THINK LEARN BE MORE TOGETHER

POCATELLO/CHUBBUCK SCHOOL DISTRICT 25

LEARNING TODAY FOR THE POSSIBILITIES OF TOMORROW

Administration Offices

3115 Pole Line Road

Pocatello, Idaho

INVITATION TO BID

SPECIFICATIONS FOR

2026 FIRE ALARM REPLACEMENT AT:

Project #1
Pocatello High School
325 N Arthur
Pocatello, ID 83201

BIDS WITH CONDITIONS WILL NOT BE ACCEPTED

BID OPENING

March 4, 2026
9:00 AM

THINK LEARN BE MORE TOGETHER

POCATELLO/CHUBBUCK SCHOOL DISTRICT 25

LEARNING TODAY FOR THE POSSIBILITIES OF TOMORROW

POCATELLO/CHUBBUCK SCHOOL DISTRICT NO. 25
INVITATION TO BID

Sealed bids will be received by a Representative of the Board of Trustees of Pocatello/Chubbuck School District No.25, Bannock County, Idaho at 3115 Pole Line Road, Pocatello, Idaho, 83201, until 9:00 AM, MST on March 4, 2026 for the following:

Fire Alarm Replacement

A **mandatory** pre-bid conference and walk-thru to review the project will be held at the District Maintenance Shop, 185 E Maple, Pocatello, Idaho, on February 11, 2026 at 1:00 PM.

Specifications or additional details, (including bid forms), may be secured at the Business Office, 3115 Pole Line Road, Pocatello, Idaho, 83201. Each bid shall be accompanied by a certified check, cashier's check, or a bidder's bond, (executed by a qualified surety company with the power to do business in the State of Idaho) in the sum of not less than five percent, (5%) of the total bid, made payable to School District No. 25, Bannock County, Pocatello, Idaho. This surety shall be forfeited by the bidder in the event of failure to enter into a contract. Personal or company checks will not be accepted. Compliance with Idaho Public Works Law is required.

All bids shall be in a sealed envelope and clearly marked: **Bid for PHS Fire Alarm Replacement**; Opened at 9:00 AM MST on March 4, 2026.

The Board of Trustees reserves the right to reject any or all bids or to waive any informalities, or to accept the bid or bids deemed best for School District No. 25, Bannock County, Pocatello, Idaho.

Renae Johnson, Clerk
Pocatello/Chubbuck School District No. 25

Published dates:

January 30, 2026
February 6, 2026

IDAHO STATE JOURNAL

INSTRUCTIONS TO BIDDERS

BIDS:

Sealed "BIDS" will be received on or before the time and date set forth under "INVITATION TO BID".

The owner reserves the right to accept or reject any part or all bids.

Bidders submitting a "Bid" on this work will be required to figure and furnish everything as called for by these specifications and the requirements of the "Bid" sheet.

All bids shall be in a sealed envelope addressed: Business Office, 3115 Pole Line Road, Pocatello, Idaho, 83201. The following shall be written on the exterior of the envelope:

"BID FOR PHS FIRE ALARM REPLACEMENT
TO BE OPENED ON March 4, 2026 AT 9:00 AM MST"

Bids not delivered by contractors at time of bid opening must be received in mail no later than 4:00 PM on March 3, 2026, the day before the bid opening.

EXAMINATION OF THE SITE AND DOCUMENTS:

Refer all questions to Brian Glenn, Facilities Coordinator, (208) 233-2604. Contact with other district staff, Board of Trustees, or Administration, will be by written permission only.

A mandatory pre-bid conference and walk-thru to review projects will be held at 1:00 PM on February 11, 2026 at the District Maintenance Shop, 185 E. Maple, Pocatello, Idaho.

Before submitting a proposal, the bidder shall:

1. Carefully examine the specifications.
2. Visit the worksite.
3. Be fully informed of existing conditions and limitations.
4. Include in the bid, sums sufficient to cover all items required by the contract, and shall rely entirely upon his own examinations in making his proposal.

INTERPRETATIONS:

Should a bidder find discrepancies in or omissions from the specifications, or be in doubt as to their meaning, he should at once notify the Owner, who will send written instructions or addenda to all bidders. The owner will not be responsible for oral interpretations. Questions received less than 48 hours before time for bid opening cannot be answered. All addenda issued during the time of bidding will be incorporated in the contract.

BID GUARANTEE:

As a guarantee that, if awarded the contract, the bidder will execute same and furnish bond. Each bid will be accompanied by a Certified check, Cashier's Check, or Bid Bond for not less than five percent (5%) of the base bid payable to the Owner. NO PERSONAL OR COMPANY CHECKS WILL BE ACCEPTED.

OBJECTIONS:

Written objections to specifications or bid procedures must be received by the clerk, secretary, or other authorized official of the District at least one (1) business day before the date and time upon which bids are scheduled to be received, per Idaho Code Section 68-2806(c).

LAWS AND ORDINANCES:

The contractor hereby binds himself to protect and save harmless the owner from all damages arising from the violation of any and all Federal, State, County, City, and all other laws, rules, regulations, in the performance of the terms of the contract.

HOLD HARMLESS AGREEMENTS:

The District expects your work to conform to professional standards. The contractor is expected to hold the District harmless for all damages or claims arising out of the work performed by the contractor. The District will not agree to hold the contractor harmless for damages or claims.

EQUIPMENT:

The contractor shall provide all labor, materials, tools, and equipment, etc. necessary for the complete and substantial execution of everything described in the specifications.

STORAGE OF MATERIALS:

The contractor shall make arrangement and coordinate with the Maintenance Department for storage of materials. Any damages of life or property caused by storage of materials on the above indicated place shall be paid for by the contractor, who shall hold the owner harmless for any damages concerning the same.

SUPERVISION:

The supervision of this work will be done by School District #25 Maintenance Department.

EVIDENCE OF QUALIFICATIONS:

Upon request of the owner, a bidder whose bid is under consideration for award of the contract shall submit, promptly, satisfactory evidence of his financial resources, his experiences, and the organization and equipment he has available for performance of the contract.

EMPLOYMENT OF RESIDENTS OF IDAHO:

In compliance with Idaho Laws, Section 44-1001 and 44-1002 Idaho Code, the contractor must employ ninety-five percent 95% bona fide Idaho residents as employees on any such contracts except where under such contracts fifty (50) or less persons are employed the contractor may employ ten percent (10%) nonresidents, provided however, in all cases such employers must give preference to the employment of bona fide Idaho residents in the performance of such work.

CONTRACTOR'S LICENSE:

In compliance with Idaho Laws, the contractor must be registered with the State of Idaho, and hold the required *Public Works Contractor's License* before obtaining the contract documents and before submitting a bid for this work.

INSURANCE:

All contractors who provide goods or services to the District are required to provide the District with certificates of insurance for General Liability, Auto Liability, Workers Compensation, and Professional Liability if applicable.

The General Liability and/or Professional Liability certificate must name the District as an additional insured under the contractor's policy. Certificates are to be provided to the District prior to any work commencing on District property. This would include the placement of any equipment or materials at the work site

Minimum Insurance Limits

General Liability	$1,000,000 per occurrence $1,000,000 products and completed operations $1,000,000 annual aggregate
Auto Liability	$1,000,000 per occurrence
Worker' Compensation	Statutory
Professional Liability	$1,000,000 per occurrence $1,000,000 annual aggregate

OWNER/CONTRACTOR AGREEMENT:

The Agreement for the work will be written on a District provided Form of Agreement between Owner and Contractor where the basis of payment is a stipulated sum.

PERFORMANCE BOND:

The successful bidder will be required to furnish a 100% performance bond when entering into the contract work, per Idaho Code Section 54-1926, ".... conditioned upon the faithful performance of the contract in accordance with the plans, specifications and conditions thereof."

PAYMENT BOND:

The successful bidder will be required to furnish a 100% payment bond when entering into the contract work, per Idaho Code Section 54-1926, "solely for the protection of persons supplying labor or materials, or renting, leasing, or otherwise supplying equipment to the contractor or his subcontractors in the prosecution of the work provided for in such contract."

5% RETAINAGE:

The Owner will retain 5% of the Contractor's earned sum to ensure faithful performance. This 5% will be released to the Contractor upon receipt of approval from State of Idaho.

LIQUIDATED DAMAGES:

Contractor shall be required to pay Owner as liquidated damages the sum of $500 for each day, after the scheduled completion date, that the project is unfinished.

CHANGES IN THE WORK:

The owner, without invalidating the contract, may order extra work or make changes by altering, adding to, or deducting from the work; the contract sum being adjusted accordingly. All such work shall be executed under the conditions of the original contract, except that any claim for extension of the time caused thereby shall be adjusted at the time of ordering such change.

The total allowance for combined overhead and profit for changes shall be included in the total cost to the owner and shall be based on the following schedule:

a) For the Contractor, 10% over cost;
b) For the Sub-Contractor, 15% over cost to be divided 10% for Sub-Contractor and 5% for Contractor; and
c) For any Sub-Subcontractor, 15% over cost to be divided 5% for Contractor, 5% for Sub-Contractor, and 5% for Sub-Subcontractor.

FORM WH5:

Per Idaho Code Section 54-1904A, within thirty (30) days of award of bid, the contractor shall file with the State Tax Commission a form WH-5, Public Works Contract Report.

INSPECTION OF WORK:

The representative of the owner shall at all times have access to the work wherever it is in preparation or progress and the contractor shall provide facilities for such access and for inspection.

WARRANTY:

Manufacturer shall warrant products under normal use and service to be free from defects in materials and workmanship for a period of one year from date of delivery.

Warranty shall cover repair or replacement of such parts determined defective upon inspection. Warranty does not cover any product or part of a product subject to accident, negligence, alteration, abuse or misuse. Warranty does not cover any accessories or parts not supplied by the manufacturer.

Warranty shall not cover any labor expended or materials used to repair any equipment without manufacturer's prior written authorization.

CLEAN UP:

The contractor shall at all times keep the premises free from accumulations of waste material or rubbish caused by his employees or work, and at the completion of the work he shall remove all his rubbish from and about the building and all tools and surplus materials and shall leave his work clean. In case of dispute, the owner shall remove the rubbish and surplus materials and charge the cost to the contractor.

IDAHO EMPLOYER ALCOHOL AND DRUG-FREE WORKPLACE ACT: Include with your bid sheet a contractor's affidavit pursuant to Idaho Code Section 72-1717.

BIDDER CERTIFICATION FORM: All bidders must complete and submit the Bidder Certification Form included with this bid request.

PAYMENT:

Prices must remain firm as quoted by supplier until quantity awarded is received. Application for payment dated on or before the 25th of the month, shall be paid by the 15th of the following month. Application for payment dated after the 25th of the month, shall be paid within 30 days.

Delivery may be accepted any time, however, payment for the 2026-2027 fiscal year cannot be made until after July 1, 2026 when those funds have been released.

BID:

The following universal specifications are being used as a guideline. Alternate bids for equal equipment will be considered but must be submitted in writing no less than 72 hours before bid opening to the School Facilities Coordinator for approval. Substitutions or major alternations must be indicated upon the proposal sheet at the time of the bid submission. Bids must be based upon conditions at the site and these specifications. Bids shall be submitted in accordance with the requirements shown on the bid form.

BID EVALUATION CRITERIA:

Contractor selection on this project will be evaluated based on the following:

1) Price
2) Contractor reputation for quality of work with current customers or past performance with District 25. (Please list all jobs/contracts greater than $10,000 performed in the past two years if contractor has not performed one for the District in past 5 years)
3) Vendor ability to best match the listed criteria as specified.

DELIVERY AND START OF WORK:

The time frame for the replacement of the PHS FIRE ALARM is to be completed is between June 8, 2026 and August 14, 2026.

REQUIREMENTS FOR REPLACEMENT FMS FIRE ALAM SYSTEM:

POCATELO HIGH SCHOOL – This work is to replace the existing fire alarm system with a new updated fire alarm system and shall include the following:

A. Removal and disposal of all existing fire alarm system components.
B. Installation of new Potter fire alarm control panel and components as per approved drawings to meet current code requirements.
C. Installation of all new low voltage wiring and necessary piping to connect new components as shown on drawings.
D. All high voltage electrical and necessary piping for a fully functional fire alarm system.
E. All testing as required by local fire authority.
F. Repair of building areas affected by project to original pre-project condition.
G. Costs for all permits and inspections.

GENERAL NOTES THAT APPLY TO ALL OF THE ABOVE BID ITEMS:

1. Contractor will submit equipment, materials and/or design submittals to the District for approval prior to ordering equipment.

2. New installation shall meet all Federal, state and local code requirements. The contractor will be responsible for obtaining any required permits and/or jurisdictional approvals. The contractor is responsible for providing any and all drawings and specifications that are required by governmental agencies. The contractor will be required to provide proof of final approval from all governmental agencies having jurisdiction over this work once the installation is complete.

3. Contractor is responsible for verifying existing electrical loads and notifying the District if electrical service modifications might be required. The Contractor is responsible for making all electrical connections necessary unless directed differently in individual item descriptions.

4. The Contractor is responsible for providing any changes or modifications required to the building (drywall, painting, roofing, insulation, etc.) so as to provide a complete, finished product.

5. Contractor will provide industry standard warrantee for this application.

6. Contractor will provide operation and maintenance training of O&M personnel once the installation is complete. Completed operation & maintenance manuals are to be turned into the District Maintenance Department.

BID SHEET
2026 FIRE ALARM REPLACEMENT AT
POCATELLO HIGH SCHOOL

Board of Trustees
Pocatello/Chubbuck School District No. 25 Date: _____
3115 Pole Line Road
Pocatello, ID 83201

We, the undersigned, propose to furnish all labor, materials, tools, and equipment and complete all work called for by these specifications in connection with the Fire Alarm Replacement, under the supervision of the School Facilities Coordinator and the Director of Business Operations, for the sum of:

PROJECT	**AMOUNT**
Pocatello High School Fire Alarm Replacement	$ _____

Work can begin June 8, 2026 and must be completed by August 15, 2026.

The Board of Trustees reserves the right to reject any/or all bids or to waive any informalities, or to accept the bid or bids deemed best for Pocatello/Chubbuck School District No. 25, Bannock County, Pocatello, Idaho.

Respectfully submitted,

- Attached is a listing of subcontractors names and addresses for this project.
- Attached is our Affidavit of Alcohol and Drug-Free Worksite, as pursuant to Idaho Code 72-1717.
- Attached is Bidder Certification Form.

Company Name	Authorized Signature / Date
Address	Title
City, State, Zip	Public Works License Number
Phone / Fax Number	Worker's Comp & Liability Insurance Exp. Date

CONTRACTOR'S AFFIDAVIT
CONCERNING ALCOHOL AND DRUG-FREE WORKPLACE

STATE OF _____

COUNTY OF _____

Pursuant to the Idaho Code, Section 72-1717, I, the undersigned, being duly sworn, depose and certify that named contractor is in compliance with the provisions of Idaho Code section 72-1717; that named contractor provides a drug-free workplace program that complies with the provisions of Idaho Code, title 72, chapter 17 and will maintain such program throughout the life of a state construction contract and that named contractor shall subcontract work only to subcontractors meeting the requirements of Idaho Code, section 72-1717(1)(a).

_____
Name of Contractor

_____
Address

_____
City and State

By: _____
(Signature)

Subscribed and sworn to before me this _____ day of _____, 2026.

Commission expires:

_____
NOTARY PUBLIC, residing at

_____

_____

THINK LEARN BE MORE TOGETHER

POCATELLO/CHUBBUCK SCHOOL DISTRICT 25

LEARNING TODAY FOR THE POSSIBILITIES OF TOMORROW

BIDDER CERTIFICATION FORM

1. **Debarment and Suspension** – In submitting this bid proposal, we hereby certify that we have not been suspended or in any way excluded from Federal procurement actions by any Federal Agency. We fully understand that if information contrary to this certification subsequently becomes available, such evidence may be grounds for non-award or nullification of a bid contract.

2. **Anti-Collusion** – In submitting this bid proposal, we hereby certify this proposal was developed and prepared without any collusion with any competing bidder or District employee. The content of this proposal has not been disclosed to any competing or potentially competing bidder prior to the proposal due date and time. Furthermore, no action to persuade any person, partnership or corporation to submit or withhold a bid has been made.

3. **Anti-Lobbying** – In submitting this bid proposal, we hereby certify that to the best of our knowledge and belief, no appropriated Federal funds have been paid or will be paid by or on behalf of person associated with this proposal to any person for influencing or attempting to influence and officer or employee of any agency, a member of Congress, an office or employee of Congress or an employee of a member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement and the extension, continuation, renewal, amendment or modification of any Federal contract, grant, loan or cooperative agreement.

4. **National Sexual Offender Registry** – In submitting this bid proposal, you certify to the District that your company will prohibit any persons in your employ who are registered or required to register under the Idaho Sex Offender Registration Act from participation in company business with the District if such participation would require them to be present on school property. You certify further that you have cross checked such employees against the National Sex Offender Registry found at the following web link: http://www.nsopr.gov/

Signed: _____ Date: _____

Name & Title: _____

Company: _____ Phone: _____

Address: _____

City/State/Zip: _____

AFC-1000V

Integrated Voice Fire Alarm Panel

Features

- Supports single and dual channel applications
- Flexible programming
- Up to 2 hours of message storage
- Up to 255 customizable audio patterns
- Internal message library of predefined messages and tones
- Ability to record and import message files from a laptop
- Expandable up to 104 programmable push buttons for speaker and ECS assignment
- User push buttons for All Call,
- A supervised auxiliary input to interface with low-level audio sources
- Background Music
- Connect up to 10 SCA (single channel) or DCA (dual channel) amplifiers
- Interface with LOC-1000 (Local Operator Console) to control the system from remote areas.
- Optional Fire Fighters Telephone system
- All features of the AFC-1000 included

LISTED

Description

The AFC-1000V is an enhanced version of the AFC-1000 addressable fire alarm system, now with voice integration. The panel features all pre-existing fire highlights and shares new innovative voice functionalities to provide reliability and safety with the panel. The panel introduces the VM-1000 voice module and digital message repeater to deliver audio to designated remote amplifiers. The VM-1000 contains two V-Link channels (audio riser outputs) to support single and dual channel amplifiers. The voice module also includes a supervised low level auxiliary input to interface with external audio sources and supports applications requiring background music. The AFC-1000V is equipped with an ECS user interface providing 8 programmable push buttons for speaker and ECS zone assignment, LED indicators to display activity and trouble conditions, and common user function buttons for All Call and CTRL.

The optional SB-24 (Switch Board w/24 Programmable Switches) will offer 24 additional programmable push buttons. A maximum of four (4) SB-24's can be installed, offering up to 96 programmable push buttons.

The AFC-1000V can link up to ten (10) SCA (single channel amplifier) or DCA (dual channel amplifier) amplifiers, thirty (30) LOC-1000 (local operator console) and one (1) FFT-1000 (Firefighter Telephone System).

The Potter Panel Programmer introduces Audio Patterns which allows users to select and create audio files easily and effectively from the user's laptop. The programmer offers an internal library of predefined message and tones for common emergency conditions. Audio Patterns provides the ability to conveniently record and import audio files directly from a laptop.

Technical Specifications

Dimensions	21 3/8"W x 29 1/8"H x 4 7/8"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-220 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.

Voice Accessory

SB-24 – Switch bank with 24 programmable push buttons. Maximum of 4 SB-24s.

Voice Interface

The AFC-1000V panel incorporates a SB-8 user interface to specifically display ECS system status. The panel is shipped with the following LEDs:

- Ready to Page
- Trouble
- Control Requested
- Remotely Controlled
- Locally Controlled

The common push buttons include All Call, Reset and Ctrl.

P-Link

The AFC-1000V 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:

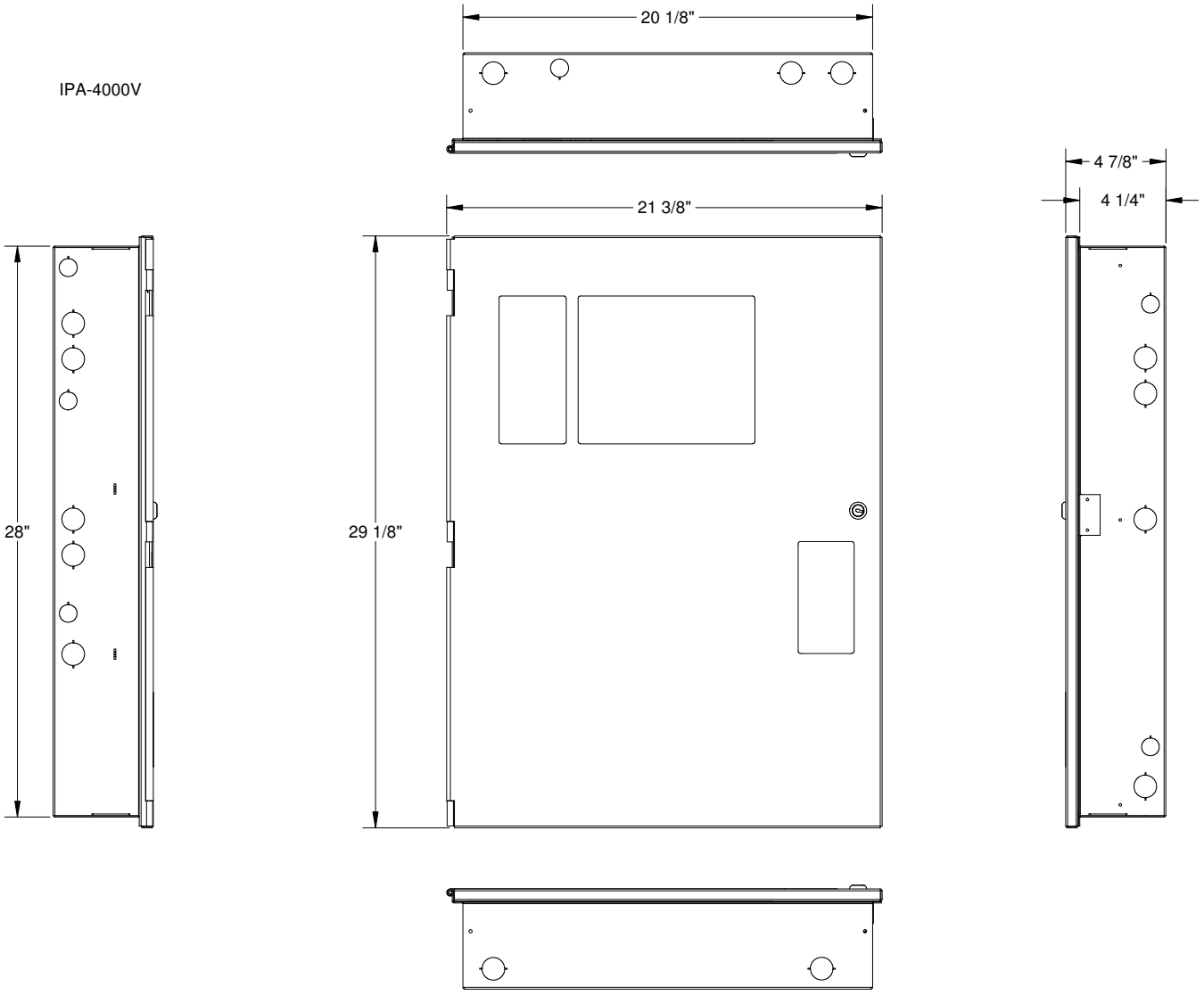
SCA-2525 – Single channel, 25W, 25V amplifier
SCA-2570 - Single Channel, 25W, 25V or 70V selectable amplifier
SCA-5025 - Single channel, 50W, 25V amplifier
SCA-5070 - Single Channel, 50W, 25V or 70V selectable amplifier
SCA-10070 - Single Channel, 100W, 25V or 70V selectable amplifier
DCA-5025 - Dual channel, 50W, 25V amplifier
DCA-10025 - Dual channel, 100W, 25V amplifier
LOC-1000 – Local operator console
FFT-1000 – Fire fighter telephone system
FFT-1000R - Firefighter's Telephone System, Right Hinge Door
FFT-1000L - Firefighter's Telephone System, Left Hinge Door

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.

Dimensions



Ordering Information

Model	Description	Stock No.
AFC-1000V	Integrated Voice Fire Alarm Panel	3520670

PAD100-SLCE

Addressable Loop Expander

Features

- No special wiring for SLC or P-Link connection
- SLC Class A, X or B capable
- Mounts with included stacker bracket
- May mount in panel, accessory cabinet, or PSN-1000/E Power Supply
- Product includes a 5 year warranty
- UUKL Listed for Smoke Control

Description

The Signaling Line Circuit Expander PAD100-SLCE allows up to thirty one additional loops. Each loop adds 127 addressable sensors or modules in any combination. The PAD100-SLCE may be configured for Class A or Class B wiring without the need for additional modules. The PAD100-SLCE communicates with the control panel via the Potter P-Link communication bus. The loop adder is mounted in either the control panel cabinet, the intelligent power supply, AE-2, AE-8 or the AE-14 expander cabinet. Each card is mounted to the exclusive Stacker Bracket for secure and accessible mounting.

Installation

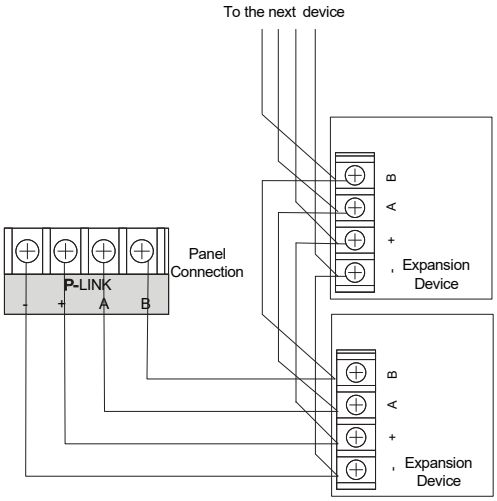
The PAD100-SLCE is connected to the IPA and AFC/ARC series panels using a four wire RS-485 connection. This connection is power limited and supervised. The PAD100-SLCE can be installed in the AE-2 Accessory Enclosure, AE-8 Accessory Enclosure, AE-14 Accessory Enclosure or inside the large IPA or AFC series enclosure using the supplied bracket.

Technical Specifications

Standby Current	50mA
Alarm Current	50mA
Operating Temperature	0°C–49°C (32°F–120°F)
Operating Humidity Range	10% - 93% (non-condensing)
Max no. of PAD100-SLCE	31
Dimensions	(W x H x D) 4” x 6” x 1-1/8”

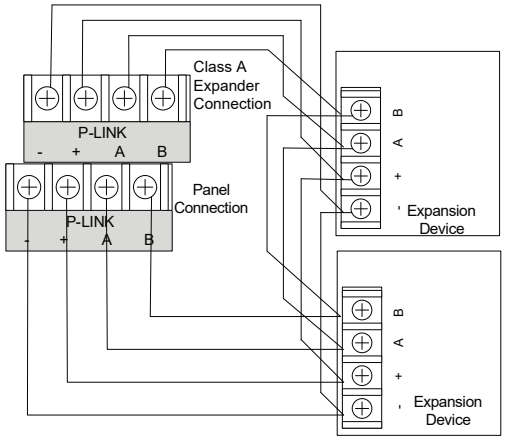
PAD100-SLCE Class B P-LINK Wiring Example

Fig 1



PAD100-SLCE Class A P-LINK Wiring Example

Fig 2



Ordering Information

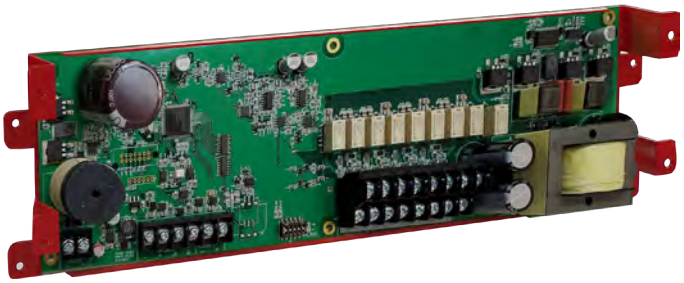
Model	Description	Stock No.
PAD100-SLCE	Addressable Loop Expander	3992722

SCA-5070INT

Single Channel 50W Integrated Amplifier

Features

- Small form 50W amplifier
- Single Channel
- 25VRMS and 70VRMS selectable
- 4 Class B or 4 Class A speaker outputs
- P-Link device
- Equipped with stacker bracket for secure and accessible mounting
- May mount in IPA-4000V, AFC-1000V, LOC-1000 and PSN-1000E
- The IPA-4000V, AFC-1000V and LOC-1000 can house (1) one SCA-5070INT
- The PSN-1000E can house a maximum of (2) two SCA 5070INT



DESCRIPTION

The SCA-5070INT is a small form single channel 50W amplifier that can be mounted in the IPA-4000V, AFC-1000V, LOC- 1000 and PSN-1000E. The amplifier is mounted to an exclusive stacker bracket for secure and accessible mounting. The SCA-5070INT provides 4 Class B or 4 Class A speaker circuits. The SCA-5070INT communicates via the P-Link communication bus and audio is distributed through the V-Link 1 audio riser. The amplifier is powered by a constant 24VDC provided by the fire panel or PSN-1000 NAC circuit. The SCA-5070INT can support either 25V or 70V speaker circuits. The speaker circuit voltage is set using the panel programming software. The IPA-4000V supports up to thirty-one (31) amplifiers and the AFC-1000V supports up to 10 amplifiers. All circuits are power-limited and supervised.

Installation

The SCA-5070INT is equipped with a stacker bracket for secure and accessible mounting and can be mounted in the IPA- 4000V, AFC-1000V, LOC-1000 and PSN-1000E. The amplifier communicates using a 4-wire Power and RS-485 communication connection called P-Link. Audio is delivered through the audio riser via V-Link 1. A 15K end of line resistor must be placed on the last device connected to the V-Link circuit. The SCA-5070INT is required to be powered by a NAC circuit configured with the Potter Programmer to provide constant 24VDC. All connections are power limited and supervised.

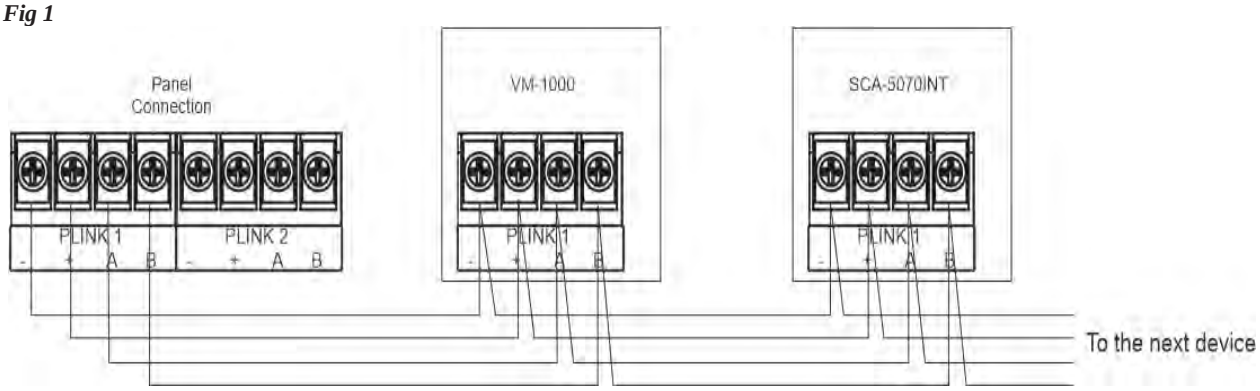
SCA-5070INT: A maximum of 50W per circuit at 25VRMS and 70VRMS.

