Addressable Duct Smoke Detector with Form C Relay.
PAD100-DUCT	Addressable Duct Smoke Detector.
PAD100-6B	6" round base that is mounted to an electrical box and wired for connection of one of the above sensors.
PAD100-4B	4" round base that may be mounted to an electrical box and wired for connection to the above sensors.
PAD100-IB	Isolator base that interrupts a short in a SLC and prevents the short from affecting protected devices on the loop.
PAD100-RB	Addressable Relay Base that contains one relay controlled by the SLC. Relay is rated at rated at 2 amps at 30 VDC or 0.5A at 125VAC.
PAD100-SB	Addressable Sounder Base that contains an addressable sounder module that may be configured for local, group and all call.
PAD100-CD	Addressable CO gas detector.
PAD100-DD	Addressable photo electric smoke detector for use in DUCT/DUCTR enclosure.

Modules

Device	Description
PAD100-MIM	Micro Input Module provides a small foot print contact module for mounting inside an enclosure.
PAD100-PSSA	Single Action Addressable Pull Station.
PAD100-PSDA	Dual Action Addressable Pull Station.
PAD100-SIM	Single Input Module is a standard contact module with an LED that mounts into a 4" square electrical box.
PAD100-DIM	Dual Input Module is a device that can monitor two distinct inputs with a single device or in a Class A mode.
PAD100-TRTI	Two Relay Two Input module provides two form C relays that are individually controlled by the control panel. Each relay is rated for 2 amps at 30VDC or 0.5 amps at 125VAC. Also provides two contact inputs.
PAD100-NAC	Notification Appliance Circuit module is an addressable remote appliance circuit controlled by the panel.
PAD100-ZM	Zone Module is used to connect conventional 2-wire smoke detectors to the system.
PAD100-IM	Module interrupts a short on the SLC and prevents the short from affecting protected devices on the loop.
PAD100-RM	Relay Module that provides one form C relay controlled by the control panel. Relay is rated for 2 amps at 30VDC or 0.5 amps at 125VAC.
PAD100-LED	Module provides a single addressable LED that is controlled by the control panel.
PAD100-SM	Speaker Module provides switching for two audio channels.
PAD100-LEDK	Addressable LED and key switch that mounts in a single gang box.
PAD100-DRTS	DUCTR Remote Test Switch that mounts in a single gang box and optionally supervised.
PAD100-OROI	One Relay One Input Module provides one form C relay and one input. The relay is rated at 2 amps at 30VDC or 0.5 amps at 125VAC.

SLC Features

The Potter protocol is a digital protocol with a proven design for reliability and noise immunity. The system does not require special cable or conductors for connection of the Signaling Line Circuit as long as the cable is compliant with NFPA 70 and NFPA 72. The system allows for Class A or Class B installations as well as "T-Taps."Each loop is capable of 127 points, with a max wiring distance of 10,000 ft.

Sensor Features

The sensors through the fire alarm control panel provide a real time status as to the condition of the system. The smoke detector sensitivity, heat detector temperature level and drift compensation are all programmable options. The system also allows for a day/night mode where the panel automatically adjusts the sensitivity depending on the time of day. To assist in the reduction of false alarms, the smoke detectors also have a maintenance warning that sends a trouble signal when a detector is dirty to the point that it can no longer maintain the programmed sensitivity.

User Interface

The fire alarm control panel has a 4 x 40 LCD display to provide information to the system status. The keypad has navigation keys to allow manipulation of the Menu on board the panel. The panel is shipped standard with the following LEDs:

- AC Power - Green
- Alarm - Red
- Earth Fault - Amber
- Supervisory - Amber
- Silenced - Amber
- Trouble - Amber
- Pre-Release - Amber
- Release - Red

The common buttons include a Silence, Reset, Acknowledge, and Drill. All of the buttons are accessible once the locked door is opened.

P-Link

The IPA-4000 has a proprietary communication protocol that communicates through a RS-485 connection to field devices. Up to 64 devices may be connected to a single P-Link connection. The P-Link includes the communication terminals and regulated 24 VDC connection for the field devices. The field devices may be any of the following:

PAD100-SLCE-Analog/Addressable loop expansion module (maximum of 31 per IPA-4000)

RA-6075R – 2 x 16 LCD annunciator with a key pad in a locked metal enclosure.

RA-6500R(F) – 4 x 40 LCD annunciator with a key pad in a locked metal enclosure. Flush mount version available.

LED-16(F) – 16 LED annunciator with common indicators in a locked metal enclosure. Flush mount version available.

PSN-1000(E) – 10 amp, remote intelligent power supply with 6 NACs, 2 I/Os and a P-Link repeater. This panel is listed in conjunction with the IPA-4000 as releasing circuits.

CA-6500 – Class A convertor that converts the SLC, NACs and P-Link connection

UD-1000 – UL listed, Dual line telephone alarm communicator

DRV-50 – LED driver expander, used to connect up to 50 LEDs in a graphic display

FCB-1000 – Fire communication bridge, provides remote mounting of the Ethernet connection

FIB-1000 – Fiber interface module, used to extend P-Link to multi-mode fiber (2 required)

RLY-5 – Relay module, provides 5 form C relay contacts rated at 3.0 amps 24VDC/125AC

SPG-1000 – Serial parallel gateway, allows for the connection to a serial or parallel printer

The **FIB-1000**, **FCB-1000** and the **SPG-1000** may be installed in the stacker bracket or ordered with the optional rack mount enclosure.

MC-1000 Multi-Connect allows up to sixty-three IPA series panels to share a single reporting technology.

AE-2 – Two card expansion cabinet

AE-8 – Eight card expansion cabinet

AE-14 – Fourteen card expansion cabinet

Ethernet/I.P. Connection

The IPA-4000 is shipped standard with an Ethernet connection. This connection is the programming port and may be connected to a building Wide Area Network (WAN) or Local Area Network (LAN). Once connected to the Internet, the panel may be selectively programmed to e-mail alarm conditions, trouble conditions, supervisory conditions, test, Event History and detector status. An e-mail may be sent to the panel and the panel will e-mail the event history, detector status, configuration file or server status to an authorized E-mail account. In addition, reminders may be set to send an e-mail for service, testing or other conditions.

In addition, the Ethernet connection is UL listed as an IP communicator. The IP communicator is listed to report to the UL listed Sur-Gard III IP receiver. The IP communicator replaces the traditional less reliable alarm communicator transmitter that utilized telephone lines. The IP communicator is an active method of connection and communication to the monitoring station.

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Dimensions

18.91"
17.60"
TOP
DEPTH

4.41"
3.75"
DEPTH

26.00 "
27.32 "

LEFT SIDE

RIGHT SIDE

BOTTOM
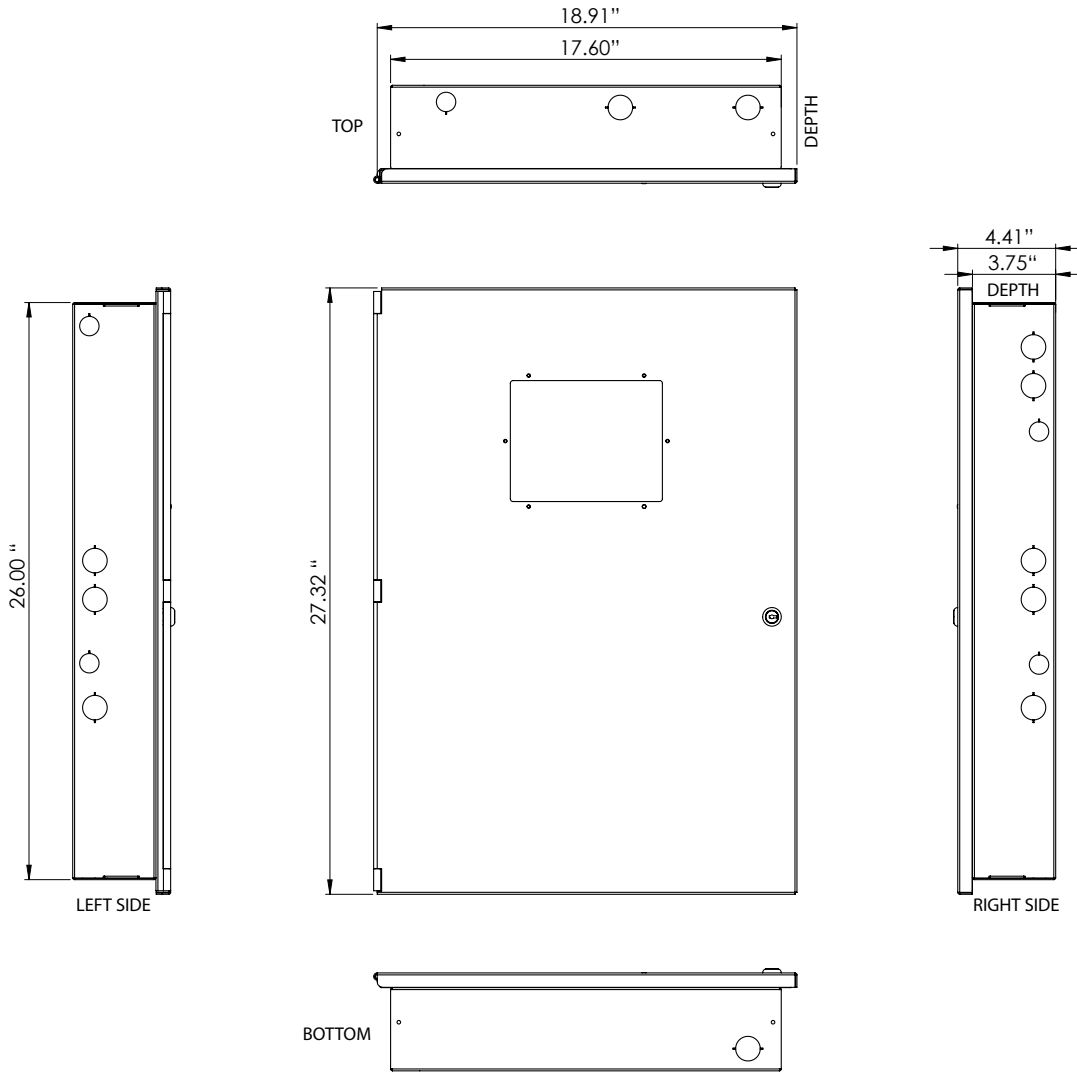
Ordering Information

Model	Description	Stock No.
IPA-4000	Fire Alarm Releasing Control Panel	3992717

Compatible Releasing Devices

Note: For releasing applications please order the Potter EOLD (3005012) for circuits connected to a releasing solenoid or actuator.

Brand	Description
Skinner	73218BN4UNLVN0C112CZ 73212BN4TNLVN0C322C2
Victaulic	753-E Series
Mini Max	MX123 & MX200 w/ 8876677 & 889323
Viking	11591, 11601, 11602, 13843, & 13844
TLX	PA0036

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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 12 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

UL LISTED

Application

The Potter PAD100-6DB and PAD100-4DB detector bases are used to install Potter's addressable smoke and heat detectors. The PAD100-6DB will mount on a single gang, double gang, octagon or 4" square electrical box.

Description

The PAD100-6DB and PAD100-4DB are low-profile, surface mount bases 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 PAD100-6DB 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 12 AWG
Dimensions	Diameter: 6.3 in (166 mm)
	Height 0.72 in (18 mm)
Shipping Weight	87g (3.07 oz)
Material	Durable Plastic

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Locking Feature

The PAD100-6DB and PAD100-4DB include a locking feature that prevents removal of the detector without using a tool.

