REQUEST FOR PROPOSALS (RFP)
WestEd Procurement Department

Title: Replacement of Fire Alarm System at WestEd Headquarters
Issue Date: June 2\textsuperscript{nd}, 2023
Due Date: June 30\textsuperscript{th}, 2023
RFP Contact: Oscar Leon, Procurement Manager
Email: oleon@wested.org
Phone: 562.799.5149
Proposal Delivery: oleon@wested.org \textit{(preferred)}

WestEd, Attn: Oscar Leon
Suite 220, 3020 Old Ranch Parkway
Seal Beach, CA 90740

Note: Proposal responses will be considered valid for a period of 120 calendar days after the proposal due date.

Updates, changes, or addendums to this RFP are posted at https://www.wested.org/about-us/work-with-wested/
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1. PURPOSE

WestEd is soliciting proposals from qualified electrical contractors (the “firm”) to perform all electrical work to replace a fire alarm system at WestEd’s headquarters located in San Francisco at 730 Harrison Street, including procuring the necessary permits.

The firm will be expected to subcontract Pacific Auxiliary Fire Alarm Company (PAFA) for their labor in the installation of the new system. PAFA maintains and monitors the current alarm system for WestEd. PAFA will oversee the transition to the new panel and is expected to program the new panel, to complete pre-testing and to coordinate a successful final test with the fire marshal. A copy of PAFA’s prevailing wage labor proposal for panel assembly, system programming, system pre-testing and fire marshal final testing is included as a reference. The terms of the final agreement with PAFA will be negotiated between the selected electrical contractor (“firm”) and Pacific Auxiliary Fire Alarm Company.

WestEd hired PAFA to design the new system which has been approved by the City of San Francisco. A copy of the approved fire alarm drawings is included in this request for proposal (RFP) along with background information on WestEd and specific information that must be included in the proposals submitted.

The new fire panel and all devices for the new fire alarm system has been ordered through an agreement between PAFA and WestEd.

There will be a job walk at 10am on Tuesday, June 20th at 730 Harrison Street, San Francisco, CA 94107. RSVP to Oscar Leon (oleon@wested.org). Attendance is mandatory for all proposers.

An electronic PDF version or a physical copy of the proposal must be delivered no later than the posted deadline.

2. WESTED BACKGROUND

WestEd is a not-for-profit research, development, and service agency that works with education and other communities to promote excellence, achieve equity, and improve learning for children, youth, and adults. WestEd has over 800 employees, located in 16 offices across the United States, and had revenue of $212 million for Fiscal Year 2022.

WestEd is a Joint Powers Agency (“JPA”) formed under the California Joint Exercise of Powers Act, California Government Code section 6500 et seq. and governed by public entities in Arizona, California, Nevada, and Utah. WestEd’s Board of Directors is comprised of members representing agencies from these states, as well as other national education and business leaders. WestEd’s income is tax exempt under Section 115 (1) of the Internal Revenue Code.
WestEd complies with the required federal regulations on procurement, as well as applicable State procurement law and procedures.

Efforts, including affirmative steps prescribed by federal regulation (if applicable), will be made by WestEd to utilize small and minority-owned businesses, women’s business enterprises and labor surplus area firms when possible. The selected firm may be required to undertake affirmative steps to utilize such firms in subcontracts if this contract is federally funded. A firm qualifies as a small business firm if it meets the definition of “small business” as established by the Small Business Administration (13 CFR 121.201, Subsector 238210) by having average annual receipts for the last three fiscal years not exceeding $19 million.

3. AWARD OF CONTRACT

WestEd reserves the right to reject any and all proposals. Award, if any, will be to the bidder whose proposal best complies with all of the requirements of the RFP document(s) and any addenda. Written notification will be made to all bidders via a "Notice of Intent to Award". The notice is valid for five (5) consecutive working days prior to the award. Evaluation methodology and bases for award are described in the Evaluation and Selection section of this document.

4. TERM

The term of any resulting agreement is based upon the project timeline, which will include but not be limited to equipment sourcing, installation, testing, and implementation, as well as decommissioning of current fire alarm system and equipment removal and disposal. Term to not surpass a year.

5. SCHEDULE OF EVENTS

<table>
<thead>
<tr>
<th>RFP Activity</th>
<th>Date (2023)</th>
</tr>
</thead>
<tbody>
<tr>
<td>RFP Released</td>
<td>June 2, 2023</td>
</tr>
<tr>
<td>Job Walk</td>
<td>June 20, 2023</td>
</tr>
<tr>
<td>Questions Due via email*</td>
<td>June 23, 2023</td>
</tr>
<tr>
<td>Response to questions posted</td>
<td>June 26, 2023</td>
</tr>
<tr>
<td>Proposal Submission Deadline</td>
<td>June 30, 2023</td>
</tr>
<tr>
<td>Interviews (if applicable)</td>
<td>July 5-7</td>
</tr>
<tr>
<td>Notice of Intent to Award</td>
<td>July 11</td>
</tr>
<tr>
<td>Protest Period</td>
<td>July 11-17</td>
</tr>
<tr>
<td>Contract Award &amp; Negotiations</td>
<td>July 18/TBA</td>
</tr>
</tbody>
</table>
Commencement of Services | Mid-September/TBA

*Questions must be emailed to oleon@wested.org. Questions will be accepted and responded to via email ONLY.

The dates up to and including the “Proposal Submission Deadline” date may be adjusted upon advance written notice. Dates after the receipt of proposals may be adjusted without written notice.

**PROPOSALS NOT RECEIVED BY THE DATE AND TIME SPECIFIED WILL BE REJECTED.**
6. SOLICITATION FORM

If awarded, the undersigned offers and agrees to furnish the services listed in this RFP at the prices and terms stated, subject to mutually agreed upon terms and conditions. Additionally, the undersigned warrants and represents their authority to bind the firm into an agreement subject to the terms and conditions of this Request for Proposal.

Company Name:

Street Address:

City, State Zip:

Email:

Telephone:

<table>
<thead>
<tr>
<th>By (Authorized Signature)</th>
<th>Date Signed:</th>
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</table>

Print name and title of Authorized Signatory

ALL SPECIFICATIONS, TERMS, AND CONDITIONS OF THIS REQUEST FOR PROPOSAL WILL BE INCORPORATED INTO ANY RESULTING AGREEMENT.

FAILURE TO SIGN THIS PAGE WILL DISQUALIFY YOUR RESPONSE
7. **SCOPE OF WORK**

The firm is expected to oversee all aspects of the installation of all new equipment required to replace the fire alarm system in collaboration with Pacific Auxiliary Fire Alarm ("PAFA") as subcontractor to firm. The selected firm will be responsible for procuring and installing all conduit, wire, electrical boxes, and electrical permits necessary for the new fire alarm system. The firm will also remove all existing fire equipment and install the new fire panel and all new devices. Testing of the system shall be done with the firm providing at least one person to test the field devices, while PAFA technician is at the control panel checking for proper operation.

The new panel and devices will be provided by PAFA.

The intention is to complete this project efficiently within a timeframe agreed to by WestEd, PAFA and the selected firm, due to the critical nature of this work to building occupants and operations and due to the age of the current panel.

Additional details regarding the overall scope of work are contained in the attached approved fire alarm system drawings and equipment submittal.

The firm is expected to enter into a mutually negotiated agreement with WestEd that indemnifies WestEd, that outlines the scope of work, contract sum and project timeline, and identifies the process for handling change orders and disputes.

The firm must also meet the following insurance requirements:

**Workers' Compensation & Employer’s Liability (With Excess Liability Policy)**

1. Policy to be amended to state THIRTY (30) days prior written notice of cancellation to be given to WestEd.
2. Statutory Limits for Workers Compensation; Employer’s Liability for not less than $2,000,000 per Person/Accident
3. Waiver of Subrogation in favor of WestEd

**Commercial General, Business Automobile and Umbrella/Excess Liability Insurance**

1. With Bodily Injury and Property Damage Liability limits of not less than $2,000,000 each occurrence/$3,000,000 aggregate, your policy must include Premises/Operations, Products & Completed Operations, Personal & Advertising Injury and Contractual Liability coverage and cover the services and products you are performing or providing in this agreement.
2. Business Auto Liability insurance for not less than $1,000,000, if using a company owned automobile.
3. Umbrella / Excess Liability above general liability, auto and employer’s liability for limits not less than $5,000,000 per occurrence, $5,000,000 aggregate for the services and products you are performing or providing in this agreement.

4. Contractor’s Pollution and Professional Liability required if applicable to contract.

5. WestEd, a California JPA, their directors, officers, employees, volunteers, representatives, and agents shall be named as Additional Insureds and the proper endorsement attached.

6. Your policy must be endorsed as follows: This policy shall be primary and not contributing with any other insurance in effect for the Additional Insured shown in #5 above. Waiver of Subrogation in favor of WestEd.

7. Policy to be endorsed to state THIRTY (30) days prior written notice of cancellation to be given to WestEd.

8. PROPOSAL OUTLINE

In order to simplify the review process and to obtain the maximum degree of comparability, the proposals must include the following items and be organized in the manner specified below.

i. Letter of Transmittal
   A letter of transmittal briefly outlining the firm’s understanding of the work and general information regarding the firm and individuals to be involved is limited to a maximum of two pages. The letter should clearly identify the local address of the office of the firm performing the work, the telephone number, and the name of the authorized representative. The letter shall include a clear statement from Proposer that this offer is binding and shall remain open for 120 days from the due date of this RFP and acknowledges that its proposal cannot be withdrawn within that time without the written consent of WestEd.

ii. Table of Contents
    Include a table of contents that identifies the material by section, page number, and a reference to the information to be contained in the proposal.

iii. Solicitation Form
    The Solicitation Form included in the RFP shall be included here.

iv. Profile of Firm Proposing
    a. State whether the firm is a local, national, or international firm and include a brief description of the size of the firm. State whether the proposer is a qualified small or minority-owned business, women’s business enterprise or labor surplus area firm.
    b. State whether the firm is in compliance with the registration and permit requirements to do business in California.
    c. Describe the local office from which the work is to be performed.
       • Location of office.
• Current size of the office.
• The size of professional staff by level, such as partner, manager and supervisor, senior, and other professional staff.

v. Qualifications
   a. Describe recent experience with similar engagements to which the proposal relates.
   b. Include resumes of all key professional members who will be assigned to the project. Résumés should be included for all professional members of the team. The résumés should include specific engagements or clients to whom similar services have been provided if possible.
   c. Describe the firm’s policy on notification of changes in key personnel.
   d. Briefly describe the firm’s system of quality control to ensure the work meets a high-quality standard.
   e. Include three client references.

vi. Scope of Services and Proposed Project Schedule
Briefly describe the firm’s understanding of the scope of services to be provided including a draft schedule outlining a timeframe during which the project will be completed.

vii. Fees and Compensation
Provide the following information as relevant to the fee proposal:
   a. Estimated total hours.
   b. Estimated out-of-pocket expenses.
   c. The hourly rate by staff classification.
   d. The all-inclusive maximum fee and out-of-pocket expenses, which will not be exceeded.
   e. The frequency and timing of the firm’s billing process.
   f. Cost of additional related services if requested by WestEd.
If the fee is proposed under a different methodology (e.g., a fixed price for all services) please provide a basis for the proposed fee.

i. Exceptions to RFP Requirements
Any exceptions to the requirements of this RFP shall be noted in the proposal. WestEd shall have no obligation to accept any exceptions and may reject any proposal noting exceptions to its RFP requirements.

9. EVALUATION AND SELECTION

All proposals shall be reviewed to verify the bidder has met the RFP submission requirements. Proposals that have not followed the rules, do not meet minimum content/requirements and quality standards, take unacceptable exceptions to WestEd’s General Provisions (Section 20), or
are nonresponsive to the required responses in this RFP will be eliminated from further consideration.

Proposals determined to have met the RFP requirements will be reviewed and evaluated by a WestEd Evaluation Team. WestEd may, at its discretion, request interviews/presentations by or a meeting with any or all firms, to clarify or negotiate modifications to the firm’s proposal. However, WestEd reserves the right to make an award without further discussion of the proposals submitted, select the response that best fits its needs, may choose to cancel the RFP, or to not select any firm. Therefore, proposals should be submitted on the most favorable terms, from both technical and price standpoints, that the firm can propose. WestEd contemplates award to the responsive, responsible firm whose proposal is the most advantageous to WestEd, based on the highest total points and its decision is final. The successful firm will enter into a written agreement with WestEd that will include service agreements and compensation agreements.

As a federal contractor, it is WestEd’s policy to utilize, whenever possible, small businesses, disadvantaged small businesses, veteran-owned small businesses, minority-owned firms, and/or woman-owned businesses. Therefore, firms that meet these criteria will be given preference, should they meet all other stated criteria in the RFP.

By use of numerical and narrative scoring techniques, proposals will be evaluated by WestEd against the factors specified below. The relative weights of the criteria—based on a 100-point scale—are shown below.

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Points</th>
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<tbody>
<tr>
<td>1. Qualifications, experience, references, and ability to carry out the described work</td>
<td>35 points</td>
</tr>
<tr>
<td>2. Proposed methodologies and processes to accomplish work</td>
<td>25 points</td>
</tr>
<tr>
<td>3. Fees / expenses</td>
<td>25 points</td>
</tr>
<tr>
<td>4. Other factors, including completeness of proposal, adherence to RFP instructions, other relevant factors not considered elsewhere, SBA-WO-V etc.</td>
<td>10 points</td>
</tr>
</tbody>
</table>

10. REJECTION OF PROPOSAL(S)

WestEd reserves the right in its sole discretion to reject any or all proposals, in whole or in part, without incurring any cost or liability whatsoever. All proposals will be reviewed for completeness of the submission requirements. The proposal may be rejected if it fails to meet a material
requirement of the RFP or if it is incomplete or contains irregularities. A deviation is material to the extent that a proposal is not in substantial accord with RFP requirements.

Immaterial deviations may cause a bid to be rejected. WestEd may or may not waive an immaterial deviation or defect in a proposal. WestEd’s waiver of an immaterial deviation or defect will in no way modify the RFP or excuse a firm from full compliance with the RFP requirements.

Any proposal may be rejected where it is determined to be not competitive, or where the cost is not reasonable.

Proposals that contain false or misleading statements may be rejected if in WestEd’s opinion the information was intended to mislead WestEd regarding a requirement of the RFP.

WestEd may reject a proposal from a firm it finds non-responsible. Any person or entity that has substantially assisted WestEd in preparing any part of this RFP is prohibited from submitting a proposal. Submission of a proposal to WestEd shall constitute the firm’s certification that the proposal is not collusive.

11. QUESTIONS & POINT OF CONTACT

Questions and comments regarding this RFP must be in writing and received no later than the date indicated in Section 5, Schedule of Events. All questions will be responded to via email. Firm(s) invited to submit proposals understand and agree that they have an affirmative duty to inquire and seek clarification regarding anything in this RFP that is unclear or open to more than one interpretation.

WestEd, at its sole discretion, may make questions submitted by Firms and responses to the submitted questions available to all Firms.

All communications, including any requests for clarification, concerning this RFP should be addressed in writing to:

Oscar Leon
Procurement Manager
oleon@wested.org

12. ERRORS AND OMISSIONS

If prior to the Proposal deadline a Bidder discovers any ambiguity, conflict, discrepancy, omission or other error in the RFP or any of its exhibits and/or appendices, Bidder shall immediately notify WestEd of such error in writing and request modification or clarification of the document. Modifications may be made by addenda prior to the RFP response deadline.
13. ADDENDA

WestEd reserves the right in its sole discretion to revise or amend this RFP prior to the stated submittal deadline. Any such revisions will be made by written addenda to this RFP. Firms are responsible for verifying they have received, and all proposals shall acknowledge receipt of, all addenda issued by WestEd relating to this RFP. Failure to acknowledge receipt of all such addenda may render a proposal nonresponsive.

14. CANCELLATION OF SOLICITATION

This solicitation does not obligate WestEd to enter into an agreement. WestEd retains the right to cancel this RFP at any time for any reason. WestEd also retains the right to obtain the services specified in this RFP in any other way. No obligation, either expressed or implied, exists on the part of WestEd to make an award or to pay any cost incurred in the preparation or submission of response to the RFP.

15. DELIVERY OF PROPOSAL

Electronic copies of proposals must be received no later than the time and date indicated in Section 5, Schedule of Events. Any response received after this date may be returned or not considered. Responses should be submitted electronically to the Procurement Manager at oleon@wested.org. If bidders wish to also submit a hard copy of the proposal, it needs to be postmarked no later than the due date and mailed to Suite 220, 3020 Old Ranch Parkway, Seal Beach, CA 90740; Attn: Oscar Leon.

Submission of a proposal shall constitute the firm’s representation that it has thoroughly examined and become familiar with the scope of work set forth in this RFP; understands the requirements of the scope of work, the nature of the work and all other matters that may affect the work; will honor its proposal for no less than 120 days after the submission date stated in this RFP (or until execution of a final contract with the selected firm, if sooner), and acknowledges that its proposal cannot be withdrawn within that time without the written consent of WestEd; will comply with all requirements set forth in this RFP, and in the ensuing contract, if any.

16. PROTESTS

Following the selection of the apparent successful firm, WestEd shall notify all firms of its intent to award a contract to such firm. Any protest to the award of the contract to the apparent successful firm shall be submitted to WestEd in writing within no less than five (5) calendar days from the date of such notice. Any protest shall state with specificity the ground on which the protestor alleges the contract may not be awarded to the apparent successful firm. WestEd shall consider any properly submitted protest and may accept or reject such protest as it determines appropriate in its sole discretion.
17. NOTICE TO FIRM(S)

All materials provided to WestEd become the property of WestEd and may be returned only at its sole discretion. All proposals and any materials submitted with a proposal may be deemed public records subject to disclosure pursuant to the California Public Records Act. No portion of any proposal or materials submitted therewith will be withheld from disclosure as proprietary, trade secret or confidential unless that portion is clearly marked by the firm as such, and the firm agrees to indemnify WestEd against any claim or action to compel disclosure of such portion of the proposal.

WestEd is not obligated to accept any proposal or to negotiate with any entity. All transactions are subject to the final approval of WestEd, which reserves the right to reject any and all proposals without liability. All costs directly or indirectly related to a response to this RFP will be borne by the firm.

18. USE OF SEPARATE CONSULTANTS/CONTRACTORS & SUBCONSULTANTS FOR PORTIONS OF SERVICES

WestEd reserves the right to award all or only a portion of the work/scope of services that is the subject of this RFP to the successful proposer. This includes the right to award one or more portions of the services to a separate contractor if WestEd deems such award to be most advantageous to WestEd in its sole discretion. WestEd further reserves the right to review, approve, and/or reject any proposed subconsultants and/or subcontractors proposed by any proposer if deemed to be in the best interest of WestEd. Proposers acknowledge that if WestEd elects to award any such separate or independent contract the successful proposer shall coordinate its work with such separate contractors as directed by WestEd.

19. COMPLIANCE WITH LAWS

Any Firm must affirmatively agree and certify that it will comply with all applicable federal, state, and local laws and regulations, including but not limited to the provisions of the Fair Employment and Housing Act (Govt. Code, § 12900 et seq.) and any applicable regulations promulgated there under (Cal. Code of Regs., tit. 2, § 72850.0 et seq.). Any Firm must affirmatively agree to include the non-discrimination and compliance provisions of this clause in any and all subcontracts to perform work under the agreement.

20. GENERAL PROVISIONS

A. Amendments to RFP. WestEd reserves the right to amend the RFP or issue to all Respondents a Notice of Amendment to answer questions for clarification.
B. **No Commitment to Award.** Issuance of this RFP and receipt of proposals does not commit WestEd to award a contract. WestEd expressly reserves the right to postpone the RFP process for its own convenience, to accept or reject any or all proposals received in response to this RFP, to negotiate with more than one Respondent concurrently, or to cancel all or part of this RFP.

C. **Amendments to Proposals.** No amendment, addendum or modification will be accepted after the deadline stated herein for receiving Proposals. Respondent may modify or amend its Proposal only if WestEd receives the amendment prior to the deadline stated herein for receiving Proposals.

D. **Non-Responsive Proposals.** A Proposal may be considered non-responsive if conditional, incomplete, or if it contains alterations of form, additions not called for, or other irregularities that may constitute a material change to the Proposal.

E. **Late Proposals.** WestEd will not be responsible for Proposals that are delinquent, lost, incorrectly marked, sent to an address other than that given herein, or sent by mail or courier service and not signed for or acknowledged by WestEd.

F. **Withdrawal of Proposals.** A Proposal may be withdrawn after it is received by written request signed by the Bidder or authorized representative, prior to the proposal submission deadline. Proposal may be withdrawn and resubmitted in the same manner if done so prior to the appropriate deadline. Withdrawal or modification offered in any other manner will not be considered.

G. **Costs for Preparing.** WestEd will not compensate any Respondent for the cost of preparing any Proposal, and all materials submitted with a Proposal shall become the property of WestEd. WestEd will retain all Proposals submitted and may use any idea in a Proposal regardless of whether that Proposal is selected.

H. **Alternative Proposals.** Only one final proposal is to be submitted by each Firm. Multiple proposals will result in rejection of all proposals submitted by the Respondent.

I. **Public Documents.** All Proposals and all evaluation and/or scoring sheets shall be available for public inspection at the conclusion of the selection process.

J. **Non-Endorsement.** If awarded, the bidder shall not issue any news releases or other statements pertaining to selection, which state or imply WestEd endorsement of bidder’s services.

K. **Conflict of Interest.** Bidders are advised that the bidder’s officers and employees shall comply with the disclosure, disqualification, and other provisions of California’s Political Reform Act of 1974 (Government Code Section 81000 et seq.) if their responsibilities include the making or participation in the making of a WestEd decision.
21. EXHIBITS

a. PAFA Labor Proposal
b. Fire Alarm Specification Book
c. Approved FA Permit Plans
Proposal: Fire Alarm System Tenant Improvement Project
Labor Only
730 Harrison Street, San Francisco, CA

PAFA is pleased to present this fire alarm system tenant improvement (labor only) proposal. The following is included in this proposal:

Technical Labor

Proposal Price: $28,630.00

Exclusions and Clarifications

1. This labor-only proposal is based on approved fire alarm drawings dated 3-22-23. The proposal is for a design-build fire alarm system.

2. This proposal does not include electrical installation or electrical permits. All conduit, wire, electrical boxes and their installation are excluded. Device and panel mounting are excluded, including wire terminations.

3. PAFA technical labor includes panel assembly, system programming, system pre-testing and fire marshal final testing. All other labor is excluded. Testing of the system shall be done with the electrical contractor providing at least one person to test the field devices, while our technician is at the control panel checking for proper operation.

4. If required, any firewatch is excluded and will be the responsibility of others.

5. All work to be performed during normal business hours except SFFD final testing.

6. The fire alarm permit fee allowance was included as part of the Engineering Only proposal. Any further overages will be presented as a change order with permit fund tracking documentation.
STANDARD CONDITIONS

Exclusions:

1. Adjustment to existing system monitoring agreements, annual system testing during or after warranty, or UL certification. These may be provided under a separate proposal.
2. Overtime labor other than system testing.
3. Liquidated damages, bond premiums, special insurance requirements including pollution control, any indemnification or hold harmless agreements.
4. Work in hazardous areas including asbestos. Demolition or disposal of existing equipment. Operation of any existing equipment that is to remain or any fire watch requirements.
5. Patching and painting.
6. Work by other trades, including sprinkler, HVAC or elevator work.
7. Magnetic door holders, fire alarm terminal cabinets or NEMA enclosures.

Other Terms and Conditions:

1. All invoices are due and payable net 30 days after invoicing, subject to credit approval. Interest at the rate of 1 & 1/2 % per month is payable on all invoices over 30 days old. Partial invoices may be made based on project completion. If a customers’ account/indebtedness is placed with an attorney for collection by PAFA, all reasonable and necessary fees, collection and/or court costs along with attorney fees shall be paid by the customer. Issuance of a written or oral purchase order to proceed with this proposal indicates acceptance of the terms of this proposal including prices and conditions.
2. Equipment warranty is for one year and is solely and exclusively for equipment supplied by PAFA. PAFA is not responsible for the repair of equipment supplied by others than PAFA, including equipment monitored or controlled by the fire alarm system.
3. IBEW #6 union agreement: should this project fall under building trades control, and should their agreement call for benefits and/or a higher rate of pay than that which is called for in our local #6 union agreement, any increased cost shall be the responsibility of the contractor or owner that PAFA is working for on the project. All agreements contingent upon strikes, accidents or delays beyond our control.
4. Due to national supply chain issues, PAFA cannot guarantee equipment delivery will meet the project’s schedule. PAFA will not be held liable for project delays due to delays in equipment delivery.
5. PAFA may withdraw this proposal if it is not accepted within 45 days.
STANDARD CONDITIONS (cont’d)

Limitation of Liability

a. In no event shall Honeywell be liable under this agreement, regardless of whether liability arises from Honeywell’s indemnification obligations hereunder or a breach of contract, warranty, tort (including negligence), operation of law, or otherwise, for any special incidental indirect, consequential, exemplary, or punitive damages of any kind (including, without limitation, all damages due to business interruption, lost profits or revenue, loss or corruption of data, or lost use of any property or capital) even if Honeywell has been advised of or is otherwise aware of the possibility of such damages and/or claims.

b. All product and service claims are limited to those exclusive remedies set forth in the terms and conditions pertaining to Honeywell’s appointment of PAFA as authorized distributor. Honeywell shall have no liability for any damages or injuries arising from services provided by PAFA to its customers, including without limitation services performed by buyer on Honeywell products sold hereunder. Nor shall Honeywell be liable for any claims of third parties relating to the products, save the indemnification obligations set forth in this agreement.

ACCEPTANCE OF PROPOSAL

COMPANY NAME: _______________________________  AUTHORIZED SIGNATURE: _______________________________

ADDRESS: ______________________________________  DATE SIGNED: _________________________________

PHONE #: _______________________________  P.O. NUMBER: _______________________________

FAX #: ______________________________________  P.A.F.A. ACCEPTANCE: _______________________________

Please read this entire proposal prior to signing or issuing a purchase order or contract for this work. By doing any of these actions, you are agreeing to all terms and conditions within this proposal. Signed proposals, purchase orders or contracts for this work are subject to acceptance by an officer of PAFA.
Fire Alarm Product Submittal
For
Fire Alarm Panel Replacement &
System Upgrade
730 Harrison Street
San Francisco, Ca 94107

03/22/23
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NFS2-640(E)
Intelligent Addressable
Fire Alarm System

General
The NFS2-640 intelligent Fire Alarm Control Panel is part of the
ONYX® Series of Fire Alarm Controls from NOTIFIER.
In stand-alone or network configurations, ONYX Series products
meet virtually every application requirement.
The NFS2-640’s modular design makes system planning easier.
The panel can be configured with just a few devices for small building
applications, or networked with many devices to protect a large
campus or a high-rise office block. Simply add additional peripheral
equipment to suit the application.
A host of other options are available, including single- or multi-
channel voice; firefighter’s telephone; LED, LCD, or PC-based
graphic annunciators; networking; advanced detection products for
challenging environments; wireless fire protection; and many addi-
tional options.
NOTE: Unless called out with a version-specific “E” at the end of
the part number, “NFS2-640” refers to models NFS2-640 and
NFS2-640E; similarly, “CPU2-640” refers to models CPU2-640
and CPU2-640E.

Features
• Certified for seismic applications when used with the appropri-
ate seismic mounting kit.
• Approved for Marine applications when used with listed com-
patible equipment. See DN-60688.
• One, expandable to two, isolated intelligent Signaling Line Cir-
cuit (SLC) Style 4, 6 or 7.
• Wireless fire protection using SWIFT Smart Wireless Integrated
Fire Technology. See DN-60820.
• Up to 159 detectors and 159 modules per SLC; 318 devices per
loop/636 per FACP or network node.
  – Detectors can be any mix of ion, photo, thermal, or multi-sen-
sor; wireless detectors are available for use with the FWSG.
  – Modules include addressable pull stations, normally open
contact devices, two-wire smoke detectors, notification, or
relay; wireless modules are available for use with the FWSG.
• Standard 80-character display, 640-character large display
(NCA-2), or display-less (a node on a network).
• Network options:
  – High-speed network for up to 200 nodes (NFS2-3030, NFS2-
640, NFS-320(C), NFS-320SYS, NCA-2, DVC-EM, ONYX-
Works, NCA-2, NFS-3030, NFS-640, NCA, AFP-200, AFP-300/
400, AFP-1010, and AM2020). Up to 54 nodes when DVC-
EM is used in network paging.
  – 6.0 A switch mode power supply with four Class A/B built-in
Notiﬁcation Appliance Circuits (NAC). Selectable System Sen-
or, Wheelock, or Gentex strobe synchronization.
• Built-in Alarm, Trouble, Security, and Supervisory relays.
• VeriFire® Tools online or oﬄine programming utility. Upload/
Download, save, store, check, compare, and simulate panel
databases. Upgrade panel firmware.
• Autoprogramming and Walk Test reports.
• Multiple central station communication options:
  – Standard UDACT
  – Internet
  – Internet/GSM
• 80-character remote annunciators (up to 32).
• EIA-485 annunciators, including custom graphics.
• Printer interface (80-column and 40-column printers).
• History ﬁle with 800-event capacity in nonvolatile memory, plus
separate 200-event alarm-only ﬁle.
• Alarm Veriﬁcation selection per point, with automatic counter.
• Presignal/Positive Alarm Sequence (PAS).
• Silence inhibit and Auto Silence timer options.
• March time/temporal/California two-stage coding/strobe syn-
chronization.
• Field-programmable on panel or on PC, with VeriFire Tools pro-
gram check, compare, simulate.
• Full QWERTY keypad.
• Battery charger supports 18 – 200 AH batteries.
• Non-alarm points for lower priority functions.
• Remote ACK/Signal Silence/System Reset/Drill via monitor
modules.
• Automatic time control functions, with holiday exceptions.
• Surface Mount Technology (SMT) electronics.
• Extensive, built-in transient protection.
• Powerful Boolean logic equations.
• Support for SCS Series smoke control system in HVAC mode.

NCA-2 as Primary Display
• Backlit, 640-character display.
• Supports SCS Series smoke control system in FSCS mode
when SCS is connected to the NCA-2 used as primary display.
• Supports DVC digital audio loop.
• Printer and CRT EIA-232 ports.
• EIA-485 annunciator and terminal mode ports.
• Alarm, Trouble, Supervisory, and Security relays.
**FLASHScan® INTELLIGENT FEATURES**

- Polls up to 318 devices in less than two seconds.
- Activates up to 159 outputs in less than five seconds.
- Multicolor LEDs blink device address during Walk Test.
- Fully digital, high-precision protocol (U.S. Patent 5,539,389).
- Manual sensitivity adjustment — up to nine levels.
- Pre-alarm ONYX intelligent sensing — up to nine levels.
- Day/Night automatic sensitivity adjustment.
- Sensitivity windows:
  - Ion – 0.5 to 2.5%/foot obscuration.
  - Photo – 0.5 to 2.35%/foot obscuration.
  - Laser (VIEW®) – 0.02 to 2.0%/foot obscuration.
  - Acclimate Plus™ – 0.5 to 4.0%/foot obscuration.
  - IntelliQuad™ – 1.0 to 4.0%/foot obscuration.
  - IntelliQuad™ PLUS – 1.0 to 4.0%/foot obscuration
- Drift compensation (U.S. Patent 5,764,142).
- Degraded mode — in the unlikely event that the CPU2-640 microprocessor fails, FlashScan detectors revert to degraded operation and can activate the CPU2-640 NAC circuits and alarm relay. Each of the four built-in panel circuits includes a Disable/Enable switch for this feature.
- Multi-detector algorithm involves nearby detectors in alarm decision (U.S. Patent 5,627,515).
- Automatic detector sensitivity testing (NFPA-72 compliant).
- Maintenance alert (two levels).
- Self-optimizing pre-alarm.

**FSL-751 (VERY INTELLIGENT EARLY WARNING)
SMOKE DETECTION TECHNOLOGY**

- Advanced ONYX intelligent sensing algorithms differentiate between smoke and non-smoke signals (U.S. Patent 5,831,524).
- Addressable operation pinpoints the fire location.

**FAP-851 ACCLIMATE PLUS**

**LOW-PROFILE INTELLIGENT MULTI-SENSOR**

- Detector automatically adjusts sensitivity levels without operator intervention or programming. Sensitivity increases with heat.
- Microprocessor-based technology; combination photo and thermal technology.
- Low-temperature warning signal at 40°F ± 5°F (4.44°C ± 2.77°C).

**FSC-851 INTELLIQUAD**

**ADVANCED MULTI-CRITERIA DETECTOR**

- Detects all four major elements of a fire (smoke, heat, CO, and flame).
- Automatic drift compensation of smoke sensor and CO cell.
- High nuisance-alarm immunity.

**INTELLIGENT FAAST® DETECTORS FSA-5000, FSA-8000, FSA-20000 AND FSA-20000P**

- Connects directly to the SLC loop of compatible ONYX series panels.
- Provides five event thresholds that can be individually programmed with descriptive labels for control-by-event programming; uses five detector addresses.
- Uses patented particle separator and field-replaceable filter to remove contaminants.
- Advanced algorithms reject common nuisance conditions.
- FSA-5000 covers 5,000 square feet through one pipe.
- FSA-8000 covers 8,000 square feet through one pipe.
- FSA-20000 covers 28,800 square feet through one to four pipes.

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Sample System Options

- Up to 32 remote displays
- FDU-80
- LCD2-60

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SLC Intelligent Loop 1

- DEVICES
- FSC-851 IntelliQuad
- FAPT-851 Acclimate PLUS
- FSL-751 FlashScan VIEW
- FSP-851 Photo
- FSI-851 Ion
- FST-851 Thermal
- FSA-8000

- NBG-12LX
- FMM-1
- IDC
- FCM-1
- NAC

- XP6/10 I/O Modules
- FRM-1
- Relay Contact

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SLC Intelligent Loop 2

- 2048 annunciator/control points
- ACM-8R
- LED Annunciator
- ACM/AEM-24AT
- Optional 636-point UDACT
- Dual phone lines to Central Station
- LDM-32
- Custom Graphics
- PRN Series Printer

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• FSA-20000P covers 28,800 square feet through one to four pipes. Supports addressable pipes to pinpoint location of alarm events

**FCO-851 INTELLIQuad™ PLUS**
**ADVANCED MULTI-CRITERIA FIRE/CO DETECTOR**
• Detects all four major elements of a fire.
• Separate signal for life-safety CO detection.
• Optional addressable sounds base for Temp-3 (fire) or Temp-4 (CO) tone.
• Automatic drift compensation of smoke sensor and CO cell.
• High nuisance-alarm immunity.

**SWIFT WIRELESS**
• Self-healing mesh wireless protocol.
• Each SWIFT Gateway supports up to 50 devices: 1 wireless gateway and up to 49 SWIFT devices.
• Up to 4 wireless gateways can be installed with overlapping network coverage.

**Releasing Features**
• Ten independent hazards.
• Sophisticated cross-zone (three options).
• Delay timer and Discharge timers (adjustable).
• Abort (four options).
• Low-pressure CO2 listed.

**Digital Voice and Telephone Features**
• Up to eight channels of digital audio.
• 35, 50, 75, and 100/125 watt digital amplifiers (DAA2/DAX series and DS series; NCA-2 required as primary display).
• Solid-state digital message generation.
• Firefighter telephone option.
• 30- to 120-watt high-efficiency amplifiers (AA Series).
• Backup tone generator and amplifier option.
• NFS-640 can also integrate with the FirstCommand Emergency Communications System. See DN-60772.

**High-Efficiency Offline Switching**
3.0 A POWER SUPPLY (6.0 A IN ALARM)
• 120 VAC (NFS2-640); 240 VAC (NFS2-640E).
• Displays battery current/voltage on panel (with display).

**FlashScan, Exclusive World-Leading Detector Protocol**

At the heart of the NFS2-640 is a set of detection devices and device protocol — FlashScan (U.S. Patent 5,539,589). FlashScan is an all-digital protocol that gives superior precision and high noise immunity.

In addition to providing quick identification of an active input device, this protocol can also activate many output devices in a fraction of the time required by competitive protocols. This high speed also allows the NFS2-640 to have the largest device per loop capacity in the industry — 318 points — yet every input and output device is sampled in less than two seconds. The microprocessor-based FlashScan detectors have bicolor LEDs that can be coded to provide diagnostic information, such as device address during Walk Test.

**ONYX Intelligent Sensing**

Intelligent sensing is a set of software algorithms that provides the NFS2-640 with industry-leading smoke detection capability. These complex algorithms require many calculations on each reading of each detector, and are made possible by the high-speed microcomputer used by the NFS2-640.

**Drift Compensation and Smoothing:** Drift compensation allows the detector to retain its original ability to detect actual smoke, and resist false alarms, even as dirt accumulates. It reduces maintenance requirements by allowing the system to automatically perform the periodic sensitivity measurements required by NFPA 72. Smoothing filters are also provided by software to remove transient noise signals, such as those caused by electrical interference.

**Maintenance Warnings:** When the drift compensation performed for a detector reaches a certain level, the performance of the detector may be compromised, and special warnings are given. There are three warning levels: (1) Low Chamber value; (2) Maintenance Alert, indicative of dust accumulation that is near but below the allowed limit; (3) Maintenance Urgent, indicative of dust accumulation above the allowed limit.

**Sensitivity Adjust:** Nine sensitivity levels are provided for alarm detection. These levels can be set manually, or can change automatically between day and night. Nine levels of pre-alarm sensitivity can also be selected, based on predetermined levels of alarm. Pre-alarm operation can be latch or self-restoring, and can be used to activate special control functions.

**Self-Optimizing Pre-Alarm:** Each detector may be set for “Self-Optimizing” pre-alarm. In this special mode, the detector “learns” its normal environment, measuring the peak analog readings over a long period of time, and setting the pre-alarm level just above these normal peaks.

**Cooperating Multi-Detector Sensing:** A patented feature of ONYX intelligent sensing is the ability of a smoke sensor to consider readings from nearby sensors in making alarm or pre-alarm decisions. Without statistical sacrifice in the ability to resist false alarms, it allows a sensor to increase its sensitivity to actual smoke by a factor of almost two to one.

**Field Programming Options**

**Autoprogram** is a timesaving feature. The FACP “learns” what devices are physically connected and automatically loads them in the program with default values for all parameters. Requiring less than one minute to run, this routine allows the user to have the most immediate fire protection in a new installation, even if only a portion of the detectors are installed.

**Keypad Program Edit (with KDM-R2)** The NFS2-640, like all NOTIFIER intelligent panels, has the exclusive feature of program creation and editing capability from the front panel keypad, while continuing to provide fire protection. The architecture of the NFS2-640 software is such that each point entry carries its own program, including control-by-event links to other points. This allows the program to be entered with independent per-point segments, while the NFS2-640 simultaneously monitors other (already installed) points for alarm conditions.

**VeriFire™ Tools** is an offline programming and test utility that can greatly reduce installation programming time, and increase confidence in the site-specific software. It is Windows®-based and provides technologically advanced capabilities to aid the installer. The installer may create the entire program for the NFS2-640 in the comfort of the office, test it, store a backup file, then bring it to the site and download from a laptop into the panel.

**Placement of Equipment in Chassis and Cabinet**

The following guidelines outline the NFS2-640’s flexible system design.

**Rows:** The first row of equipment in the cabinet mounts in the chassis shipped with the FACP. Mount the second, third, or fourth rows of equipment in a CHS-4 series chassis or, for Digital Voice Command products, in CA-1 or CA-2. (For DVC-EM and DAA2/DAX components see DVC Manual; for DS series components see DS-AMP Manual; for DVC-AO applications, see AA Series Installation Manual). Other options are available; see your panel's installation manual.

**Wiring:** When designing the cabinet layout, consider separation of power-limited and non-power-limited wiring as discussed in the 640 Installation Manual.

**Positions:** A chassis offers four basic side-by-side positions for components; the number of modules that can be mounted in each position depends on the chassis model and the size of the individual module. There are a variety of standoffs and hardware items available for different combinations and configurations of components.
It is critical that all mounting holes of the NFS2-640 are secured with a screw or standoff to ensure continuity of Earth Ground.

**Layers:** The control panel's chassis accepts four layers of equipment, including the control panel. The CPU2-640 fills three positions (left to right) in the first-installed layer (the back of the chassis); its integral power supply occupies the center two positions in the next two layers; the optional display occupies (the left) two positions at the front, flush with the door. Some equipment, such as the NCA-2, may be mounted in the dress panel directly in front of the control panel. The NCA-2 can be used as a primary display for the NFS2-640 (use NCA/640-2-KIT) by directly connecting their network ports (required in Canadian stand-alone applications); see NCA-2 data sheet for mounting options (DN-7047).

**Expansion:** Installing an LEM-320 Loop Expander Module adds a second SLC loop to the control panel. The LEM-320 is mounted onto the CPU2-640, occupying the middle-right, second (back) slot on the chassis.

**Networking:** If networking two or more control panels, each unit requires a Network Communication Module or High-Speed Network Communication Module. (HS-NCM can support two nodes; see “Networking Options” on page 4). These modules can be installed in any option board position (see manual), and additional option boards can be mounted in front of the network communication modules.

**KDM-R2 Controls and Indicators**

**Program Keypad:** QWERTY type (keyboard layout, see figure).

- **12 LED indicators:** Power; Fire Alarm; Pre-Alarm; Security; Supervisory; System Trouble; SignalsSilenced; Points Disabled; ControlActive; Abort; Pre-Discharge; Discharge.

**KeypadSwitch Controls:** Acknowledge/Scroll Display; Signal Silence; Drill; System Reset; Lamp Test.

**LCD Display:** 80 characters (2 x 40) with long-life LED backlight.

**Product Line Information**

- “Configuration Guidelines” on page 4
- “Networking Options” on page 4
- “Auxiliary Power Supplies and Batteries” on page 4
- “Audio Options” on page 5
- “Compatible Devices, EIA-232 Ports” on page 5
- “Compatible Devices, EIA-485 Ports” on page 5
- “Compatible Intelligent Devices” on page 5
- “Enclosures, Chassis, and Dress Plates” on page 6
- “Other Options” on page 7

**Configuration Guidelines**

Stand-alone and network systems require a main display. On systems with one FACP (one CPU2-640/-640E), display options are the KDM-R2 or the NCA-2. On network systems (two or more networked fire panel nodes), at least one NCA-2, NCS, or ONYX-Works annunciation device is required. Other options listed as follows;

**KDM-R2:** 80-character backlit LCD display with QWERTY programming and control keypad. Order two BMP-1 blank modules and DP-DISP2 mounting plate separately. Requires top row of a cabinet. Required for each stand-alone 80-character display system. The KDM-R2 may mount in network nodes to display “local” node information as long as at least one NCA-2 or NCS/ONYXWorks network display is on the system to display network information. (Non-English versions also available: KDM-R2C for ULC applications; KDM-R2-FR, KDM-R2-PO, KDM-R2-SP.)

**NCA-2:** Network Control Annunciator, 640 characters. On single CPU2-640/-640E systems, the optional NCA-2 can be used as the Primary Display for the panel and connects directly to the CPU2-640/-640E. On network systems (two or more networked fire panel nodes), one network display (either NCA-2 or NCS/ONYXWorks) is required for every system. On network systems, the NCA-2 connects to (and requires) a standard Network Communication Module or High-Speed Network Communication Module. Mounts in a row of FACP node or in two annunciator positions. Mounting options include the DP-DISP2, ADP-4B, or in an annunciator box, such as the ABS-2D. In CAB-4 top-row applications, a DP-DISP2 and two BMP-1 blank modules are required for mounting. Required for NFS2-640 applications employing the DVC-EM with DAL devices. Non-English versions are available. NCA-2 are available for ULC applications. For marine applications, order NCA-2-M; for non-English Marine applications, order NCA-2-M and the appropriate KP-KIT-XX. See DN-7047.