Technical Specifications

Standby Current	50 mA
Alarm Current	138 mA
Operating Temperature Range	32° to 120° F (0° to 49°C)
Operating Humidity Range	10% to 93% (non-condensing)

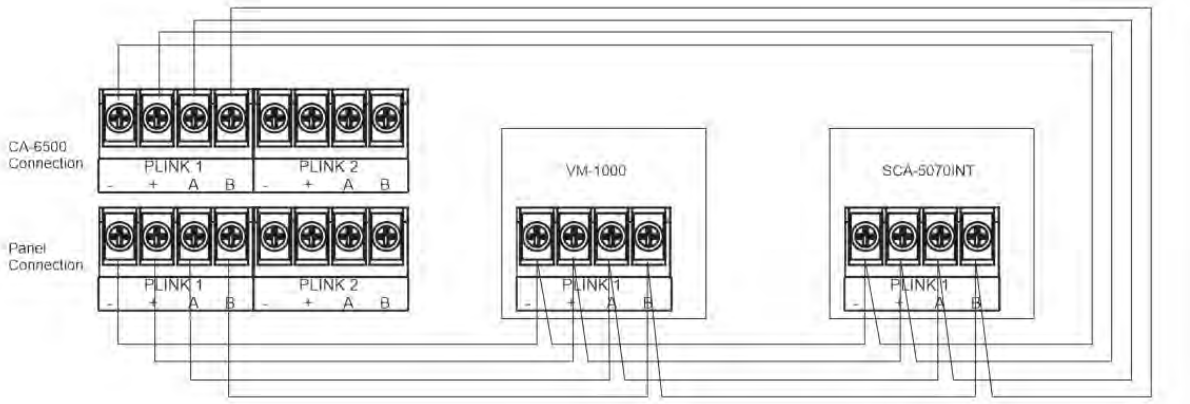
P-Link Class B Wiring

Fig 1



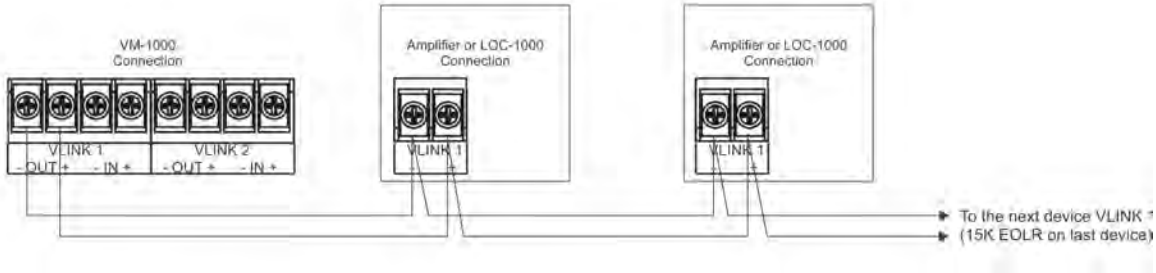
P-Link Class A Wiring

Fig 2



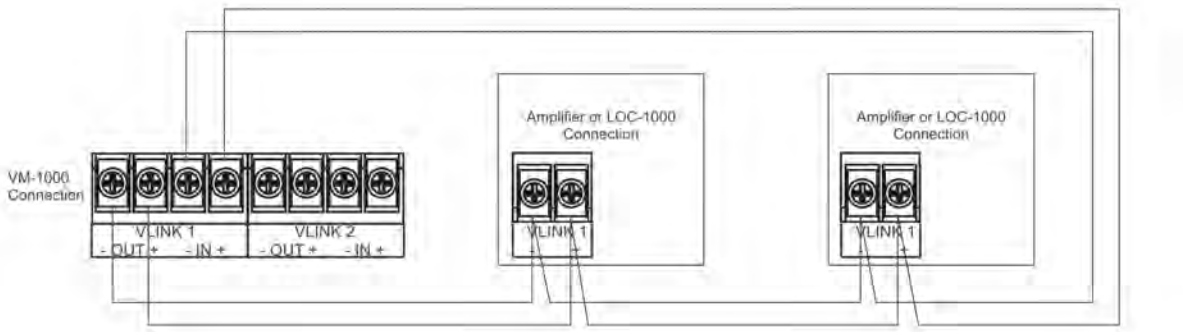
V-Link Class B Wiring

Fig 3



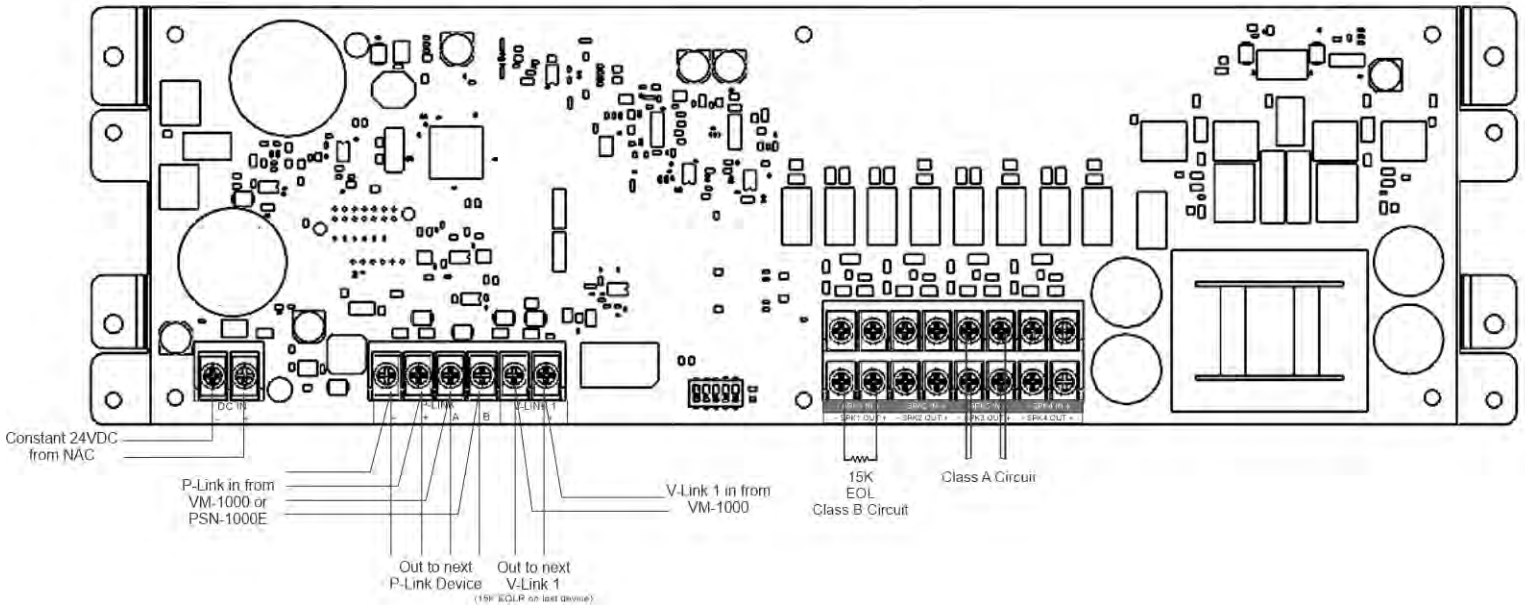
V-Link Class A Wiring

Fig 4



SCA-5070INT INSTALLATION

Fig 5 SCA-5070INT Connections



Ordering Information

Model	Description	Stock No.
SCA-5070INT	SINGLE CHANNEL 50W, 25V OR 70V SELECTABLE INTEGRATED AMPLIFIER	3520665

PSN-1000(E)

Power Expander

Features

- 10 Amp Power Supply
- 3 Amps, regulated per NAC
- 6 NACs Class B or 3 NACs Class A
- 2 dry contact inputs
- Fully programmable and monitored through control panel
- Isolated P-Link repeater connection, Class A or B
- Up to 31 power supplies per control panel with system wide sync
- Quadrasync feature synchronizes strobes from AMSECO, Gentex, Cooper-Wheelock and System Sensor.

FM APPROVED

7165-0328: 0195 S2930

Description

The PSN-1000 series is a UL listed intelligent 10 amp notification power supply and P-Link (RS-485) repeater. The power supply connects to the P-Link bus from the control panel and is operated and supervised from the panel. The power supply may be installed 6,500 feet from the control panel. The PSN-1000 then repeats the P-Link communication for another 6,500 feet.

The power supply has six (6) Class B or three (3) Class A power outputs. Each output is regulated and power limited with a 3 Amp maximum rating. In addition, the PSN-1000 has two (2) programmable dry contact inputs. The dry contact inputs are Class B, supervised inputs.

The power supply operates on either 120 or 220 VAC power and has a regulated 24 VDC output. In addition, the panel can charge up to 55 AH batteries and will house 18 AH batteries. The cabinet is constructed out of 18 gauge cold rolled steel with a durable red powder coat finish. A standard Potter key lock is provided for securing the door. Electrical conduit knockouts are provided on the sides and top providing installers with multiple options for installing conduits and providing proper power separations.

The PSN-1000 is a self contained intelligent power supply/P-Link repeater complete with cabinet. The PSN-1000E is the intelligent power supply/P-Link repeater with additional cabinet roomfor mounting stacker bracket modules including PAD100-SLCE loop expanders. Both cabinets include space for 18 AH batteries.

Technical Specifications

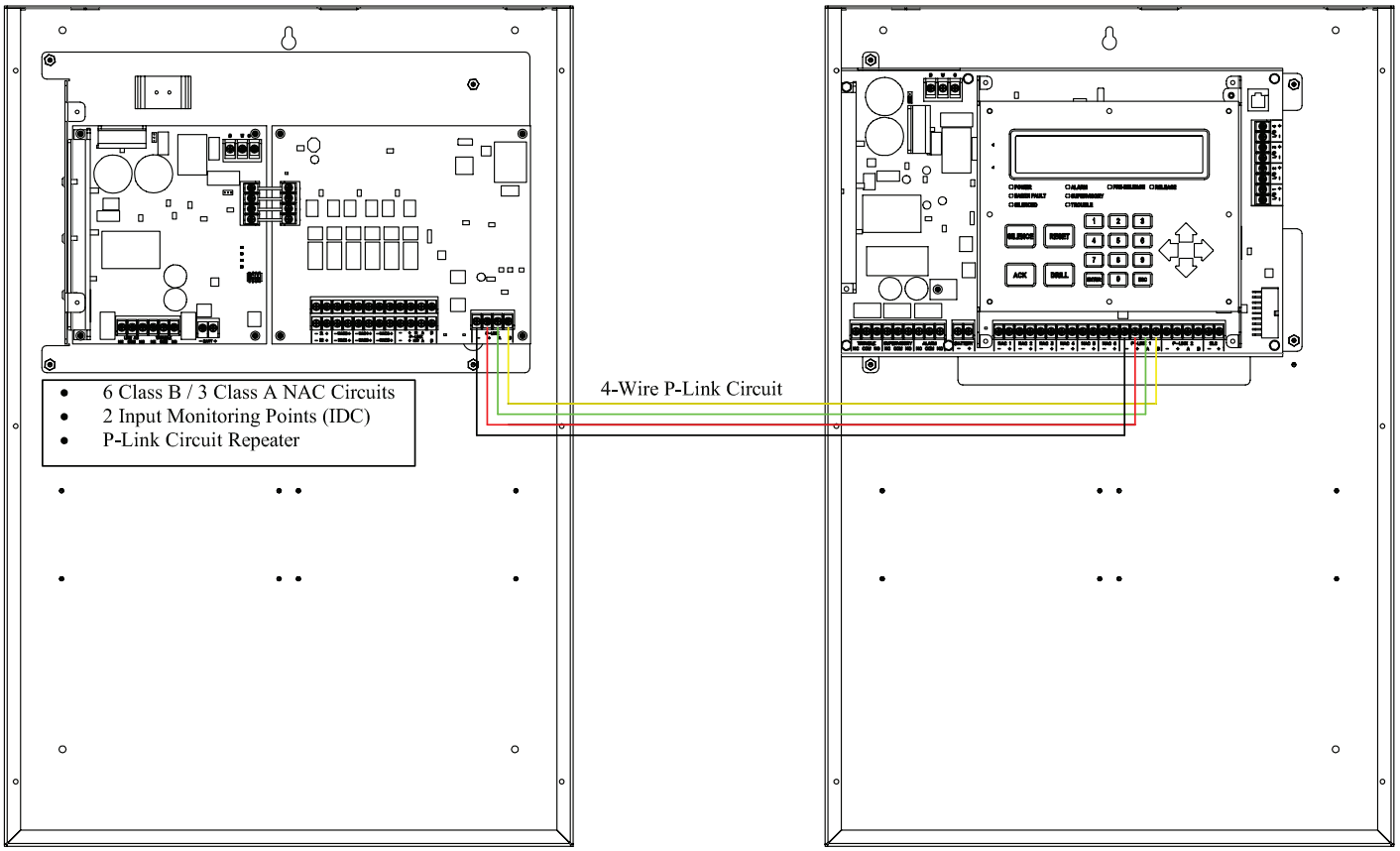
Size (H x W x D)	PSN-1000: 16 3/4"x 16 1/8" x 3 1/2" PSN-1000 E: 26" x 17.6" x 3.75"
Enclosure	Sixteen (16) gauge sheet steel with hinged, locked doors
Power Input	120 VAC at 50 HZ 240 VAC at 60 HZ 5.1 Amps/3.0 Amps max draw
Current	Standby 60 mA Alarm 200 mA
Temperature	32° to 120°F, humidity 93% non-condensing
Compatible Panles	IPA Series, AFC/ARC Series, PFC-4064, P Series*, PFC-6000 Adressable Series* * Legacy Product

The power supplies are programmed and controlled through the main control panel P-Link bus. The panel displays any troubles or off normal conditions of the power supply and the events are stored in the panel history buffer.

Each output can be independently configured to provide one of four synchronization patterns, Amseco®, Gentex®, Cooper Wheelock® and System Sensor®. The ouputs can be also configured for constant power, resettable power, sounder base power, door holder power (with or without a low AC drop out), ANSI temporal Code 3, City Tie or be a releasing circuit for 24vdc solenoids.

PSN-1000(E) Intelligent Power Supply

Potter Fire Alarm Control Panel



Ordering Information

Model	Description	Stock No.
PSN-1000	Power Expander Standard Cabinet	3992662
PSN-1000(E)	Power Expander Large Cabinet	3992665

LOC-1000

Local Operator Console

Features

- Local Operator Console
- Control the system from remote areas
- Programmable LOC priorities through Potter Fire Programmer
- Auxiliary input to interface with external audio sources. The input accepts a 600 ohm, 1VRMS and line level audio sources.
- Equipped with microphone
- Space to mount LOC-PSN1000 10A power supply and P-Link repeater
- Space to mount SCA-5070INT integrated amplifier for a self contained local operator console with 50W of single channel amplification and 4 Class B or 4 Class A speaker outputs

Description

The LOC-1000 local operator console is used to control system operations and ECS from remote areas to navigate the building occupancy safely and effectively to the nearest exits. The Potter Panel Programmer utilizes a priority structure to allow the IPA-4000V or local operator consoles with the highest priority control of the system. Operations such all call, individual zone paging and ECS activation can be made directly at the LOC-1000. The panel is equipped with a supervised auxiliary input to interface with low-level audio sources and background music compatibility. A maximum of 30 LOC-1000's can be linked with the IPA-4000V.

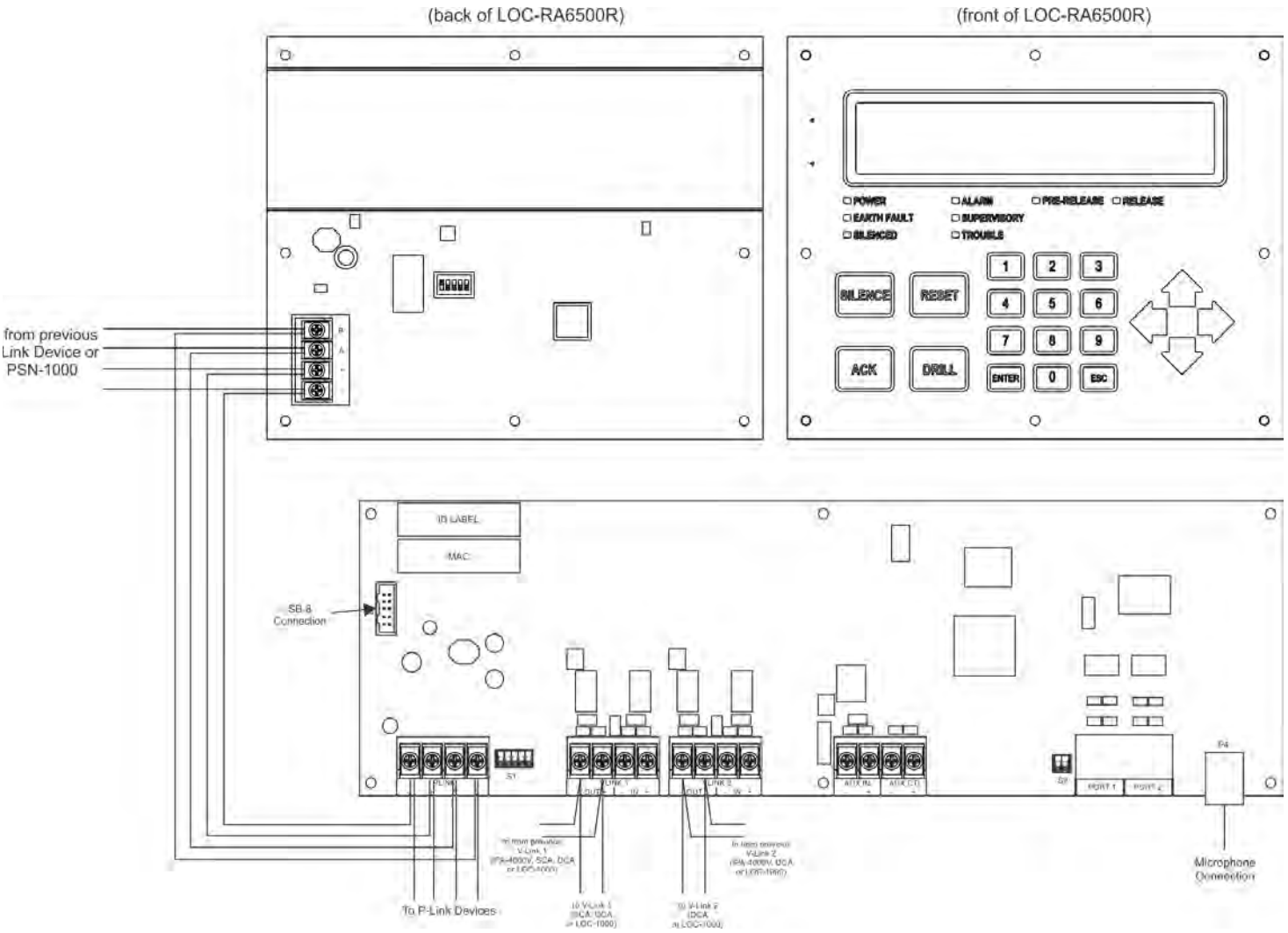
Technical Specifications

Dimensions (WxHxD)	21 3/8" x 29 1/8" x 4 7/8"
Standby Current	77 mA
Alarm Current	107 mA
Temperature and Humidity Range	32° to 120° (0°C to 49°C) with a maximum humidity of 93% non-condensing.
Maximum LOC-1000	30

LOC-1000

Local Operator Console

Installation



Ordering Information

Model	Description	Stock No.
LOC-1000	LOC-1000 LOCAL OPERATOR CONSOLE	3520661
LOC-PSN1000	LOC-PSN1000 INTLGNT POWER SUPPLY FOR LOC-1000	3520671

ACEBOX
BY SPACE AGE ELECTRONICS

SDB

System Document Box

FAMILY OWNED
MADE IN USA
SINCE 1963

FEATURES

- Dimensions: 14 1/4” tall, 14 1/3” wide and 3” deep
- Velcro strap and inside edge keep important documents secure
- Standard thumb screw included with a knock-out if lock is needed (sold separately)
- 20 gauge cold rolled steel construction with durable, red powder coat finish
- Lift-a-way hinge door for easy access

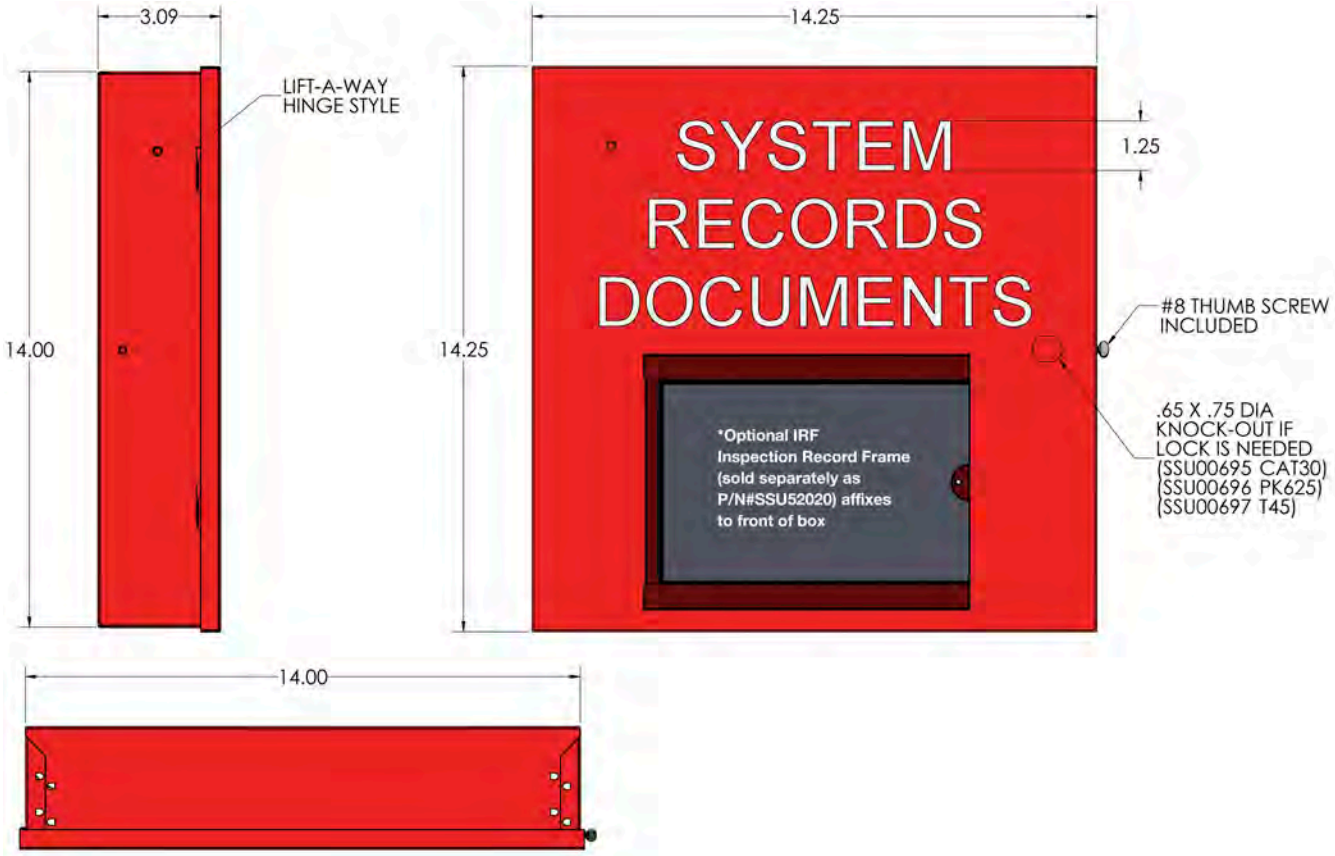
A cost-effective answer for those looking for a durable, code-compliant enclosure to ensure mandated records are maintained at the fire alarm control unit location.

Every durable box is fabricated from 20 gauge steel with a powder coat finish and features a formed lift-a-way hinge. Also included is a Velcro strap and inside edge to keep important documents secure.

SPECIFICATIONS

The SDB System Document Box shall be constructed of 20 gauge cold rolled steel and finished with a durable, red powder coat. Front cover will feature a lift-a-way hinge. Door shall be secured with a standard thumb screw with a knock-out available if a lock is needed. Construction shall include a Velcro strap and inside edge to hold documents in place.

DIMENSIONS



ORDERING INFORMATION

SSU00691 SDB System Document Box

Accessories:

SSU00695	CAT30 Lock kit
SSU00696	PK625 Lock Kit
SSU00697	T45 Lock Kit
SSU03161	Inspection and Maintenance Identification Labels
SSU52020	IRF Inspection Record Frame

Inspection and Maintenance Identification Labels for verification per NFPA 72 Chapter 14 (sold separately)

www.1sae.com | toll free **1.800.486.1723** | fax **508.485.4740**

StarLink FIRE MAX 2

AT&T + verizon

DUAL SIM/DUAL PATH
AT&T and VERIZON
Cell &/or IP UNIVERSAL 5G
COMMERCIAL FIRE LTE-M COMMUNICATORS

AT&T + verizon NAPCO

StarLink Fire MAX 2: SLE-MAX2-Series
The Power of 2: Dual SIM, Dual Path by Napco

- **Dual SIM, Dual Path** Universal full data 5G LTE-M cellular &/or IP commercial fire alarm reporting from any panel brand, virtually anywhere nationwide
- One Model to Stock: Provides both Verizon® & AT&T® Cell Networks plus either sole or dual path cell/IP reporting (selectable by plan)
- Auto-Network-Select by Site – Upon power up, the signal-strength provided by each cell carrier is analyzed at the site, and the unit will lock-in the best carrier automatically, ie., AT&T or Verizon. Thereafter, it's periodically reviewed and dynamically swapped when needed.
- **EZ Cell-Network ID- Red or Blue Indicators –** Inside the unit, the Carrier Indicators will light Blue for AT&T or Red for Verizon connection (also test button indicates signal strength on each for manual check)
- See /Set SIM Status Remotely - using a PC or smart device, the StarLink Network Operations Center (NOC), in Napco Headquarters, NY, can be accessed allowing you used to set parameters or view current status, Dual SIM status of accounts
- **Supports 12V-24V FACUs,** No Panel Reprogramming with those that communicate using Contact ID and 4/2 (such as on legacy panels), as primary or backup.
- **UL & NFPA Code-compliant, replaces 2 POTs lines per FACU** saves thousands of dollars per year over the leased landlines. (Show accounts savings -Free Sales Tool /Calculator App left)
- **Proven StarLink Reliability & Best 5G LTE-M Performance – Works where others can't -** Signal Boost™ Circuitry & unique dual-diversity twin antennas, maximizing signal acquisition and eliminating the multiphase-effect signal-clash/drop-outs single-antenna units are prone to.

- **Easiest installation, powered by panel, NO extra power supply, NO extra conduit.** (Excludes Metal Direct AC-Powered Model, shown below.)
- **Labor-Saving Supervision Features Save Time & Money -** Uniquely including 4 supervised, programmable EOLR zone inputs; 2 Form C Relay outputs (no extra supervision modules to buy or install); plus, 2 Telephone style jacks for easy FACU-connection. Self-supervised on 4 wires.
- ***Easy-Repeat* Account Templates -** Save your typical account setup and reuse for goof-proof communicator programming & fast deployment.

- **Free StarLink FACU-Saver App -** Smartphone Pro sales tool for calculating/demonstrating account's cellular cost-savings with dealer by number of lines & locations vs. copper POTs lines leased from phone co. ***FREE download*** on Apple Store or Google Play.

- **Pro Incentive Instant Rebate Program -** Dealers save on new and retrofit installations, replacing POTs, old radios, sunset networks and even new installations. (Nothing to mail in/fill out; Service credit automatically applied upon valid plan activation. See details online; scan QR code on back)
- **UL & NFPA 72 Fire Code-Compliant,** the StarLink Max2 Fire Series Wireless Commercial Fire Alarm Sole Path & Dual Path Communicators provide universal support for any brand 12V to 24V fire alarm control panel (FACU), reporting in Contact ID and 4/2. With broadest nationwide coverage footprint, Verizon or AT&T, using proven StarLink circuitry, they are also available in locking metal models.
- **Over-the-Air Upgradeable Firmware** for updates without a truck-roll.

SLE-MAX2-FIRE

Universal Panel-Powered Commercial Fire FACU Communicator: Dual SIM for 2 Networks; Dual Path Cell or Cell/IP all in One Model

verizon + AT&T

SLE-MAX2-CFBPS

SLE-MAX2-CFB

Dual SIM/Dual Path StarLink Fire MAX 2 also available in Metal enclosures with or without power supply

verizon + AT&T

One Dual SIM Dual Path Model is Both Verizon and AT&T and Sole or Dual Path with Cellular + Internet Option. StarLink Fire provides full data reporting, in sole & dual path, as a primary or backup, to any central station of your choice, w/o requiring any special equipment on premises. The units are very easily activated, plans for dual or sole path & check-in periods are selected, and 24/7 account management is provided all through www.napcocomnet.com.

Easy, Universal Installation at Every Application; standardly w/ Panel- Powered Technology™ or metal units with choice of power source. StarLink Fire Communicators are easily connected to any 12V to 24V panel or Fire Alarm Control Panel (FACU) using easy Quick-Connect FACP modular jacks. For any application, StarLink Max Fire 2 Series comes in standard, ABS plastic Panel-Powered Technology™ (powered by the panel), models, or in metal housings w/ or w/o & choice of power options, i.e., direct-connect 120VAC or Plug-in transformer. ***Quick Tip: Using StarLink Fire Max 2 with Power Supply models (suffix -PS) eliminates the need to do recalculations on the fire system being retrofitted as well.***

StarLink Fire is End-to-End UL 864 Listed to protect signal reliability, speed & performance for critical life and safety alarm reports for maximum life safety & liability protection. **UL-Listed from the UL 864 StarLink Fire Max 2 communicator, to Napco's NY UL 864 Network Operations Center** (shown below in map)**, to any Central Station's UL Listed Receiver.** (It is also backed by Disaster Recovery NOC in PA for immediate, mirrored emergency switchover.)

STARLINK: ALL SIGNALS, ALWAYS IN THE USA

StarLink 2 FIRE MAX

AT&T + verizon

SLE-MAX2 SERIES Fire Dual SIM/Dual Path Commercial Fire Alarm Cell Communicators

- **Dual SIM models auto-select optimal cell carrier - and Red or Blue LED Indicators inside signal Verizon or AT&T respectively, shown right.**
- **LED Status /Trouble Indicators** 3 Radio Status LED Indicators (visible from outside standard model housing) - Green, Signal Strength; Amber- Busy/Activation; Red-Trouble. (Additional internal LEDs, not visible with cover closed, i.e., for troubleshooting and for AT&T or Verizon network selection, status). Power LED indicator viewable on outer metal enclosure models.
- **Sole or Dual Path 5G LTE-M Cell Commercial Fire Alarm Communicator in One -** Simply select Cell or Cell/IP Service Plan & check-in period: 5 minutes, 60 minutes, 6 hours or 24 hours.
- **Signal Boost and Patented Switching Dual Diversity Antenna** for maximum signal acquisition & null /signal-clash avoidance, receiving signals on both antennas (2 supplied, nothing extra to buy.)
- **"Return Receipt" Fully-Supervised Communication Path** between premise & central station, keeping channel open until *kiss-off* is received from Central Station receiver

SPECIFICATIONS: (Apply to all models unless otherwise stated)

SLE-MAX2-FIRE & SLE-MAX2-CFB:

Electrical Ratings for +12V / 24V (Models w/o Power Supply)

- Input Voltage: 10-24VDC regulated (power-limited output from UL Certified FACU/panel Aux/Remote Fire Power).
- Input Current: 24VDC standby: 85mA

SLE-MAX2-CFBPS:

Electrical Ratings for 120VAC, 60Hz (Models with Power Supply)

- Input Voltage: 120VAC nominal
- Input Current: 200mA maximum
- Maximum Charging Current: 200mA

Electrical Ratings Fire Input 1:

- Input Voltage: 9-25VDC
- Max Input Current: Up to 2mA from FACU NAC circuit

Electrical Ratings for Inputs 2 to 5 (Class B)**:**

- Maximum Loop Voltage: 25VDC
- Maximum Loop Current: 1.2mA (metal models); 1.7mA (plastic)
- End of Line Resistor (EOLR) Value: 10K

Electrical Ratings for PGM3 Output:

- Open Collector Output: Max Voltage 3V when active; 25V max. when not.
- PGM Max Sink Current: 50mA (up to 15VDC), 25mA (15.1VDC -25VDC)

Physical & Environmental

- Plastic Housing: 8 x 5½ x 1½ "(WHD) + antennas (2ea, supplied) 8¼" H
- Metal Housing: 11½ x 9½ x 3½"(WHD) + antennas (2ea, supplied) 8¼" H
- Housings: 2 Keyholes for wall mount
- Operating Temp. 32 to 120°F , 93% Humidity Max.

COMPLIANCES:

NFPA 72 Eds: 2022, 2019, 2016, 2013, 2010; UL 2610, UL 985, UL1023, UL864 10th Ed., CSFM, NYC FD, LAFD Napco US Network Operations Center (NOC) UL 864 10th Ed.,UL 1610, UL 1635

ORDERING INFORMATION

Model	Description	Dual SIM/ Dual Path	Verizon ✓	AT&T	Sole Path Cell	Dual Path Cell/IP	Low Current Draw, Standby (@24V)	Current Draw, Peak (@24V)
SLE-MAX2-FIRE	Universal Fire Communicator, Dual SIM, Dual Path, Panel-Powered Technology, ABS Plastic Housing	✓	✓	✓	✓	✓	85mA	325mA
SLE-MAX2-CFB	Universal Fire Communicator, Dual SIM, Dual Path, Panel-Powered Technology	✓	✓	✓	✓	✓	85mA	325mA
SLE-MAX2-CFBPS	Universal Fire Communicator, Dual SIM, Dual Path, Direct AC Power 120VAC Metal Housing w/ Provision. For Plug-in TRF12 XFormer, 16VAC, 20VA (w/ provision for backup battery)	✓	✓	✓	✓	✓	200mA	200mA

NFPA UL verizon + AT&T *Coming soon for Canada*

OPTIONS/ACCESSORIES:

SLE-WIFI-MODULE: Optionally connects supported dual path models to Internet via WiFi, eliminating Ethernet cable connection. Requires 7AH battery. (see WI2191)

SLE-ANTEXT30: StarLink Omni-X Optional Extended Range Marine-Grade Complete Antenna Kit, w/ 30' of ultra low-noise LMR 300 cable, all hardware & ground fault isolator plate.

SLE-ANTEXT50: as above, 50' cable

SLE-ANTEXT75: as above, 75' cable

SLE-ANTEXT100: as above, 100' cable

SLE-ANTEXT04: as above, 4' cable

SLE-FIRE-VR: FACU Voltage Drop Kit, maintains safe input voltage < 27.5VDC

TRF12: Plug in AC Transformer, used w/ SLE-MAX2-CFBPS model, 16.5V / 20VA (use subject to local code).

GEM-TAMPERKIT: Tamper switches and screws to protect metal housing where required.

SLE-ULPS-R: Power Supply, for installations where FACU cannot provide Aux Power.

SLE-FMBB: Opt.Metal Cable Management Backbox for surface mounting plastic StarLink communicator models adjacent to FACUs on same plane. Radio easily snaps in on 4 stand-offs, no rewiring. Red metal enclosure w/ ¾" cable knockouts; 2 Connectors & 4" Conduit, supplied.

Also See FireLink FACUs with built-in StarLink Communicators & LCD Touchpads on Door, addressable & conventional, cloud-programmable.

NAPCO

www.StarLinkFire.com

Addressable, Conventional Fire Alarm Systems & Leading Commercial Fire Cellular Communications

FOR MORE

PAD300-PD

Photoelectric Smoke Detector

Features

- Low profile, less than 2 inches with the base
- Wide selectable sensitivity range of 1.1 to 3.5%/foot
- Detector 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
- Magnetic test switch
- LED alarm indicator
- Product includes 5-year warranty
- UUKL Listed for Smoke Control
- UL268 7th edition compliant

0328-0541

Description

The Photoelectric Smoke Detector is a listed Analog Addressable smoke detector compatible with fire alarm control panels that utilize the Potter Addressable Device (PAD) protocol. The PAD300-PD is a low profile smoke detector with a wide sensitivity range. The detector and base are made of a durable plastic in an off-white color to blend in with the ceiling.

The PAD300-PD has a sensitivity range of 1.1 to 3.5 % per foot and is UL listed. The PAD300-PD features drift compensation and has built in dirty detector warning as well. The PAD300-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 detector is compatible with any of the PAD300 series detector bases and simply twists on. The PAD300-PD is addressed using DIP switches in the rear of the detector 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
Detector Current Draw	300 µA
Alarm Indicator	1 LED
Alarm Set-point Range	1.1 to 3.5%/ft (3.6 to 11%/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)	91g (3.2oz)
Dimensions (without base)	Height: 1.42 in (36mm) Diameter: 3.93 in (100 mm)

Air Velocity Ratings

The PAD300-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 PAD300-PD will operate even though the LED may not illuminate.

Operation

The PAD300-PD is an analog addressable detector 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 PAD300-PD with the PAD300-4DB or PAD300-6DB has a low profile of less than two (2) inches to blend into the surrounding environment. The detector includes an insect screen to prevent foreign objects from reaching the chamber and can be cleaned to restore operation of a dirty detector.

Detector Sensitivity

The PAD300-PD and the compatible control panel work in tandem to keep the sensitivity consistent. As the detector is installed over time, the detector compensates for the dirt in the unit until it is out of range. At that time, the panel will indicate a dirty detector. The detector will then have to be cleaned or replaced.

The PAD300-PD can be programmed to provide a maintenance alert prior to reaching the dirty detector level which will allow for intervention prior to the detector going into trouble. This allows for detector replacement or cleaning prior to a nuisance trouble occurs.