1. To eliminate this feature, break off the locking tab (refer to Figure 1), and then install the detector.

Fig. 1

Break off tab (gray area) in image to disable locking feature.
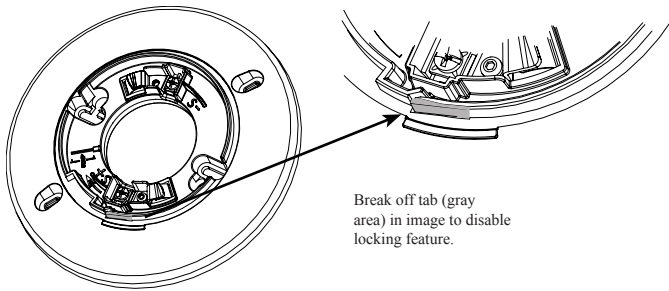
2. To remove the detector from the base when the locking feature has been enabled, insert a small screw driver into the slot on the base to push the plastic tab while simultaneously turning the detector head counter-clockwise.

Fig. 2

Insert small screwdriver into slot to remove detector from base.

Wiring Diagram

Fig. 3

To FACP Loop (SLC)

First Detector Base — S+ — S-

Last Detector Base — S+ — S-
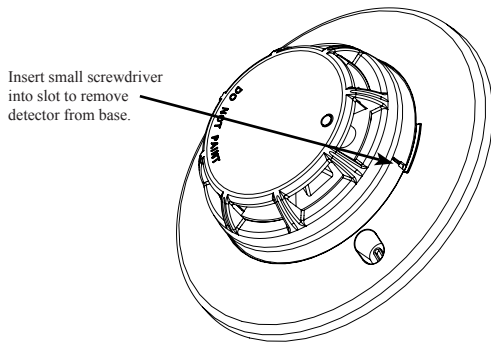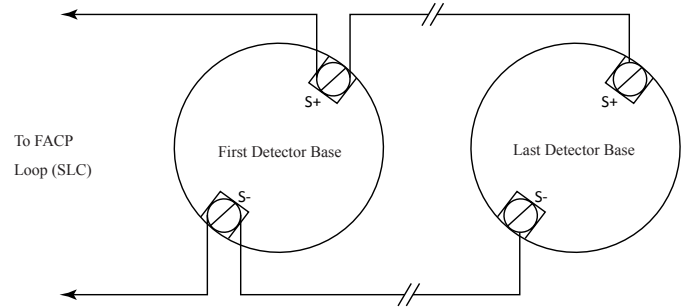
Ordering Information

Model	Description	Stock No.
PAD100-6DB	6" Sensor Base	3992732
PAD100-4DB	4" Sensor Base	3992731

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Features

- Low profile, less than 2 inches with the base
- Wide selectable sensitivity range of 1.0 to 3.7%/foot
- Sensor communicates sensitivity to control panel
- UL listed smoke calibration and sensitivity
- Optional locking tab to prevent unwanted removal
- Simple DIP switch address setting, no programming tool required
- LED alarm indicator
- Product includes a 5 year warranty

UL LISTED

Description

The Photoelectric Smoke Sensor is a listed Analog Addressable smoke sensor compatible with fire alarm control panels that utilize the Potter Addressable Device (PAD) protocol. The PAD100-PD 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 off-white color to blend in with the ceiling.

The PAD100-PD has a sensitivity range of 1.0 to 3.7 % per foot and is UL. The PAD100-PD features drift compensation and has built in dirty detector warning as well as. The PAD100-PD and the control panel communicate over a proven and robust digital communication path and the system analyzes the information at the particular device. The total polling speed is less than five (5) seconds, well under the UL requirements.

The sensor is compatible with any of the PAD series sensor bases and simply twists on. The PAD100-PD is addressed using DIP switches in the rear of the sensor and can be easily programmed in the field without special tools.

Setting the Address

Each addressable device on the SLC loop must have a unique address from 1 to 127 to function properly. The address is set using DIP switches.

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.

Technical Specifications

Operating Voltage	24 VDC
Alarm indicator	1 LED
Alarm set-point range	1.0 to 3.7 %/ft 3.6-12 %/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 loop.	30
Color	Eggshell White
Weight (without base)	101g (3.56oz)
Dimensions (without base)	Height: 1.35 in (34mm) Diameter: 3.93 in (100 mm)

Air Velocity Ratings

The PAD100-PD has an Open Area of Protection air velocity rating of 0 to 300 feet per minute.

The system has a maximum of 30 LEDs that can be turned on simultaneously. If the system already has 30 LEDs on, the PAD100-PD will operate even though the LED may not illuminate.

Operation

The PAD100-PD 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 flash at a fast rate if the unit is in an active status. The polling LED can be turned off if desired for less conspicuous operation.

The PAD100-PD with the PAD100-4DB or PAD100-6DB 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 can be cleaned to restore operation of a dirty detector.

Sensor Sensitivity

The PAD100-PD 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.

The PAD100-PD can be programmed to provide a maintenance alert prior to reaching the dirty sensor level which will allow for intervention prior to the sensor going into trouble. This allows for sensor replacement or cleaning prior to a nuisance trouble occurs.

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 PAD100-PD is UL 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	Stock No.
PAD100-4DB	4" Standard Base	3992731
PAD100-6DB	6" Standard Base	3992732
PAD100-IB	6" base with an isolator module included.	3992730
PAD100-RB	6" base with one Form-C relay contact. 2A @ 30VDC, 0.5A @ 125VAC	3992728
PAD100-SB	6" base with sounder module included. Sound pattern is provided from external source.	3992729

Ordering Information

Model	Description	Stock No.
PAD100-PD	Photoelectric Smoke Sensor	3992733

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PAD100-HD
Heat Detector

Features

- Selectable Rate of Rise and/or Fixed Heat Detector
- Low profile
- Reliable detection technology
- LED Alarm Indicator
- Ambient temperature listing of 32° F to 150° F
- Simple DIP switch address setting, no programming tool required
- Product includes a 5 year warranty

UL LISTED

Description

The PAD100-HD is a listed Analog Addressable rate of rise and/or fixed temperature heat sensor compatible with any fire alarm control panel that has the Potter Addressable Device (PAD) protocol. The heat sensing portion utilizes a proven thermistor for accurate and reliable heat detection. The sensor and base (not included) are made of a durable plastic in an off white to blend in with the ceiling.

The PAD100-HD is UL listed with a selectable fixed temperature point from 135° to 185° Fahrenheit and can be used for rate of rise applications. See detector spacing limitations below. This flexibility allows the installer to cover a wide variety of applications with a single unit.

The PAD100-HD and the control panel communicate over a proven and robust digital communication path and the system analyzes the information at the particular device. The total polling speed is less than five (5) seconds, well under the UL requirements.

The sensor is compatible with any of the PAD series sensor bases and simply twists on. The PAD100-HD is addressed using DIP switches in the rear of the sensor and can be easily programmed in the field without special tools.

Setting the Address

Each addressable device on the SLC loop must have a unique address from 1 to 127 to function properly. The address is set using DIP switches.

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.

Technical Specifications

Operating Voltage	24 VDC
Alarm indicator	1 LED
Alarm set-point range	135 to 185 °F/ 57 to 85 °C
Installation temperature range	32 to 150 °F / 0 to 66 °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 loop	30
Color	Eggshell White
Weight (without base)	82g (2.89 oz)
Dimensions (without base)	Height: 1.94 in (49mm) Diameter 3.93 in (100mm)

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Operation

The PAD100-HD 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 LED flashes every time the unit is polled and will flash at a fast rate if the unit is in an active status. The polling LED can be turned off if desired for less conspicuous operation.

The PAD100-HD with the PAD100-4DB or PAD100-6DB has a low profile to blend into the surrounding environment. The system has a maximum of 30 LEDs that can be turned on simultaneously. If the system already has 30 LEDs on, the PAD100-HD will operate even though the LED will not illuminate.

Spacing

The ANSI/UL listed spacing limitations of PAD100-HD smooth ceiling are dependent on alarm set point.

Alarm Set-Point	Rate of Rise Spacing	Fixed Temperature Spacing
135°F to 160°F (57°C to 71°C)	Max. 70 ft.	Max. 70 ft.
161°F to 174°F (72°C to 79°C)	Max. 60 ft.	Max. 60 ft.
175°F to 185°F (80°C to 85°C)	Max. 15 ft.	Max. 15 ft.

Compatible Bases

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

Device	Description	Stock No.
PAD100-4DB	4" Standard Base	3992731
PAD100-6DB	6" Standard Base	3992732
PAD100-IB	6" base with an isolator module included.	3992730
PAD100-RB	6" base with one Form-C relay contact. 2A @ 30VDC, 0.5A @ 125VAC	3992728
PAD100-SB	6" base with sounder module included. Sound pattern is provided from external source.	3992729

Ordering Information

Model	Description	Stock No.
PAD100-HD	Fixed Temperature Heat Sensor	3992735

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Potter IPA-4000
Battery & Voltage Drop
Calculations

Project Name:		Standby Hours: 24
		Alarm Mins: 5
Installed By:		Batt Efficiency: 80%
Designed By:		SLC Type: Class B
Date:		NAC Source Voltage: 20.4

Model #: IPA-4000   **Max Panel Current (amps):** 10

Panel ID:

Location:

User assumes all responsibility to ensure the quantities and current draw values in this worksheet are accurate prior to submittal.

	FACP		Standby (amps)		Alarm (amps)	
Qty	Part #	Description	Each	Total	Each	Total
1	IPA-4000	Analog Addressable FACP	0.130	0.130	0.220	0.220
			Panel Standby:	**0.130**	**Panel Alarm:**	**0.220**

	P-LINK (RS-485) (Both P-Link Circuits Combined)		Standby		Alarm	
	MC-1000	Multi-Connect Expander	0.010		0.010	
1	UD-1000	DACT Card	0.016	0.016	0.023	0.023
	RA-6075	LCD Annunciator	0.020		0.025	
	RA-6500F	Flush Mount LCD Annunciator	0.020		0.050	
	LED-16F	Flush Mount LED Annunciator	0.025		0.025	
	LED-16F	LED Annunciator LED Power*	0.015		0.210	
	CA-6500	Class A Module	0.060		0.100	
	PSN-1000(E)	Power Expander	0.015		0.015	
	NOHMI-SLCE-127*	SLC Expander (31 Max)	0.060		0.060	
	PAD100-SLCE-127	SLC Expander (31 Max)	0.060		0.060	
	RLY-5	Relay Expander	0.025		0.035	
	RLY-5	Relay Expander Power*	0.010		0.135	
	DRV-50	LED Driver Module	0.025		0.025	
	DRV-50	LED Driver Module LED Power*	0.010		0.215	
	FCB-1000	Fire Communications Bridge	0.025		0.025	
	FIB-1000	Fiber Interface Board	0.030		0.030	
	SPG-1000	Serial Parallel Gateway	0.040		0.040	

*REQUIRED IF USING NOHMI PROTOCOL SLC DEVICES

(Maximum current draw is 1 Amp per P-Link circuit, with 2 amps total)   **P-LINK Standby:** 0.016   **P-LINK Alarm:** 0.023
*Only enter quantity if PLINK power is being used to power devices