**CPU2-640:** Central processing unit (CPU) with integral 3.0 A (6.0 A in alarm) power supply for an NFS2-640 system. Includes control panel factory-mounted on a chassis; one Signaling Line Circuit expandable to two; documentation kit. Order one per system or as necessary (up to 103 network nodes) on a network system. (Non-English versions also available: CPU2-640-FR, CPU2-640-PO, CPU2-640-SP)

**CPU2-640E:** Same as CPU2-640 but requires 240 VAC, 1.5 A, (3.0 A in alarm). (Non-English versions also available: CPU2-640E-PO, CPU2-640E-SP)

**NCA/640-2-KIT:** Bracket installation kit required to mount NCA-2 to the CPU2-640/-640E's standard chassis.

**DP-DISP2:** Dress panel for top row in cabinet with CPU2-640/-640E installed.

**ADP-640:** Dress panel for middle rows with CPU2-640/640E.

**BMP-1:** Blank module for unused module positions.

**BP2-4:** Battery plate, required.

**LEM-320:** Loop Expander Module. Expands each NFS2-640 to two Signaling Line Circuits. See DN-6881.

**Networking Options**

**NCF-W, NCF-F:** Standard Network Communications Modules. Wire and multi-mode fiber versions available. See DN-6881.

**HS-NCF-W/MS/WF/WMF/MS/FS:** High-speed Network Communications Modules that can connect to two nodes. Wire, single-mode fiber, multi-mode fiber, and media conversion models are available. See DN-60454.

**RPT-W, RPT-F, RPT-WF:** Standard-network repeater board with wire connection (RPT-W), multi-mode fiber connection (RPT-F), or allowing a change in media type between wire and fiber (RPT-WF). Not used with high-speed networks. See DN-6971.

**ONYXWorks:** UL-listed graphics PC workstation, software, and computer hardware. See DN-7048 for specific part numbers.

**NFN-GW-EM-3:** NFN Gateway, embedded. (Replaces NFN-GW-EM.) See DN-60499.

**NWS-3:** NOTI=FIRE+NET™ Web Server. See DN-6928.

**CAP-GW:** Common Alerting Protocol Gateway. See DN-60756.

**VESDA-HLI-GW:** VESDAnet high-level interface gateway. See DN-60753.

**LEDSIGN-GW:** UL-listed sign gateway. Interfaces with classic and high-speed NOTI=FIRE+NET networks through the NFN Gateway. See DN-60679.

**OAX2-24V:** UL-listed LED sign, used with LEDSIGN-GW. See DN-60679.

**Auxiliary Power Supplies and Batteries**

**ACPS-610:** 6.0 A or 10.0 A addressable charging power supply. See DN-60244.

**APS2-6R:** Auxiliary Power Supply. Provides up to 6.0 amperes of power for peripheral devices. Includes battery input and transfer relay, and overcurrent protection. Mounts on two of four positions on a CHS-4L or CHS-4 chassis. See DN-5952.

**FCPS-2456/SS:** Remote 6 A and 8 A power supplies with battery charger. See DN-6927.

**BAT Series:** Batteries. NFS2-640 uses two 12 volt, 18 to 200 AH batteries. See DN-6933.
**AUDI0 OPTIONS**

**NOTE:** For mounting hardware, see “Enclosures, Chassis, and Dress Plates” on page 6 and peripheral data sheets.

**DVC-EM:** Digital Voice Command, digital audio processor with message storage for up to 32 minutes of standard quality (4 minutes at high quality) digital audio. Capable of playing up to eight simultaneous messages when used with Digital Audio Loop (DAL) devices. See DN-60245.

**DVC-RPU:** Digital Voice Command Remote Paging Unit for use with DVC-EM. Includes the keypad/display. See DN-60776.

**DS-DB:** Digital Series Distribution Board, provides bulk amplification capabilities to the DVC-EM while retaining digital audio distribution capabilities. Can be configured with up to four DS-AMPs, supplying high-level risers spread throughout an installation. See DN-60565.

**DVC-KD:** DVC-EM keypad for local announcement and controls; status LEDs and 24 user-programmable buttons. See DN-7045.

**DS-AMP/E:** 125W, 25 VRMS, or 100W, 70V RMS. 70VRMS requires DS-XF70V step-up transformer. Digital Series Amplifier, part of the DS-DB system. See DN-60663.

**DS-RFM, DS-FM, DS-SFM:** Fiber conversion modules for DVC-EM, DS-DB distribution board, and DAX and DAA2 Series amplifiers. See DN-60633.

**DVC-AO:** DVC Analog Output board provides four analog output circuits for use with AA Series amplifiers. Four-channel operation supported. See DN-7045.

**DAA2-5025(E):** 50W, 25 Vrms Digital Audio Amplifier assembly with power supply; includes chassis. See DN-60556.

**DAA2-5070(E):** 50W, 70.7 Vrms Digital Audio Amplifier assembly with power supply; includes chassis. See DN-60556.

**DAX-3525(E):** 35W, 70.7 Vrms Digital Audio Amplifier assembly with power supply, includes chassis. See DN-60651.

**DAX-3570(E):** 35W, 70.7 Vrms Digital Audio Amplifier assembly with power supply, includes chassis. See DN-60656.

**DAX-5025(E):** 50W, 25 Vrms Digital Audio Amplifier assembly with power supply, includes chassis. See DN-60561.

**DAX-5070(E):** 50W, 70.7 Vrms Digital Audio Amplifier assembly with power supply, includes chassis. See DN-60651.

**TELH-1:** Firefighter’s Telephone Handset for use with the DVC-EM when mounted in the CA-2 chimney. See DN-7045.

**CMIC-1:** Optional microphone and microphone well assembly used with the CA-1 chimney.

**RM-1/RM-1SA:** Remote microphone assemblies, mount on ADP-4 (RM-1) dress panel or CAB-RM/RMR (RM-1SA) stand-alone cabinets. See DN-6728.

**AA-30:** Audio Amplifier, 30 watts, 25 Vrms. Includes amplifier and audio input supervision, backup input, and automatic switchover, power supply, cables. See DN-3224.

**AA-120/AA-100:** Audio Amplifier provides up to 120 watts of 25 Vnms audio power for the NFS-640. The amplifier contains an integral chassis for mounting to a CAB-B4, -C4, or -D4 backbox (contains one row). Switch-mode power. Includes audio input and amplified output supervision, backup input, and automatic switchover to backup tone. Order the AA-100 for 70 Vnms systems and 100 watts of power. See DN-3224.

**DAA Series Digital Audio Amplifiers:** Legacy DAA Series amplifiers are compatible with DVC-EM systems running SP4.0. For specific information on DAA-50 series amplifiers, refer to DN-7046. For information on DAA-7525 Series, refer to DN-60257.

**NCF-2550:** 25 watt, 25 VRMS, emergency Voice Evacuation Control Panel (VECP) with integral commercial microphone, digital message generator, and single/dual-channel Class A or Class B speaker circuits. See DN-60772.

**COMPATIBLE DEVICES, EIA-232 PORTS**

**PRN-7:** 80-column printer. See DN-60897.

**VS4095/5:** Printer, 40-column, 24V. Mounted in external backbox. See DN-3260.

**DPI-232:** Direct Panel Interface, specialized modem for extending serial data links to remotely located FACPs and/or peripherals. See DN-6870.

**COMPATIBLE DEVICES, EIA-485 PORTS**

**ACM-24AT:** ONXYS Series ACS annunciator – up to 96 points of annunciation with Alarm or Active LED, Trouble LED, and switch per circuit. Active/Alarm LEDs can be programmed (by powered-up switch selection) by point to be red, green, or yellow; the Trouble LED is always yellow. See DN-6862.

**AEM-24AT:** Same LED and switch capabilities as ACM-24AT, expands the ACM-24AT to 48, 72, or 96 points. See DN-6862.

**ACM-48A:** ONXYS Series ACS annunciator – up to 96 points of annunciation with Alarm or Active LED per circuit. Active/Alarm LEDs can be programmed (by powered-up switch selection) in groups of 24 to be red, green, or yellow. Expandable to 96 points with one AEM-48A. See DN-6862.

**AEM-48A:** Same LED capabilities as ACM-48A, expands the ACM-48A to 96 points. See DN-6862.

**ACM-8R:** Remote Relay Module with eight Form-C contacts. Can be located up to 6,000 ft. (1828.8 m) from panel on four wires. See DN-3558.

**FDU-80:** Terminal mode. 80-character, backlit LCD display. Mounts up to 6,000 ft. (1828.8 m) from panel. Up to 32 per FACP. See DN-6820.

**LCD2-80:** Terminal and ACS mode. 80-character, backlit LCD display. Mounts up to 6,000 ft. (1828.8 m) from panel. Up to 32 per FACP. See DN-60548.

**LDM:** Lamp Driver Modules LDM-32, LDM-E32, and LDM-R32; remote custom graphic driver modules. See DN-60551.

**SCS:** Smoke control stations SCS-8, SCS-8L, SCS-8C, or other compatible chassis (purchased separately). See DN-4818.

**TM-4:** Transmitter Module. Includes three reverse-polarity circuits and one municipal box circuit. Mounts in panel module position (single-address-style) or in CHS2-M2 position. See DN-6860.

**UDACT-2:** Universal Digital Alarm Communicator Transmitter, 636 channel. See DN-60686.

**UZC-256:** Programmable Universal Zone Coder provides positive non-interfering successive zone coding. Microprocessor-controlled, field-programmable from IBM®-compatible PCs (requires optional programming kit). Up to 256 programmable codes. Mounts in BB-UZC or other compatible chassis (purchased separately). See DN-3404.

**COMPATIBLE INTELLIGENT DEVICES**

**NOTE:** “A” suffix indicates ULC-Listed model.

**FWSG Wireless SWIFT Gateway:** Addressable gateway supports wireless SLC applications. Not appropriate for ULC applications. See DN-60820.

**FSA-5000:** Intelligent FAAST® XS Fire Alarm Aspiration Sensing Technology. Intelligent aspirating smoke detector for applications up to 5,000 sq.ft. For Canadian applications, order FSA-5000A.

**FSA-8000:** Intelligent FAAST® XM Fire Alarm Aspiration Sensing Technology. Intelligent aspirating smoke detector for applications up to 8,000 sq.ft. For Canadian applications, order FSA-8000A. See DN-60792.

**FSA-20000:** Intelligent FAAST® XT Fire Alarm Aspiration Sensing Technology. Intelligent aspirating smoke detector for applications up to 28,800 sq.ft. For Canadian applications, order FSA-20000A. See DN-60849.

**FSA-20000P FAAST® XT PRO Intelligent Aspiration Detector** For applications up to 28,800 sq. ft. (2601 sq. m.) through one to four addressable pipes. See DN-60792.

**FSB-200(A):** Intelligent beam smoke detector. See DN-6985.

**FSB-200S(A):** Intelligent beam smoke detector with integral sensitivity test. See DN-6985.
ENCLOSURES, CHASSIS, AND DRESS PLATES

CAB-4 Series Enclosure: NFS2-640 mounts in a standard CAB-4 series enclosure (available in four sizes, “A” through “D”). Backbox and door ordered separately; requires BP-4 battery plate. A trim ring option is available for semi-flush mounting. See DN-6857.

EQ Series Cabinets: EQ series cabinets will house amplifiers, power supplies, battery chargers and control modules. EQ cabinets are available in three sizes, “B” through “D”. See DN-60229.

CAB-BM Marine System: Protects equipment in shipboard and waterfront applications. Also order BB-MB for systems using 100 AH batteries. For a full list of required and optional equipment, see DN-60688.

CHS-4: Chassis for mounting up to four APS-6Rs.

CHS-L: Low-profile four-position Chassis. Mounts two AA-30 amplifiers or one AMG-E and one AA-30.

DP-1B: Blank dress panel. Provides dead-front panel for unused tiers; covers DAA2/DAX series or AA-series amplifier.

NFS-LBB: Battery Box (required for batteries larger than 26 AH).

NFS-LBR: Same as above but red.

CHS-BH1: Battery chassis: holds two 12.0 AH batteries. Mounts one the left side of DAA2 chassis. See DN-7046.

CA-1: Chassis, occupies one tier of a CAB-4 Series enclosure. The left side accommodates one DVC-EM and a DVC-KD (optional); and the right side houses a CMIC-1 microphone and its well (optional). See DN-7045.

CA-2: Chassis assembly, occupies two tiers of a CAB-4 Series enclosure. The left side accommodates one DVC-EM mounted on a half-chassis and one NCA-2 mounted on a half-chassis. The right side houses a microphone/ handset well. The CA-2 assembly includes CMIC-1 microphone, ADDR Series doors with two-tier visibility are available for use with the CA-2 configuration: ADDR-B4, ADDR-C4, ADDR-D4 (below).

CFFT-1: Chassis to mount firefighter’s telephone and one ACS annunciator in a CAB-4 row. Includes TELH-1 firefighter’s handset for the DVC-EM, chassis, phone well and mounting hardware. Order DP-CFFT dress panel separately.

DP-CFFT: CFFT-1 dress panel. Requires BMP-1 if no ACS annunciator is installed.

ADDR-B4*: Two-tier-sized door designed for use with the CA-2 chassis configuration. ADDR Series doors are similar to CAB-4 Series “DR” doors, but a clear window space exposes the top two tiers of the CAB-4 enclosure. Use an SBB-B4 backbox with the ADDR-B4. See DN-7045, DN-6857.

ADDR-C4*: Three-tier-sized door, designed for use with the CA-2 chassis configuration. ADDR Series doors are similar to CAB-4 Series “DR” doors, but a clear window space exposes the top two tiers of the CAB-4 enclosure. Use an SBB-C4 backbox with the ADDR-C4. See DN-7045, DN-6857.

ADDR-D4*: Four-tier-sized door designed for use with the CA-2 chassis configuration. ADDR Series doors are similar to CAB-4 Series “DR” doors, but a clear window space exposes the top two tiers of the CAB-4 enclosure. Use an SBB-D4 backbox with the ADDR-D4. See DN-7045, DN-6857.

*Use ADDR-B4/C4/D4 when CA-2 chassis is installed in top two rows with NCA-2 or BP-CA2. Use standard door when CA-2 is not installed in top two rows. For additional configuration information, see the DVC application guide on http://esdn.notifier.com.

DPA-1: Dress panel, used with the CA-1 chassis when configured with a DVC-EM, DVC-KD, and CMIC-1. See DN-7045.

DPA-2B: Dress panel used with CA-2 chassis assembly.
VP-2B: Dress panel, required when CA-2 chassis is installed in the top two cabinet rows.

DPA-1A4: Dress panel, used with the CA-1 chassis when the CMIC-1 is not used. Provides mounting options on right two bays for two ACS annunciators, or for blank plates. See DN-7045.

BP-CA2: Blank plate for CA-2 chassis.

SEISKIT-CAB: Seismic mounting kit. Required for seismic-certified applications with NFS2-640 and other equipment mounted in CAB-4 Series Enclosures. Includes battery bracket for two 26 AH batteries.

SEISKIT-LBB: Seismic kit for the NFS-LBB. Includes battery bracket for two 55 AH batteries.

**BACKBOXES**

NOTE: “C” suffix indicates ULC-Listed model.

ABF-1B(C) Annunciator Flush Box.
ABF-1DB(C) Annunciator Flush Box with Door.
ABF-2B Annunciator Flush Box
ABF-2DB/C Annunciator Flush Box with Door
ABF-4B Annunciator Flush Box
ABF-1TB(C) Annunciator Surface Box
ABF-1B(C) Annunciator Surface Box
ABF-2B Annunciator Surface Box
ABF-2DC Annunciator Surface Box
ABF-4D(C) Annunciator Surface Box

BB-UZC: Backbox for housing the UZC-256 in applications where the UZC-256 will not fit in panel enclosure. Black; for red, order BB-UZC-R.

**OTHER OPTIONS**

411: Slave digital alarm communicator. See DN-6619.
411UDAC: Digital alarm communicator. See DN-6746.
IPDACT-2/2UD, IPDACT Internet Monitoring Module: Connects to primary and secondary DACT telephone output ports for internet communications over customer-provided Ethernet connection. Requires compatible Teldat VisorALARM Central Station Receiver. Can use DHCP or static IP. See DN-60408.
IPCHSKIT: IP Communicator Chassis Mounting Kit. For mounting an IPDACT-2/2UD onto the panel chassis or CHS-4 series chassis. Use IPENC for external mounting applications.
IPSCPLT: Y-adapter option allow connection of both panel dialer outputs to one IPDACT-2/2UD cable input.
IPENC: External enclosure for IPDACT, includes IPBRKT mounting bracket; Red. For Black order IPENC-B.
IPGSM-4G: Internet and Digital Cellular Fire Alarm Communicator. Provides selectable configurable paths: cellular only, IP only, or IP primary with cellular backup. Connects to the primary and secondary ports of a DACT. For Canadian applications order IPGSM-4GC. See DH-60769.

**NOTE:** For other options including compatibility with retrofit equipment, refer to the panel’s installation manual, the SLC manual, and the Device Compatibility Document.
**System Specifications**

**SYSTEM CAPACITY**
- Intelligent Signaling Line Circuits .......................... 1 expandable to 2
- Intelligent detectors ............................................. 159 per loop
- Addressable monitor/control modules .................. 159 per loop
- Programmable software zones ................................. 99
- Special programming zones .................................... 14
- LCD annunciators per CPU2-640/-640E and NCA-2 (observe power) ........................................... 32
- ACS annunciators per CPU2-640/-640E .................. 32 addresses x 64 points
- ACS annunciators per NCA-2 ................................. 32 addresses x 64 or 96 points

**NOTE:** The NCA-2 supports up to 96 annunciator address points per ACM-24AT/48A.

**ELECTRICAL SPECIFICATIONS**
- Primary input power:
  - CPU2-640 board: 120 VAC, 50/60 Hz, 5.0 A.
  - CPU2-640E board: 220/240 VAC, 50/60 Hz, 2.5 A.
- Current draw (standby/alarm):
  - CPU2-640(E) board: 0.250 A. Add 0.035 A for each NAC in use.
  - KDM-R2: 0.100 A.
  - LEM-320: 0.100 A.
- Total output 24 V power: 6.0 A in alarm.

**NOTE:** The power supply has a total of 6.0 A, of available power. This is shared by all internal circuits. See Installation Manual for a complete current draw calculation sheet.

- Standard notification circuits (4): 1.5 A each.
- Resettable regulated 24V power: 1.25 A.
- Two non-resettable regulated 24V power outputs:
  - 1.25 A.
  - 0.50 A.
- Non-resettable 5V power: 0.15 A.
- Battery charger range: 18 AH – 200 AH. Use separate cabinet for batteries over 26 AH.
- Float rate: 27.6 V.

**CABINET SPECIFICATIONS**
- Systems can be installed in CAB-4 Series cabinets (four sizes with various door options, see DN-6857). Requires BP2-4 Battery Plate.

**SHIPPING WEIGHT**
- CPU2-640/640: 14.3 lb (6.49 kg).
- CPU2-840/640E: 14.55 lb (6.60 kg).

**TEMPERATURE AND HUMIDITY RANGES**

This system meets NFPA requirements for operation at 0 – 49°C/32 – 120°F and at a relative humidity 93% ± 2% RH (noncondensing) at 32°C ± 2°C (90°F ± 3°F). However, the useful life of the system’s standby batteries and the electronic components may be adversely affected by extreme temperature ranges and humidity. Therefore, it is recommended that this system and its peripherals be installed in an environment with a normal room temperature of 15 – 27°C/60 – 80°F.

**AGENCY LISTINGS AND APPROVALS**

The listings and approvals below apply to the basic NFS2-640 control panel. In some cases, certain modules may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- UL/JULC Listed: S635.
- ULC Listed: S527-11
- FM Approved.
- MEA: 128-07-E.
- Fire Dept. of New York: #6212.
- CSFM: 7165-0028/0243.
- City of Chicago.
- City and County of Denver.
- CCCF listed.

**STANDARDS**

The NFS2-640 complies with the following UL Standards and NFPA 72, International Building Code (IBC), and California Building Code (CBC) Fire Alarm Systems requirements:

- UL 864, 9th Edition (Fire).
- UL 1076 (Burglary).
- UL 2572 (Mass Notification Systems). (NFS2-640 version 20 or higher.)
- PROPRIETARY (Automatic, Manual and Waterflow). Not applicable for FM.
- EMERGENCY VOICE/ALARM.
- OT, PSDN (Other Technologies, Packet-switched Data Network).
- CBC 2007 (Seismic).

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LISTING No. 7165-0028:0243

CATEGORY: 7165 -- FIRE ALARM CONTROL UNIT (COMMERCIAL)

LISTEE:
NotifierOne Fire-Lite Place, Northford, CT 06472-1653
Contact: Lisa Brant (203) 484-6105 Fax (203) 484-7309
Email: lisa.brant@honeywell.com

DESIGN:
Models NFS2-640, NFS-320/C (R), and NFS-320SYS fire alarm control units. Local, auxiliary, remote station (PPU), proprietary (PPU), central station (PPU), manual, automatic, waterfowl and sprinkler supervisory services. Also suitable for releasing service, Process Management and Emergency Voice/Alarm communication System *. Model numbers may be followed by an "R" suffix representing the enclosure color being red. Refer to listee's data sheet for additional detailed product description and operational considerations. System components:

- ACM-8R, -16AT, -32A, -24AT, -48A; Annunciator Control Modules
- ACPS-610, AMPS-24; Addressable power supply/charger
- ADP-4B, -A4, -1, -2, DP-DISP2; Dress Panel
- AEM-16AT, -32A, -24AT, -48A; Annunciator Expander Modules
- AFM-16A, -16AT, -32A; Annunciator Fixed Modules
- AKS-1B; Annunciator Key Switch
- APS2-6R; Power supply
- BB-100, -200, NFS-LBB/-LBBR; Battery Boxes
- BGRA-SCS, BGRB-SCS; Smoke Control Station
- BMP-1; Blank Module
- BP-4, BP2-4; Battery Dress Plates
- CAB-3/-4 Series; Enclosure
- CAB-RP, CAB-RPR; Cabinets
- CEF-SCS; Smoke Control Station
- CHS-4, CHS-4N, CHS-4L; Chassis
- CPU2-640, CPU-320SYS; CPU Board
- CRT-2; Display Terminal
- DP-1B; Blank Panel
- DPA-1A4/1/2, DP-DISP2; Dress Panel
- DPI-232; Panel Interface
- DR-A4, DR-A4B, DR-A4BR, DR-A4R; Door Assembly
- DR-AA4, DR-AA4B, DR-AA4BR, DR-AA4R; Door Assembly
- DR-B3F; Door Assembly
- DR-B4, DR-B4B, DR-B4BR, DR-B4R; Door Assembly
- DR-C4, DR-C4B, DR-C4BR, DR-C4R; Door Assembly
- DR-D4, DR-D4B, DR-D4BR, DR-D4R; Door Assembly

*Rev. 10-29-13 gt

This listing is based upon technical data submitted by the applicant. CSFM Fire Engineering staff has reviewed the test results and/or other data but does not make an independent verification of any claims. This listing is not an endorsement or recommendation of the item listed. This listing should not be used to verify correct operational requirements or installation criteria. Refer to listee's data sheet, installation instructions and/or other information for the correct product data.

Date Issued: July 01, 2022
Listing Expires: June 30, 2023
Authorized By: VICTOR WONG, Program Coordinator
Fire Engineering Division
EQ Series: Cabinets
EQBB-B4, EQBB-C4, EQBB-D4; Backbox Assembly
EQDR-B4, EQDR-C4, EQDR-D4; Door Assembly
FCM-1, FCM-1-REL; Releasing Control Module
FCPS-2456, -2458; Field Charger/Power Supply
FDM-1; Dual Monitor Module
FDRM-1: Multiple Module with two Relay Outputs
FDU-80/-80G; Remote Annunciator
FIRSTVISION-LCD/ENC; Interactive Firefighters' display/enclosure
FRM-1; Relay Module
FTM-1; Control Module
FZM-1, FMM-1, FMM-101; Monitor Modules
HS-NCM-W/-MF/-SF/-WMF/-WSF/-MSSF; High Speed Network Control Modules
IPDACT-2/-2UD; IP Fire Alarm Communicator
ISO-X; Isolator Module
KAPS-24, CPS-24; Power Supply
KDM-R2; Keyboard Display Module
LCD-80, -160; Annunciators
LCD-80TM; Annunciator Terminal Module LCD
LCD2-80; Remote Annunciator
LDM-32/-E32/-R32; Lamp Driver Module
LEM-320/ELEM-320; Loop Expander Module
NBG-12LRA; Agent Releasing Abort Station
NBG-12LX; Addressable Manual Pull Station
NCA, NCA-2; Network Communication Annunciator
NCM-W, -F; Network Control Module
NCS4-W-ONYX, NCS4-F-ONYX; Network Control Station
NCS5-W-ONYX, NCS5-F-ONYX; Network Control Station
NFS-LBB/NFS-LBRR; Battery Box/Red
NFS-320SYS; Chassis
NFV-25/50, NFV-25/50ZS/ZST; Voice Evacuation Control Panels
NFV-25/50DA, NFV-25/50DAZS; Distributed Audio Panels
ONYXWorks-EW/-NW/-NF/-HNMF/-HNSF/-TS/-EW-TS/-NF-TS/-HW-TS/
-HNMFT/-HNSFT/-HNWT; PC workstation for NOTI•FIRE•NET, Wire/Fiber/
with Touch screen monitors
PRN-6; Printer
RKS-S; Remote Security Key Switch
RPT-W, -485W; Repeater Wire
RPT-F; Repeater Fiber
RPT -485FW; Repeater Fiber/Wire
RSA-SCS, RSB-SCS, RSC-SCS, RSD-SCS, RSE-SCS; Smoke Control Station
SBB-A3F; Backbox Assembly
SBB-A4, SBB-A4R, SBB-AA4, SBB-AA4R; Backbox Assembly
SBB-B4, SBB-B4R-L8, SBB-C4, SBB-C4R; Backbox Assembly
SBB-D4, SBB-D4R; Backbox Assembly

This listing is based upon technical data submitted by the applicant. CSFM Fire Engineering staff has reviewed
the test results and/or other data but does not make an independent verification of any claims. This listing is not
an endorsement or recommendation of the item listed. This listing should not be used to verify correct
operational requirements or installation criteria. Refer to listee's data sheet, installation instructions and/or other

Date Issued: July 01, 2022 Listing Expires June 30, 2023

Authorized By: VICTOR WONG, Program Coordinator

Fire Engineering Division
The following models are intended for use on NFS2-640 only:

AA-30, -100, -120; Amplifiers
ACT-1, -2, -4, -25, -70; Audio Coupling Transformer
ADDR-B4/-B4R/-C4/-C4R/-D4/-D4R; Door Assemblies
AMG-E; Audio Message Generator
AVL-1; Audio Voice Link
BDA-25V/-70V; Backup Digital Audio Amplifiers
CHS2-M2, CA-1, CA-2; Chassis
CMIC-1, CMIC-RP; Microphone Assembly
DAA-5025/-5070; Digital Audio Amplifiers
DAA-5025F/DAA-5025SF; Digital Audio Amplifiers
DAA-5070F/DAA-5070SF; Digital Audio Amplifiers, Fiber Mode
DAA-75 Series; Digital Audio Amplifiers
DAA-7525, DAA-7525F, DAA-7525SF; Digital Audio Amplifiers
DAA2-5025/-5070/-7525; Digital Audio Amplifiers
DAX-3525/-3570/-5025/-5070; Digital Audio Amplifiers
DS-AMP/E; Digital Series Audio Amplifier
DS-BDA; Digital Series Backup Amplifier
DS-DB; Digital Series Distribution Board
DS-FM, DS-RFM, DS-SFM; Digital Series Fiber Module
DVC; Digital Voice Command
DVC-EM/-EMF/-EMSF; Digital Voice Command Extended Memory Module
DVC-RPU; Remote Paging Unit
FFT-7, -7S; Fire Fighter’s Telephone
FHS; Fireman’s Handset
FPJ; Fireman’s Phone Jack
RM-1, RM-1SA; Remote Microphone

*Rev. 10-29-13*
TELH-1; Telephone Assembly
XPIQ; Transponder Quad Intelligent Audio

INSTALLATION:  In accordance with listee's printed installation instructions, applicable codes & ordinances and in a manner acceptable to the authority having jurisdiction.

MARKING:  Listee's name, model number, electrical ratings, and UL Label

APPROVAL:  Listed as fire alarm control units suitable for use in high-rise applications when used in conjunction with separately listed compatible initiating and indicating devices. *Control units may be used with Notifier's First Command NFC-50/100 emergency voice evacuation panels (CSFM # 6911-0028:0265). This control unit can generate the temporal code pattern fire alarm signal as required per NFPA 72. Refer to manufacturer's Installation Manual for details. This control unit meets the requirements of UL Standard 864, 9th Edition.

NOTE:  1. For Fire Alarm Verification feature (delay of fire alarm signal), the maximum Retard/Reset/Restart period shall not exceed 30 Seconds.
2. Combined with 7170-028:244

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*Rev. 10-29-13 gt

Date Issued:  July 01, 2022  Listing Expires  June 30, 2023

Authorized By:  VICTOR WONG, Program Coordinator

Fire Engineering Division
The Universal Digital Alarm Communicator Transmitter (UDACT-2) is designed for use on Notifier Fire Alarm Control Panels and on the NCA-2 Network Control Annunciator. When used in conjunction with the NCA-2 network control annunciator, the UDACT-2 can report the status of all control panels on NOTI•FIRE•NET™. The UDACT-2 transmits system status to UL listed Central Station Receivers via the public switched telephone network. The UDACT-2 can be installed in the panel cabinet or remotely in a separate enclosure.

**NOTE:** The UDACT-2 can also be used with legacy panels. Please refer to the UDACT-2 manual for more information.

The UDACT-2 upload/download programming and firmware updates are accomplished with VeriFire Tools. Refer to the Programming Section for further details.

The UDACT-2 is capable of transmitting the status of software zones (Alarm and Trouble), System Trouble, Panel Off-Normal, Supervisory, Bell Trouble, Low Battery, and AC Fail. The UDACT-2 is capable of transmitting all of the zone and point status associated with each panel.

When the UDACT-2 is used with the NFS-3030, NFS2-3030, and NCA-2 it is capable of reporting up to 2,040 points. Reporting may be in the form of points or zones (refer to the UDACT-2 manual for specific reporting parameters). Points transmitted may be programmed for a variety of types, including fire, waterflow, supervisory, etc.

**NOTE:** Descriptions regarding point capacity, listed above, are for receivers which receive in Ademco Contact ID format. See chart on page 2 for compatible receivers.

### Features
- Programmable with VeriFire Tools version 6.60 or higher, allowing the UDACT-2 programming to be uploaded/downloaded and saved.
- Maximum of 14 point trouble messages transmitted per hour.
- Dual phone lines with line voltage detect.
- Compact in size: 6.75” x 4.25” (17.145 x 10.795 cm).
- USB port for upload/download programming.
- Mounts in a separate enclosure (ABS-8RB or UBS-1B/R).
- Communicates vital system status including:
  - Independent zone fire alarm.
  - Independent zone non-fire alarm.
  - Independent zone trouble.
  - Independent zone supervisory.
  - AC (mains) Power Loss (programmable).
  - Low Battery and Earth Fault.
  - System Off-Normal.
  - 12 or 24 hour test signal.
  - Abnormal Test Signal per new UL requirements.
  - EIA-485 Communication Bus Failure.
- Annunciation of UDACT-2 Troubles including: loss of phone lines, communication failure with either Central Station, total communications failure.

### Programming

The UDACT-2 programming is created and downloaded using VeriFire Tools. This enables the unit to be programmed prior to installation, be easily modified, and saved either online or offline. A printed report with point or zone information can be generated from VeriFire Tools for an ONYX Series panel or network annunciator. The point report consists of the central station point address, ACS point, ACS point function, panel label, point label, type code, custom and extended label, alarm verification, walktest participation, presignal, and PAS information. The zone report consists of a grid with the central station point address, ACS point address, source, ACS point function, panel label and panel label. This report may be sent to the Central Station for their records. VeriFire Tools also supports upgrading the UDACT-2 operating firmware.
Communication Formats

- Ademco Contact ID
- 4+2 Standard
- SIA

**NOTE:** Ademco Contact ID must be used for independent zone reporting.

Type Mode Feature

Ademco Contact ID format - only Use Type Mode to identify reports to Central Station as:

- Fire Alarm
- Supervisory
- Pull Station
- Heat Detector
- Waterflow
- Duct Detector
- Flame Sensor
- Smoke Zone

- Burglary
- 24 hour Non-Burglary
- High Temperature
- Low Temperature
- Low Water Pressure
- Low Water Level
- Pump Failure

Electrical Specifications

Standby current: 40 mA.

Current while communicating: 75 mA.

Maximum current while communicating and with open collector output activated: 100 mA.


Agency Listings and Approvals

In some cases, certain modules may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- UL/ULC Listed: S635
- FM Approved
- CSFM: 7165-0028:0243 (NFS2-640/320), 7165-0028:0224 (NFS2-3030)
- FDNY: COA#6085, COA#6098

Ordering Information

UDACT-2: Universal Digital Alarm Communicator Transmitter. Includes operating and programming instructions, and mounting hardware.

MCBL-7: DACT phone cord, 7 ft (2.13 m) long (two required).

ABS-8RB: Metal enclosure for externally mounting UDACT-2 up to 6,000 ft/1828.8 m from host FACP. 9.94” H x 4.63” W x 2.50” D (cm: 25.248 H x 11.760 W x 6.350 D).

UBS-1B: Metal enclosure with solid door, Black.

UBS-1BR: Metal enclosure with solid door, Red.

R-10E: SPDT Form-C relay. Contacts rated for 10 A @ 115 VAC. Connects to open collector relay driver.

R-20E: DPDT Two Form-C relays. Contacts rated for 10A @ 115 VAC. Connects to open collector relay driver.

FBD-1: Ferrite bead kit. Use for remote mounting only.

UL Listed Receivers

The chart below shows UL listed receivers compatible with the UDACT-2. A check in the protocol column indicates the receiver supports that protocol.

<table>
<thead>
<tr>
<th>Receiver</th>
<th>4+2 Standard 1800/2300</th>
<th>Ademco Contact ID</th>
<th>SIA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ademco 685 (1)</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Ademco MX8000 (2)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Silent Knight 9500 (3)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Silent Knight 9800 (4)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>FBI CP220FB (5)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Osborne Hoffman 2000E (6)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Radionics 6600 (7)</td>
<td>✓</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>SurGard MLR2 (8)</td>
<td>✓</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>SurGard System III (9)</td>
<td>✓</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>SurGard MLR-2000 (10)</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(1) With 685-8 Line Card with Rev 4.4d software
(2) With 124060V206B and 124063 Line Card Rev B
(3) With version V.24 Receiver & 126047 Line Card Rev G
(4) With 124077V2.00 Receiver & 126047 Line Card Rev M
(5) With software V3.9
(6) With V.7301 Receiver S/W
(7) With 01.01.03 Receiver S/W & Line Card 01.01.03
(8) With software V1.86
(9) With software V1.72
(10) With DSP4016 and V1.6 Line Card
CAB-4 Series Cabinets
ONYX® Series Backboxes
with Locking Doors

General

All cabinets for NOTIFIER fire alarm control panels are fabricated from 16-gauge steel. The cabinet assembly consists of two basic parts: a backbox and a locking door. Cabinets are available in either black or red, with or without LEXAN® windows. The LEXAN model provides a tasteful combination to accent the decor of the finest lobby setting.

• The key-locked door is provided with a pin-type hinge, two keys and the necessary hardware to mount the door to the backbox.

• The backbox has been engineered to provide ease-of-entry for the installer. Knockouts are positioned at numerous points to aid the installer in bringing a conduit into the enclosure with a minimum of hardship.

• Right- or left-hand hinges, selectable in the field. Door opens 180°.

• Cabinets are arranged in four standard sizes, A (one tier) through D (four tiers), plus a mini cabinet (AA, one tier without a battery compartment). See Ordering Information.

• A trim ring option is available for semi-flush mounting.

• Chassis bridge available for assembling multiple CHS-4 chassis external to the backbox.

Ordering Information

A complete cabinet assembly consists of: a door, a backbox, an optional battery plate, and an optional semi-flush trim ring. For each cabinet required, order one “DR” door and one “SBB” backbox. The BP-4 or BP2-4 battery plate is required for each cabinet assembly that mounts batteries and/or a power supply in the lower position of the cabinet. The optional trim ring is an attractive “picture frame”-style black metal ring.

MINI “AA” SIZE, ONE TIER:

DR-AA4: Door assembly, LEXAN window, one tier (no battery compartment), BLACK.
DR-AA4R: Door assembly, LEXAN window, one tier (no battery compartment), RED.
DR-AA4B: Door assembly, solid door, one tier (no battery compartment), BLACK.
DR-AA4BR: Door assembly, solid door, one tier (no battery compartment), RED.
SBB-AA4: Backbox assembly, one tier (no battery compartment), BLACK.
SBB-AA4R: Backbox assembly, one tier (no battery compartment), RED.
TR-AA4: Accessory semi-flush-mount trim ring, one tier (no battery compartment), BLACK.

NOTE: Black trim rings are used with red or black cabinets.

ONE TIER, “A” SIZE:

DR-A4: Door assembly, LEXAN window, one tier, BLACK.
DR-A4R: Door assembly, LEXAN window, one tier, RED.
DR-A4B: Door assembly, solid door, one tier, BLACK.
DR-A4BR: Door assembly, solid door, one tier, RED.
SBB-A4: Backbox assembly, one tier, BLACK.
SBB-A4R: Backbox assembly, one tier, RED.


NOTE: Black trim rings are used with red or black cabinets.

TWO TIERS, “B” SIZE:

DR-B4: Door assembly, LEXAN window, two tiers, BLACK.
DR-B4R: Door assembly, LEXAN window, two tiers, RED.
DR-B4B: Door assembly, solid door, two tiers, BLACK.
DR-B4BR: Door assembly, solid door, two tiers, RED.
SBB-B4: Backbox assembly, two tiers, BLACK.
SBB-B4R: Backbox assembly, two tiers, RED.

BP-4: Battery panel for NFS-640 and NFS-3030. Used to cover battery and power supply when lower position is used in backbox.

BP2-4: Battery panel for NFS2-3030. Used to cover battery and power supply when lower position is used in backbox.

THREE TIERS, “C” SIZE:

DR-C4: Door assembly, LEXAN window, three tiers, BLACK.
DR-C4R: Door assembly, LEXAN window, three tiers, RED.
DR-C4B: Door assembly, solid door, three tiers, BLACK.
DR-C4BR: Door assembly, solid door, three tiers, RED.
SBB-C4: Backbox assembly, three tiers, BLACK.
SBB-C4R: Backbox assembly, three tiers, RED.
**TR-C4**: Accessory semi-flush-mount trim ring, three tiers (opening 24.062" [61.118 cm] W x 37.187" [94.455 cm] H), BLACK.

**NOTE**: Black trim rings are used with red or black cabinets.

**BP-4**: Battery panel for NFS-640 and NFS-3030. Used to cover battery and power supply when lower position is used in backbox.

**BP2-4**: Battery panel for NFS2-3030. Used to cover battery and power supply when lower position is used in backbox.

**FOUR TIERS, “D” SIZE:**

- **DR-D4**: Door assembly, LEXAN window, four tiers, BLACK.
- **DR-D4R**: Door assembly, LEXAN window, four tiers, RED.
- **DR-D4B**: Door assembly, solid door, four tiers, BLACK.
- **DR-D4BR**: Door assembly, solid door, four tiers, RED.
- **SBB-D4**: Backbox assembly, four tiers, BLACK.
- **SBB-D4R**: Backbox assembly, four tiers, RED.
- **TR-D4**: Accessory semi-flush-mount trim ring, four tiers (opening 24.062" [61.118 cm] W x 45.812" [116.363 cm] H), BLACK.

**Note**: Black trim rings are used with red or black cabinets.

**BP-4**: Battery panel for NFS-640 and NFS-3030. Used to cover battery and power supply when lower position is used in backbox.

**BP2-4**: Battery panel for NFS2-3030. Used to cover battery and power supply when lower position is used in backbox.

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**ACCESSORIES:**

**WC-2**: Wire channel. Provides a pair of wire trays to neatly route wiring between CHS chassis.

**CB-1**: Chassis bridge. Provides a bridge between CHS Series chassis.

**DP-1B**: Blank dress panel, covers one CAB-4 tier, BLACK.

**ADP-4B**: Annunciator dress panel.

---

**Agency Listings and Approvals**

These listings and approvals below apply to the CAB-4 Series Cabinets. In some cases, certain modules or applications may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- **UL Listed**: file S635 *(except AA size).*
- **ULC Listed**: file CS118 *(except AA size).*
- **MEA approved**: files 317-01-E, 345-02-E *(except AA size).*
- **FM approved**(except AA size).
- **U.S. Coast Guard approved**: 161.002/42/1 *(NFS-640).*

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**Cabinet Dimensions and Features**

![Cabinet Dimensions and Features Diagram](image)

**Knockouts on top of cabinets.**

**CAB4keyhole.wmf**

**Keyhole dimensions**

- Height of mounting bolt after installation: 1.125" (2.868 cm)
- 0.250" (0.635 cm)
- 0.500" (1.27 cm)
- 0.500" (1.27 cm)

**“A” SIZE CABINET**

![“A” SIZE CABINET Diagram](image)

- 20.125" (51.12)
- 24.125" (61.28)
- 2.25" (5.72)
- 0.313" dik, (0.79)
- 19.5" (49.53)
- 11.281" (28.553)
- 2.063" (5.24)
- 5.218" (13.294)
- 2.662" (6.76)
- 6.625" (16.83)
- 5.933" (15.062)
- 7.123" (18.048)
- 13.097" (33.25)
- 5.156°
- 2.44°
- Inner: 0.875" (2.223)
- Outer: 1.125" (2.868)
- Inner 1.375" (3.49)
- Outer 1.750" (4.45)
- Top knockout: 16" (40.64)
- Lower knockout: 20" (50.80)
The BP-4 Battery Dress Panel covers the Main Power Supply and the batteries in the cabinet. Only one BP-4 or BP2-4 is required per cabinet unless an AA cabinet is used (no battery compartment).