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

Spacing

The PAD300-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, 3-1/2” octagon, 3-1/2” square, double gang, 4” octagon, 4” square, 50mm c/c, 60mm c/c and 70mm c/c boxes.

Device	Description	Stock No.
PAD300-4DB	4” Detector Base	3992781
PAD300-6DB	6” Detector Base	3992782
PAD300-IB	6” base with an isolator module included	3992783
PAD300-RB	6” base with one Form-C relay contact. 2A @ 30VDC, 0.5A @ 125VAC	3992784
PAD300-SB	6" base with sounder module included. Sound pattern is provided from external source	3992785
PAD300-LFSB	6” base with 520Hz sounder module included. Sound pattern is provided from external source	3992786

Ordering Information

Model	Description	Stock No.
PAD300-PD	Photoelectric Smoke Detector	3992775

PAD300-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
- Magnetic Test Switch
- Product includes 5-year warranty
- UUKL Listed for Smoke Control

0328-0538

Description

The PAD300-HD is a listed analog addressable rate of rise and/or fixed temperature heat detector 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 detector and base (not included) are made of a durable plastic in an off-white to blend in with the ceiling.

The PAD300-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 PAD300-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 detector is compatible with any of the PAD300 series detector bases and simply twists on. The PAD300-HD is addressed using DIP switches in the rear of the detector 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
Detector Current Draw	300 µA
Alarm Indicator	1 LED
Alarm Set-point Range	135°F to 185°F (57°C to 85°C)
Rate of Rise Detection (Selectable Option)	15°F/min. (8.3°C/min.)
Installation Temperature Range	32°F to 150°F (0°C 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)	68 g (2.4 oz)
Dimensions (Without Base)	Height: 1.5 in (38 mm) Diameter 3.93 in (100mm)

PAD300-HD

Heat Detector

Operation

The PAD300-HD is an analog addressable detector 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 it 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 PAD300-HD with the PAD300-4DB or PAD300-6DB 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 PAD300-HD will operate even though the LED will not illuminate.

Spacing

The ANSI/UL listed spacing limitations of PAD300-HD smooth ceiling are dependent on alarm set point.

Alarm Set-Point	Rate of Rise Spacing	Fixed Temperature Spacing
135°F to 185°F (57°C to 85°C)	Max. 70 ft.	Max. 70 ft.

Compatible Bases

All bases will mount on a single gang, 3-1/2” octagon, 3-1/2” square, double gang, 4” octagon, 4” square, 50mm c/c, 60mm c/c and 70mm c/c boxes.

Device	Description	Stock No.
PAD300-4DB	4” Detector Base	3992781
PAD300-6DB	6” Detector Base	3992782
PAD300-IB	6” Base with an Isolator Module Included	3992783
PAD300-RB	6” Base with One Form-C Relay Contact 2A @ 30VDC, 0.5A @ 125VAC	3992784
PAD300-SB	6" Base with sounder module included. Sound pattern is provided from external source	3992785
PAD300-LFSB	6” Base with 520Hz sounder module included. Sound pattern is provided from external source	3992786

Ordering Information

Model	Description	Stock No.
PAD300-HD	Heat Detector	3992776

CO1224 Series Carbon Monoxide Detectors with RealTest® Technology

The System Sensor CO1224T, CO1224TR, and CO1224A (Canada) Carbon Monoxide (CO) Detectors use a highly accurate and reliable electrochemical sensing cell to provide early warning of dangerous CO levels.

Features

- A 10-year end-of-life timer
- RealTest® enables a functional test using canned CO
- A code-required trouble relay
- Wiring supervision with SEMS terminals
- 12/24 VDC
- A low current draw of 20 mA in standby and 40 mA in alarm
- Versatile mounting for wall and ceiling
- Accurate and reliable electrochemical sensing technology
- Optional CO-PLATE CO Detector Replacement Plate to upgrade previously installed competitor detectors to the CO1224T or CO1224A.
- CO1224T tested up to 12,000 feet above sea level

When dangerous amounts of CO are detected, the CO1224 Series CO detectors alert residents by sounding and flashing a temp 4 signal alarm. With 24/7 central station monitoring, residents are guaranteed protection whether they are away from home, sleeping, or already suffering from the effects of CO.

The CO1224 Series detectors are designed for system operation. These detectors are fully listed to UL 2075 (US models only) and CSA 6.19-01 (Canada model only) and offer a code-required trouble relay to send a sensor failure or end-of-life signal to the control panel and the central station. The CO1224 Series detectors also use SEMS-type terminal Philips head screws for quicker and more positive wiring connections and code-required wiring supervision. With a low current draw, these detectors enable more devices to be connected to the panel, limiting the need to purchase extra power supplies or more expensive panels. As 12/24 VDC detectors, the CO1224 Series detectors will operate on most industry security and fire alarm control panels.

With RealTest® technology, the CO gas sensing cell used in the CO1224 Series CO detectors can be tested using a CO gas agent, fully meeting the requirements of NFPA 720: 2009 (US models only). Simply put the detector into RealTest mode, spray a small amount of CO into the detector per the installation instructions, and within seconds the detector will alarm, indicating successful gas entry. (See the reverse page or the user manual for complete instructions.)

Agency Listings

LISTED E307195

E304075

Note: CO1224T & CO1224TR are in full compliance with UL 2075 and CO1224A is in full compliance with ULC CSA 6.19-01.

CO1224 Series Detectors Carbon Monoxide Detector Specifications

Architectural/Engineering Specifications

Carbon monoxide (CO) detector shall be a system-connected System Sensor model number CO1224T or CO1224TR listed to Underwriters Laboratories UL 2075 for Gas and Vapor Detectors and Sensors. The Canadian model CO1224A, is ULC listed to CSA 6.19-01, for residential carbon monoxide alarm devices. The detector shall be equipped with a sounder and a trouble relay. The detector's base shall be able to mount to a single-gang electrical box or direct (surface) mount to the wall or ceiling. Wiring connections shall be made by means of SEMS screws. The detector shall provide dual-color LED indication that blinks to indicate normal standby, alarm, or end-of-life. When the sensor supervision is in a trouble condition, the detector shall send a trouble signal to the panel. When the detector gives a trouble or end-of-life signal, the detector shall be replaced. The detector shall provide a means to test CO gas entry into the CO sensing cell. The detector shall provide this with a test mode that accepts CO gas from a test agent and alarms immediately upon sensing CO entry. For the CO1224T only, the detector shall perform in the detection of CO up to 12,000 feet above sea level and alarm within the time specified by ANSI/UL 2034 for CO concentrations of 70, 150 and 400 parts per million (ppm), as verified by a Nationally Recognized Test Laboratory.

Electrical Specifications	
Operating Voltage	12/24 VDC
Audible Signal	85 dB in alarm
Standby Current	20 mA
Alarm Current	40 mA (75 mA test)
Alarm Contact Ratings	0.5 A @ 30 VDC
Trouble Contact Ratings	0.5 A @ 30 VDC

Physical Specifications	
Size: CO1224T & CO1224A	Length: 5.1 in (130 mm), Width: 3.3 in (84 mm), Height: 1.3 in (33 mm)
Size: CO1224TR	Diameter: 6.0 in (152 mm), Height: 1.3 in (33 mm)
Approximate Weight	CO1224T & CO1224A: 7 oz (198 g); CO1224TR: 11 oz (312 g)
Operating Temperature Range	32°F to 104° F (0°C to 40° C)
Operating Humidity Range	22 to 90% RH
Input Terminals	14 to 22 AWG
Mounting	Single-gang back box; surface mount to wall or ceiling

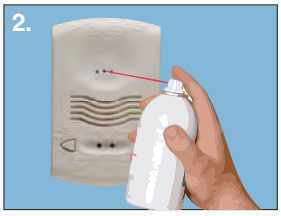
Operation Modes

Operation Mode	Green LED	Red LED	Sounder
Normal (standby)	Blink 1 per minute	—	—
Alarm	—	Blink in temp 4 pattern	Sound in temp 4 pattern

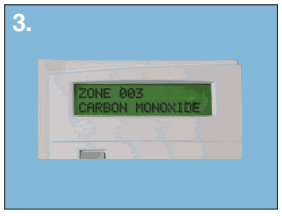
RealTest® Feature: The System Sensor CO1224 Series CO Detectors enable evaluation of the functionality of the CO sensing cell using a canned CO test agent.

NOTE: Check with local codes and the AHJ to determine if a functional gas test is desired for an installation.

Push and hold the Test/Hush button for two seconds to enter RealTest mode. The green LED will flash once every second to indicate RealTest mode has started.



Spray canned CO agent into the detector.



Verify CO sensing at the control panel. The detector will automatically exit RealTest alarm mode after about 20-60 seconds.

Hush Feature: Pushing the Test/Hush button will silence the sounder for 5 minutes (except in RealTest mode).

Trouble Feature: When the detector is in a trouble condition, it will send a trouble signal to the panel.

End-of-Life Timer: After the detector's internal sensor has reached the end of its life, a trouble signal will be sent to the panel to indicate it is time to replace the detector. An electrochemical CO detector lifespan is about ten years. The detector must be replaced by the date marked on the inside of the product.

CO-PLATE: System Sensor also offers the CO-PLATE CO Detector Replacement Plate to cover the footprint (when necessary) of previously installed competitive carbon monoxide detectors that require replacement.

CO-PLATE

Ordering Information

Part No.	Description
CO1224T	12/24 volt, 6-wire system-monitored carbon monoxide detector with RealTest® Technology **(US only)**
CO1224TR	12/24 volt, 6-wire system-monitored round carbon monoxide detector with RealTest® Technology **(US only)**
CO1224A	12/24 volt, 6-wire system-monitored carbon monoxide detector with RealTest® Technology **(Canada only)**
CO-PLATE	CO detector replacement plate to cover the footprint of previously installed competitive detectors **(US & Canada)**

US: 3825 Ohio Avenue
St. Charles, IL 60174
800-SENSOR2
systemsensor.com

Canada: 6581 Kitimat Rd, Unit 6
Mississauga, Ontario L5N 3T5
800-SENSOR2
systemsensor.ca

CODS88600 • 10/16

PAD100-MIM

Micro Input Module

Features

- One Class B contact monitoring input
- Small size allows mounting in most electrical boxes
- SLC Class A, Class X & Class B
- 6” Pigtail wiring connections
- Product includes a 5 year warranty
- UUKL Listed for Smoke Control

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Description

The PAD100-MIM is used to monitor the status of an initiating device(s) that contain a normally open set of dry contacts. The module is enclosed in a plastic case to protect against inadvertent shorts and ground faults. The case can be mounted using a single screw. The PAD100-MIM has a status indicator LED to indicate communication and alarm condition. In normal condition, the LED flashes when the device is being polled by the control panel. When the input is activated, the LED will flash at a fast rate.

Application

The micro input module (PAD100-MIM) is compatible with Potter’s IPA and AFC/ARC series addressable fire alarm control panels. Generally the PAD100-MIM is used to monitor pull stations and other devices where the module is installed in an electrical box or enclosure behind the device being monitored.

Technical Specifications

Operating Voltage	24.0V
Max SLC Standby Current	200µA
Max SLC Alarm Current	200µA
IDC Input Circuit Wiring	Class B
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	1.75” (44.5mm)L × 1.36” (34.5mm)W× .43” (11mm)D
Mounting Options	2-1/2” (64mm) deep single-gang box
Shipping Weight	0.3 lbs

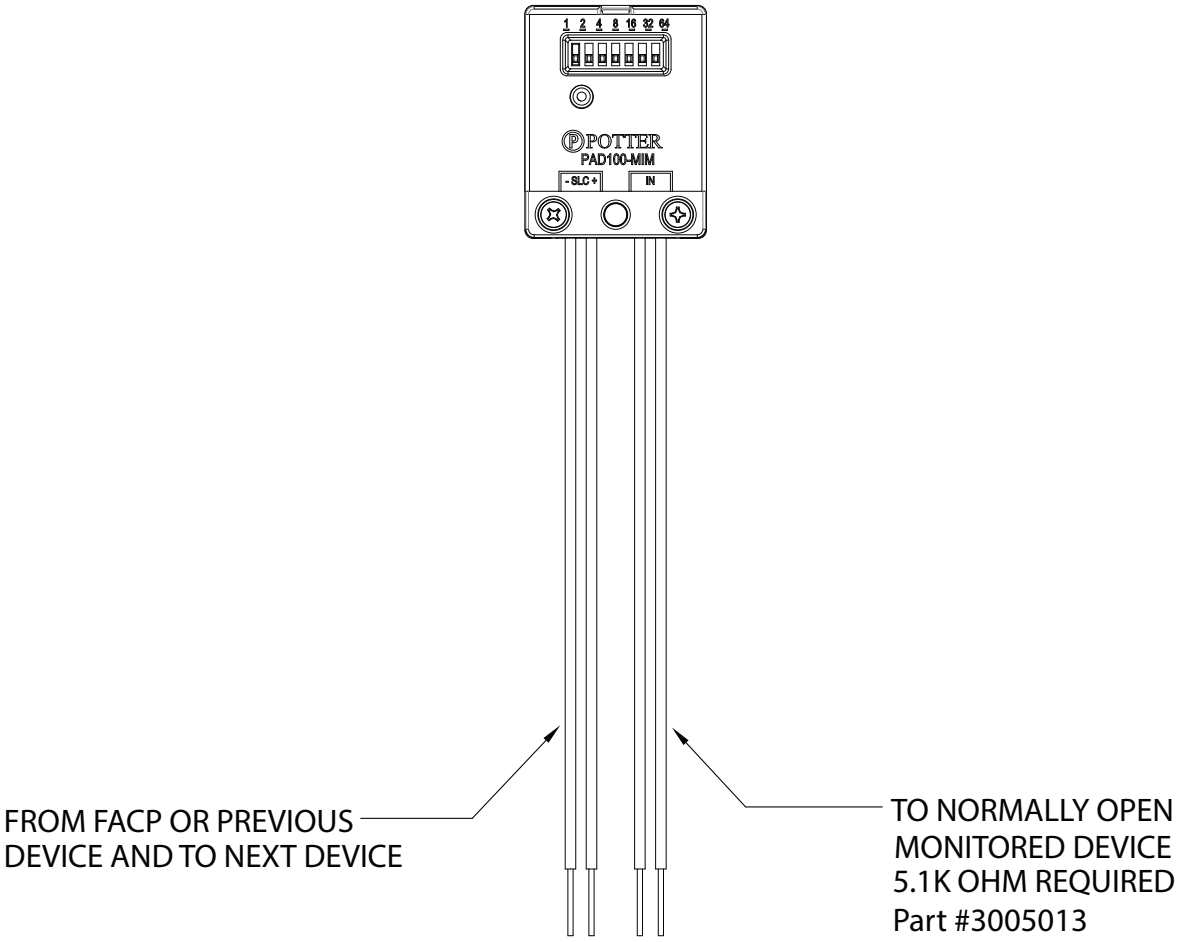
Setting the Address

Each addressable SLC device must be assigned an address. The address is set using the DIP switch located on the front of the PAD100-MIM. 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.

Wiring Diagram

Fig 1



Ordering Information

Model	Description	Stock No.
PAD100-MIM	Micro Input Module	3992700

XTRALIS OSID REFLECTIVE IMAGING SMOKE BEAM DETECTOR

OSID-R

The OSI-R is a reflector- type linear optical beam smoke detector designed to operate as a component of fire alarm systems. The beam operates primarily on the principle of light obscuration utilising an Infra-Red beam. Optical beam smoke detectors are particularly appropriate for protecting buildings with large open spaces such as warehouses, atriums etc.

The OSI-R detector is a combined transmitter/receiver unit that can be directly connected to a conventional detector circuit.

InfraRed Transmitter and Receiver Imager

The Infra-Red transmitter and receiver Imager generates a beam of light towards a high efficiency reflector. The reflector returns the beam to the receiver where an analysis of the received signal is made.

The change in the strength of the received signal is used to determine the alarm condition. The receiver imager has a wide FOV of 12° and tracks automatically the reflector in case of building movement or movement of its support structure. It is virtually impossible for the receiver to lose the reflector out of its side of view without any structural damage being caused to the building. As a result of this operation the OSI-R eliminates the number one cause of false alarms and/or faults with traditional beam detectors.

Optical Filtering

Optical filtering, high-speed image acquisition and intelligent software algorithms provide the OSID-R system with higher levels of stability and with greater resistance to high level lighting variability. As such the detector has a better resistance to sunlight and intruding objects in its FOV.

The detector will not alarm when saturated by sunlight, reflected sunlight or any other very bright light sources. In worst case the detector will go in to trouble and hence solving another cause of false alarms with traditional basic photocell receiver beam detectors.

Thanks to the smoke imaging techniques, the detector will not alarm for partial and sudden blockage.

Alignment

The alignment of the detector is extremely intuitive, fast and accurate. Both the IR transmitter and the CMOS imager are contained in the eyeball that can turn freely in all directions. The eyeball moves +/- 20 ° in the vertical direction and 50° in the horizontal direction.

Four arrows that indicate the direction to move the eyeball, will guide the user to find the imager's perfect alignment with the reflector.

To get started swiftly at long distances, a laser tool can be inserted in the eyeball to allow finding the reflector quickly and then fine-tuning the eyeball to the optimum alignment.

Once the optimum alignment is finalised, signalled by all green arrows and LED, the eyeball is locked by tightening the lever on its side. A paintable cover is then placed over the front to hide the alignment arrows, locking mechanism and secures the locking lever in locked position.

Unique in the market, the sensitivity of the detector is selected and set automatically at the optimum sensitivity based on the size of the reflector measured in the FOV.

The detector incorporates automatic drift compensation, whereby the detector will adjust its detection thresholds in line with any long term signal reduction of the beam caused by contamination of the optical surfaces.

An internal heating option is also provided on the Imager to prevent condensation on the optical surface.

Features

- Combined transmitter and receiver unit, range 5-100 m (16-328 ft)
- Conventional model
- Receiver consists of a CMOS imaging CCD
- Wide 12° field of view
- Intuitive beam alignment indicated by directional arrows
- Single IR wavelength
- Highly resistant to building movement; tolerates +/- 1° movement
- Resistant to strong light sources; does not alarm when saturated by sun
- Resistant to large solid intruding objects
- Automatic sensitivity threshold level setting
- 50° horizontal and 20° vertical beam alignment
- Built-in heater
- Electronic simulated smoke test from ground level
- Standby, fault and alarm LED indicators visible from the front and bottom
- Automatic drift compensation
- Paintable cover
- Removable plug-in terminal blocks
- Optional heater kit available for the reflector

Listings / Approvals

- UL
- ULC
- FM
- CSFM

XTRALIS OSID REFLECTIVE IMAGING SMOKE BEAM DETECTOR
TECHNICAL SPECIFICATIONS

Status LEDs

Status information (Fire Alarm, Trouble and Power) is communicated through the Imager via Status LEDs on the front of the detector. The OSI-R detector comes with dedicated Trouble and Alarm relays and outputs for remote LED signalling. Specific Trouble (Fault) conditions are identified through coded flashes of the Trouble LED.

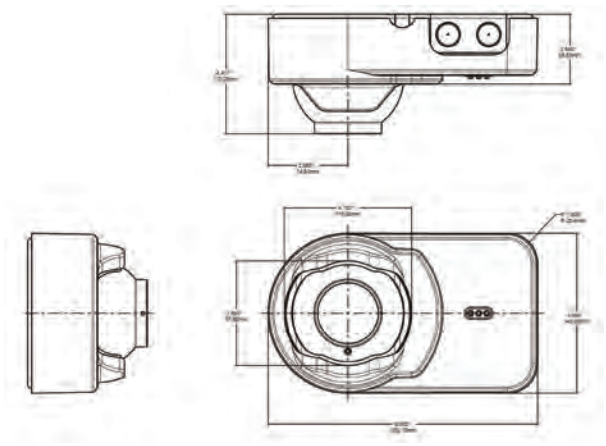
Where greater angular adjustment is required, the multi-mount accessory enables the detector to move through 28° vertically and 360° horizontally when ceiling mounted or up to 23° vertically and 90° horizontally when wall mounted.

To assure the correct operation of the system, a test can be initiated at convenience from ground level using the RTS151KEY unit. By activating the key, the unit will reduce its IR transmitted power till under the automatically set alarm level resulting in an alarm condition at the detector. The alarm condition will remain for as long as the key is activated.

To comply with local regulation and installation codes it may be required to use a test filter inside the beam path.

All Xtralis beam detectors are covered by our extended 3 year warranty.

Dimensions



Installation Recommandations

Installation should be undertaken in accordance with recognised national or international standards and codes of practice.

Xtralis also recommends that simulated fire tests are conducted to ensure that the desired response time for a given smoke test is achieved.

Specifications

Operating Voltage Range	10.2 to 32 VDC (12 or 24 VDC nominal)
Maximum Standby Current	@32 VDC: 7mA @24 VDC: 11mA @12 VDC: 20mA @10.2 VDC: 50mA
Maximum Alarm Current (LED on)	@32 VDC: 11mA @24 VDC: 15mA @12 VDC: 24mA @10.2 VDC: 54mA
Environmental Specifications	
Application Temperature Range	-20 °C to +55 °C (-4 °F to 131 °F) Product UL listed for use from 0 °C to 37.8 °C (32 °F to 100 °F).
Humidity	0 to 95% Relative Humidity (non- condensing)
IP Rating	IP55
Mechanical Information	
Weight OSI-R	1.12 kg (2.48 lbs)
Shipping weight OSI-R	1.77 kg (3.91 lbs)
Wire Gauge for Terminals	14 AWG (2.08 mm^2)
Colour	Lyric White
Detector (WxHxD)	254 mm × 152.4 mm × 114.3 mm (10" x 6" x 4.5")
Reflector	200 x 230 mm (7.87" x 9.06")

Ordering Information

Ordering Code	Description
OSI-R	Conventional imaging smoke beam smoke detector including reflector - UL approved
OSI-RA	Conventional imaging smoke beam smoke detector including reflector - ULC approved
OSP-002	Laser Alignment tool
OSP-004	Test filter - 10 pack
RTS151KEY	Test and reset station for flush mount
RTS151KIT	Test and reset station for surface mount
BEAMHKR	Heater kit for the reflector
6500MMK	Multi–mount accessory for ceiling or wall mounting with additional mounting adjustment

Doc. No. 33089_01
Part No. 30879
December 2020

PAD300-DUCTR

Analog Addressable Duct Detector

Features

- Detects Smoke in Building HVAC Ducts
- Ships Complete with Housing and Head
- Compatible with Addressable IPA and AFC/ARC Series Panels
- SLC Class A, Class X & Class B
- Installation Without Removing the Head
- Listed Air Velocity of 300 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
- UUKL Listed for Smoke Control
- Compatible with Supervised PAD100-DRTS Remote Test Switch, MS-RA, MS-KA/R, MS-KA/P/R Remote Indicators
- Product includes 5-year warranty

Description

The PAD300-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 (2) tubes which protrude into the duct. An exhaust tube of one (1) 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 two (2) sheet metal screws, which are provided. Mounting can be achieved without the removal of the clear cover which is secured by four (4) capture screws.

Application

The Potter Electric PAD300-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 PAD300-DUCTR is compatible with the IPA and AFC/ARC series addressable fire alarm control panels.

Technical Specifications

Duct Detector Model Number	PAD300-DUCTR
Operating Voltage	24 VDC
Current Draw	500 µA
Detector Head Model	PAD300-DD
Detector Head Type	Photoelectric
Alarm Set Point	Fixed at 2.5%/ft (8%/m)
Sensitivity Test Method	Self Diagnostic Test
Air Velocity	300 ft/min 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@30 VDC, 10A@120 VAC, 10A@250 VAC

PAD300-DUCTR

Analog Addressable Duct Detector

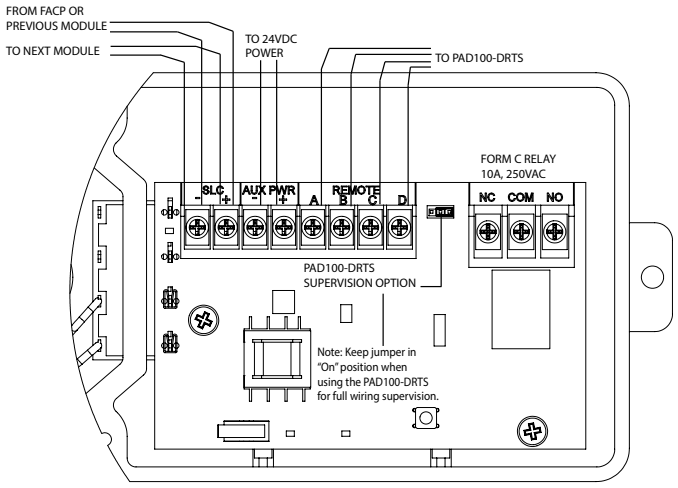
Engineering Specifications

Air duct smoke detectors shall be Potter Electric PAD300-DUCTR Series. The detectors are certified by UL per 268 by Underwriters Laboratories. The detectors shall operate at air velocities from 300 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 PAD300-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

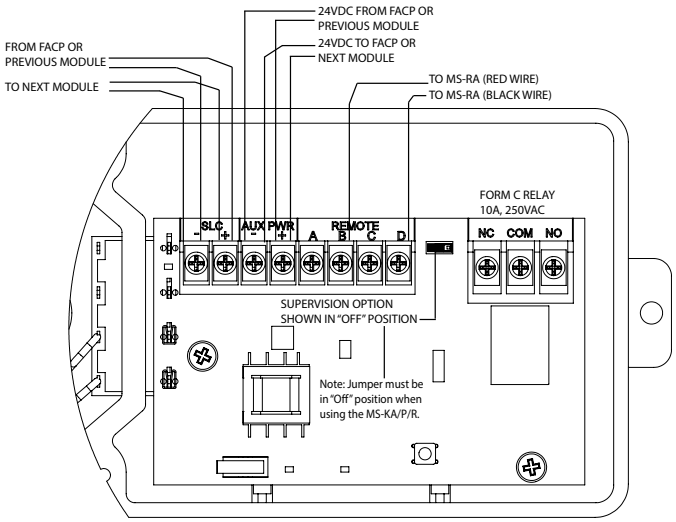
PAD300-DRTS Wiring

Fig 1



MS-KA/P/R Wiring

Fig 2



Ordering Information

Model	Description	Stock No.
PAD300-DUCTR	Analog Addressable Duct Detector	3992796
PAD100-DRTS	Duct Remote Test Switch	3992711
MS-RA	Remote Annunciator	1000256
MS-KA/R	Remote Annunciator with Test/Reset Switch	1000254
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

PAD100-SIM

Single Input Module

Features

- One (1) Class B monitoring input
- 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
- UUKL Listed for Smoke Control

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

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Description

The PAD100-SIM uses one (1) SLC loop addresses when monitoring one (1) Class B circuit. The module mounts on either a 4” square or double gang box. The module is capable of monitoring one (1) Class B circuit. The PAD100-SIM 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 the input is activated, the LED will flash at a fast rate.

Application

The PAD100-SIM is compatible with Potter’s IPA and AFC/ARC series addressable fire alarm control panels. The PAD100-SIM 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 one Class B circuit.

Setting the Address

Each addressable SLC device must be assigned an address. The address is set using the DIP switch located on the PAD100-SIM.

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

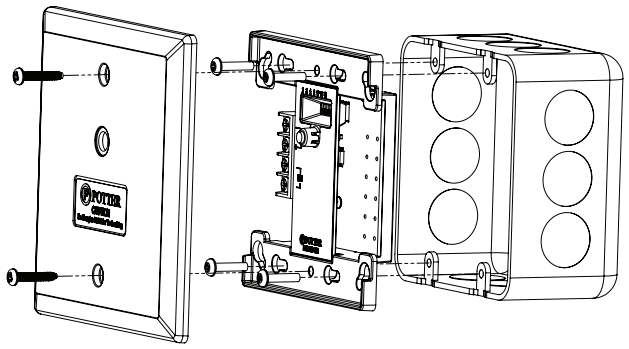
1. Power to the device is removed.
2. Field wiring is correctly installed.
3. Field wiring has no open or short circuits.

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

Installation Using Compatible Electrical Box

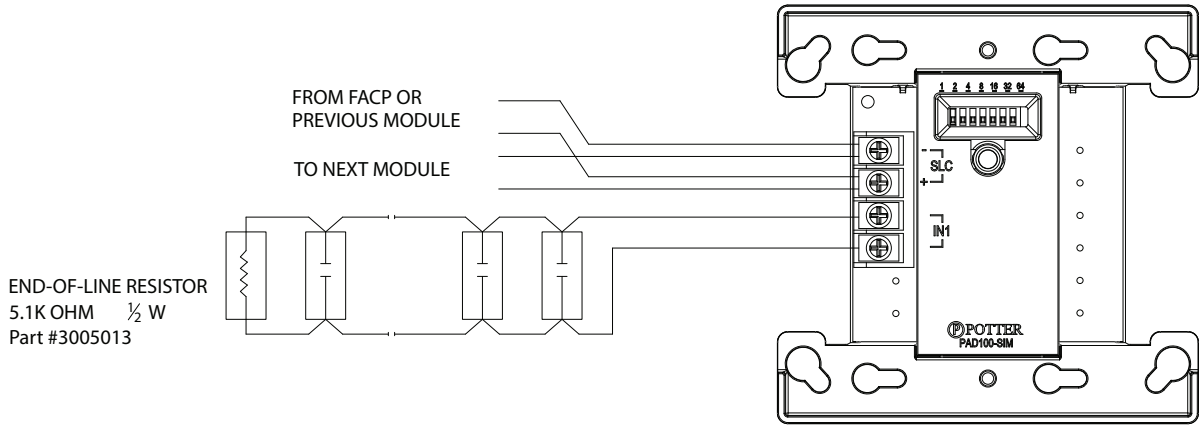
Fig 1



Wiring Diagram

PAD100-SIM With Class B Circuit

Fig 2



Ordering Information

Model	Description	Stock No.
PAD100-SIM	Single Input Module	3992704

PAD100-RM

Relay Module

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
- UUKL Listed for Smoke Control

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 and AFC/ARC 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:

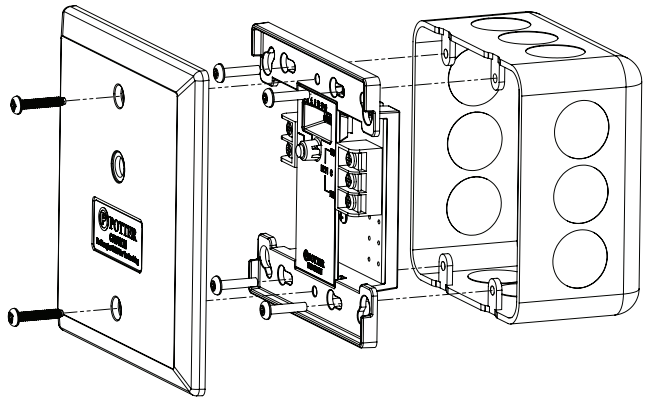
1. Power to the device is removed.
2. Field wiring is correctly installed.
3. Field wiring has no open or short circuits.

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

Installation Using Compatible Electrical Box

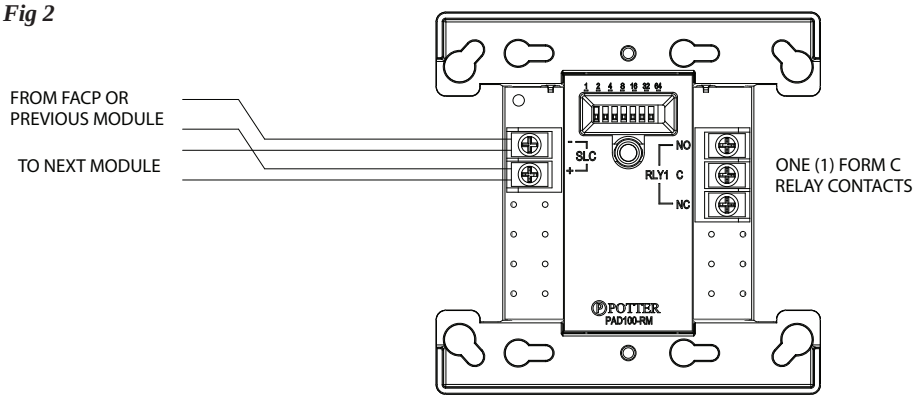
Fig 1



Wiring Diagram

PAD100-RM Relay Circuit

Fig 2



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

PAD100-PSSA/PSDA

Addressable Pull Station
Single/Dual Action

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
- UUKL Listed for Smoke Control

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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 and AFC/ARC 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.

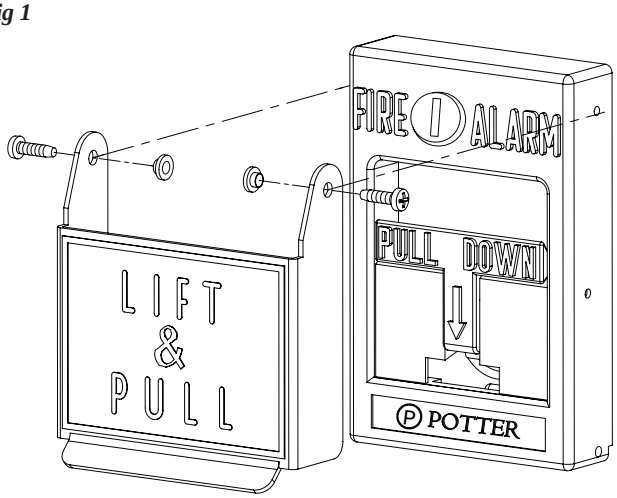
PAD100-PSSA/PSDA

Addressable Pull Station
Single/Dual Action

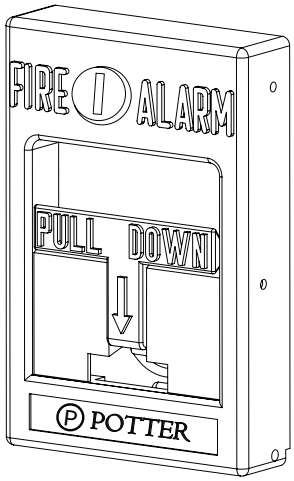
Setting the Address

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

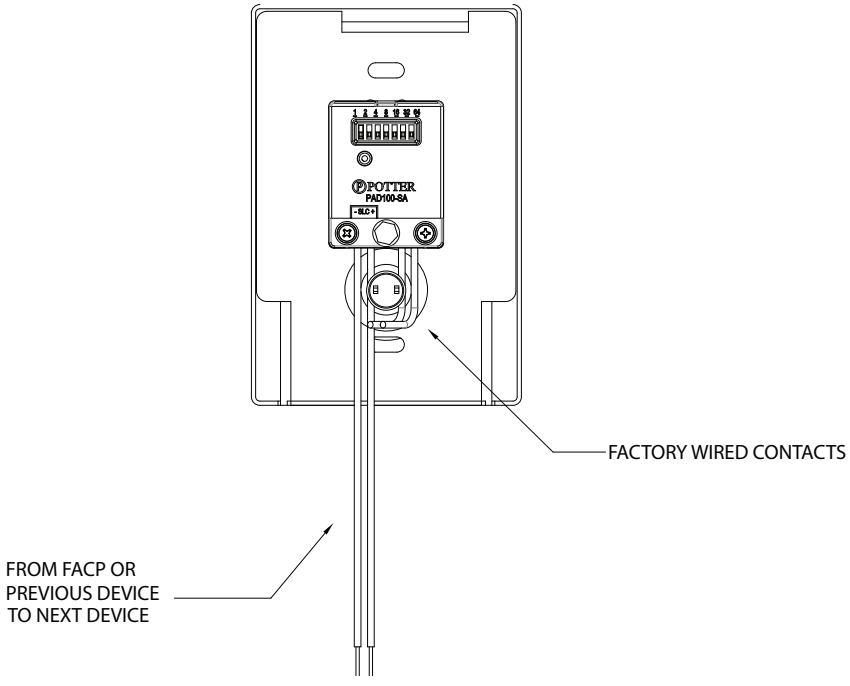


PAD100-PSDA



PAD100-PSSA

Pull Station Back View and Wiring
Fig 2



Ordering Information

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

L-Series Speakers and L-Series with LED Speaker Strobes

System Sensor L-Series and L-Series with LED audible visible notification products are rich with features guaranteed to cut installation times and maximize profits with lower current draw and modern aesthetics.