	SLC Devices		Standby		Alarm	
6	PAD100-PD	Analog Photo Smoke	0.000300	0.001800	0.000300	0.001800
	PAD100-PHD	Analog Photo Smoke/Heat	0.000300		0.000300	
2	PAD100-HD	Analog Fixed Temp Heat	0.000300	0.000600	0.000300	0.000600
	PAD100-CD	Analog Carbon Monoxide Detector	0.000300		0.000300	
3	PAD100-DRTS	Duct Remote Test Switch	0.010000	0.030000	0.015000	0.045000
	PAD100-DUCT	Addressable Duct Detector	0.000300		0.000300	
3	PAD100-DUCTR*	Addressable Duct Detector w/Relay	0.000500	0.001500	0.000500	0.001500
6	PAD100-PSSA/PSDA	Addressable Pull Station Single/Dual Action	0.000200	0.001200	0.000200	0.001200
	PAD100-MIM	Micro Input Module	0.000200		0.000200	
	PAD100-SIM	Single Input Module	0.000240		0.000240	
3	PAD100-DIM	Dual Input Module	0.000240	0.000720	0.000240	0.000720
4	PAD100-RM	Relay Module	0.000240	0.000960	0.000240	0.000960
	PAD100-OROI	One Relay One Input Module	0.000240		0.000240	
	PAD100-TRTI	Two Relay Two Input Module	0.000240		0.000240	
	PAD100-ZM*	Conventional Zone Module	0.000240		0.000240	
	PAD100-NAC*	Notification Appliance Circuit	0.000200		0.000200	
	PAD100-SM	Speaker Module	0.000200		0.000200	
	PAD100-IM	Isolator Module	0.000150		0.000150	
	PAD100-LED	LED Module	0.000240		0.000240	
	PAD100-LEDK	Addressable LED w/ Key Switch	0.000200		0.000200	
	PAD100-SB*	Addressable Sounder Base	0.000200		0.000200	
	PAD100-RB	Addressable Relay Base	0.000200		0.000200	
	PAD100-IB	Addressable Isolator Base	0.000150		0.000150	
	PSA	Analog Photo Smoke	0.000325		0.000325	
	PSHA	Analog Photo Smoke/Heat	0.000325		0.000325	
	RHA	Analog Rate of Rise Heat	0.000325		0.000325	
	FHA	Analog Fixed Temp Heat	0.000325		0.000325	
	DDA	Addressable Duct Detector	0.000325		0.000325	
	APS-SA/APS-DA	Addressable Pull Station Single/Dual Action	0.000325		0.000325	
	MCM	Mini Contact Input Module	0.000325		0.000325	
	SCM-4	Single Contact Input Module	0.000325		0.001000	
	DCM-4	Dual Contact Input Module	0.000325		0.001000	
	TRM-4	Twin Relay Output Module	0.000325		0.001000	
	CIZM-4 *	Conventional Zone Input Mod	0.000325		0.001000	
	MOM-4 *	Monitored Output Module	0.000325		0.001000	
	ARB	Detector Base w/Relay	0.000325		0.000325	

ASB *	Detector Base w/Sounder	0.000325		0.000325		
SCI **	Short Circuit Isolator (Class A)	0.000325		0.002340		
AIB **	Detector Base w/Isolator (Class A)	0.000325		0.002340		
IM/IB/SCI/AIB Class B **	Current Draw from Install Manual					
	SLC Loop Alarm LED Current	0.000000	0.000000	0.036000	0.036000	

* Requires Aux Power (Configure Below)   **SLC Standby:**   **0.036780**   **SLC Alarm:**   **0.087780**

** See the installation manual for special considerations when installing IM, IB, AIB, SCI devices on Class B loops.

NAC Circuits (See NAC Configuration below)			Standby (amps)	Alarm (amps)
Ckt	Use	Description	Total	Total
1			0.00000	3.00000
2			0.00000	3.00000
3			0.00000	0.00000
4			0.00000	0.00000
5			0.00000	0.00000
6			0.00000	0.00000
		NAC Standby:	0.00000	NAC Alarm: 6.00000

I/O Circuits (See I/O Configuration below)			Standby (amps)	Alarm (amps)
Ckt	Use	Description	Total	Total
1			0.00000	0.00000
2			0.00000	0.00000
3			0.00000	0.00000
4			0.00000	0.00000
		I/O Standby:	0.00000	I/O Alarm: 0.00000

Battery Calculation Summary

	Standby (amps)	Alarm (amps)
Panel Current:	0.13000	0.22000
P-Link Current:	0.01600	0.02300
SLC Device Current:	0.03678	0.08778
NAC Circuit Current:	0.00000	6.00000
I/O Circuit Current:	0.00000	0.00000

SLC Loop Type: Class B

Device Addresses Used: 24

Device Addresses Available: 127

Total Standby:	0.182780	Total Alarm:	6.33078
Standby Hours:	24	Alarm Mins:	5
AH Required:	4.39	AH Required:	0.53

Total Combined Standby & Alarm AmpHours Required:	4.92
Efficiency Factor:	80%
Required Battery AmpHours:	6.15
Battery AmpHours Provided:	7

Note: The cabinet will house two 8 AH or 18 AH batteries. The charging circuit is rated for up to two 55 AH batteries.

NAC 1

		MAX Circuit Current (amps): 3			Source Voltage Used (VDC): 20.4	

Usage: | | **Description:** |

Wire Type	Ohms/1000ft	Length 1-Way	Actual Ohms	Max Load (amps)	Volts @ EOL	Min Volts Req'd
#14 Solid	2.5		0.000	3.000	20.40	16

		Circuit Devices	Standby (amps)		Alarm (amps)	
Qty	Lookup Type	Desc	Each	Total	Each	Total
		User can add devices on the fly				
		to these bottom 5 rows				
		(No lookup function)				
1		Maximum			3.000000	3.000000
			Total Standby:	**0.00000**	**Total Alarm:**	**3.00000**

NAC 2

		MAX Circuit Current (amps): 3			Source Voltage Used (VDC): 20.4	

Usage: | | **Description:** |

Wire Type	Ohms/1000ft	Length 1-Way	Actual Ohms	Max Load (amps)	Volts @ EOL	Min Volts Req'd
#14 Solid	2.5		0.000	3.000	20.40	16

		Circuit Devices	Standby (amps)		Alarm (amps)	
Qty	Lookup Type	Desc	Each	Total	Each	Total
		User can add devices on the fly				
		to these bottom 5 rows				
		(No lookup function)				
1		Maximum			3.000000	3.000000
			Total Standby:	**0.00000**	**Total Alarm:**	**3.00000**

NAC 3

	MAX Circuit Current (amps):	3		Source Voltage Used (VDC):	20.4

Usage: **Description:**

Wire Type	Ohms/1000ft	Length 1-Way	Actual Ohms	Max Load (amps)	Volts @ EOL	Min Volts Req'd
#14 Solid	2.5		0.000	0.000	20.40	16

		Circuit Devices	Standby (amps)		Alarm (amps)	
Qty	Lookup Type	Desc	Each	Total	Each	Total
		User can add devices on the fly				
		to these bottom 5 rows				
		(No lookup function)				
			Total Standby:	0.00000	**Total Alarm:**	0.00000

NAC 4

	MAX Circuit Current (amps):	3		Source Voltage Used (VDC):	20.4

Usage: **Description:**

Wire Type	Ohms/1000ft	Length 1-Way	Actual Ohms	Max Load (amps)	Volts @ EOL	Min Volts Req'd
#14 Solid	2.5		0.000	0.000	20.40	16

		Circuit Devices	Standby (amps)		Alarm (amps)	
Qty	Lookup Type	Desc	Each	Total	Each	Total
		User can add devices on the fly				
		to these bottom 5 rows				
		(No lookup function)				
			Total Standby:	0.00000	**Total Alarm:**	0.00000

NAC 5

MAX Circuit Current (amps): 3   **Source Voltage Used (VDC): 20.4**

Usage: **Description:**

Wire Type	Ohms/1000ft	Length 1-Way	Actual Ohms	Max Load (amps)	Volts @ EOL	Min Volts Req'd
#14 Solid	2.5		0.000	0.000	20.40	16

		Circuit Devices	Standby (amps)		Alarm (amps)	
Qty	Lookup Type	Desc	Each	Total	Each	Total
		User can add devices on the fly				
		to these bottom 5 rows				
		(No lookup function)				
			Total Standby:	0.00000	**Total Alarm:**	0.00000

NAC 6

MAX Circuit Current (amps): 3   **Source Voltage Used (VDC): 20.4**

Usage: **Description:**

Wire Type	Ohms/1000ft	Length 1-Way	Actual Ohms	Max Load (amps)	Volts @ EOL	Min Volts Req'd
#14 Solid	2.5		0.000	0.000	20.40	16

		Circuit Devices	Standby (amps)		Alarm (amps)	
Qty	Lookup Type	Desc	Each	Total	Each	Total
		User can add devices on the fly				
		to these bottom 5 rows				
		(No lookup function)				
			Total Standby:	0.00000	**Total Alarm:**	0.00000

POTTER
The Symbol of Protection

I/O Circuit Configuration & Voltage Drop

I/O 1   MAX Circuit Current (amps): 1   Source Voltage Used (VDC): 20.4

Usage: **Description:**

Wire Type	Ohms/1000ft	Length 1-Way	Actual Ohms	Max Load (amps)	Volts @ EOL	Min Volts Req'd
#14 Solid	2.5		0.000	0.000	20.40	16

	Circuit Devices		Standby (amps)		Alarm (amps)	
Qty	Lookup Type	Desc	Each	Total	Each	Total
		User can add devices on the fly				
		to these bottom 5 rows				
		(No lookup function)				
			Total Standby:	**0.00000**	**Total Alarm:**	**0.00000**

I/O 2   MAX Circuit Current (amps): 1   Source Voltage Used (VDC): 20.4

Usage: **Description:**

Wire Type	Ohms/1000ft	Length 1-Way	Actual Ohms	Max Load (amps)	Volts @ EOL	Min Volts Req'd
#14 Solid	2.5		0.000	0.000	20.40	16

	Circuit Devices		Standby (amps)		Alarm (amps)	
Qty	Lookup Type	Desc	Each	Total	Each	Total
		User can add devices on the fly				
		to these bottom 5 rows				
		(No lookup function)				
			Total Standby:	**0.00000**	**Total Alarm:**	**0.00000**

I/O Circuit Configuration & Voltage Drop (cont'd)

I/O 3   MAX Circuit Current (amps): 1   Source Voltage Used (VDC): 20.4

Usage: **Description:**

Wire Type	Ohms/1000ft	Length 1-Way	Actual Ohms	Max Load (amps)	Volts @ EOL	Min Volts Req'd
#14 Solid	2.5		0.000	0.000	20.40	16

		Circuit Devices	Standby (amps)		Alarm (amps)	
Qty	Lookup Type	Desc	Each	Total	Each	Total
		User can add devices on the fly				
		to these bottom 5 rows				
		(No lookup function)				
			Total Standby:	0.00000	**Total Alarm:**	0.00000

I/O 4   MAX Circuit Current (amps): 1   Source Voltage Used (VDC): 20.4

Usage: **Description:**

Wire Type	Ohms/1000ft	Length 1-Way	Actual Ohms	Max Load (amps)	Volts @ EOL	Min Volts Req'd
#14 Solid	2.5		0.000	0.000	20.40	16

		Circuit Devices	Standby (amps)		Alarm (amps)	
Qty	Lookup Type	Desc	Each	Total	Each	Total
		User can add devices on the fly				
		to these bottom 5 rows				
		(No lookup function)				
			Total Standby:	0.00000	**Total Alarm:**	0.00000

DURACELL® SLA Batteries
ULTRA

Duracell® Ultra SLA technology offers high-density power that out-performs traditional lead acid batteries. The Absorbed Glass Mat (AGM) construction is designed for efficient gas recombination and allows for maintenance-free operation. Duracell® Ultra SLA batteries maintain their high capacity with a design that is resistant to damage caused by deep discharge. Every Duracell® Ultra SLA battery is inspected to ensure the highest standards in materials and fabrication.