“D” sized cabinet with solid door. Solid door option available on all sizes in black or red.
LISTING No. 7165-0028:0224

CATEGORY: 7165 -- FIRE ALARM CONTROL UNIT (COMMERCIAL)

LISTEE: NotifierOne Fire-Lite Place, Northford, CT 06472-1653
Contact: Lisa Brant (203) 484-6105 Fax (203) 484-7309
Email: lisa.brant@honeywell.com

DESIGN: Model NFS-3030, NFS-3030E, NFS2-3030, NFS2-3030E fire alarm control units. Local, auxiliary, remote station (PPU), proprietary (PPU), central station (PPU), automatic, manual, waterproof and sprinkler supervisory services. Suitable for use as a releasing service, Emergency Voice/Alarm Communication System and Process/Energy Management Equipment. Refer to listee’s data sheet for detailed product description and operational considerations. System components:

- AA-30/-100/-120; Amplifiers
- ACM-8R/-16AT/-24AT/-32A/-48A; Annunciator Control Modules
- ACPS-610; Addressable/Charger Power Supply
- ACPS-2406; Addressable Charger/Power Supply
- ACT-1/-2/-4/-25/-70; Audio Coupling Transformer
- ADDR-B4/-B4R/-C4/-C4R/-D4/-D4R; Doors
- AEM-16AT/-24AT/-32A/-48A; Annunciator Expander Modules
- AFM-16A/-16AT/-32A; Annunciator Fixed Modules
- AKS-1B; Annunciator Key Switch
- AMG-1/-E; Audio Message Generator
- AMPS-24, CPS-24; Addressable Main Power Supply
- APS-6R, APS2-6R; Auxiliary Power Supply
- ARM-4; Auxiliary Relay Module
- BDA-25V/-70V; Backup Digital Audio Amplifiers
- BGRA-SCS, BGRB-SCS, CEF-SCS, RSA-SCS, RSB-SCS, RSC-SCS, RSD-SCS;
- RSE-SCS; Smoke Control Station
- BB-17/-25/-100/-200; Battery Box
- BMP-1; Blank Module
- BP-4; Battery Panel
- BP2-4; Dress Panel
- CA-1/-2; Chassis
- CAB-3/4 Series, EQ Series; Enclosures
- *CAB-RP, CAB-RPR; Cabinets
- CHG-120; Battery Charger
- CHS-4L-4MB/-4N/-6-M3/-PS/-BH1; Chassis
- CMIC-1, CMIC-RP*; Microphone Assembly
- CPU2-3030D/CPU2-3030ND; CPU Board

*Rev. 05-08-12 gt

This listing is based upon technical data submitted by the applicant. CSFM Fire Engineering staff has reviewed the test results and/or other data but does not make an independent verification of any claims. This listing is not an endorsement or recommendation of the item listed. This listing should not be used to verify correct operational requirements or installation criteria. Refer to listee’s data sheet, installation instructions and/or other

Date Issued: July 01, 2022
Listing Expires June 30, 2023

Authorized By: VICTOR WONG, Program Coordinator
Fire Engineering Division
CRE-4; Control Relay Expander
CRM-4RK; Control Relay Module
CRT-2; Display Terminal
DAA-5025/5070; Digital Audio Amplifiers
DAA-5025F/DAA-5025SF; Digital Audio Amplifiers, Fiber Mode
DAA-5070F/DAA-5070SF; Digital Audio Amplifiers, Fiber Mode
DAA-2025/-5070/-7525; Digital Audio Amplifiers
DAA-7525, DAA-7525F; DAA-7525SF Series; Digital Audio Amplifiers
DAA-PS; Power Supply
DAX-3525/-3570/-5025/-5070; Digital Audio Amplifiers
DCM-4RK; Dual Channel Module
DP-1B; Blank Panel
DP-DISP; Display Dress Panel
DR-A4, DR-A4B, DR-A4BR, DR-A4R; Door Assembly
DR-AA4, DR-AA4B, DR-AA4BR, DR-AA4R; Door Assembly
DR-B3F; Door Assembly
DR-B4, DR-B4B, DR-B4BR, DR-B4R; Door Assembly
DR-C4, CR-C4B, DR-C4BR, CR-C4R; Door Assembly
**DR-D4**; DR-D4B, DR-D4BR, DR-D4R; Door Assembly
DS-AMP/E; Digital Series Audio Amplifier
DS-BDA; Digital Series Backup Amplifier
DS-DB; Digital Series Distribution Board
DS-FM, DS-RFM, DS-SFM; Digital Series Fiber Module
DPDW-1B, DPSW-1B, XPDP; Dress Panels
VP-2B, DPA-1/-1A4/-2; Dress Panels
DPI-232; Direct Panel Interface
DVC-AO; Digital Voice Command
DVC-EM; Extended Memory
DVC-EMF/DVC-EMSF; Digital Voice Command/Ext Memory
DVC-KD; Keypad Board
*DVC-RPU; Remote Paging Unit
EQBB-B4, EQBB-C4, EQBB-D4; Backbox Assembly
EQDR-B4, EQDR-C4, EQDR-D4; Door Assembly
FCM-1-REL; Releasing Control Module
FCPS-24S6/S8; Field Charger/Power Supply
FFT-7/-7S; Fire Fighter's Telephones
FIRSTVISION-LCD; Interactive Firefighters' Display
FIRSTVISION-ENC; FirstVision Backbox Enclosure and Door
FMM-4-20; Analog Input Module
FHS; Fireman's Handset
FCM-1; Addressable control module
FDM-1; Dual monitor module
FDRM-1*; Dual Relay/Monitor Module
FMM-1; Monitor module
FMM-101; Miniature monitor module

*Rev. 05-08-12*
FRM-1; Addressable relay module
FTM-1; Firephone Control Module
FPJ; Fireman's Phone Jack
FZM-1; Two-wire detector monitor module
HS-NCM-W/-MF/SF/-WMF/-WSF/-MFSF; High Speed Network Control Modules
ICE-4; Indicating Control Expander
ICM-4RK; Indicating Circuit Module
IPDACT-2/-2UD/IPENC; IP Digital Alarm Communicator
ISO-X; Isolator Module
IZE-A; Initiating Zone Expander
IZM-8RK; Initiating Zone Module
LCD-80, -160; Liquid Crystal Display Module
LCD2-80; Liquid Crystal Display
LCM-320; Loop Control Module
LDM-32/-E32/-R32; Lamp Driver Module
LEM-320; Loop Expander Module
MP-1B; Blank Panel
MPS-24B; Power Supply Module
NBG-12; Series Addressable Manual Pull Station
NBG-12LX; Manual pull station, addressable. See DN-6726
NCA/NCA-2; Network Control Annunciator
NCM-W/-F; Network Control Module
NCS4-W-ONYX, NCS4-F-ONYX; Network Control Station, Wire/Fiber
NCS5-W-ONYX, NCS5-F-ONYX; Network Control Station, Wire/Fiber
ONYXWorks-EW/-NW/INF/-HNW/-HNMF/-HNSF/-TS/-EW-TS/-NF-TS/-HW-TS/-HNMT/ -HNSFT/- HNWT; Graphics PC workstation for NOTI-FIRE-NET Wire/Fiber/with Touch-screen monitors
N-ELR; End of Line Resistors
NFS-LBB/-LBBR; Battery Box
PRN-6; Printer
R-120/-2.2K/-27K/-470/-47K; End of Line Resistors
RA-400/-400Z; Remote Annunciators
RKS-S; Remote Security Keyswitch
RM-1/-1SA; Remote Microphone
RPJ-1; Remote Paging Jack
RPT-W/-F/-485W/-485WF; Repeater
SBB-A3F; Backbox Assembly
SBB-A4, SBB-A4R, SBB-AA4, SBB-AA4R; Backbox Assembly
SBB-B4, SBB-B4R-L8, SBB-C4, SBB-C4R; Backbox Assembly
SBB-D4; SBB-D4R; Backbox Assembly
SCS-8; Smoke Control Station
SCS-8L; Smoke Control Lamp Driver Station
SCE-8; Smoke Control Expander
SCE-8L; Smoke Control Expander Lamp
STS-1; Security Tamper Switch

*Rev. 05-08-12 gt

This listing is based upon technical data submitted by the applicant. CSFM Fire Engineering staff has reviewed the test results and/or other data but does not make an independent verification of any claims. This listing is not an endorsement or recommendation of the item listed. This listing should not be used to verify correct operational requirements or installation criteria. Refer to listee's data sheet, installation instructions and/or other

Date Issued: July 01, 2022  Listing Expires June 30, 2023

Authorized By: VICTOR WONG, Program Coordinator
Fire Engineering Division
TM-4; Transmitter Module
TR-A4/-B3N/-B4/-C4/-D3N/-D4; Trim Ring
UDACT, UDACT-2; Universal DACT
UZC-256/BB--UZC; Universal Zone Coder/Backbox
VCE-4; Voice Control Expander
VCM-4RK; Voice Control Module
VS4095/5; Keltron Remote Printer
XP5-C/-M; Transponder
XPC-8; Transponder Control Module
XPIQ; Transponder Quad Intelligent Audio Module
XPM-8/-8L; Transponder Monitor Modules
XPP-1; Transponder Processor
XPR-8; Transponder Relay Module

**INSTALLATION:**
In accordance with listee's printed installation instructions, applicable codes and ordinances
and in a manner acceptable to the authority having jurisdiction.

**MARKING:**
Listee's name, model number, electrical rating and UL label.

**APPROVAL:**
Listed as fire alarm control units suitable for high rise applications for use with separately
listed compatible initiating and indicating devices. This control unit can generate the temporal
code pattern fire alarm signal as required per NFPA 72, 2002 Edition. Refer to listee's
Installation Instructions Manual for details.
This control unit meets the requirements of UL Standard 864, 9th Edition.

**NOTE:**
1. For Fire Alarm Verification feature (delay of fire alarm signal), the maximum
Retard/Reset/Restart period shall not exceed 30 seconds.

2. Combined with Listing No. 7170-0028:223

*Rev. 05-08-12*
The ACPS-610(E) is an auxiliary power supply with a battery charging option and a host of special features. Selectable charging options allow the ACPS-610(E) to provide 6 amps of shared power to four outputs while charging batteries from 12 to 200 AH, or 10 amps of shared power when the unit is configured for use with an external battery charger. Four individually addressable outputs can be independently configured for auxiliary power or Notification Appliance Circuits (NAC). NAC outputs support notification appliance synchronization for devices manufactured by System Sensor®, Wheelock, and Gentex. An option to disable battery charging allows the system designer to use the four built-in circuits to distribute 10 amps of power for general purposes, excluding NAC applications.

The ACPS-610(E) is compatible with NOTIFIER intelligent fire alarm control panels using CLIP and FlashScan® protocol.

Features

- Provides 6.0 A of NAC power or 10 A of general purpose power.
- Four Class B (Style Y) or four Class A (Style Z) outputs, individually addressable by the FACP.
- When built-in outputs are configured for NAC operation, each circuit supports strobe synchronization with the following manufacturers' audio/visual devices: System Sensor (SpectrAlert® and SpectrAlert Advance Series) or Wheelock or Gentex.
- Each circuit can be software-selected for use as: a Notification Appliance Circuit, general purpose 24 VDC power, four-wire detector power, or door holder.
- Steady, March Time (120 PPM), Two Stage, Temporal, or UZC Zone-Coded and Non-Coded devices - software-selectable by circuit.
- Universal Zone Coder (UZC-256) option supports for programmable coded outputs. Up to 256 different codes.
- Auxiliary Outputs: 24V @ 0.5A and 5V @ 0.15A
- Charges 12 to 200 AH batteries with full supervision. The charger on the ACPS may be disabled via software. When disabled, a separate, external charger is required, for example a CHG-120.
- May be used to provide battery backup for multiple ACPS supplies.
- AC loss detection, brownout detection, and AC loss delay reporting.
- Power-limited outputs.
- Isolated Signaling Line Circuit (SLC) interface.
- Selectable ground fault detection.
- Canadian two stage operation.

Specifications

- Primary (AC) power:
  - ACPS-610: 120 VAC, 50/60 Hz input, 5.0 A maximum
  - ACPS-610E: 220/240 VAC, 50/60 Hz input, 2.5 A maximum
- Output voltage: 24 VDC electrically regulated and power limited (under primary AC mains). Under secondary power, 20.4 to 26.4 VDC.
- Output circuits - TB3, TB4, TB5, TB6 on Main Board: 1.5 A maximum for any NAC output circuit. 2.5 A maximum for any Power output with battery charger disabled.
- Secondary power (battery) charging circuit - lead-acid battery charger which will charge 12 to 200 AH batteries. Maximum charger current - 5.0 A.
- Secondary power auxiliary outputs - TB2 on CPS-24 Board:
  - 24V @ 0.5A, power limited
  - 5V @ 0.15A, power limited
- Wiring: utilizes wire sizes 12 to 18 AWG (3.1 to 0.78 mm²).
- SLC specifications: Average SLC current is 1.287 mA. SLC data is transmitted between 24.0 VDC, 5 VDC, and 0 VDC at approximately 3.33 Kbaud.
- Battery fuse (F2): 15A, Fast-acting
- Weight: 4.5 lb

ACPS Programming

The ACPS-610(E) is programmable via the simple-to-use PK-PPS programming utility, which requires a Windows® PC with a USB port and cable. A copy of the PK-PPS programming utility is included with each ACPS-610(E). Programming may be performed during an on-line session with the ACPS-610(E), or previously saved programs may be downloaded to individual ACPS-610(E) units. The ACPS-610(E) requires the use of a minimum of 5 SLC address points, and will use up to 14 SLC address points to fulfill requirements for Canadian supervision and two stage operation.
**Listings and Approvals**

These listings and approvals apply to the modules specified in this document. In some cases, certain modules or applications may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- **UL Listed:** S635
- **ULC Listed:** S635
- **FM Approved**
- **CSFM:** 7315-0028:248
- **MEA #30-08-E**

**Product Line Information**

**ACPS-610:** Addressable charger power supply, with selectable built-in synchronization, and four built-in control modules. Includes installation instructions and PK-PPS programming utility CD. Requires Windows PC with USB port and USB cable. Several mounting options available (see below).

**ACPS-610E:** Same as ACPS-610, but configured for 220/240 VAC operation.

**CAB-PS1:** The CAB-PS1 can house one ACPS-610(E) and two 12 AH batteries. Dimensions: 15.218” (38.654 cm) high x 14.5” (36.83 cm) wide x 3.562” (9.048 cm) deep with door.

**DR-PS1:** When installing an ACPS-610(E) into an older version of the CAB-PS1 used for an ACPS-2406(E), the new wider door must be ordered for use with the older version cabinet.

**BB-25:** The BB-25 can house one ACPS-610(E) and two 12 volt, 26 AH batteries.

**CAB-4 Series:** The ACPS-610(E) can mount in any of the CAB-4 Series cabinets. This can be in the bottom of the cabinet or a tier via a CHS-PS and CHS-BH. See CAB-4 Series data sheet (DN-6857).

**EQ Cabinet Series:** The ACPS-610(E) can mount in any of the EQ Cabinet Series cabinets. See EQ Cabinet Series data sheet (DN-60229).

**CHS-PS/CHS-6:** Power supply mounting plate. Optional kit used to mount the ACPS-610(E) in a location other than the bottom of the CAB-4 cabinet or in an EQ Series cabinet (e.g., 2nd, 3rd, or 4th tier).

**CHS-BH:** Battery mounting chassis used to mount batteries in a location other than the bottom of the CAB-4 cabinet (e.g., 2nd, 3rd, or 4th tier).

**Batteries:** ACPS-610(E) battery charging circuit range is 12 - 200 AH. See BAT Series data sheet (DN-6933).
LISTING No. 7315-0028:0248

CATEGORY: 7315 -- POWER UNITS

LISTEE: NotifierOne Fire-Lite Place, Northford, CT 06472-1653
Contact: Lisa Brant (203) 484-6105 Fax (203) 484-7309
Email: lisa.brant@honeywell.com

DESIGN: Models APS2-6R*, APS2-6RE* power supply and ACPS-610, ACPS-610E addressable charger/power supply. Models ACPS-610 and ACPS-610E can be configured to drive four notification appliance circuits or, it may be configured to provide four-wire detector power or general purpose power. Model APS2-6R* can provide two power-limited output circuits (24VDC, 3A max. each) or one non power-limited (6A max). Refer to listee's data sheet for additional detailed product description and operational considerations.

RATING:
- ACPS-610: 120 V, 50/60 Hz, 5.0 A
- ACPS-610E: 240 V, 50/60 Hz, 2.5 A
- *APS2-6R: 120 V, 50/60 Hz, 2.9 A
- *APS2-6RE: 220-240 V, 50/60 Hz, 1.5 A

INSTALLATION: In accordance with listee's printed installation instructions, applicable codes and ordinances and in a manner acceptable to the authority having jurisdiction.

MARKING: Listee's name, product designation, electrical rating and UL label.

APPROVAL: Listed as auxiliary addressable power supply and battery charger (only for ACPS-610*) for use with separately listed electrically and functionally compatible fire alarm control units.

*Rev. 07-20-09 bh

This listing is based upon technical data submitted by the applicant. CSFM Fire Engineering staff has reviewed the test results and/or other data but does not make an independent verification of any claims. This listing is not an endorsement or recommendation of the item listed. This listing should not be used to verify correct operational requirements or installation criteria. Refer to listee's data sheet, installation instructions and/or other

Date Issued: July 01, 2022  Listing Expires: June 30, 2023

Authorized By: VICTOR WONG, Program Coordinator
Fire Engineering Division
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NOTIFIER’s XP6-R six-relay control module provides an intelligent fire alarm system with six Form-C relays.

The first module is addressed from 01 to 154 while the remaining modules are automatically assigned to the next five higher addresses. Provisions are included for disabling a maximum of three unused modules. A single isolated set of dry relay contacts is provided for each module address, which is capable of being wired for either a normally-open or normally-closed operation. The module allows the control panel to switch these contacts on command. No supervision is provided for the controlled circuit.

Each XP6-R module has panel-controlled green LED indicators. The panel can cause the LEDs to blink, latch on, or latch off.

**Features**

- Six addressable Form-C relay contacts.
- Removable 12 AWG (3.25 mm²) to 18 AWG (0.9 mm²) plug-in terminal blocks.
- Status indicators for each point.
- Unused addresses may be disabled.
- Rotary address switches.
- FlashScan® or CLIP operation.
- Mount one or two modules in a BB-XP cabinet (optional).
- Mount up to six modules on a CHS-6 chassis in a CAB-3 Series, CAB-4 Series, EQ Series, or BB-25 cabinet (optional).
- Mounting hardware included.

**Specifications**

**Standby current:** 1.45 mA (SLC current draw with all addresses used; if some addresses are disabled, the standby current decreases).

**Alarm current:** 32 mA (assumes all six relays have been switched once and all six LEDs solid ON).

**Temperature range:** 32°F to 120°F (0°C to 49°C).

**Humidity:** 10% to 93% noncondensing.

**Dimensions:** 6.8” (172.72 mm) high x 5.8” (147.32 mm) wide x 1.0” (25.40 mm) deep.

**Shipping weight:** 1.1 lb. (0.499 kg) including packaging.

**Mounting options:** CHS-6 chassis, BB-25 cabinet, BB-XP cabinet, CAB-3 Series (see DN-3549) cabinet, CAB-4 Series (see DN-6857) cabinet, or EQ Series cabinet.

**Wire gauge:** 12 AWG (3.25 mm²) to 18 AWG (0.9 mm²).

**Maximum SLC wiring resistance:** 40 or 50 ohms, panel dependent.

**Relay current:** 30 mA/relay pulse (15.6 ms pulse duration), pulse under panel control.

**Relay contact ratings:** 30 VDC; 70.7 VAC.

**Current ratings:**

- 3.0 A @ 30 VDC maximum, resistive, non-coded.
- 2.0 A @ 30 VDC maximum, resistive, coded.
- 1.0 A @ 30 VDC maximum, inductive (L/R = 2 ms), coded.
- 0.5 A @ 30 VDC maximum, inductive (L/R = 5 ms), coded.
- 0.9 A @ 110 VDC maximum, resistive, non-coded.
- 0.9 A @ 125 VAC maximum, resistive, non-coded.
- 0.7 A @ 70.7 VAC maximum, inductive (PF = 0.35), non-coded.
- 0.3 A @ 125 VAC maximum, inductive (PF = 0.35), non-coded.
- 1.5 A @ 25 VAC maximum, inductive (PF = 0.35), non-coded.
- 2.0 A @ 25 VAC maximum, inductive (PF = 0.35), non-coded.

**Agency Listings and Approvals**

These listings and approvals apply to the modules specified in this document. In some cases, certain modules or applications may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- UL Listed: S635
- ULC Listed: S635 (XP6-RA)
- MEA Listed: 368-01-E
- CSFM: 7300-0028:219
- Maryland State Fire Marshall: Permit # 2099
- FM Approved (Light Protective Signaling Only)
**Product Line Information**

**XP6-R:** Six-relay control module.

**XP6-RA:** Same as above with ULC Listing.

**BB-XP:** Optional cabinet for one or two modules. Dimensions, DOOR: 9.234" (23.454 cm) wide (9.484" [24.089 cm] including hinges), x 12.218" (31.0337 cm) high, x 0.672" (1.7068 cm) deep; BACKBOX: 9.0" (22.860 cm) wide (9.25" [23.495 cm] including hinges), x 12.0" (30.480 cm) high x 2.75" (6.985 cm); CHASSIS (installed): 7.150" (18.161 cm) wide overall x 7.312" (18.5725 cm) high interior overall x 2.156" (5.4762 cm) deep overall.

**BB-25:** Optional cabinet for up to six modules mounted on CHS-6 chassis (below). Dimensions, DOOR: 24.0" (60.96 cm) wide x 12.632" (32.0852 cm) high, x 1.25" (3.175 cm) deep, hinged at bottom; BACKBOX: 24.0" (60.96 cm) wide x 12.550" (31.877 cm) high x 5.218" (13.2537 cm) deep.

**CHS-6:** Chassis, mounts up to six modules in a CAB-3 Series (see DN-3549), CAB-4 Series (see DN-6857), or EQ Series (see DN-60229) cabinet.
XP10-M(A)
Ten-Input Monitor Module

General
The XP10-M ten-input monitor module is an interface between a control panel and normally open contact devices in intelligent alarm systems such as pull stations, security contacts, or flow switches.

The first address on the XP10-M is set from 01 to 150 and the remaining modules are automatically assigned to the next nine higher addresses. Provisions are included for disabling a maximum of two unused addresses.

The supervised state (normal, open, or short) of the monitored device is sent back to the panel. A common SLC input is used for all modules, and the initiating device loops share a common supervisory supply and ground — otherwise each monitor operates independently from the others.

Each XP10-M module has panel-controlled green LED indicators. The panel can cause the LEDs to blink, latch on, or latch off.

NOTE: Unless otherwise specified, the term XP10-M is used in this data sheet to refer to both the XP10-M and the XP10-MA (ULC-listed version).

Features
- Ten addressable Class B or five addressable Class A initiating device circuits.
- Removable 12 AWG (3.31 mm²) to 18 AWG (0.821 mm²) plug-in terminal blocks.
- Status indicators for each point.
- Unused addresses may be disabled.
- Rotary address switches.
- Class A or Class B operation.
- FlashScan® or CLIP operation.
- Flexible mounting options.
- Mounting hardware included.

Specifications
Standby current: 3.5 mA (SLC current draw with all addresses used; if some addresses are disabled, the standby current decreases).
Alarm current: 55 mA (assumes all ten LEDs solid ON).
Temperature range: 32°F to 120°F (0°C to 49°C) for UL applications; −10°C to +55°C for EN54 applications.
Humidity: 10% to 85% noncondensing for UL applications; 10% to 93% noncondensing for EN54 applications.
Dimensions: 6.8" (172.72 mm) high x 5.8" (147.32 mm) wide x 1.25" (31.75 mm) deep.
Shipping weight: 0.76 lb. (0.345 kg) including packaging.

Mounting options:
- CHS-6 chassis: Up to 6 modules.
- BB-25 cabinet: Up to 6 modules.
- BB-XP cabinet: One or two modules.
- CAB-4 Series cabinet: See DN-6857.
- EQ Cabinet Series: See DN-60229.

Wire gauge: 12 AWG (3.31 mm²) to 18 AWG (0.821 mm²).
Power-limited circuits must employ type FPL, FPLR, or FPLP cable as required by Article 760 of the NEC.

XP10-M is shipped in Class B position; remove shunt for Class A operation.

Maximum SLC wiring resistance: 40 or 50 ohms, panel dependent.

Maximum IDC wiring resistance: 1500 ohms.
Maximum IDC voltage: 10.2 VDC.
Maximum IDC current: 240 µA.

Agency Listings and Approvals
The listings and approvals below apply to the XP10-M(A) Ten-Input Monitor Module. In some cases, certain modules or applications may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.
- UL Listed: S635
- ULC Listed: S635 (XP10-MA)
- CSFM approved: 7300-0028:219
- FM approved
- MEA approved: 43-02-E
- Maryland State Fire Marshal approved: Permit #2106
Product Line Information

XP10-M: Ten-input monitor module.

XP10-MA: Same as above with ULC Listing.

BB-XP: Optional cabinet for one or two modules. **Dimensions, DOOR:** 9.234" (23.454 cm) wide (9.484" [24.089 cm] including hinges), x 12.218" (31.0337 cm) high, x 0.672" (1.7068 cm) deep; **BACKBOX:** 9.0" (22.860 cm) wide (9.25" [23.495 cm] including hinges), x 12.0" (30.480 cm) high x 2.75" (6.985 cm); **CHASSIS (installed):** 7.150" (18.161 cm) wide overall x 7.312" (18.5725 cm) high interior overall x 2.156" (5.4762 cm) deep overall.

BB-25: Optional cabinet for up to six modules mounted on CHS-6 chassis (below). **Dimensions, DOOR:** 24.0" (60.96 cm) wide x 12.632" (32.0852 cm) high, x 1.25" (3.175 cm) deep, hinged at bottom; **BACKBOX:** 24.0" (60.96 cm) wide x 12.550" (31.877 cm) high x 5.218" (13.2537 cm) deep.

CHS-6: Chassis, mounts up to six modules in a CAB-4 Series (see DN-6857) cabinet, EQ Cabinet Series (see DN-60229), or BB-25.
LISTING No. 7300-0028:0219

CATEGORY: 7300 -- FIRE ALARM CONTROL UNIT ACCESSORIES/MISC. DEVICES

LISTEE: NotifierOne Fire-Lite Place, Northford, CT 06472-1653
Contact: Lisa Brant (203) 484-6105 Fax (203) 484-7309
Email: lisa.brant@honeywell.com

DESIGN: Models XP6-R relay module, XP6-C, supervising control module, XP10-M input monitor module, XP6-MA six zone interface module, FMM-1, FMM-101, FZM-1, FSM-101, FDM-1, FTM-1 monitor modules, FCM-1, FRM-1 control modules, and *FDRM-1 with 2 input/2 output relay module. All devices are intended to be connected between the signaling line circuit of a compatible fire alarm control panel. Refer to listee's data sheet for additional detailed product description and operational considerations.

RATING: 16-33 VDC Primary

INSTALLATION: In accordance with listee's printed installation instructions, applicable codes & ordinances and in manner acceptable to the authority having jurisdiction.

MARKING: Listee's name, product number and UL label.

APPROVAL: Listed as control unit accessories for use with listee's separately listed compatible fire alarm control units. Model FTM-1 is intended to be used with Notifier Models NFS-640, NFS2-640 (CSFM Listing No. 7165-0028:214), NFS-3030, NFS2-3030 (CSFM Listing No. 7165-0028:224) Fire Alarm Control Units.

NOTE: If an external power supply is used for Model XP6-MA, the negative of the external power supply is referenced to the negative of the auxiliary supply of the compatible control panel. This is done in order to detect ground faults on the initiating circuit.

*Rev. 10-24-11 mt
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This cabinet consists of a backbox with an integral, lockable door that is hinged on the bottom to swing down for access.

It is designed to be mounted a minimum of 6 inches (15.24 cm) below the fire alarm control panel (FACP). When both cabinets are surface mounted, the knockout in the bottom-right corner of the FACP will line up directly above the knockout in the top-right corner of this enclosure.

This enclosure should be mounted in a clean, dry, vibration-free area, using the six holes provided.

Note: The enclosure has 0.875 in. (2.2225 cm) knockouts which accept standard 0.75 in. (1.905 cm) conduit.
LISTING No. 7165-0028:0243

CATEGORY: 7165 -- FIRE ALARM CONTROL UNIT (COMMERCIAL)

LISTEE: NotifierOne Fire-Lite Place, Northford, CT 06472-1653
Contact: Lisa Brant (203) 484-6105 Fax (203) 484-7309
Email: lisa.brant@honeywell.com

DESIGN:
Models NFS2-640, NFS-320/C (R), and NFS-320SYS fire alarm control units. Local, auxiliary, remote station (PPU), proprietary (PPU), central station (PPU), manual, automatic, waterfowl and sprinkler supervisory services. Also suitable for releasing service. Process Management and Emergency Voice/Alarm communication System *. Model numbers may be followed by an "R" suffix representing the enclosure color being red. Refer to listee's data sheet for additional detailed product description and operational considerations. System components:

- ACM-8R, -16AT, -32A, -24AT, -48A; Annunciator Control Modules
- ACPS-610, AMPS-24; Addressable power supply/charger
- ADP-4B, -A4, -1, -2, DP-DISP2; Dress Panel
- AEM-16AT, -32A, -24AT, -48A; Annunciator Expander Modules
- AFM-16A, -16AT, -32A; Annunciator Fixed Modules
- AKS-1B; Annunciator Key Switch
- APS2-6R; Power supply
- BB-100, -200, NFS-LBB/-LBBR; Battery Boxes
- BGRA-SCS, BGRB-SCS; Smoke Control Station
- BMP-1; Blank Module
- BP-4, BP2-4; Battery Dress Plates
- CAB-3/-4 Series; Enclosure
- CAB-RP, CAB-RPR; Cabinets
- CEF-SCS; Smoke Control Station
- CHS-4, CHS-4N, CHS-4L; Chassis
- CPU2-640, CPU-320SYS; CPU Board
- CRT-2; Display Terminal
- DP-1B; Blank Panel
- DPA-1A4/1/2, DP-DISP2; Dress Panel
- DPI-232; Panel Interface
- DR-A4, DR-A4B, DR-A4BR, DR-A4R; Door Assembly
- DR-AA4, DR-AA4B, DR-AA4BR, DR-AA4R; Door Assembly
- DR-B3F; Door Assembly
- DR-B4, DR-B4B, DR-B4BR, DR-B4R; Door Assembly
- DR-C4, DR-C4B, DR-C4BR, DR-C4R; Door Assembly
- DR-D4, DR-D4B, DR-D4BR, DR-D4R; Door Assembly

*Rev. 10-29-13

Date Issued: July 01, 2022  Listing Expires June 30, 2023

Authorized By: VICTOR WONG, Program Coordinator

Fire Engineering Division

This listing is based upon technical data submitted by the applicant. CSFM Fire Engineering staff has reviewed the test results and/or other data but does not make an independent verification of any claims. This listing is not an endorsement or recommendation of the item listed. This listing should not be used to verify correct operational requirements or installation criteria. Refer to listee's data sheet, installation instructions and/or other
EQ Series; Cabinets
EQBB-B4, EQBB-C4, EQBB-D4; Backbox Assembly
EQDR-B4, EQDR-C4, EQDR-D4; Door Assembly
FCM-1, FCM-1-REL; Releasing Control Module
FCPS-24S6, -24S8; Field Charger/Power Supply
FDM-1; Dual Monitor Module
FDRM-1; Multiple Module with two Relay Outputs
FDU-80/-80G; Remote Annunciator
FIRSTVISION-LCD/ENC; Interactive Firefighters’ display/enclosure
FRM-1; Relay Module
FTM-1; Control Module
FZM-1, FMM-1, FMM-101; Monitor Modules
HS-NCM-W/-MF/-SF/-WMF/-WSF/-MSSF; High Speed Network Control Modules
IPDCT-2/-2UD; IP Fire Alarm Communicator
ISO-X; Isolator Module
KAPS-24, CPS-24; Power Supply
KDM-R2; Keyboard Display Module
LCD-80, -160; Annunciators
LCD-80TM; Annunciator Terminal Module LCD
LCD2-80; Remote Annunciator
LDM-32/-E32/-R32; Lamp Driver Module
LEM-320/ELEM-320; Loop Expander Module
NBG-12LRA; Agent Releasing Abort Station
NBG-12LX; Addressable Manual Pull Station
NCA, NCA-2; Network Communication Annunciator
NCM-W, -F; Network Control Module
NCS4-W-ONYX, NCS4-F-ONYX; Network Control Station
NCS5-W-ONYX, NCS5-F-ONYX; Network Control Station
NFS-LBB/NFS-LBBR; Battery Box/Red
NFS-320SYS; Chassis
NFV-25/50, NFV-25/50ZS/ZST; Voice Evacuation Control Panels
NFV-25/50DA, NFV-25/50DAZS; Distributed Audio Panels
ONYXWorks-EW/-NW/-NF/-HNW/-HNMF/-HNSF/-TS/-HSF/-EW-NTS/-NF-NTS/-HW-NTS/
-HNMF/-HNSF/-HNWT; PC workstation for NOTI\*FIRE\*NET, Wire/Fiber/
with Touch screen monitors
PRN-6; Printer
RKS-S; Remote Security Key Switch
RPT-2, -485W; Repeater Wire
RPT-F; Repeater Fiber
RPT -485FW; Repeater Fiber/Wire
RSA-SCS, RSB-SCS, RSC-SCS, RSD-SCS, RSE-SCS; Smoke Control Station
SBB-A3F; Backbox Assembly
SBB-A4, SBB-A4R, SBB-AA4, SBB-AA4R; Backbox Assembly
SBB-B4, SBB-B4R-L8, SBB-C4, SBB-C4R; Backbox Assembly
SBB-D4, SBB-D4R; Backbox Assembly

*Rev. 10-29-13 gt
SCE-8; Smoke Control Expander
SCS-8L; Smoke Control Lamp Driver Station
SCE-8L; Smoke Control Expander Lamp
SCS-8; Smoke Control Station
STS-1; Security Tamper Switch
TM-4; Transmitter Module
TR-A4/-B3N/-B4/-C4/-D3N/-D4; Trim Ring
UDACT, UDACT-2; Universal DACT
UZC-256; Universal Zone Coder
VP-2B; Dress Panel
XP5-C/-M; Transponder Modules
XP6-C; Supervised Control Modules
XP6-MA; Six Zone Interface Modules
XP6-R; Six Relay Control Modules
XP10-M(A); Ten Input Monitor Modules
XPM-8L; Transponder Monitor Modules

The following models are intended for use on NFS2-640 only:

AA-30, -100, -120; Amplifiers
ACT-1, -2, -4, -25, -70; Audio Coupling Transformer
ADDR-B4/-B4R/-C4/-C4R/-D4/-D4R; Door Assemblies
AMG-E; Audio Message Generator
AVL-1; Audio Voice Link
BDA-25V/-70V; Backup Digital Audio Amplifiers
CHS2-M2, CA-1, CA-2; Chassis
CMIC-1, CMIC-RP; Microphone Assembly
DAA-5025/-5070; Digital Audio Amplifiers
DAA-5025F/DAA-5025SF; Digital Audio Amplifiers
DAA-5070F/DAA-5070SF; Digital Audio Amplifiers, Fiber Mode
DAA-75 Series; Digital Audio Amplifiers
DAA-7525, DAA-7525F, DAA-7525SF; Digital Audio Amplifiers
DAA2-5025/-5070/-7525; Digital Audio Amplifiers
DAX-3525/-3570/-5025/-5070; Digital Audio Amplifiers
DS-AMP/E; Digital Series Audio Amplifier
DS-BDA; Digital Series Backup Amplifier
DS-DB; Digital Series Distribution Board
DS-FM, DS-RFM, DS-SFM; Digital Series Fiber Module
DVC; Digital Voice Command
DVC-EM/-EMF/-EMSF; Digital Voice Command Extended Memory Module
DVC-RPU; Remote Paging Unit
FFT-7, -7S; Fire Fighter’s Telephone
FHS; Fireman’s Handset
FPJ; Fireman’s Phone Jack
RM-1, RM-1SA; Remote Microphone

This listing is based upon technical data submitted by the applicant. CSFM Fire Engineering staff has reviewed the test results and/or other data but does not make an independent verification of any claims. This listing is not an endorsement or recommendation of the item listed. This listing should not be used to verify correct operational requirements or installation criteria. Refer to listee’s data sheet, installation instructions and/or other documents.

Date Issued: July 01, 2022
Listing Expires June 30, 2023
Authorized By: VICTOR WONG, Program Coordinator
Fire Engineering Division

*Rev. 10-29-13 gt*
TELH-1; Telephone Assembly
XPIQ; Transponder Quad Intelligent Audio

INSTALLATION: In accordance with listee's printed installation instructions, applicable codes & ordinances and in a manner acceptable to the authority having jurisdiction.

MARKING: Listee's name, model number, electrical ratings, and UL Label

APPROVAL: Listed as fire alarm control units suitable for use in high-rise applications when used in conjunction with separately listed compatible initiating and indicating devices. *Control units may be used with Notifier's First Command NFC-50/100 emergency voice evacuation panals (CSFM # 6911-0028:0265). This control unit can generate the temporal code pattern fire alarm signal as required per NFPA 72. Refer to manufacturer's Installation Manual for details. This control unit meets the requirements of UL Standard 864, 9th Edition.

NOTE: 1. For Fire Alarm Verification feature (delay of fire alarm signal), the maximum Retard/Reset/Restart period shall not exceed 30 Seconds.
2. Combined with 7170-028:244

*Rev. 10-29-13 gt
### General

**BAT Series Batteries** feature a new part-numbering/listing system — providing an improved method of delivery for NOTIFIER-approved sealed lead-acid batteries for all your fire alarm system needs. Multiple brands of batteries are now offered under generic part numbers, reducing backorder situations and permitting us to deliver these products in a more timely fashion. NOTIFIER has approved the multiple brands listed below as possible product shipped for a given part number. Please note that any incoming orders for “PS Series” batteries will be converted to the equivalent BAT Series part numbers.

### Features
- Provide secondary power for control panels.
- Sealed and maintenance-free.
- Overcharge protected.
- Easy handling with leakproof construction.
- Ruggedly constructed, high-impact case (ABS, polystyrene, or polypropylene, depending on models).
- Long service life.
- Compact design.

### Agency Listings and Approvals

The listings and approvals below apply to BAT Series Batteries. In some cases, certain modules may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- **UL Recognized Components:** files MH19884 (B & B Battery), MH20567 (UPG, previously Jolt), MH20845 (Power-Sonic).

### Part Number Reference

<table>
<thead>
<tr>
<th>CURRENT Part Number</th>
<th>BATTERY DESCRIPTION</th>
<th>ALTERNATES APPROVED: manufacturers and P/Ns shipped under BAT P/Ns</th>
</tr>
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<tbody>
<tr>
<td>BAT-1250 12 V, 5 AH, sealed.</td>
<td>BP5-12 (B&amp;B Battery); PS-1250 (Power-Sonic); SA1250 (Jolt) to be replaced with UB1250 (UPG).</td>
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<tr>
<td>BAT-1250 12 V, 5 AH, sealed.</td>
<td>BP5-12 (B&amp;B Battery); PS-1250 (Power-Sonic); SA1250 (Jolt) to be replaced with UB1250 (UPG).</td>
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<tr>
<td>BAT-1270 12 V, 7 AH, sealed.</td>
<td>BP7-12 (B&amp;B Battery); PS-1270 (Power-Sonic); SA1272 (Jolt) to be replaced with UB1270 (UPG).</td>
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<tr>
<td>BAT-12120 12 V, 12 AH, sealed.</td>
<td>BP12-12 (B&amp;B Battery); PS-12120 (Power-Sonic); SA12120 (Jolt) to be replaced with UB12120 (UPG).</td>
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</tr>
<tr>
<td>BAT-12180 12 V, 18 AH, sealed.</td>
<td>PS-12180 (Power-Sonic); SA12180 (Jolt) to be replaced with UB12180 (UPG).</td>
<td></td>
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<tr>
<td>BAT-12180 12 V, 18 AH, sealed.</td>
<td>PS-12180 (Power-Sonic); SA12180 (Jolt) to be replaced with UB12180 (UPG).</td>
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<tr>
<td>BAT-12260 12 V, 26 AH, sealed.</td>
<td>BP26-12 (B&amp;B Battery); PS-12260 (Power-Sonic); SA12260 (Jolt) to be replaced with UB12260 (UPG).</td>
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<tr>
<td>BAT-122550 12 V, 55 AH, sealed.</td>
<td>PS-12550 (Power-Sonic); XSA12550 (Jolt) to be replaced with UB12550 (UPG).</td>
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<tr>
<td>BAT-12550 12 V, 55 AH, sealed.</td>
<td>PS-12550 (Power-Sonic); XSA12550 (Jolt) to be replaced with UB12550 (UPG).</td>
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<tr>
<td>BAT-121000 12 V, 100 AH, gell cell.</td>
<td>PS-121000 (Power-Sonic); XSA121000A (Jolt) to be replaced with UB121000 (UPG).</td>
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## Part Number Reference

<table>
<thead>
<tr>
<th>MODEL</th>
<th>Nominal Voltage V</th>
<th>Nominal Capacity @ 20 hr. rate A.H.</th>
<th>Discharge Current @ 20 hr. rate mA</th>
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<tr>
<td>PS-1250</td>
<td>12</td>
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<td>3000</td>
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</table>

### Characteristic Discharge Curves

**Battery Voltage (V)**

- 0 to 6.5
- 7 to 12
- 12.5 to 14

**Discharge Time @ 20°C (68°F)**

- 1 to 30 minutes
- 1 to 30 hours

### Effect of Temperature on Capacity

- **Capacity Ratio**
  - 0°C: 100%
  - 0.5°C: 99%
  - 0.25°C: 98%
  - 0.1°C: 97%

**Temperature (Degrees C.)**

- -20°C to 60°C

### Shelf-Life and Storage

- **Charging is NOT necessary unless 100% of capacity is required.**
- **Charging before use is necessary to help recover full capacity.**
- **Charge may fail to restore full capacity.**
- **DO NOT let batteries reach this state.**

### Discharge Characteristics

- **Ambient Temperature 20°C (68°F)**
- **Final Voltage**
  - 200A: 8.0V
  - 100A: 8.4V
  - 50A: 8.8V
- **Terminal Voltage**
  - 20A: 10.0V
  - 10A: 10.5V
  - 5.0A: 11.0V
- **Discharge Time**
  - 1.2 to 40 minutes
### Charging Procedure

<table>
<thead>
<tr>
<th>Application</th>
<th>Charging method</th>
<th>Charging voltage at 20°C (V/cell)</th>
<th>Temperature compensation coefficient of charging voltage (mV°C/cell)</th>
<th>Maximum charging current (CA)</th>
<th>Charging time 0.1 CA, 20°C (h)</th>
<th>Temp (°C)</th>
<th>100% discharge</th>
<th>50% discharge</th>
</tr>
</thead>
<tbody>
<tr>
<td>For standby power source</td>
<td>Constant voltage and constant current charging (with current restriction)</td>
<td>2.25 – 2.30</td>
<td>–3</td>
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<td>20</td>
<td>0 – 40°C (32 –104°F)</td>
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<td>For cycle service</td>
<td>2.40 – 2.50</td>
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</table>

Temperature compensation of charging voltage is not needed when using the batteries within 5°C to 35°C range.