Features

- LED technology provides lower current draw
- Digital Voltage Meter (DVM) diagnostic test points
- Common aesthetics across the L-Series platform
- Tamper-resistant construction
- Field-selectable candela settings on wall units: 15, 30, 75, 95, 110, 135, and 185
- Field-selectable candela settings on ceiling units: 15, 30, 75, 95, 115, 150, and 177
- Rotary switches for candela
- Mounting plate provides plug-in design for easier installation and shorting springs to check wiring continuity
- Electrically compatible with legacy SpectrAlert, SpectrAlert Advance and L-series devices
- Synchronization through use of UL approved power supplies that support System Sensor Sync protocol or System Sensor MDL3 Sync Module
- Strobes listed for wall or ceiling use
- Speakers and Speaker strobes listed for wall or ceiling uset
- No extension ring required
- Speakers offer high fidelity and high volume sound output

Agency Listings

SIGNALING c UL us LISTED S4048

UL LISTED S4048 v ULC LISTED S4048

FM APPROVED 3057383 3057493

7125-1653:0533
7135-1653:0532
7320-1653:0505

The System Sensor L-Series and L-Series with LED platform offers the most versatile and easy-to-use line in the industry with lower current draw and modern aesthetics. LED lighting technology offers significantly lower current draw compared to older Xenon bulbs across a full candela range. This improves design flexibility for notification appliance circuits (NACs) while also reducing power supply requirements allowing for simpler and lower cost installations.

Flexible design options meet virtually any application requirement: wall or ceiling mount, red or white color choices, bezel kits for alternate markings and languages, and LED color lenses for distinctive visual signaling. In addition, installers can easily adapt devices using field selectable candela, using rotary switches.

The L-Series and L-Series with LED line is developed to simplify installation. All devices feature plug-in designs with minimal intrusion into the back box, making installations fast and foolproof while virtually eliminating costly and time-consuming ground faults. The universal mounting plate includes an onboard shorting spring, so installers can test wiring continuity before the device is installed.

The low harmonic distortion of the speaker offers high fidelity sound output while offering high volume sound output for use in high ambient noise applications.

In addition, the System Sensor L-Series with LED notification appliances offer a new diagnostic test point feature that allows you to measure device voltage with a digital voltage meter (DVM) without removing the appliance from the wall or ceiling. The DVM test points are discreetly located on the face of the notification appliance which enable faster troubleshooting and end of line (EOL) voltage checks while greatly reducing the risk of misplacing or damaging appliances during troubleshooting.

Physical / Electrical Specifications	
Standard Operating Temperature	32°F to 120°F (0°C to 49°C)
Humidity Range	10 to 93% non-condensing
Power	1/4, 1/2, 1, 2 Watts
Frequency Range	400 to 4000 Hz
Maximum Supervisory Voltage (Speakers)	50 VDC
Maximum Supervisory Voltage (Strobe)	33 VDC
Strobe Flash Rate	1 Flash Per Second
Nominal Voltages, Speakers	25 Volts or 70.7 Volts (nominal)
Nominal Voltage, Strobe	Regulated 24 VDC
Operating Voltage Range, Strobe	16 to 33 VDC
Input Terminal Wire Gauge	12 to 18 AWG

Speaker Strobes Dimensions, Wall-Mount	Length	Width	Depth
Speaker Strobe (including lens)	6.5" (165.1mm)	5.00" (127mm)	2.3" (58.4mm)
Speaker Strobe (including Lens) with Surface Mount Back Box SBBSPRL/WL	6.62" (168.1mm)	5.12" (130mm)	4.55" (115.5mm)

Speaker Strobes Dimensions, Ceiling-Mount	Diameter	Depth
Speaker Strobe (including lens)	6.8" (172.7mm)	2.33" (59.2mm)
Speaker Strobe (including Lens) with Surface Mount Back Box SBBCRL/WL	6.9" (176mm)	4.83" (122.7mm)

Speaker Dimensions, Ceiling-Mount	Diameter	Depth
SPC Speaker	6.8 in, 173 mm	1.0 in, 25 mm
With Surface Mount Back Box SBBCRL/WL	6.9 in, 176 mm	3.5 in, 89 mm

Speaker Dimensions, Wall Mount	Length	Width	Depth
SP Speaker	6.52in, 165mm	5in, 127mm	0.97in, 24.6mm
with Surface Mount Back Box SBBSPRL/WL	6.62in, 168.1mm	5.12in, 130mm	3.22in, 81.8mm
SBBSPRL/WL Surface Mount Back Box intended for speaker strobes and speakers.			

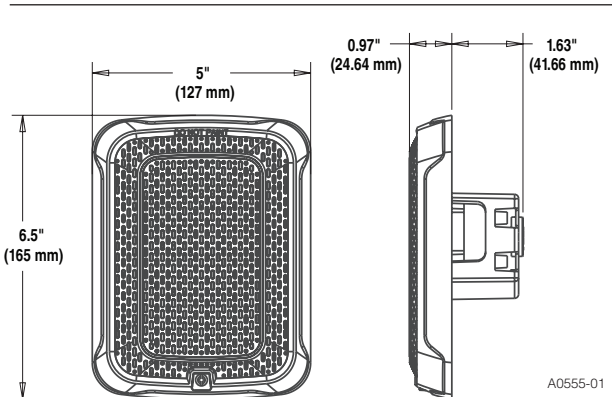
Minimum Speaker Strobe Sound Output				
	¼ W	½ W	1 W	2 W
UL Reverberant (dBA @10 ft)	76	79	82	83
UL Anechoic (dBA @10 ft)	76	79	82	83

Minimum Speaker Only Sound Output				
	¼ W	½ W	1 W	2 W
UL Reverberant (dBA @10 ft)	79	82	85	88
UL Anechoic (dBA @10 ft)	79	82	85	88

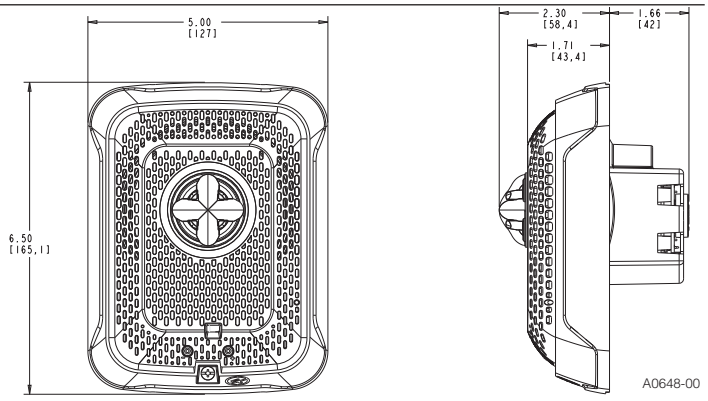
UL / ULC Maximum Strobe Current Draw (mA)

UL Max Strobe Current Draw (mA RMS)	
Candela Rating	**16 to 33 Volts DC**
15	18
30	22
75	70
95	75
110	85
115	90
135	105
150	110
177	115
185	120
FCP*	(future)
*FCP Fire Control Panel, future use	

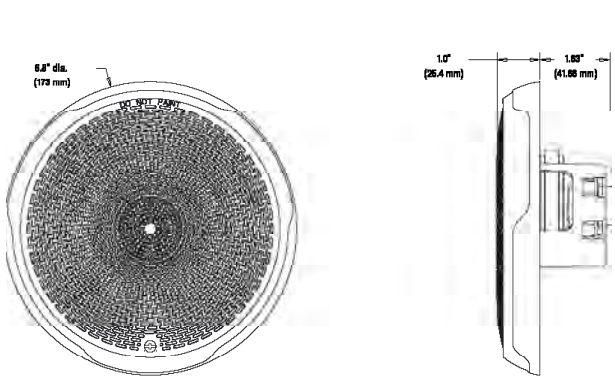
L-Series Dimensions



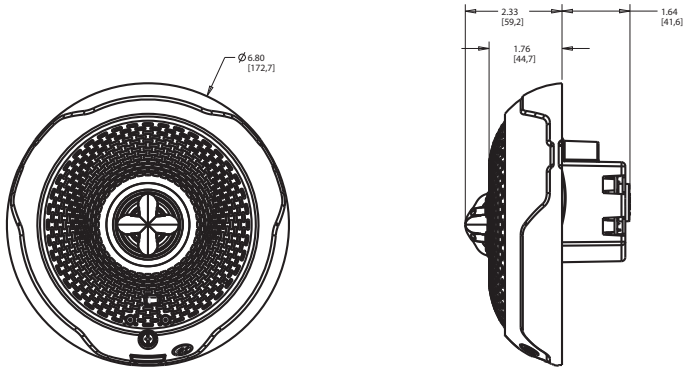
Wall-Mount Speaker



Wall-Mount Speaker Strobe

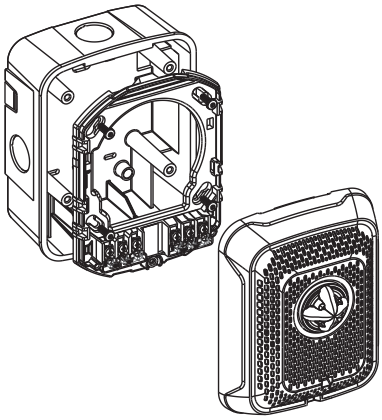


Ceiling-Mount Speaker

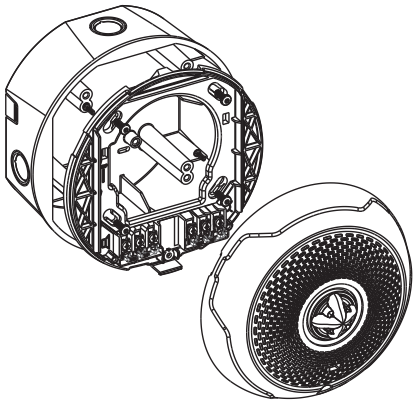


Ceiling-Mount Speaker Strobe

L-Series with LED: Surface Mount Back Box



Wall-Mount Speaker Strobe with
SBBSPSRL/SBBSPWL Surface Mount Back Box



Ceiling-Mount Speaker Strobe with
SBBCRL/SBCWL Surface Mount Back Box

L-Series with LED: Ordering Information

Model	Description
L-Series with LED Speaker Strobes	
SPSCRLED	2-WIRE, SPEAKER STROBE LED RED CEILING
SPSCRLED-B	2-WIRE, SPEAKER STROBE LED RED CEILING BILINGUAL
SPSCRLED-BT	2-WIRE, SPEAKER STROBE LED RED CEILING BILINGUAL W/ TRIM
SPSCRLED-BP10	2-WIRE, SPEAKER STROBE LED RED CEILING BULK PACK W/10
SPSCWLED	2-WIRE, SPEAKER STROBE LED WHITE CEILING
SPSCWLED-B	2-WIRE, SPEAKER STROBE LED WHITE CEILING BILINGUAL
SPSCWLED-BT	2-WIRE, SPEAKER STROBE LED WHITE CEILING BILINGUAL W/ TRIM
SPSCWLED-T	2-WIRE, SPEAKER STROBE LED WHITE CEILING W/ TRIM
SPSCWLED-TP	2-WIRE, SPEAKER STROBE LED WHITE CEILING PLAIN W/ TRIM
SPSCWLED-BP10	2-WIRE, SPEAKER STROBE LED WHITE CEILING BULK PACK W/10
SPSCWLED-CLR-ALERT	2-WIRE, SPEAKER STROBE LED WHITE CEILING ALERT CLEAR LENS
SPSCWLED-P	2-WIRE, SPEAKER STROBE LED WHITE CEILING PLAIN
SPSCWLED-SP	2-WIRE, SPEAKER STROBE LED WHITE CEILING FUEGO
SPSRLED	2-WIRE, SPEAKER STROBE LED RED WALL
SPSRLED-B	2-WIRE, SPEAKER STROBE LED RED WALL BILINGUAL
SPSRLED-BP10	2-WIRE, SPEAKER STROBE LED RED WALL BULK PACK W/10
SPSRLED-P	2-WIRE, SPEAKER STROBE LED RED WALL PLAIN
SPSRLED-SP	2-WIRE, SPEAKER STROBE LED RED WALL FUEGO
SPSWLED	2-WIRE, SPEAKER STROBE LED WHITE WALL
SPSWLED-B	2-WIRE, SPEAKER STROBE LED WHITE WALL BILINGUAL
SPSWLED-ALERT	2-WIRE, SPEAKER STROBE LED WHITE WALL ALERT AMBER LENS
SPSWLED-BP10	2-WIRE, SPEAKER STROBE LED WHITE WALL BULK PACK W/10
SPSWLED-CLR-ALERT	2-WIRE, SPEAKER STROBE LED WHITE WALL ALERT CLEAR LENS
SPSWLED-P	2-WIRE, SPEAKER STROBE LED WHITE WALL PLAIN
L-Series Speaker	**Description**
SPCRL	2-WIRE, SPEAKER RED CEILING
SPCWL	2-WIRE, SPEAKER WHITE CEILING
SPRL	2-WIRE, SPEAKER RED WALL
SPWL	2-WIRE, SPEAKER WHITE WALL
SPRL-BP10	2-WIRE, SPEAKER RED WALL BULK PACK W/10
SPWL-BP10	2-WIRE, SPEAKER WHITE WALL BULK PACK W/10
SPCRL-BP10	2-WIRE, SPEAKER RED CEILING BULK PACK W/10
SPCWL-BP10	2-WIRE, SPEAKER WHITE CEILING BULK PACK W/10
Accessories	**Description**
SBBSPRL	BACK BOX, WALL, SPEAKER, RED
SBBSPWL	BACK BOX, WALL, SPEAKER, WHITE
SBBCRL	BACK BOX, CEILING, SPEAKER, RED
SBBCWL	BACK BOX, CEILING, SPEAKER, WHITE
TR-2	TRIM RING, WALL, RED
TR-2W	TRIM RING, WALL, WHITE
TRC-2	TRIM RING, CEILING, RED
TRC-2W	TRIM RING, CEILING, WHITE
Bezels	**Description**
BZSPR	WALL RED BEZEL KIT
BZSPW	WALL WHITE BEZEL KIT
BZSPRC	CEILING RED BEZEL KIT
BZSPWC	CEILING WHITE BEZEL KIT

Notes for Bezels:

†Each bezel pack ships in a package of 5.

Add one of the following extensions for print/language options: -F (FIRE), -AL (ALERT), -EV (EVAC), -AG (AGENT), -P (Plain), -FR (FEU), -PG (FOGO), -SP (FUEGO), -SPE (FUEGO/FIRE)

Bezels for use only with Speaker Strobes

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

3333 Unity Drive, Mississauga, ON L5L 3S6 Canada
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www.systemsensor.ca

AVDS-62174:A • 05/31/2024

Indoor Selectable-Output Speaker Strobes and Dual Voltage Evacuation Speakers for Ceiling Applications

System Sensor L-Series selectable-output speaker strobes and dual-voltage evacuation speakers can reduce ground faults and enable faster installation with lower current draw and modern aesthetics.

Features

- Plug-in design and protective cover reduce ground faults
- Universal mounting plate with an onboard shorting spring tests wiring continuity before installation
- No extension ring required
- Field selectable candela settings on ceiling units: 15, 30, 75, 95, 115, 150, and 177
- Automatic selection of 12- or 24-volt operation at 15 and 30 candela
- Rotary switch simplifies field selection of speaker voltage (25 and 70.7 Vrms) and power settings (¼, ½, 1 and 2 watts)
- Speakers offer high fidelity and high volume sound output
- 520 Hz capable with compatible FACP
- Compatible with System Sensor synchronization protocol
- Electrical compatibility with existing SpectrAlert and SpectrAlert Advance products
- Tamper-resistant construction
- Updated modern aesthetics

Agency Listings

SIGNALING UL LISTED
S4048

FM APPROVED
FM approved except for ALERT models
3057493

7320-1653:0505

System Sensor L-Series of speakers and speaker strobes reduce costly ground faults using a plug-in design and universal mounting plate that allow the installer to pre-wire mounting plates, dress the wires, and confirm wiring continuity before plugging in the speakers. In addition, a protective plastic cover prevents nicked wires by covering exposed speaker components.

These devices also enable faster installations by providing instant feedback to ensure that wiring is properly connected, rotary switches to select voltage and power settings, and 7 field-selectable candela settings for both wall and ceiling speaker strobes.

The low total harmonic distortion of the SP speaker offers high fidelity sound output while still offering high volume sound output for use in high ambient noise applications.

L-Series makes installation easy

- Attach a universal mounting plate to a 4 × 4 × 21⁄8 inch back box . Flush-mount applications do not require an extension ring.
- Connect the notification appliance circuit or speaker wiring to the terminals on the mounting plate.
- Attach the speaker or speaker strobe to the mounting plate by inserting the product tabs into the mounting plate grooves. Hinge the device into position to lock the product pins into the mounting plate terminals. The device will temporarily hold in place with a catch until it is secured with a captured mounting screw.

L-Series Speaker and Speaker Strobe Specifications

Architectural/Engineering Specifications

General

L-Series speaker and speaker strobes shall mount to a 4 × 4 × 21⁄8-inch back box. A universal mounting plate shall be used for mounting ceiling and wall products. The notification appliance circuit and amplifier wiring shall terminate at the universal mounting plate. Also, L-Series speaker strobes, when used with the Sync•Circuit™ Module accessory, shall be powered from a non-coded notification appliance circuit output and shall operate on a nominal 12 or 24 volts. When used with the Sync•Circuit Module, 12-volt rated notification appliance circuit outputs shall operate between 8.5 and 17.5 volts; 24-volt rated notification appliance circuit outputs shall operate between 16.5 and 33 volts. Indoor L-Series products shall operate between 32°F and 120°F from a regulated DC, or full-wave rectified, unfiltered power supply. Speaker strobes shall have field-selectable candela settings including 15, 30, 75, 95, 115, 150, 177.

Speaker

The speaker shall be a System Sensor L-Series model _____ dual-voltage transformer speaker capable of operating at 25.0 or 70.7 nominal Vrms. It should be listed to UL 1480 and shall be approved for fire protective service. The speaker shall have a frequency range of 400 to 4,000 Hz and shall have an operating temperature between 32°F and 120°F. The speaker shall have power taps and voltage that are selected by rotary switches.

Speaker Strobe combination

The speaker strobe shall be a System Sensor L-Series model _____ listed to UL1480 and UL 1971 and be approved for fire protective signaling systems. The speaker shall be capable of operating at 25.0 or 70.7 nominal Vrms selected via rotary switch, and shall have a frequency range of 400 to 4,000 Hz. The speaker shall have power taps that are selected by rotary switch. The strobe shall comply with the NFPA 72 requirements for visible signaling appliances, flashing at 1 Hz over the strobe's entire operating voltage range. The strobe light shall consist of a xenon flash tube and associated lens/reflector system.

Synchronization Module

The module shall be a System Sensor Sync•Circuit model MDL3 listed to UL 464 and shall be approved for fire protective service. The module shall synchronize SpectrAlert strobes at 1 Hz. The module shall mount to a 411⁄16 × 411⁄16 × 21⁄8-inch back box. The module shall also control two Style Y (class B) circuits or one Style Z (class A) circuit. The module shall synchronize multiple zones. Daisy chaining two or more synchronization modules together will synchronize all the zones they control. The module shall not operate on a coded power supply.

Physical Specifications		
Operating Temperature	32°F to 120°F (0°C to 49°C)	
Humidity Range	10 to 93% non-condensing	
Dimensions, Ceiling-Mount	**Diameter**	**Depth**
SPC Speaker	6.8 in, 173 mm	1.0 in, 25 mm
With Surface Mount Back Box	6.9 in, 176 mm	3.5 in, 89 mm
SPSC Speaker Strobe	6.8 in, 173 mm	2.8 in, 73 mm
With Surface Mount Back Box	6.9 in, 176 mm	5.37 in, 136 mm
Electrical/Operating Specifications		
Nominal Voltage (speakers)	25 Volts or 70.7 Volts (nominal)	
Maximum Supervisory Voltage (speakers)	50 VDC	
Strobe Flash Rate	1 flash per second	
Nominal Voltage (strobes)	Regulated 12 VDC or regulated 24 VDC/FWR [1,2]	
Operating Voltage Range (includes fire alarm panels with built in sync)	8 to 17.5 V (12 V nominal) or 16 to 33 V (24 V nominal)	
Operating Voltage with MDL3 Sync Module	8.5 to 17.5 V (12 V nominal) or 16.5 to 33 V (24 V nominal)	
Frequency Range	400 to 4,000 Hz[3]	
Power	¼, ½, 1, 2 watts	

1. Full Wave Rectified (FWR) voltage is a non-regulated, time-varying power source that is used on some power supply and panel outputs.
2. Strobe products will operate at 12 V nominal only for 15 and 30 cd.
3. 520Hz capable with compatible FACP.

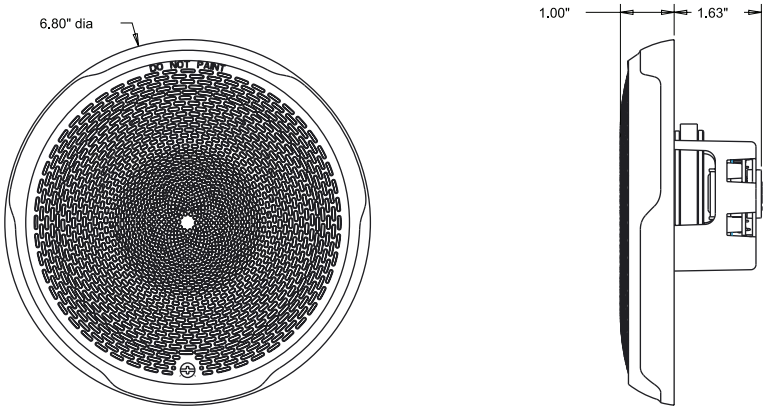
UL Current Draw Data

UL Max. Strobe Current Draw (mA RMS)			
	8 to 17.5 Volts	16 to 33 Volts	
Candela	DC	DC	FWR
15	87	41	60
30	153	63	86
75	NA	111	142
95	NA	134	164
115	NA	158	191
150	NA	189	228
177	NA	226	264

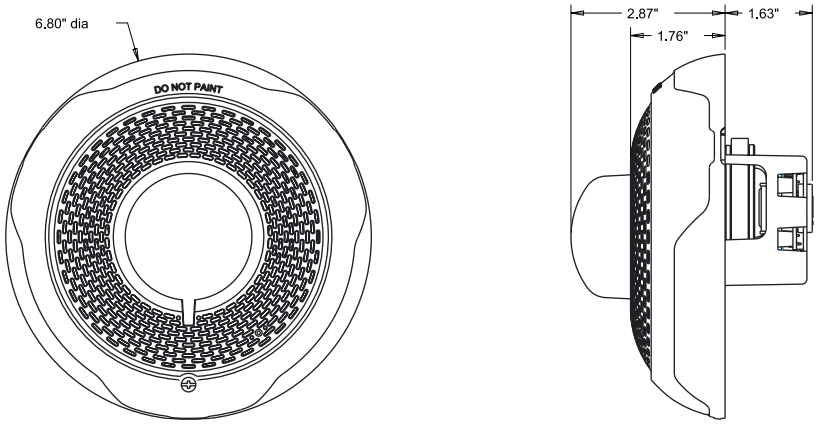
Ceiling-Mount Speaker Sound Output		
Setting	UL Reverberant (dBA @10 ft)	UL Anechoic (dBA @10 ft)
1/4 W	79	79
1/2 W	82	82
1 W	85	85
2 W	88	88

Ceiling-Mount Speaker Strobe Sound Output		
Setting	UL Reverberant (dBA @10 ft)	UL Anechoic (dBA @10 ft)
1/4 W	77	77
1/2 W	80	80
1 W	83	83
2 W	86	86

L-Series Dimensions

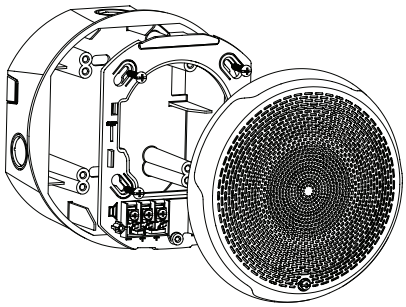


Ceiling Speaker

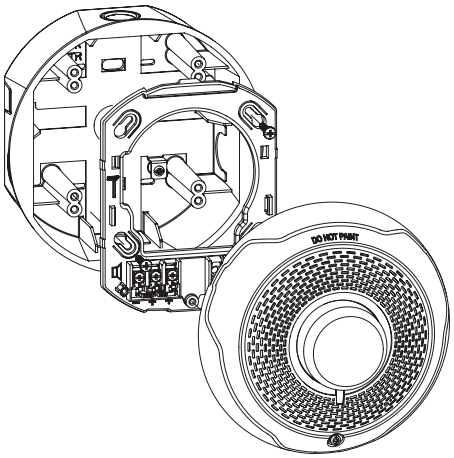


Ceiling Speaker Strobe

Surface Mounting



Ceiling Speaker with Surface Mount Back Box



Ceiling Speaker Strobe with Surface Mount Back Box

L-Series Ordering Information

Ceiling Mount			
White	**Red**	**Description**	
SPCWL	SPCRL	Speaker only	
SPSCWL	SPSCRL	Speaker Strobe	REUSE EXISTING IN BLDG. 4 ONLY
SPSCWL-P	—	Plain, Speaker Strobe	
SPSCWL-SP	—	Fuego, Speaker Strobe	
SPSCWL-CLR-ALERT	—	Alert, Speaker Strobe, Clear Lens	
Accessories			
White	**Red**	**Description**	
SBBCWL	SBBCRL	Universal Ceiling Surface Mount Back Box	
TRC-2W	TRC-2	Universal Ceiling Trim Ring	

SYSTEM SENSOR®

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Phone: 800-SENSOR2 • Fax: 630-377-6495
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AVDS86601 • 03/17

L-Series and L-Series with LED Indoor Selectable Horns, Strobes and Horn Strobes

System Sensor L-Series and L-Series with LED audible visible notification products are rich with features guaranteed to cut installation times and maximize profits with lower current draw and modern aesthetics.

Features

- LED technology provides lower current draw
- Digital Voltage Meter (DVM) diagnostic test points for Horn Strobes and Strobes
- Common aesthetics across the L-Series platform
- Standard and compact sizes
- Tamper-resistant construction
- Field-selectable candela settings on wall units: 15, 30, 75, 95, 110, 135, and 185
- Field-selectable candela settings on ceiling units: 15, 30, 75, 95, 115, 150, and 177
- Rotary switches for candela, tone and volume selections
- Mounting plate provides plug-in design for easier installation and shorting springs to check wiring continuity
- Electrically compatible with legacy SpectrAlert, SpectrAlert Advance and L-series devices
- Synchronization through use of UL approved power supplies that support System Sensor Sync protocol or System Sensor MDL3 Sync Module
- Horns, Strobes and Horn Strobes listed for wall or ceiling use

Agency Listings

SIGNALING c UL us LISTED	SIGNALING UL LISTED	ULC LISTED	FM APPROVED	
Horn Strobes and Strobes: S5512, S4011	Horns: S4011	Horns: S4011	3057072 FM23FPUS0195	7300-1653:0525 7135-1653:0503 7135-1653:0526

The System Sensor L-Series and L-Series with LED platform offers the most versatile and easy-to-use line of horns, strobes, and horn strobes in the industry with lower current draw and modern aesthetics. LED lighting technology offers significantly lower current draw compared to older Xenon bulbs across a full candela range. This improves design flexibility for notification appliance circuits (NACs) while also reducing power supply requirements allowing for simpler and lower cost installations.

Flexible design options meet virtually any application requirement: wall or ceiling mount, standard or compact sizes, red or white color choices, bezel kits for alternate markings and languages, and LED color lenses for distinctive visual signaling. In addition, installers can easily adapt devices using field selectable candela, tone and volume settings using rotary switches.

The L-Series and L-Series with LED line is developed to simplify installation. All devices feature plug-in designs with minimal intrusion into the back box, making installations fast and foolproof while virtually eliminating costly and time-consuming ground faults. The universal mounting plate includes an onboard shorting spring, so installers can test wiring continuity before the device is installed.

In addition, the System Sensor L-Series with LED notification appliances offer a new diagnostic test point feature that allows you to measure device voltage with a digital voltage meter (DVM) without removing the appliance from the wall or ceiling. The DVM test points are discreetly located on the face of the notification appliance which enable faster troubleshooting and end of line (EOL) voltage checks while greatly reducing the risk of misplacing or damaging appliances during troubleshooting.