Reviewed for Code Compliance
Permitting and Inspections
Department
Approved with Conditions
02/11/2020

50-150
Cycles at 100% Discharge

SPILL PROOF
GUARANTEE

Features:

- Duracell® Ultra SLA GEL batteries contain a proprietary grid alloy formula combined with advanced plate curing techniques to provide maximum performance.
- Duracell® Ultra batteries contain a unique electrolyte formula with a special sub-colloid additive for higher reliability and longer life.
- Will achieve more life cycles than standard AGM and Deep Cycle batteries.
- The unique construction and sealing techniques of these batteries are guaranteed to give you leak-proof operation.
- Heavy-duty lead calcium tin alloy grids provide an extra margin of performance and service life in cyclic applications, even after repeated over-discharges.
- Quality Assurance Engineers monitor and control the entire production process.
- Recycling of used SLA batteries available.
- Delivery available.

CASE Quantities AVAILABLE

Sealed Lead Acid

Maintenance Free	Spill Proof Design	1 YEAR 1 Year Warranty	Stringent Quality Control

DURACELL® ULTRA

SLA Batteries

PROJECT NAME:
CATALOG #
FIXTURE TYPE
NOTES

General Purpose

Battery	Volts	Capacity Ah (20Hrs)	Dimensions (LxWxH Inches)			Terminal Type	Group Size	Weight (Lbs.)
DURA12-0.8WL	12V	0.8	3.78	0.98	2.4	WL	-	0.77
DURA12-1.3F	12V	1.3	3.82	1.69	2.28	F1, T1	-	1.37
DURA12-2.3F	12V	2.3	6.97	1.38	2.64	F1, T1	-	2.04
DURA12-2.9F	12V	2.9	3.11	2.2	3.9	F1, T1	-	2.36
DURA12-3.3F	12V	3.3	5.28	2.64	2.63	F1, T1	-	3.18
DURA12-3.3F2	12V	3.3	-	-	-	-	-	-
RAYA12-4F	12V	4	3.54	2.76	4.21	F1, T1	-	-
DURA12-5F	12V	5	3.54	2.76	4.21	F1, T1	-	-
DURA12-5F2	12V	5	3.56	2.77	3.94	F2, T2	-	-
DURA12-5.1A	12V	5.1	5.51	1.89	4.21	F1, T1	-	4.6
DURA12-5.5F	12V	5.5	3.54	2.76	3.98	-	-	-
RAYA12-7F	12V	7	5.95	2.56	3.94	F1, T1	-	-
DURA12-7F	12V	7	5.94	2.56	3.94	F1, T1	-	-
DURA12-7F2	12V	7	5.94	2.56	3.7	F2, T2	-	-
DURA12-8F	12V	8	5.94	2.56	3.94	F1, T1	-	-
DURA12-8F2	12V	8	5.94	2.56	3.94	F2, T2	-	-
DURA12-9NB	12V	9	5.95	2.56	3.9	NB, J	-	-
DURA12-9F2	12V	9	5.95	2.56	3.94	F2, T2	-	-
DURA12-10F2	12V	10	5.95	2.54	4.38	F2, T2	-	7.5
DURA12-11NB	12V	11	5.28	3.15	6.5	-	-	10.1
DURA12-12F2	12V	12	5.94	3.9	3.98	F2, T2	-	-
DURA12-12F	12V	12	5.94	3.86	3.86	F1, T1	-	-
DURA12-14F2	12V	14	5.94	3.86	3.98	F2, T2	-	8.91
DURA12-18F2	12V	18	7.13	3.03	6.57	F2, T2	-	-
DURA12-18NB	12V	18	7.13	3.03	6.57	NB, J	-	12.43
DURA12-26NB	12V	26	6.5	6.93	4.92	NB, J	-	20.7
DURA12-35C	12V	35	7.72	5.16	6.5	C	-	27.3
DURA12-44C/FR	12V	46	7.8	6.54	6.85	C	-	38
DURA12-55C/FR	12V	55	9.02	5.43	8.35	-	-	42.1
DURA12-80C/FR	12V	80	10.24	6.65	8.46	C	-	-
DURA12-100C/FR	12V	100	12.09	6.65	8.46	C	-	74.6
DURA12-140C/FR	12V	140	13.43	6.81	11.3	C	-	108
DURA4-4.5F2	4V	4.5	1.85	1.85	3.98	F2, T2	-	1.4
DURA6-1.3F	6V	1.3	3.82	0.94	2.28	F1, T1	-	0.715
DURA6-2ST	6V	2	1.69	1.45	2.99	ST	-	0.75
DURA6-2.9F	6V	2.9	2.6	1.46	3.82	F1, T1	-	1.26
DURA6-3.3F	6V	3.3	5.28	1.34	2.64	F1, T1	-	1.65
RAYA6-4F	6V	4	2.76	1.85	4.13	F1, T1	-	-
DURA6-5SP	6V	5	2.6	2.6	4.53	SP	-	2.09
DURA6-5F	6V	5	2.76	1.85	4.21	F1, T1	-	-
DURA6-7.2F	6V	7.2	5.94	1.34	3.68	F1, T1	-	2.43
DURA6-8.2F	6V	8.2	3.9	2.24	4.53	F1, T1,	-	3.8
DURA6-10F	6V	10	5.94	1.97	3.98	F1, T1	-	4.851
DURA6-12F	6V	12	5.94	1.97	3.98	F1, T1	-	-
DURA6-12F2	6V	12	5.94	1.97	3.98	F2, T2	-	4.602
RAYA6-14T2	6V	14	4.25	2.8	5.51	H	-	6.24
DURA6-14A	6V	14	4.25	2.8	5.51	F1 (-) F2 (+), T1 (-) T2 (+), FP	-	6.16
DURA6-42F2	6V	42	6.25	3.37	6.37	F2, T2	-	16.64
DURA6-42NB	6V	42	6.34	3.43	6.42	NB, J	-	16.62
DURA6-200C	6V	200	12.05	6.65	8.63	C	-	-
DURA8-3.2F	8V	3.2	5.28	1.44	2.48	F1, T1	-	1.65

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UL LISTED

E120V-GT

Hybrid Surge Protection Device

Safety and performance is what Eclips is all about. While there are many varying criteria to be considered for surge protective devices (SPD), if the design engineer neglects the importance there can be serious implications for the client and equipment.

Every piece of electrical equipment is designed to operate at a specified nominal voltage. Typically equipment is designed to handle minor variations. However external sources such as lightning, motors, and short circuits cause wild and damaging variations.

Critical systems wired to your electrical service like Fire Alarm Control Panels (FACP), Mass Notification systems, amplifiers, motors, pumps (HVAC), power boosters and many more must require appropriate levels surge protection. The E120 series is an ideal choice for your 120V AC applications. because it has the robustness not only to absorb a spike, but to clamp long enough to trip the branch circuit breaker and still be functional for additional surges.

The number one cause of destruction, degradation and down-time of critical electrical equipment is from power surges and lightning strikes.

The E120V-GT device is an ideal solution to protect equipment. UL listed it maintains system integrity and protects against transients introduced into / onto electrical lines via poor atmospheric and utility conditions as well as internally gener-ated inductive loads and transient TVSS. It reduces system downtime associated with power surges and lightning strikes. Prevents destruction and degradation of electrical components in the system. Fix your nuisance and non-billable service calls as a result of transients and poor power quality and show your customer you care about system integrity.
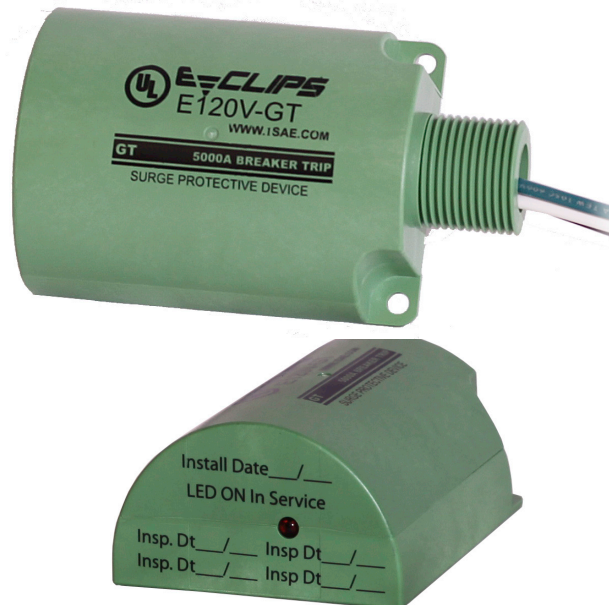
Standard Features:

- Available in 120 VAC
- UL Listed 1449 3rd Edition Type 2 & 3
  2X to open circuit breaker @5000A
- Includes lockout & labels per
  NFPA 72 2013 10.6.5.2
- Surface or conduit mounting
- Diagnostic indicator light
- Self restoring
- 3 Wire device (18" length)

ISO 9001 REGISTERED COMPANY

Made In U.S.A.

NFPA

® - Uses UL Recognized Components

NEMA

Space Age Electronics, Inc.
www.1SAE.com
800.486.1723 Toll Free
508.485.0966 Local
508.485.4740 Fax

No Excuses, Just Solutions!

Specifications:

All 120volt AC equipment will have Transient Voltage Surge Suppression (TVSS) protection manufactured by Space Age Electronics, Inc., part number E120V-GT ECLIPS Brand. The Unit shall be UL listed to standard 1449 rev 3. The unit will be labeled clearly with indelible ink. Mounting can be conduit mounted with a ¾" pipe threaded nipple to secure in panel, or surface panel mount with 2 external mounting holes. The unit shall have thermal fuses to protect against fire in short circuit conditions. The E120V will have 18" long, 14 gauge wires (3x) ground wire must be green. The enclosure will be a non dielectric material UL94 QMFZ2/8 grade material providing UV protection. The unit shall provide visual indication (LED) that unit is protecting and functioning.

Specifications - Performance:

Short Circuit Current Rating (SCCR) :	5KA
Maximum Surge Current (8x20µs) :	25,000 Amps
Enclosure Material :	UL94 QMFZ2/8 (green)
Energy Dissipation Joules :	500 Joules
VPR=700(L – N) 700 (L – G) 600 (N – G)	
Capacitance :	< 2,000 pf
Clamping Response Time :	< 5 nanoseconds
Current :	Non-Load Bearing
Max Operating Voltage (MCOV) :	140 volts AC, 50/60 Hz
Clamping Voltage :	230 Volts RMS
Design :	Thermally Fused Hybrid
Operation Indicators :	LED
Surviveability :	UL rated X2 @5000 Amps to open Series external circuit breaker

Specifications - Compliance:

UL Listed :	1449 Third Edition - VZCA
File Number :	E319370 Vol. 1 Sec. 1

Specifications - Operating:

Service Voltage :	120 Single Phase
Circuits Protected :	L-N L-G N-G
Connection Type :	Hardwired
Installation Configuration :	Parallel

Specifications - Physical:

Weight :	5.2oz
Dimensions :	2.75" x 1.55" x 4" long
Operation Temperature :	-40 to +85º C

Mechanical Drawing:
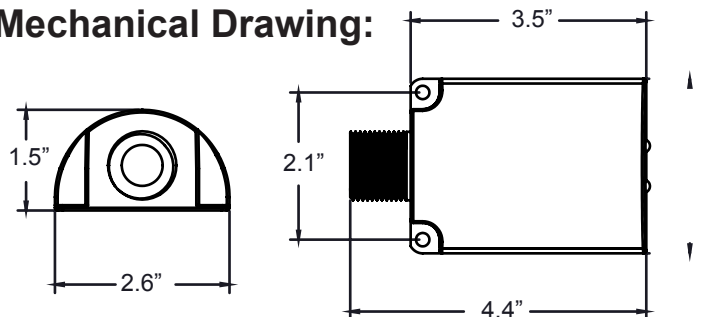
Wiring Diagram:
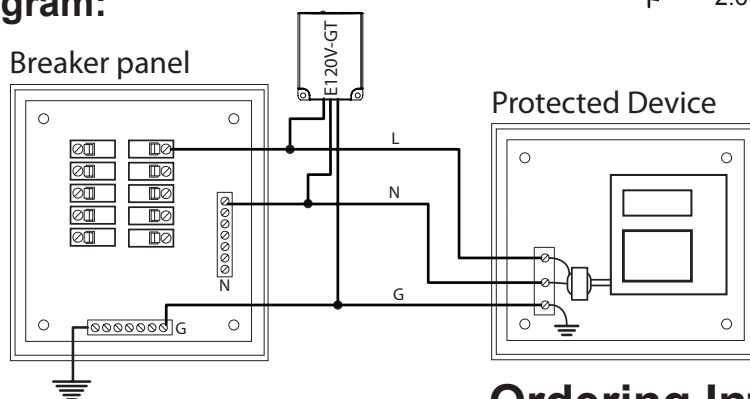
Ordering Information:

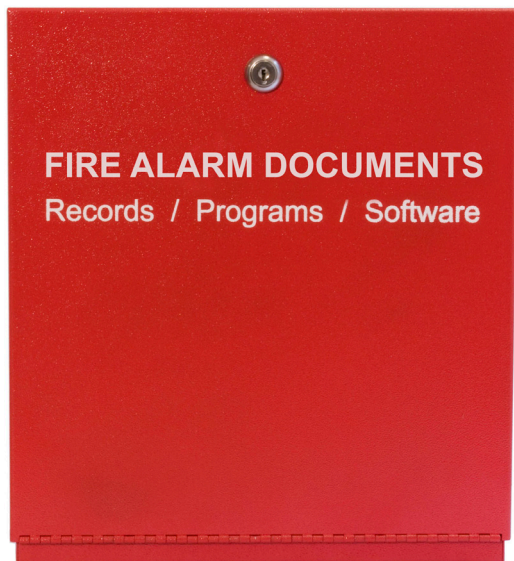| Part #	Description
E120V-GT	120V Hybrid Surge Protective Device
ELOCK-FA	Circuit Lockout Kit

Sequence of Operations

	Audio/visual activation globally on general alarm	Audio/visual activation locally within the unit on local alarm only	Activate audible/visual signal at FACP & Annunciator	Device Description at FACP & Annunciator	Shutdown of HVAC equipment	Log event in system history	Activate Elevator Fire Hat	Activate Elevator primary or secondary control	Activate Elevator shunt trip	Silence of audible devices Including FACP & annunciator	Release door holders	Release locked doors	Event acknowledgement	Reset of all system functions and all visual devices	Remote transmission to Central Station A=alarm; T=trouble; S=Supervisory; L = log only	Remote indicator
Manual Pull Stations	X		X	X		X					X	X			A	
Smoke detectors common area	X		X	X		X					X	X			A	
Smoke detectors elevator lobbies	X		X	X		X		X			X	X			A	
Smoke Detectors elevator shaft/machine room	X		X	X		X	X	X			X	X			A	
Duct mounted Smoke Detectors			X	X	X	X									S	X
Smoke detectors with sounder base		X	X	X		X									S	
Sounder on smoke detector with sounder base	X															
Heat Detectors common area	X		X	X		X					X	X			A	
Heat Detectors Elevator shaft/machine room	X		X	X		X	X		X		X	X			A	
Sprinkler flow or pressure switches	X		X	X		X					X	X			A	
Sprinkler Tamper, low temp, or low air			X	X		X									S	
Secondary fire panel such as kitchen hood	X		X	X		X					X	X			A	
FACP/annunciator silence button			X	X		X				X					L	
FACP/annunciator acknowledge button			X	X		X							X			

Fire Alarm sequence of operations

	Audio/visual activation globally on general alarm	Audio/visual activation locally within the unit on local alarm only	Activate audible/visual signal at FACP & Annunciator	Device Description at FACP & Annunciator	Shutdown of HVAC equipment	Log event in system history	Activate Elevator Fire Hat	Activate Elevator primary or secondary control	Activate Elevator shunt trip	Silence of audible devices Including FACP & annunciator	Release door holders	Release locked doors	Event acknowledgement	Reset of all system functions and all visual devices	Remote transmission to Central Station A=alarm; T=trouble; S=Supervisory; L = log only	Remote indicator
FACP/annunciator reset button			X	X		X								X	L	
Removal of any device			X	X		X									T	
Ground fault			X	X		X									T	
System wiring "open"			X	X		X									T	
AC Power loss			X	X		X									T	
Secondary power loss			X	X		X									T	
Telephone line loss			X	X		X									T	

FAD

NFPA 72 section 10.18.2.1.2.8 If the documents are located in a separate enclosure or cabinet, the separate enclosure or cabinet shall be prominently labeled
FIRE ALARM DOCUMENTS.

Fire Alarm Documents
Records / Programs / Software

The FAD is the perfect fit to meet the demanding code requirements today. SAE's number one goal is to manufacture code compliant solutions and this product allows you to do just that. NFPA 72 section 6.2.2.1 states, "A record of installed software and firmware version numbers shall be maintained at the location of the fire alarm control unit."

This durable 16 gauge steel enclosure with a solid piano hinge and key lock will keep all of your code required documents in one safe place. With a 2GB USB flash drive it stores your fire alarm software safe and secure eliminating the occurrences of the software not being on site when technicians arrive to service the system. Along with your fire alarm software you can store your test & inspection documents, service records, manuals & AS built drawings for the system. Using a standard USB B connector it allows you to plug in with any standard SB printer cable to upload or download information.

The FAD is designed to hold critical manuals and documents with a durable steel sleeve. It has designated hooks to organize key rings and hold important business cards for easy access and reference. Inside the cover it has a organized note table that allows for documentation for passwords and other critical system information. The steel sleeve can be easily removed to hold a 1.5" three ring binder.

The innovation of a single gang cutout inside the box to implement the infinity line products with conduit knockout access enables you to provide other system functions for test and inspection. A drill switch or a shut off switch for testing are just a few examples. See the complete line of Infinity products for single gang electrical product solutions.

Standard Features:

- Installed with a 2 gig digital flash drive with USB B connector
- 2 Key ring hooks to hold system keys
- Business card holder for key contacts
- Overall Dimensions are 12" x 13" tall and 2 ¼ deep
- 16 gauge steel box and cover for security
- durable powercoat baked on finish other colors available
- standard ¾"cat 30 key lock other lock assemblies available
- Solid stainless steel piano hinge
- permanently screened white ink 1" high "Fire Alarm Documents"
- Legend sheet for passwords and system information

ISO 9001
REGISTERED
COMPANY

ADA

AceBOX
Space Age Electronics, Inc.
www.1sae.com
800.486.1723 Toll Free
508.485.0966 Local
508.485.4740 Fax

NF PA   Made In U.S.A.

Space Age Electronics, Inc.   2008
ED0549   LT10559   Rev.C   1/2

No Excuses, Just Solutions!

Specifications:

The Fire Alarm Document Box (FAD) shall be constructed of 18 gauge cold rolled steel, it shall have a red powder coat epoxy finish. The cover shall be permanently screened with 1" high lettering "FIRE ALARM DOCUMENTS" with indelible ink. The access door shall be locked with a ¾" barrel lock and the hinge shall be a solid width 12" stainless steel piano hinge. The enclosure will supply 4 mounting holes.

Inside the enclosure a removable steel sleeve that will accommodate standard 8 ½ x 11 manuals and loose document records that will be protected within the enclosure. A legend sheet permanently attached to the door for system passwords and critical information and inspection notes. The FAD will have permanently and securely mounted inside a minimum of 2GB's digital flash memory drive with a standard USB B connector for uploading and downloading information. The drive shall not be accessible without tools to any person whom gains access to the records. The enclosure shall also provide 2 key ring holders with a location to mount standard business type cards for key contact personell.

USB Storage Interface

Business Card Holder

Key Ring Hooks

CD Jewel Case Area

Drill Switch or Other Infinity Control Module (Not Included)

NOTES:

	System Access:		
	System	Level	Code

EA2613   LT10507   Rev. A   FDB Door Sticker

Space Age Electronics, Inc.   188 Central Street, Suite 1   Hudson, MA 01749   800-486-1723   www.1sae.com

Notes Sticker inside FAD Door

Ordering Information:
Part #   Description

SSU00685 Fire Alarm Storage Cabinet RED

SSU00673 Custom screening with your Logo

Check out our Infinity line eFAD single gang 2 Gig digital storage solutions (IAMEFAD)

No Excuses, Just Solutions!

![POTTER — The Symbol of Protection]

Features

- Nominal voltage 24 VDC
- Tamperproof field selectable candela options 15, 30, 75, 95, 115, & 150
- Super-Slide® Bracket - Ease of Supervision Testing
- Checkmate® - Instant Voltage Verification
- Synchronize strobe and/or horn with Gentex AVSM Control Module
- Prewire entire system, install mounting bracket, then install signals
- Documented lower installation and operating costs
- Input Terminals 12 to 18 AWG
- Switch Selection for High or Low dBA
- Switch Selection for 2400Hz or mechanical Tone
- Switch Selection for Continuous or Temporal 3
- Tamperproof re-entrant grill
- Surface mount with the CLNGBB (Ceiling 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 CS Series is not listed for outdoor use.

Unit Dimensions

- 6" (15.24 cm) x 2.6" (6.604 cm)

UL LISTED
S3247   *Product includes a 5 year warranty*

Description

The Potter CS/CHS Series is a ceiling mount strobe or horn/strobe combination that offers dependable audible and visual alarms and the lowest current consumption.

The CS/CHS offers tamperproof field selectable candela options of 15, 30, 75, 95, 115 and 150 candela.

The CHS horn offers a continuous or synchable temporal three in 2400Hz and mechanical tone. All tones are easy for the professional to change in the field by using switches. The models are shipped from the factory in the temporal three alarm mode.

The CS Series has a very minimal operating current and has a minimum flash rate of 1Hz regardless of input voltage.

The Ceiling Mount Series comes standard with the 4" 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 CS/CHS also features the patented Checkmate® - Instant Voltage Verification feature which allows the installer to check the voltage drop draw without removing the signal.

The CS Series appliances are ANSI/UL 464 and ANSI/UL 1971 listed for use with fire protective systems.

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06/13

POTTER
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Mounting Super-Slide®

2. Insert Locking Screw

3. Snap Cover Over Assembly

1. Slide Onto Bracket

Checkmate® Instant Voltage Verification

DO NOT PAINT

REMOVE

INSTALL

S+
S+
S-
H+
H-

GENTEX

Switch Locations

1 2 3 4 5

LOCK

UNLOCK

15
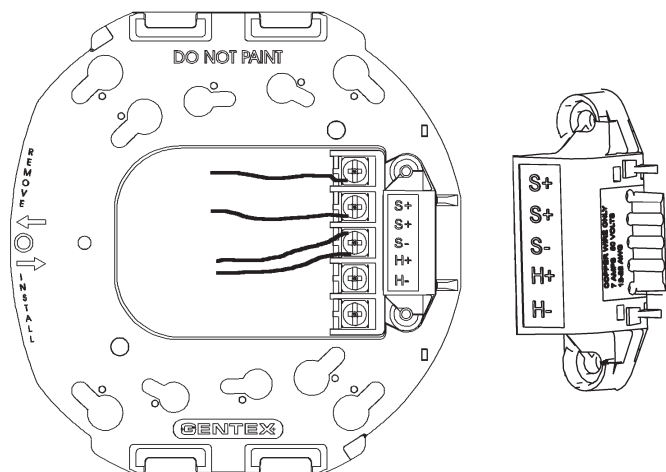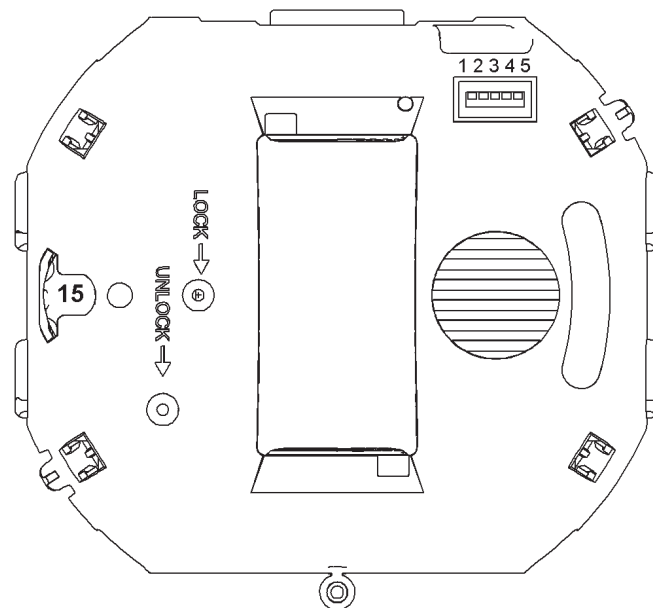
The access holes are provided in the back of the terminal block to allow the voltage to be measured directly without removing the device. Typically this would be done at the end of the line to confirm design criteria. Most measurements will be taken using the S+ and S- locations although access is provided to other locations. NOTICE: CARE SHOULD BE TAKEN TO NOT SHORT THE TEST PROBES.