#### Final Voltage, Discharge Time: for Model BP5-12

<table>
<thead>
<tr>
<th>Voltage</th>
<th>5 min</th>
<th>10 min</th>
<th>15 min</th>
<th>30 min</th>
<th>1 hr</th>
<th>3 hr</th>
<th>5 hr</th>
<th>10 hr</th>
<th>20 hr</th>
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</thead>
<tbody>
<tr>
<td>10.80 V</td>
<td>180.8</td>
<td>133.1</td>
<td>106.6</td>
<td>63.5</td>
<td>38.9</td>
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<td>10.50 V</td>
<td>209.2</td>
<td>144.2</td>
<td>111.5</td>
<td>65.9</td>
<td>37.8</td>
<td>14.7</td>
<td>10.2</td>
<td>5.7</td>
<td>3.0</td>
</tr>
<tr>
<td>10.20 V</td>
<td>222.3</td>
<td>149.4</td>
<td>115.0</td>
<td>67.4</td>
<td>38.1</td>
<td>15.0</td>
<td>10.3</td>
<td>5.7</td>
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<td>9.90 V</td>
<td>232.3</td>
<td>152.9</td>
<td>117.6</td>
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<td>15.0</td>
<td>10.3</td>
<td>5.7</td>
<td>3.2</td>
</tr>
<tr>
<td>9.60 V</td>
<td>240.0</td>
<td>156.0</td>
<td>120.0</td>
<td>69.0</td>
<td>39.0</td>
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<td>5.7</td>
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</table>

**Constant Power Discharge Characteristics at 25°C/77°F for BP5-12**

#### Final Voltage, Discharge Time: for Model BP7-12

<table>
<thead>
<tr>
<th>Voltage</th>
<th>5 min</th>
<th>10 min</th>
<th>15 min</th>
<th>30 min</th>
<th>1 hr</th>
<th>3 hr</th>
<th>5 hr</th>
<th>10 hr</th>
<th>20 hr</th>
</tr>
</thead>
<tbody>
<tr>
<td>10.80 V</td>
<td>253.1</td>
<td>186.3</td>
<td>149.3</td>
<td>88.8</td>
<td>50.9</td>
<td>14.5</td>
<td>10.5</td>
<td>5.7</td>
<td>2.9</td>
</tr>
<tr>
<td>10.50 V</td>
<td>292.9</td>
<td>201.8</td>
<td>156.2</td>
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<td>15.0</td>
<td>10.7</td>
<td>5.8</td>
<td>3.0</td>
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<tr>
<td>10.20 V</td>
<td>311.2</td>
<td>209.1</td>
<td>161.0</td>
<td>94.3</td>
<td>53.4</td>
<td>15.0</td>
<td>10.7</td>
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<tr>
<td>9.90 V</td>
<td>325.2</td>
<td>214.1</td>
<td>164.7</td>
<td>95.6</td>
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<td>15.1</td>
<td>10.7</td>
<td>5.8</td>
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<td>9.60 V</td>
<td>336.0</td>
<td>218.4</td>
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<td>5.8</td>
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</table>

**Constant Power Discharge Characteristics at 25°C/77°F for BP7-12**

#### Final Voltage, Discharge Time: for Model BP12-12

<table>
<thead>
<tr>
<th>Voltage</th>
<th>5 min</th>
<th>10 min</th>
<th>15 min</th>
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<th>1 hr</th>
<th>3 hr</th>
<th>5 hr</th>
<th>10 hr</th>
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<tbody>
<tr>
<td>10.80 V</td>
<td>433.9</td>
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<td>256.0</td>
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<td>87.4</td>
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<td>10.50 V</td>
<td>502.2</td>
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</table>

**Constant Power Discharge Characteristics at 25°C/77°F for BP12-12**

#### Final Voltage, Discharge Time: for Model BP26-12

<table>
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<th>15 min</th>
<th>30 min</th>
<th>1 hr</th>
<th>3 hr</th>
<th>5 hr</th>
<th>10 hr</th>
<th>20 hr</th>
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<td>940.0</td>
<td>692.0</td>
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<td>10.50 V</td>
<td>1088.0</td>
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**Constant Power Discharge Characteristics at 25°C/77°F for BP26-12**
B & B BATTERY

BP5-12 Battery Discharge Characteristics (25°C/77°F)

BP12-12 Battery Discharge Characteristics (25°C/77°F)

BP7-12 Battery Discharge Characteristics (25°C/77°F)

BP26-12 Battery Discharge Characteristics (25°C/77°F)

BP05-12
BP12-12
BP26-12
UPG BATTERY

UB1250 has the same specifications as previous Jolt SA1250; SA1272 to be replaced with UB1270 (specs/diagrams pending).

UB1250, SA1250 Specifications

- Nominal voltage: 12 V.
- Nominal capacity (20 hr): 5.0 AH.
- Dimensions: total height 107 mm (4.21”); container height 101 mm (3.98”); length 90 mm (3.54”); width 70 mm (2.76”).
- Weight: approximately 1.83 kg (4.03 lbs).
- Container material: UL94HB ABS, UL94V-0 ABS.
- Internal resistance (25°C, 77°F): ~ 32 m.
- Discharge capacity under different temperatures:
  - 40°C: ~ 102%
  - 25°C: ~ 100%
  - 0°C: ~ 85%
- Capacity 25°C/77°F:
  - 20 hr @ 0.25 A: 5.0 AH.
  - 5 hr @ 0.8 A: 4.0 AH.
  - 1 hr @ 3.0 A: 3.0 AH.
  - 1 C @ 5.0 A: 2.5 AH.
- Charging voltage (25°C, 77°F):
  - Standby use: 13.65 V ± 0.15 V.
  - Cycle use: 14.7 V ± 0.3 V.
- Maximum discharge current: 60 A (5 sec).
- Maximum charging current: 1.5 A.
- Self-discharge residual capacity (25°C, 77°F):
  - After 3 months: ~ 90%.
  - After 6 months: ~ 82%.
  - After 12 months: ~ 70%.

SA1272 Diagrams

SA1272 Specifications

- Nominal voltage: 12 V.
- Nominal capacity (20 hr): 7.2 AH.
- Dimensions: total height 100 mm (3.94”); container height 94 mm (3.70”); length 151 mm (5.95”); width 65 mm (2.56”).
- Weight: approximately 2.66 kg (5.85 lbs).
- Container material: UL94HB ABS, UL94V-0 ABS.
- Internal resistance (25°C, 77°F): ~ 22 m.
- Discharge capacity under different temperatures:
  - 40°C: ~ 102%
  - 25°C: ~ 100%
  - 0°C: ~ 85%
- Capacity 25°C/77°F:
  - 20 hr @ 0.36 A: 7.2 AH.
  - 5 hr @ 1.15 A: 5.76 AH.
  - 1 hr @ 4.32 A: 4.32 AH.
  - 1 C @ 7.2 A: 3.6 AH.
- Charging voltage (25°C, 77°F):
  - Standby use: 13.65 V ± 0.15 V.
  - Cycle use: 14.7 V ± 0.3 V.
- Maximum discharge current: 90 A (5 sec).
- Maximum charging current: 2.16 A.
- Self-discharge residual capacity (25°C, 77°F):
  - After 3 months: ~ 90%.
  - After 6 months: ~ 82%.
  - After 12 months: ~ 70%.
UPG BATTERY

Same specifications as previous Jolt models; packaging and part numbers are the only changes.

**UB12120 (was SA12120) Diagrams**

UB12120/SA12120 discharge current vs. time

- **UB12120/SA12120 discharge characteristics (25°C/77°F)**

UB12120, SA12120 Specifications

- Nominal voltage: 12 V.
- Nominal capacity (20 hr): 12.0 AH.
- Dimensions: total height 100 mm (3.94’’); container height 94 mm (3.70’’); length 151 mm (5.95’’); width 98 mm (3.86’’).
- Weight: approximately 4.10 kg (9.04 lbs).
- Container material: UL94HB ABS, UL94V-0 ABS.
- Internal resistance (25°C, 77°F): ~ 14 m.
- Discharge capacity under different temperatures:
  - 40°C: ~ 102%
  - 25°C: ~ 100%
  - 0°C: ~ 85%
- Capacity 25°C/77°F:
  - 20 hr @ 0.6 A: 12.0 AH.
  - 5 hr @ 1.92 A: 9.6 AH.
  - 1 hr @ 7.2 A: 7.2 AH.
  - 1 C @ 12.0 A: 6.0 AH.
- Charging voltage (25°C, 77°F):
  - Standby use: 13.65 V ± 0.15 V.
  - Cycle use: 14.7 V ± 0.3 V.
- Maximum discharge current: 120 A (5 sec).
- Maximum charging current: 3.6 A.
- Self-discharge residual capacity (25°C, 77°F):
  - After 3 months: ~ 90%.
  - After 6 months: ~ 82%.
  - After 12 months: ~ 70%.

**UB12180 (was SA12180) Diagrams**

UB12180/SA12180 discharge current vs. time

- **UB12180/SA12180 discharge characteristics (25°C/77°F)**

UB12180, SA12180 Specifications

- Nominal voltage: 12 V.
- Nominal capacity (20 hr): 18.0 AH.
- Dimensions: total height 167 mm (6.58’’); container height 167 mm (6.58’’); length 181 mm (7.13’’); width 76 mm (2.29’’).
- Weight: approximately 6.06 kg (13.36 lbs).
- Container material: UL94HB ABS, UL94V-0 ABS.
- Internal resistance (25°C, 77°F): ~ 13 m.
- Discharge capacity under different temperatures:
  - 40°C: ~ 102%
  - 25°C: ~ 100%
  - 0°C: ~ 85%
- Capacity 25°C/77°F:
  - 20 hr @ 0.9 A: 18.0 AH.
  - 5 hr @ 2.88 A: 14.4 AH.
  - 1 hr @ 10.8 A: 10.8 AH.
  - 1 C @ 18.0 A: 9.0 AH.
- Charging voltage (25°C, 77°F):
  - Standby use: 13.65 V ± 0.15 V.
  - Cycle use: 14.7 V ± 0.3 V.
- Maximum discharge current: 300 A (5 sec).
- Maximum charging current: 5.4 A.
- Self-discharge residual capacity (25°C, 77°F):
  - After 3 months: ~ 90%.
  - After 6 months: ~ 82%.
  - After 12 months: ~ 70%.
UPG BATTERY
Same specifications as previous Jolt models; packaging and part numbers are the only changes.

UB12260 (was SA12260) Diagrams
UB12260/SA12260 discharge current vs. time
UB12260/SA12260 discharge characteristics (25°C/77°F)

UB12260, SA12260 Specifications
- Nominal voltage: 12 V.
- Nominal capacity (20 hr): 26.0 AH.
- Dimensions: total height 125 mm (4.92”); container height 125 mm (4.92”); length 166 mm (6.54”); width 175 mm (6.89”).
- Weight: approximately 8.80 kg (19.40 lbs).
- Container material: UL94HB ABS, UL94V-0 ABS.
- Internal resistance (25°C, 77°F): ~ 10 m.
- Discharge capacity under different temperatures:
  - 40°C: ~ 102%
  - 25°C: ~ 100%
  - 0°C: ~ 85%
- Capacity 25°C/77°F:
  - 20 hr @ 1.3 A: 26.0 AH.
  - 5 hr @ 4.16 A: 20.8 AH.
  - 1 hr @ 15.6 A: 15.6 AH.
  - 1 C @ 26.0 A: 13.0 AH.
- Charging voltage (25°C, 77°F):
  - Standby use: 13.65 V ± 0.15 V.
  - Cycle use: 14.7 V ± 0.3 V.
- Maximum discharge current: 300 A (5 sec).
- Maximum charging current: 7.8 A.
- Self-discharge residual capacity (25°C, 77°F):
  - After 3 months: ~ 90%.
  - After 6 months: ~ 82%.
  - After 12 months: ~ 70%.

UB12550 (was SA12550) Diagrams
UB12550/SA12550 discharge current vs. time
UB12550/SA12550 discharge characteristics (25°C/77°F)

UB12550, SA12550 Specifications
- Nominal voltage: 12 V.
- Nominal capacity (20 hr): 55.0 AH.
- Dimensions: total height 234.5 mm (9.23”); container height 216.5 mm (8.52”); length 229 mm (9.02”); width 138 mm (5.43”).
- Weight: approximately 19.0 kg (41.8 lbs).
- Container material: UL94HB ABS, UL94V-0 ABS.
- Internal resistance (25°C, 77°F): ~ 8 m.
- Discharge capacity under different temperatures:
  - 40°C: ~ 102%
  - 25°C: ~ 100%
  - 0°C: ~ 85%
- Capacity 25°C/77°F:
  - 20 hr @ 2.75 A: 55.0 AH.
  - 5 hr @ 8.8 A: 44.0 AH.
  - 1 hr @ 33.0 A: 33.0 AH.
  - 1 C @ 55.0 A: 27.5 AH.
- Charging voltage (25°C, 77°F):
  - Standby use: 13.65 V ± 0.15 V.
  - Cycle use: 14.7 V ± 0.3 V.
- Maximum discharge current: 600 A (5 sec).
- Maximum charging current: 16.5 A.
- Self-discharge residual capacity (25°C, 77°F):
  - After 3 months: ~ 90%.
  - After 6 months: ~ 82%.
  - After 12 months: ~ 70%.
UPG BATTERY

Same specifications as previous Jolt models; packaging and part numbers are the only changes.

**UB121000 (XSA121000A) Diagrams**

**UB121000/XSA121000A discharge current vs. time**

- Nominal voltage: 12 V.
- Nominal capacity (20 hr): 100.0 AH.
- Dimensions: total height 221 mm (8.70”); container height 214 mm (8.43”); length 329 mm (12.95”); width 172 mm (6.77”).
- Weight: approximately 34.00 kg (74.8 lbs).
- Container material: UL94HB ABS, UL94V-0 ABS.
- Internal resistance (25°C, 77°F): ~ 6.5 m.
- Discharge capacity under different temperatures:
  - 40°C: ~ 102%
  - 25°C: ~ 100%
  - 0°C: ~ 85%
- Capacity 25°C/77°F:
  - 20 hr @ 5.0 A: 100.0 AH.
  - 5 hr @ 16.0 A: 80.0 AH.
  - 1 hr @ 60.0 A: 60.0 AH.
  - 1 C @ 100.0 A: 50.0 AH.
- Charging voltage (25°C, 77°F):
  - Standby use: 13.65 V ± 0.15 V.
  - Cycle use: 14.7 V ± 0.3 V.
- Maximum discharge current: 600 A (5 sec).
- Maximum charging current: 30 A.
- Self-discharge residual capacity (25°C, 77°F):
  - After 3 months: ~ 90%.
  - After 6 months: ~ 82%.
  - After 12 months: ~ 70%.
UPG BATTERY

Same specifications as previous Jolt models; packaging and part numbers are the only changes.

**Charging Procedure: UPG Battery**

<table>
<thead>
<tr>
<th>Application</th>
<th>Charging method</th>
<th>Charging voltage at 25°C (V/cell)</th>
<th>Temperature compensation coefficient of charging voltage (mV/°C/cell)</th>
<th>Maximum charging current (CA)</th>
<th>Charging time 0.1 CA, 25°C (h)</th>
<th>Temp (°C)</th>
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<tr>
<td>For standby power source</td>
<td>Constant voltage and constant current charging (with current restriction)</td>
<td>2.25 ~ 2.30</td>
<td>3.3 (-1.8 mV/°F/cell)</td>
<td>0.3</td>
<td>T° 24</td>
<td>0 ~ 40°C (32 ~ 104°F)</td>
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<td>For cycle service</td>
<td>Constant voltage and constant current charging (with current restriction)</td>
<td>2.40 ~ 2.50</td>
<td>5 (-2.8 mV/°F/cell)</td>
<td>0.3</td>
<td>16 &lt; T &lt; 24</td>
<td>10 &lt; T &lt; 24</td>
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</table>

Temperature compensation of charging voltage is not needed when using the batteries within 5°C to 35°C range.
Telguard Cellular Service provides AT&T LTE network coverage for all Telguard units. Telguard’s Communication Center is UL compliant and provides seamless connectivity between the alarm panel, the Telguard family of products and the central station. Telguard Technical Support provides a single point of contact for both cellular service and Telguard product questions.

Advanced Reliability

- Features the ability to utilize multiple cellular technologies to increase availability and reduce false alarms.
- Automatic self-tests with central station notification ensure the cellular system is operating.
- Available relay output for tripping the alarm control panel when a trouble condition occurs.

The Telguard TG-7FS LTE-A is the ideal cellular alarm communications solution for commercial fire systems. The TG-7FS LTE-A transmits alarm signals from the fire panel over the digital cellular network to the designated monitoring station.

Compliant with the 2016 Edition of NFPA 72, the TG-7FS LTE-A can serve as the sole communications path for the fire alarm system. It replaces all of the landlines currently dedicated to the master control unit. On average, cellular monitoring costs the end user significantly less than a dedicated landline. For each landline replaced with a TG-7FS LTE-A, the monthly communications bill decreases.

By being able to signal failures to the central station within sixty minutes of an outage, the TG-7FS LTE-A can be installed as the sole path for commercial fire installations. For existing installations, all landlines can be swapped for a single TG-7FS LTE-A because of the new sixty minute supervision mode.

The TG-7FS LTE-A can also be installed as a backup path and upgraded to sole path at a later date.
**Power**

- **Transmit Power:** 200 mW in all bands.
- **Power Consumption:** 60mA (Standby) 250mA (Transmission).
- **Transformer:** 12VAC, 800mA UL listed plug-in.

**Radio Transceiver**

- **LTE Bands:** 2, 4 & 17.
- **3G Bands:** 2 & 5.
- **Antenna:** 9’ dipole with max gain of 3dBi.
- **FCC part 15, 22, 24, 27 and 68 compliant.**

**Physical Details**

- **TG-7FS LTE-A:** 7.5” H x 11.5” W x 3.5” D.
- **Shipping Weight:** 8lbs.
- **Operating Environment:** 0°C to +50°C; up to 95% humidity (non-condensing).

**Standard Features**

- Full data reporting.
- Automatic self-test (60 min. & daily).
- Locking, red metal enclosure.
- Two programmable supervisory trip outputs.
- Alarm format support for SIA2, Contact ID, pulse (3x1, 4x2), modem Ile, & Ilia², DMP.
- Telephone line monitor built-in, with Standard Line Security.

Telguard technology allows full data reporting for unlimited point-to-point signal details and maximum transmitting power for superior in-building penetration.

Telguard products are easy to install, economical, and UL Listed.

**Accessories**

- ACD 12, ACD 35, ACD 50, ACD 100:
  12/35/50/100 feet of low loss, high performance cable.
- HGD-L-0: High gain directional antenna.
- EXDL-0: External antenna.

**UL Listings**

- **Commercial Fire** 864
  - Control units & accessories for fire alarm systems
- **Commercial Burglary** 365
  - Police Station connected burglar alarm units and systems
  - 1610 • Central station burglar alarm units;
  - Line security servcies
- **Residential** 985 • Household fire warning systems
  - 1023 • Household burglar alarm systems

**ULC Listings**

- S545 • Canadian household fire warning systems
- S304 • Canadian commercial burglary alarm systems
- C0123 • Canadian household burglary alarm systems

* For the most current product specifications and UL Listings visit www.Telguard.com.
LISTING SERVICE

LISTING No. 7300-1402:0109

CATEGORY: 7300 -- FIRE ALARM CONTROL UNIT ACCESSORIES/MISC. DEVICES

LISTEE: TELULAR CORP. 3325 Cumberland Blvd, NE, Suite 300, Atlanta, GA 30339
Contact: Tim Masters (800) 229-2326 Fax (678) 945-1651
Email: customerservice.telular@ametek.com

DESIGN: Models TG7LAA02, TG7LA001, TG7LAA01, TG7LAA02, TG7LAF01, TG7LAF02, *TG7UBLA and TGKITALA2 digital cellular radio alarm transmission system for fire/burglar alarm system control units. Models TG7LAA02 and TG7LAA02 are household application. Model TG7LAF01, TG7LAF02, and TGKITALA2 are for commercial application. Refer to listee's printed data sheet for additional detailed product description and operational considerations.

INSTALLATION: In accordance with listee's printed installation instructions, applicable codes and ordinances and in a manner acceptable to the authority having jurisdiction.

MARKING: Listee's name, model number, electrical rating and UL label.

APPROVAL: Listed as digital cellular radio alarm transmission devices to provide a standalone transmission path (cellular) for a listed compatible fire and burglar alarm control unit. It may also provide a backup communication path when used in conjunction with a DACT. This product is to be connected to a listed control panel in accordance with the installation instructions provided by the manufacturer.

NOTE: Burglary and other non-fire functions were not examined.

Date Issued: July 01, 2021
Listing Expires June 30, 2022

Authorized By: DAVID CASTILLO, M.E., F.P.E.
Fire Engineering Division
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General

BAT Series Batteries feature a new part-numbering/listing system — providing an improved method of delivery for NOTIFIER-approved sealed lead-acid batteries for all your fire alarm system needs. Multiple brands of batteries are now offered under generic part numbers, reducing backorder situations and permitting us to deliver these products in a more timely fashion. NOTIFIER has approved the multiple brands listed below as possible product shipped for a given part number. Please note that any incoming orders for “PS Series” batteries will be converted to the equivalent BAT Series part numbers.

Features

- Provide secondary power for control panels.
- Sealed and maintenance-free.
- Overcharge protected.
- Easy handling with leakproof construction.
- Ruggedly constructed, high-impact case (ABS, polystyrene, or polypropylene, depending on models).
- Long service life.
- Compact design.

Agency Listings and Approvals

The listings and approvals below apply to BAT Series Batteries. In some cases, certain modules may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- UL Recognized Components: files MH19884 (B & B Battery), MH20567 (UPG, previously Jolt), MH20845 (Power-Sonic).

Part Number Reference

<table>
<thead>
<tr>
<th>CURRENT Part Number</th>
<th>BATTERY DESCRIPTION</th>
<th>ALTERNATES APPROVED: manufacturers and P/Ns shipped under BAT P/Ns</th>
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<tbody>
<tr>
<td>BAT-1250 12 V, 5 AH, sealed.</td>
<td>BP5-12 (B&amp;B Battery); PS-1250 (Power-Sonic); SA1250 (Jolt) to be replaced with UB1250 (UPG).</td>
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<tr>
<td>BAT-1250 12 V, 5 AH, sealed.</td>
<td>BP5-12 (B&amp;B Battery); PS-1250 (Power-Sonic); SA1250 (Jolt) to be replaced with UB1250 (UPG).</td>
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<tr>
<td>BAT-1270 12 V, 7 AH, sealed.</td>
<td>BP7-12 (B&amp;B Battery); PS-1270 (Power-Sonic); SA1272 (Jolt) to be replaced with UB1270 (UPG).</td>
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<td>BAT-12120 12 V, 12 AH, sealed.</td>
<td>BP12-12 (B&amp;B Battery); PS-12120 (Power-Sonic); SA12120 (Jolt) to be replaced with UB12120 (UPG).</td>
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<td>BAT-12180 12 V, 18 AH, sealed.</td>
<td>PS-12180 (Power-Sonic); SA12180 (Jolt) to be replaced with UB12180 (UPG).</td>
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<td>BAT-12260 12 V, 26 AH, sealed.</td>
<td>BP26-12 (B&amp;B Battery); PS-12260 (Power-Sonic); SA12260 (Jolt) to be replaced with UB12260 (UPG).</td>
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<td>BAT-12550 12 V, 55 AH, sealed.</td>
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<td>BAT-121000 12 V, 100 AH, gell cell.</td>
<td>PS-121000 (Power-Sonic); XSA121000A (Jolt) to be replaced with UB121000 (UPG).</td>
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**POWER-SONIC**

**Part Number Reference**

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<th>MODEL</th>
<th>Nominal Voltage V</th>
<th>Nominal Capacity @ 20 hr. rate A.H.</th>
<th>Discharge Current @20 hr. rate mA</th>
<th>DIMENSIONS</th>
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**Power-Sonic**

**Effect of Temperature on Capacity**

- **Shelf-Life and Storage**
  - Charging is NOT necessary unless 100% of capacity is required.
  - Charging before use is necessary to help recover full capacity.
  - Charge may fail to restore full capacity. DO NOT let batteries reach this state.

**Characteristics Discharge Curves**

**Effect of Temperature on Capacity**

**at left:**

**PS-1210000**

**Shelf-Life and Storage**

**Discharge Characteristics**

**at left:**

**PS-1210000**
**Charging Procedure**

<table>
<thead>
<tr>
<th>Application</th>
<th>Charging method</th>
<th>Charging voltage at 20°C (V/cell)</th>
<th>Temperature compensation coefficient of charging voltage (mV/°C/cell)</th>
<th>Maximum charging current (CA)</th>
<th>Charging time 0.1 CA, 20°C (h)</th>
<th>Temp (°C) 100% discharge</th>
<th>50% discharge</th>
<th>0 – 40°C (32 –104°F)</th>
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<tbody>
<tr>
<td>For standby power source</td>
<td>Constant voltage and constant current charging (with current restriction)</td>
<td>2.25 – 2.30</td>
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<td>For cycle service</td>
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</table>

Temperature compensation of charging voltage is not needed when using the batteries within 5°C to 35°C range.

**Final Voltage**

**Discharge Time: for Model BP5-12**

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<td>10.50 V</td>
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<td>10.20 V</td>
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<td>9.90 V</td>
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<td>9.60 V</td>
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**Constant Power Discharge Characteristics at 25°C/77°F for BP5-12**

**Final Voltage**

**Discharge Time: for Model BP7-12**

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<td>9.90 V</td>
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<td>9.60 V</td>
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</tbody>
</table>

**Constant Power Discharge Characteristics at 25°C/77°F for BP7-12**

**Final Voltage**

**Discharge Time: for Model BP12-12**

<table>
<thead>
<tr>
<th>Battery Output Power (W): for Model BP12-12</th>
</tr>
</thead>
<tbody>
<tr>
<td>10.80 V</td>
</tr>
<tr>
<td>10.50 V</td>
</tr>
<tr>
<td>10.20 V</td>
</tr>
<tr>
<td>9.90 V</td>
</tr>
<tr>
<td>9.60 V</td>
</tr>
</tbody>
</table>

**Constant Power Discharge Characteristics at 25°C/77°F for BP12-12**

**Final Voltage**

**Discharge Time: for Model BP26-12**

<table>
<thead>
<tr>
<th>Battery Output Power (W): for Model BP26-12</th>
</tr>
</thead>
<tbody>
<tr>
<td>10.80 V</td>
</tr>
<tr>
<td>10.50 V</td>
</tr>
<tr>
<td>10.20 V</td>
</tr>
<tr>
<td>9.90 V</td>
</tr>
<tr>
<td>9.60 V</td>
</tr>
</tbody>
</table>

**Constant Power Discharge Characteristics at 25°C/77°F for BP26-12**

---

**B & B BATTERY**

<table>
<thead>
<tr>
<th>Model</th>
<th>V</th>
<th>Nominal Capacity (AH)</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>20 hr</td>
<td>10 hr</td>
<td>5 hr</td>
</tr>
<tr>
<td>BP5-12</td>
<td>12</td>
<td>5.00</td>
<td>4.75</td>
</tr>
<tr>
<td>BP7-12</td>
<td>12</td>
<td>7.00</td>
<td>6.65</td>
</tr>
<tr>
<td>BP12-12</td>
<td>12</td>
<td>12.00</td>
<td>11.40</td>
</tr>
<tr>
<td>BP26-12</td>
<td>12</td>
<td>26.00</td>
<td>24.70</td>
</tr>
</tbody>
</table>

---

**Model V**

<table>
<thead>
<tr>
<th>Nominal Capacity (AH)</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Terminal</strong></td>
<td><strong>Dimensions</strong></td>
</tr>
<tr>
<td>Standard</td>
<td>Optional</td>
</tr>
<tr>
<td></td>
<td>mm</td>
</tr>
<tr>
<td>BP5-12</td>
<td>12</td>
</tr>
<tr>
<td>BP7-12</td>
<td>12</td>
</tr>
<tr>
<td>BP12-12</td>
<td>12</td>
</tr>
<tr>
<td>BP26-12</td>
<td>12</td>
</tr>
</tbody>
</table>

---

**Model V**

<table>
<thead>
<tr>
<th>Nominal Capacity (AH)</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Terminal</strong></td>
<td><strong>Dimensions</strong></td>
</tr>
<tr>
<td>Standard</td>
<td>Optional</td>
</tr>
<tr>
<td></td>
<td>mm</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>
B & B BATTERY

BP5-12 Battery Discharge Characteristics (25°C/77°F)

BP7-12 Battery Discharge Characteristics (25°C/77°F)

BP12-12 Battery Discharge Characteristics (25°C/77°F)

BP26-12 Battery Discharge Characteristics (25°C/77°F)

BP05-12

BP12-12

BP26-12
UB1250 has the same specifications as previous Jolt SA1250; SA1272 to be replaced with UB1270 (specs/diagrams pending).

UB1250 (previously SA1250) Diagrams

UB1250/SA1250 discharge current vs. time

UB1250/SA1250 discharge characteristics (25°C/77°F)

UB1250, SA1250 Specifications
- Nominal voltage: 12 V.
- Nominal capacity (20 hr): 5.0 AH.
- Dimensions: total height 107 mm (4.21’’); container height 101 mm (3.98’’); length 90 mm (3.54’’); width 70 mm (2.76’’).
- Weight: approximately 1.83 kg (4.03 lbs).
- Container material: UL94HB ABS, UL94V-0 ABS.
- Internal resistance (25°C, 77°F): ~ 32 m.
- Discharge capacity under different temperatures:
  - 40°C: ~ 102%
  - 25°C: ~ 100%
  - 0°C: ~ 85%
- Capacity 25°C/77°F:
  - 20 hr @ 0.25 A: 5.0 AH.
  - 5 hr @ 0.8 A: 4.0 AH.
  - 1 hr @ 3.0 A: 3.0 AH.
  - 1 C @ 5.0 A: 2.5 AH.
- Charging voltage (25°C, 77°F):
  - Standby use: 13.65 V ± 0.15 V.
  - Cycle use: 14.7 V ± 0.3 V.
- Maximum discharge current: 60 A (5 sec).
- Maximum charging current: 1.5 A.
- Self-discharge residual capacity (25°C, 77°F):
  - After 3 months: ~ 90%.
  - After 6 months: ~ 82%.
  - After 12 months: ~ 70%.

SA1272 Diagrams

SA1272 discharge current vs. time

SA1272 discharge characteristics (25°C/77°F)

SA1272 Specifications
- Nominal voltage: 12 V.
- Nominal capacity (20 hr): 7.2 AH.
- Dimensions: total height 100 mm (3.94’’); container height 94 mm (3.70’’); length 151 mm (5.95’’); width 65 mm (2.56’’).
- Weight: approximately 2.66 kg (5.85 lbs).
- Container material: UL94HB ABS, UL94V-0 ABS.
- Internal resistance (25°C, 77°F): ~ 22 m.
- Discharge capacity under different temperatures:
  - 40°C: ~ 102%
  - 25°C: ~ 100%
  - 0°C: ~ 85%
- Capacity 25°C/77°F:
  - 20 hr @ 0.36 A: 7.2 AH.
  - 5 hr @ 1.15 A: 5.76 AH.
  - 1 hr @ 4.32 A: 4.32 AH.
  - 1 C @ 7.2 A: 3.6 AH.
- Charging voltage (25°C, 77°F):
  - Standby use: 13.65 V ± 0.15 V.
  - Cycle use: 14.7 V ± 0.3 V.
- Maximum discharge current: 90 A (5 sec).
- Maximum charging current: 2.16 A.
- Self-discharge residual capacity (25°C, 77°F):
  - After 3 months: ~ 90%.
  - After 6 months: ~ 82%.
  - After 12 months: ~ 70%.
UPG BATTERY

Same specifications as previous Jolt models; packaging and part numbers are the only changes.

UB12120 (was SA12120) Diagrams

UB12120/SA12120 discharge current vs. time

UB12120/SA12120 discharge characteristics (25°C/77°F)

UB12120, SA12120 Specifications

• Nominal voltage: 12 V.
• Nominal capacity (20 hr): 12.0 AH.
• Dimensions: total height 100 mm (3.94’’); container height 94 mm (3.70’’); length 151 mm (5.95’’); width 98 mm (3.86’’).
• Weight: approximately 4.10 kg (9.04 lbs).
• Container material: UL94HB ABS, UL94V-0 ABS.
• Internal resistance (25°C, 77°F): ~ 14 m.
• Discharge capacity under different temperatures:
  40°C: ~ 102%
  25°C: ~ 100%
  0°C: ~ 85%
• Capacity 25°C/77°F:
  20 hr @ 0.6 A: 12.0 AH.
  5 hr @ 1.92 A: 9.6 AH.
  1 hr @ 7.2 A: 7.2 AH.
  1 C @ 12.0 A: 6.0 AH.
• Charging voltage (25°C, 77°F):
  Standby use: 13.65 V ± 0.15 V.
  Cycle use: 14.7 V ± 0.3 V.
• Maximum discharge current: 120 A (5 sec).
• Maximum charging current: 3.6 A.
• Self-discharge residual capacity (25°C, 77°F):
  After 3 months: ~ 90%.
  After 6 months: ~ 82%.
  After 12 months: ~ 70%.

UB12180 (was SA12180) Diagrams

UB12180/SA12180 discharge current vs. time

UB12180/SA12180 discharge characteristics (25°C/77°F)

UB12180, SA12180 Specifications

• Nominal voltage: 12 V.
• Nominal capacity (20 hr): 18.0 AH.
• Dimensions: total height 167 mm (6.58’’); container height 167 mm (6.58’’); length 181 mm (7.13’’); width 76 mm (2.29’’).
• Weight: approximately 6.06 kg (13.36 lbs).
• Container material: UL94HB ABS, UL94V-0 ABS.
• Internal resistance (25°C, 77°F): ~ 13 m.
• Discharge capacity under different temperatures:
  40°C: ~ 102%
  25°C: ~ 100%
  0°C: ~ 85%
• Capacity 25°C/77°F:
  20 hr @ 0.9 A: 18.0 AH.
  5 hr @ 2.88 A: 14.4 AH.
  1 hr @ 10.8 A: 10.8 AH.
  1 C @ 18.0 A: 9.0 AH.
• Charging voltage (25°C, 77°F):
  Standby use: 13.65 V ± 0.15 V.
  Cycle use: 14.7 V ± 0.3 V.
• Maximum discharge current: 300 A (5 sec).
• Maximum charging current: 5.4 A.
• Self-discharge residual capacity (25°C, 77°F):
  After 3 months: ~ 90%.
  After 6 months: ~ 82%.
  After 12 months: ~ 70%.
UPG BATTERY

Same specifications as previous Jolt models; packaging and part numbers are the only changes.

**UB12260 (was SA12260) Diagrams**

**UB12260/SA12260 discharge current vs. time**

**UB12260/SA12260 discharge characteristics (25°C/77°F)**

**UB12260, SA12260 Specifications**

- Nominal voltage: 12 V.
- Nominal capacity (20 hr): 26.0 AH.
- Dimensions: total height 125 mm (4.92”); container height 125 mm (4.92”); length 166 mm (6.54”); width 175 mm (6.89”).
- Weight: approximately 8.80 kg (19.40 lbs).
- Container material: UL94HB ABS, UL94V-0 ABS.
- Internal resistance (25°C, 77°F): ~ 10 m.
- Discharge capacity under different temperatures:
  - 40°C: ~ 102%
  - 25°C: ~ 100%
  - 0°C: ~ 85%
- Capacity 25°C/77°F:
  - 20 hr @ 1.3 A: 26.0 AH.
  - 5 hr @ 4.16 A: 20.8 AH.
  - 1 hr @ 15.6 A: 15.6 AH.
  - 1 C @ 26.0 A: 13.0 AH.
- Charging voltage (25°C, 77°F):
  - Standby use: 13.65 V ± 0.15 V.
  - Cycle use: 14.7 V ± 0.3 V.
- Maximum discharge current: 300 A (5 sec).
- Maximum charging current: 7.8 A.
- Self-discharge residual capacity (25°C, 77°F):
  - After 3 months: ~ 90%.
  - After 6 months: ~ 82%.
  - After 12 months: ~ 70%.

**UB12550 (was SA12550) Diagrams**

**UB12550/SA12550 discharge current vs. time**

**UB12550/SA12550 discharge characteristics (25°C/77°F)**

**UB12550, SA12550 Specifications**

- Nominal voltage: 12 V.
- Nominal capacity (20 hr): 55.0 AH.
- Dimensions: total height 234.5 mm (9.23”); container height 216.5 mm (8.52”); length 229 mm (9.02”); width 138 mm (5.43”).
- Weight: approximately 19.0 kg (41.8 lbs).
- Container material: UL94HB ABS, UL94V-0 ABS.
- Internal resistance (25°C, 77°F): ~ 8 m.
- Discharge capacity under different temperatures:
  - 40°C: ~ 102%
  - 25°C: ~ 100%
  - 0°C: ~ 85%
- Capacity 25°C/77°F:
  - 20 hr @ 2.75 A: 55.0 AH.
  - 5 hr @ 8.8 A: 44.0 AH.
  - 1 hr @ 33.0 A: 33.0 AH.
  - 1 C @ 55.0 A: 27.5 AH.
- Charging voltage (25°C, 77°F):
  - Standby use: 13.65 V ± 0.15 V.
  - Cycle use: 14.7 V ± 0.3 V.
- Maximum discharge current: 600 A (5 sec).
- Maximum charging current: 16.5 A.
- Self-discharge residual capacity (25°C, 77°F):
  - After 3 months: ~ 90%.
  - After 6 months: ~ 82%.
  - After 12 months: ~ 70%.
UPG BATTERY

Same specifications as previous Jolt models; packaging and part numbers are the only changes.

**UB121000 (XSA121000A) Diagrams**

**UB121000/XSA121000A discharge current vs. time**

- Nominal voltage: 12 V.
- Nominal capacity (20 hr): 100.0 AH.
- Dimensions: total height 221 mm (8.70"), container height 214 mm (8.43"), length 329 mm (12.95"), width 172 mm (6.77").
- Weight: approximately 34.00 kg (74.8 lbs).
- Container material: UL94HB ABS, UL94V-0 ABS.
- Internal resistance (25°C, 77°F): ~ 6.5 m.
- Discharge capacity under different temperatures:
  - 40°C: ~ 102%
  - 25°C: ~ 100%
  - 0°C: ~ 85%
- Capacity 25°C/77°F:
  - 20 hr @ 5.0 A: 100.0 AH.
  - 5 hr @ 16.0 A: 80.0 AH.
  - 1 hr @ 60.0 A: 60.0 AH.
  - 1 C @ 100.0 A: 50.0 AH.
- Charging voltage (25°C, 77°F):
  - Standby use: 13.65 V ± 0.15 V.
  - Cycle use: 14.7 V ± 0.3 V.
- Maximum discharge current: 600 A (5 sec).
- Maximum charging current: 30 A.
- Self-discharge residual capacity (25°C, 77°F):
  - After 3 months: ~ 90%.
  - After 6 months: ~ 82%.
  - After 12 months: ~ 70%.
**UPG BATTERY**

Same specifications as previous Jolt models; packaging and part numbers are the only changes.

### Charging Procedure: UPG Battery

<table>
<thead>
<tr>
<th>Application</th>
<th>Charging method</th>
<th>Charging voltage at 25°C (V/cell)</th>
<th>Temperature compensation coefficient of charging voltage (mV/°C/cell)</th>
<th>Maximum charging current (CA)</th>
<th>Charging time 0.1 CA, 25°C (h)</th>
<th>Temp (°C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>For standby power source</td>
<td>Constant voltage and constant current charging (with current restriction)</td>
<td>2.25 – 2.30 (-1.8 mV/°C F/cell)</td>
<td>3.3</td>
<td>0.3</td>
<td>T° 24</td>
<td>0 – 40°C (32 – 104°F)</td>
</tr>
<tr>
<td>For cycle service</td>
<td></td>
<td>2.40 – 2.50 (-2.8 mV/°C F/cell)</td>
<td>-5</td>
<td>0.3</td>
<td>16 &lt; T &lt; 24</td>
<td>10 &lt; T &lt; 24</td>
</tr>
</tbody>
</table>

Temperature compensation of charging voltage is not needed when using the batteries within 5°C to 35°C range.
FSP-951 Series
Intelligent Plug-In Photoelectric Smoke Detectors

General
The NOTIFIER FSP-951 Series intelligent plug-in smoke detectors are designed for both performance and aesthetics. A new modern, sleek, contemporary design and enhanced optical sensing chamber is engineered to sense smoke produced by a wide range of combustion sources in accordance with more stringent code standards. The FSP-951 Series detector sensitivity can be programmed in the control panel software. Sensitivity is continuously monitored and reported to the panel. Point ID capability allows each detector's address to be set with rotary, decimal address switches, providing exact detector location for selective maintenance when chamber contamination reaches an unacceptable level. Dual electronic thermistors add 135°F (57°C) fixed temperature thermal sensing on the FSP-951T. The FSP-951R is a remote test capable detector for use with DNR Series duct detector housings. FSP-951 series detectors are available for both FlashScan® and CLIP applications as designated.

Features
- New modern profile for improved aesthetics.
- Designed to meet UL268 7th Edition.
- Stable communication technique with noise immunity.
- Low standby current.
- Two-wire SLC connection.
- Compatible with FlashScan® and CLIP protocol systems.
- Rotary, decimal addressing (1-99 on CLIP systems, 1-159 on FlashScan systems).
- Optional remote, single-gang LED accessory.
- Dual LED design provides 360° viewing angle.
- Visible bi-color LEDs blink green every time the detector is addressed, and illuminate steady red on alarm (FlashScan systems only).
- Remote test feature from the panel.
- Walk test with address display (an address on 121 will blink the detector LED: 12-[pause]-1 (FlashScan systems only).
- Built-in functional test switch activated by external magnet.
- Built-in tamper-resistant feature.
- Sealed against back pressure.
- Expanded color options.
- SEMS screws for wiring of the separate base.
- Optional relay, isolator, and sounder bases.

Specifications

Sensitivity:
- UL Applications: 0.5% to 4.0% per foot obscuration.
- ULC Applications: 0.5% to 3.5% per foot obscuration.

Size:
- 2.0" (5.3 cm) high; base determines diameter.
  - B300-6: 6.1" (15.6 cm) diameter.
  - B501: 4" (10.2 cm) diameter.

For a complete list of detector bases see DN-60981.

Shipping weight: 3.4oz (96.4g)

Operating Temperature range:
- FSP-951, 0°C to 50°C (32°F to 122°F).
- FSP-951T, 0°C to 38°C (32°F to 100°F).
- FSP-951R installed in a DNR/DNRW, -20°C to 70°C (-4°F to 158°F).

UL/ULC Listed Velocity Range: 0-4000 ft/min. (1219.2 m/min.), suitable for installation in ducts.

Relative Humidity: 10%-93% noncondensing.


DETECTOR SPACING AND APPLICATIONS
NOTIFIER recommends spacing detectors in compliance with NFPA 72. In low airflow applications with smooth ceiling, space detectors 30 feet (9.1m). For specific information regarding detector spacing, placement, and special applications refer to NFPA 72. System Smoke Detector Application Guide, document A05-1003, is available at systemsensor.com

ELECTRICAL SPECIFICATIONS
Voltage Range: 15-32 volts DC peak.

Standby Current (max. avg.): 200μA @ 24VDC (one communication every five seconds with LED enabled).

LED Current (max.): 4.5mA @ 24 VDC (“ON”).

Installation
FSP-951 series plug-in detectors use a separate base to simplify installation, service, and maintenance.

Mount base (all base types) on an electrical backbox which is at least 1.5” (3.81 cm) deep. For a chart of compatible junction boxes, see DN-60981.

NOTE: 1) Because of inherent supervision provided by the SLC loop, end-of-line resistors are not required. Wiring “T-taps” or branches are permitted for Style 4 (Class “B”) wiring. 2) When using relay or sounder bases, consult the ISO-X(A) installation sheet I56-1380 for device limitations between isolator modules and isolator bases.
Agency Listings and Approvals

These listings and approvals apply to the detectors specified in this document. In some cases, certain detectors or applications may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- UL/ULC Listed: S911
- FM Approved
- CSFM: 7272-0028:0503

Product Line Information

NOTE:

- Detectors must be mounted to one of the Intelligent Bases listed below.
- "A" suffix indicates ULC Listed model.
- "IV" suffix indicates FlashScan® and CLIP device.