L-Series and L-Series with LED Specifications

Physical/Electrical Specifications	
Standard Operating Temperature	32°F to 120°F (0°C to 49°C)
Humidity Range	10 to 93% non-condensing
Strobe Flash Rate	1 flash per second
Nominal Voltage, LED Strobes and Horn Strobes	Regulated 24 VDC
Nominal Voltage, Horns	Regulated 12 VDC or regulated 24 DC/FWR
Operating Voltage Range, LED Strobes and Horn Strobes	16 to 33 V (24 V nominal)
Operating Voltage Range, Horns	8 to 17.5 V (12 V nominal) or 16 to 33 V (24 V nominal)
Input Terminal Wire Gauge	12 to 18 AWG

UL/ULC Current Draw Data, Horn Tones, and Sound Output Data

UL/ULC Maxmimum Strobe Current Draw (mA)

	Candela Rating	16–33 Volts	
		Wall	Ceiling
Candela Range	15	18	18
	30	22	22
	75	70	70
	95	75	75
	110	85	—
	115	—	90
	135	105	—
	150	—	110
	177	—	115
	185	120	—

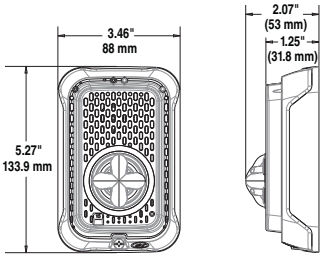
UL/ULC Maxmimum Horn Current Draw (mA RMS)

		8–17.5 Volts	16–33 Volts	
Sound Pattern	dB	DC	DC	FWR
Temporal	High	39	44	54
Temporal	Low	28	32	54
Non-Temporal	High	43	47	54
Non-Temporal	Low	29	32	54
3.1 KHz Temporal	High	39	41	54
3.1 KHz Temporal	Low	29	32	54
3.1 KHz Non-Temporal	High	42	43	54
3.1 KHz Non-Temporal	Low	28	29	54
Coded	High	43	47	54
3.1 KHz Coded	High	42	43	54

UL/ULC Maximum Horn Strobe Current Draw (mA) and Sound Output (dBA)

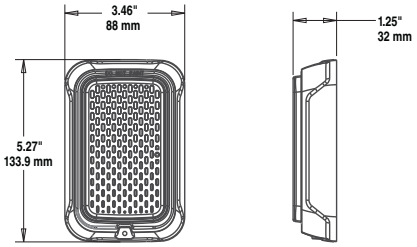
			Current Draw (mA RMS), Horn Strobe, Candela Range (15-185 cd)										Sound Output (dBA)
			16-33 Volts										16-33V
Switch Pos.	Sound Pattern	Volume Setting	15cd	30cd	75cd	95cd	110cd WALL	115cd CEILING	135cd WALL	150cd CEILING	177cd CEILING	185cd WALL	DC
1	Temporal 3	High	35	38	87	92	94	120	189	189	190	190	87
2	Temporal 3	Low	35	38	87	92	94	120	135	135	145	145	79
3	Non-Temporal	High	50	52	87	92	94	120	127	127	135	135	87
4	Non-Temporal	Low	35	38	87	92	94	120	125	125	130	130	79
5	3.1KHz Temporal 3	High	35	38	87	89	91	115	155	155	165	165	86
6	3.1KHz Temporal 3	Low	35	38	87	89	91	115	128	130	135	135	80
7	3.1KHz Non-Temporal	High	40	42	87	89	91	115	125	125	135	135	86
8	3.1KHz Non-Temporal	Low	35	38	87	89	91	115	120	120	130	130	80

L-Series with LED Dimensions: Wall-Mounted Equipment



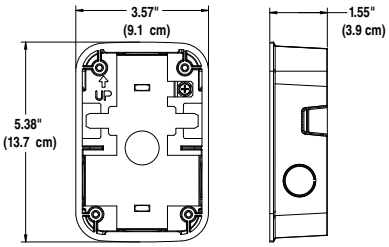
A0617-00

Compact Strobe, Horn Strobe for Wall



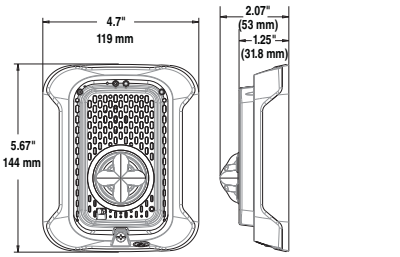
A0547-00

Compact Horn



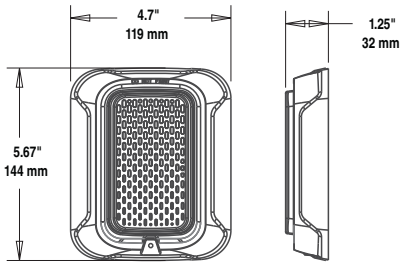
A0557-00

Compact Surface Mount Back Box for Walls (SBBGRL, SBBGWL)



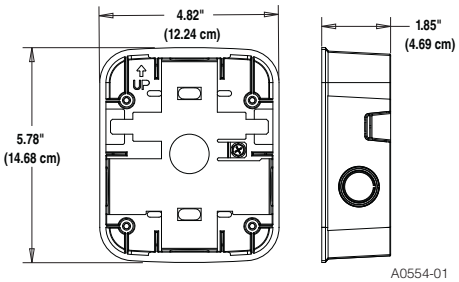
A0613-00

Strobes, Horn Strobes for Walls



A0549-00

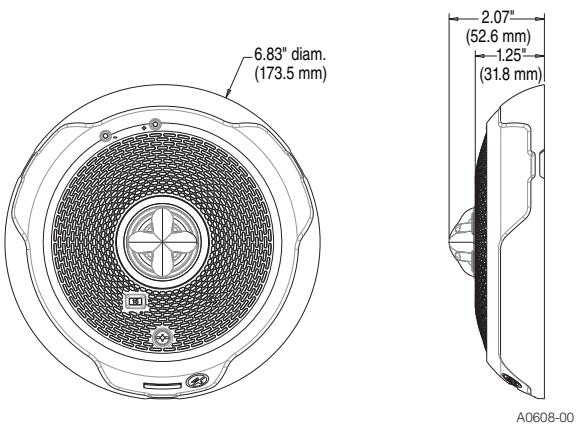
Horn



A0554-01

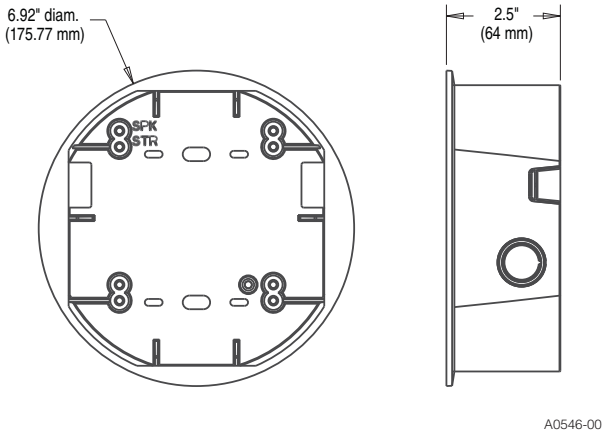
Surface Mount Back Box for Walls (SBBRL/SBBWL)

L-Series with LED Dimensions: Ceiling-Mounted Equipment



A0608-00

Strobes and Horn Strobes for Ceilings



A0546-00

Surface Mount Back Box for Ceilings (SBBCRL, SBCWL)

L-Series with LED: Ordering Information

Model	Description
L-Series with LED Horn Strobes	
P2RLED	2-Wire, Horn Strobe, Wall, Red
P2RLED-B	2-Wire, Horn Strobe, Wall, Red, Bilingual
P2WLED	2-Wire, Horn Strobe, Wall, White
P2WLED-B	2-Wire, Horn Strobe, Wall, White, Bilingual
P2GRLED	2-Wire, Compact Horn Strobe, Wall, Red
P2GRLED-B	2-Wire, Compact Horn Strobe, Wall, Red, Bilingual
P2GWLED	2-Wire, Compact Horn Strobe, Wall, White
P2GWLED-B	2-Wire, Compact Horn Strobe, Wall, White, Bilingual
P2RLED-P	2-Wire, Horn Strobe, Wall, Red, Plain
P2WLED-P	2-Wire, Horn Strobe, Wall, White, Plain
P2RLED-SP	2-Wire, Horn Strobe, Wall, Red, FUEGO
P2WLED-SP	2-Wire, Horn Strobe, Wall, White, FUEGO
PC2RLED	2-Wire, Horn Strobe, Ceiling, Red
PC2RLED-B	2-Wire, Horn Strobe, Ceiling, Red, Bilingual
PC2WLED	2-Wire, Horn Strobe, Ceiling, White
PC2WLED-B	2-Wire, Horn Strobe, Ceiling, White, Bilingual
L-Series with LED Strobes	
SRLED	Strobe, Wall, Red
SRLED-B	Strobe, Wall, Red, Bilingual
SWLED	Strobe, Wall, White
SWLED-B	Strobe, Wall, White, Bilingual
SGRLED	Strobe, Compact, Wall, Red
SGRLED-B	Strobe, Compact, Wall, Red, Bilingual
SGWLED	Strobe, Compact, Wall, White
SGWLED-B	Strobe, Compact, Wall, White, Bilingual
SRLED-P	Strobe, Wall, Red, Plain
SWLED-P	Strobe, Wall, White, Plain
SRLED-SP	Strobe, Wall, Red, FUEGO
SWLED-CLR-ALERT	Strobe, Wall, White, ALERT
SWLED-ALERT	Strobe, Wall, White, ALERT, Amber Lens
SCRLED	Strobe, Ceiling, Red
SCRLED-B	Strobe, Ceiling, Red, Bilingual
SCRLED-P	Strobe, Ceiling, White, Plain
SCWLED	Strobe, Ceiling, White
SCWLED-B	Strobe, Ceiling, White, Bilingual
SCWLED-P	Strobe, Ceiling, White, Plain
SCWLED-CLR-ALERT	Strobe, Ceiling, White, ALERT
L-Series Horns	
HRL*	Horn, Red
HRLA*	Horn, Red, Plain, ULC
HWL*	Horn, White
HWLA*	Horn, White, Plain, ULC
HGRL*	Compact Horn, Red
HGRLA*	Compact Horn, Red, Plain, ULC
HGWL*	Compact Horn, White
HGWLA*	Compact Horn, White, Plain, ULC

Model	Description
LED Lenses	
LENS-A3	Lens LED Amber Wall/Ceiling
LENS-B3	Lens LED Blue Wall/Ceiling
LENS-G3	Lens LED Green Wall/Ceiling
LENS-R3	Lens LED Red Wall/Ceiling
Accessories	
TR-2	Universal Wall Trim Ring Red
TR-2W	Universal Wall Trim Ring White
SBBRL	Wall Surface Mount Back Box, Red
SBBWL	Wall Surface Mount Back Box, White
SBBGRL	Compact Wall Surface Mount Back Box, Red
SBBGWL	Compact Wall Surface Mount Back Box, White
TRC-2	Universal Ceiling Trim Ring, Red
TRC-2W	Universal Ceiling Trim Ring, White
SBBCRL	Ceiling Surface Mount Back Box, Red
SBBCWL	Ceiling Surface Mount Back Box, White
Bezels†	
BZR	Wall Red Bezel Kit
BZW	Wall White Bezel Kit
BZGR	Compact Wall Red Bezel Kit
BZGW	Compact Wall White Bezel Kit
BZRC	Horn Strobe Ceiling Red Bezel Kit
BZWC	Horn Strobe Ceiling White Bezel Kit

Notes for L-Series With LED Horn Strobes and Strobes:

All -P models have a plain housing (no “FIRE” marking on cover).
All -SP models have “FUEGO” marking on cover.
All -ALERT models have “ALERT” marking on cover.
All -B models have “FIRE/FEU” marking on cover for use in Canadian applications.
Amber lenses are not for use in Canadian applications

Notes for L-Series Horns:

*Horn-only models are listed for wall or ceiling use.

Notes for Bezels:

†Each bezel pack ships in a package of 5.
Add one of the following extensions for print/language options: -F (FIRE), -AL (ALERT), -EV (EVAC), -AG (AGENT), -P (Plain), -FR (FEU), -PG (FOGO), -SP (FUEGO), -SPE (FUEGO/FIRE).

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AVDS916-01 • 10/03/2023

POCATELLO HIGH SCHOOL
FIRE ALARM SYSTEM REPLACEMENT
325 NORTH ARTHUR AVENUE
POCATELLO, ID 83204

OPERATIONS MATRIX

FIRE ALARM INPUT \ FIRE ALARM OUTPUT	DISPLAY DESCRIPTIVE TEXT AT FACP AND/OR ANNUNCIATOR	ACTIVATE ALARM INDICATOR AT FACP	ACTIVATE AUDIBLE ALARM AT FACP	ACTIVATE SUPERVISORY INDICATOR AT FACP	ACTIVATE AUDIBLE SUPERVISORY SIGNAL AT FACP	ACTIVATE TROUBLE INDICATOR AT FACP	ACTIVATE AUDIBLE TROUBLE INDICATOR AT FACP	TRANSMIT WATERFLOW SIGNAL	TRANSMIT ALARM SIGNAL	TRANSMIT SUPERVISORY SIGNAL	TRANSMIT TROUBLE SIGNAL	ACTIVATE ALTERNATE ELEVATOR RECALL	ACTIVATE PRIMARY RECALL	ACTIVATE ELEVATOR SHUNT	ACTIVATE FIREMAN'S HAT	ACTIVATE NOTIFICATION APPLIANCES	RELEASE EGRESS MAGLOCKS/UNLOCK EXITS	RELEASE MAGNETICALLY HELD SMOKE DOORS	SHUTDOWN AIR HANDLERS IN EXCESS OF 2,000 CFM	ACTIVATE ASSOCIATED SOUNDER (TEMPORAL 4)
SMOKE DETECTORS	●	●	●						●							●	●	●		
HEAT DETECTORS	●	●	●						●							●	●	●		
KITCHEN HOOD	●	●	●						●							●	●	●		
PULL STATIONS	●	●	●						●							●	●	●		
PRIMARY RECALL FLR, ELEV LOBBY SMOKE DET	●	●	●						●			●				●	●	●		
ALTERNATE RECALL FLR, ELEV LOBBY SMOKE DET	●	●	●						●				●			●	●	●		
TOP OF ELEV SHAFT SMOKE DET	●	●	●						●				●		●	●	●	●		
ELEVATOR EQUIPMENT ROOM SMOKE DET	●	●	●						●				●		●	●	●	●		
ELEVATOR EQUIPMENT ROOM HEAT DET	●	●	●						●					●		●	●	●		
TOP OF ELEV SHAFT HEAT DET	●	●	●						●					●		●	●	●		
WATERFLOW SWITCHES	●	●	●					●								●	●	●		
VALVE SUPERVISORY SWITCHES	●			●	●					●										
CARBON MONOXIDE DETECTOR	●			●	●					●										●
DUCT DETECTORS	●			●	●					●									●	
FIRE ALARM AC POWER FAIL	●					●	●				●									
FIRE ALARM LOW BATTERY	●					●	●				●									
OPEN CIRCUIT	●					●	●				●									
GROUND FAULT	●					●	●				●									
NAC SHORT CIRCUIT	●					●	●				●									
LOSS OF AC TO BUILDING	●					●	●				●							●		

FIRE ALARM SYMBOL LEGEND

NOTE: QUANTITIES ARE APPROXIMATE. CONTRACTOR TO VERIFY ALL COUNTS.

SYMBOL	DESCRIPTION	MANUF. & PART #	MOUNTING	MOUNT IN	EXIST	QTY
FACP	FIRE ALARM CONTROL PANEL	POTTER – AFC-1000V	WALL – TOP @ 66"	CABINET INCLUDED	–	1
	SLC EXPANSION CARD	POTTER – PAD100-SLCE	IN FACP CABINET	IN FACP CABINET	–	1
	INTERNAL VOICE AMPLIFIER	POTTER – SCA-5070INT	IN FACP CABINET	IN FACP CABINET	–	1
	BATTERIES – 12V 26AH	POTTER – BT-260	BOTTOM OF CABINET	IN FACP CABINET	–	2
CAB_	FIRE ALARM POWER SUPPLY	POTTER – PSN-1000E	WALL – TOP @ 66"	CABINET INCLUDED	–	9
	SLC EXPANSION CARD	POTTER – PAD100-SLCE	IN FPS CABINET	IN FPS CABINET	–	8
	INTERNAL VOICE AMPLIFIER	POTTER – SCA-5070INT	IN FPS CABINET	IN FPS CABINET	–	9
	BATTERIES – 12V 7AH	FIELD VERIFY	BOTTOM OF CABINET	IN FPS CABINET	–	6
	BATTERIES – 12V 10AH	FIELD VERIFY	BOTTOM OF CABINET	IN FPS CABINET	–	8
	BATTERIES – 12V 18AH	FIELD VERIFY	BOTTOM OF CABINET	IN FPS CABINET	–	4
LOC	FIRE ALARM LOCAL OPERATING CONSOLE	POTTER – LOC-1000	WALL – TOP @ 66"	CABINET INCLUDED	–	2
DOC	DOCUMENT BOX	SPACE AGE – SSU00672	WITHIN 36" OF FACP	CABINET INCLUDED	–	1
COM	FIRE ALARM COMMUNICATOR	NAPCO – SLE-MAX2-FIRE	WITHIN 36" OF FACP	ENCLOSURE INCLUDED	–	1
S	SMOKE DETECTOR – SENSOR	POTTER – PAD300-PD	ON PAD300-6DB	ON PAD300-6DB	–	176
	DETECTOR BASE	POTTER – PAD300-6DB	CEILING	4 SQ. DEEP W/ SINGLE GANG MUD RING – MOUNTED FLUSH	–	176
	HEAT DETECTOR – SENSOR	POTTER – PAD300-HD	ON PAD300-6DB	ON PAD300-6DB	–	283
	DETECTOR BASE	POTTER – PAD300-6DB	CEILING	4 SQ. DEEP W/ SINGLE GANG MUD RING – MOUNTED FLUSH	–	283
CO	CARBON MONOXIDE DETECTOR	SYSTEM SENSOR – CO1224TR	CEILING	4 SQ. DEEP W/ SINGLE GANG MUD RING – MOUNTED FLUSH	–	7
	MINI MONITOR MODULE	POTTER – PAD100-MIM	IN DETECTOR BACKBOX	IN DETECTOR BACKBOX	–	7
S→ →S	BEAM DETECTOR	XTRALIS – OSI-R	CEILING	4 SQ. DEEP W/ SINGLE GANG MUD RING – MOUNTED FLUSH	–	7
	MINI MONITOR MODULE	POTTER – PAD100-MIM	IN DETECTOR BACKBOX	IN DETECTOR BACKBOX	–	7
RTS	BEAM DETECTOR – REMOTE TEST SWITCH	SYSTEM SENSO – RTS151KEY	FIELD VERIFY	4 SQ. DEEP W/ SINGLE GANG MUD RING – MOUNTED FLUSH	–	7
DD	DUCT DETECTOR – SENSOR	POTTER – PAD300-DD	INDICATED DUCT	IN PAD300-DUCT HOUSING	–	19
	DUCT DETECTOR – HOUSING	POTTER – PAD300-DUCTR	INDICATED DUCT	HOUSING INCLUDED	–	19
	DUCT DETECTOR – REMOTE TEST SWITCH	POTTER – PAD100-DRTS	FIELD VERIFY	4 SQ. DEEP W/ SINGLE GANG MUD RING – MOUNTED FLUSH	–	19
MM	SINGLE MONITOR MODULE	POTTER – PAD100-SIM	FIELD VERIFY	4 SQ. DEEP – MOUNTED FLUSH	–	9
RM	RELAY MODULE	POTTER – PAD100-RM	FIELD VERIFY	4 SQ. DEEP – MOUNTED FLUSH	–	22
P	PULL STATION	POTTER – PAD100-PSDA	WALL @ 48"	4 SQ. DEEP W/ SINGLE GANG MUD RING – MOUNTED FLUSH	–	61
KH	KITCHEN HOOD SUPPRESSION SYSTEM	FIELD VERIFY	BY OTHERS	INSTALLED BY OTHERS	1	–
VS	SPRINKLER VALVE SUPERVISORY SWITCH	FIELD VERIFY	BY OTHERS	INSTALLED BY OTHERS	4	–
WF	SPRINKLER WATERFLOW SWITCH	FIELD VERIFY	BY OTHERS	INSTALLED BY OTHERS	2	–
DH	MAGNETIC DOOR HOLDERS	FIELD VERIFY	BY OTHERS	INSTALLED BY OTHERS	38	–
S	CEILING MOUNT SPEAKER / STROBE	SYSTEM SENSOR – SPSCR(W)LED	CEILING	4 SQ. DEEP – MOUNTED FLUSH	–	177
	CEILING MOUNT SPEAKER / STROBE	SYSTEM SENSOR – SPSCR(W)L	CEILING	4 SQ. DEEP – MOUNTED FLUSH	46	–
	STROBE	SYSTEM SENSOR – SR(W)LED	WALL 80"-96"	4 SQ. DEEP W/ SINGLE GANG MUD RING – MOUNTED FLUSH	–	7
SS	SPEAKER / STROBE	SYSTEM SENSOR – SPSR(W)LED	WALL 80"-96"	4 SQ. DEEP – MOUNTED FLUSH	–	121
	WATERFLOW BELL	EXISTING	EXISTING	EXISTING	1	–

ABBREVIATION	DESCRIPTION	ABBREVIATION	DESCRIPTION
E	EXISTING TO REMAIN	AWG	AMERICAN WIRE GAUGE
G	WITH GUARD	TWP	TWISTED PAIR
N	NEW DEVICE IN NEW LOCATION	TWSP	TWISTED SHIELDED PAIR
R	REMOVE AND REPLACE	FPLP	FIRE POWER LIMITED PLENUM
S	SOUNDER BASE	FPLR	FIRE POWER LIMITED RISER
WP	WEATHERPROOF		
EOL	END OF LINE RESISTOR		
EOLR	END OF LINE RELAY		

15 ← STROBE CANDELA → 30

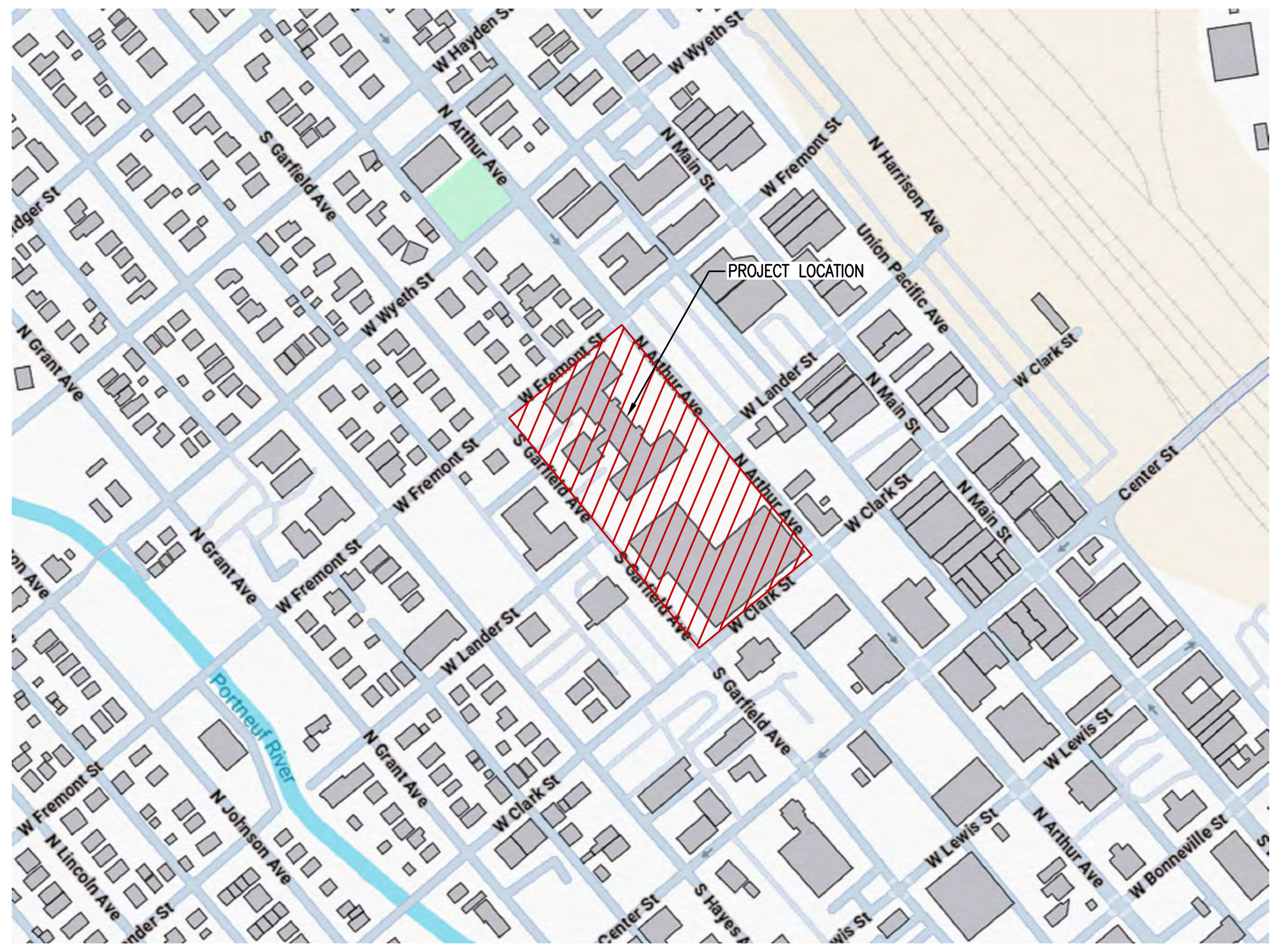
DEVICE ADDRESS: L1S001 OR M01 (L – DENOTES LOOP #) (S or M – DENOTES SENSOR OR MODULE #)

1-#16/2 TWP: WIRE TYPE ABBREVIATED; CONDUCTOR COUNT; WIRE SIZE; # OF CABLES (IF OMITTED ONLY 1 CABLE NEEDED)

WIRE/CIRCUIT LEGEND

NAME	CIRCUIT TYPE	WIRE TYPE & QTY	CLASS	LINETYPE/COLOR
SLC	SLC	1-#16/2 TWP FIRE MC OR FIRE WIRE IN EMT	CLASS B	
FACP	NAC	2-#14 THHN FIRE MC OR FIRE WIRE IN EMT	CLASS B	
AUX	AUX POWER	2-#14 THHN FIRE MC OR FIRE WIRE IN EMT	CLASS B	
DATA	P-LINK & V-LINK	2-#16/2 TWP, 2-#14 THHN FIRE MC OR FIRE WIRE IN EMT	CLASS B	
IDC	IDC	1-#16/2 TWP FIRE MC OR FIRE WIRE IN EMT	CLASS B	
SPKR	SPEAKER	1-#16/2 TWSP FIRE MC OR FIRE WIRE IN EMT	CLASS B	
SPKR-NAC	SPEAKER & NAC	1-#16/2 TWSP, 2-#14 THHN FIRE MC OR FIRE WIRE IN EMT	CLASS B	

NOTE: ALL FIRE ALARM WIRE SHALL BE INSTALLED IN MINIMUM 3/4" CONDUIT WHERE REQUIRED.

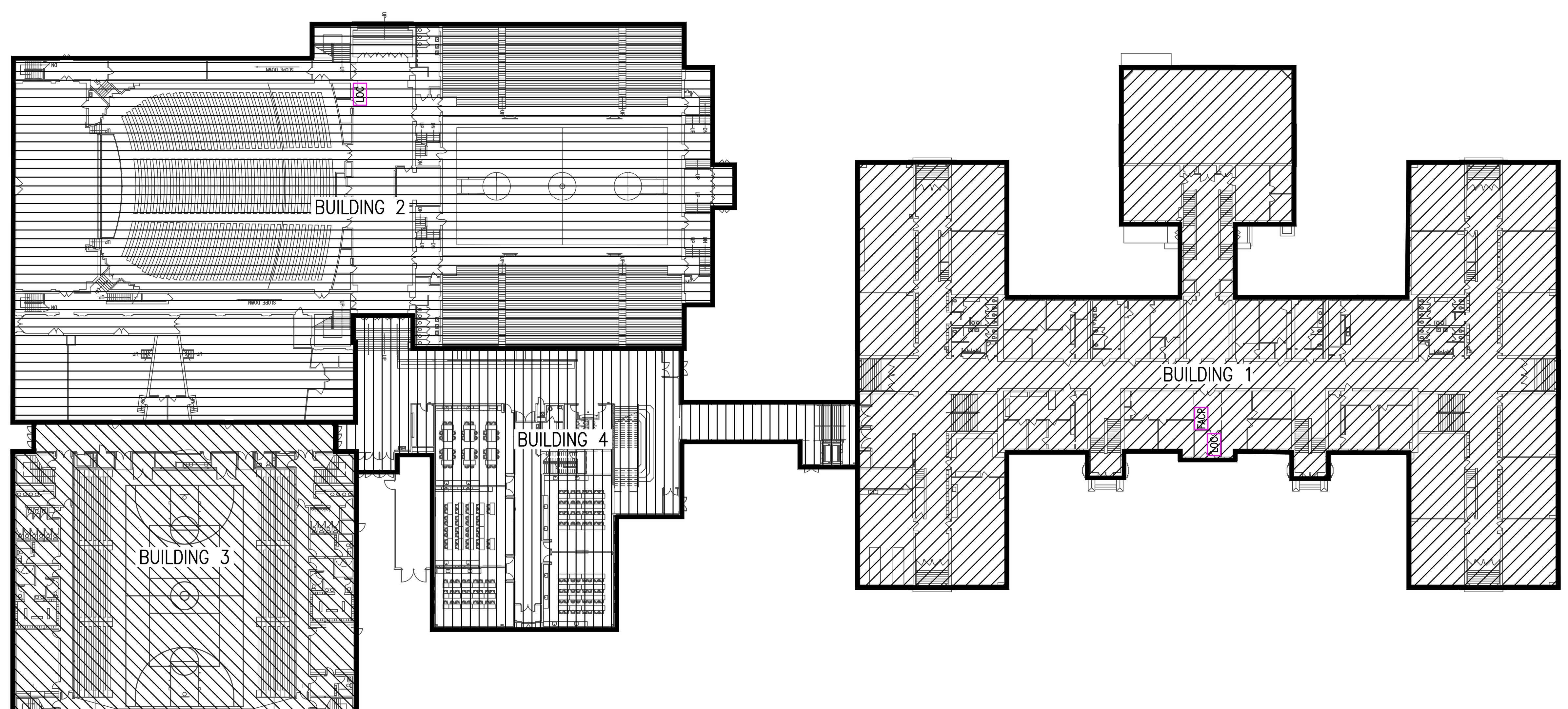


PROJECT KEY NOTES:

1. FURNISH AND INSTALL NEW FIRE ALARM CONTROL PANEL WITH EMERGENCY VOICE. CONNECT NEW FIRE ALARM CONTROL PANEL TO THE EXISTING FIRE ALARM SYSTEM WIRING. INSTALLING CONTRACTOR SHALL FIELD VERIFY EXACT MOUNTING, CIRCUITING AND PROGRAMMING REQUIREMENTS.
2. FURNISH AND INSTALL NEW LOCAL OPERATING CONSOLE IN LOCATION ACCEPTABLE TO THE AUTHORITY HAVING JURISDICTION. LOCATION SHOWN ON THE PLAN ARE RECOMMENDED LOCATIONS BASED ON EXISTING EQUIPMENT AND LIKELY RESPONSE LOCATIONS. CONNECT THE LOCAL OPERATING CONSOLE TO THE NEW FIRE ALARM SYSTEM TO ALLOW FOR CONTROL OF THE FIRE ALARM AND EMERGENCY VOICE SYSTEMS.
3. REPLACE EXISTING FIRE ALARM POWER SUPPLY WITH A NEW FIRE ALARM POWER SUPPLY TO PROVIDE NOTIFICATION APPLIANCE CIRCUIT AND AUXILIARY POWER FOR DEVICES POWERED BY EXISTING FIRE ALARM POWER SUPPLY. INSTALLING CONTRACTOR SHALL FIELD VERIFY EXACT MOUNTING, CIRCUITING AND PROGRAMMING REQUIREMENTS.
4. REPLACE EXISTING FIRE ALARM VOICE EVACUATION PANEL WITH A NEW FIRE ALARM AMPLIFIER TO PROVIDE POWER FOR SPEAKER CIRCUITS POWERED BY EXISTING AMPLIFIER OR EVACUATION PANEL. MOUNT IN POWER SUPPLY CABINET INSTALLING CONTRACTOR SHALL FIELD VERIFY EXACT MOUNTING, CIRCUITING AND PROGRAMMING REQUIREMENTS.
5. REMOVE AND REPLACE EXISTING NOTIFICATION APPLIANCE WITH A NEW NOTIFICATION APPLIANCE AS INDICATED ON THE DRAWING. NEW STROBE DRAWS LESS CURRENT THAN THE EXISTING DEVICE BEING REPLACED.
6. ADDRESSABLE RELAY MODULE(S) AND MULTI-VOLTAGE CONTROL RELAY(S) PROVIDED FOR CONTROL OF MAGNETIC DOOR LOCKS. INSTALLING CONTRACTOR SHALL FIELD VERIFY EXACT MOUNTING, CIRCUITING AND PROGRAMMING REQUIREMENTS. FIELD VERIFY POWER SOURCE (24 VDC OR 120 VAC). USE MULTI-VOLTAGE CONTROL RELAY(S) IF REQUIRED. CONNECT NEW DEVICE TO NEAREST EXISTING SLC. INSTALLING CONTRACTOR SHALL FIELD VERIFY EXISTING CIRCUIT. MAINTAIN EXISTING WIRE STYLE. CLASS, AND SUPERVISION.
7. REMOVE AND REPLACE EXISTING INITIATING DEVICE WITH A NEW INITIATING DEVICE COMPATIBLE WITH THE NEW FIRE ALARM CONTROL PANEL. CONNECT NEW DEVICE TO THE EXISTING SLC. INSTALLING CONTRACTOR SHALL FIELD VERIFY INTEGRITY OF EXISTING CIRCUIT. MAINTAIN EXISTING WIRE STYLE, CLASS, AND SUPERVISION.
8. PROVIDE AND INSTALL NEW NOTIFICATION APPLIANCE IN LOCATION SHOW. CONNECT NEW DEVICE TO NEW SPEAKER CIRCUIT AND NEW NAC (AS APPLICABLE). INSTALLING CONTRACTOR SHALL FIELD VERIFY EXISTING CIRCUIT AND CAPACITY. MAINTAIN EXISTING WIRE STYLE, CLASS, AND SUPERVISION.
9. EXISTING NOTIFICATION APPLIANCE TO REMAIN.
10. REMOVE AND RELOCATE EXISTING INITIATING DEVICE. EXTEND EXISTING SLC AND RECONNECT DEVICE TO EXISTING SLC. INSTALLING CONTRACTOR SHALL FIELD VERIFY INTEGRITY OF EXISTING CIRCUIT AND CAPACITY. MAINTAIN EXISTING WIRE STYLE, CLASS, AND SUPERVISION.
11. PROVIDE AND INSTALL INITIATING DEVICE. CONNECT NEW DEVICE TO NEAREST EXISTING SLC. INSTALLING CONTRACTOR SHALL FIELD VERIFY EXISTING CIRCUIT. MAINTAIN EXISTING WIRE STYLE. CLASS, AND SUPERVISION.
12. DEMOLISH EXISTING DEVICE. DEMOLISH CONDUIT AND ANY UNUSED BOXES.