Switch positions 1 and 2 in the down position to select isolated horn and strobe power inputs. Switch 3 selects between temporal or non-temporal tone. Up is temporal. Switch 4 selects between mechanical or high frequency tone. Up is mechanical. Switch 5 selects between high or low dBA. Up is high dBA.

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06/13

PAGE 2 OF 4

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CS Series 24 Volt Ceiling Mount Selectable Strobe

Model Number	Part Number	Nominal Voltage	Candela
CS-24R	4890020	24 VDC	15, 30, 75, 95, 115, 150
CS-24W	4890021	24 VDC	15, 30, 75, 95, 115, 150
CS-24PR	4890022	24 VDC	15, 30, 75, 95, 115, 150
CS-24PW	4890023	24 VDC	15, 30, 75, 95, 115, 150

CHS Series 24 Volt Ceiling Mount Selectable Horn/Strobe

Model Number	Part Number	Nominal Voltage	Candela	Reverberant dBA @ 10 ft. per ANSI/UL 464	In Anechoic Room dBA @ 10 ft.
CHS-24R	4890040	24 VDC	15, 30, 75, 95, 115, 150	81-86	90
CHS-24W	4890041	24 VDC	15, 30, 75, 95, 115, 150	81-86	90
CHS-24PR	4890042	24 VDC	15, 30, 75, 95, 115, 150	81-86	90
CHS-24PW	4890043	24 VDC	15, 30, 75, 95, 115, 150	81-86	90

Model Designations:

C = Ceiling Mount   S = Strobe   HS = Horn/Strobe
R = Red Faceplate   W = White Faceplate

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

CS24 Product Strobe Current Ratings (mA)

	Candela	15 cd	30 cd	75 cd	95 cd	115 cd	150 cd
24 VDC (16-33 Volts)	24 VDC	72 mA	101 mA	167 mA	200 mA	214 mA	286 mA
	UL Max[1]	120 mA	120 mA	200 mA	220 mA	290 mA	321 mA

CHS24 Product Horn Decibel and Current Ratings (mA)

Horn Mode	Minimum dBA @ 10 ft. per ANSI/UL 464 (HIGH)	Minimum dBA @ 10 ft. per ANSI/UL 464 (LOW)	Regulated 24 VDC Max. Operating @ High Setting (mA)
Temp 3 2400Hz	83	75	23
Temp 3 Mechanical	81	73*	22
Continuous 2400Hz	86	78	23
Continuous Mechanical	84	76	22

NOTES:
- 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.
- For nominal and peak current across UL regulated voltage range for filtered DC power and unfiltered (FWR [Full Wave Rectified]) power, see installation manual.
- Potter does not recommend using a coded or pulsing signaling circuit with any of our strobe products.
- 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).
- RMS current ratings are per UL average RMS method. UL max current rating is the maximum RMS current within the listed voltage range (16-33VDC for 24VDC units). For strobes the UL max current is usually at the minimum listed voltage (16VDC for 24VDC units). For audibles the max current is usually at the maximum listed voltage. For unfiltered FWR ratings, see installation manual.

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                                                        06/13

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Architect & Engineering Specifications

The visible and audible/visible signal shall be Gentex model GCS or GCC or approved equal and shall be listed by Underwriters Laboratories Inc. per ANSI/UL 1971 for the GCS and ANSI/UL 464 for the GCC. The notification appliance shall also be listed with the California State Fire Marshal (CSFM).

The notification appliance (combination audible/visible units and audible units only) shall produce a peak sound output of 90dBA or greater as measured at 24VDC 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.

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 appliance shall have an operating current of 72mA or less at 24VDC for the 15 candela 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 with barriers for input/output wiring and be able to mount to a single gang or double gang box or double workbox with 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.

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

Conventional CS/CHS Series Wiring Diagrams
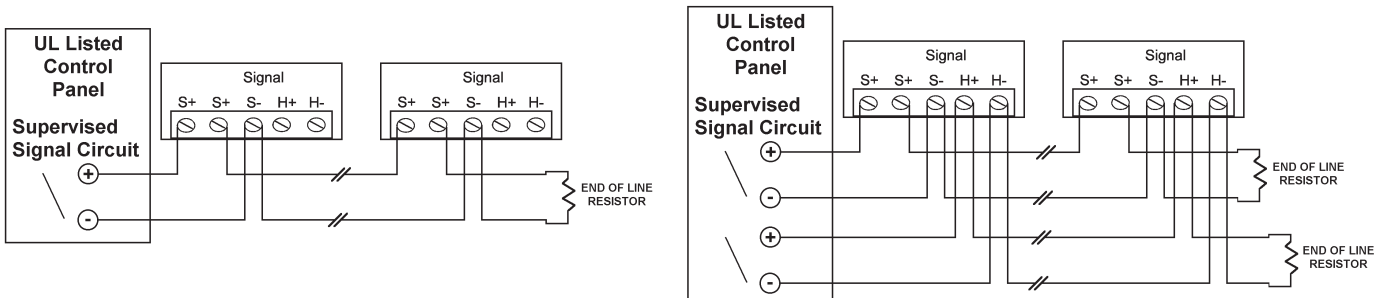
NOTES:
- All strobes are designed to flash as specified with continuous applied voltage. Strobes should not be used on coded or pulsing signaling circuits. However, use of the Gentex AVSM control module or Gentex synchronization protocol is permitted to synchronize the strobe, horn and/or mute the horn.
- **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://www.pottersignal.com OR CALL POTTER ELECTRIC AT 1-800-325-3936.**

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POTTER
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SLP/HSLP
OUTDOOR SERIES
EVACUATION SIGNALS

Features

- Nominal voltage 24VDC
- Unit is shipped with ANSI/UL1638 listed strobe or horn/strobe
- Super-Slide® - Ease of Supervision Testing
- Checkmate® - Instant Voltage Verification
- Switch selection for high or low dBA
- Switch for mechanical and 2400Hz tone
- Switch for continuous tone or temporal 3 (not available on whoop tone)
- Tamperproof re-entrant grill
- Prewire entire system, install mounting bracket, then install signals
- Separate horn and strobe functions
- Synchronize strobe and/or horn by using Potter AVSM Control Module
- Listed to ANSI/UL1638 when used with the WPBB or WPLPBB enclosure
- WPBB/WPLPBB made of clear Lexan® - provides maximum visibility and reliability for effective visible signaling - allowing full 75cd output
- Input terminals accept 12 to 18 AWG
- Faceplate available in red or off-white

Unit Dimensions

- WP Unit: 5.75" (14.605 cm) high x 4.75" (12.065 cm) wide x 4.18" (10.617 cm) deep
- LP Unit: 5.75" (14.605 cm) high x 4.75" (12.065 cm) wide x 3.25" (8.255 cm) deep

UL LISTED
S3247   *Product includes a 5 year warranty*

Description

The Outdoor Series offers dependable visible and/or audible alarms for all outdoor needs.

Included with the SLP/HSLP Series is the WPBB or WPLPBB outdoor enclosure. The enclosure is made of high quality Lexan®material, providing protection from weather related conditions and allowing the necessary full candela output. This highly constructed enclosure meets various installation requirements including deterring moisture from entering the enclosures.

The Outdoor Series is equipped with the 4" mounting plate which incorporates the 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 Series also features the Checkmate® - Instant Voltage Verification feature which allows the installer to check the voltage drop draw and match it to ten blueprint.

The Series strobe has a minimal operating current and has a minimum flash rate of 1Hz regardless of input voltage.

The Series appliances are ANSI/UL 464 and ANSI/UL 1638 listed for use with fire protective systems and are warranted for three years from date of purchase.

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PRINTED IN USA   MFG. #8830057 - REV A   PAGE 1 OF 5
                                              06/13

Tone Switch Locations

TONE	SWITCH POSITION		
	3	4	5
Mechanical Temporal 3	ON	ON	ON
Mechanical - Continuous	OFF	ON	ON
2400 Hz - Temporal 3	ON	OFF	ON
2400 Hz - 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 Gentex signals without changing mounting brackets and has locking edge connector for snap-in-place installation.
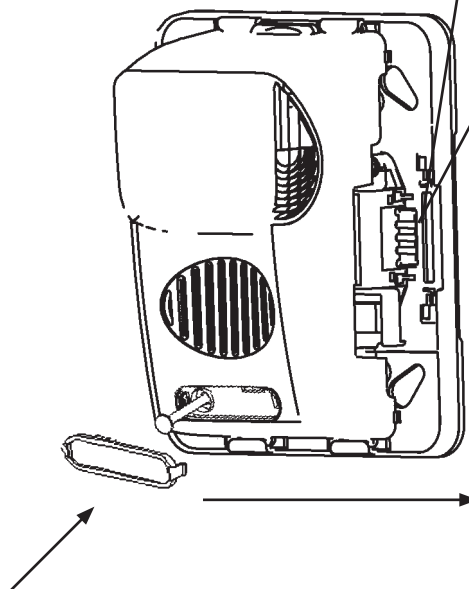
Gentex Checkmate® Instant Voltage Verification
It is often necessary to confirm the voltage drop along a line of devices. The access holes are provided in the back of the terminal block to allow the voltage to be measured directly without removing the device. Typically this would be done at the end of the line to confirm design criteria. Most measurements will be taken using the S+ and S- locations although access is provided to other locations.