FSP-951: White, low-profile intelligent photoelectric sensor, FlashScan only.
FSP-951A: Same as FSP-951 but with ULC listing.
FSP-951-IV: Ivory, low-profile intelligent photoelectric sensor.
FSP-951A-IV: Same as FSP-951-IV but with ULC listing.
FSP-951T: White, same as FSP-951 but includes a built-in 135°F (57°C) fixed-temperature thermal device. FlashScan only.
FSP-951TA: Same as FSP-951T but with ULC listing.
FSP-951T-IV: Ivory, same as FSP-951T but includes a built-in 135°F (57°C) fixed-temperature thermal device.
FSP-951TA-IV: Same as FSP-951T-IV but with ULC listing.
FSP-951R: White, low-profile intelligent photoelectric sensor, remote test capable. For use with DNR/DNRF. FlashScan only.
FSP-951RA: Same as FSP-951R but with ULC listing. For use with DNRA.
FSP-951R-IV: Ivory, low-profile intelligent photoelectric sensor, remote test capable. For use with DNR/DNRF.
FSP-951RA-IV: Same as FSP-951R-IV but with ULC listing. For use with DNRA.

Intelligent Bases

NOTE: For details on intelligent bases, see DN-60981
B300-6: White, 6" base, standard flanged low-profile mounting base.
B300-6-IV: Ivory, 6" base, standard flanged low-profile mounting base.
B300A-6: Same as B300-6, ULC listed.
B300A-6-IV: Ivory, 6" standard flanged low-profile mounting base, ULC listed.
B300-6-BP: Bulk pack of B300-6, package contains 10
B501-WHITE: White, 4" standard European flangeless mounting base. UL/ULC listed.
B501-BL: Black, 4" standard European flangeless mounting base. UL/ULC listed.
B501-IV: Ivory color, 4" standard European flangeless mounting base. UL/ULC listed.
B224RB-WH: White, relay base.
B224RB-IV: Ivory, relay base.
B224RBA-WH: White, relay base, ULC listing.
B224RBA-IV: Ivory, relay base, ULC listing.
B224BI-WH: White, isolator detector base.
B224BI-IV: Ivory isolator detector base.
B224BIA-WH: White, isolator detector base, ULC listing.
B224BIA-IV: Ivory isolator detector base, ULC listing.
B200S-IV: Ivory, Intelligent addressable sounder base capable of producing sound output in high or low volume with ANSI Temporal 3, ANSI Temporal 4, continuous tone, marching tone, and custom tone. Uses FlashScan protocol.
B200SA-WH: Same as B200S-WH, ULC listing.
B200SA-IV: Same as B200S-IV, ULC listing.
B200SCOA-WH: White, Intelligent, programmable sounder base in English/French (required in Canada for ULC applications with SO Series detector applications.
B200SCOA-IV: Ivory Intelligent, programmable sounder base in English/French (required in Canada for ULC applications with SO Series detector applications, ULC listing.
B200SLF-WH: White, Low Frequency Intelligent, programmable sounder base. Produces a fundamental frequency of 520 Hz +/- 10% with a square wave or its equivalent; designed to meet the NFPA 72 sleeping space requirement.
B200SLF-IV: Ivory, Low Frequency Intelligent, programmable sounder base. Produces a fundamental frequency of 520 Hz +/- 10% with a square wave or its equivalent; designed to meet the NFPA 72 sleeping space requirement.
B200SR-WH: White, Intelligent sounder base capable of producing sound output with ANSI Temporal 3 or continuous tone. Intended for retrofit applications.
B200SR-IV: Ivory, Intelligent sounder base capable of producing sound output with ANSI Temporal 3 or continuous tone. Intended for retrofit applications.
B200SRLF-WH: White, Low Frequency Intelligent, programmable sounder base. Produces a fundamental frequency of 520 Hz +/- 10% with a square wave or its equivalent; designed to meet the NFPA 72 sleeping space requirement.
B200SRLF-IV: Ivory, Low Frequency Intelligent, programmable sounder base. Produces a fundamental frequency of 520 Hz +/- 10% with a square wave or its equivalent; designed to meet the NFPA 72 sleeping space requirement.

MOUNTING KITS AND ACCESSORIES

TR300: White, replacement flange for B210LP(A) base.
TR300-IV: Ivory, replacement flange for B210LP(A) base.
RA100Z(A): Remote LED annunciator. 3 ~ 32 VDC. Mounts to a U.S. single-gang electrical box. For use with B501(A) and B300(A)-6.
M02-04-00: Test magnet.
M02-09-00: Test magnet with telescoping handle.
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CATEGORY: 7272 -- SMOKE DETECTOR-SYSTEM TYPE-PHOTOELECTRIC

LISTEE: NotifierOne Fire-Lite Place, Northford, CT 06472-1653
Contact: Lisa Brant (203) 484-6105 Fax (203) 484-7309
Email: lisa.brant@honeywell.com


Refer to listee's Installation and Maintenance Instruction for additional detailed product description and operational considerations.

RATING: 24 VDC

INSTALLATION: In accordance with listee's printed installation instructions, applicable codes and ordinances, and in a manner acceptable to the authority having jurisdiction.

MARKING: Listee's name, model number, electrical rating, and UL label.


NOTE: The photoelectric type detectors are generally more effective at detecting slow, smoldering fires that smolder for hours before bursting into flame. Sources of these fire may include cigarettes burning in the couched or bedding. The ionization type detectors are generally more effective at detecting fast, flaming fires that consume combustible materials rapidly and spread quickly. Sources of these fires include paper burning in a waste container or a grease fire in the kitchen.

*Revision 1-27-21 VWW

Date Issued: July 01, 2022
Listing Expires June 30, 2023

Authorized By: VICTOR WONG, Program Coordinator
Fire Engineering Division
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**Intelligent Bases** Standard, Relay, Isolator, Sounder, and Low-Frequency Sounder Bases

**General**

To meet local code and application requirements, NOTIFIER® offers standard 4” and 6” bases, as well as, specialty base designs including relay, isolator, sounder and low frequency sounder options for the new 900 Series of addressable detectors as well as previous generations.

The standard 4” and 6” bases offer a plug-in detector base intended for use in intelligent systems, with screw terminals identified with a (+ and –). The 4” base offers a compact design while the 6” base provides compatibility with a wider range of junction boxes.

The specialty bases support application driven requirements. These bases employ a separate mounting plate that installs on various junction box sizes to eliminate unsightly surface-mount boxes. The mounting plate enables pre-wiring of all connections to speed and simplify installation.

Relay bases provide one form-C contact relay for control of auxiliary functions, such as door closure and elevator recall. The relay can operate in two different modes (short and long delay). The activation time for the short delay is 60-100 milliseconds, while the activation time for the long delay is 6-10 seconds. A shunt with pin headers, located on the base PC board, is used to set the delay timing.

Isolator bases allow the Signaling Line Circuit (SLC) loop to operate under fault conditions created from a short circuit preventing an entire communication loop from being disabled. The base isolates the section of the loop containing the short circuit from the remainder of the circuit and automatically restores when the fault is corrected.

Sounder and low frequency sounder bases are designed for new and existing dwelling unit applications. They offer maximum flexibility in installation, configuration, and operation to meet or exceed UL 268 and UL 464 requirements. The low frequency sounder bases are designed to meet the NFPA 72 sleeping space requirement to produce a fundamental frequency of 520 Hz +/- 10% with a square wave or its equivalent. Studies show that a lower frequency, centered around 520 Hz, is the most ideal to wake sleeping occupants, even those with mild to severe hearing loss.

The B200SR sounder and -LF sounder bases (B200SR-WH/B200SR-IV/B200SR-LF-WH/B200SR-LF-IV) are fully compatible with existing B501BH Series sounder base installations. The device enables users to select one of two B501-supported tones (ANSI Temporal 3 or Continuous) through a jumper.

The B200S sounder and -LF sounder bases (B200S-WH/B200S-IV/B200S-LF-WH/B200S-LF-IV) adopt the same address as the detector, but use a unique device type on the loop. The Fire Alarm Control Panel (FACP) can use that address to command an individual sounder — or a group of sounders — to activate. The command set from the FACP can be tailored to multiple event-driven tone outputs allowing selection of volume (75 or 85 dBA), tone (ANSI Temporal 3, ANSI Temporal 4, or March Time) and group. In addition, some FACPs will enable custom tone patterns. The B200S series sounder bases recognize the System Sensor synchronization protocol. This enables them to be used as a component of the general evacuation signal — along with other System Sensor AV appliances — when connected to a power supply or FACP output capable of generating the System Sensor synchronization pulses.

**Specifications**

*NOTE: Specifications applies to all model variants “A”, “-BL”, “-LF”, “-IV”, “-WH”, “WHITE. See Product Line Information for detailed model description.*

**Diameter**

- B501-WHITE: 4” (10.16 cm) diameter.
- B300-6: 6.1” (15.49 cm) diameter.
- B224BI, B224RB: 6.2” (15.748 cm) diameter.
- B200S, B200SR, B200SCOA: 6.875” (17.46 cm) diameter.

**Wire gauge:**

- B224BI, B224RB: 14 to 24 AWG.
- B300-6, B210LP, B501, B200S, B200SR, B200SCOA: 12 to 24 AWG.

**Temperature range:**

- B224BI, B224RB, B200S, B200SR, B200SCOA: 32°F to 120°F (0°C to 49°C).
- B300-6, B210LP, B501: -4°F to 150°F (-20°C to 66°C).

**Humidity range:** 10% to 93% RH, non-condensing.

**System temperature and humidity ranges:** This system meets NFPA requirements for operation at 0°C to 49°C (32°F to 120°F); and at a relative humidity (non-condensing) of 85% at 30°C (86°F) per NFPA, and 93% ± 2% at 32°C ± 2°C (89.6°F ± 1.1°F) per ULC. However, the useful life of the system’s standby batteries and the electronic components may be adversely affected by extreme temperature ranges and humidity. Therefore, it is recommended that this system and all peripherals be installed in an environment with a nominal room temperature of 15°C to 27°C (60°F to 80°F).
Electrical Ratings

FOR B300-6 SERIES BASES:
Operating voltage: 15 to 32 VDC
Standby current: 170 µA maximum

FOR B501 SERIES BASES:
Operating voltage: 15 to 32 VDC
Standby current: 150 µA maximum

FOR B200 SERIES BASES:
External supply voltage: 16 to 33 VDC (FWR)
Standby current: 500 µA maximum.

Alarm current:
- B200S(A)(-IV)(-WH)
  - 35 mA maximum at high-volume setting
  - 15 mA maximum at low-volume setting
- B200S-LF(-IV)(-WH) High-volume setting:
  - 70 mA maximum @ 33.0 VDC
  - 90 mA maximum @ 24.0 VDC
  - 140 mA maximum @ 16.0 VDC
- B200S-LF(-IV)(-WH) Low-volume setting:
  - 15 mA maximum @ 33.0 VDC
  - 20 mA maximum @ 24.0 VDC
  - 25 mA maximum @ 16.0 VDC
- B200SR(A)(-IV)(-WH)
  - 35 mA maximum
- B200SR-LF(-IV)(-WH)
  - 65 mA maximum @ 33.0 VDC
  - 90 mA maximum @ 24.0 VDC
  - 125 mA maximum @ 16.0 VDC
- B200SCOA(-IV)(-WH)
  - 40mA Max (DC)
  - 70mA Max (FWR)

SLC operating voltage: 15 to 32 VDC
SLC standby current: See applicable sensor specification.

Product Line Information

INTELLIGENT BASES
NOTE: “A” suffix indicates ULC Listed model.
NOTE: “-IV” suffix indicates Ivory color model.
NOTE: “-BL” suffix indicates Black color model.
NOTE: “-WH” and “-WHITE” suffix indicates White color model.
B210LP: Flanged mounted base.
B210LPA: Same as B210LP; ULC listed.
B210LPB: Bulk pack of B210LP, contains 10.
B300-6: White, 6” base, standard flanged low-profile mounting base.
B300A-6: Same as B300-6, ULC listed.
B300-6-BP: Bulk pack of B300-6, package contains 10s.
B300-6-IV: Ivory, 6” base, standard flanged low-profile mounting base.
B300A-6-IV: Ivory, 6” standard flanged low-profile mounting base, ULC listed.
B501-WHITE: White, 4” standard European flangeless mounting base.
B501-IV: White, 4” standard European flangeless mounting base.
B501-IV: White, 4” standard European flangeless mounting base.
B501-WHITE: White, 4” standard European flangeless mounting base.
B300-6-BP: Bulk pack of B300-6, package contains 10.
B300-6-IV: Ivory, 6” base, standard flanged low-profile mounting base.
B300A-6-IV: Ivory, 6” standard flanged low-profile mounting base, ULC listed.
B224RB-WH: White, relay base.
B224RB-IV: Ivory, relay base.
B224RBA-WH: White, relay base, ULC listed.
B224RBA-IV: Ivory, relay base, ULC listed.
B224BI-WH: White, isolator detector base.
B224BI-IV: Ivory, isolator detector base.
B224BIA-WH: White, isolator detector base, ULC listed.
B224BIA-IV: Ivory isolator detector base, ULC listed.
B200S-WH: White, Intelligent addressable sounder base capable of producing sound output in high or low volume with ANSI Temporal 3, ANSI Temporal 4, continuous tone, marching tone, and custom tone.
Uses FlashScan® protocol.
B200S-IV: Ivory, Intelligent addressable sounder base capable of producing sound output in high or low volume with ANSI Temporal 3, ANSI Temporal 4, continuous tone, marching tone, and custom tone.
Uses FlashScan® protocol.
B200SA-WH: Same as B200S-WH, ULC listed.
B200SA-IV: Same as B200S-IV, ULC listed.
B200SCOA-WH: White, Intelligent, programmable sounder base in English/French (required in Canada for ULC applications with SO Series detector applications.
B200SCOA-IV: Ivory Intelligent, programmable sounder base in English/French (required in Canada for ULC applications with SO Series detector applications.
Produces a fundamental frequency of 520 Hz +/- 10% with a square wave or its equivalent; designed to meet the NFPA 72 sleeping space requirement.
B200S-LF-IV: Ivory, Low Frequency Intelligent, programmable sounder base.
Produces a fundamental frequency of 520 Hz +/- 10% with a square wave or its equivalent; designed to meet the NFPA 72 sleeping space requirement.
B200SR-WH: White, Intelligent sounder base capable of producing sound output with ANSI Temporal 3 or continuous tone. Intended for retrofit applications.

B200SR-IV: Ivory, Intelligent sounder base capable of producing sound output with ANSI Temporal 3 or continuous tone. Intended for retrofit applications.

B200SRA-WH: Same as B200SR-WH, ULC listed.

B200SRA-IV: Same as B200SR-IV in Ivory color, ULC listed.

B200SR-LF-WH: White, Low Frequency Intelligent, programmable sounder base. Produces a fundamental frequency of 520 Hz +/-10% with a square wave or its equivalent; designed to meet the NFPA 72 sleeping space requirement. Intended for retrofit applications.

B200SR-LF-IV: Ivory, Low Frequency Intelligent, programmable sounder base. Produces a fundamental frequency of 520 Hz +/-10% with a square wave or its equivalent; designed to meet the NFPA 72 sleeping space requirement. Intended for retrofit applications.

MOUNTING KITS AND ACCESSORIES
TR300: White, replacement flange for B210LP(A), B300(A)-6 bases.
TR300-IV: Ivory, replacement flange for B210LP(A), B300(A)-6-IV bases.
RA100Z(A): Remote LED annunciator. 3 – 32 VDC. Mounts to a U.S. single-gang electrical box. For use with B501(A) and B300(A)-6.

RA100Z(A): Remote LED annunciator. 3 – 32 VDC. Mounts to a U.S. single-gang electrical box. For use with B501(A) and B300(A)-6.

M02-04-00: Test magnet.
M02-09-00: Test magnet with telescoping handle.

Agency Listings and Approvals
The listings and approvals below apply to intelligent bases as noted. In some cases, certain modules or applications may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- UL/ULC Listed: S1115
- FM Approved

Junction Box Selection Guide

<table>
<thead>
<tr>
<th>Base Models</th>
<th>Single Gang</th>
<th>Double Gang</th>
<th>3.5” Oct.</th>
<th>4.0” Oct.</th>
<th>4.0” Sq.</th>
<th>4.0” Sq. with 3.0” mud ring</th>
<th>50 mm</th>
<th>60 mm</th>
<th>70 mm</th>
<th>75 mm</th>
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<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
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<td>B210LP, B300-6</td>
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<td>Yes</td>
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<tr>
<td>B224BI, B224RB</td>
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<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
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</tr>
</tbody>
</table>

NOTE: Box depth contingent on base and wire size. Refer to National Electric Code or applicable local codes for appropriate recommendations.

NOTE: Applies to all model variants “A”, “-BL”, “-LF”, “-IV”, “-WH”, and “-WHITE”. See Product Line Information for detailed model description.
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**LISTING No.:** 7300-1653:0109

**CATEGORY:** 7300 -- FIRE ALARM CONTROL UNIT ACCESSORIES/MISC. DEVICES

**LISTEE:** System Sensor, Unincorporated Div of Honeywell Int'l Inc. 3825 Ohio Ave, St. Charles, IL 60174  
Contact: Lisa Brant (203) 484-6105 Fax (203) 484-7309  
Email: lisa.brant@honeywell.com


**INSTALLATION:** In accordance with listee's printed installation instructions, applicable codes and ordinances and in a manner acceptable to the authority having jurisdiction.

**MARKING:** Listee's name, *model number, *electrical rating and UL label.

**APPROVAL:** Listed as detector bases for use with separately listed compatible detectors. *Refer to Manufacturers Installation Instruction Manual for details.

**NOTE:** Formerly 7300-1209:128

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This listing is based upon technical data submitted by the applicant. CSFM Fire Engineering staff has reviewed the test results and/or other data but does not make an independent verification of any claims. This listing is not an endorsement or recommendation of the item listed. This listing should not be used to verify correct operational requirements or installation criteria. Refer to listee’s data sheet, installation instructions and/or other documentation.

Date Issued: **July 01, 2022**  
Listing Expires: **June 30, 2023**  
Authorized By: **VICTOR WONG, Program Coordinator**  
Fire Engineering Division
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NBG-12LX
Addressable Manual Pull Station

General
The Notifier NBG-12LX is a state-of-the-art, dual-action (i.e., requires two motions to activate the station) pull station that includes an addressable interface for any Notifier intelligent control panel except FireWarden series panels. Because the NBG-12LX is addressable, the control panel can display the exact location of the activated manual station. This leads fire personnel quickly to the location of the alarm.

Features
• Maintenance personnel can open station for inspection and address setting without causing an alarm condition.
• Built-in bicolor LED, which is visible through the handle of the station, flashes in normal operation and latches steady red when in alarm.
• Handle latches in down position and the word “ACTIVATED” appears to clearly indicate the station has been operated.
• Captive screw terminals wire-ready for easy connection to SLC loop (accepts up to 12 AWG/3.25 mm² wire).
• Can be surface mounted (with SB-10 or SB-I/O) or semi-flush mounted. Semi-flush mount to a standard single-gang, double-gang, or 4” (10.16 cm) square electrical box.
• Smooth dual-action design.
• Meets ADAAG controls and operating mechanisms guidelines (Section 4.1.3[13]); meets ADA requirement for 5 lb. maximum activation force.
• Highly visible.
• Attractive shape and textured finish.
• Key reset.
• Includes Braille text on station handle.
• Optional trim ring (BG12TR).
• Meets UL 38, Standard for Manually Actuated Signaling Boxes.
• Up to 99 NBG-12LX stations per loop on CLIP protocol loops.
• Up to 159 NBG-12LX stations per loop on FlashScan® protocol loops.
• Dual-color LED blinks green to indicate normal on FlashScan® systems.

Construction
Shell, door, and handle are molded of durable polycarbonate material with a textured finish.

Specifications
• Shipping Weight: 9.6 oz. (272.15 g)
• Normal operating voltage: 24 VDC.
• Maximum SLC loop voltage: 28.0 VDC.
• Maximum SLC loop current: 375 μA.
• Temperature Range: 32°F to 120°F (0°C to 49°C)
• Relative Humidity: 10% to 93% (noncondensing)
• For use indoors in a dry location

Installation
The NBG-12LX will mount semi-flush into a single-gang, double-gang, or standard 4” (10.16 cm) square electrical outlet box, or will surface mount to the model SB-10 or SB-I/O surface backbox. If the NBG-12LX is being semi-flush mounted, then the optional trim ring (BG12TR) may be used. The BG12TR is usually needed for semi-flush mounting with 4” (10.16 cm) or double-gang boxes (not with single-gang boxes).

Operation
Pushing in, then pulling down on the handle causes it to latch in the down/activated position. Once latched, the word “ACTIVATED” (in bright yellow) appears at the top of the handle, while a portion of the handle protrudes from the bottom of the station. To reset the station, simply unlock the station with the key and pull the door open. This action resets the handle; closing the door automatically resets the switch.

Each manual station, on command from the control panel, sends data to the panel representing the state of the manual switch. Two rotary decimal switches allow address settings (1 – 159 on FlashScan® systems, 1 – 99 on CLIP systems).

Architectural/Engineering Specifications
Manual Fire Alarm Stations shall be non-coded, with a key-operated reset lock in order that they may be tested, and so designed that after actual Emergency Operation, they cannot be restored to normal except by use of a key. An operated station shall automatically condition itself so as to be visually detected as activated. Manual stations shall be constructed of red-colored polycarbonate material with clearly visible operating instructions provided on the cover. The word FIRE shall appear on the front of the stations in white letters, 1.00 inches (2.54 cm) or larger. Stations shall be suitable for surface
mounting on matching backbox SB-10 or SB-I/O; or semi-flush mounting on a standard single-gang, double-gang, or 4" (10.16 cm) square electrical box, and shall be installed within the limits defined by the Americans with Disabilities Act (ADA) or per national/local requirements. Manual Stations shall be Underwriters Laboratories listed.

Manual stations shall connect with two wires to one of the control panel SLC loops. The manual station shall, on command from the control panel, send data to the panel representing the state of the manual switch. Manual stations shall provide address setting by use of rotary decimal switches.

The loop poll LED shall be clearly visible through the front of the station. The LED shall flash while in the normal condition, and stay steadily illuminated when in alarm.

**Product Line Information**

**NBG-12LX:** Dual-action addressable pull station. Includes key locking feature.

**SB-10:** Surface backbox; metal.

**SB-I/O:** Surface backbox; plastic.

**BG12TR:** Optional trim ring.

**17021:** Keys, set of two.

**NY-Plate:** New York City trim plate

**Agency Listings and Approvals**

In some cases, certain modules or applications may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- **UL Listed:** S692 (listed for Canadian and non-Canadian applications)
- **MEA:** 67-02-E
- **CSFM:** 7150-0028:199
- **BSMI:** CI313066760047
- **U.S. Coast Guard:** 161.002/23/3 (AFP-200); 161.002/27/3 (AM-2020/AFP-1010); 161.002/42/1 (NFS-640)
- **Lloyd's Register:** 02/6007 (NFS-640); 94/60004 (E2) (AFP-200); 03/60011 (E1); 07/60007 (NFS2-3030)
- **FM Approved**

**Patented:**

U.S. Patent No. D428,351; 6,380,846; 6,314,772; 6,632,108.
LISTING No. 7150-0028:0199

CATEGORY: 7150 -- FIRE ALARM PULL BOXES

LISTEE: NotifierOne Fire-Lite Place, Northford, CT 06472-1653
Contact: Lisa Brant (203) 484-6105 Fax (203) 484-7309
Email: lisa.brant@honeywell.com

DESIGN: Models NBG-12, NBG-12S, NBG-12LR, NBG-12LRA, NBG-12LAO, NBG-12LAOB, NBG-12-LO, NBG-12LOB, NBG-12W, NBG-12LW, NBG-12NC, NBG-12WP, NBG-12LWP, NBG-12L, NBG-12LO, NBG-12PS, NBG-12LSP, NBG-12LPS, NBG-12LPS, NBG-12SP, NOT-BG12LX, NBG-12LXSP, NBG-12LXBL and NBG-12LXP fire alarm pull boxes. All units except Model NBG-12S are dual action pull stations. Models NBG-12LR and NBG-12LRA are intended for agent releasing device. Refer to listee's data sheet for detailed product description and operational considerations.

INSTALLATION: In accordance with listee's printed installation instructions, applicable codes and ordinances and in a manner acceptable to the authority having jurisdiction.

MARKING: Listee's name, model number, rating, and UL label.

APPROVAL: Listed as fire alarm pull boxes for use with separately listed compatible fire alarm control units. Models NBG-12WP, NBG-12LW, NBG-12W, NBG-12LW, NBG-12WP, NBG-12LAO, NBG-12LO, NBG-12LAOB and NBG-12LLOB are intended for outdoor use when installed with Models WBB, SB-I/O, or WP-10 back box. Refer to listee's Installation Instruction Manual for details.

These manual pull boxes meet the requirements of UL Standard 38, 1999 Edition and California amendments which the controls and operating mechanisms required to be operable at no more than 5lbs. force with one hand and shall not require tight grasping, pinching, or twisting of the wrist.

Date Issued: July 01, 2022
Listing Expires: June 30, 2023
Authorized By: VICTOR WONG, Program Coordinator
Fire Engineering Division
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**FCM-1(A) & FRM-1(A)**

**Series**

**Control and Relay Modules**

**General**

**FCM-1(A) Control Module:** The FCM-1(A) Addressable Control Module provides Notifier intelligent fire alarm control panels a circuit for Notification Appliances (horns, strobes, speakers, etc.) Addressability allows the FCM-1(A) to be activated, either manually or through panel programming, on a select (zone or area of coverage) basis.

**FRM-1(A) Relay Module:** The FRM-1(A) Addressable Relay Module provides the system with a dry-contact output for activating a variety of auxiliary devices, such as fans, dampers, control equipment, etc. Addressability allows the dry contact to be activated, either manually or through panel programming, on a select basis.

FlashScan® (U.S. Patent 5,539,389) is a communication protocol developed by NOTIFIER Engineering that greatly enhances the speed of communication between analog intelligent devices. Intelligent devices communicate in a grouped fashion. If one of the devices within the group has new information, the panel CPU stops the group poll and concentrates on single points. The net effect is response speed greater than five times that of other designs.

**Features**

- Built-in type identification automatically identifies these devices to the control panel.
- Internal circuitry and relay powered directly by two-wire SLC loop. The FCM-1(A) module requires power (for horns, strobes, etc.), or audio (for speakers).
- Integral LED “blinks” green each time a communication is received from the control panel and turns on in steady red when activated.
- LED blink may be deselected globally (affects all devices).
- High noise immunity (EMF/RFI).
- The FCM-1(A) may be used to switch 24-volt NAC power, audio (up to 70.7 Vrms).
- Wide viewing angle of LED.
- SEMS screws with clamping plates for wiring ease.
- Direct-dial entry of address 01–159 for FlashScan loops, 01 – 99 for CLIP mode loops.
- Speaker, and audible/visual applications may be wired for Class B or A (Style Y or Z).
- The FCM-1(A) is configured for a single Class B (Style Y) or Class A (Style Z) Notification Appliance Circuit.
- The FRM-1(A) provides two Form-C dry contacts that switch together.

**Operation**

Each FCM-1(A) or FRM-1(A) uses one of 159 possible module addresses on a SLC loop (99 on CLIP loops). It responds to regular polls from the control panel and reports its type and status, including the open/normal/short status of its Notification Appliance Circuit (NAC). The LED blinks with each poll received. On command, it activates its internal relay. The FCM-1(A) supervises Class B (Style Y) or Class A (Style Z) notification or control circuits.

Upon code command from the panel, the FCM-1(A) will disconnect the supervision and connect the external power supply in the proper polarity across the load device. The disconnection of the supervision provides a positive indication to the panel that the control relay actually turned ON. The external power supply is always relay isolated from the communication loop so that a trouble condition on the external power supply will never interfere with the rest of the system.

Rotary switches set a unique address for each module. The address may be set before or after mounting. The built-in TYPE CODE (not settable) will identify the module to the control panel, so as to differentiate between a module and a sensor address.

**Applications**

The FCM-1(A) is used to switch 24 VDC audible/visual power, high-level audio (speakers), or control telephone devices. The FRM-1(A) may be programmed to operate dry contacts for applications such as door holders or Air Handling Unit shutdown, and to reset four-wire smoke detector power.

**NOTE:** Refer to the SLC Manual (PN 51253) for details regarding releasing applications with the FCM-1(A). Refer to the FCM-1-REL datasheet (DN-60390) for new FlashScan® releasing applications.

**Specifications for FCM-1(A)**

- Normal operating voltage: 15 to 32 VDC.
- Maximum current draw: 6.5 mA (LED on).
- Average operating current: 350 μA direct poll, 375 μA group poll with LED flashing, 485 μA Max. (LED flashing, NAC shorted.)

**Construction**

- The face plate is made of off-white heat-resistant plastic.
- Controls include two rotary switches for direct-dial entry of address (01-159).
Maximum NAC Line Loss: 4 VDC.

External supply voltage (between Terminals T10 and T11): Maximum (NAC): Regulated 24 VDC; Maximum (Speakers): 70.7 V RMS, 50W.

Drain on external supply: 1.7 mA maximum using 24 VDC supply; 2.2 mA Maximum using 80 VRMS supply.

Max NAC Current Ratings: For class B wiring system, the current rating is 3A; For class A wiring system, the current rating is 2A.

Temperature range: 32°F to 120°F (0°C to 49°C).

Humidity range: 10% to 93% non-condensing.

Dimensions: 4.5” (114.3 mm) high x 4” (101.6 mm) wide x 1.25” (31.75 mm) deep. Mounts to a 4” (101.6 mm) square x 2.125” (53.975 mm) deep box.

Accessories: SMB500 Electrical Box; CB500 Barrier

Specifications for FRM-1(A)

Normal operating voltage: 15 to 32 VDC.

Maximum current draw: 6.5 mA (LED on).

Average operating current: 230 μA direct poll; 255 μA group poll.

EOL resistance: not used.

Temperature range: 32°F to 120°F (0°C to 49°C).

Humidity range: 10% to 93% non-condensing.

Dimensions: 4.5” (114.3 mm) high x 4” (101.6 mm) wide x 1.25” (31.75 mm) deep. Mounts to a 4” (101.6 mm) square x 2.125” (53.975 mm) deep box.

Accessories: SMB500 Electrical Box; CB500 Barrier

Agency Listings and Approvals

In some cases, certain modules may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- UL: S635
- ULC: S7557 (A version only)
- FM Approved
- CSFM: 7300-0028:202
- MEA: 14-00-E

Contact Ratings for FRM-1(A)

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<th>Current Rating</th>
<th>Maximum Voltage</th>
<th>Load Description</th>
<th>Application</th>
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<td>3 A</td>
<td>30 VDC</td>
<td>Resistive</td>
<td>Non-Coded</td>
</tr>
<tr>
<td>2 A</td>
<td>30 VDC</td>
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<td>Coded</td>
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<td>.7 A</td>
<td>70.7 VDC</td>
<td>Inductive (PF=0.35)</td>
<td>Non-Coded</td>
</tr>
<tr>
<td>2 A</td>
<td>25 VDC</td>
<td>Inductive (PF=0.35)</td>
<td>Non-Coded</td>
</tr>
</tbody>
</table>

NOTE: Maximum (Speakers): 70.7 V RMS, 50 W

Product Line Information

NOTE: "A" suffix indicates ULC Listed model.

FCM-1(A): Intelligent Addressable Control Module.


A2143-20: Capacitor, required for Class A (Style Z) operation of speakers.

SMB500: Optional Surface-Mount Backbox.

CB500: Control Module Barrier — required by UL for separating power-limited and non-power limited wiring in the same junction box as FCM-1(A).

NOTE: For installation instructions, see the following documents:

- FCM-1(A) Installation document I56-1169.
- FRM-1(A) Installation document I56-3502.
FMM-1(A), FMM-101(A), FZM-1(A) & FDM-1(A)

Monitor Modules with FlashScan®

**General**

Four different monitor modules are available for Notifier’s intelligent control panels for a variety of applications. Monitor modules supervise a circuit of dry-contact input devices, such as conventional heat detectors and pull stations, or monitor and power a circuit of two-wire smoke detectors (FZM-1(A)).

**FMM-1(A)** is a standard-sized module (typically mounts to a 4” [10.16 cm] square box) that supervises either a Style D (Class A) or Style B (Class B) circuit of dry-contact input devices.

**FMM-101(A)** is a miniature monitor module a mere 1.3” (3.302 cm) H x 2.75” (6.985 cm) W x 0.65” (1.651 cm) D that supervises a Style B (Class B) circuit of dry-contact input devices. Its compact design allows the FMM-101(A) to be mounted in a single-gang box behind the device it monitors.

**FZM-1(A)** is a standard-sized module that monitors and supervises compatible two-wire, 24 volt, smoke detectors on a Style D (Class A) or Style B (Class B) circuit.

**FDM-1(A)** is a standard-sized dual monitor module that monitors and supervises two independent two-wire Style B (Class B) dry-contact initiating device circuits (IDCs) at two separate, consecutive addresses in intelligent, two-wire systems.

FlashScan® (U.S. Patent 5,539,389) is a communication protocol developed by NOTIFIER that greatly increases the speed of communication between analog intelligent devices. Intelligent devices communicate in a grouped fashion. If one of the devices within the group has new information, the panel CPU stops the group poll and concentrates on single points. The net effect is response speed greater than five times that of other communication protocols.

**FMM-1(A) Monitor Module**

- Built-in type identification automatically identifies this device as a monitor module to the control panel.
- Powered directly by two-wire SLC loop. No additional power required.
- High noise (EMF/RFI) immunity.
- SEMS screws with clamping plates for ease of wiring.
- Direct-dial entry of address: 01 – 159 on FlashScan loops; 01 – 99 on CLIP loops.
- LED flashes green during normal operation (programmable option) and latches on steady red to indicate alarm.

The FMM-1(A) Monitor Module is intended for use in intelligent, two-wire systems, where the individual address of each module is selected using the built-in rotary switches. It provides either a two-wire or four-wire fault-tolerant Initiating Device Circuit (IDC) for normally-open-contact fire alarm and supervisory devices. The module has a panel-controlled LED indicator. The FMM-1(A) can be used to replace MMX-1(A) modules in existing systems.

**FMM-1(A) Applications**

Use to monitor a zone of four-wire smoke detectors, manual fire alarm pull stations, waterflow devices, or other normally-open dry-contact alarm activation devices. May also be used to monitor normally-open supervisory devices with special supervisory indication at the control panel. Monitored circuit may be wired as an NFPA Style B (Class B) or Style D (Class A) Initiating Device Circuit. A 47K Ohm End-of-Line Resistor (provided) terminates the Style B circuit. No resistor is required for supervision of the Style D circuit.

**FMM-1(A) Operation**

Each FMM-1(A) uses one of the available module addresses on an SLC loop. It responds to regular polls from the control panel and reports its type and the status (open/normal/short) of its Initiating Device Circuit (IDC). A flashing LED indicates that the module is in communication with the control panel. The LED latches steady on alarm (subject to current limitations on the loop).

**FMM-1(A) Specifications**

- Nominal operating voltage: 15 to 32 VDC.
- Maximum current draw: 5.0 mA (LED on).
- Average operating current: 375 μA (LED flashing), 1 communication every 5 seconds, 47k EOL.
- Maximum IDC wiring resistance: 1500 Ohms.
- Maximum IDC Voltage: 11 Volts.
- EOL resistance: 47K Ohms.
- Temperature range: 32°F to 120°F (0°C to 49°C).
- Humidity range: 10% to 93% noncondensing.
- Dimensions: 4.5” (11.43 cm) high x 4” (10.16 cm) wide x 1.25” (3.175 cm) deep. Mounts to a 4” (10.16 cm) square x 2.125” (5.398 cm) deep box.
**FMM-101(A) Mini Monitor Module**

- Built-in type identification automatically identifies this device as a monitor module to the panel.
- Powered directly by two-wire SLC loop. No additional power required.
- High noise (EMF/RFI) immunity.
- Tinned, stripped leads for ease of wiring.
- Direct-dial entry of address: 01 – 159 on FlashScan loops; 01 – 99 on CLIP loops.

The FMM-101(A) Mini Monitor Module can be installed in a single-gang junction directly behind the monitored unit. Its small size and light weight allow it to be installed without rigid mounting. The FMM-101(A) is intended for use in intelligent, two-wire systems where the individual address of each module is selected using rotary switches. It provides a two-wire initiating device circuit for normally-open-contact fire alarm and security devices. The FMM-101(A) can be used to replace MMX-101(A) modules in existing systems.

**FMM-101(A) Applications**

Use to monitor a single device or a zone of four-wire smoke detectors, manual fire alarm pull stations, waterflow devices, or other normally-open dry-contact devices. May also be used to monitor normally-open supervisory devices with special supervisory indication at the control panel. Monitored circuit/device is wired as an NFPA Style B (Class B) Initiating Device Circuit. A 47K Ohm End-of-Line Resistor (provided) terminates the circuit.

**FMM-101(A) Operation**

Each FMM-101(A) uses one of the available module addresses on an SLC loop. It responds to regular polls from the control panel and reports its type and the status (open/normal/short) of its Initiating Device Circuit (IDC).

**FMM-101(A) Specifications**

- Nominal operating voltage: 15 to 32 VDC.
- Average operating current: 350 µA, 1 communication every 5 seconds, 47k EOL, 600 µA Max. (Communicating, IDC Shorted).
- Maximum IDC wiring resistance: 1500 Ohms.
- Maximum IDC Voltage: 11 Volts.
- Maximum IDC Current: 450 µA.
- EOL resistance: 47K Ohms.

Temperature range: 32°F to 120°F (0°C to 49°C).

Humidity range: 10% to 93% noncondensing.

Dimensions: 1.3” (3.302 cm) high x 2.75” (6.985 cm) wide x 0.65” (1.651 cm) deep.

Wire length: 6” (15.24 cm) minimum.

**FZM-1(A) Interface Module**

- Supports compatible two-wire smoke detectors.
- Supervises IDC wiring and connection of external power source.
- High noise (EMF/RFI) immunity.
- SEMS screws with clamping plates for ease of wiring.
- Direct-dial entry entry of address: 01 – 159 on FlashScan loops, 01 – 99 on CLIP loops.
- LED flashes during normal operation; this is a programmable option.
- LED latches steady to indicate alarm on command from control panel.

The FZM-1(A) Interface Module is intended for use in intelligent, addressable systems, where the individual address of each module is selected using built-in rotary switches. This module allows intelligent panels to interface and monitor two-wire conventional smoke detectors. It transmits the status (normal, open, or alarm) of one full zone of conventional detectors back to the control panel. All two-wire detectors being monitored must be UL compatible with the module. The FZM-1(A) can be used to replace MMX-2(A) modules in existing systems.

**FZM-1(A) Applications**

Use the FZM-1(A) to monitor a zone of two-wire smoke detectors. The monitored circuit may be wired as an NFPA Style B (Class B) or Style D (Class A) Initiating Device Circuit. A 3.9 K Ohm End-of-Line Resistor (provided) terminates the end of the Style B or D (class B or A) circuit (maximum IDC loop resistance is 25 Ohms). Install ELR across terminals 8 and 9 for Style D application.

**FZM-1(A) Operation**

Each FZM-1(A) uses one of the available module addresses on an SLC loop. It responds to regular polls from the control panel and reports its type and the status (open/normal/short) of its Initiating Device Circuit (IDC). A flashing LED indicates that the module is in communication with the control panel. The LED latches steady on alarm (subject to current limitations on the loop).

**FZM-1(A) Specifications**

- Nominal operating voltage: 15 to 32 VDC.
- Maximum current draw: 5.1 mA (LED on).
- Average operating current: 270 µA, 1 communication and 1 LED flash every 5 seconds, 3.9k eol.
- EOL resistance: 3.9K Ohms.

External supply voltage (between Terminals T10 and T11):
- DC voltage: 24 volts power limited.
- Ripple voltage: 0.1 Vrms maximum.
- Current: 90 mA per module maximum.

Temperature range: 32°F to 120°F (0°C to 49°C).
Humidity range: 10% to 93% noncondensing.

Dimensions: 4.5” (11.43 cm) high x 4” (10.16 cm) wide x 1.25” (3.175 cm) deep. Mounts to a 4” (10.16 cm) square x 2.125” (5.398 cm) deep box.

FDM-1(A) Dual Monitor Module

The FDM-1(A) Dual Monitor Module is intended for use in intelligent, two-wire systems. It provides two independent two-wire initiating device circuits (IDCs) at two separate, consecutive addresses. It is capable of monitoring normally open contact fire alarm and supervisory devices; or either normally open or normally closed security devices. The module has a single panel-controlled LED.

NOTE: The FDM-1(A) provides two Style B (Class B) IDC circuits ONLY. Style D (Class A) IDC circuits are NOT supported in any application.

FDM-1(A) SPECIFICATIONS

Normal operating voltage range: 15 to 32 VDC.

Maximum current draw: 6.4 mA (LED on).

Average operating current: 750 μA (LED flashing).

Maximum IDC wiring resistance: 1,500 Ohms.

Maximum IDC Voltage: 11 Volts.

Maximum IDC Current: 240 μA

EOL resistance: 47K Ohms.

Temperature range: 32° to 120°F (0° to 49°C).

Humidity range: 10% to 93% (non-condensing).

Dimensions: 4.5” (11.43 cm) high x 4” (10.16 cm) wide x 1.25” (3.175 cm) deep. Mounts to a 4” (10.16 cm) square x 2.125” (5.398 cm) deep box.

FDM-1(A) AUTOMATIC ADDRESSING

The FDM-1(A) automatically assigns itself to two addressable points, starting with the original address. For example, if the FDM-1(A) is set to address “26”, then it will automatically assign itself to addresses “26” and “27”.

NOTE: “Ones” addresses on the FDM-1(A) are 0, 2, 4, 6, or 8 only. Terminals 6 and 7 use the first address, and terminals 8 and 9 use the second address.

CAUTION:
Avoid duplicating addresses on the system.

Installation

FMM-1(A), FZM-1(A), and FDM-1(A) modules mount directly to a standard 4” (10.16 cm) square, 2.125” (5.398 cm) deep, electrical box. They may also be mounted to the SMB500 surface-mount box. Mounting hardware and installation instructions are provided with each module. All wiring must conform to applicable local codes, ordinances, and regulations. These modules are intended for power-limited wiring only.

The FMM-101(A) module is intended to be wired and mounted without rigid connections inside a standard electrical box. All wiring must conform to applicable local codes, ordinances, and regulations.

Agency Listings and Approvals

In some cases, certain modules may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- UL: S635.
- ULC: S635.
- FM Approved.
- MEA: 457-99-E.
- U.S. Coast Guard: 161.002/50/0 (NFS2-640, NFS2-320, NFS2-3030).
- Fire Dept. of New York: COA #6121 (NFS2-640, NFS-320), COA# 6114 (NFS2-3030).

Product Line Information

NOTE: “A” suffix indicates ULC-listed model.

FDM-1(A): Monitor module, dual, two independent Class B circuits.
SMB500: Optional surface-mount backbox.