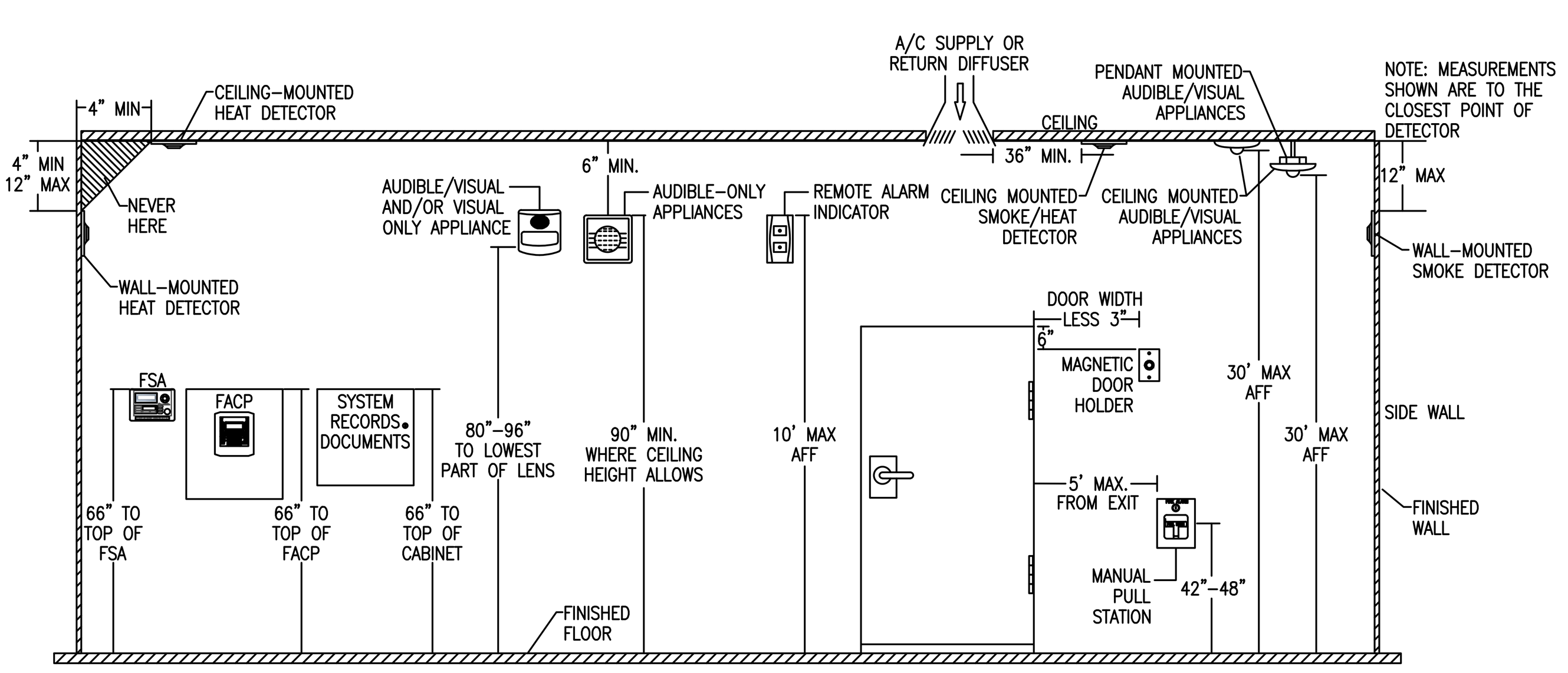
GENERAL NOTES:

1. SCOPE OF WORK: THIS PROJECT SHALL INCLUDE THE REPLACEMENT OF MULTIPLE FIRE ALARM SYSTEMS WITH A SINGLE CAMPUS FIRE ALARM SYSTEM WITH EMERGENCY VOICE. EXISTING INITIATING DEVICES SHALL BE REPLACED WITH NEW, COMPATIBLE DEVICES. NOTIFICATION APPLIANCES SHALL BE REPLACED AS INDICATED ON THE PLANS. NEW DEVICES SHALL BE INSTALLED TO COMPLY WITH CURRENT IFC 907 REQUIREMENTS AND NFPA 72. ALL EXISTING NOTIFICATION APPLIANCES DRAW SIGNIFICANTLY MORE AMPERAGE THAN CURRENT GENERATION NOTIFICATION APPLIANCES. WHERE NOTIFICATION APPLIANCES ARE BEING REPLACED LIKE-FORE-LIKE ON EXISTING CIRCUITS, VOLTAGE DROP CALCULATIONS ARE NOT PROVIDED AS THE EXISTING CIRCUIT SHOULD BE DESIGNED TO HANDLE THE OPERATING CURRENT OF THE HIGHER AMPERAGE DEVICES. BATTERY CALCULATIONS OF POWER SUPPLIES AND AMPLIFIERS POWERING EXISTING CIRCUITS ASSUME MAXIMUM PANEL LOAD FOR THE PURPOSE OF BATTERY SIZING.
2. THESE DRAWINGS ARE DIAGRAMMATIC. REFER TO THE ARCHITECTURAL DRAWINGS FOR EXACT DIMENSIONS.
3. INSTALLATION SHALL COMPLY WITH NEC, NFPA 72 AND ALL OTHER APPLICABLE CODES AS REQUIRED BY THE LOCAL AUTHORITY HAVING JURISDICTION.
4. WIRING DEPICTED ON THESE PLANS IS SCHEMATIC – ACTUAL WIRE LOCATIONS MAY DIFFER FROM THESE PLANS. WIRING SHALL BE PERFORMED AS ACTUAL BUILDING CONSTRUCTION CONDITIONS ALLOW AND TO MINIMIZE PENETRATIONS THROUGH AREA SEPARATION WALLS AND FIRE WALLS. THE USE OF A RACEWAY IS PERMITTED AS LONG AS NO 110V OR HIGHER VOLTAGE CABLES ARE IN THE SAME RACEWAY.
5. FIRE RATINGS SHALL BE MAINTAINED FOR ALL PENETRATIONS THROUGH FIRE-RATED CONSTRUCTION.
6. POWER FOR ALL FIRE ALARM PANELS AND FIRE ALARM POWER SUPPLIES MUST BE PROVIDED BY A DEDICATED AC BRANCH CIRCUIT. THE LOCATION OF THE BRANCH CIRCUIT BREAKER SHALL BE PERMANENTLY IDENTIFIED AT THE CONTROL UNIT, MECHANICALLY PROTECTED, ACCESSIBLE ONLY TO AUTHORIZED PERSONNEL AND SHALL BE RED AND LABELED "FIRE ALARM CIRCUIT CONTROL" IN ACCORDANCE WITH NFPA 72. ELECTRICAL CONTRACTOR SHALL PERFORM LOAD CALCULATIONS TO DETERMINE SIZE OF WIRING AND BREAKERS FOR ALL FIRE ALARM AC BRANCH CIRCUITS BASED ON THE INFORMATION PROVIDED IN THE BATTERY CALCULATIONS FOR THE FIRE ALARM EQUIPMENT.
7. POWER-LIMITED AND NONPOWER-LIMITED CIRCUIT WIRING MUST REMAIN SEPARATED IN CABINET. ALL POWER-LIMITED CIRCUIT WIRING MUST REMAIN AT LEAST 0.25" AWAY FROM ANY NONPOWER-LIMITED CIRCUIT WIRING. FURTHERMORE, ALL POWER-LIMITED AND NONPOWER-LIMITED CIRCUIT WIRING MUST ENTER AND EXIT THE CABINET THROUGH DIFFERENT KNOCK OUTS AND/OR SEPARATE CONDUITS.
8. WHEN UTILIZING CLASS "A" CIRCUITS, SEPARATE OUTGOING AND RETURN CONDUCTORS OF CLASS "A" CIRCUITS BY A MINIMUM OF 12" WHERE RUN VERTICALLY AND 48" WHERE RUN HORIZONTALLY.
9. WHEN UTILIZING SHIELDED CABLE TIE SHIELDS THROUGH AND INSULATE AT EACH JUNCTION BOX. INSULATE AND TAPE BACK AT END.
10. ALL FIRE ALARM CABLING SHALL BE ACCEPTABLE TO THE FIRE ALARM EQUIPMENT MANUFACTURER FOR THE INTENDED PURPOSE. CABLES USED IN VERTICAL RUNS SHALL BE TYPE FPLP OR FPLR. CABLE SPLICES OR TERMINATIONS SHALL BE MADE IN LISTED FITTINGS, BOXES, ENCLOSURES, FIRE ALARM DEVICES, OR UTILIZATION EQUIPMENT. WHERE INSTALLED EXPOSED, CABLES SHALL BE ADEQUATELY SUPPORTED AND INSTALLED IN SUCH A WAY THAT MAXIMUM PROTECTION AGAINST PHYSICAL DAMAGE IS AFFORDED BY BUILDING CONSTRUCTION. WHERE LOCATED WITHIN 7 FT OF THE FLOOR, CABLES SHALL BE SECURELY FASTENED IN AN APPROVED MANNER AT INTERVALS OF NOT MORE THAN 18 IN.
11. SMOKE DETECTORS SHALL NOT BE INSTALLED UNTIL AFTER CONSTRUCTION CLEAN-UP IS COMPLETED AND FINAL.
12. LOCATE SMOKE DETECTORS A MINIMUM OF THREE (3) FEET FROM MECHANICAL DIFFUSERS. WALL-MOUNTED SMOKE DETECTORS SHALL BE LOCATED A MAXIMUM OF 12" FROM CEILING.
13. PROVIDE SYNCHRONIZATION OF ALL VISUAL NOTIFICATION APPLIANCE CIRCUITS. PROVIDE ALL REQUIRED SYNC MODULES. PROVIDE A MULTI-SYNC MODE SLAVE CONNECTION BETWEEN ALL SYNC MODULES.
14. VERIFY ALL FIELD SELECTABLE AUDIBILITY SETTINGS OF NOTIFICATION APPLIANCES WITH FIRE ALARM CONTRACTOR.
15. UPON COMPLETION OF THE FIRE ALARM SYSTEM INSTALLATION AND PROGRAMMING, THE INSTALLING CONTRACTOR SHALL PERFORM FINAL TESTING OF THE ENTIRE SYSTEM, PER ALL APPLICABLE CODES, AND SHALL COORDINATE AND PERFORM A FINAL FIRE ALARM SYSTEM INSPECTION.
16. PROVIDE OFF-SITE MONITORING AS REQUIRED BY THE INTERNATIONAL FIRE CODE, SECTION 907.6.6 AND THE LOCAL AUTHORITY HAVING JURISDICTION.
17. INSTALLING CONTRACTOR SHALL, PHYSICALLY, LABEL ALL INITIATING DEVICES AND NOTIFICATION APPLIANCE CIRCUIT END OF LINE (WHEN WIRING CLASS "B"). THESE LABELS SHALL BE IN PLACE PRIOR TO START-UP AND TESTING.
18. ROOMS CONTAINING CONTROLS FOR AIR-CONDITIONING SYSTEMS, SPRINKLER RISERS AND VALVES OR OTHER FIRE DETECTION, SUPPRESSION OR CONTROL ELEMENTS SHALL BE IDENTIFIED WITH PERMANENTLY MOUNTED SIGNS WITH LETTERING NOT LESS THAN 2 INCHES TALL WITH A PRINCIPAL STROKE OF NOT LESS THAN 3/8 INCH. LETTERS SHALL CONTRAST WITH BACKGROUND.



FIRE ALARM SITE PLAN

SCHEMATIC: NOT TO SCALE



FIRE ALARM DEVICE MOUNTING HEIGHTS

SCALE: NOT TO SCALE

REVISION	DESCRIPTION	DATE
0	ISSUED FOR REVIEW & APPROVAL	1/13/2026

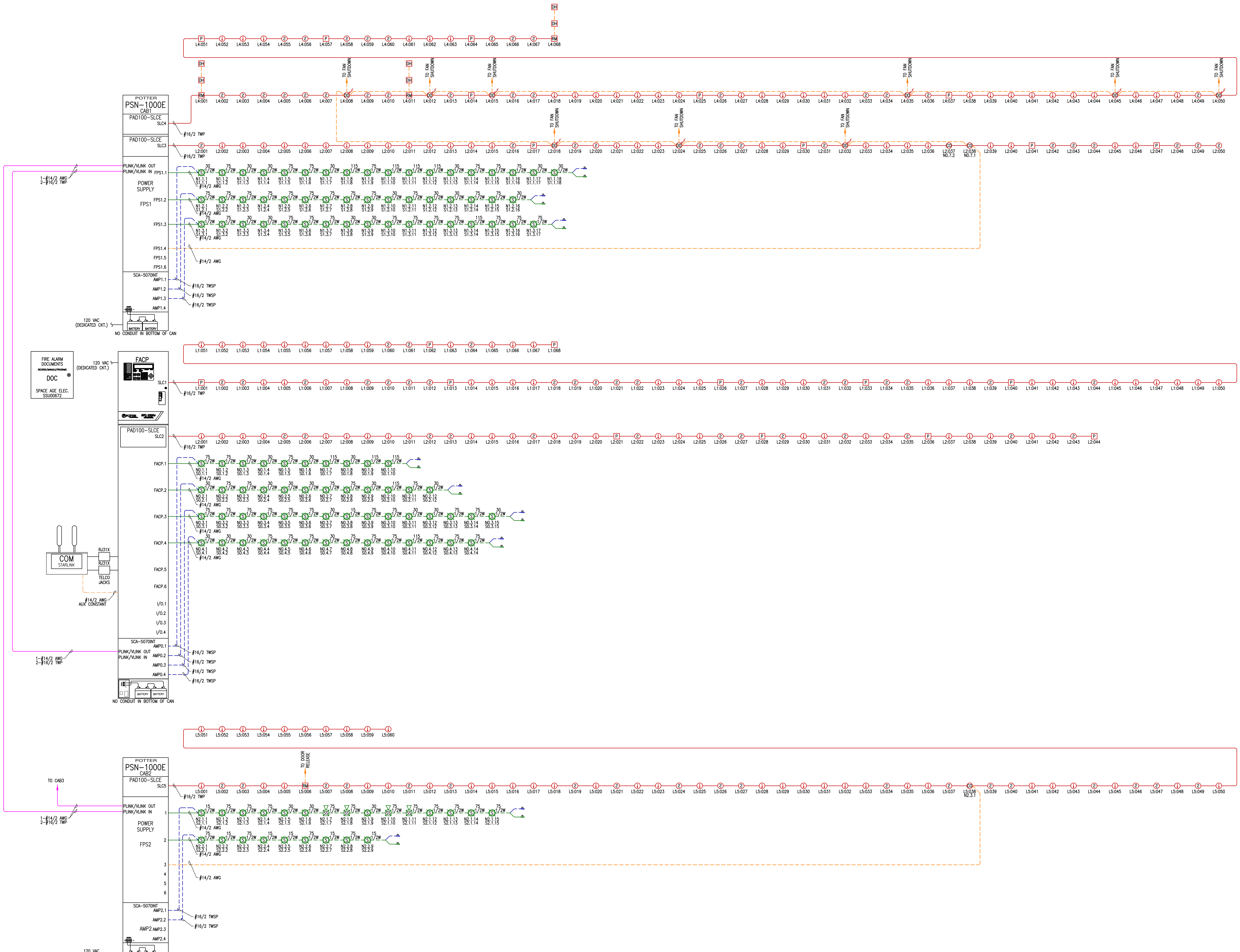
StateFire IDAHO
610 MALLARD STREET
CHUBBUCK, ID 83202
TOLL FREE: 800-866-3640
OFFICE: 208-232-3640

POCATELLO HIGH SCHOOL FIRE ALARM SYSTEM REPLACEMENT
325 NORTH ARTHUR AVENUE
POCATELLO, ID 83204
FIRE ALARM NOTES & DETAILS

DRAWN	BRADY B. HAWS UNICAD JOB #25461
CHECKED	BRADY B. HAWS, SET NICET IV FAS 138751
DATE	1/13/2026
REVISION	0
SCALE	1/8"=1'-0"

UNICAD Inc. Fire Alarm Design & Drafting Services

FA-1



FIRE ALARM RISER DIAGRAM

SCHEMATIC: NOT TO SCALE

REVISION	DESCRIPTION	DATE
0	ISSUED FOR REVIEW & APPROVAL	1/13/2026

StateFire IDAHO

610 MALLARD STREET
CHUBBUCK, ID 83202

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POCATELLO HIGH SCHOOL FIRE ALARM SYSTEM REPLACEMENT

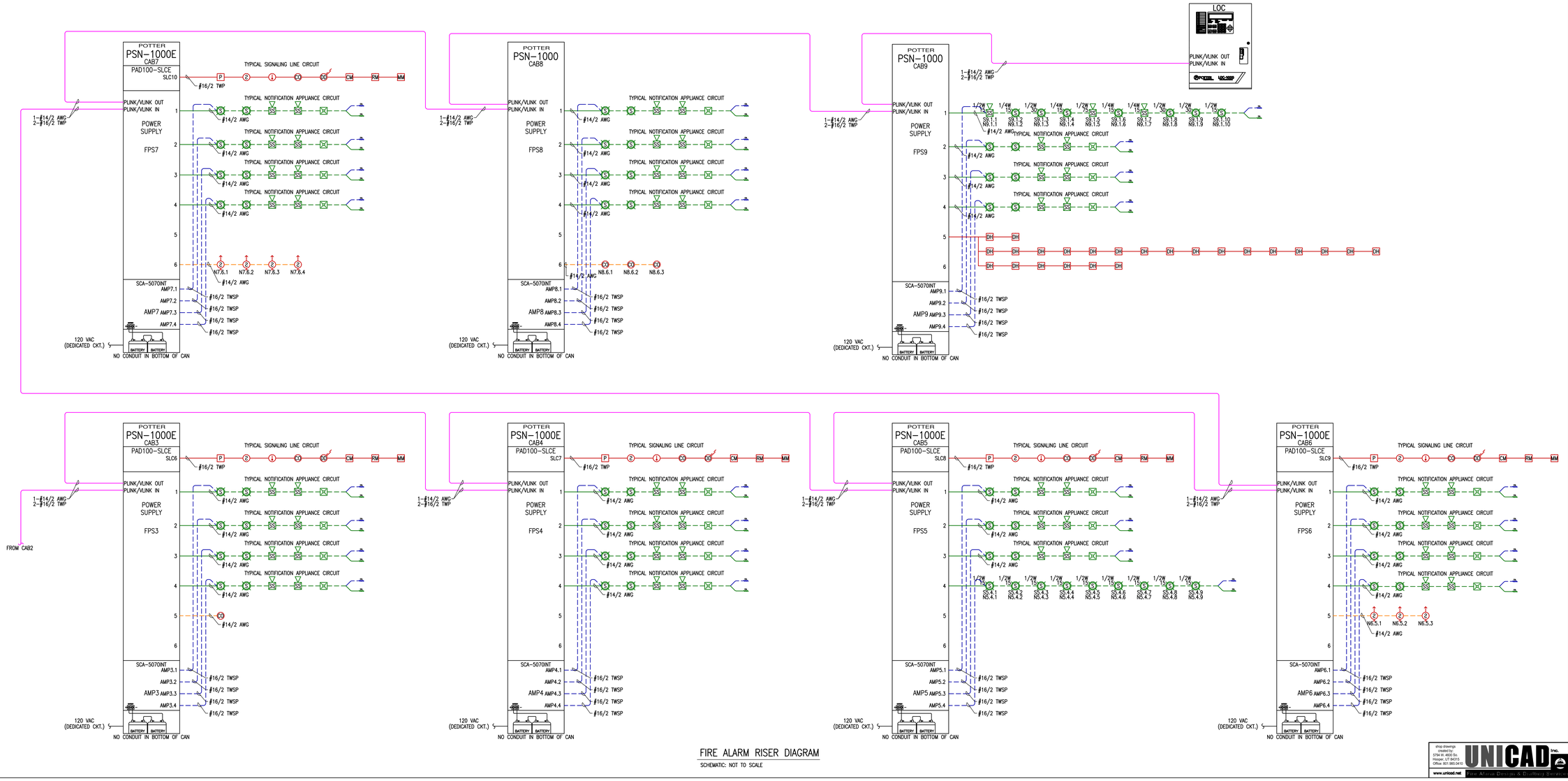
325 NORTH ARTHUR AVENUE
POCATELLO, ID 83204

FIRE ALARM RISER DIAGRAM

DRAWN	BRADY B. HAWS UNICAD JOB #25461
CHECKED	BRADY B. HAWS, SET NICET IV FAS 138751
DATE	1/13/2026
REVISION	0
SCALE	1/8"=1'-0"

UNICAD Inc. Fire Alarm Design & Drafting Services www.unicad.net

FA-2



FIRE ALARM RISER DIAGRAM

SCHEMATIC: NOT TO SCALE

REVISION	DESCRIPTION	DATE
0	ISSUED FOR REVIEW & APPROVAL	1/13/2026

StateFire
IDAHO
610 MALLARD STREET
CHUBBUCK, ID 83202
TOLL FREE: 800-866-3640
OFFICE: 208-232-3640

POCATELLO HIGH SCHOOL FIRE ALARM SYSTEM REPLACEMENT
325 NORTH ARTHUR AVENUE
POCATELLO, ID 83204
FIRE ALARM RISER DIAGRAM

DRAWN	BRADY B. HAWS UNICAD JOB #25461
CHECKED	BRADY B. HAWS, SET NICET IV FAS 138751
DATE	1/13/2026
REVISION	0
SCALE	1/8"=1'-0"

FA-3

FACP Battery Calculation

1/13/2026

PROJECT NAME: POCATELLO HIGH SCHOOL
Required Standby Time: 24 Hours
Required Alarm Time: 15 Minutes
System Manufacturer: Potter

AC Branch Current

AC Branch Current: 5.00 Amps @ 120 VAC

Maximum NAC Output

Panel Max: 10.00 Amps
Circuit Max: 3.00 Amps

Device Type	Model	Number of Devices	Regulated Load in Standby: Current (Amps)	Regulated Load in Standby: Total Current (Amps)	Regulated Load in ALARM: Current (Amps)	Regulated Load in ALARM: Total Current (Amps)
FACP MAINBOARD	AFC-1000V	1	0.130000	0.130000	0.220000	0.220000
DACT	UD-2000	1	0.016000	0.016000	0.023000	0.023000
LOCAL OPERATING CONSOLE	LOC-1000	2	0.077000	0.154000	0.107000	0.214000
COMMUNICATOR	SLE-MAX2-FIRE	1	0.085000	0.085000	0.325000	0.325000
SMOKE DETECTOR	PAD300-PD	35	0.000300	0.010500	0.000300	0.010500
HEAT DETECTOR	PAD300-HD	66	0.000300	0.019800	0.000300	0.019800
PULL STATION	PAD100-PSDA	11	0.000200	0.002200	0.000200	0.002200
POWER SUPPLY (PLINK)	PSN-1000	9	0.015000	0.135000	0.015000	0.135000
AMPLIFIER (PLINK)	SCA-5070INT	9	0.015000	0.135000	0.015000	0.135000
AMPLIFIER (FULL WATTAGE)	SCA-5070INT	1	0.050000	0.050000	0.608000	0.608000
SLC CARD	PAD100-SLCE-127	1	0.060000	0.060000	0.060000	0.060000
FACP.1 (See Voltage Drop Calculations)			0.000000	0.000000	0.568000	0.568000
FACP.2 (See Voltage Drop Calculations)			0.000000	0.000000	0.783000	0.783000
FACP.3 (See Voltage Drop Calculations)			0.000000	0.000000	0.806000	0.806000
FACP.4 (See Voltage Drop Calculations)			0.000000	0.000000	0.808000	0.808000
FACP.5 (See Voltage Drop Calculations)			0.000000	0.000000	0.000000	0.000000
FACP.6 (See Voltage Drop Calculations)			0.000000	0.000000	0.000000	0.000000
			Standby Total	0.797500	Alarm Total	4.717500

Battery Requirements

Standby Load			Required Standby Time in Hours
Current (Amps)	0.797500	X 24.000000	X 19.140000
Alarm Load			Required Alarm Time in Hours
Current (Amps)	4.717500	X 0.250000	X 1.179375
Total Ampere Hours (before derating factor)			20.319375
Derating Factor			1.25
TOTAL AMPERE HOURS REQUIRED			25.399219
BATTERIES TO BE PROVIDED (2 - 12v)			**26 AH**

FPS1 Battery Calculation

1/12/2026

PROJECT NAME: POCATELLO HIGH SCHOOL
Required Standby Time: 24 Hours
Required Alarm Time: 15 Minutes
System Manufacturer: Potter

AC Branch Current

AC Branch Current: 5.10 Amps @ 120 VAC

Maximum NAC Output

Panel Max: 10.00 Amps
Circuit Max: 3.00 Amps

Device Type	Model	Number of Devices	Regulated Load in Standby: Current (Amps)	Regulated Load in Standby: Total Current (Amps)	Regulated Load in ALARM: Current (Amps)	Regulated Load in ALARM: Total Current (Amps)
FPS1 MAINBOARD	PSN-1000	1	0.060000	0.060000	0.200000	0.200000
SMOKE DETECTOR	PAD300-PD	38	0.000300	0.011400	0.000300	0.011400
HEAT DETECTOR	PAD300-HD	56	0.000300	0.016800	0.000300	0.016800
CARBON MONOXIDE DETECTOR	C01224TR	2	0.020000	0.040000	0.020000	0.040000
DUCT SMOKE DETECTOR	PAD300-DUCTR	9	0.000500	0.004500	0.000500	0.004500
MONITOR MODULE	PAD100-SIM	0	0.000240	0.000000	0.000240	0.000000
RELAY MODULE	PAD100-RM	4	0.000240	0.000960	0.000240	0.000960
PULL STATION	PAD100-PSDA	10	0.000200	0.002000	0.000200	0.002000
AMPLIFIER (FULL WATTAGE)	SCA-5070INT	1	0.050000	0.050000	0.608000	0.608000
SLC CARD	PAD100-SLCE-127	2	0.060000	0.120000	0.060000	0.120000
FPS1.1 (See Voltage Drop Calculations)			0.000000	0.000000	1.004000	1.004000
FPS1.2 (See Voltage Drop Calculations)			0.000000	0.000000	0.928000	0.928000
FPS1.3 (See Voltage Drop Calculations)			0.000000	0.000000	1.018000	1.018000
FPS1.4 (See Voltage Drop Calculations)			0.040000	0.040000	0.500000	0.500000
FPS1.5 (See Voltage Drop Calculations)			0.000000	0.000000	0.000000	0.000000
FPS1.6 (See Voltage Drop Calculations)			0.000000	0.000000	0.000000	0.000000
			Standby Total	0.345660	Alarm Total	4.413660

Battery Requirements

Standby Load			Required Standby Time in Hours
Current (Amps)	0.345660	X 24.000000	X 8.295840
Alarm Load			Required Alarm Time in Hours
Current (Amps)	4.413660	X 0.250000	X 1.103415
Total Ampere Hours (before derating factor)			9.399255
Derating Factor			1.25
TOTAL AMPERE HOURS REQUIRED			11.749069
BATTERIES TO BE PROVIDED (2 - 12v)			**18 AH**

FPS2 Battery Calculation

1/12/2026

PROJECT NAME: POCATELLO HIGH SCHOOL
Required Standby Time: 24 Hours
Required Alarm Time: 15 Minutes
System Manufacturer: Potter

AC Branch Current

AC Branch Current: 5.10 Amps @ 120 VAC

Maximum NAC Output

Panel Max: 10.00 Amps
Circuit Max: 3.00 Amps

Device Type	Model	Number of Devices	Regulated Load in Standby: Current (Amps)	Regulated Load in Standby: Total Current (Amps)	Regulated Load in ALARM: Current (Amps)	Regulated Load in ALARM: Total Current (Amps)
FPS2 MAINBOARD	PSN-1000	1	0.060000	0.060000	0.200000	0.200000
SMOKE DETECTOR	PAD300-PD	19	0.000300	0.005700	0.000300	0.005700
HEAT DETECTOR	PAD300-HD	39	0.000300	0.011700	0.000300	0.011700
CARBON MONOXIDE DETECTOR	C01224TR	1	0.020000	0.020000	0.020000	0.020000
DUCT SMOKE DETECTOR	PAD300-DUCTR	0	0.000500	0.000000	0.000500	0.000000
MONITOR MODULE	PAD100-SIM	0	0.000240	0.000000	0.000240	0.000000
RELAY MODULE	PAD100-RM	1	0.000240	0.000240	0.000240	0.000240
PULL STATION	PAD100-PSDA	10	0.000200	0.002000	0.000200	0.002000
AMPLIFIER (FULL WATTAGE)	SCA-5070INT	1	0.050000	0.050000	0.608000	0.608000
SLC CARD	PAD100-SLCE-127	1	0.060000	0.060000	0.060000	0.060000
FPS2.1 (See Voltage Drop Calculations)			0.000000	0.000000	0.854000	0.854000
FPS2.2 (See Voltage Drop Calculations)			0.000000	0.000000	0.370000	0.370000
FPS2.3 (See Voltage Drop Calculations)			0.000000	0.000000	0.000000	0.000000
FPS2.4 (See Voltage Drop Calculations)			0.000000	0.000000	0.000000	0.000000
FPS2.5 (See Voltage Drop Calculations)			0.000000	0.000000	0.000000	0.000000
FPS2.6 (See Voltage Drop Calculations)			0.000000	0.000000	0.000000	0.000000
			Standby Total	0.209640	Alarm Total	2.111640

Battery Requirements

Standby Load			Required Standby Time in Hours
Current (Amps)	0.209640	X 24.000000	X 5.031360
Alarm Load			Required Alarm Time in Hours
Current (Amps)	2.111640	X 0.250000	X 0.527910
Total Ampere Hours (before derating factor)			5.559270
Derating Factor			1.25
TOTAL AMPERE HOURS REQUIRED			6.949088
BATTERIES TO BE PROVIDED (2 - 12v)			**7 AH**

FPS3 Battery Calculation

1/12/2026

PROJECT NAME: POCATELLO HIGH SCHOOL
Required Standby Time: 24 Hours
Required Alarm Time: 15 Minutes
System Manufacturer: Potter

AC Branch Current

AC Branch Current: 5.10 Amps @ 120 VAC

Maximum NAC Output

Panel Max: 10.00 Amps
Circuit Max: 3.00 Amps

Device Type	Model	Number of Devices	Regulated Load in Standby: Current (Amps)	Regulated Load in Standby: Total Current (Amps)	Regulated Load in ALARM: Current (Amps)	Regulated Load in ALARM: Total Current (Amps)
FPS3 MAINBOARD	PSN-1000	1	0.060000	0.060000	0.200000	0.200000
SLC CARD	PAD100-SLCE-127	1	0.060000	0.060000	0.060000	0.060000
AMPLIFIER (FULL WATTAGE)	SCA-5070INT	1	0.050000	0.050000	0.608000	0.608000
SMOKE DETECTOR	PAD300-PD	10	0.000300	0.003000	0.000300	0.003000
CARBON MONOXIDE DETECTOR	C01224TR	1	0.020000	0.020000	0.040000	0.040000
HEAT DETECTOR	PAD300-HD	2	0.000300	0.000600	0.000300	0.000600
MAXIMUM NAC LOAD			0.000000	0.000000	10.000000	10.000000
			Standby Total	0.193600	Alarm Total	10.951600

Battery Requirements

Standby Load			Required Standby Time in Hours
Current (Amps)	0.193600	X 24.000000	X 4.646400
Alarm Load			Required Alarm Time in Hours
Current (Amps)	10.951600	X 0.250000	X 2.737900
Total Ampere Hours (before derating factor)			7.384300
Derating Factor			1.25
TOTAL AMPERE HOURS REQUIRED			9.230375
BATTERIES TO BE PROVIDED (2 - 12v)			**10 AH**

FPS4 Battery Calculation

1/12/2026

PROJECT NAME: POCATELLO HIGH SCHOOL
Required Standby Time: 24 Hours
Required Alarm Time: 15 Minutes
System Manufacturer: Potter

AC Branch Current

AC Branch Current: 5.10 Amps @ 120 VAC

Maximum NAC Output

Panel Max: 10.00 Amps
Circuit Max: 3.00 Amps

Device Type	Model	Number of Devices	Regulated Load in Standby: Current (Amps)	Regulated Load in Standby: Total Current (Amps)	Regulated Load in ALARM: Current (Amps)	Regulated Load in ALARM: Total Current (Amps)
FPS4 MAINBOARD	PSN-1000	1	0.060000	0.060000	0.200000	0.200000
SLC CARD	PAD100-SLCE-127	1	0.060000	0.060000	0.060000	0.060000
AMPLIFIER (FULL WATTAGE)	SCA-5070INT	1	0.050000	0.050000	0.608000	0.608000
SMOKE DETECTOR	PAD300-PD	17	0.000300	0.005100	0.000300	0.005100
CARBON MONOXIDE DETECTOR	C01224TR	0	0.020000	0.000000	0.040000	0.000000
HEAT DETECTOR	PAD300-HD	3	0.000300	0.000900	0.000300	0.000900
DUCT SMOKE DETECTOR	PAD300-DUCTR	3	0.000500	0.001500	0.000500	0.001500
MONITOR MODULE	PAD100-SIM	4	0.000240	0.000960	0.000240	0.000960
RELAY MODULE	PAD100-RM	4	0.000240	0.000960	0.000240	0.000960
PULL STATION	PAD100-PSDA	4	0.000200	0.000800	0.000200	0.000800
MAXIMUM NAC LOAD			0.000000	0.000000	10.000000	10.000000
			Standby Total	0.180220	Alarm Total	10.918220

Battery Requirements

Standby Load			Required Standby Time in Hours
Current (Amps)	0.180220	X 24.000000	X 4.325280
Alarm Load			Required Alarm Time in Hours
Current (Amps)	10.918220	X 0.250000	X 2.729555
Total Ampere Hours (before derating factor)			7.054835
Derating Factor			1.25
TOTAL AMPERE HOURS REQUIRED			8.818544
BATTERIES TO BE PROVIDED (2 - 12v)			**10 AH**

FPS5 Battery Calculation

1/12/2026

PROJECT NAME: POCATELLO HIGH SCHOOL
Required Standby Time: 24 Hours
Required Alarm Time: 15 Minutes
System Manufacturer: Potter

AC Branch Current

AC Branch Current: 5.10 Amps @ 120 VAC

Maximum NAC Output

Panel Max: 10.00 Amps
Circuit Max: 3.00 Amps

Device Type	Model	Number of Devices	Regulated Load in Standby: Current (Amps)	Regulated Load in Standby: Total Current (Amps)	Regulated Load in ALARM: Current (Amps)	Regulated Load in ALARM: Total Current (Amps)
FPS5 MAINBOARD	PSN-1000	1	0.060000	0.060000	0.200000	0.200000
SLC CARD	PAD100-SLCE-127	1	0.060000	0.060000	0.060000	0.060000
AMPLIFIER (FULL WATTAGE)	SCA-5070INT	1	0.050000	0.050000	0.608000	0.608000
SMOKE DETECTOR	PAD300-PD	28	0.000300	0.008400	0.000300	0.008400
HEAT DETECTOR	PAD300-HD	29	0.000300	0.008700	0.000300	0.008700
DUCT SMOKE DETECTOR	PAD300-DUCTR	2	0.000500	0.001000	0.000500	0.001000
RELAY MODULE	PAD100-RM	3	0.000240	0.000720	0.000240	0.000720
PULL STATION	PAD100-PSDA	15	0.000200	0.003000	0.000200	0.003000
MAXIMUM NAC LOAD			0.000000	0.000000	10.000000	10.000000
			Standby Total	0.191820	Alarm Total	10.889820

Battery Requirements

Standby Load			Required Standby Time in Hours
Current (Amps)	0.191820	X 24.000000	X 4.603680
Alarm Load			Required Alarm Time in Hours
Current (Amps)	10.889820	X 0.250000	X 2.722455
Total Ampere Hours (before derating factor)			7.326135
Derating Factor			1.25
TOTAL AMPERE HOURS REQUIRED			9.157669
BATTERIES TO BE PROVIDED (2 - 12v)			**10 AH**

FPS6 Battery Calculation

1/12/2026

PROJECT NAME: POCATELLO HIGH SCHOOL
Required Standby Time: 24 Hours
Required Alarm Time: 15 Minutes
System Manufacturer: Potter

AC Branch Current

AC Branch Current: 5.10 Amps @ 120 VAC

Maximum NAC Output

Panel Max: 10.00 Amps
Circuit Max: 3.00 Amps

Device Type	Model	Number of Devices	Regulated Load in Standby: Current (Amps)	Regulated Load in Standby: Total Current (Amps)	Regulated Load in ALARM: Current (Amps)	Regulated Load in ALARM: Total Current (Amps)
FPS6 MAINBOARD	PSN-1000	1	0.060000	0.060000	0.200000	0.200000
SLC CARD	PAD100-SLCE-127	1	0.060000	0.060000	0.060000	0.060000
AMPLIFIER (FULL WATTAGE)	SCA-5070INT	1	0.050000	0.050000	0.608000	0.608000
SMOKE DETECTOR	PAD300-PD	15	0.000300	0.004500	0.000300	0.004500
HEAT DETECTOR	PAD300-HD	25	0.000300	0.007500	0.000300	0.007500
DUCT SMOKE DETECTOR	PAD300-DUCTR	2	0.000500	0.001000	0.000500	0.001000
BEAM DETECTOR	OSI-R	2	0.011000	0.022000	0.015000	0.030000
RELAY MODULE	PAD100-RM	1	0.000240	0.000240	0.000240	0.000240
PULL STATION	PAD100-PSDA	3	0.000200	0.000600	0.000200	0.000600
MAXIMUM NAC LOAD			0.000000	0.000000	10.000000	10.000000
			Standby Total	0.205840	Alarm Total	10.911840

Battery Requirements

Standby Load			Required Standby Time in Hours
Current (Amps)	0.205840	X 24.000000	X 4.940160
Alarm Load			Required Alarm Time in Hours
Current (Amps)	10.911840	X 0.250000	X 2.727960
Total Ampere Hours (before derating factor)			7.668120
Derating Factor			1.25
TOTAL AMPERE HOURS REQUIRED			9.585150
BATTERIES TO BE PROVIDED (2 - 12v)			**10 AH**

FPS7 Battery Calculation

1/12/2026

PROJECT NAME: POCATELLO HIGH SCHOOL
Required Standby Time: 24 Hours
Required Alarm Time: 15 Minutes
System Manufacturer: Potter