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

Mounting Outdoor Enclosure

Super-Slide® Mounting Plate:
Mounts to Outdoor Enclosure

Super-Slide® Mounting Plate:
Mounts to GOELP Outdoor Enclosure

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06/13
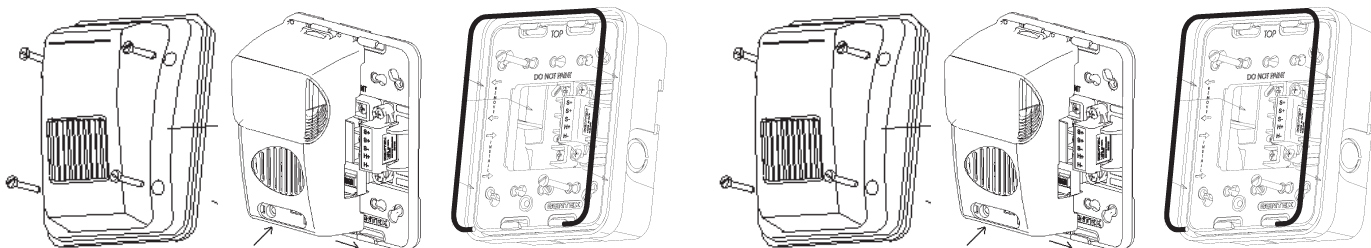
SLP24 Volt Outdoor Strobe

Model Number	Part Number	Nominal Voltage	Candela (ANSI/UL 1638)	Shipping
S-24WR-WP	4890050	24 VDC	75	Shipped with Weather Proof Back Box
S-24WW-WP	4890051	24 VDC	75	
S-24PWR-WP	4890052	24 VDC	75	
S-24PWW-WP	4890053	24 VDC	75	
SLP-24WR-WP	4890054	24 VDC	75	Shipped with Low Profile Weather Proof Back Box
SLP-24WW-WP	4890055	24 VDC	75	
SLP-24PWR-WP	4890056	24 VDC	75	
SLP-24PWW-WP	4890057	24 VDC	75	

Model Designations:
"W" = Wall Mount
"R" = Red Faceplate
"P" = Plain (no lettering)
"W" = Off-White Faceplate
NOTE: Plain units are non-returnable.
"LP" = Low Profile (WPLPBB Enclosure)

HS-24 Outdoor Horn/Strobe

Model Number	Part Number	Nominal Voltage	Candela (ANSI/UL 1638)	Reverberant dBA @ 10 ft. per ANSI/UL 464	In Anechoic Room dBA @ 10 ft.
HS-24WR-WP	4890060	24 VDC	75	70-82	100
HS-24WW-WP	4890061	24 VDC	75	70-82	100
HS-24PWR-WP	4890062	24 VDC	75	70-82	100
HS-24PWW-WP	4890063	24 VDC	75	70-82	100
HSLP-24WR	4890064	24 VDC	75	70-82	100
HSLP-24WW	4890065	24 VDC	75	70-82	100
HSLP-24PWR	4890066	24 VDC	75	70-82	100
HSLP-24PWW	4890067	24 VDC	75	70-82	100

Horn Mode	Horn Decibel Levels		Horn Current Ratings
	Minimum SPL at 10 feet per ANSI/UL 464 (HIGH)	Minimum SPL at 10 feet per ANSI/UL 464 (LOW)	Regulated 24 VDC Max. Operating at High Setting
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

WGE Series Product Strobe Current Ratings	
Candela	75 cd
24 VDC	112 mA
UL Max[1]	170 mA

NOTES:

- The S-24 WP/HS-24 WP Series are listed for outdoor use. Indoor Operating Temperature: 32°F to 120°F (0°C to 49°C). Outdoor Operating Temperature: -31°F to 150°F (-35° C to 66°C).
- 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 not recommend using 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 UL 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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SLP/HSLP
OUTDOOR SERIES
EVACUATION SIGNALS

Reviewed for Code Compliance
Permitting and Inspections
Department
Approved with Conditions 02/14/2020

Architect & Engineering Specifications

The audible and/or visible signal shall be SLP/HSLP Series or approved equal and shall be listed by Underwriters Laboratories Inc. per ANSI/UL 1638 and/or ANSI/UL 464. The notification appliance shall also be listed with the California State Fire Marshal (CSFM).

The notification appliance (combination audible/visible) shall produce a peak sound output of 100dBA or greater at 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.

The audible/visible and visible signaling appliance shall also maintain a minimum flash rate of 1Hz or up to 2 Hz regardless of power input voltage. The appliance shall have an operating current of 170mA or less for the 75Cd strobe circuit. The appliance shall also be capable of meeting the candela requirements of the ADA (75cd).

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 with 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 of full wave rectified power for 24 volt models.

The appliance shall be capable of testing supervision without disconnecting wires. Also the appliance shall be capable of mounting to a surface back box. The unit shall also be able to verify voltage at the unit without removing unit.

The appliance has extended temperature range of -31° to 150°F (-35° to 66° C). The appliance shall satisfy virtually all outdoor and severe environment applications. The Enclosure includes a gasket that must be inserted between the box and mounting bracket. There are drain holes in the back box to allow for drainage, the seal on the GOE Enclosure is not water tight. The LP Enclosure includes a weather seal for mounting to wall and intended for use with universal electrical box. To allow for drainage, bottom edge of enclosure is not water tight.

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://www.pottersignal.com OR CALL POTTER ELECTRIC AT 1-800-325-3936.**

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06/13

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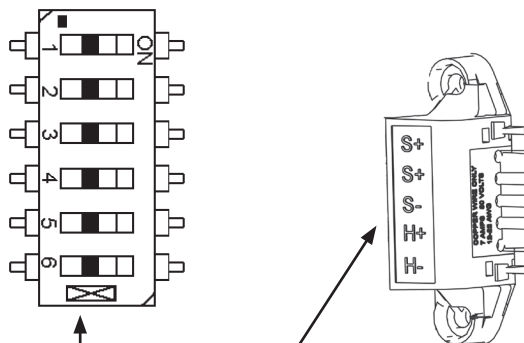
The S-24 & HS-24 Series appliances are ANSI/UL 464 and ANSI/UL 1971, listed for use with fire protective systems and are warranted for three years from date of purchase.

The Symbol of Protection

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.
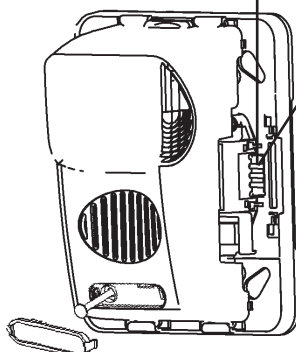
Checkmate® Instant
Voltage Verification
It is often necessary to confirm the voltage drop along a line of devices. The access holes are provided in the back of the terminal block to allow the voltage to be measured directly without removing the device. Typically, this would be done at the end of line 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.
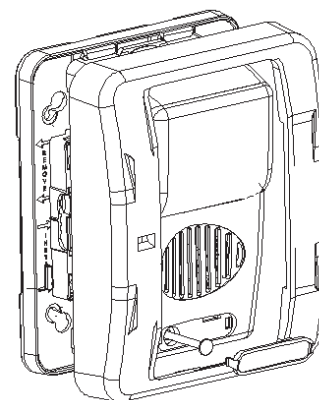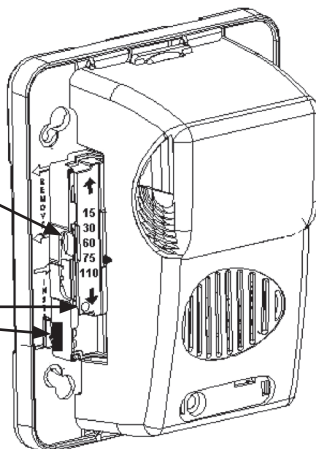
To remove bezel, grip both sides of bezel and pull in a download and outward motion.

Reviewed for Code Compliance
Permitting and Inspections
Department
Approved for Operations
02/14/2020

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).

Potter Electric Signal Company, LLC • St. Louis, MO 63042 USA • Cust Service: 866-572-3005 • Tech Support: 866-956-0988 • Canada 888-882-1833 • www.pottersignal.com

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                                  06/13

S-24 & HS-24
SELECTABLE CANDELA
STROBE & HORN/STROBES

Reviewed for Code Compliance
Permitting and Inspections
Department
Approved w/Conditions 02/14/2020

POTTER
The Symbol of Protection

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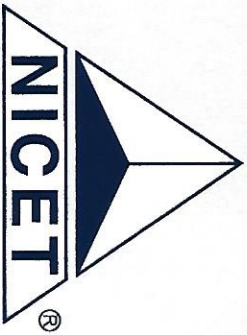
The appliance shall be capable of testing supervision without disconnecting wires, verify voltage without removing unit and be capable of mounting to a surface back box.

Conventional Wiring Diagrams for Emergency Notification Evacuation Series
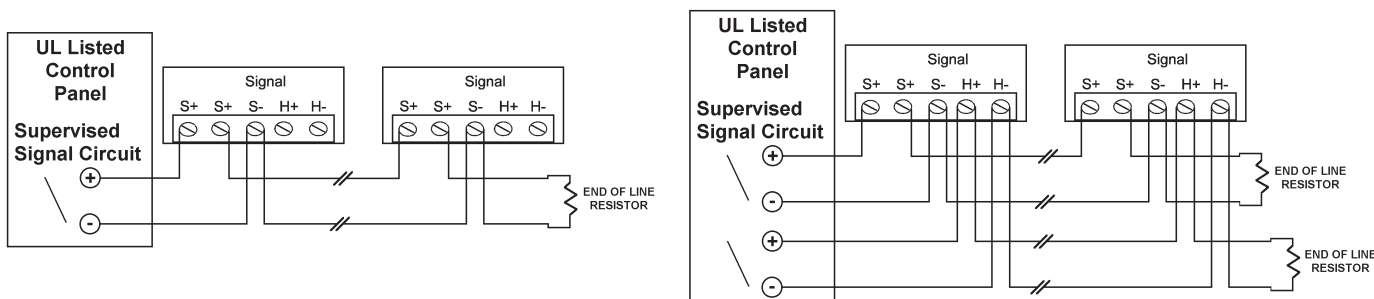
NOTES:

- 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.**

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06/13   PAGE 4 OF 4

NATIONAL INSTITUTE FOR CERTIFICATION
IN ENGINEERING TECHNOLOGIES®

Providing Certification Programs Since 1961

BE IT KNOWN THAT

Richard W. Brobst, Jr

IS HEREBY AWARDED CERTIFICATION AT

LEVEL IV

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, 2020

CERTIFICATION NUMBER 106322

CHAIRMAN OF THE NICET BOARD OF GOVERNORS

A DIVISION OF THE NATIONAL SOCIETY OF PROFESSIONAL ENGINEERS

Guardian Systems of Maine
21 Rice St., Unit #2
Portland, ME 04103
207-536-4800

Patagon Storage
Device List

Quantity	Item	Description
1	IPA-4000	Fire panel, 4064 points, 6 NACs, 10 amps, 4 I/O circuits
2	Bat 12-7	Battery 12 volts, 7 amp/hours
1	UD-2000	Dact for Potter panels
1	E120V-GT	Space Age 120 VAC surge protector and breaker label
6	PAD-100-PD	Addressable smoke detector
2	PAD-100-HD	Addressable Heat
8	PAD-100-6B	Detector base
2	PAD-100-DIM	Dual input
4	PAD-100-RM	Addressable Relay module
1	SSU00673	Space Age Fire Document cabinet
9	PAD-100-PSDA	Addressable dual action pull station
1	HS-24WR	Horn/strobe, red, wall mount
44	CHS-24R	Horn/strobe ceiling mount, red
2	S-24WR	Strobe only, wall mount, red
1	HS-24WR-WP	Horn/strobe, red, weatherproof
3	PAD-100-DUCTR	Duct detector with relay
3	PAD-100-DRTS	Remote for duct detector
3	STN-5	Tube for duct detector
1	3261	Key box 3261

(1) GENERAL NOTES:

   A. FIRE ALARM SYSTEM WIRING SHALL COMPLY WITH THE NATIONAL ELECTRICAL CODE, APPLICABLE STATE AND LOCAL CODES, AND SHALL BE COORDINATED WITH THE LOCAL AUTHORITY HAVING JURISDICTION.

   B. CAUTION: DO NOT CONNECT ANY POWER TO THE CONTROL PANEL (BATTERIES OR 120V AC) UNTIL ALL OTHER FIELD WIRING IS TESTED AND CONNECTED.

   C. DO NOT INSTALL FIRE ALARM CONTROL PANEL, NAC POWER SUPPLY PANEL, SMOKE DETECTORS OR ANY ADDRESSABLE DEVICES IN UNHEATED SPACES.