NOTE: See installation instructions and refer to the SLC Wiring Manual, PN 51253.
LISTING No. 7300-0028:0219

CATEGORY: 7300 -- FIRE ALARM CONTROL UNIT ACCESSORIES/MISC. DEVICES

LISTEE: NotifierOne Fire-Lite Place, Northford, CT 06472-1653
Contact: Lisa Brant (203) 484-6105 Fax (203) 484-7309
Email: lisa.brant@honeywell.com

DESIGN: Models XP6-R relay module, XP6-C, supervising control module, XP10-M input monitor module, XP6-MA six zone interface module, FMM-1, FMM-101, FZM-1, FSM-101, FDM-1, FTM-1 monitor modules, FCM-1, FRM-1 control modules, and *FDRM-1 with 2 input/2 output relay module. All devices are intended to be connected between the signaling line circuit of a compatible fire alarm control panel. Refer to listee's data sheet for additional detailed product description and operational considerations.

RATING: 16-33 VDC Primary

INSTALLATION: In accordance with listee's printed installation instructions, applicable codes & ordinances and in manner acceptable to the authority having jurisdiction.

MARKING: Listee's name, product number and UL label.

APPROVAL: Listed as control unit accessories for use with listee's separately listed compatible fire alarm control units. Model FTM-1 is intended to be used with Notifier Models NFS-640, NFS2-640 (CSFM Listing No. 7165-0028:214), NFS-3030, NFS2-3030 (CSFM Listing No. 7165-0028:224) Fire Alarm Control Units.

NOTE: If an external power supply is used for Model XP6-MA, the negative of the external power supply is referenced to the negative of the auxiliary supply of the compatible control panel. This is done in order to detect ground faults on the initiating circuit.

*Rev. 10-24-11 mt
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Intelligent Non-Relay Photoelectric Duct Smoke Detector

The InnovairFlex™ Series are the only duct smoke detectors flexible enough to fit configurations from square to rectangular and everything in between.

Features

• Photoelectric, integrated low-flow technology (detector head sold separately)
• Air velocity rating from 100 ft/min to 4000 ft/min (0.5 m/s to 20.32 m/sec)
• Versatile mounting options: square or rectangular configuration
• Broad ranges for operating temperature (−4°F to 158°F) and humidity (0% to 95% non-condensing)
• Patented sampling tube installs from front or back of the detector with no tools required
• New Cover tamper signal
• Increased wiring space with a newly added ¾-inch conduit knockout
• Available space within housing to accommodate mounting of relay module
• Easily accessible code wheels on sensor head (sold separately)
• Clear cover for convenient visual inspection
• UL 268A listed
• Remote testing capability
• Requires com line power only
• NEMA Type 4 UL listed for non-hazardous indoor and outdoor applications (DNRW only)
• UV Resistant, UL listed housing and cover material (DNRW only)

The InnovairFlex DNR intelligent non-relay photoelectric duct smoke detector and DNRW watertight non-relay photoelectric duct smoke detector feature a pivoting housing that fits both square and rectangular footprints capable of mounting to a round or rectangular duct.

DNRW duct smoke detector, with its NEMA 4 rating, is listed as a watertight enclosure providing protection against falling dirt, rain, and windblown dust, splashing and hose directed water, allowing operators to use the detector in the most extreme environments.

These units sense smoke in the most challenging conditions, operating in airflow speeds of 100 to 4000 feet per minute, temperatures of −4°F to 158°F, and a humidity range of 0 to 95 percent (non-condensing).

An improved cover design isolates the sensor head from the low-flow feature for simple maintenance. A cover tamper feature was added to indicate a trouble signal for a removed or improperly installed sensor cover. The InnovairFlex housing provides a ¾-inch conduit knockout and ample space to facilitate easy wiring and mounting of relay module.

The InnovairFlex duct smoke detector can be customized to meet local codes and specifications without additional wiring. The new InnovairFlex product line is compatible with all previous Innovair models, including remote test accessories.

WARNING: Duct smoke detectors have specific limitations.

DUCT SMOKE DETECTORS ARE:

NOT a substitute for an open area smoke detector,
NOT a substitute for early warning detection, and
NOT a replacement for a building's regular fire detection system. Refer to NFPA 72 and 90A for additional duct smoke detector application information.
InnovairFlex Duct Smoke Detector Specifications

**Architectural/Engineering Specifications**
The air duct smoke detector shall be a System Sensor InnovairFlex™ DNR Intelligent Non-Relay Photoelectric Duct Smoke Detector and DNRW/Watertight NEMA4 Duct Smoke Detector. The detector housing shall be UL listed per UL 268A specifically for use in air handling systems. The flexible housing of the duct smoke detector fits both square and rectangular footprints. The detector shall operate at air velocities of 100 ft/min to 4000 ft/min (0.5 m/sec to 20.32 m/sec). The unit shall be capable of providing a trouble signal in the event that the sensor cover is removed or improperly installed. It shall be capable of local testing via magnetic switch or remote testing using the RTS451KEY/RTS151KEY remote test station. Terminal connections shall be of the strip and clamp method suitable for 12–18 AWG wiring.

**Physical Specifications**

<table>
<thead>
<tr>
<th>Size: (Rectangular) (Square)</th>
<th>14.38 in (37 cm) Length; 5 in (12.7 cm) Width; 2.5 in (6.6 cm) Depth</th>
<th>7.75 in (19.7cm) Length; 9 in (22.9cm) Width; 2.5 in (6.35cm) Depth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight:</td>
<td>1.6 lb (0.73 kg)</td>
<td></td>
</tr>
</tbody>
</table>

**Environmental Rating:**
NEMA4 (DNRW only)

**Operating Temperature Range:**
-4°F to 158°F (-20°C to 70°C)

**Storage Temperature Range:**
-22°F to 158°F (-30°C to 70°C)

**Operating Humidity Range:**
0% to 95% relative humidity (non-condensing)

**Air Duct Velocity:**
100 to 4000 ft/min (0.5 to 20.32 m/s)

**DCOIL (if included):**
17.5 – 26.4 VDC, 95 mA max

**Electrical Ratings**

**Device**

<table>
<thead>
<tr>
<th>Device</th>
<th>Standby</th>
<th>Alarm</th>
</tr>
</thead>
<tbody>
<tr>
<td>RA400Z/RA100Z</td>
<td>0 mA</td>
<td>12 mA Max.</td>
</tr>
<tr>
<td>RTS451/RTS451KEY RTS151/RTS151KEY</td>
<td>0 mA</td>
<td>12 mA Max.</td>
</tr>
</tbody>
</table>

**Installing the InnovairFlex Sampling Tube**
The InnovairFlex sampling tube may be installed from the front or back of the detector. The tube locks securely into place and can be removed by releasing the front or rear locking tab (front locking tab shown below right).
Wiring for Intelligent Non-Relay Duct Smoke Detector

System wiring diagram for DNR:

DNR to RA400Z/RA100Z:

DNR to RTS451/RTS451KEY/RTS151/RTS151KEY with "R" Remote Test Capable Detector Head Option:

DNR to RTS451/RTS451KEY/RTS151/RTS151KEY with DCOIL Option:

*Important Notes

- The use of either RTS451/RTS151 or RTS451KEY/RTS151KEY requires the installation of an accessory coil, DCOIL, sold separately. Please refer to the DNR or DNRW installation manual for more information.
- The RTS451/RTS451KEY/RTS151/RTS151KEY test coil circuit requires an external 24 VDC power supply which must be UL listed.
Accessories
System Sensor provides system flexibility with a variety of accessories, including two remote test stations and different means of visible and audible system annunciation. As with our duct smoke detectors, all duct smoke detector accessories are UL listed.

Ordering Information

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>DNR</td>
<td>Intelligent non-relay photoelectric low-flow duct smoke detector</td>
</tr>
<tr>
<td>DNRW</td>
<td>Watertight intelligent non-relay photoelectric low-flow duct smoke detector</td>
</tr>
<tr>
<td><strong>Accessories</strong></td>
<td></td>
</tr>
<tr>
<td>DCOIL</td>
<td>Remote test coil required with RTS451/RTS451KEY/RTS151/RTS151KEY</td>
</tr>
<tr>
<td>DST1</td>
<td>Metal sampling tube duct width up to 1 ft (0.3m)</td>
</tr>
<tr>
<td>DST1.5</td>
<td>Metal sampling tube duct widths 1 ft to 2 ft (0.3 to 0.6 m)</td>
</tr>
<tr>
<td>DST3</td>
<td>Metal sampling tube duct widths 2 ft to 4 ft (0.6 to 1.2 m)</td>
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<tr>
<td>DST5</td>
<td>Metal sampling tube duct widths 4 ft to 8 ft (1.2 to 2.4 m)</td>
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<tr>
<td>DST10</td>
<td>Metal sampling tube duct widths 8 ft to 12 ft (2.4 to 3.7 m)</td>
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<tr>
<td>DH400CE-1</td>
<td>Weatherproof enclosure</td>
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<tr>
<td>ETX</td>
<td>Metal exhaust tube duct width 1 ft (0.3m)</td>
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<tr>
<td>M02-04-00</td>
<td>Test magnet</td>
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<tr>
<td>P48-21-00</td>
<td>End cap for metal sampling tubes</td>
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<tr>
<td>RA400Z/RA100Z</td>
<td>Remote annunciator alarm LED</td>
</tr>
<tr>
<td>RTS451/RTS151</td>
<td>Remote test station</td>
</tr>
<tr>
<td>RTS451KEY/RTS151KEY</td>
<td>Remote test station with key lock</td>
</tr>
</tbody>
</table>
LISTING No. 3240-1653:0209

CATEGORY: 3240 -- DUCT SMOKE DETECTOR HOUSING/BASE

LISTEE: System Sensor, Unincorporated Div of Honeywell Int'l Inc. 3825 Ohio Ave, St. Charles, IL 60174
Contact: Lisa Brant (203) 484-6105 Fax (203) 484-7309
Email: lisa.brant@honeywell.com

DESIGN: Models DNR, DNRW, DNRHS and DNRECL* analog photoelectric duct smoke detector housings. The units consist of a duct detector housing, exhaust tubes, and separately listed compatible detector head. Model DNRW is a Type 4(NEMA4) watertight enclosure. Refer to listee's data sheet for additional detailed product description and operational considerations.

RATING: 24 VDC

INSTALLATION: In accordance with listee's printed installation instruction, applicable codes and ordinances and in a manner acceptable to the authority having jurisdiction.

MARKING: Listee's name, model number, rating, air velocity and UL label.

APPROVAL: Listed as conventional photoelectric duct smoke detector housing for use with separately listed fire alarm control units. Refer to listee’s Installation Instruction Manual for details.

Date Issued: July 01, 2022
Listing Expires: June 30, 2023

Authorized By: VICTOR WONG, Program Coordinator
Fire Engineering Division
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FSP-951 Series
Intelligent Plug-In Photoelectric Smoke Detectors

General
The NOTIFIER FSP-951 Series intelligent plug-in smoke detectors are designed for both performance and aesthetics. A new modern, sleek, contemporary design and enhanced optical sensing chamber is engineered to sense smoke produced by a wide range of combustion sources in accordance with more stringent code standards. The FSP-951 Series detector sensitivity can be programmed in the control panel software. Sensitivity is continuously monitored and reported to the panel. Point ID capability allows each detector’s address to be set with rotary, decimal address switches, providing exact detector location for selective maintenance when chamber contamination reaches an unacceptable level. Dual electronic thermistors add 135°F (57°C) fixed temperature thermal sensing on the FSP-951T. The FSP-951R is a remote test capable detector for use with DNR Series duct detector housings. FSP-951 series detectors are available for both FlashScan® and CLIP applications as designated.

Features
- New modern profile for improved aesthetics.
- Designed to meet UL268 7th Edition.
- Stable communication technique with noise immunity.
- Low standby current.
- Two-wire SLC connection.
- Compatible with FlashScan® and CLIP protocol systems.
- Rotary, decimal addressing (1-99 on CLIP systems, 1-159 on FlashScan systems).
- Optional remote, single-gang LED accessory.
- Dual LED design provides 360° viewing angle.
- Visible bi-color LEDs blink green every time the detector is addressed, and illuminate steady red on alarm (FlashScan systems only).
- Remote test feature from the panel.
- Walk test with address display (an address on 121 will blink the detector LED: 12-[pause]-1 (FlashScan systems only)).
- Built-in functional test switch activated by external magnet.
- Built-in tamper-resistant feature.
- Sealed against back pressure.
- Expanded color options.
- SEMS screws for wiring of the separate base.
- Optional relay, isolator, and sounder bases.

Specifications
Sensitivity:
- UL Applications: 0.5% to 4.0% per foot obscuration.
- ULC Applications: 0.5% to 3.5% per foot obscuration.
Size: 2.0" (5.3 cm) high; base determines diameter.
  - B300-6: 6.1" (15.6 cm) diameter.
  - B501: 4" (10.2 cm) diameter.
For a complete list of detector bases see DN-60981.
Shipping weight: 3.4oz (96.4g)
Operating Temperature range:
- FSP-951, 0°C to 50°C (32°F to 122°F).
- FSP-951T, 0°C to 38°C (32°F to 100°F).
- FSP-951R installed in a DNR/DNRW, -20°C to 70°C (-4°F to 158°F).

UL/ULC Listed Velocity Range: 0-4000 ft/min. (1219.2 m/min.), suitable for installation in ducts.
Relative Humidity: 10%-93% noncondensing.

DETECTOR SPACING AND APPLICATIONS
NOTIFIER recommends spacing detectors in compliance with NFPA 72. In low airflow applications with smooth ceiling, space detectors 30 feet (9.1m). For specific information regarding detector spacing, placement, and special applications refer to NFPA 72. System Smoke Detector Application Guide, document A05-1003, is available at systemsensor.com

ELECTRICAL SPECIFICATIONS
Voltage Range: 15-32 volts DC peak.
Standby Current (max. avg.): 200μA @ 24VDC (one communication every five seconds with LED enabled).
LED Current (max.): 4.5mA @ 24 VDC (“ON”).

Installation
FSP-951 series plug-in detectors use a separate base to simplify installation, service, and maintenance.
Mount base (all base types) on an electrical backbox which is at least 1.5" (3.81 cm) deep. For a chart of compatible junction boxes, see DN-60981.

NOTE: 1) Because of inherent supervision provided by the SLC loop, end-of-line resistors are not required. Wiring “T-taps” or branches are permitted for Style 4 (Class “B”) wiring. 2) When using relay or sounder bases, consult the ISO-X(A) installation sheet IS6-1380 for device limitations between isolator modules and isolator bases.
Agency Listings and Approvals

These listings and approvals apply to the detectors specified in this document. In some cases, certain detectors or applications may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- UL/ULC Listed: S911
- FM Approved
- CSFM: 7272-0028:0503

Product Line Information

NOTE:

- Detectors must be mounted to one of the Intelligent Bases listed below.
- “A” suffix indicates ULC Listed model.
- “IV” suffix indicates FlashScan® and CLIP device.

FSP-951: White, low-profile intelligent photoelectric sensor, FlashScan only.
FSP-951A: Same as FSP-951 but with ULC listing.
FSP-951-IV: Ivory, low-profile intelligent photoelectric sensor.
FSP-951A-IV: Same as FSP-951-IV but with ULC listing.
FSP-951T: White, same as FSP-951 but includes a built-in 135°F (57°C) fixed-temperature thermal device. FlashScan only.
FSP-951TA: Same as FSP-951T but with ULC listing.
FSP-951T-IV: Ivory, same as FSP-951T but includes a built-in 135°F (57°C) fixed-temperature thermal device.
FSP-951TA-IV: Same as FSP-951TA-IV but with ULC listing.
FSP-951R: White, low-profile intelligent photoelectric sensor, remote test capable. For use with DNR/DNRA. FlashScan only.
FSP-951RA: Same as FSP-951R but with ULC listing. For use with DNRA.
FSP-951R-IV: Ivory, low-profile intelligent photoelectric sensor, remote test capable. For use with DNR/DNRA.
FSP-951RA-IV: Same as FSP-951R-IV but with ULC listing. For use with DNRA.

INTELLIGENT Bases

NOTE: For details on intelligent bases, see DN-60981

B200S-IV: White, same as FSP-951R-IV but with ULC listing. For use with DNRA.
B200S-WH: Same as B200S-IV, ULC listing.

MOUNTING KITS AND ACCESSORIES

TR300: White, replacement flange for B210LP(A) base.
TR300-IV: Ivory, replacement flange for B210LP(A) base.
RA100Z(A): Remote LED annunciator. 3 – 32 VDC. Mounts to a U.S. single-gang electrical box. For use with B501(A) and B300(A)-6.
M02-04-00: Test magnet.
M02-09-00: Test magnet with telescoping handle.
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LISTING No.  7272-0028:0503

CATEGORY:  7272 -- SMOKE DETECTOR-SYSTEM TYPE-PHOTOELECTRIC

LISTEE:  NotifierOne Fire-Lite Place, Northford, CT  06472-1653
        Contact: Lisa Brant (203) 484-6105 Fax (203) 484-7309
        Email: lisa.brant@honeywell.com


Refer to listee's Installation and Maintenance Instruction for additional detailed product description and operational considerations.

RATING:  24 VDC

INSTALLATION:  In accordance with listee's printed installation instructions, applicable codes and ordinances, and in a manner acceptable to the authority having jurisdiction.

MARKING:  Listee's name, model number, electrical rating, and UL label.


NOTE:  The photoelectric type detectors are generally more effective at detecting slow, smoldering fires that smolder for hours before bursting into flame. Sources of these fire may include cigarettes burning in the couched or bedding. The ionization type detectors are generally more effective at detecting fast, flaming fires that consume combustible materials rapidly and spread quickly. Sources of these fires include paper burning in a waste container or a grease fire in the kitchen.

*Revision 1-27-21 VWW

This listing is based upon technical data submitted by the applicant. CSFM Fire Engineering staff has reviewed the test results and/or other data but does not make an independent verification of any claims. This listing is not an endorsement or recommendation of the item listed. This listing should not be used to verify correct operational requirements or installation criteria. Refer to listee's data sheet, installation instructions and/or other

Date Issued:  July 01, 2022  Listing Expires  June 30, 2023

Authorized By:  VICTOR WONG, Program Coordinator

Fire Engineering Division
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Series: InnovairFlex
Type: Flex Accessories
Model: DSTX (DST1-DST10)
Description: Metal sampling tube duct widths 1 ft to 12 ft

Specifications: DSTX
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Intelligent Non-Relay Photoelectric Duct Smoke Detector

The InnovairFlex™ Series are the only duct smoke detectors flexible enough to fit configurations from square to rectangular and everything in between.

Features

- Photoelectric, integrated low-flow technology (detector head sold separately)
- Air velocity rating from 100 ft/min to 4000ft/min (0.5m/s to 20.32m/sec)
- Versatile mounting options: square or rectangular configuration
- Broad ranges for operating temperature (−4°F to 158°F) and humidity (0% to 95% non-condensing)
- Patented sampling tube installs from front or back of the detector with no tools required
- New Cover tamper signal
- Increased wiring space with a newly added ¾-inch conduit knockout
- Available space within housing to accommodate mounting of relay module
- Easily accessible code wheels on sensor head (sold separately)
- Clear cover for convenient visual inspection
- UL 268A listed
- Remote testing capability
- Requires com line power only
- NEMA Type 4 UL listed for non-hazardous indoor and outdoor applications (DNRW only)
- UV Resistant, UL listed housing and cover material (DNRW only)

The InnovairFlex DNR intelligent non-relay photoelectric duct smoke detector and DNRW watertight non-relay photoelectric duct smoke detector feature a pivoting housing that fits both square and rectangular footprints capable of mounting to a round or rectangular duct.

DNRW duct smoke detector, with its NEMA 4 rating, is listed as a watertight enclosure providing protection against falling dirt, rain, and windblown dust, splashing and hose directed water, allowing operators to use the detector in the most extreme environments.

These units sense smoke in the most challenging conditions, operating in airflow speeds of 100 to 4000 feet per minute, temperatures of −4°F to 158°F, and a humidity range of 0 to 95 percent (non-condensing).

An improved cover design isolates the sensor head from the low-flow feature for simple maintenance. A cover tamper feature was added to indicate a trouble signal for a removed or improperly installed sensor cover. The InnovairFlex housing provides a ¾-inch conduit knockout and ample space to facilitate easy wiring and mounting of relay module.

The InnovairFlex duct smoke detector can be customized to meet local codes and specifications without additional wiring. The new InnovairFlex product line is compatible with all previous Innovair models, including remote test accessories.

WARNING: Duct smoke detectors have specific limitations.

DUCT SMOKE DETECTORS ARE:

NOT a substitute for an open area smoke detector,
NOT a substitute for early warning detection, and
NOT a replacement for a building’s regular fire detection system. Refer to NFPA 72 and 90A for additional duct smoke detector application information.
# InnovairFlex Duct Smoke Detector Specifications

## Architectural/Engineering Specifications
The air duct smoke detector shall be a System Sensor InnovairFlex™ DNR Intelligent Non-Relay Photoelectric Duct Smoke Detector and DNRW Watertight NEMA4 Duct Smoke Detector. The detector housing shall be UL listed per UL 268A specifically for use in air handling systems. The flexible housing of the duct smoke detector fits both square and rectangular footprints. The detector shall operate at air velocities of 100 ft/min to 4000 ft/min (0.5 m/sec to 20.32 m/sec). The unit shall be capable of providing a trouble signal in the event that the sensor cover is removed or improperly installed. It shall be capable of local testing via magnetic switch or remote testing using the RTS451KEY/RTS151KEY remote test station. Terminal connections shall be of the strip and clamp method suitable for 12–18 AWG wiring.

### Physical Specifications
<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size: (Rectangular)</td>
<td>14.38 in (37 cm) Length, 5 in (12.7 cm) Width, 2.5 in (6.6 cm) Depth</td>
</tr>
<tr>
<td>(Square)</td>
<td>7.75 in (19.7cm) Length, 9 in (22.9cm) Width, 2.5 in (6.35cm) Depth</td>
</tr>
<tr>
<td>Weight:</td>
<td>1.6 lb (0.73 kg)</td>
</tr>
<tr>
<td>Environmental Rating:</td>
<td>NEMA4 (DNRW only)</td>
</tr>
<tr>
<td>Operating Temperature Range:</td>
<td>–4°F to 158°F (–20°C to 70°C)</td>
</tr>
<tr>
<td>Storage Temperature Range:</td>
<td>–22°F to 158°F (–30°C to 70°C)</td>
</tr>
<tr>
<td>Operating Humidity Range:</td>
<td>0% to 95% relative humidity (non-condensing)</td>
</tr>
<tr>
<td>Air Duct Velocity:</td>
<td>100 to 4000 ft/min (0.5 to 20.32 m/s)</td>
</tr>
<tr>
<td>DCOIL (if included):</td>
<td>17.5 – 26.4 VDC, 95 mA max</td>
</tr>
</tbody>
</table>

## Electrical Ratings
Please see detector head installation manual for electrical specifications

### Accessory Current Loads at 24 VDC

<table>
<thead>
<tr>
<th>Device</th>
<th>Standby</th>
<th>Alarm</th>
</tr>
</thead>
<tbody>
<tr>
<td>RA400Z/RA100Z</td>
<td>0 mA</td>
<td>12 mA Max</td>
</tr>
<tr>
<td>RTS451/RTS451KEY</td>
<td>0 mA</td>
<td>12 mA Max</td>
</tr>
<tr>
<td>RTS151/RTS151KEY</td>
<td>0 mA</td>
<td>12 mA Max</td>
</tr>
</tbody>
</table>

## Installing the InnovairFlex Sampling Tube
The InnovairFlex sampling tube may be installed from the front or back of the detector. The tube locks securely into place and can be removed by releasing the front or rear locking tab (front locking tab shown below right).
Wiring for Intelligent Non-Relay Duct Smoke Detector

System wiring diagram for DNR:

DNR to RA400Z/RA100Z:

DNR to RTS451/RTS451KEY/RTS151/RTS151KEY with "R" Remote Test Capable Detector Head Option:

DNR to RTS451/RTS451KEY/RTS151/RTS151KEY with DCOIL Option:

*Important Notes

• The use of either RTS451/RTS151 or RTS451KEY/RTS151KEY requires the installation of an accessory coil, DCOIL, sold separately. Please refer to the DNR or DNRW installation manual for more information.

• The RTS451/RTS451KEY/RTS151/RTS151KEY test coil circuit requires an external 24 VDC power supply which must be UL listed.
Accessories
System Sensor provides system flexibility with a variety of accessories, including two remote test stations and different means of visible and audible system annunciation. As with our duct smoke detectors, all duct smoke detector accessories are UL listed.

Accessories

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>RTS151</td>
<td>RTS151 UL S2522</td>
</tr>
<tr>
<td>RTS151KEY</td>
<td>RTS151KEY UL S2522</td>
</tr>
<tr>
<td>RA100Z</td>
<td>RA100Z UL S2522</td>
</tr>
</tbody>
</table>

Ordering Information

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>DNR</td>
<td>Intelligent non-relay photoelectric low-flow duct smoke detector</td>
</tr>
<tr>
<td>DNRW</td>
<td>Watertight intelligent non-relay photoelectric low-flow duct smoke detector</td>
</tr>
<tr>
<td>DCOIL</td>
<td>Remote test coil required with RTS451/RTS451KEY/RTS151/RTS151KEY</td>
</tr>
<tr>
<td>DST1</td>
<td>Metal sampling tube duct width up to 1 ft (0.3 m)</td>
</tr>
<tr>
<td>DST1.5</td>
<td>Metal sampling tube duct widths 1 ft to 2 ft (0.3 to 0.6 m)</td>
</tr>
<tr>
<td>DST3</td>
<td>Metal sampling tube duct widths 2 ft to 4 ft (0.6 to 1.2 m)</td>
</tr>
<tr>
<td>DST5</td>
<td>Metal sampling tube duct widths 4 ft to 8 ft (1.2 to 2.4 m)</td>
</tr>
<tr>
<td>DST10</td>
<td>Metal sampling tube duct widths 8 ft to 12 ft (2.4 to 3.7 m)</td>
</tr>
<tr>
<td>DH400OE-1</td>
<td>Weatherproof enclosure</td>
</tr>
<tr>
<td>ETX</td>
<td>Metal exhaust duct width 1 ft (0.3 m)</td>
</tr>
<tr>
<td>M02-04-00</td>
<td>Test magnet</td>
</tr>
<tr>
<td>P48-21-00</td>
<td>End cap for metal sampling tubes</td>
</tr>
<tr>
<td>RA400Z/RA100Z</td>
<td>Remote annunciator alarm LED</td>
</tr>
<tr>
<td>RTS451/RTS151</td>
<td>Remote test station</td>
</tr>
<tr>
<td>RTS451KEY/RTS151KEY</td>
<td>Remote test station with key lock</td>
</tr>
</tbody>
</table>
LISTING No. 3240-1653:0209

CATEGORY: 3240 -- DUCT SMOKE DETECTOR HOUSING/BASE

LISTEE: System Sensor, Unincorporated Div of Honeywell Int'l Inc.3825 Ohio Ave, St. Charles, IL 60174
Contact: Lisa Brant (203) 484-6105 Fax (203) 484-7309
Email: lisa.brant@honeywell.com

DESIGN: Models DNR, DNRW, DRH and DNRECL* analog photoelectric duct smoke detector housings. The units consist of a duct detector housing, exhaust tubes, and separately listed compatible detector head. Model DNRW is a Type 4(NEMA4) watertight enclosure. Refer to listee's data sheet for additional detailed product description and operational considerations.

RATING: 24 VDC

INSTALLATION: In accordance with listee's printed installation instruction, applicable codes and ordinances and in a manner acceptable to the authority having jurisdiction.

MARKING: Listee's name, model number, rating, air velocity and UL label.

APPROVAL: Listed as conventional photoelectric duct smoke detector housing for use with separately listed fire alarm control units. Refer to listee's Installation Instruction Manual for details.

Date Issued: July 01, 2022  Listing Expires June 30, 2023

Authorized By: VICTOR WONG, Program Coordinator
Fire Engineering Division
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GENERAL

The NOTIFIER ISO-X Fault Isolator Module is used with the NFS-3030, AM2020, AFP1010, NFS-640, AFP-400, AFP-300, AFP-200, AFP-100 and System 5000 (equipped with an AIM-200 module) to protect the system against wire-to-wire short circuits on the SLC loops.

FEATURES

- Powered by SLC loop directly, no external power required.
- Mount in standard 4.0” (10.16 cm) square (2.125” [5.398 cm] deep) junction boxes.
- Integral LED blinks to indicate normal condition. Illuminates steady when short circuit condition is detected.
- High noise (EMF/RFI) immunity.
- Wide viewing angle of LED.
- SEMS screws with clamping plates for ease of wiring.
- Opens SLC loop automatically on detection of short, preventing the short from causing failure of the entire loop.
- Automatically resets on correction of short.
- Supports Style 4, 6, or 7 wiring.

APPLICATIONS

The Fault Isolator Modules should be spaced between groups of sensors in a loop to protect the rest of the loop. Use to isolate short circuit problems within a section of a loop so that other sections can continue to operate normally. The ISO-X supports a maximum of 25 devices in-between isolators, except when using relay bases or IPX multisensors.

NOTE ON LOADS PER RELAY BASE AND MULTISENSOR DETECTORS/ISOLATORS/ISOLATOR BASES:

The maximum number of addressable devices between isolators (or B224Bi isolator bases) is 25 devices.

25 DEVICES

B224RB relay bases and IPX-751 multisensor detectors draw more current than all other intelligent devices. When calculating the 25-device maximum:

- B224RB represents 2.5 DEVICES.
- IPX-751 in a standard base represents 12 DEVICES.
- IPX-751 in a relay base represents 14.5 DEVICES.
- All other addressable devices represent 1 DEVICE.

See examples on page 2.

NOTE ON MAXIMUM NUMBER OF DEVICES: Up to 100 ISO-X modules and/or bases can be used per Signaling Line Circuit (SLC) without loss of additional module addresses due to current limitations. Each module or base added beyond 100 units reduces the capacity of an SLC by two address positions. All SLC field devices must have been purchased after February 1995 to meet the aforementioned requirements. If the SLC field devices were purchased prior to February 1995, each ISO-X used reduces the capacity of an SLC by two address positions. Requirements differ as applied to relay bases (see note above).
CONSTRUCTION

The face plate is made of off-white plastic. Includes yellow LED indicator that pulses when normal and illuminates steady when a short is detected.

OPERATION

Automatically opens circuit when the line voltage drops below four volts. Fault Isolator Modules should be spaced between groups of addressable devices (maximum 25, see notes on page 1) in a loop to protect the rest of the loop. If a short occurs between any two isolators, then both isolators immediately switch to an open circuit state and isolate the groups of sensors between them. The remaining units on the loop continue to fully operate.

In Style 4 loops, the ISO-X is generally used at each T-tap branch, to limit the effect of short circuits on a branch to the devices on that branch. The LED indicator is on continuously during a short circuit condition.

The ISO-X Fault Isolator Module automatically restores the shorted portion of the communications loop to normal condition when the short circuit condition is removed.

INSTALLATION

- Mount on a standard 4" (10.16 cm) mounting junction box which is at least 2.125" (5.398 cm) deep.
- Terminal screws are provided for “in and out” wiring.
- Installation instructions are provided with each module.
- Surface-mount box is available as an option.

SPECIFICATIONS

<table>
<thead>
<tr>
<th>Operating voltage: 15 – 32 VDC (peak).</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current range: 5 mA for LED latched in alarm.</td>
</tr>
<tr>
<td>Standby current: 400 µA maximum, plus supervision current.</td>
</tr>
<tr>
<td>Pulsing current: 30 mA for 15 ms (CMX-1, CMX-2, FCM-1).</td>
</tr>
<tr>
<td>Temperature range: 32°F to 120°F (0°C to 49°C).</td>
</tr>
<tr>
<td>Relative humidity: 10% to 93%.</td>
</tr>
<tr>
<td>Weight: 150 grams (5 oz.).</td>
</tr>
</tbody>
</table>

PRODUCT LINE INFORMATION

ISO-X Isolator Module.
SMB500 Surface Mount Backbox.

ARCHITECTURAL/ENGINEERING SPECIFICATIONS

Fault Isolator Modules shall be provided to automatically isolate wire-to-wire short circuits on an SLC loop. The Fault Isolator Module shall limit the number of modules or detectors that may be rendered inoperative by a short circuit fault on the SLC Loop. If a wire-to-wire short occurs, the Fault Isolator Module shall automatically open-circuit (disconnect) the SLC loop. When the short circuit condition is corrected, the Fault Isolator Module shall automatically reconnect the isolated section of the SLC loop. The Fault Isolator Module shall not require any address-setting, and its operations shall be totally automatic. It shall not be necessary to replace or reset a Fault Isolator Module after its normal operation. The Fault Isolator Module shall mount in a standard 4.0" (10.16 cm) deep electrical box, in a surface-mounted backbox, or in the Fire Alarm Control Panel. It shall provide a single LED which shall flash to indicate that the Isolator is operational and shall illuminate steadily to indicate that a short circuit condition has been detected and isolated.

EXAMPLES OF DEVICE COUNTS

(see notes under Applications on page 1)

| EXAMPLE 1 | 2243dia2.wmf |
| ISO Module | FAPT-851 with standard base | detector with relay base | module | IPX-751 with standard base | ISO Module |
| 1 | 3.5 | 1 | 12 | 17.5 | (less than 25 total) |

| EXAMPLE 2 | 2243dia3.wmf |
| ISO Base | module | detector with relay base | module | detector with relay base | ISO Base |
| 12 | 1 | 1 | 3.5 | 1 | 0 | 18.5 | (less than 25 total) |

| EXAMPLE 3 | 2243dia4.wmf |
| ISO Module | detector with standard base | detector with relay base | IPX-751 with relay base | module | ISO Module |
| 1 | 3.5 | 14.5 | 1 | 20 | (less than 25 total) |
LISTING No. 7300-0028:0261

CATEGORY: 7300 -- FIRE ALARM CONTROL UNIT ACCESSORIES/MISC. DEVICES

LISTEE: NotifierOne Fire-Lite Place, Northford, CT 06472-1653
Contact: Lisa Brant (203) 484-6105 Fax (203) 484-7309
Email: lisa.brant@honeywell.com


RATING: 15-32 VDC

INSTALLATION: In accordance with listee's printed installation instructions, applicable codes and ordinances and in a manner acceptable to the authority having jurisdiction.

MARKING: Listee's name, model number, electrical rating, and UL label.

APPROVAL: Listed as control unit accessories for use with separately listed Notifier Fire Alarm Control units. Refer to listee's Installation Instruction Manual for details.

NOTE: FORMERLY: 7300-1653:192

*Rev. 08-11-2009 fm
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The BB-XP Cabinet is hinged on the left, and is shipped assembled with a chassis installed. Below are the cabinet dimensions for installation.
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LISTING No.: 7300-0028:0262

CATEGORY: 7300 -- FIRE ALARM CONTROL UNIT ACCESSORIES/MISC. DEVICES

LISTEE: NotifierOne Fire-Lite Place, Northford, CT 06472-1653
Contact: Lisa Brant (203) 484-6105 Fax (203) 484-7309
Email: lisa.brant@honeywell.com

Refer to listee's data sheet for additional detailed product description and operational considerations.

INSTALLATION: In accordance with listee's printed installation instructions, applicable codes and ordinances and in a manner acceptable to the authority having jurisdiction.

MARKING: Listee's name, model designation, electrical rating and UL label.

APPROVAL: Listed as an accessory for use with listee's separately listed compatible fire alarm control units. Authority having jurisdiction should be consulted prior to installation.

NOTE: Formerly 7300-0028:194
General
The PS Series is a remote power supply line from NOTIFIER. The PSE-6(C)(E) is a 6 amp and the PSE-10(C)(E) is a 10 amp, remote power supply with battery charger that may be connected to any 12 or 24 volt fire alarm control panel (FACP) or used as a standalone power supply. The PS Series provides 24 VDC power for NACs (notification appliance circuits) configured as either Class B or Class A (requires the ZNAC-PS option card) with multiple sync protocol options. The PS Series also provides auxiliary power, constant or resettable, suited for detectors, annunciators, door holders, and other fire alarm system peripherals. The PS Series cabinet can hold two 7 AH or 18 AH batteries and can charge up to 33 AH batteries in a separate cabinet. The PSE-6E and PSE-10E are models rated for 240V operation.

Features
• Up to five (6 amp model) or seven (10 amp model) independently-configurable, power-limited output circuits for:
  – Class B and/or Class A NACs
  – Class B and/or Class A resettable or non-resettable 24V auxiliary power
  – door holder power
• Converts from Class B to Class A wiring without losing any outputs using the ZNAC-PS converter card (sold separately)
• Optimal for powering four-wire smoke detectors, annunciators, and other system peripherals requiring regulated power
• Configurable for ANSI® Temporal 3 or Temporal 4 coded output
• UL-Listed NAC synchronization using System Sensor®, Wheelock®, Gentex®, or AMSECO® appliances
• Synchronization can be triggered from FACP NAC/remote sync outputs, cascaded power supply, or a control module, single or multi, which may be housed within the power supply cabinet
• Ability to cascade up to four power supplies
• Two (6 amp model) or three (10 amp model) fully-isolated input/ control circuits which can be programmed to any output
• Two Form C normally-closed trouble relays for AC Trouble and General Trouble, Ground Fault relay available on Canadian models only
• 6 or 10 amp full load output, respectively, with 3 A maximum/circuit
• Individual NAC power and trouble LEDs for diagnostic efficiency
• Trouble history modes for diagnostic support
• Wide range end-of-line supervision value (normal: 2K-27K ohms)
• Selectable earth fault detection (enable or disable)
• AC trouble report delay timer
• Completely configurable via onboard DIP switches, no extra software required
• Self-contained in compact, locking cabinet constructed of heavy gauge steel with a corrosion-resistant powder coat chip and scratch-resistant finish
• Cabinet designed with ten double knockouts and a removable door for ease of installation and wiring
• Includes integral battery charger capable of charging up to 33 AH batteries
• Cabinet can house two 7 AH or 18 AH batteries
• Battery charger may be disabled via DIP switch for applications requiring larger batteries and external battery charger
• Removable terminal blocks accommodate up to 12 AWG (3.1mm²) wire
• Works with any UL 864 FACP which utilizes an industry-standard reverse-polarity notification circuit
• Optional devices include addressable control, monitor, and relay modules and power-supervision relay (EOLR-1)

Standards and Codes
The PSE Series comply with the following standards:
• NFPA 72 National Fire Alarm Code
• UL 864 Standard for Control Units for Fire Alarm Systems (NAC expander mode), 10th Edition
• UL 1481 Power Supplies for Fire Alarm Systems
• IBC 2009 (when using SEISKIT-MULTI-1)
• CBC 2007 (when using SEISKIT-MULTI-1)

Agency Listings and Approvals
These listings and approvals apply to the modules specified in this document. In some cases, certain modules or applications may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.
• UL Listed: S635, S674
• ULC Listed: S635 (PSE-6/10C)
• CSFM Approved: 7315-0028:0513
• FDNY Approved
• FM Approved
**SPECIFICATIONS**

**Primary (AC) Power:**
- **PSE-6(C):** 120 VAC, 50/60 Hz, 5.0 A maximum
- **PSE-10(C):** 120 VAC, 50/60 Hz, 6.2 A maximum
- **PSE-6E:** 240 VAC, 50/60 Hz, 2.7 A maximum
- **PSE-10E:** 240 VAC, 50/60 Hz, 3.5 A maximum
- **Wire Size:** #12-14 AWG with 600 V insulation

**Command Input Circuit:**
- **Trigger Input Voltage:** 9 to 32 VDC
- **Trigger Current:** 2.0 mA (16 - 32 V); Per Input: 1.0 mA (9 - 16 V)
- **Trouble Contact Rating:** 4 A at 24 VDC

**Output Circuits:**
- 24 VDC filtered, regulated
- **PSE-6:** TB8-TB9 – 1A Regulated, 3A special applications; TB10-TB12 – 0.3A Regulated, 3A special applications
- **PSE-10:** TB8-TB11 – 1.5A Regulated, 3A special applications; TB12-TB14 – 0.3A Regulated, 3A special applications
- **6.0 A (PSE-6) or 10.0 A (PSE-10) maximum total continuous current for all outputs**

**Secondary Power (Battery) Charging Circuit:**
- Supports lead-acid batteries only
- Float-charge voltage: 27.6 VDC
- **Maximum current charge:** 1.5 A
- **Maximum battery capacity:** 18 AH (inside cabinet)
- **Maximum battery charging capacity:** 33 AH (external cabinet)

**Physical:**
- **Dimensions:** 20.0”H x 14.5”W x 3.5”D (cm: 50.8H x 36.83W x 8.9D)
- **Weight:** with two 7Ah batteries is 24 pounds (10.9 kg), with two 18 AH batteries is 39 pounds (17.7 kg)

**Ordering Information**
- **PSE-6:** 6.0 A, 120 VAC remote charger power supply in a lockable, metal enclosure
- **PSE-6C:** Same as above, ULC-listed model
- **PSE-6R:** Same as PSE-6 with red enclosure
- **PSE-6E:** 6.0 A, 240 VAC remote charger power supply in a lockable, metal enclosure
- **PSE-10:** 10.0 A, 120 VAC remote charger power supply in a lockable, metal enclosure
- **PSE-10C:** Same as above, ULC-listed model
- **PSE-10R:** Same as PSE-10 with red enclosure
- **PSE-10E:** 10.0 A, 240 VAC remote charger power supply in a lockable, metal enclosure
- **ZNAC-PS:** Optional Class A output converter module
- **FCM-1:** Addressable Control Module for one Class B or Class A zone of supervised, polarized Notification Appliances. Notification Appliance Circuit option requires external 24 VDC to power notification appliances.
- **FRM-1:** Addressable relay module containing two isolated sets of Form-C contacts, which operate as a DPDT switch
- **FMM-1:** Addressable Monitor Module for one zone of normally open dry-contact initiating devices. Includes plastic cover plate and end-of-line resistor. Module may be configured for either a Class B or Class A IDC.
- **FDM-1:** Dual Monitor Module. Same as FMM-1 except it provides two inputs for Class B wiring only
- **FDRM-1:** Provides two monitored inputs and two Form-C relays. Functions in Class B wiring only.
- **XP6-C:** Six-circuit supervised control module
- **XP6-R:** Six Form-C relay control module
- **EOLR-1:** 12/24 VDC end-of-line relay for monitoring four-wire smoke detector power
- **BAT-1270:** Battery, 12 volt, 7.0 AH (two required, see BAT Series data sheet DN-6933),
- **BAT-12180:** Battery, 12 volt, 18 AH
- **BAT-12330:** Battery, 12 volt, 33 AH
- **SEISKIT-MULTI-1:** Seismic kit for the FL-PSE Series. Includes bracket and hardware for two 7AH or two 18AH batteries.
LISTING No. 7315-0028:0513

CATEGORY: 7315 -- POWER UNITS

LISTEE: NotifierOne Fire-Lite Place, Northford, CT 06472-1653
Contact: Lisa Brant (203) 484-6105 Fax (203) 484-7309
Email: lisa.brant@honeywell.com

DESIGN: Models PSE-6, PSE-6E, PSE-6R, PSE-10, PSE-10E, and PSE-10R Power Supply
Expander. Model ZNAC-PS Class A Converter Module. The PSE series are remote power
supply and battery charger units which also provide programmable synchronized Class B
NAC's.

Model Variations:
- All PSE-6 Models: Maximum 6A Capacity; 5 Class B NAC's; 2 Command Inputs; Trouble
  and AC Loss Relays
- All PSE-10 Models: Maximum 10A Capacity; 7 Class B NAC's; 3 Command Inputs; Trouble
  and AC Loss Relays
- With Suffix "E": Nominal 240V, 50/60 Hz AC Input
- Without Suffix "E": Nominal 120V, 50/60 Hz AC Input
- With Suffix "R": Red Enclosure
- Without Suffix "R": Black Enclosure
- Model ZNAC-PS: Optional Class A Conversion Module

Refer to listee's printed data sheet for detailed product description and operational
considerations.