AC Branch Current

AC Branch Current: 5.10 Amps @ 120 VAC

Maximum NAC Output

Panel Max: 10.00 Amps
Circuit Max: 3.00 Amps

Device Type	Model	Number of Devices	Regulated Load in Standby: Current (Amps)	Regulated Load in Standby: Total Current (Amps)	Regulated Load in ALARM: Current (Amps)	Regulated Load in ALARM: Total Current (Amps)
FPS7 MAINBOARD	PSN-1000	1	0.060000	0.060000	0.200000	0.200000
SLC CARD	PAD100-SLCE-127	1	0.060000	0.060000	0.060000	0.060000
AMPLIFIER (FULL WATTAGE)	SCA-5070INT	1	0.050000	0.050000	0.608000	0.608000
SMOKE DETECTOR	PAD300-PD	13	0.000300	0.003900	0.000300	0.003900
CARBON MONOXIDE DETECTOR	C01224TR	3	0.020000	0.060000	0.040000	0.120000
HEAT DETECTOR	PAD300-HD	2	0.000300	0.000600	0.000300	0.000600
PULL STATION	PAD100-PSDA	9	0.000200	0.001800	0.000200	0.001800
DUCT SMOKE DETECTOR	PAD300-DUCTR	3	0.000500	0.001500	0.000500	0.001500
MONITOR MODULE	PAD100-SIM	1	0.000240	0.000240	0.000240	0.000240
DUAL MONITOR MODULE	PAD100-RM	3	0.000240	0.000720	0.000240	0.000720
MAXIMUM NAC LOAD			0.000000	0.000000	10.000000	10.000000
			Standby Total	0.238760	Alarm Total	10.996760

Battery Requirements

Standby Load			Required Standby Time in Hours
Current (Amps)	0.238760	X 24.000000	X 5.730240
Alarm Load			Required Alarm Time in Hours
Current (Amps)	10.996760	X 0.250000	X 2.749190
Total Ampere Hours (before derating factor)			8.479430
Derating Factor			1.25
TOTAL AMPERE HOURS REQUIRED			10.599288
BATTERIES TO BE PROVIDED (2 - 12v)			**18 AH**

FPS8 Battery Calculation

1/13/2026

PROJECT NAME: POCATELLO HIGH SCHOOL
Required Standby Time: 24 Hours
Required Alarm Time: 15 Minutes
System Manufacturer: Potter

AC Branch Current

AC Branch Current: 5.10 Amps @ 120 VAC

Maximum NAC Output

Panel Max: 10.00 Amps
Circuit Max: 3.00 Amps

Device Type	Model	Number of Devices	Regulated Load in Standby: Current (Amps)	Regulated Load in Standby: Total Current (Amps)	Regulated Load in ALARM: Current (Amps)	Regulated Load in ALARM: Total Current (Amps)
FPS8 MAINBOARD	PSN-1000	1	0.060000	0.060000	0.200000	0.200000
AMPLIFIER (FULL WATTAGE)	SCA-5070INT	1	0.050000	0.050000	0.608000	0.608000
MAXIMUM NAC LOAD			0.000000	0.000000	10.000000	10.000000
			Standby Total	0.110000	Alarm Total	10.808000

Battery Requirements

Standby Load			Required Standby Time in Hours
Current (Amps)	0.110000	X 24.000000	X 2.640000
Alarm Load			Required Alarm Time in Hours
Current (Amps)	10.808000	X 0.250000	X 2.702000
Total Ampere Hours (before derating factor)			5.342000
Derating Factor			1.25
TOTAL AMPERE HOURS REQUIRED			6.677500
BATTERIES TO BE PROVIDED (2 - 12v)			**7 AH**

FPS9 Battery Calculation

1/13/2026

PROJECT NAME: POCATELLO HIGH SCHOOL
Required Standby Time: 24 Hours
Required Alarm Time: 15 Minutes
System Manufacturer: Potter

AC Branch Current

AC Branch Current: 5.10 Amps @ 120 VAC

Maximum NAC Output

Panel Max: 10.00 Amps
Circuit Max: 3.00 Amps

Device Type	Model	Number of Devices	Regulated Load in Standby: Current (Amps)	Regulated Load in Standby: Total Current (Amps)	Regulated Load in ALARM: Current (Amps)	Regulated Load in ALARM: Total Current (Amps)
FPS9 MAINBOARD	PSN-1000	1	0.060000	0.060000	0.200000	0.200000
AMPLIFIER (FULL WATTAGE)	SCA-5070INT	1	0.050000	0.050000	0.608000	0.608000
MAXIMUM NAC LOAD			0.000000	0.000000	10.000000	10.000000
			Standby Total	0.110000	Alarm Total	10.808000

Battery Requirements

Standby Load			Required Standby Time in Hours
Current (Amps)	0.110000	X 24.000000	X 2.640000
Alarm Load			Required Alarm Time in Hours
Current (Amps)	10.808000	X 0.250000	X 2.702000
Total Ampere Hours (before derating factor)			5.342000
Derating Factor			1.25
TOTAL AMPERE HOURS REQUIRED			6.677500
BATTERIES TO BE PROVIDED (2 - 12v)			**7 AH**

REVISION	DESCRIPTION	DATE
0	ISSUED FOR REVIEW & APPROVAL	1/13/2026

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POCATELLO HIGH SCHOOL FIRE ALARM SYSTEM REPLACEMENT
325 NORTH ARTHUR AVENUE
POCATELLO, ID 83204
FIRE ALARM BATTERY CALCULATIONS

DRAWN	BRADY B. HAWS UNICAD JOB #25461
CHECKED	BRADY B. HAWS, SET NICET IV FAS 138751
DATE	1/13/2026
REVISION	0
SCALE	1/8"=1'-0"

FA-4

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Point to Point NAC Voltage Drop Calculation

Date	1/12/2026		
Project Name	POCATELLO HIGH SCHOOL		
Circuit Number	FPS0.1		
		Wire Gauge	Resistance Per 1000
Nominal System Voltage	20.4 volts		
Minimum Device Voltage	16.0 volts		
Distance from source to 1st device	50 feet	14	3.07
Wire Gauge for balance of circuit		14	3.07
Max Output Current	3.00 amps	Speaker ID	S0.1.
Total Circuit Current	0.568 amps	NAC ID	N0.1.
Spare Current Capacity	20%		
End of Line Voltage	19.53 volts		
Notification Appliance Manufacturer	System Sensor		

Circuit is within limits

Speaker Identifier	NAC Identifier	Device Model # and Candela	Device Wattage	Device Current	Distance Previous Device	Voltage at Device	Drop From Source	Percent Drop
S0.1.1	N0.1.1	SPSCRLED 75	1/2	0.070	50	20.23	0.174	0.85%
S0.1.2	N0.1.2	SPSCRLED 75	1/2	0.070	46	20.08	0.315	1.54%
S0.1.3	N0.1.3	SPSCRLED 30	1/2	0.022	31	20.00	0.396	1.94%
S0.1.4	N0.1.4	SPSCRLED 30	1/2	0.022	36	19.91	0.486	2.38%
S0.1.5	N0.1.5	SPSCRLED 75	1/2	0.070	35	19.83	0.569	2.79%
S0.1.6	N0.1.6	SPSCRLED 30	1/2	0.022	55	19.73	0.675	3.31%
S0.1.7	N0.1.7	SPSCRLED 115	1/2	0.090	51	19.63	0.766	3.76%
S0.1.8	N0.1.8	SPSCRLED 30	1/2	0.022	30	19.60	0.803	3.94%
S0.1.9	N0.1.9	SPSCRLED 115	1/2	0.090	32	19.56	0.839	4.11%
S0.1.10	N0.1.10	SPSCRLED 115	1/2	0.090	65	19.53	0.875	4.29%
Totals			5	0.568	431			

Notes:
Wire resistance is doubled in the calculations for two wires (Positive and Negative). The voltage calculated to the last device must not be lower than the manufactures listed minimum operating voltage (IE: rated operating voltage 16–33 VDC (24 VDC nominal)).

Point to Point NAC Voltage Drop Calculation

Date	1/12/2026		
Project Name	POCATELLO HIGH SCHOOL		
Circuit Number	FPS0.2		
		Wire Gauge	Resistance Per 1000
Nominal System Voltage	20.4 volts		
Minimum Device Voltage	16.0 volts		
Distance from source to 1st device	75 feet	14	3.07
Wire Gauge for balance of circuit		14	3.07
Max Output Current	3.00 amps	Speaker ID	S0.2.
Total Circuit Current	0.783 amps	NAC ID	N0.2.
Spare Current Capacity	20%		
End of Line Voltage	19.09 volts		
Notification Appliance Manufacturer	System Sensor		

Circuit is within limits

Speaker Identifier	NAC Identifier	Device Model # and Candela	Device Wattage	Device Current	Distance Previous Device	Voltage at Device	Drop From Source	Percent Drop
S0.2.1	N0.2.1	PC2RLED 30	1/2	0.038	75	20.04	0.361	1.77%
S0.2.2	N0.2.2	PC2RLED 75	1/2	0.087	25	19.93	0.475	2.33%
S0.2.3	N0.2.3	PC2RLED 75	1/2	0.087	21	19.84	0.560	2.74%
S0.2.4	N0.2.4	PC2RLED 30	1/2	0.038	37	19.71	0.689	3.38%
S0.2.5	N0.2.5	PC2RLED 30	1/2	0.038	44	19.57	0.833	4.09%
S0.2.6	N0.2.6	PC2RLED 30	1/2	0.038	33	19.47	0.934	4.58%
S0.2.7	N0.2.7	PC2RLED 75	1/2	0.087	39	19.36	1.043	5.11%
S0.2.8	N0.2.8	PC2RLED 75	1/2	0.087	45	19.25	1.145	5.61%
S0.2.9	N0.2.9	PC2RLED 30	1/2	0.038	38	19.19	1.211	5.94%
S0.2.10	N0.2.10	PC2RLED 115	1/2	0.120	28	19.15	1.254	6.15%
S0.2.11	N0.2.11	PC2RLED 75	1/2	0.087	60	19.10	1.300	6.37%
S0.2.12	N0.2.12	PC2RLED 30	1/2	0.038	47	19.09	1.311	6.42%
Totals			6	0.783	492			

Notes:
Wire resistance is doubled in the calculations for two wires (Positive and Negative). The voltage calculated to the last device must not be lower than the manufactures listed minimum operating voltage (IE: rated operating voltage 16–33 VDC (24 VDC nominal)).

Point to Point NAC Voltage Drop Calculation

Date	1/12/2026		
Project Name	POCATELLO HIGH SCHOOL		
Circuit Number	FPS0.3		
		Wire Gauge	Resistance Per 1000
Nominal System Voltage	20.4 volts		
Minimum Device Voltage	16.0 volts		
Distance from source to 1st device	160 feet	14	3.07
Wire Gauge for balance of circuit		14	3.07
Max Output Current	3.00 amps	Speaker ID	S0.3.
Total Circuit Current	0.806 amps	NAC ID	N0.3.
Spare Current Capacity	20%		
End of Line Voltage	18.55 volts		
Notification Appliance Manufacturer	System Sensor		

Circuit is within limits

Speaker Identifier	NAC Identifier	Device Model # and Candela	Device Wattage	Device Current	Distance Previous Device	Voltage at Device	Drop From Source	Percent Drop
S0.3.1	N0.3.1	SPSCRLED 75	1/2	0.070	160	19.61	0.792	3.88%
S0.3.2	N0.3.2	SPSCRLED 75	1/2	0.070	32	19.46	0.936	4.59%
S0.3.3	N0.3.3	SPSCRLED 75	1/2	0.070	27	19.35	1.047	5.13%
S0.3.4	N0.3.4	SPSCRLED 75	1/2	0.070	59	19.14	1.263	6.19%
S0.3.5	N0.3.5	SPSCRLED 75	1/2	0.070	42	19.00	1.398	6.85%
S0.3.6	N0.3.6	SPSCRLED 75	1/2	0.070	25	18.93	1.468	7.20%
S0.3.7	N0.3.7	SPSCRLED 30	1/2	0.022	22	18.88	1.521	7.45%
S0.3.8	N0.3.8	SPSCRLED 15	1/2	0.018	20	18.83	1.565	7.67%
S0.3.9	N0.3.9	SPSCRLED 75	1/2	0.070	28	18.78	1.625	7.96%
S0.3.10	N0.3.10	SPSCRLED 75	1/2	0.070	37	18.71	1.687	8.27%
S0.3.11	N0.3.11	SPSCRLED 30	1/2	0.022	42	18.66	1.741	8.53%
S0.3.12	N0.3.12	SPSCRLED 30	1/2	0.022	33	18.62	1.778	8.71%
S0.3.13	N0.3.13	SPSCRLED 75	1/2	0.070	38	18.58	1.816	8.90%
S0.3.14	N0.3.14	SPSCRLED 75	1/2	0.070	45	18.56	1.841	9.02%
S0.3.15	N0.3.15	SPSCRLED 30	1/2	0.022	38	18.55	1.846	9.05%
Totals			7 1/2	0.806	648			

Notes:
Wire resistance is doubled in the calculations for two wires (Positive and Negative). The voltage calculated to the last device must not be lower than the manufactures listed minimum operating voltage (IE: rated operating voltage 16–33 VDC (24 VDC nominal)).

Point to Point NAC Voltage Drop Calculation

Date	1/12/2026		
Project Name	POCATELLO HIGH SCHOOL		
Circuit Number	FPS0.4		
		Wire Gauge	Resistance Per 1000
Nominal System Voltage	20.4 volts		
Minimum Device Voltage	16.0 volts		
Distance from source to 1st device	50 feet	14	3.07
Wire Gauge for balance of circuit		14	3.07
Max Output Current	3.00 amps	Speaker ID	S0.4.
Total Circuit Current	0.808 amps	NAC ID	N0.4.
Spare Current Capacity	20%		
End of Line Voltage	18.40 volts		
Notification Appliance Manufacturer	System Sensor		

Circuit is within limits

Speaker Identifier	NAC Identifier	Device Model # and Candela	Device Wattage	Device Current	Distance Previous Device	Voltage at Device	Drop From Source	Percent Drop
S0.4.1	N0.4.1	SPSCRLED 30	1/2	0.022	50	20.15	0.248	1.22%
S0.4.2	N0.4.2	SPSCRLED 30	1/2	0.022	63	19.85	0.552	2.71%
S0.4.3	N0.4.3	SPSCRLED 30	1/2	0.022	35	19.68	0.716	3.51%
S0.4.4	N0.4.4	SPSCRLED 75	1/2	0.070	32	19.54	0.862	4.23%
S0.4.5	N0.4.5	SPSCRLED 75	1/2	0.070	66	19.27	1.134	5.56%
S0.4.6	N0.4.6	SPSCRLED 75	1/2	0.070	49	19.08	1.316	6.45%
S0.4.7	N0.4.7	SPSCRLED 30	1/2	0.022	40	18.95	1.446	7.09%
S0.4.8	N0.4.8	SPSCRLED 75	1/2	0.070	39	18.83	1.568	7.69%
S0.4.9	N0.4.9	SPSCRLED 75	1/2	0.070	45	18.71	1.690	8.28%
S0.4.10	N0.4.10	SPSCRLED 75	1/2	0.070	45	18.61	1.792	8.78%
S0.4.11	N0.4.11	SPSCRLED 115	1/2	0.090	49	18.52	1.882	9.23%
S0.4.12	N0.4.12	SPSCRLED 75	1/2	0.070	47	18.46	1.943	9.52%
S0.4.13	N0.4.13	SPSCRLED 75	1/2	0.070	45	18.42	1.982	9.71%
S0.4.14	N0.4.14	SPSCRLED 75	1/2	0.070	45	18.40	2.001	9.81%
Totals			7	0.808	650			

Notes:
Wire resistance is doubled in the calculations for two wires (Positive and Negative). The voltage calculated to the last device must not be lower than the manufactures listed minimum operating voltage (IE: rated operating voltage 16–33 VDC (24 VDC nominal)).

Point to Point NAC Voltage Drop Calculation

Date	1/12/2026		
Project Name	POCATELLO HIGH SCHOOL		
Circuit Number	FPS1.1		
		Wire Gauge	Resistance Per 1000
Nominal System Voltage	20.4 volts		
Minimum Device Voltage	16.0 volts		
Distance from source to 1st device	50 feet	14	3.07
Wire Gauge for balance of circuit		14	3.07
Max Output Current	3.00 amps	Speaker ID	S1.1.
Total Circuit Current	1.004 amps	NAC ID	N1.1.
Spare Current Capacity	20%		
End of Line Voltage	17.62 volts		
Notification Appliance Manufacturer	System Sensor		

Circuit is within limits

Speaker Identifier	NAC Identifier	Device Model # and Candela	Device Wattage	Device Current	Distance Previous Device	Voltage at Device	Drop From Source	Percent Drop
S1.1.1	N1.1.1	SPSCWLED 30	1/2	0.022	50	20.09	0.308	1.51%
S1.1.2	N1.1.2	SPSCWLED 75	1/2	0.070	45	19.82	0.580	2.84%
S1.1.3	N1.1.3	SPSCWLED 30	1/2	0.022	45	19.57	0.832	4.08%
S1.1.4	N1.1.4	SPSCWLED 30	1/2	0.022	39	19.36	1.045	5.12%
S1.1.5	N1.1.5	SPSCWLED 75	1/2	0.070	40	19.14	1.258	6.17%
S1.1.6	N1.1.6	SPSCWLED 75	1/2	0.070	49	18.90	1.498	7.34%
S1.1.7	N1.1.7	SPSCWLED 30	1/2	0.022	66	18.61	1.793	8.79%
S1.1.8	N1.1.8	SPSCWLED 115	1/2	0.090	32	18.47	1.932	9.47%
S1.1.9	N1.1.9	SPSCWLED 75	1/2	0.070	70	18.20	2.196	10.77%
S1.1.10	N1.1.10	SPSCWLED 115	1/2	0.090	33	18.09	2.307	11.31%
S1.1.11	N1.1.11	SPSCWLED 115	1/2	0.090	44	17.97	2.430	11.91%
S1.1.12	N1.1.12	SPSCWLED 115	1/2	0.090	49	17.86	2.540	12.45%
S1.1.13	N1.1.13	SPSCWLED 30	1/2	0.022	35	17.80	2.600	12.74%
S1.1.14	N1.1.14	SPSCWLED 75	1/2	0.070	55	17.71	2.685	13.16%
S1.1.15	N1.1.15	SPSCWLED 75	1/2	0.070	51	17.66	2.743	13.45%
S1.1.16	N1.1.16	SPSCWLED 75	1/2	0.070	30	17.64	2.764	13.55%
S1.1.17	N1.1.17	SPSCWLED 30	1/2	0.022	32	17.63	2.773	13.59%
S1.1.18	N1.1.18	SPSCWLED 30	1/2	0.022	64	17.62	2.781	13.63%
Totals			9	1.004	1012			

Notes:
Wire resistance is doubled in the calculations for two wires (Positive and Negative). The voltage calculated to the last device must not be lower than the manufactures listed minimum operating voltage (IE: rated operating voltage 16–33 VDC (24 VDC nominal)).

Point to Point NAC Voltage Drop Calculation

Date	1/12/2026		
Project Name	POCATELLO HIGH SCHOOL		
Circuit Number	FPS1.2		
		Wire Gauge	Resistance Per 1000
Nominal System Voltage	20.4 volts		
Minimum Device Voltage	16.0 volts		
Distance from source to 1st device	50 feet	14	3.07
Wire Gauge for balance of circuit		14	3.07
Max Output Current	3.00 amps	Speaker ID	S1.2.
Total Circuit Current	0.928 amps	NAC ID	N1.2.
Spare Current Capacity	20%		
End of Line Voltage	18.18 volts		
Notification Appliance Manufacturer	System Sensor		

Circuit is within limits

Speaker Identifier	NAC Identifier	Device Model # and Candela	Device Wattage	Device Current	Distance Previous Device	Voltage at Device	Drop From Source	Percent Drop
S1.2.1	N1.2.1	SPSCWLED 75	1/2	0.070	50	20.12	0.285	1.40%
S1.2.2	N1.2.2	SPSCWLED 75	1/2	0.070	100	19.59	0.812	3.98%
S1.2.3	N1.2.3	SPSCWLED 75	1/2	0.070	50	19.35	1.054	5.16%
S1.2.4	N1.2.4	SPSCWLED 75	1/2	0.070	32	19.21	1.195	5.86%
S1.2.5	N1.2.5	SPSCWLED 75	1/2	0.070	31	19.08	1.318	6.46%
S1.2.6	N1.2.6	SPSCWLED 75	1/2	0.070	50	18.90	1.495	7.33%
S1.2.7	N1.2.7	SPSCWLED 75	1/2	0.070	45	18.76	1.636	8.02%
S1.2.8	N1.2.8	SPSCWLED 75	1/2	0.070	65	18.59	1.811	8.88%
S1.2.9	N1.2.9	SPSCWLED 75	1/2	0.070	58	18.46	1.942	9.52%
S1.2.10	N1.2.10	SPSCWLED 30	1/2	0.022	40	18.39	2.015	9.88%
S1.2.11	N1.2.11	SPSCWLED 75	1/2	0.070	37	18.32	2.078	10.18%
S1.2.12	N1.2.12	SPSCWLED 30	1/2	0.022	39	18.27	2.127	10.43%
S1.2.13	N1.2.13	SPSCWLED 30	1/2	0.022	30	18.24	2.161	10.59%
S1.2.14	N1.2.14	SPSCWLED 75	1/2	0.070	27	18.21	2.188	10.72%
S1.2.15	N1.2.15	SPSCWLED 75	1/2	0.070	45	18.19	2.213	10.85%
S1.2.16	N1.2.16	SPSCWLED 30	1/2	0.022	38	18.18	2.218	10.87%
Totals			8	0.928	737			

Notes:
Wire resistance is doubled in the calculations for two wires (Positive and Negative). The voltage calculated to the last device must not be lower than the manufactures listed minimum operating voltage (IE: rated operating voltage 16–33 VDC (24 VDC nominal)).

Point to Point NAC Voltage Drop Calculation

Date	1/12/2026		
Project Name	POCATELLO HIGH SCHOOL		
Circuit Number	FPS1.3		
		Wire Gauge	Resistance Per 1000
Nominal System Voltage	20.4 volts		
Minimum Device Voltage	16.0 volts		
Distance from source to 1st device	65 feet	14	3.07
Wire Gauge for balance of circuit		14	3.07
Max Output Current	3.00 amps	Speaker ID	S1.3.
Total Circuit Current	1.018 amps	NAC ID	N1.3.
Spare Current Capacity	20%		
End of Line Voltage	17.76 volts		
Notification Appliance Manufacturer	System Sensor		

Circuit is within limits

Speaker Identifier	NAC Identifier	Device Model # and Candela	Device Wattage	Device Current	Distance Previous Device	Voltage at Device	Drop From Source	Percent Drop
S1.3.1	N1.3.1	SPSCRLED 75	1/2	0.070	65	19.99	0.406	1.99%
S1.3.2	N1.3.2	SPSCRLED 75	1/2	0.070	42	19.75	0.651	3.19%
S1.3.3	N1.3.3	SPSCRLED 30	1/2	0.022	35	19.56	0.839	4.11%
S1.3.4	N1.3.4	SPSCRLED 30	1/2	0.022	37	19.37	1.034	5.07%
S1.3.5	N1.3.5	SPSCRLED 75	1/2	0.070	42	19.15	1.249	6.12%
S1.3.6	N1.3.6	SPSCRLED 75	1/2	0.070	57	18.88	1.516	7.43%
S1.3.7	N1.3.7	SPSCRLED 75	1/2	0.070	51	18.67	1.734	8.50%
S1.3.8	N1.3.8	SPSCRLED 30	1/2	0.022	30	18.55	1.849	9.06%
S1.3.9	N1.3.9	SPSCRLED 30	1/2	0.022	36	18.42	1.982	9.71%
S1.3.10	N1.3.10	SPSCRLED 75	1/2	0.070	45	18.26	2.142	10.50%
S1.3.11	N1.3.11	SPSCRLED 75	1/2	0.070	42	18.13	2.273	11.14%
S1.3.12	N1.3.12	SPSCRLED 75	1/2	0.070	42	18.01	2.387	11.70%
S1.3.13	N1.3.13	SPSCRLED 75	1/2	0.070	38	17.93	2.473	12.12%
S1.3.14	N1.3.14	SPSCRLED 115	1/2	0.090	27	17.88	2.523	12.37%
S1.3.15	N1.3.15	SPSCRLED 75	1/2	0.070	47	17.82	2.584	12.66%
S1.3.16	N1.3.16	SPSCRLED 75	1/2	0.070	42	17.78	2.620	12.84%
S1.3.17	N1.3.17	SPSCRLED 75	1/2	0.070	43	17.76	2.638	12.93%
Totals			8 1/2	1.018	721			

Notes:
Wire resistance is doubled in the calculations for two wires (Positive and Negative). The voltage calculated to the last device must not be lower than the manufactures listed minimum operating voltage (IE: rated operating voltage 16–33 VDC (24 VDC nominal)).

Point to Point NAC Voltage Drop Calculation

Date	1/12/2026		
Project Name	POCATELLO HIGH SCHOOL		
Circuit Number	FPS3.6		
		Wire Gauge	Resistance Per 1000
Nominal System Voltage	20.4 volts		
Minimum Device Voltage	16.0 volts		
Distance from source to 1st device	150 feet	14	3.07
Wire Gauge for balance of circuit		14	3.07
Max Output Current	3.00 amps		
Total Circuit Current	0.040 amps		N3.6.
Spare Current Capacity	20%		
End of Line Voltage	20.36 volts		
Notification Appliance Manufacturer	System Sensor		

Circuit is within limits

	NAC Identifier	Device Model # and Candela		Device Current	Distance Previous Device	Voltage at Device	Drop From Source	Percent Drop
	N3.6.1	C01224TR		0.040	150	20.36	0.037	0.18%
Totals			0	0.040	150			

Notes:
Wire resistance is doubled in the calculations for two wires (Positive and Negative). The voltage calculated to the last device must not be lower than the manufactures listed minimum operating voltage (IE: rated operating voltage 16–33 VDC (24 VDC nominal)).

Point to Point NAC Voltage Drop Calculation

Date	1/12/2026		
Project Name	POCATELLO HIGH SCHOOL		
Circuit Number	FPS5.6		
		Wire Gauge	Resistance Per 1000
Nominal System Voltage	20.4 volts		
Minimum Device Voltage	16.0 volts		
Distance from source to 1st device	150 feet	14	3.07
Wire Gauge for balance of circuit		14	3.07
Max Output Current	3.00 amps	Speaker ID	S5.4.
Total Circuit Current	0.184 amps	NAC ID	N5.6.
Spare Current Capacity	20%		
End of Line Voltage	19.94 volts		
Notification Appliance Manufacturer	System Sensor		

Circuit is within limits

Speaker Identifier	NAC Identifier	Device Model # and Candela	Device Wattage	Device Current	Distance Previous Device	Voltage at Device	Drop From Source	Percent Drop
S5.4.1	N5.6.1	SPSCRLED 15	1/2	0.040	150	20.23	0.169	0.83%
S5.4.2	N5.6.2	SPSCRLED 15	1/2	0.018	220	20.04	0.364	1.78%
S5.4.3	N5.6.3	SPSCRLED 15	1/2	0.018	23	20.02	0.382	1.87%
S5.4.4	N5.6.4	SPSCRLED 15	1/2	0.018	23	20.00	0.397	1.95%
S5.4.5	N5.6.5	SPSCRLED 15	1/2	0.018	53	19.97	0.426	2.09%
S5.4.6	N5.6.6	SPSCRLED 15	1/2	0.018	17	19.97	0.434	2.13%
S5.4.7	N5.6.7	SPSCRLED 15	1/2	0.018	26	19.96	0.442	2.17%
S5.4.8	N5.6.8	SPSCRLED 15	1/2	0.018	50	19.95	0.454	2.22%
S5.4.9	N5.6.9	SPSCRLED 15	1/2	0.018	35	19.94	0.457	2.24%
Totals			4 1/2	0.184	597			

Notes:
Wire resistance is doubled in the calculations for two wires (Positive and Negative). The voltage calculated to the last device must not be lower than the manufactures listed minimum operating voltage (IE: rated operating voltage 16–33 VDC (24 VDC nominal)).

Point to Point NAC Voltage Drop Calculation

Date	1/12/2026		
Project Name	POCATELLO HIGH SCHOOL		
Circuit Number	FPS6.5		
		Wire Gauge	Resistance Per 1000
Nominal System Voltage	20.4 volts		
Minimum Device Voltage	16.0 volts		
Distance from source to 1st device	500 feet	14	3.07
Wire Gauge for balance of circuit		14	3.07
Max Output Current	3.00 amps		
Total Circuit Current	0.030 amps		N6.5.
Spare Current Capacity	20%		
End of Line Voltage	20.30 volts		
Notification Appliance Manufacturer	System Sensor		

Circuit is within limits

	NAC Identifier	Device Model # and Candela		Device Current	Distance Previous Device	Voltage at Device	Drop From Source	Percent Drop
	N6.5.1	OSI–R		0.015	500	20.31	0.092	0.45%
	N6.5.2	OSI–R		0.015	75	20.30	0.099	0.49%
Totals			0	0.030	575			

Notes:
Wire resistance is doubled in the calculations for two wires (Positive and Negative). The voltage calculated to the last device must not be lower than the manufactures listed minimum operating voltage (IE: rated operating voltage 16–33 VDC (24 VDC nominal)).

Point to Point NAC Voltage Drop Calculation

Date	1/12/2026		
Project Name	POCATELLO HIGH SCHOOL		
Circuit Number	FPS7.6		
		Wire Gauge	Resistance Per 1000
Nominal System Voltage	20.4 volts		
Minimum Device Voltage	16.0 volts		
Distance from source to 1st device	100 feet	14	3.07
Wire Gauge for balance of circuit		14	3.07
Max Output Current	3.00 amps		
Total Circuit Current	0.060 amps		N7.6.
Spare Current Capacity	20%		
End of Line Voltage	20.33 volts		
Notification Appliance Manufacturer	System Sensor		

Circuit is within limits

	NAC Identifier	Device Model # and Candela		Device Current	Distance Previous Device	Voltage at Device	Drop From Source	Percent Drop
	N7.6.1	OSI–R		0.015	100	20.36	0.037	0.18%
	N7.6.2	OSI–R		0.015	75	20.34	0.058	0.28%
	N7.6.3	OSI–R		0.015	60	20.33	0.069	0.34%
	N7.6.4	OSI–R		0.015	60	20.33	0.074	0.36%
Totals			0	0.060	295			

Notes:
Wire resistance is doubled in the calculations for two wires (Positive and Negative). The voltage calculated to the last device must not be lower than the manufactures listed minimum operating voltage (IE: rated operating voltage 16–33 VDC (24 VDC nominal)).

Point to Point NAC Voltage Drop Calculation

Date	1/12/2026		
Project Name	POCATELLO HIGH SCHOOL		
Circuit Number	FPS8.6		
		Wire Gauge	Resistance Per 1000
Nominal System Voltage	20.4 volts		
Minimum Device Voltage	16.0 volts		
Distance from source to 1st device	350 feet	14	3.07
Wire Gauge for balance of circuit		14	3.07
Max Output Current	3.00 amps		
Total Circuit Current	0.120 amps		N8.6.
Spare Current Capacity	20%		
End of Line Voltage	20.10 volts		
Notification Appliance Manufacturer	System Sensor		

Circuit is within limits

	NAC Identifier	Device Model # and Candela		Device Current	Distance Previous Device	Voltage at Device	Drop From Source	Percent Drop
	N8.6.1	C01224TR		0.040	350	20.14	0.258	1.26%
	N8.6.2	C01224TR		0.040	65	20.11	0.290	1.42%
	N8.6.3	C01224TR		0.040	22	20.10	0.295	1.45%
Totals			0	0.120	437			

Notes:
Wire resistance is doubled in the calculations for two wires (Positive and Negative). The voltage calculated to the last device must not be lower than the manufactures listed minimum operating voltage (IE: rated operating voltage 16–33 VDC (24 VDC nominal)).

Point to Point NAC Voltage Drop Calculation

Date	1/14/2026		
Project Name	POCATELLO HIGH SCHOOL		
Circuit Number	FPS9.1		
		Wire Gauge	Resistance Per 1000
Nominal System Voltage	20.4 volts		
Minimum Device Voltage	16.0 volts		
Distance from source to 1st device	300 feet	14	3.07
Wire Gauge for balance of circuit		14	3.07
Max Output Current	3.00 amps	Speaker ID	S9.1.
Total Circuit Current	0.214 amps	NAC ID	N9.1.
Spare Current Capacity	20%		
End of Line Voltage	19.71 volts		
Notification Appliance Manufacturer	System Sensor		

Circuit is within limits

Speaker Identifier	NAC Identifier	Device Model # and Candela	Device Wattage	Device Current	Distance Previous Device	Voltage at Device	Drop From Source	Percent Drop
S9.1.1	N9.1.1	SPSRLED 15	1/2	0.040	300	20.01	0.394	1.93%
S9.1.2	N9.1.2	SPSCRLED 15	1/2	0.018	23	19.98	0.419	2.05%
S9.1.3	N9.1.3	SPSCRLED 30	1/2	0.022	62	19.92	0.478	2.34%
S9.1.4	N9.1.4	SPSCRLED 15	1/2	0.018	26	19.90	0.500	2.45%
S9.1.5	N9.1.5	SPSRLED 15	1/2	0.018	155	19.79	0.610	2.99%
S9.1.6	N9.1.6	SPSCRLED 15	1/2	0.018	85	19.74	0.661	3.24%
S9.1.7	N9.1.7	SPSRLED 15	1/2	0.018	16	19.73	0.669	3.28%
S9.1.8	N9.1.8	SPSCRLED 30	1/2	0.022	33	19.72	0.682	3.34%
S9.1.9	N9.1.9	SPSCRLED 30	1/2	0.022	24	19.71	0.687	3.37%
S9.1.10	N9.1.10	SPSCRLED 15	1/2	0.018	50	19.71	0.693	3.40%
Totals			5	0.214	774			

Notes:
Wire resistance is doubled in the calculations for two wires (Positive and Negative). The voltage calculated to the last device must not be lower than the manufactures listed minimum operating voltage (IE: rated operating voltage 16–33 VDC (24 VDC nominal)).