   D. DO NOT INSTALL ANY AC CURRENT–CARRYING CONDUCTORS CLOSE TO OR IN THE SAME RACEWAY WITH FIRE ALARM SYSTEM CONDUCTORS.

   E. SOLID LINES REPRESENT CONNECTIONS TO BE MADE BY THE SYSTEM INSTALLER.

   F. ALL RELAYS ARE SHOWN IN NORMAL SUPERVISORY CONDITION. ALL RELAYS ARE FORM "C" TYPE.

(2) INSTALLATION NOTES

   A. SMOKE DETECTORS SHALL NOT BE MOUNTED ANY CLOSER THAN 3' FROM ANY AIR DUCT OPENINGS

   B. ELEVATOR LOBBY SMOKE DETECTORS SHALL BE MOUNTED WITHIN 10' OF THE ELEVATOR DOOR

   C. MANUAL PULL STATIONS SHALL BE MOUNTED PER ADA REQUIREMENTS: 48" AFF OR 42" AFF TO COMPLY WITH SIDE/FRONT REACH REQUIREMENTS

   D. WALL MOUNTED HORN/STROBES & STROBES SHALL BE MOUNTED 6" FROM CEILING, OR 96" TO 80" AFF TO THE CENTER OF STROBE

   E. HORN/STROBES & STROBES SHALL BE MOUNTED 15' FROM THE CORNER OF THE WALL. IF THIS IS NOT POSSIBLE, DEVICE SHALL BE CENTERED ON THAT WALL.

   F. CEILING MOUNTED HALLWAY DEVICES SHALL BE LOCATED IN A SYMMETRICAL MANNER DOWN CENTER OF HALLWAY WHEN POSSIBLE.

   G. MONITORING REQUIRES TWO FAIRPOINT PHONE LINES UNLESS OTHER ARRANGEMENTS HAVE BEEN MADE.

(3) SEE INITIATION CIRCUITS AND NAC CIRCUITS FOR INTEGRATION OF BOTH SLC AND NAC CIRCUITS
(4) ALL CABLING IS 14/2 FOR THE NAC CIRCUITS UNLESS OTHERWISE SHOWN
(5) ALL CABLING IS 16/2 FOR THE SLC CIRCUITS UNLESS OTHERWISE SHOWN
(6)

AC = ALARM CONTROL MODULE
R = ARM = ADDRESSABLE RELAY MODULE
AV = AUDIO VISUAL DEVICE
   (SET TO 15cd UNLESS NOTED OTHERWISE)
B = EXTERIOR BEACON
CO = CO DETECTOR
D = DUAL MODULE
DUCT=DUCT DETECTOR
F = FLOW
FACP = MAIN FIRE PANEL
H = HEAT DETECTOR
I = ISOLATION MODULES
T.S. = TWISTED SHIELDED
S/CO = SMOKE/CO DETECTOR
RL = REMOTE LIGHT

K = KNOX BOX
LA = LOW AIR
MM = MINI MODULE
P = PULL STATION
PS = PRESSURE SWITCH
RI = REMOTE INDICATOR
S = SMOKE
SA = SMOKE WITH AUDIBLE BASE
T= TAMPER
TS = TEST SWITCH
V = VISUAL DEVICE ONLY
   (SET TO 15cd UNLESS NOTED OTHERWISE)
MH = MINI HORN
RTS = REMOTE TEST MODULE
PS = PULL STATION
CL = CORRIDOR LIGHT
CO = CO DETECTOR (MAY REQUIRES 24 VDC POWER)
SCM = INPUT MODULE

(F) = FIRE EXTINGUSHER MONITORING

FIRE PANEL riser diagram:

REMOTE MONITORING

ROOF 14/4 — DUCT 30 — DUCT 31 — DUCT 32
16/4 REMOTE — 16/4 REMOTE — 16/4 REMOTE

NAC 6 / 14/2 — AVc HALL (150cd) ×9 — EOLR 2.8 amps

NAC 5 / 14/2 — AVc HALL (150cd) ×8 — EOLR 2.5 amps

NAC 4 2ND FLOOR / 14/2 — AVc HALL (150cd) ×9 — EOLR 2.8 amps

NAC 3 2ND FLOOR / 14/2 — AVc HALL (150cd) ×8 — EOLR 2.5 amps

NAC 2 1ST FLOOR / 14/2 — AVc HALL (150cd) ×6 — EOLR 1.9amps

NAC 1 1ST FLOOR / 14/2 — AVc HALL (150cd) — V BATHROOM — V BATHROOM — AV OFFICE (75cd) — AVwp OUTSIDE LOBBY (75cd) — AVc HALL (150cd) — AVc EXIT HALL (150cd) — AVc HALL (150cd) — EOLR 1.5amps

26 P 3RD FLOOR — 25 P 2ND FLOOR
27 P 3RD FLOOR — 24 P 2ND FLOOR

1ST FLOOR / 16/2 — 15 S OVER FIRE PANEL — 16 P SIDE EXIT — 17 DIM SPRINKLER ROOM (F, T) — 18 DIM SPRINKLER ROOM (LA, T) — 19 S TELEPHONE ROOM — 20 P STAFF EXIT — 21 P FRONT STAIR 1ST FLOOR — 22 P FRONT ENTRY — 23 P REAR STAIR 1ST FLOOR

16/2 — 1 S ELEVATOR MACHINE ROOM — 2 H ELEVATOR MACHINE ROOM — 3 R PRIMARY — 4 R ALTERNATE — 5 R FIRE HAT — 6 R SHUNT TRIP ELEVATOR MACHINE ROOM — 7 MM (H, I) 1ST FLOOR LOBBY — 8 S 2ND FLOOR LOBBY — 9 S 3RD FLOOR LOBBY — 10 S TOP OF SHAFT — 11 H TOP OF SHAFT

SURGE 120 VAC

PATAGON STORAGE
150 Riverside St.
Portland, Maine

PROJECT:

DRAWING: RISER

REVISIONS

DATE: 01/08/20
SCALE: NTS
DRAWN BY: SSA
APPROVED BY: –
SHEET: 1

Portland, Maine · Yes. Life's good here.
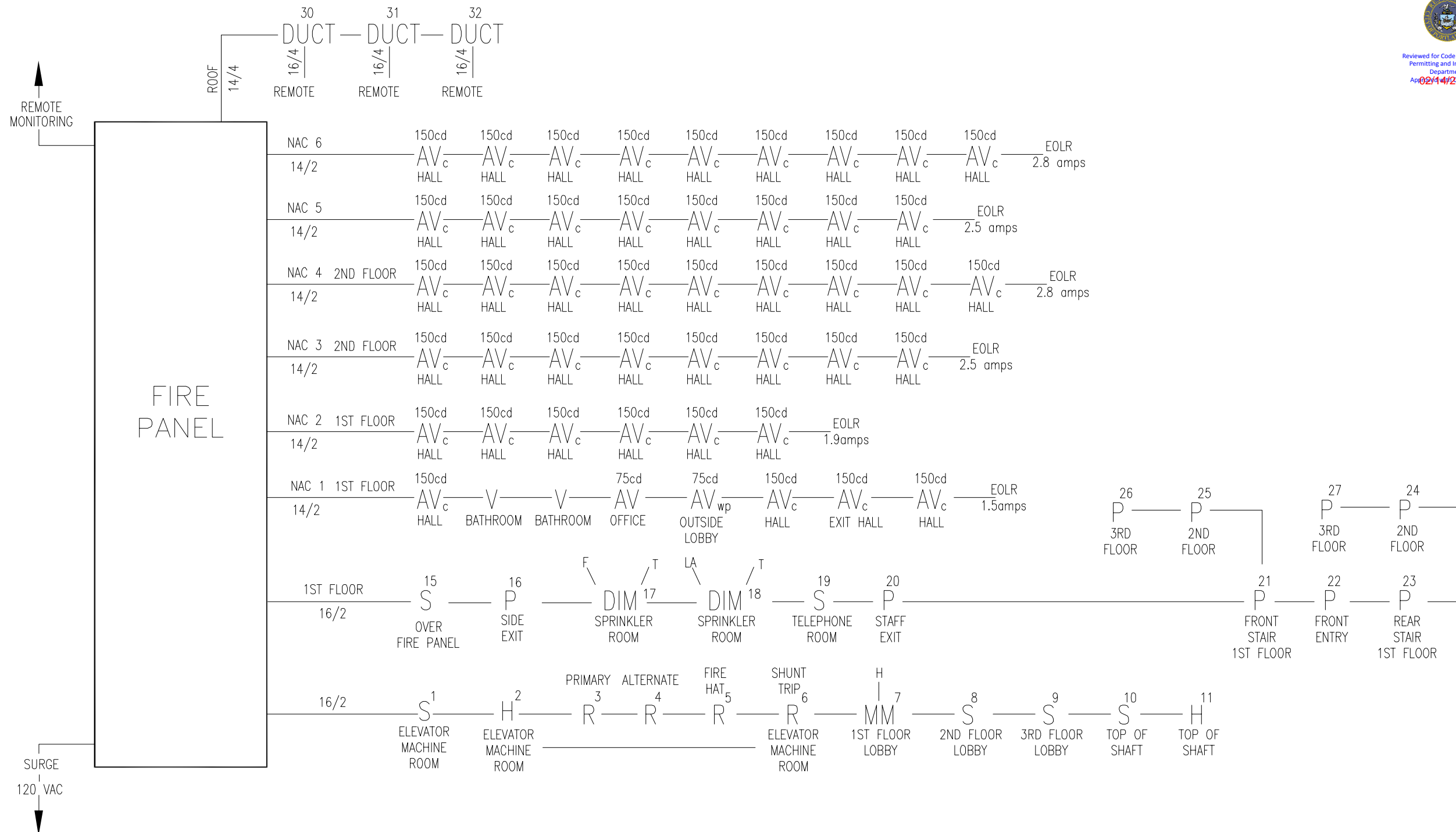
Permitting and Inspections Department
Michael A. Russell, MS, Director

Fire Alarm Permit Application

Construction Address: 150 Riverside Street

Total Square Footage of Proposed Structure: 101,966 ft²

Tax Assessor's Chart, Block & Lot			**Applicant Name:** Casco Bay Electric
Chart#	Block#	Lot#	Address: 322 Presumpscot St, Portland, Me 04103
			Phone: 207-221-3331
Cost of Work: $ $35,000			Email: beth@cascobayelectric.com

Lessee/Owner Name (if different): Maine Ptld & Riverside LLC
Address: 1700 Main St Ste 208, Washougal WA
Phone:
Email:

Contractor Name (if different):
Address:
Phone:
Email:

Current use (i.e. single family):

If vacant, what was the previous use?

Proposed specific use: Storage Facility

Is property part of a subdivision? If yes, name: NO

Project description: Fire alarm installation

Life Safety Code Occupancy Classification: Storage building

Is this new work or a renovation to an existing system? New

Is the top occupiable floor of the building greater than 75 feet above the lowest level of Fire Department access (high-rise)? NO

Name of company providing programming and certification of system*: Guardian Systems of Maine

Electrical permit #: Elec2019-01663

Will a master box be installed? ○ Yes ◉ No **If yes, complete all items for approval):**

AES approved installing contractor:

Documentation of AES approval:

Property Owner:

Property Owner Billing Address:

Property common name:

E-911 address for protected premises:

Emergency contact phone: Additional emergency contact phone:

Number of stories protected:

Is the building protected by a supervised, automatic sprinkler system? ◉ Yes ○ No

Name of person to contact when the permit is ready: Beth Kilbride

Address: 322 Presumpscot St

City, State & Zip: Portland, Me 04103

Email Address: beth@guardiansystemsmaine.com **Phone:** 207-221-3331

*For a list of approved fire alarm companies, see www.portlandmaine.gov/1486/Approved-Fire-Alarm-Companies

389 Congress Street, Room 315/Portland Maine 04101/www.portlandmaine.gov/tel: 207-874-8703/fax: 207-874-8716