RATING:
- Models PSE-6 and PSE-6E: 120V AC, 50/60 Hz, 5.0A Maximum
- Models PSE-6E: 240V AC, 50/60 Hz, 2.7A Maximum
- Models PSE-10 and PSE-10R: 120V AC, 50/60 Hz, 6.2A Maximum
- Models PSE-10E: 240V AC, 50/60 Hz, 3.5A Maximum
- Model ZNAC-PS: 24V DC

INSTALLATION: In accordance with listee's printed installation instructions, applicable codes and ordinances,
and in a manner acceptable to the authority having jurisdiction.

MARKING: Listee's name, model number, electrical rating, and UL label.

APPROVAL: Listed as a power supply extender when used with separately listed compatible fire alarm
control units. Refer to listee's Installation Instruction Manual for details.

Date Issued: July 01, 2022
Listing Expires June 30, 2023

Authorized By: VICTOR WONG, Program Coordinator
Fire Engineering Division
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FCM-1(A) & FRM-1(A) Series
Control and Relay Modules

General
FCM-1(A) Control Module: The FCM-1(A) Addressable Control Module provides Notifier intelligent fire alarm control panels a circuit for Notification Appliances (horns, strobes, speakers, etc.) Addressability allows the FCM-1(A) to be activated, either manually or through panel programming, on a select (zone or area of coverage) basis.

FRM-1(A) Relay Module: The FRM-1(A) Addressable Relay Module provides the system with a dry-contact output for activating a variety of auxiliary devices, such as fans, dampers, control equipment, etc. Addressability allows the dry contact to be activated, either manually or through panel programming, on a select basis.

FlashScan® (U.S. Patent 5,539,389) is a communication protocol developed by NOTIFIER Engineering that greatly enhances the speed of communication between analog intelligent devices. Intelligent devices communicate in a grouped fashion. If one of the devices within the group has new information, the panel CPU stops the group poll and concentrates on single points. The net effect is response speed greater than five times that of other designs.

Features
• Built-in type identification automatically identifies these devices to the control panel.
• Internal circuitry and relay powered directly by two-wire SLC loop. The FCM-1(A) module requires power (for horns, strobes, etc.), or audio (for speakers).
• Integral LED “blinks” green each time a communication is received from the control panel and turns on in steady red when activated.
• LED blink may be deselected globally (affects all devices).
• High noise immunity (EMF/RFI).
• The FCM-1(A) may be used to switch 24-volt NAC power, audio (up to 70.7 Vrms).
• Wide viewing angle of LED.
• SEMS screws with clamping plates for wiring ease.
• Direct-dial entry of address 01–159 for FlashScan loops, 01–99 for CLIP mode loops.
• Speaker, and audible/visual applications may be wired for Class B or A (Style Y or Z).

Applications
The FCM-1(A) is used to switch 24 VDC audible/visual power, high-level audio (speakers), or control telephone devices. The FRM-1(A) may be programmed to operate dry contacts for applications such as door holders or Air Handling Unit shutdown, and to reset four-wire smoke detector power.

NOTE: Refer to the SLC Manual (PN 51253) for details regarding releasing applications with the FCM-1(A). Refer to the FCM-1-REL datasheet (DN-60390) for new FlashScan® releasing applications.

Operation
Each FCM-1(A) or FRM-1(A) uses one of 159 possible module addresses on a SLC loop (99 on CLIP loops). It responds to regular polls from the control panel and reports its type and status, including the open/normal/short status of its Notification Appliance Circuit (NAC). The LED blinks with each poll received. On command, it activates its internal relay. The FCM-1(A) supervises Class B (Style Y) or Class A (Style Z) notification or control circuits. Upon code command from the panel, the FCM-1(A) will disconnect the supervision and connect the external power supply in the proper polarity across the load device. The disconnection of the supervision provides a positive indication to the panel that the control relay actually turned ON. The external power supply is always relay isolated from the communication loop so that a trouble condition on the external power supply will never interfere with the rest of the system. Rotary switches set a unique address for each module. The address may be set before or after mounting. The built-in TYPE CODE (not settable) will identify the module to the control panel, so as to differentiate between a module and a sensor address.

Specifications for FCM-1(A)
Normal operating voltage: 15 to 32 VDC.
Maximum current draw: 6.5 mA (LED on).
Average operating current: 350 μA direct poll, 375 μA group poll with LED flashing, 485 μA Max. (LED flashing, NAC shorted.)
Maximum NAC Line Loss: 4 VDC.

External supply voltage (between Terminals T10 and T11): Maximum (NAC): Regulated 24 VDC; Maximum (Speakers): 70.7 V RMS, 50W.

Drain on external supply: 1.7 mA maximum using 24 VDC supply; 2.2 mA Maximum using 80 VRMS supply.

Max NAC Current Ratings: For class B wiring system, the current rating is 3A; For class A wiring system, the current rating is 2A.

Temperature range: 32°F to 120°F (0°C to 49°C).

Humidity range: 10% to 93% non-condensing.

Dimensions: 4.5” (114.3 mm) high x 4” (101.6 mm) wide x 1.25” (31.75 mm) deep. Mounts to a 4” (101.6 mm) square x 2.125” (53.975 mm) deep box.

Accessories: SMB500 Electrical Box; CB500 Barrier

**Specifications for FRM-1(A)**

Normal operating voltage: 15 to 32 VDC.

Maximum current draw: 6.5 mA (LED on).

Average operating current: 230 μA direct poll; 255 μA group poll.

EOL resistance: not used.

Temperature range: 32°F to 120°F (0°C to 49°C).

Humidity range: 10% to 93% non-condensing.

Dimensions: 4.5” (114.3 mm) high x 4” (101.6 mm) wide x 1.25” (31.75 mm) deep. Mounts to a 4” (101.6 mm) square x 2.125” (53.975 mm) deep box.

Accessories: SMB500 Electrical Box; CB500 Barrier

**Agency Listings and Approvals**

In some cases, certain modules may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- UL: S635
- ULC: S7557 (A version only)
- FM Approved
- CSFM: 7300-0028:202
- MEA: 14-00-E

**Contact Ratings for FRM-1(A)**

<table>
<thead>
<tr>
<th>Current Rating</th>
<th>Maximum Voltage</th>
<th>Load Description</th>
<th>Application</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 A</td>
<td>30 VDC</td>
<td>Resistive</td>
<td>Non-Coded</td>
</tr>
<tr>
<td>2 A</td>
<td>30 VDC</td>
<td>Resistive</td>
<td>Coded</td>
</tr>
<tr>
<td>.9 A</td>
<td>110 VDC</td>
<td>Resistive</td>
<td>Non-Coded</td>
</tr>
<tr>
<td>.9 A</td>
<td>125 VDC</td>
<td>Resistive</td>
<td>Non-Coded</td>
</tr>
<tr>
<td>.5 A</td>
<td>30 VDC</td>
<td>Inductive</td>
<td>Coded</td>
</tr>
<tr>
<td>1 A</td>
<td>30 VDC</td>
<td>Inductive</td>
<td>Coded</td>
</tr>
<tr>
<td>.3 A</td>
<td>125 VDC</td>
<td>Inductive</td>
<td>Non-Coded</td>
</tr>
<tr>
<td>1.5 A</td>
<td>25 VDC</td>
<td>Inductive</td>
<td>Non-Coded</td>
</tr>
<tr>
<td>.7 A</td>
<td>70.7 VDC</td>
<td>Inductive</td>
<td>Non-Coded</td>
</tr>
<tr>
<td>2 A</td>
<td>25 VDC</td>
<td>Inductive</td>
<td>Non-Coded</td>
</tr>
</tbody>
</table>

**NOTE:** Maximum (Speakers): 70.7 V RMS, 50 W

**Product Line Information**

**NOTE:** “A” suffix indicates ULC Listed model.

FCM-1(A): Intelligent Addressable Control Module.


A2143-20: Capacitor, required for Class A (Style Z) operation of speakers.

SMB500: Optional Surface-Mount Backbox.

CB500: Control Module Barrier — required by UL for separating power-limited and non-power limited wiring in the same junction box as FCM-1(A).

**NOTE:** For installation instructions, see the following documents:

- FCM-1(A) Installation document I56-1169.
- FRM-1(A) Installation document I56-3502.
LISTING No.: 7300-0028:0219

CATEGORY: 7300 -- FIRE ALARM CONTROL UNIT ACCESSORIES/MISC. DEVICES

LISTEE: NotifierOne Fire-Lite Place, Northford, CT 06472-1653
Contact: Lisa Brant (203) 484-6105 Fax (203) 484-7309
Email: lisa.brant@honeywell.com

DESIGN: Models XP6-R relay module, XP6-C, supervising control module, XP10-M input monitor module, XP6-MA six zone interface module, FMM-1, FMM-101, FZM-1, FSM-101, FDM-1, FTM-1 monitor modules, FCM-1, FRM-1 control modules, and *FDRM-1 with 2 input/2 output relay module. All devices are intended to be connected between the signaling line circuit of a compatible fire alarm control panel. Refer to listee's data sheet for additional detailed product description and operational considerations.

RATING: 16-33 VDC Primary

INSTALLATION: In accordance with listee's printed installation instructions, applicable codes & ordinances and in manner acceptable to the authority having jurisdiction.

MARKING: Listee's name, product number and UL label.

APPROVAL: Listed as control unit accessories for use with listee's separately listed compatible fire alarm control units. Model FTM-1 is intended to be used with Notifier Models NFS-640, NFS2-640 (CSFM Listing No. 7165-0028:214), NFS-3030, NFS2-3030 (CSFM Listing No. 7165-0028:224) Fire Alarm Control Units.

NOTE: If an external power supply is used for Model XP6-MA, the negative of the external power supply is referenced to the negative of the auxiliary supply of the compatible control panel. This is done in order to detect ground faults on the initiating circuit.

July 01, 2022        Listing Expires        June 30, 2023

Authorized By: VICTOR WONG, Program Coordinator
Fire Engineering Division
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### BAT Series Batteries

**Sealed Lead-Acid or Gell Cell**

#### General

**BAT Series Batteries** feature a new part-numbering/listing system — providing an improved method of delivery for NOTIFIER-approved sealed lead-acid batteries for all your fire alarm system needs. Multiple brands of batteries are now offered under generic part numbers, reducing backorder situations and permitting us to deliver these products in a more timely fashion. NOTIFIER has approved the multiple brands listed below as possible product shipped for a given part number. Please note that any incoming orders for “PS Series” batteries will be converted to the equivalent BAT Series part numbers.

#### Features
- Provide secondary power for control panels.
- Sealed and maintenance-free.
- Overcharge protected.
- Easy handling with leakproof construction.
- Ruggedly constructed, high-impact case (ABS, polystyrene, or polypropylene, depending on models).
- Long service life.
- Compact design.

#### Agency Listings and Approvals

The listings and approvals below apply to BAT Series Batteries. In some cases, certain modules may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- **UL Recognized Components**: files MH19884 (B & B Battery), MH20567 (UPG, previously Jolt), MH20845 (Power-Sonic).

#### Part Number Reference

<table>
<thead>
<tr>
<th>CURRENT Part Number</th>
<th>BATTERY DESCRIPTION</th>
<th>ALTERNATES APPROVED: manufacturers and P/Ns shipped under BAT P/Ns</th>
</tr>
</thead>
<tbody>
<tr>
<td>BAT-1250 12 V, 5 AH, sealed.</td>
<td>BP5-12 (B&amp;B Battery); PS-1250 (Power-Sonic); SA1250 (Jolt) to be replaced with UB1250 (UPG).</td>
<td></td>
</tr>
<tr>
<td>BAT-1250 12 V, 5 AH, sealed.</td>
<td>BP5-12 (B&amp;B Battery); PS-1250 (Power-Sonic); SA1250 (Jolt) to be replaced with UB1250 (UPG).</td>
<td></td>
</tr>
<tr>
<td>BAT-1270 12 V, 7 AH, sealed.</td>
<td>BP7-12 (B&amp;B Battery); PS-1270 (Power-Sonic); SA1272 (Jolt) to be replaced with UB1270 (UPG).</td>
<td></td>
</tr>
<tr>
<td>BAT-12120 12 V, 12 AH, sealed.</td>
<td>BP12-12 (B&amp;B Battery); PS-12120 (Power-Sonic); SA12120 (Jolt) to be replaced with UB12120 (UPG).</td>
<td></td>
</tr>
<tr>
<td>BAT-12180 12 V, 18 AH, sealed.</td>
<td>PS-12180 (Power-Sonic); SA12180 (Jolt) to be replaced with UB12180 (UPG).</td>
<td></td>
</tr>
<tr>
<td>BAT-12180 12 V, 18 AH, sealed.</td>
<td>PS-12180 (Power-Sonic); SA12180 (Jolt) to be replaced with UB12180 (UPG).</td>
<td></td>
</tr>
<tr>
<td>BAT-12260 12 V, 26 AH, sealed.</td>
<td>BP26-12 (B&amp;B Battery); PS-12260 (Power-Sonic); SA12260 (Jolt) to be replaced with UB12260 (UPG).</td>
<td></td>
</tr>
<tr>
<td>BAT-12550 12 V, 55 AH, sealed.</td>
<td>PS-12550 (Power-Sonic); XSA12550 (Jolt) to be replaced with UB12550 (UPG).</td>
<td></td>
</tr>
<tr>
<td>BAT-12550 12 V, 55 AH, sealed.</td>
<td>PS-12550 (Power-Sonic); XSA12550 (Jolt) to be replaced with UB12550 (UPG).</td>
<td></td>
</tr>
<tr>
<td>BAT-121000 12 V, 100 AH, gell cell.</td>
<td>PS-121000 (Power-Sonic); XSA121000A (Jolt) to be replaced with UB121000 (UPG).</td>
<td></td>
</tr>
</tbody>
</table>
# Part Number Reference

<table>
<thead>
<tr>
<th>MODEL</th>
<th>Nominal Voltage V</th>
<th>Nominal Capacity @ 20 hr. rate A.H.</th>
<th>Discharge Current @ 20 hr. rate mA</th>
<th>DIMENSIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>PS-1250</td>
<td>12</td>
<td>5</td>
<td>250</td>
<td>Width</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>in. mm</td>
</tr>
<tr>
<td>PS-1270</td>
<td>12</td>
<td>7</td>
<td>325</td>
<td>3.54 90 2.67 70 4.02 102 4.21 107 4.1 1.9</td>
</tr>
<tr>
<td>PS-1240</td>
<td>12</td>
<td>12</td>
<td>600</td>
<td>Depth</td>
</tr>
<tr>
<td>PS-1280</td>
<td>12</td>
<td>18</td>
<td>875</td>
<td>in. mm</td>
</tr>
<tr>
<td>PS-12250</td>
<td>12</td>
<td>25</td>
<td>1300</td>
<td>Height</td>
</tr>
<tr>
<td>PS-12550</td>
<td>12</td>
<td>55</td>
<td>3000</td>
<td>in. mm</td>
</tr>
<tr>
<td>PS-121000</td>
<td>12</td>
<td>100</td>
<td>5000</td>
<td>Height over terminal</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Weight</td>
</tr>
</tbody>
</table>

---

**Effect of Temperature on Capacity**

- Temperature (Degrees C.)
- Capacity Ratio
- At left:
  - **PS-121000**
  - Shelf-Life and Storage

**Characteristics Discharge Curves**

- Battery Voltage (V)
- Discharge Time @ 20°C (68°F)
- Capacity Retention Ratio
- Charging is NOT necessary unless 100% of capacity is required.
- Changing before use is necessary to help recover full capacity.
- Charge may fail to restore full capacity.
- DO NOT let batteries reach this state.

**Terminal Voltage**

- Ambient Temperature 20°C (68°F)
- Discharge Time
- Final Voltage 100A 20A 5.0A
- at left:
  - **PS-1210000**
  - Discharge Characteristics
**Charging Procedure**

<table>
<thead>
<tr>
<th>Application</th>
<th>Charging method</th>
<th>Charging voltage at 20°C (V/cell)</th>
<th>Temperature compensation coefficient of charging voltage (mV/°C/cell)</th>
<th>Maximum charging current (CA)</th>
<th>Charging time 0.1 CA, 26°C (h)</th>
<th>Temp (°C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>For standby</td>
<td>Constant voltage and constant current</td>
<td>2.25 – 2.30</td>
<td>–</td>
<td>0.3</td>
<td>24</td>
<td>0 – 40°C</td>
</tr>
<tr>
<td>For cycle</td>
<td>charging (with current restriction)</td>
<td>2.40 – 2.50</td>
<td>–</td>
<td>0.3</td>
<td>16</td>
<td>(32 – 104°F)</td>
</tr>
</tbody>
</table>

Temperature compensation of charging voltage is not needed when using the batteries within 5°C to 35°C range.

**Final Voltage**

**Discharge Time: for Model BP5-12**

<table>
<thead>
<tr>
<th>Battery Output Power (W): for Model BP5-12</th>
</tr>
</thead>
<tbody>
<tr>
<td>10.80 V</td>
</tr>
<tr>
<td>180.8</td>
</tr>
<tr>
<td>10.50 V</td>
</tr>
<tr>
<td>209.2</td>
</tr>
<tr>
<td>10.20 V</td>
</tr>
<tr>
<td>222.3</td>
</tr>
<tr>
<td>9.90 V</td>
</tr>
<tr>
<td>232.3</td>
</tr>
<tr>
<td>9.60 V</td>
</tr>
<tr>
<td>240.0</td>
</tr>
</tbody>
</table>

**Discharge Time: for Model BP7-12**

<table>
<thead>
<tr>
<th>Battery Output Power (W): for Model BP7-12</th>
</tr>
</thead>
<tbody>
<tr>
<td>10.80 V</td>
</tr>
<tr>
<td>255.1</td>
</tr>
<tr>
<td>10.50 V</td>
</tr>
<tr>
<td>292.9</td>
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<tr>
<td>10.20 V</td>
</tr>
<tr>
<td>311.2</td>
</tr>
<tr>
<td>9.90 V</td>
</tr>
<tr>
<td>325.2</td>
</tr>
<tr>
<td>9.60 V</td>
</tr>
<tr>
<td>336.0</td>
</tr>
</tbody>
</table>

**Discharge Time: for Model BP12-12**

<table>
<thead>
<tr>
<th>Battery Output Power (W): for Model BP12-12</th>
</tr>
</thead>
<tbody>
<tr>
<td>10.80 V</td>
</tr>
<tr>
<td>459.8</td>
</tr>
<tr>
<td>10.50 V</td>
</tr>
<tr>
<td>502.2</td>
</tr>
<tr>
<td>10.20 V</td>
</tr>
<tr>
<td>533.6</td>
</tr>
<tr>
<td>9.90 V</td>
</tr>
<tr>
<td>557.5</td>
</tr>
<tr>
<td>9.60 V</td>
</tr>
<tr>
<td>576.0</td>
</tr>
</tbody>
</table>

**Discharge Time: for Model BP26-12**

<table>
<thead>
<tr>
<th>Battery Output Power (W): for Model BP26-12</th>
</tr>
</thead>
<tbody>
<tr>
<td>10.80 V</td>
</tr>
<tr>
<td>1040.0</td>
</tr>
<tr>
<td>10.50 V</td>
</tr>
<tr>
<td>1088.0</td>
</tr>
<tr>
<td>10.20 V</td>
</tr>
<tr>
<td>1156.0</td>
</tr>
<tr>
<td>9.90 V</td>
</tr>
<tr>
<td>1208.0</td>
</tr>
<tr>
<td>9.60 V</td>
</tr>
<tr>
<td>1248.0</td>
</tr>
</tbody>
</table>
B & B BATTERY

BP5-12 Battery Discharge Characteristics (25°C/77°F)

BP12-12 Battery Discharge Characteristics (25°C/77°F)

BP26-12 Battery Discharge Characteristics (25°C/77°F)

BP05-12

BP12-12

BP26-12
UPG BATTERY

UB1250 has the same specifications as previous Jolt SA1250; SA1272 to be replaced with UB1270 (specs/diagrams pending).

UB1250 (previously SA1250) Diagrams

UB1250/SA1250 discharge current vs. time

UB1250/SA1250 discharge characteristics (25°C/77°F)

UB1250, SA1250 Specifications

- Nominal voltage: 12 V.
- Nominal capacity (20 hr): 5.0 AH.
- Dimensions: total height 107 mm (4.21”); container height 101 mm (3.98”); length 90 mm (3.54”); width 70 mm (2.76”).
- Weight: approximately 1.83 kg (4.03 lbs).
- Container material: UL94HB ABS, UL94V-0 ABS.
- Internal resistance (25°C, 77°F): ~ 32 m.
- Discharge capacity under different temperatures:
  - 40°C: ~ 102%
  - 25°C: ~ 100%
  - 0°C: ~ 85%
- Capacity 25°C/77°F:
  - 20 hr @ 0.25 A: 5.0 AH.
  - 5 hr @ 0.8 A: 4.0 AH.
  - 1 hr @ 3.0 A: 3.0 AH.
  - 1 C @ 5.0 A: 2.5 AH.
- Charging voltage (25°C, 77°F):
  - Standby use: 13.65 V ± 0.15 V.
  - Cycle use: 14.7 V ± 0.3 V.
- Maximum discharge current: 60 A (5 sec).
- Maximum charging current: 1.5 A.
- Self-discharge residual capacity (25°C, 77°F):
  - After 3 months: ~ 90%.
  - After 6 months: ~ 82%.
  - After 12 months: ~ 70%.

SA1272 Diagrams

SA1272 discharge current vs. time

SA1272 discharge characteristics (25°C/77°F)

SA1272 Specifications

- Nominal voltage: 12 V.
- Nominal capacity (20 hr): 7.2 AH.
- Dimensions: total height 100 mm (3.94”); container height 94 mm (3.70”); length 151 mm (5.95”); width 65 mm (2.56”).
- Weight: approximately 2.66 kg (5.85 lbs).
- Container material: UL94HB ABS, UL94V-0 ABS.
- Internal resistance (25°C, 77°F): ~ 22 m.
- Discharge capacity under different temperatures:
  - 40°C: ~ 102%
  - 25°C: ~ 100%
  - 0°C: ~ 85%
- Capacity 25°C/77°F:
  - 20 hr @ 0.36 A: 7.2 AH.
  - 5 hr @ 1.15 A: 5.76 AH.
  - 1 hr @ 4.32 A: 4.32 AH.
  - 1 C @ 7.2 A: 3.6 AH.
- Charging voltage (25°C, 77°F):
  - Standby use: 13.65 V ± 0.15 V.
  - Cycle use: 14.7 V ± 0.3 V.
- Maximum discharge current: 90 A (5 sec).
- Maximum charging current: 2.16 A.
- Self-discharge residual capacity (25°C, 77°F):
  - After 3 months: ~ 90%.
  - After 6 months: ~ 82%.
  - After 12 months: ~ 70%. 
UPG BATTERY

Same specifications as previous Jolt models; packaging and part numbers are the only changes.

**UB12120 (was SA12120) Diagrams**

UB12120/SA12120 discharge current vs. time

UB12120/SA12120 discharge characteristics (25°C/77°F)

**UB12120, SA12120 Specifications**

- Nominal voltage: 12 V.
- Nominal capacity (20 hr): 12.0 AH.
- Dimensions: total height 100 mm (3.94”); container height 94 mm (3.70”); length 151 mm (5.95”); width 98 mm (3.86”).
- Weight: approximately 4.10 kg (9.04 lbs).
- Container material: UL94HB ABS, UL94V-0 ABS.
- Internal resistance (25°C, 77°F): ~ 14 m.
- Discharge capacity under different temperatures:
  - 40°C: ~ 102%
  - 25°C: ~ 100%
  - 0°C: ~ 85%
- Capacity 25°C/77°F:
  - 20 hr @ 0.6 A: 12.0 AH.
  - 5 hr @ 1.92 A: 9.6 AH.
  - 1 hr @ 7.2 A: 7.2 AH.
  - 1 C @ 12.0 A: 6.0 AH.
- Charging voltage (25°C, 77°F):
  - Standby use: 13.65 V ± 0.15 V.
  - Cycle use: 14.7 V ± 0.3 V.
- Maximum discharge current: 120 A (5 sec).
- Maximum charging current: 3.6 A.
- Self-discharge residual capacity (25°C, 77°F):
  - After 3 months: ~ 90%.
  - After 6 months: ~ 82%.
  - After 12 months: ~ 70%.

**UB12180 (was SA12180) Diagrams**

UB12180/SA12180 discharge current vs. time

UB12180/SA12180 discharge characteristics (25°C/77°F)

**UB12180, SA12180 Specifications**

- Nominal voltage: 12 V.
- Nominal capacity (20 hr): 18.0 AH.
- Dimensions: total height 167 mm (6.58”); container height 167 mm (6.58”); length 181 mm (7.13”); width 76 mm (2.29”).
- Weight: approximately 6.06 kg (13.36 lbs).
- Container material: UL94HB ABS, UL94V-0 ABS.
- Internal resistance (25°C, 77°F): ~ 13 m.
- Discharge capacity under different temperatures:
  - 40°C: ~ 102%
  - 25°C: ~ 100%
  - 0°C: ~ 85%
- Capacity 25°C/77°F:
  - 20 hr @ 0.9 A: 18.0 AH.
  - 5 hr @ 2.88 A: 14.4 AH.
  - 1 hr @ 10.8 A: 10.8 AH.
  - 1 C @ 18.0 A: 9.0 AH.
- Charging voltage (25°C, 77°F):
  - Standby use: 13.65 V ± 0.15 V.
  - Cycle use: 14.7 V ± 0.3 V.
- Maximum discharge current: 300 A (5 sec).
- Maximum charging current: 5.4 A.
- Self-discharge residual capacity (25°C, 77°F):
  - After 3 months: ~ 90%.
  - After 6 months: ~ 82%.
  - After 12 months: ~ 70%. 
UPG BATTERY

Same specifications as previous Jolt models; packaging and part numbers are the only changes.

**UB12260 (was SA12260) Diagrams**

**UB12260/SA12260 discharge current vs. time**

**UB12260/SA12260 discharge characteristics (25°C/77°F)**

**UB12260, SA12260 Specifications**

- Nominal voltage: 12 V.
- Nominal capacity (20 hr): 26.0 AH.
- Dimensions: total height 125 mm (4.92”); container height 125 mm (4.92”); length 166 mm (6.54”); width 175 mm (6.89”).
- Weight: approximately 8.80 kg (19.40 lbs).
- Container material: UL94HB ABS, UL94V-0 ABS.
- Internal resistance (25°C, 77°F): ~ 10 m.
- Discharge capacity under different temperatures:
  - 40°C: ~ 102%
  - 25°C: ~ 100%
  - 0°C: ~ 85%
- Capacity 25°C/77°F:
  - 20 hr @ 1.3 A: 26.0 AH.
  - 5 hr @ 4.16 A: 20.8 AH.
  - 1 hr @ 15.6 A: 15.6 AH.
  - 1 C @ 26.0 A: 13.0 AH.
- Charging voltage (25°C, 77°F):
  - Standby use: 13.65 V ± 0.15 V.
  - Cycle use: 14.7 V ± 0.3 V.
- Maximum discharge current: 300 A (5 sec).
- Maximum charging current: 7.8 A.
- Self-discharge residual capacity (25°C, 77°F):
  - After 3 months: ~ 90%.
  - After 6 months: ~ 82%.
  - After 12 months: ~ 70%.

**UB12550 (was SA12550) Diagrams**

**UB12550/SA12550 discharge current vs. time**

**UB12550/SA12550 discharge characteristics (25°C/77°F)**

**UB12550, SA12550 Specifications**

- Nominal voltage: 12 V.
- Nominal capacity (20 hr): 55.0 AH.
- Dimensions: total height 234.5 mm (9.23”); container height 216.5 mm (8.52”); length 229 mm (9.02”); width 138 mm (5.43”).
- Weight: approximately 19.0 kg (41.8 lbs).
- Container material: UL94HB ABS, UL94V-0 ABS.
- Internal resistance (25°C, 77°F): ~ 8 m.
- Discharge capacity under different temperatures:
  - 40°C: ~ 102%
  - 25°C: ~ 100%
  - 0°C: ~ 85%
- Capacity 25°C/77°F:
  - 20 hr @ 2.75 A: 55.0 AH.
  - 5 hr @ 8.8 A: 44.0 AH.
  - 1 hr @ 33.0 A: 33.0 AH.
  - 1 C @ 55.0 A: 27.5 AH.
- Charging voltage (25°C, 77°F):
  - Standby use: 13.65 V ± 0.15 V.
  - Cycle use: 14.7 V ± 0.3 V.
- Maximum discharge current: 600 A (5 sec).
- Maximum charging current: 16.5 A.
- Self-discharge residual capacity (25°C, 77°F):
  - After 3 months: ~ 90%.
  - After 6 months: ~ 82%.
  - After 12 months: ~ 70%.
UPG BATTERY

Same specifications as previous Jolt models; packaging and part numbers are the only changes.

**UB121000 (XSA1210000A) Diagrams**

UB121000/XSA121000A discharge current vs. time

- Nominal voltage: 12 V.
- Nominal capacity (20 hr): 100.0 AH.
- Dimensions: total height 221 mm (8.70”); container height 214 mm (8.43”); length 329 mm (12.95”); width 172 mm (6.77”).
- Weight: approximately 34.00 kg (74.8 lbs).
- Container material: UL94HB ABS, UL94V-0 ABS.
- Internal resistance (25°C, 77°F): ~ 6.5 m.
- Discharge capacity under different temperatures:
  - 40°C: ~ 102%
  - 25°C: ~ 100%
  - 0°C: ~ 85%
- Capacity 25°C/77°F:
  - 20 hr @ 5.0 A: 100.0 AH.
  - 5 hr @ 16.0 A: 80.0 AH.
  - 1 hr @ 60.0 A: 60.0 AH.
  - 1 C @ 100.0 A: 50.0 AH.
- Charging voltage (25°C, 77°F):
  - Standby use: 13.65 V ± 0.15 V.
  - Cycle use: 14.7 V ± 0.3 V.
- Maximum discharge current: 600 A (5 sec).
- Maximum charging current: 30 A.
- Self-discharge residual capacity (25°C, 77°F):
  - After 3 months: ~ 90%.
  - After 6 months: ~ 82%.
  - After 12 months: ~ 70%.  

---

**UPG Summary Diagrams**

Summary discharge characteristics

Summary discharge current vs. time curve (25°C/77°F)
UPG BATTERY

Same specifications as previous Jolt models; packaging and part numbers are the only changes.

### Charging Procedure: UPG Battery

<table>
<thead>
<tr>
<th>Application</th>
<th>Charging method</th>
<th>Charging voltage at 25°C (V/cell)</th>
<th>Temperature compensation coefficient of charging voltage (mV/°C/cell)</th>
<th>Maximum charging current (CA)</th>
<th>Charging time 0.1 CA, 25°C (h)</th>
<th>Temp (°C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>For standby power source</td>
<td>Constant voltage and constant current charging (with current restriction)</td>
<td>2.25 ~ 2.30 (−1.8 mV/°F/cell)</td>
<td>−3.3</td>
<td>0.3</td>
<td>T³ 24</td>
<td>0 – 40°C (32 – 104°F)</td>
</tr>
<tr>
<td>For cycle service</td>
<td>Constant voltage and constant current charging (with current restriction)</td>
<td>2.40 ~ 2.50 (−2.8 mV/°F/cell)</td>
<td>−5</td>
<td>0.3</td>
<td>16 &lt; T &lt; 24</td>
<td>10 &lt; T &lt; 24</td>
</tr>
</tbody>
</table>

Temperature compensation of charging voltage is not needed when using the batteries within 5°C to 35°C range.
Indoor Selectable-Output Strobes and Horn Strobes for Ceiling Applications

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

**Features**

- Plug-in design with minimal intrusion into the back box
- Tamper-resistant construction
- Automatic selection of 12- or 24-volt operation at 15 and 30 candela
- Field-selectable candela settings on ceiling units: 15, 30, 75, 95, 115, 150, and 177
- Horn rated at 88+ dBA at 16 volts
- Rotary switch for horn tone and two volume selections
- Universal mounting plate for ceiling units
- Mounting plate shorting spring feature checks wiring continuity before device installation
- Electrically Compatible with legacy SpectrAlert and SpectrAlert Advance devices
- Compatible with MDL3 sync module
- Listed for ceiling mounting only

**The System Sensor L-Series** offers the most versatile and easy-to-use line of horns, strobes, and horn strobes in the industry with lower current draws and modern aesthetics. With white and red plastic housings, wall and ceiling mounting options, System Sensor L-Series can meet virtually any application requirement.

The entire L-Series product line of ceiling-mount strobes and horn strobes include a variety of features that increase their application versatility while simplifying installation. All devices feature a plug-in design with minimal intrusion into the back box, making installations fast and foolproof while virtually eliminating costly and time-consuming ground faults.

To further simplify installation, the L-Series utilizes a universal mounting plate so installers can mount them to a wide array of back boxes. With an onboard shorting spring, installers can test wiring continuity before the device is installed.

Installers can also easily adapt devices to a suit a wide range of application requirements using field-selectable candela settings, automatic selection of 12- or 24-volt operation, and a rotary switch for horn tones with two volume selections.

**Agency Listings**

- UL Listed
- FM Approved
- Listed for ceiling mounting only

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L-Series Specifications

Architect/Engineer Specifications

General
L-Series ceiling-mount strobes and horn strobes shall mount to a standard 4 × 4 × 1½-inch back box, 4-inch octagon back box, or double-gang back box. Two-wire products shall also mount to a single-gang 2 × 4 × 17⁄8-inch back box. A universal mounting plate shall be used for mounting ceiling and wall products. The notification appliance circuit wiring shall terminate at the universal mounting plate. Also, L-Series products, when used with the Sync•Circuit™ Module accessory, shall be powered from a non-coded notification appliance circuit output and shall operate on a nominal 12 or 24 volts. When used with the Sync•Circuit Module, 12-volt-rated notification appliance circuit outputs shall operate between 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 and 120 degrees Fahrenheit from a regulated DC or full-wave rectified unfiltered power supply. Ceiling strobes and horn strobes shall have field-selectable candela settings including 15, 30, 75, 95, 115, 150, and 177.

Strobe
The strobe shall be a System Sensor L-Series Model _______ listed to UL 1971 and shall be approved for fire protective service. The strobe shall be wired as a primary-signaling notification appliance and comply with the Americans with Disabilities Act requirements for visible signaling appliances, flashing at 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.

Horn Strobe Combination
The horn strobe shall be a System Sensor L-Series Model _______ listed to UL 1971 and UL 464 and shall be approved for fire protective service. The horn strobe shall be wired as a primary-signaling notification appliance and comply with the Americans with Disabilities Act requirements for visible signaling appliances, flashing at 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. The horn shall have two audibility options and an option to switch between a temporal three pattern and a non-temporal (continuous) pattern. These options are set by a multiple position switch. The horn on horn strobe models shall operate on a coded or non-coded power supply.

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 L-Series strobes at 1 Hz and horns at temporal three. Also, while operating the strobes, the module shall silence the horns on horn strobe models over a single pair of wires. The module shall mount to a 4 11⁄16 × 4 11⁄16 × 2 1⁄8-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/Electrical Specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard Operating Temperature</td>
<td>32°F to 120°F (0°C to 49°C)</td>
</tr>
<tr>
<td>Humidity Range</td>
<td>10 to 93% non-condensing</td>
</tr>
<tr>
<td>Strobe Flash Rate</td>
<td>1 flash per second</td>
</tr>
<tr>
<td>Nominal Voltage</td>
<td>Regulated 12 VDC or regulated 24 DC/FWR¹</td>
</tr>
<tr>
<td>Operating Voltage Range¹</td>
<td>8 to 17.5 V (12 V nominal) or 16 to 33 V (24 V nominal)</td>
</tr>
<tr>
<td>Operating Voltage Range (MDL3)</td>
<td>8.5 to 17.5V (12 V nominal) or 16.5 to 33 V (24V nominal)</td>
</tr>
<tr>
<td>Input Terminal Wire Gauge</td>
<td>12 to 18 AWG</td>
</tr>
<tr>
<td>Ceiling-Mount Dimensions (including lens)</td>
<td>6.8” diameter x 2.5” high (173 mm diameter x 64 mm high)</td>
</tr>
<tr>
<td>Ceiling-Mount Surface Mount Back Box Skirt Dimensions (SBBCRL, SBBCWL)</td>
<td>6.9” diameter x 3.4” high (175 mm diameter x 86 mm high)</td>
</tr>
</tbody>
</table>

Notes:
1. Full Wave Rectified (FWR) voltage is a non-regulated, time-varying power source that is used on some power supply and panel outputs.
2. P, S, PC, and SC products will operate at 12 V nominal only for 15 and 30 cd.
### Horn Strobe Tones and Sound Output Data

<table>
<thead>
<tr>
<th>Switch Position</th>
<th>Sound Pattern</th>
<th>dB</th>
<th>8–17.5 Volts</th>
<th>16–33 Volts</th>
<th>8–17.5 Volts</th>
<th>16–33 Volts</th>
<th>8–17.5 Volts</th>
<th>16–33 Volts</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>Temporal</td>
<td>High</td>
<td>84</td>
<td>89</td>
<td>89</td>
<td>89</td>
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<tr>
<td>2</td>
<td>Temporal</td>
<td>Low</td>
<td>75</td>
<td>83</td>
<td>83</td>
<td>83</td>
<td>82</td>
<td>82</td>
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<tr>
<td>3</td>
<td>Non-Temporal</td>
<td>High</td>
<td>85</td>
<td>90</td>
<td>90</td>
<td>90</td>
<td>90</td>
<td>90</td>
</tr>
<tr>
<td>4</td>
<td>Non-Temporal</td>
<td>Low</td>
<td>76</td>
<td>84</td>
<td>84</td>
<td>84</td>
<td>84</td>
<td>84</td>
</tr>
<tr>
<td>5</td>
<td>3.1 KHz Temporal</td>
<td>High</td>
<td>83</td>
<td>88</td>
<td>88</td>
<td>88</td>
<td>88</td>
<td>88</td>
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<tr>
<td>6</td>
<td>3.1 KHz Temporal</td>
<td>Low</td>
<td>76</td>
<td>82</td>
<td>82</td>
<td>82</td>
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<td>82</td>
</tr>
<tr>
<td>7</td>
<td>3.1 KHz Non-Temporal</td>
<td>High</td>
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<td>89</td>
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</tr>
<tr>
<td>8</td>
<td>3.1 KHz Non-Temporal</td>
<td>Low</td>
<td>77</td>
<td>83</td>
<td>83</td>
<td>83</td>
<td>83</td>
<td>83</td>
</tr>
</tbody>
</table>
L-Series Dimensions

6.83" diam. (173 mm)
2.47" (62.7 mm)
1.37" (34.8 mm)

6.92" diam. (175.77 mm)
2.5" (64 mm)

Ceiling-Mount Horn Strobes

L-Series Ordering Information

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>PC2RL</td>
<td>2-Wire, Horn Strobe, Red</td>
</tr>
<tr>
<td>PC2WL</td>
<td>2-Wire, Horn Strobe, White</td>
</tr>
<tr>
<td>PC4RL</td>
<td>4-Wire, Horn Strobe, Red</td>
</tr>
<tr>
<td>PC4WL</td>
<td>4-Wire, Horn Strobe, White</td>
</tr>
</tbody>
</table>

For a ceiling-listed horn-only device, see AVDS865 “Indoor Selectable-Output Horns, Strobes, and Horn Strobes for Wall Applications”.

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Product specifications subject to change without notice. Visit systemsensor.com for current product information, including the latest version of this data sheet.
AVDS868-02 • 120115ST
LISTING No. 7125-1653:0504

CATEGORY: 7125 -- FIRE ALARM DEVICES FOR THE HEARING IMPAIRED

LISTEE: System Sensor, Unincorporated Div of Honeywell Int'l Inc. 3825 Ohio Ave, St. Charles, IL 60174
Contact: Lisa Brant (203) 484-6105 Fax (203) 484-7309
Email: lisa.brant@honeywell.com

DESIGN: System Sensor Indoor 2-wire Models:
SRL, SWL, SGRL, SGWL, SRL-P SWL-P, SRL-CL-ALERT and SWL-ALERT
Wall Strobes;
SCRL, SCWL and SCWL-CL-ALERT Ceiling Strobes.

Wall Bezel Parts:
BZR-F, BZR-AL, BZR-AG, BZR-EV, BZR-P, BZR-SP, BZR-PG,
BZW-F, BZW-AL, BZW-AG, BZW-SP, BZW-AG, BZW-AL, BZW-SP, BZW-PG,
BZGR-F, BZGR-AL, BZGR-AG, BZGR-EV, BZGR-P, BZGR-SP, BZGR-PG,
BZGW-F, BZGW-AL, BZGW-AG, BZGW-SP, BZGW-EV, BZGW-P, BZGW-SP and BZGW-PG,

Ceiling Bezel Parts:
BZRC-F, BZRC-AL, BZRC-AG, BZRC-EV, BZRC-P, BZRC-SP, BZRC-PG,
BZWC-F, BZWC-AL, BZWC-AG, BZWC-SP, BZWC-EV, BZWC-P, BZWC-SP and BZWC-PG.

Color Lens:

Wall Trim Rings:
TR2 and TR2W

Ceiling Trim Rings:
TRC2 and TRC2W.

Wall Surface Mounted Back Boxes:
SBBRL, SBBGRL, SBBWL and SBBGWL,

Ceiling Surface Mounted Back Boxes:
SBBCRL and SBBCWL

Refer to listee's data sheet for detailed product description and operational considerations.

*Rev 04-04-19
gt

Date Issued: July 01, 2022
Listing Expires June 30, 2023

Authorized By: VICTOR WONG, Program Coordinator
Fire Engineering Division
RATING: Regulated 12 VDC setting: 8-17.5 VDC
Regulated 24 VDC/fwr setting: 16-33 VDC

INSTALLATION: In accordance with listee's printed installation instructions, NFPA 72, applicable codes &
ordinances and in a manner acceptable to the authority having jurisdiction.

MARKING: Listee's name, model number, electrical rating, and UL label.

APPROVAL: Listed as two wire strobe units used for synchronous application when used with separately
listed compatible fire alarm control units. Suitable for indoor use, vertical wall or horizontal
ceiling mounted. *Listed with software code, S05-0048-001 for low temperature
compensation. Authority having jurisdiction should be consulted prior to installation. Refer to
listee's Installation Instruction Manual for details.

*Rev 04-04-19 gt

Date Issued: July 01, 2022 Listing Expires June 30, 2023

Authorized By: VICTOR WONG, Program Coordinator
Fire Engineering Division
LISTING No. 7135-1653:0503

CATEGORY: 7135 -- AUDIBLE DEVICES

LISTEE: System Sensor, Unincorporated Div of Honeywell Int'l Inc. 3825 Ohio Ave, St. Charles, IL 60174
Contact: Lisa Brant (203) 484-6105 Fax (203) 484-7309
Email: lisa.brant@honeywell.com

DESIGN: System Sensor Indoor 2-wire and *4-wire Models:
HWL, HRL, HGWL and HGRL Horns;
CHWL and CHRL Chimes;
PC2RL, PC2WL, *PC4RL and *PC4WL Ceiling Horn Strobes;
CHSRL and CHSWL Wall Chime Strobes;
CHSCRL and CHSCWL Ceiling Chime Strobes;
Wall Bezel Parts:
BZR-F, BZR-AL, BZR-AG, BZR-EV, BZR-P, BZR-SP, BZR-PG,
BZW-F, BZW-AL, BZW-AG, BZW-EV, BZW-P, BZW-SP, BZW-PG,
BZGR-F, BZGR-AL, BZGR-AG, BZGR-EV, BZGR-P, BZGR-SP, BZGR-PG,
BZGW-F, BZGW-AL, BZGW-AG, BZGW-EV, BZGW-P, BZGW-SP and BZGW-PG,
Ceiling Bezel Parts:
BZRC-F, BZRC-AL, BZRC-AG, BZRC-EV, BZRC-P, BZRC-SP, BZRC-PG,
BZWC-F, BZWC-AL, BZWC-AG, BZWC-EV, BZWC-P, BZWC-SP and BZWC-PG.