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325 NORTH ARTHUR AVENUE
POCATELLO, ID 83204
FIRE ALARM VOLTAGE DROP CALCULATIONS

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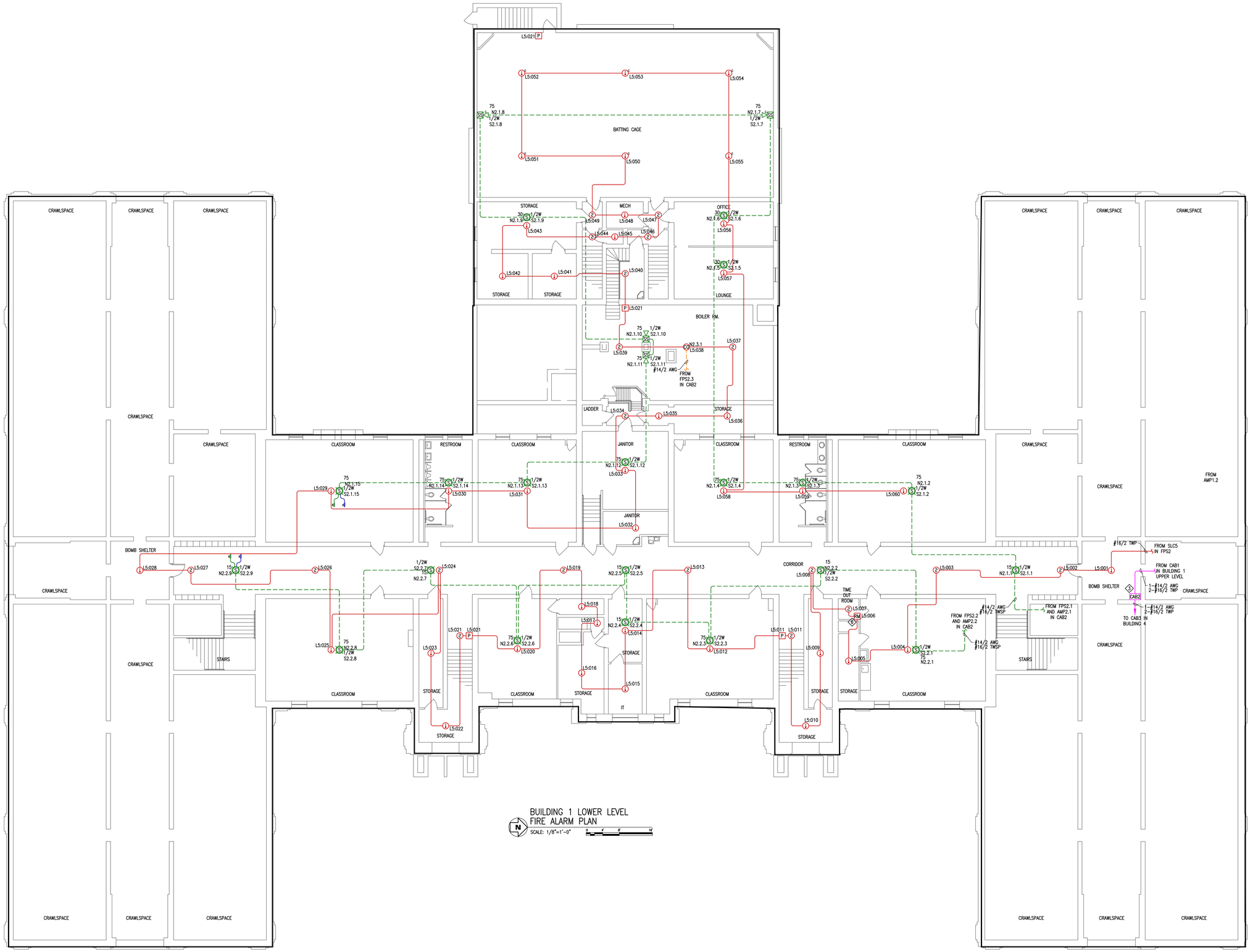

BUILDING 1 LOWER LEVEL FIRE ALARM PLAN

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BUILDING 1 LOWER LEVEL FIRE ALARM PLAN

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REVISION	0
SCALE	1/8"=1'-0"

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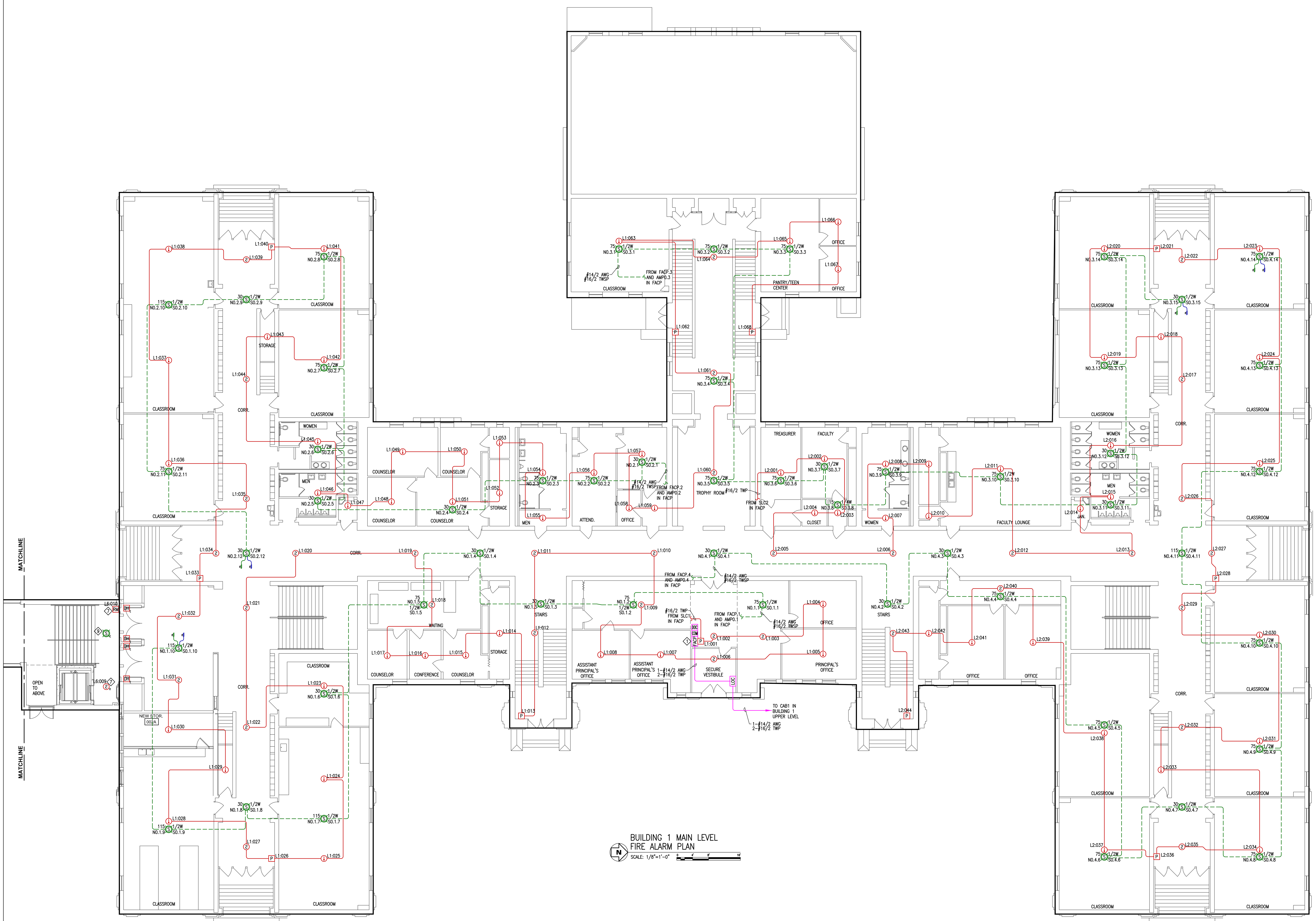

BUILDING 1 MAIN LEVEL FIRE ALARM PLAN
SCALE: 1/8"=1'-0"

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POCATELLO HIGH SCHOOL FIRE ALARM SYSTEM REPLACEMENT
325 NORTH ARTHUR AVENUE
POCATELLO, ID 83204
BUILDING 1 MIAN LEVEL FIRE ALARM PLAN

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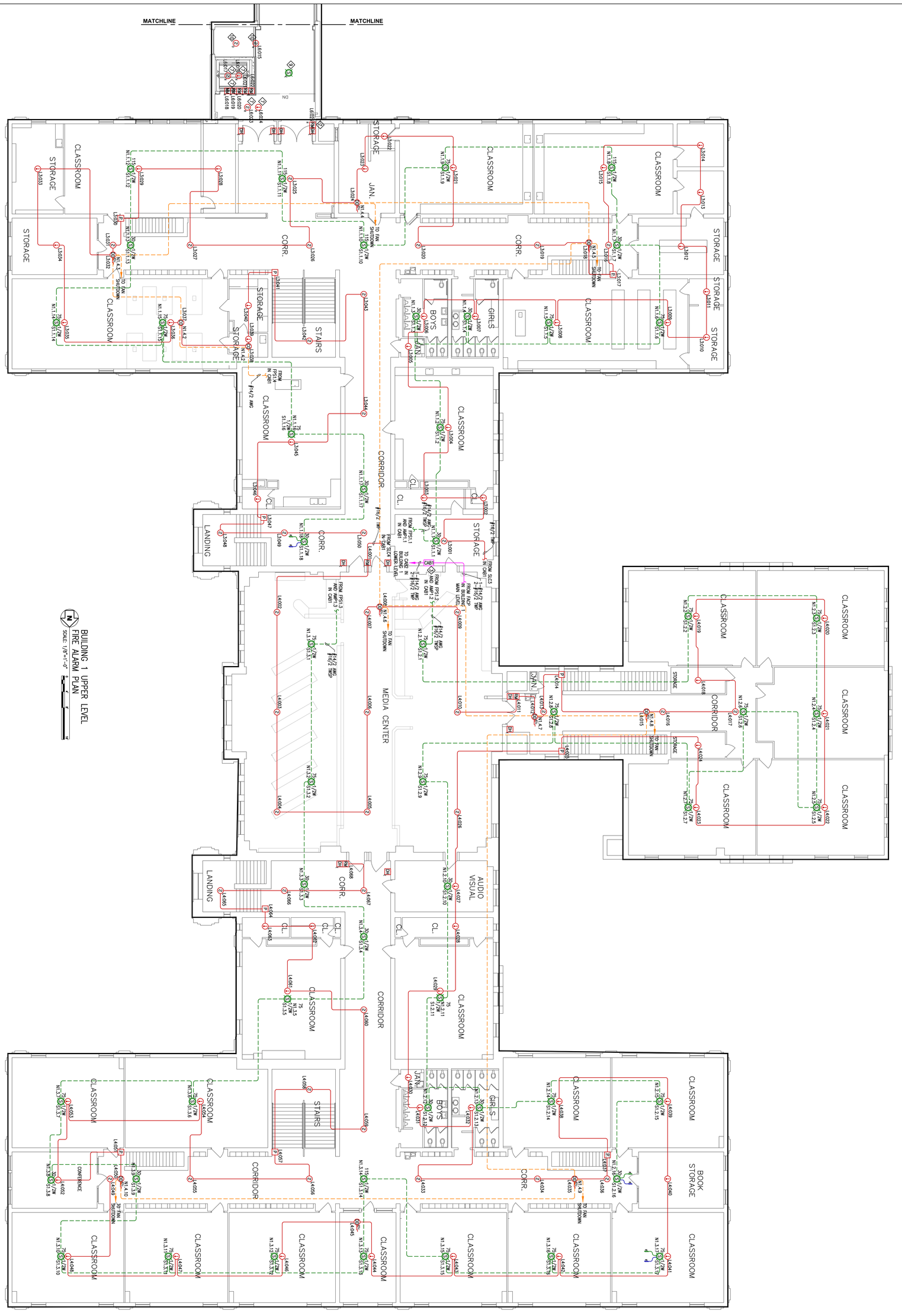

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SCALE	1/8"=1'-0"

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POCATELLO HIGH SCHOOL FIRE ALARM SYSTEM REPLACEMENT
325 NORTH ARTHUR AVENUE
POCATELLO, ID 83204
BUILDING 1 UPPER LEVEL FIRE ALARM PLAN

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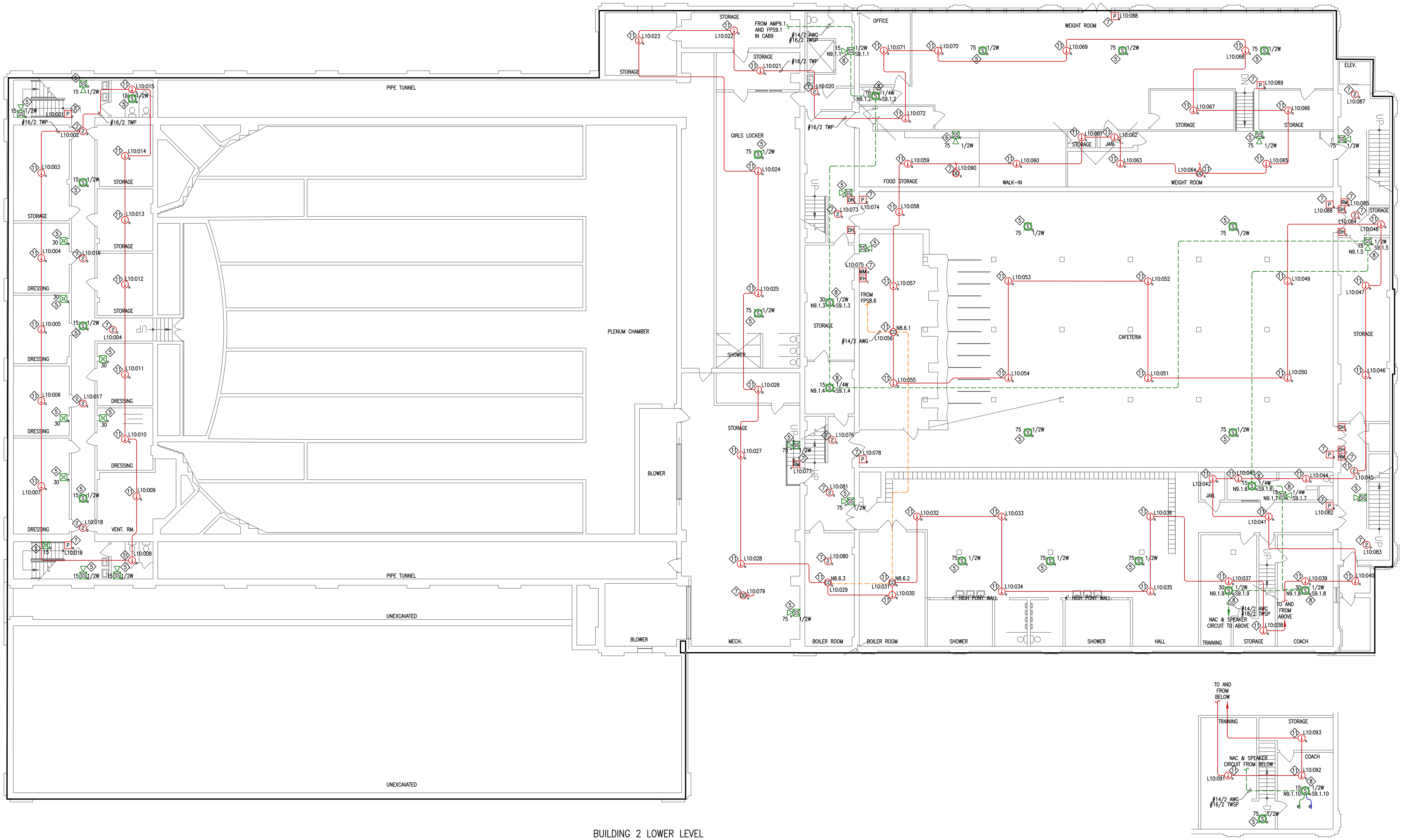

BUILDING 2 LOWER LEVEL FIRE ALARM PLAN

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

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BUILDING 2 LOWER LEVEL FIRE ALARM PLAN

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DATE	1/13/2026
REVISION	0
SCALE	1/8"=1'-0"

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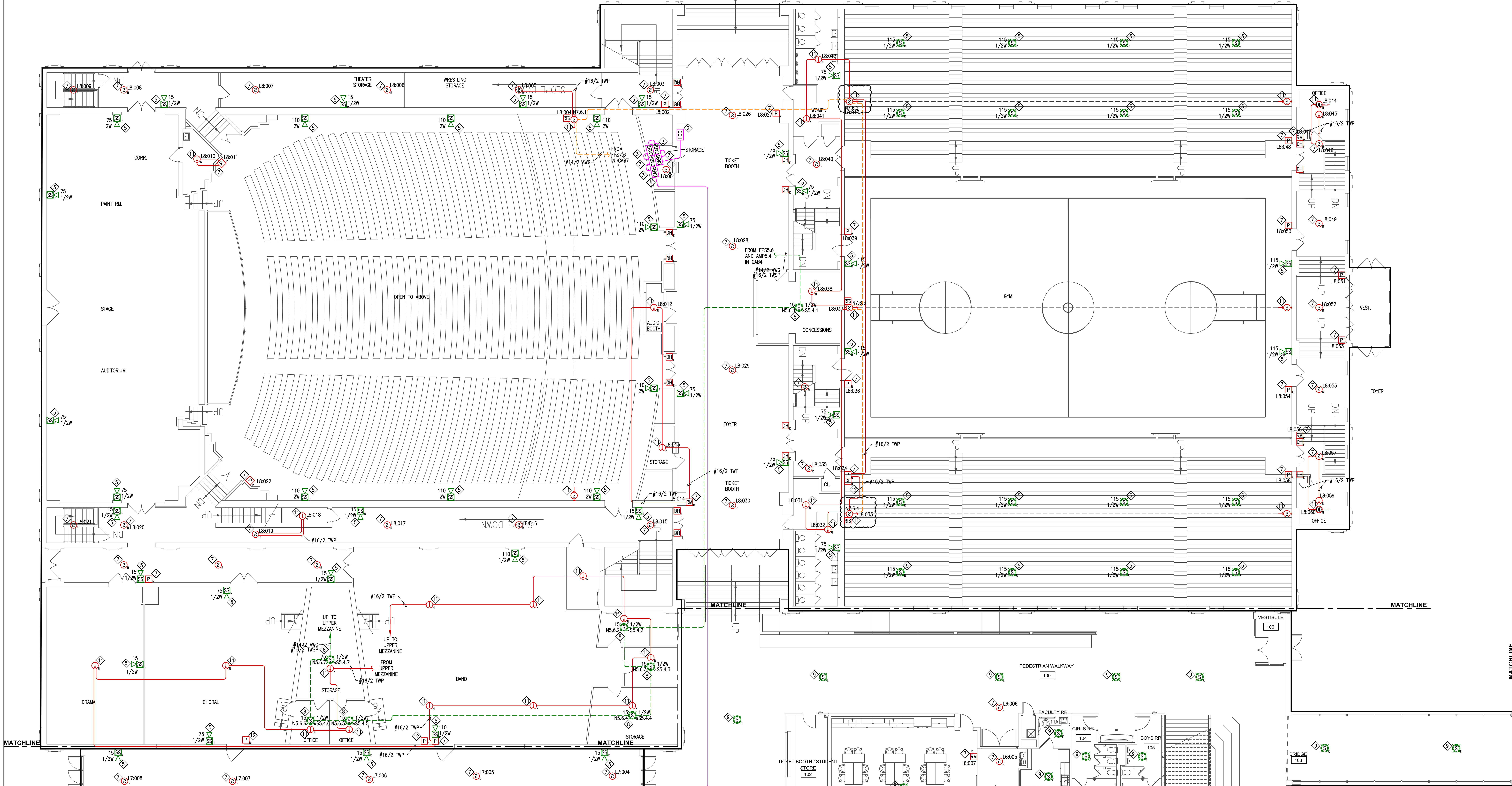
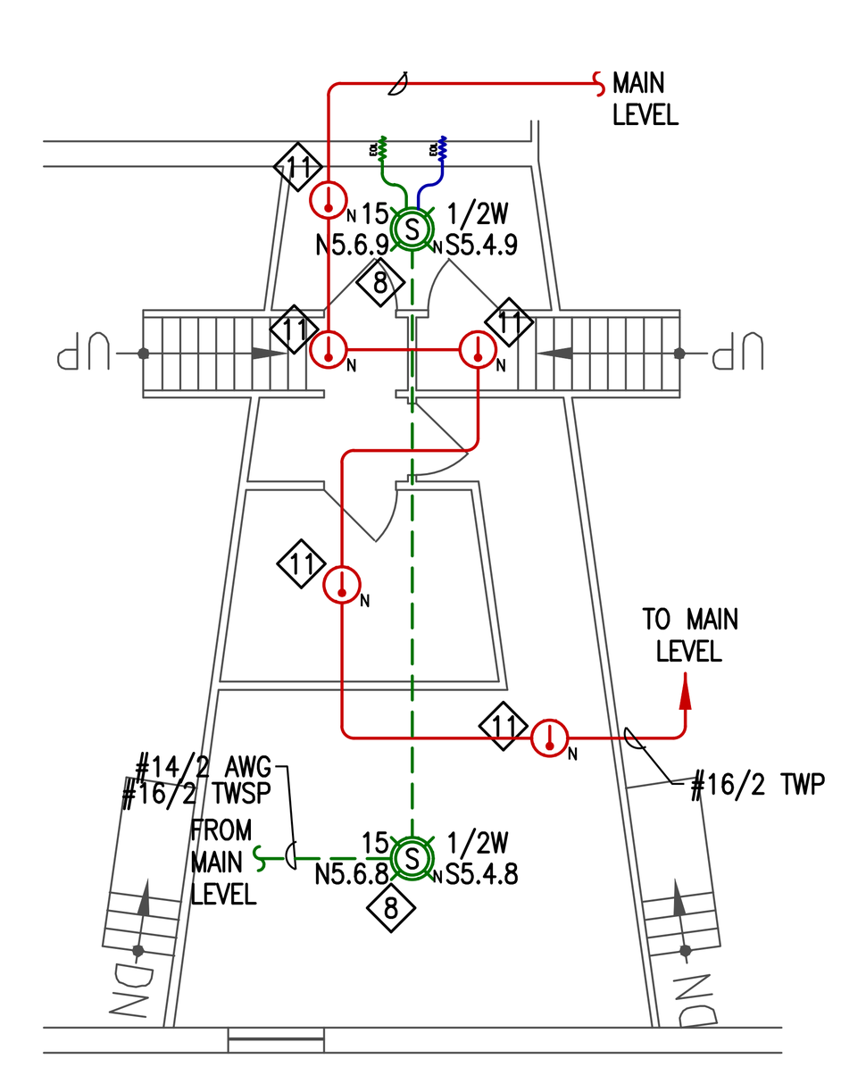


BUILDING 2 MAIN LEVEL FIRE ALARM PLAN
SCALE: 1/8"=1'-0"



UPPER MEZZANINE FIRE ALARM PLAN
SCALE: 1/8"=1'-0"

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325 NORTH ARTHUR AVENUE
POCATELLO, ID 83204
BUILDING 2 MAIN LEVEL FIRE ALARM PLAN

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REVISION	0
SCALE	1/8"=1'-0"

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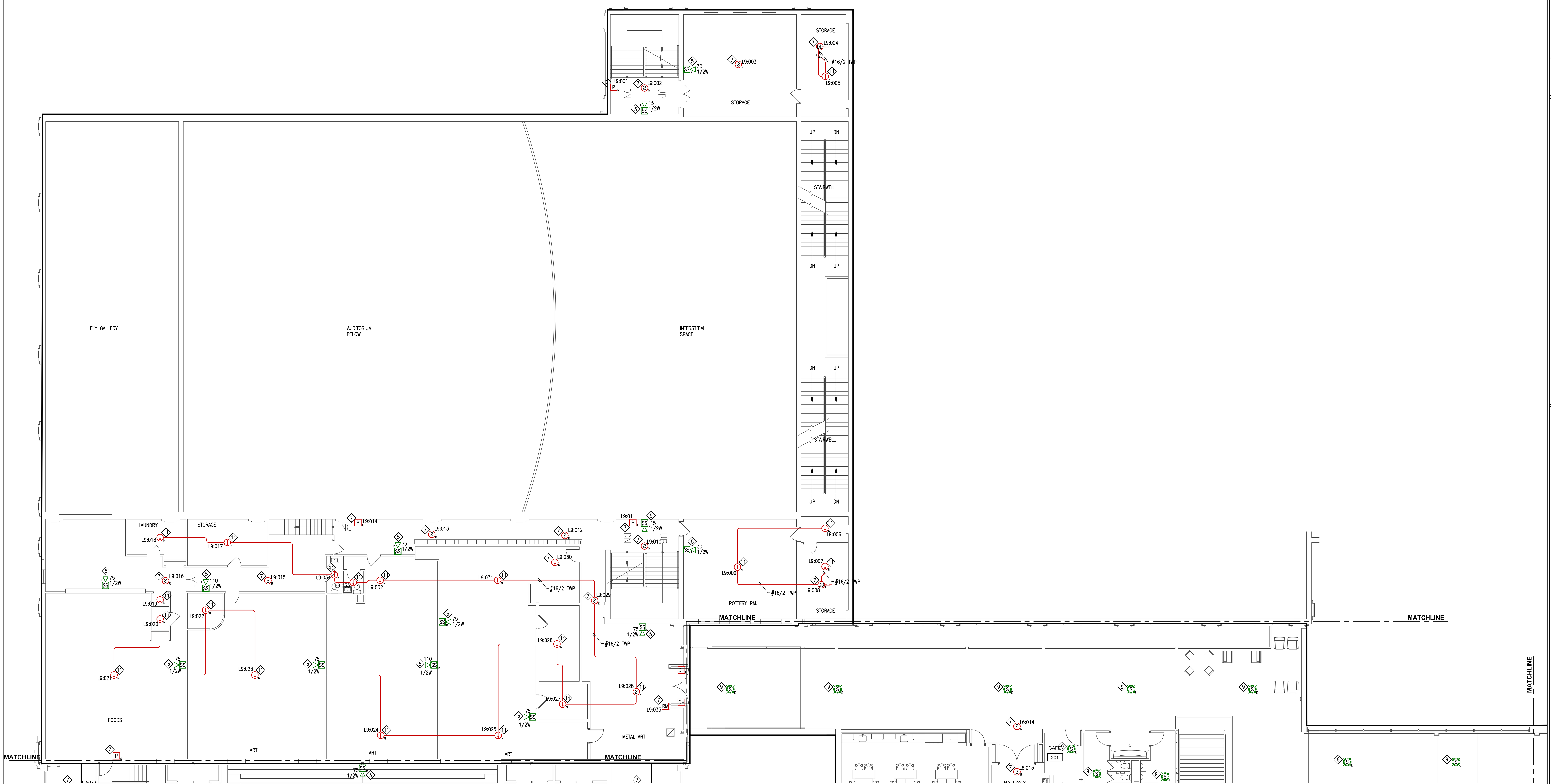

BUILDING 2 UPPER LEVEL FIRE ALARM PLAN

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

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BUILDING 2 UPPER LEVEL FIRE ALARM PLAN

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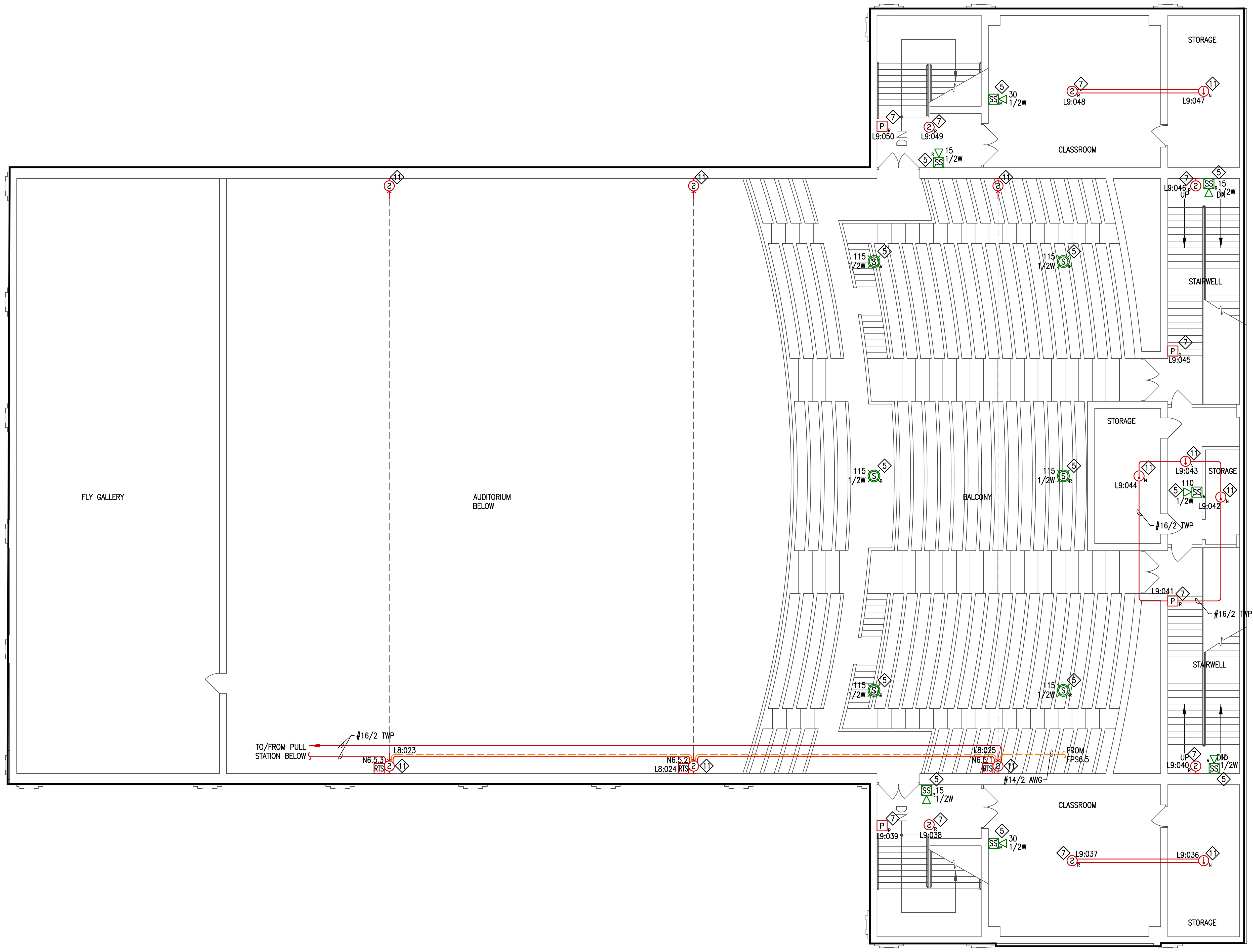

BUILDING 2 BALCONY LEVEL FIRE ALARM PLAN

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

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BUILDING 2 BALCONY LEVEL FIRE ALARM PLAN

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SCALE	1/8"=1'-0"

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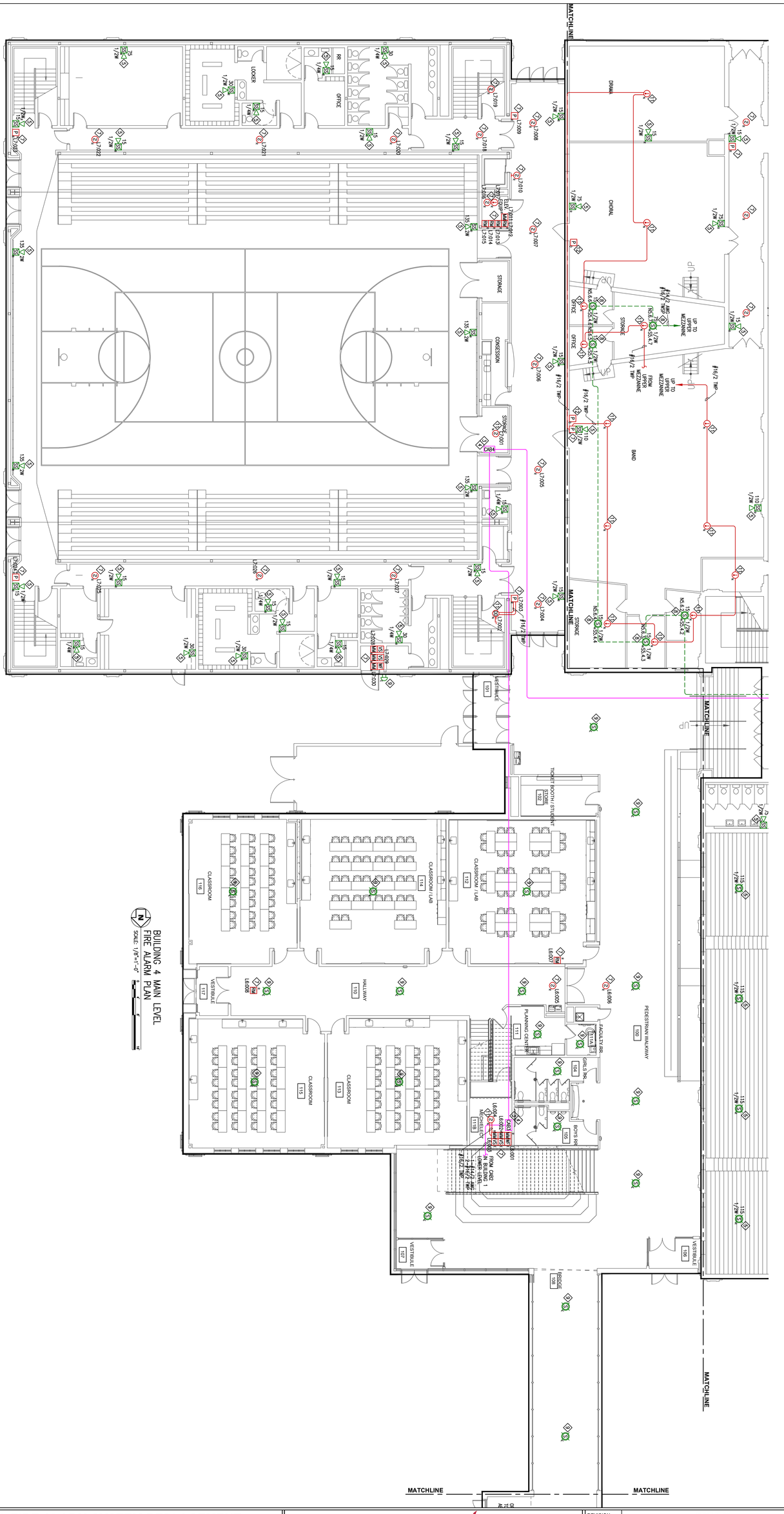

BUILDING 3 MAIN LEVEL FIRE ALARM PLAN

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

BUILDING 4 MAIN LEVEL FIRE ALARM PLAN

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

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POCATELLO HIGH SCHOOL FIRE ALARM SYSTEM REPLACEMENT

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BUILDINGS 3 & 4 MAIN LEVEL FIRE ALARM PLAN

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BUILDING 3 UPPER LEVEL FIRE ALARM PLAN
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BUILDING 4 UPPER LEVEL FIRE ALARM PLAN
SCALE: 1/8"=1'-0"

POCATELLO HIGH SCHOOL FIRE ALARM SYSTEM REPLACEMENT
325 NORTH ARTHUR AVENUE
POCATELLO, ID 83204
BUILDINGS 3 & 4 UPPER LEVEL FIRE ALARM PLAN

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