Color Lens:

WallTrim Rings:
*TR-2 and *TR-2W

CeilingTrim Rings:
*TRC-2 and *TRC-2W.

Wall Surface Mounted Back Boxes:
SBBRL, SBBGRL, SBBWL and SBBGWL,

Ceiling Surface Mounted Back Boxes:

Date Issued: July 01, 2022
Listing Expires June 30, 2023

Authorized By: VICTOR WONG, Program Coordinator

Fire Engineering Division
SBBCRL and SBBCWl

MP120KL 120 VAC Adapter Mounting Plate

Refer to listee's data sheet for detailed product description and operational considerations.

**RATING:** 12 VDC regulated and 24 VDC/FWR

**INSTALLATION:** In accordance with listee's printed installation instructions, NFPA 72, applicable codes & ordinances and in a manner acceptable to the authority having jurisdiction.

**MARKING:** Listee's name, model number, electrical rating, and UL label.

**APPROVAL:** Listed as audible devices when used with separately listed compatible fire alarm control units. Suitable for indoor use, wall or ceiling mounted. Authority having jurisdiction should be consulted prior to installation. Refer to listee's Installation Instruction Manual for details.
Outdoor Selectable-Output Horns, Strobes, and Horn Strobes

SpectrAlert Advance outdoor selectable-output horns, strobes, and horn strobes are rich with features that cut installation times and maximize profits.

Features

- Automatic selection of 12- or 24-volt operation at 15 and 15/75 candelas
- Field-selectable candela settings on wall and ceiling units: 15, 15/75, 30, 75, 95, 110, 115, 135, 150, 177, and 185
- Plug-in design with minimal intrusion into the back box
- Tamper-resistant construction
- Universal mounting plate for wall- and ceiling-mount units
- Mounting plate shorting spring tests wiring continuity before devices are installed
- Weatherproof per NEMA 4X, IP56
- Listed to UL 1638 (strobe) and UL 464 (horn)
- Rated from −40°F to 151°F
- Horn rated at 88+ dBA at 16 volts
- Rotary switch for horn tone and three volume selections
- Compatible with System Sensor synchronization protocol and legacy SpectrAlert products

The SpectrAlert Advance series offers the broadest line of outdoor horns, strobes, and horn strobes in the industry. With white and red plastic housings, wall and ceiling mounting options, and plain and FIRE-printed devices, SpectrAlert Advance can meet virtually any application requirement.

SpectrAlert Advance outdoor horns, strobes, and horn strobes can be used indoors or outdoors in wet or dry applications, and can provide reliable operation from −40°F to 151°F.

Like the entire SpectrAlert Advance product line, these devices include a variety of features that increase their application versatility while simplifying installation. All devices feature plug-in designs with minimal intrusion into the back box, which make installations fast and foolproof while virtually eliminating costly and time-consuming ground faults.

All horns, strobes, and horn strobes use a universal mounting plate with an onboard shorting spring that tests wiring continuity before the device is installed, protecting devices from damage. In addition, field-selectable candela settings, automatic selection of 12- or 24-volt operation, and a rotary switch for horn tones with three volume selections enables installers to easily adapt devices to suit a wide range of application requirements.

Agency Listings

UL Listed
54611 (horns, horn strobes, horn strobes)
53599 (strobe and strobe strobes)

FM Approved
10519379

MEA Approved
ME4154-05 (strobe)
CM315-010 (strobe, horns)
73080-1538-07 (strobe, horns)
73025-4933-88 (horn strobes, strobe strobes)
SpectrAlert Advance Outdoor Horn, Strobe, and Horn Strobe Specifications

Architect/Engineer Specifications

General
SpectrAlert Advance outdoor horns, strobes and horn strobes shall mount to a weatherproof back box. A universal mounting plate shall be used for mounting ceiling and wall products. The notification appliance circuit wiring shall terminate at the universal mounting plate. Attached SpectrAlert Advance products, when used with the Sync-Circuit Module accessory, shall be powered from a non-coded notification appliance circuit output and shall operate on a nominal 12 or 24 volts. When used with the Sync-Circuit Module, 12-volt-rated notification appliance circuit outputs shall operate between 8 and 17 volts; 24-volt-rated notification appliance circuit outputs shall operate between 17 and 33 volts. Outdoor SpectrAlert Advance products shall operate between -40 and 151 degrees Fahrenheit from a regulated DC or full-wave rectified unfiltered power supply. Strobes and horn strobes shall have field-selectable candela settings including 15, 15/75, 30, 75, 95, 110, 15/15, 135, 150, 177, and 185.

Strobe
The strobe shall be a System Sensor SpectrAlert Advance Model ________ listed to UL 1971 and shall be approved for fire protective service. The strobe shall be wired as a primary-signaling notification appliance and comply with the Americans with Disabilities Act requirements for visible signaling appliances, flashing at 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. The strobe must be installed with its weatherproof back box in order to remain outdoor approved per UL. The strobe shall be suitable for use in wet environments.

Horn Strobe Combination
The horn strobe shall be a System Sensor SpectrAlert Advance Model ________ listed to UL 1971 and UL 464 and shall be approved for fire protective service. The horn strobe shall be wired as a primary-signaling notification appliance and comply with the Americans with Disabilities Act requirements for visible signaling appliances, flashing at 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. The strobe shall have three audibility options and an option to switch between a temporal three-pattern and a non-temporal (continuous) pattern. These options shall be set by a multiple position switch. On four-wire products, the strobe shall be powered independently of the sounder. The horn or horn strobe model shall operate on a coded or non-coded power supply. The horn strobe must be installed with its weatherproof back box in order to remain outdoor approved per UL. The horn strobe shall be suitable for use in wet environments.

Physical/Electrical Specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>Specification Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating Temperature</td>
<td>-40°F to 151°F (-40°C to 66°C)</td>
</tr>
<tr>
<td>Strobe Flash Rate</td>
<td>1 flash per second</td>
</tr>
<tr>
<td>Nominal Voltage</td>
<td>Regulated 12 DC/FWR or regulated 24 DC/FWR</td>
</tr>
<tr>
<td>Operating Voltage Range</td>
<td>8 to 17.5 V (12 V nominal) or 16 to 33 V (24 V nominal)</td>
</tr>
<tr>
<td>Input Terminal Wire Gauge</td>
<td>12 to 18 AWG</td>
</tr>
<tr>
<td>Ceiling-Mount Dimensions</td>
<td>6.8” diameter x 2.5” high (173 mm diameter x 64 mm high)</td>
</tr>
<tr>
<td>Wall-Mount Dimensions</td>
<td>5.6” x 4.7” x 2.5” (142 mm x 119 mm x 64 mm)</td>
</tr>
<tr>
<td>Horn Dimensions</td>
<td>5.6” x 4.7” x 1.3” (142 mm x 119 mm x 33 mm)</td>
</tr>
<tr>
<td>Wall-Mount Weatherproof Back Box Dimensions</td>
<td>5.7” x 5.1” x 2.0” (145 mm x 130 mm x 51 mm)</td>
</tr>
<tr>
<td>Ceiling-Mount Weatherproof Back Box Dimensions</td>
<td>7.1” diameter x 2.0” high (180 mm diameter x 51 mm high)</td>
</tr>
</tbody>
</table>

Notes:
1. Full Wave Rectified (FWR) voltage is a non-regulated, time-varying power source that is used on some power supply and panel outputs.
2. P, S, PC, and SC products will operate at 12 V nominal only for 15 and 15/75 cd.
### UL Current Draw Data

#### UL Max. Strobe Current Draw (mA RMS)
- **8–17.5 Volts**
  - Candela: DC 15, FWR 123
  - Candela: DC 15/75, FWR 128
  - Candela: DC 30, FWR 94
  - Candela: DC 75, FWR 138
  - Candela: DC 95, FWR 118
  - Candela: DC 110, FWR 202
  - Candela: DC 115, FWR 210

- **16–33 Volts**
  - Candela: DC 15, FWR 66
  - Candela: DC 15/75, FWR 77
  - Candela: DC 30, FWR 94
  - Candela: DC 75, FWR 158
  - Candela: DC 95, FWR 181
  - Candela: DC 110, FWR 202
  - Candela: DC 115, FWR 210

#### UL Max. Horn Current Draw (mA RMS)
- **8–17.5 Volts**
  - Sound Pattern: DB 57, DC 55
  - Sound Pattern: DB 38, DC 44
  - Sound Pattern: DB 57, DC 56
  - Sound Pattern: DB 40, DC 44
  - Sound Pattern: DB 57, DC 55
  - Sound Pattern: DB 40, DC 46

- **16–33 Volts**
  - Sound Pattern: DB 69, DC 75
  - Sound Pattern: DB 58, DC 69
  - Sound Pattern: DB 44, DC 48
  - Sound Pattern: DB 69, DC 69
  - Sound Pattern: DB 60, DC 50
  - Sound Pattern: DB 50, DC 50

### UL Max. Current Draw (mA RMS), 2-Wire Horn Strobe, Standard Candela Range (15–115 cd)

#### DC Input
- **8–17.5 Volts**
  - Temporal High: 137
  - Temporal Medium: 122
  - Temporal Low: 132
  - Non-Temporal High: 141
  - Non-Temporal Medium: 133
  - Non-Temporal Low: 131

- **16–33 Volts**
  - Temporal High: 157
  - Temporal Medium: 124
  - Temporal Low: 132
  - Non-Temporal High: 142
  - Non-Temporal Medium: 134
  - Non-Temporal Low: 132

#### FWR Input
- **8–17.5 Volts**
  - Temporal High: 136
  - Temporal Medium: 123
  - Temporal Low: 129
  - Non-Temporal High: 142
  - Non-Temporal Medium: 134
  - Non-Temporal Low: 132

- **16–33 Volts**
  - Temporal High: 156
  - Temporal Medium: 129
  - Temporal Low: 129
  - Non-Temporal High: 143
  - Non-Temporal Medium: 134
  - Non-Temporal Low: 132

### UL Max. Current Draw (mA RMS), 2-Wire Horn Strobe, High Candela Range (135–185 cd)

#### DC Input
- **16–33 Volts**
  - Temporal High: 245
  - Temporal Medium: 233
  - Temporal Low: 232
  - Non-Temporal High: 255
  - Non-Temporal Medium: 242
  - Non-Temporal Low: 238

#### FWR Input
- **16–33 Volts**
  - Temporal High: 297
  - Temporal Medium: 288
  - Temporal Low: 282
  - Non-Temporal High: 303
  - Non-Temporal Medium: 293
  - Non-Temporal Low: 291

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

| Strobe Output (cd) | Listed Candela | Candela rating at ~40°F
<table>
<thead>
<tr>
<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td>15</td>
<td>15/75</td>
<td>Do not use below 32°F</td>
</tr>
<tr>
<td>15</td>
<td>30</td>
<td>44</td>
</tr>
<tr>
<td>15</td>
<td>75</td>
<td>70</td>
</tr>
<tr>
<td>15</td>
<td>95</td>
<td>110</td>
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<td>15</td>
<td>110</td>
<td>115</td>
</tr>
<tr>
<td>15</td>
<td>135</td>
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<td>15</td>
<td>150</td>
<td>150</td>
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<td>15</td>
<td>177</td>
<td>177</td>
</tr>
<tr>
<td>15</td>
<td>185</td>
<td>185</td>
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### Horn Tones and Sound Output Data

#### Horn and Horn Strobe Output (dB)

<table>
<thead>
<tr>
<th>Switch Position</th>
<th>Sound Pattern</th>
<th>dB</th>
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<tbody>
<tr>
<td>1</td>
<td>Temporal</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
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<td>2</td>
</tr>
<tr>
<td>3</td>
<td>Temporal</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>Non-Temporal</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>Non-Temporal</td>
<td>5</td>
</tr>
<tr>
<td>6</td>
<td>Non-Temporal</td>
<td>6</td>
</tr>
<tr>
<td>7</td>
<td>Coded</td>
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</tr>
<tr>
<td>8</td>
<td>Coded</td>
<td>8</td>
</tr>
<tr>
<td>9</td>
<td>Coded</td>
<td>9</td>
</tr>
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</table>

**Horn Tones and Sound Output Data**

#### 8–17.5 Volts

<table>
<thead>
<tr>
<th>Switch Position</th>
<th>Sound Pattern</th>
<th>dB</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Temporal High</td>
<td>78</td>
</tr>
<tr>
<td>2</td>
<td>Temporal</td>
<td>74</td>
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<tr>
<td>3</td>
<td>Temporal</td>
<td>71</td>
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<tr>
<td>4</td>
<td>Non-Temporal</td>
<td>82</td>
</tr>
<tr>
<td>5</td>
<td>Non-Temporal</td>
<td>78</td>
</tr>
<tr>
<td>6</td>
<td>Non-Temporal</td>
<td>75</td>
</tr>
<tr>
<td>7</td>
<td>Coded</td>
<td>82</td>
</tr>
<tr>
<td>8</td>
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<td>78</td>
</tr>
<tr>
<td>9</td>
<td>Coded</td>
<td>75</td>
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</table>

#### 16–33 Volts

<table>
<thead>
<tr>
<th>Switch Position</th>
<th>Sound Pattern</th>
<th>dB</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Temporal High</td>
<td>84</td>
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<tr>
<td>2</td>
<td>Temporal</td>
<td>80</td>
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<td>3</td>
<td>Temporal</td>
<td>76</td>
</tr>
<tr>
<td>4</td>
<td>Non-Temporal</td>
<td>88</td>
</tr>
<tr>
<td>5</td>
<td>Non-Temporal</td>
<td>85</td>
</tr>
<tr>
<td>6</td>
<td>Non-Temporal</td>
<td>81</td>
</tr>
<tr>
<td>7</td>
<td>Coded</td>
<td>88</td>
</tr>
<tr>
<td>8</td>
<td>Coded</td>
<td>85</td>
</tr>
<tr>
<td>9</td>
<td>Coded</td>
<td>81</td>
</tr>
</tbody>
</table>

#### 24 Volt Nominal

<table>
<thead>
<tr>
<th>Switch Position</th>
<th>Sound Pattern</th>
<th>dB</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Temporal High</td>
<td>88</td>
</tr>
<tr>
<td>2</td>
<td>Temporal</td>
<td>86</td>
</tr>
<tr>
<td>3</td>
<td>Temporal</td>
<td>83</td>
</tr>
<tr>
<td>4</td>
<td>Non-Temporal</td>
<td>93</td>
</tr>
<tr>
<td>5</td>
<td>Non-Temporal</td>
<td>90</td>
</tr>
<tr>
<td>6</td>
<td>Non-Temporal</td>
<td>88</td>
</tr>
<tr>
<td>7</td>
<td>Coded</td>
<td>97</td>
</tr>
<tr>
<td>8</td>
<td>Coded</td>
<td>90</td>
</tr>
<tr>
<td>9</td>
<td>Coded</td>
<td>85</td>
</tr>
</tbody>
</table>

**Notes:**

- Settings 7, 8, and 9 are not available on 2-wire horn strobe.
**SpectrAlert Advance Dimensions**

![Wall-mount horn strobes](image1)

![Ceiling-mount horn strobes](image2)

![Wall weatherproof back box](image3)

![Ceiling weatherproof back box](image4)

**SpectrAlert Advance Ordering Information**

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Wall Horn Strobes</strong></td>
<td></td>
</tr>
<tr>
<td>P2R**</td>
<td>2-Wire Horn Strobe, Standard cd, Red, Outdoor</td>
</tr>
<tr>
<td>P2R-HK**</td>
<td>2-Wire Horn Strobe, High cd, Red, Outdoor</td>
</tr>
<tr>
<td>P2WK**</td>
<td>2-Wire Horn Strobe, Standard cd, White, Outdoor</td>
</tr>
<tr>
<td>P2WHK**</td>
<td>2-Wire Horn Strobe, High cd, White, Outdoor</td>
</tr>
<tr>
<td>P4RK†</td>
<td>4-Wire Horn Strobe, Standard cd, Red, Outdoor</td>
</tr>
<tr>
<td>P4WK†</td>
<td>4-Wire Horn Strobe, Standard cd, White, Outdoor</td>
</tr>
<tr>
<td>P2R-HK-120</td>
<td>2-Wire Horn Strobe, High cd, Red, Outdoor, 120 V</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Wall Strobes</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>SRK**</td>
</tr>
<tr>
<td>SRHK**</td>
</tr>
<tr>
<td>SWK**</td>
</tr>
<tr>
<td>SWHK†</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Ceiling Horn Strobes</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>PC2R*K</td>
</tr>
<tr>
<td>PC2R-HK</td>
</tr>
<tr>
<td>PC2WK†</td>
</tr>
<tr>
<td>PC2WHK†</td>
</tr>
<tr>
<td>PC4WK†</td>
</tr>
<tr>
<td>PC4WHK†</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Ceiling Strobes</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>SCR*K</td>
</tr>
<tr>
<td>SCRHK†</td>
</tr>
<tr>
<td>SCWK†</td>
</tr>
<tr>
<td>SCWHK†</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Horns</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>HRK</td>
</tr>
</tbody>
</table>

**Notes:**
- Add "P" to model number for plan housing (no "FIRE" marking on cover), e.g., P2RK.<br>
- Add "R" to model number for weatherproof replacement device (no back box included), especially for use with weatherproof outdoor flush mounting plate, WTP and WTPW.<br>
- "Standard cd" refers to strobes that include 15, 15/5, 30, 30/5, 55, and 115 candela settings. "High cd" refers to strobes that include 155, 150, 177, and 185 candela settings.
LISTING No. 7125-1653:0188

CATEGORY: 7125 -- FIRE ALARM DEVICES FOR THE HEARING IMPAIRED

LISTEE: System Sensor, Unincorporated Div of Honeywell Int'l Inc.3825 Ohio Ave, St. Charles, IL 60174
Contact: Lisa Brant (203) 484-6105 Fax (203) 484-7309
Email: lisa.brant@honeywell.com

DESIGN: Models CHSR and CHSW Chime/Strobes.
Models P2R, P2W, P2RH and P2WH Horn/Strobes two-wire type, rectangular enclosure.
Models PC2R, PC2W, PC2RH and PC2WH Horn/Strobes two-wire type, round enclosure.
Models PC4R, PC4W, PC4RH and PC4WH Horn/Strobes four-wire type, round enclosure.
All models are intended for indoor use only unless otherwise indicated. Models may be followed by the suffix “K” indicating indoor or outdoor use, or may be followed by suffix “P” for plain housing with no lettering. “K” suffix models are suitable for outdoor applications at temperatures from -40°F to +151°F (-40°C to +66°C) and are rated NEMA 4X when used with the System Sensor weatherproof back boxes models SA-WBB (Wall), SA-WBBW (Wall), SA-WBBC (Ceiling) and *SA-WBBCW (Ceiling). Refer to listee’s data sheet for additional detailed product description and operational considerations.

RATING: Standard Horn/Strobes and Chime/Strobes 8 - 17.5 or 16-33 VDC/FWR
Hi CD Horn/Strobes 16-33 VDC/FWR

INSTALLATION: In accordance with listee’s printed installation instructions, applicable codes and ordinances, and in a manner acceptable to the authority having jurisdiction.

MARKING: Listee’s name, model number, electrical rating, and UL label.

APPROVAL: Listed as *horn/strobes or chime/strobes suitable for signaling appliances and equipment for the hearing impaired applications when used with separately listed compatible fire alarm control units. Horn/strobes with -K suffix are suitable for indoor or outdoor use, ceiling or wall mount. Chime section is suitable for private mode and indoor use only. Horn/Strobes or chime/strobes* can generate the distinctive three-pulse audible Temporal Pattern Fire Alarm Evacuation Signal (for total evacuation) in accordance with NFPA 72, 2010 Edition. Refer to listee’s Installation Instruction Manual for details.

*Corrected 12-15-11 bh

This listing is based upon technical data submitted by the applicant. CSFM Fire Engineering staff has reviewed the test results and/or other data but does not make an independent verification of any claims. This listing is not an endorsement or recommendation of the item listed. This listing should not be used to verify correct operational requirements or installation criteria. Refer to listee’s data sheet, installation instructions and/or other

Date Issued: July 01, 2022
Listing Expires June 30, 2023

Authorized By: VICTOR WONG, Program Coordinator
Fire Engineering Division
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Indoor Selectable-Output Horns, Strobes, and Horn Strobes for Wall Applications

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

Features

- Updated Modern Aesthetics
- Small profile devices for Horns and Horn Strobes
- Plug-in design with minimal intrusion into the back box
- Tamper-resistant construction
- Automatic selection of 12- or 24-volt operation at 15 and 30 candela
- Field-selectable candela settings on wall units: 15, 30, 75, 95, 110, 135, and 185
- Horn rated at 88+ dBA at 16 volts
- Rotary switch for horn tone and two volume selections
- Mounting plate for all standard and all compact wall units
- Mounting plate shorting spring checks wiring continuity before device installation
- Electrically compatible with legacy SpectrAlert and SpectrAlert Advance devices
- Compatible with MDL3 sync module
- Strobes and Horn Strobes listed for wall mounting only
- Horns listed for wall or ceiling use

The System Sensor L-Series offers the most versatile and easy-to-use line of horns, strobes, and horn strobes in the industry with lower current draws and modern aesthetics. With white and red plastic housings, standard and compact devices, and plain, FIRE, and FUEGO-printed devices, System Sensor L-Series can meet virtually any application requirement.

The L-Series line of wall-mount horns, strobes, and horn strobes include a variety of features that increase their application versatility while simplifying 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.

To further simplify installation and protect devices from construction damage, the L-Series utilizes a universal mounting plate for all models with an onboard shorting spring, so installers can test wiring continuity before the device is installed.

Installers can also easily adapt devices to suit a wide range of application requirements using field-selectable candela settings, automatic selection of 12- or 24-volt operation, and a rotary switch for horn tones with two volume selections.
L-Series Specifications

Architect/Engineer Specifications

General
L-Series standard horns, strobes, and horn strobes shall mount to a standard 2 x 4 x 1 7/8-inch back box, 4 x 4 x 1 1/2-inch back box, 4-inch octagon back box, or double-gang back box. L-Series compact products shall mount to a single-gang 2 x 4 x 1 7/8-inch back box. A universal mounting plate shall be used for mounting ceiling and wall products for all standard models and a separate universal mounting plate shall be used for mounting wall compact models. The notification appliance circuit wiring shall terminate at the universal mounting plate. Also, L-Series products, when used with the Sync•Circuit™ Module accessory, shall be powered from a non-coded notification appliance circuit output and shall operate on a nominal 12 or 24 volts. When used with the Sync•Circuit Module, 12-volt-rated notification appliance circuit outputs shall operate between 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 and 120 degrees Fahrenheit from a regulated DC or full-wave rectified unfiltered power supply. Strobes and horn strobes shall have field-selectable candela settings including 15, 30, 75, 95, 110, 135, and 185.

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

Horn Strobe Combination
The horn strobe shall be a System Sensor L-Series Model _______ listed to UL 1971 and UL 464 and shall be approved for fire protective service. The horn strobe shall be wired as a primary-signaling notification appliance and comply with the Americans with Disabilities Act requirements for visible signaling appliances, flashing at 1 Hz over the strobe’s entire operating voltage range. The strobe light shall consist of a xenon flash tube and associated lens/reflect system. The horn shall have two audibility options and an option to switch between a temporal three pattern and a non-temporal (continuous) pattern. These options are set by a multiple position switch. The horn on horn strobe models shall operate on a coded or non-coded power supply.

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 Strobes at 1 Hz and horns at temporal three. Also, while operating the strobes, the module shall silence the horns on horn strobe models over a single pair of wires. The module shall mount to a 4 1/16 x 4 1/16 x 2 7/8-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/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
Regulated 12 DC or regulated 24 DC/FWR1

Operating Voltage Range2
8 to 17.5 V (12 V nominal) or 16 to 33 V (24 V nominal)

Operating Voltage Range MDL3 Sync Module
8.5 to 17.5 V (12 V nominal) or 16.5 to 33 V (24 V nominal)

Input Terminal Wire Gauge
12 to 18 AWG

Wall-Mount Dimensions (including lens)
5.6” L x 4.7” W x 1.91” D (143 mm L x 119 mm W x 49 mm D)

Compact Wall-Mount Dimensions (including lens)
5.26” L x 3.46” W x 1.91” D (133 mm L x 88 mm W x 49 mm D)

Horn Dimensions
5.6” L x 4.7” W x 1.25” D (143 mm L x 119 mm W x 32 mm D)

Compact Horn Dimensions
5.25” L x 3.45” W x 1.25” D (133 mm L x 88 mm W x 32 mm D)

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 cd and 30 cd.
### UL Current Draw Data

#### UL Max. Strobe Current Draw (mA RMS)

<table>
<thead>
<tr>
<th>Candela Range</th>
<th>8–17.5 Volts</th>
<th>16–33 Volts</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>DC</td>
<td>DC</td>
</tr>
<tr>
<td>15</td>
<td>88</td>
<td>43</td>
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<tr>
<td>30</td>
<td>143</td>
<td>63</td>
</tr>
<tr>
<td>75</td>
<td>N/A</td>
<td>107</td>
</tr>
<tr>
<td>95</td>
<td>N/A</td>
<td>121</td>
</tr>
<tr>
<td>110</td>
<td>N/A</td>
<td>148</td>
</tr>
<tr>
<td>135</td>
<td>N/A</td>
<td>172</td>
</tr>
<tr>
<td>185</td>
<td>N/A</td>
<td>222</td>
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</table>

#### UL Max. Horn Current Draw (mA RMS)

<table>
<thead>
<tr>
<th>Sound Pattern</th>
<th>dB</th>
<th>8–17.5 Volts</th>
<th>16–33 Volts</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>DC</td>
<td>DC</td>
<td>FWR</td>
</tr>
<tr>
<td>Temporal High</td>
<td>93</td>
<td>112</td>
<td>157</td>
</tr>
<tr>
<td>Temporal Low</td>
<td>83</td>
<td>112</td>
<td>157</td>
</tr>
<tr>
<td>Non-Temporal High</td>
<td>93</td>
<td>112</td>
<td>157</td>
</tr>
<tr>
<td>Non-Temporal Low</td>
<td>83</td>
<td>112</td>
<td>157</td>
</tr>
<tr>
<td>3.1 KHz Temporal High</td>
<td>93</td>
<td>112</td>
<td>157</td>
</tr>
<tr>
<td>3.1 KHz Temporal Low</td>
<td>83</td>
<td>112</td>
<td>157</td>
</tr>
<tr>
<td>3.1 KHz Non-Temporal High</td>
<td>93</td>
<td>112</td>
<td>157</td>
</tr>
<tr>
<td>3.1 KHz Non-Temporal Low</td>
<td>83</td>
<td>112</td>
<td>157</td>
</tr>
<tr>
<td>Coded High</td>
<td>93</td>
<td>112</td>
<td>157</td>
</tr>
<tr>
<td>3.1 KHz Coded High</td>
<td>93</td>
<td>112</td>
<td>157</td>
</tr>
</tbody>
</table>

* Settings 9 and 10 are not available on 2-wire horn strobes. Temporal coding must be provided by the NAC. If the NAC voltage is held constant, the horn output remains constantly on.

### UL Max. Current Draw (mA RMS), Wall Horn Strobe, Candela Range (15–185 cd)

#### DC Input

<table>
<thead>
<tr>
<th>Candela Range</th>
<th>8–17.5 Volts</th>
<th>16–33 Volts</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>15cd</td>
<td>30cd</td>
</tr>
<tr>
<td>Temporal High</td>
<td>93</td>
<td>156</td>
</tr>
<tr>
<td>Temporal Low</td>
<td>93</td>
<td>156</td>
</tr>
<tr>
<td>Non-Temporal High</td>
<td>93</td>
<td>156</td>
</tr>
<tr>
<td>Non-Temporal Low</td>
<td>93</td>
<td>156</td>
</tr>
<tr>
<td>3.1K Temporal High</td>
<td>93</td>
<td>156</td>
</tr>
<tr>
<td>3.1K Temporal Low</td>
<td>93</td>
<td>156</td>
</tr>
<tr>
<td>3.1K Non-Temporal High</td>
<td>93</td>
<td>156</td>
</tr>
<tr>
<td>3.1K Non-Temporal Low</td>
<td>93</td>
<td>156</td>
</tr>
</tbody>
</table>

#### FWR Input

<table>
<thead>
<tr>
<th>Candela Range</th>
<th>16–33 Volts</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>15cd</td>
</tr>
<tr>
<td>Temporal High</td>
<td>83</td>
</tr>
<tr>
<td>Temporal Low</td>
<td>68</td>
</tr>
<tr>
<td>Non-Temporal High</td>
<td>111</td>
</tr>
<tr>
<td>Non-Temporal Low</td>
<td>79</td>
</tr>
<tr>
<td>3.1K Temporal High</td>
<td>81</td>
</tr>
<tr>
<td>3.1K Temporal Low</td>
<td>68</td>
</tr>
<tr>
<td>3.1K Non-Temporal High</td>
<td>104</td>
</tr>
<tr>
<td>3.1K Non-Temporal Low</td>
<td>77</td>
</tr>
</tbody>
</table>

### Horn Tones and Sound Output Data

#### Horn and Horn Strobe Output (dBA)

<table>
<thead>
<tr>
<th>Switch</th>
<th>Sound Pattern</th>
<th>dB</th>
<th>8–17.5 Volts</th>
<th>16–33 Volts</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Temporal</td>
<td>84</td>
<td>89</td>
<td>89</td>
</tr>
<tr>
<td>2</td>
<td>Temporal</td>
<td>75</td>
<td>83</td>
<td>83</td>
</tr>
<tr>
<td>3</td>
<td>Non-Temporal</td>
<td>85</td>
<td>90</td>
<td>90</td>
</tr>
<tr>
<td>4</td>
<td>Non-Temporal</td>
<td>76</td>
<td>84</td>
<td>84</td>
</tr>
<tr>
<td>5</td>
<td>3.1 KHz Temporal</td>
<td>83</td>
<td>88</td>
<td>88</td>
</tr>
<tr>
<td>6</td>
<td>3.1 KHz Temporal</td>
<td>76</td>
<td>82</td>
<td>82</td>
</tr>
<tr>
<td>7</td>
<td>3.1 KHz Non-Temporal</td>
<td>84</td>
<td>89</td>
<td>89</td>
</tr>
<tr>
<td>8</td>
<td>3.1 KHz Non-Temporal</td>
<td>77</td>
<td>83</td>
<td>83</td>
</tr>
<tr>
<td>9</td>
<td>Coded</td>
<td>85</td>
<td>90</td>
<td>90</td>
</tr>
<tr>
<td>10</td>
<td>3.1 KHz Coded</td>
<td>84</td>
<td>89</td>
<td>89</td>
</tr>
</tbody>
</table>

* Settings 9 and 10 are not available on 2-wire horn strobes. Temporal coding must be provided by the NAC. If the NAC voltage is held constant, the horn output remains constantly on.
**L-Series Dimensions**

**Model** | **Description**
---|---
**Wall Horn Strobes**<br>P2RL | 2-Wire, Horn Strobe, Red<br>P2WL | 2-Wire, Horn Strobe, White<br>P2GRL | 2-Wire, Compact Horn Strobe, Red<br>P2GWL | 2-Wire, Comp 2 fils act Horn Strobe, White<br>P2RL-P | 2-Wire, Horn Strobe, Red, Plain<br>P2WL-P | 2-Wire, Horn Strobe, White, Plain<br>P2RL-SP | 2-Wire, Horn Strobe, Red, FUEGO<br>P2WL-SP | 2-Wire, Horn Strobe, White, FUEGO<br>P4RL | 4-Wire, Horn Strobe, Red<br>P4WL | 4-Wire, Horn Strobe, White
**Wall Strobes**<br>SRL | Strobe, Red<br>SWL | Strobe, White<br>SGRGL | Compact Strobe, Red<br>SGW | Compact Strobe, White<br>SRL-P | Strobe, Red, Plain<br>SWL-P | Strobe, White, Plain<br>SRL-SP | Strobe, Red, FUEGO<br>SWL-CLR-ALERT | Strobe, White, ALERT

**Horns**<br>HRL* | Horn, Red<br>HWL* | Horn, White<br>HGRL* | Compact Horn, Red<br>HGWL* | Compact Horn, White

**Accessories**<br>TR-2 | Universal Wall Trim Ring Red<br>TR-2W | Universal Wall Trim Ring White<br>SBBLR | Wall Surface Mount Back Box, Red<br>SBBW | Wall Surface Mount Back Box, White<br>SBBGRL | Compact Wall Surface Mount Back Box, Red<br>SBBGWL | Compact Wall Surface Mount Back Box, White

**Notes:**<br>All -P models have a plain housing (no “FIRE” marking on cover).<br>All -SP models have “FUEGO” marking on cover.<br>All -ALERT models have “ALERT” marking on cover.<br>*Horn-only models are listed for wall or ceiling use.
LISTING No. 7135-1653:0503

CATEGORY: 7135 -- AUDIBLE DEVICES

LISTEE: System Sensor, Unincorporated Div of Honeywell Int'l Inc.3825 Ohio Ave, St. Charles, IL 60174
Contact: Lisa Brant (203) 484-6105 Fax (203) 484-7309
Email: lisa.brant@honeywell.com

DESIGN: System Sensor Indoor 2-wire and *4-wire Models:
- HWL, HRL, HGWL and HGRL Horns;
- CHWL and CHRL Chimes;
- PC2RL, PC2WL, *PC4RL and *PC4WL Ceiling Horn Strobes;
- CHSRL and CHSWL Wall Chime Strobes;
- CHSCRL and CHSCWL Ceiling Chime Strobes;
- Wall Bezel Parts:
  - BZR-F, BZR-AL, BZR-AG, BZR-EV, BZR-P, BZR-SP, BZR-PG,
  - BZW-F, BZW-AL, BZW-AG, BZW-EV, BZW-P, BZW-SP, BZW-PG,
  - BZGR-F, BZGR-AL, BZGR-AG, BZGR-EV, BZGR-P, BZGR-SP, BZGR-PG,
  - BZGW-F, BZGW-AL, BZGW-AG, BZGW-EV, BZGW-P, BZGW-SP and BZGW-PG,
- Ceiling Bezel Parts:
  - BZRC-F, BZRC-AL, BZRC-AG, BZRC-EV, BZRC-P, BZRC-SP, BZRC-PG,
  - BZWC-F, BZWC-AL, BZWC-AG, BZWC-EV, BZWC-P, BZWC-SP and BZWC-PG,
- Color Lens:
- Wall Trim Rings:
  - *TR-2 and *TR-2W
- Ceiling Trim Rings:
  - *TRC-2 and *TRC-2W.
- Wall Surface Mounted Back Boxes:
  - SBBRL, SBBGRL, SBBWL and SBBGWL,
- Ceiling Surface Mounted Back Boxes:

This listing is based upon technical data submitted by the applicant. CSFM Fire Engineering staff has reviewed the test results and/or other data but does not make an independent verification of any claims. This listing is not an endorsement or recommendation of the item listed. This listing should not be used to verify correct operational requirements or installation criteria. Refer to listee's data sheet, installation instructions and/or other relevant documents.

Date Issued: July 01, 2022
Listing Expires: June 30, 2023
Authorized By: VICTOR WONG, Program Coordinator
Fire Engineering Division
SBBCRL and SBBCLWL

MP120KL 120 VAC Adapter Mounting Plate

Refer to listee's data sheet for detailed product description and operational considerations.

**RATING:**
12 VDC regulated and 24 VDC/FWR

**INSTALLATION:**
In accordance with listee's printed installation instructions, NFPA 72, applicable codes & ordinances and in a manner acceptable to the authority having jurisdiction.

**MARKING:**
Listee's name, model number, electrical rating, and UL label.

**APPROVAL:**
Listed as audible devices when used with separately listed compatible fire alarm control units. Suitable for indoor use, wall or ceiling mounted. Authority having jurisdiction should be consulted prior to installation. Refer to listee’s Installation Instruction Manual for details.

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**Date Issued:** July 01, 2022  
**Listing Expires:** June 30, 2023

**Authorized By:** VICTOR WONG, Program Coordinator  
**Fire Engineering Division**
SSM/SSV Series
Alarm Bells

System Sensor’s SSM and SSV series alarm bells are low current, high decibel notification appliances for use in fire and burglary systems or other signaling applications.

Features
- Approved for indoor and outdoor use
- Low current draw
- High dB output
- Available in six-inch, eight-inch, and ten-inch sizes
- AC and DC models
- DC models polarized for use with supervision circuitry
- Mount directly to standard four-inch square electrical box indoors
- SSM and SSV series come pre-wired

Reliable Performance. The SSM and SSV series provide loud resonant tones. The SSM series operates on 24VDC and are motor driven, while the SSV series operates on 120VAC utilizing a vibrating mechanism.

Simplified Installation. For indoor use, the SSM and SSV series mount to a standard four-inch square electrical box. For outdoor applications, weatherproof back box, model number WBB, is used.

The SSM and SSV series come pre-wired, to reduce installation time. The SSM series incorporates a polarized electrical design for use with supervision circuitry.

Agency Listings

UL Listed
CSA
FM Approved
MEA approved
SSM/SSV Specifications

Architectural/Engineering Specifications
Model shall be a SSM or SSV Series alarm bell. Bells shall have underdome strikers and operating mechanisms. Gongs on said bells shall be no smaller than nominal 6˝/8˝/10˝ (specify size) with an operating voltage of 24VDC or 120VAC (specify by part number). Bells shall be suitable for surface or semi-flush mounting. Outdoor surface mounted installations shall be weatherproof (using optional WBB weatherproof electrical box). Otherwise bells shall mount to a standard 4” square electrical box having a maximum projection of 2½”. Bells shall be located as shown on the drawings or as determined by the Authority Having Jurisdiction. Bells shall be listed for indoor/outdoor use by Underwriters Laboratories and the California State Fire Marshal, and approved by Factory Mutual and MEA.

Physical/Operating Specifications
- Operating Temperature Range: –31°F to 140°F
- Operating Voltage: SSM series: 24 VDC
  SSV series: 120 VAC
- Termination: Provided with 2 sets of leads for in/out wiring
- Service Use: Fire Alarm, General Signaling, Burglar Alarm
- Warranty: 3 years

Electrical Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>Gong Diameter (inches)</th>
<th>Nominal Voltage</th>
<th>Operating Voltage Limit</th>
<th>Maximum Current</th>
<th>Sound Output (dBA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SSM24-6</td>
<td>6</td>
<td>Regulated 24VDC</td>
<td>16 to 33VDC</td>
<td>DC-31.1mA/FWR-53.5mA</td>
<td>82</td>
</tr>
<tr>
<td>SSM24-8</td>
<td>8</td>
<td>Regulated 24VDC</td>
<td>16 to 33VDC</td>
<td>DC-31.1mA/FWR-53.5mA</td>
<td>80</td>
</tr>
<tr>
<td>SSM24-10</td>
<td>10</td>
<td>Regulated 24VDC</td>
<td>16 to 33VDC</td>
<td>DC-31.1mA/FWR-53.5mA</td>
<td>81</td>
</tr>
<tr>
<td>SSV120-6</td>
<td>6</td>
<td>Regulated 120VAC</td>
<td>96 to 132VAC</td>
<td>53mA</td>
<td>85</td>
</tr>
<tr>
<td>SSV120-8</td>
<td>8</td>
<td>Regulated 120VAC</td>
<td>96 to 132VAC</td>
<td>53mA</td>
<td>82</td>
</tr>
<tr>
<td>SSV120-10</td>
<td>10</td>
<td>Regulated 120VAC</td>
<td>96 to 132VAC</td>
<td>53mA</td>
<td>82</td>
</tr>
</tbody>
</table>

* Sound output measured at Underwriter Laboratories, as specified in UL464

Ordering Information

<table>
<thead>
<tr>
<th>UL/FM Model No.</th>
<th>ULC/Canadian Model No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
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<td>SSM24-6</td>
<td>SSM24-6A</td>
<td>Bell, 6˝, 24VDC, Polarized, 82dBA</td>
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<tr>
<td>SSM24-8</td>
<td>SSM24-8A</td>
<td>Bell, 8˝, 24VDC, Polarized, 80dBA</td>
</tr>
<tr>
<td>SSM24-10</td>
<td>SSM24-10A</td>
<td>Bell, 10˝, 24VDC, Polarized, 81dBA</td>
</tr>
<tr>
<td>SSV120-6</td>
<td>SSV120-6A</td>
<td>Bell, 6˝, 120VAC, 85dBA</td>
</tr>
<tr>
<td>SSV120-8</td>
<td>SSV120-8A</td>
<td>Bell, 8˝, 120VAC, 82dBA</td>
</tr>
<tr>
<td>SSV120-10</td>
<td>SSV120-10A</td>
<td>Bell, 10˝, 120VAC, 82dBA</td>
</tr>
<tr>
<td>WBB</td>
<td></td>
<td>Weatherproof back box for SSM and SSV series, when installed outdoors</td>
</tr>
</tbody>
</table>
LISTING No. 7135-1653:0217  

CATEGORY: 7135 -- AUDIBLE DEVICES

LISTEE: System Sensor, Unincorporated Div of Honeywell Int'l Inc.3825 Ohio Ave, St. Charles, IL 60174  
Contact: Lisa Brant (203) 484-6105 Fax (203) 484-7309  
Email: lisa.brant@honeywell.com

DESIGN: Models SSM24-6, -8, -10 and SSV120-6, -8, -10 audible signal devices. Models are AC or DC powered and available in 6", 8" and 10" bells. Refer to listee's data sheet for detailed product description and operational considerations. The units may be employed outdoors when used with NEMA 3R weather resistant back box Model WBB.

RATING:  
SSM24-6 Sound output: 82 dBA  
SSM24-8 Sound output: 80 dBA  
SSM24-10 Sound output: 81 dBA  
SSV120-6 Sound output: 85 dBA  
SSV120-8 Sound output: 82 dBA  
SSV120-10 Sound output: 82 dBA  
SSM Series Voltage Range: 16-33 VDC  
SSV Series Voltage Range: 96-132 VAC  
Temperature Range: -31°F to 150° F (-35°C to 66°C)

INSTALLATION: In accordance with listee's printed installation instruction, applicable codes & ordinances, and in a manner acceptable to the authority having jurisdiction.

MARKING: Listee’s name, model number and UL label.

APPROVAL: Listed as audible devices for use with separately listed compatible fire alarm control units. If this appliance is required to produce a distinctive three-pulse Temporal Pattern Fire Alarm Evacuation Signal (for total evacuation) in accordance with NFPA 72, 2002 Edition, the appliance must be used with a fire alarm control unit that can generate the temporal pattern signal. Refer to manufacturer’s Installation Manual for details.

Date Issued: July 01, 2022  
Listing Expires June 30, 2023  
Authorized By: VICTOR WONG, Program Coordinator  
Fire Engineering Division

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