Portland, Maine — Yes. Life's good here.

Permitting and Inspections Department

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03/06/2020

Fire Alarm Permit Application

Construction Address: 1 Portland Square (TD Bank)

Total Square Footage of Proposed Structure: 10,355

Tax Assessor's Chart, Block & Lot
Chart# | Block# | Lot#

Cost of Work: $ 31,000

Applicant Name: Norris Inc.
Address: 2257 West Broadway South Portland, ME. 04106
Phone: 207-883-3473
Email: melissap@norrisinc.com

Lessee/Owner Name (if different): North River
Address: 1 Portland Square Portland, ME. 04101
Phone: 207-874-6000
Email: djacques@waterfrontme.com

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

Current use (i.e. single family):
If vacant, what was the previous use? business
Proposed specific use: TD Bank
Is property part of a subdivision? If yes, name:
Project description: add, remove and relocate devices as needed for suite fit up
Life Safety Code Occupancy Classification: mixed
Is this new work or a renovation to an existing system? reno
Is the top occupiable floor of the building greater than 75 feet above the lowest level of Fire Department access (high-rise)? Yes
Name of company providing programming and certification of system*: Norris Inc.
Electrical permit #: Elec 2020-02475

Will a master box be installed? ○ Yes ◉ No **If yes, complete all items for approval):**
AES approved installing contractor:
Documentation of AES approval:
Property Owner:
Property Owner Billing Address:
Property common name:
E-911 address for protected premises:
Emergency contact phone: Additional emergency contact phone:
Number of stories protected:
Is the building protected by a supervised, automatic sprinkler system? ◉ Yes ○ No

Existing

Name of person to contact when the permit is ready: Melissa Peters
Address: Norris Inc
City, State & Zip:
Email Address: melissap@norrisinc.com **Phone:**

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

Norris Inc.

PO Box 2551
2257 West Broadway
South Portland, ME 04106

1-800-370-3473
fax 207-879-0540

www.norrisinc.com

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Please complete this form and return to Norris Inc.

Building Owner Information Form

Job Name: **Project #**

Electrical Contractor:

NFPA requires this information for proper documentation.

The contractor must provide all of the requested information below before ANY equipment can be released.

Electrical Contractor Contact:

Estimated Date Equip. Needed: **Estimated Finals Date:**

Building Owner:

Job Site Address:

City: **State:** **Zip:**

Customer Contact:

Phone:

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Thank you for your cooperation.

Please advise the building owners that if this system is equipped with a digital communicator, then they MUST also make monitoring arrangements prior to a certificate of occupancy.

Norris Inc will attempt to contact the building owners.

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STOP!

THIS COPY IS FOR YOUR ELECTRICIAN

ON THE JOBSITE

PLEASE BE SURE THIS COPY IS FORWARDED

1.) **A riser diagram is enclosed. DO NOT USE THE ENGINEER'S RISER SHOWN ON THE PLANS. If there is any information that you question, call us immediately.**
2.) **YOU MUST CALL AT LEAST FIVE DAYS IN ADVANCE TO SCHEDULE FINAL CONNECTION ASSISTANCE.**
3.) **All wires must be labeled and clear of any grounds, shorts or opens, and must maintain polarity throughout. Meter out all circuits before calling for final connection assistance. If applicable verify End of Line resistors are in place.**
4.) **If using shielded cable, the drain wires must be connected and fully insulated, so that neither the shield or the drain wire touches the backbox.**
5.) **Unless special arrangements are made, we will make one final job site visit. If a special visit is required for an elevator inspection or partial occupancy, then additional charges may if prior arrangements were not made. Call your customer service representative if needed.**
6.) **If you have any defective of left over parts, DO NOT WRITE ON THEM OR THE BOXES. Save the original box, all mounting hardware and instructions. Returns that do not conform to this practice will not be accepted for credit.**
7.) **If the system is being monitored through a digital communicator, please see information on the next page.**

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IMPORTANT INFORMATION FOR THE BUILDING OWNERS

SPECIAL NOTE REGARDING ALARM MONITORING SERVICES

Included with your alarm system package is a digital communicator, which sends coded messages to a private 24 hour central station if your alarm system is activated. This is a code requirement for most fire alarm systems. As a service to our customer, we offer central station monitoring services from our local UL Listed central station at extremely competitive rates.

If the central station monitoring contract is purchased through Norris Inc. prior to our scheduled start up; we will connect, program, and test the communicator at no additional charge.

Should the building owners decide to obtain monitoring services from another company, then the cost for programming and testing the communicator will be the sole responsibility of the firm they have contracted with. Furthermore, if programming changes are made to the system by persons other than Norris Inc. technicians, then the company performing the changes shall be solely liable for any personal injury or loss of life or damage to, or loss of property arising out of the use of or inability to use the system and it shall result in a waiver of any system warranties.

We appreciate that you understand the delicate nature of this life safety and/or security system and realize that serious problems may arise when modifications to the system are made, including very simple programming changes.

Call Norris Inc. at 1-800-370-FIRE (3473) to make arrangements for central station monitoring services.

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SUBMITTAL PACKAGE

Project: 1 Portland Square

System: Fire Alarm

Submitted by: **Norris Inc.**
2257 West Broadway
South Portland, Maine 04106
Telephone: 1-800-370-3473

Submittal Date: 2/20/2020

Norris Inc.

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Company Profile

"We are extremely proud to represent the highest quality manufacturers integrating life safety, alarm, and communication systems throughout northern New England."

--Bradford Norris, President—

Mission Statement

Provide quality engineered systems, exceptional service.

Goal

Learn…Continually Improve…Exceed Expectations

Founded in 1979, Norris Inc. has grown to become northern New England's leading integrated system contracting and supply company. Norris Inc. is an innovated proactive organization with extensive experience in integration interdisciplinary building management systems. Our local and national affiliations assure that your project will be done properly regardless of size. Representing leading manufacturers, our comprehensive projects provide outstanding quality, reliability, and performance… Surpassing customer application requirements and exceeding the stringent requirements of Underwriters Laboratories, National Fire Protection Association and other codes.

We maintain an exceptional level of quality and provide the highest levels of customer service. Our knowledgeable technical support will insure the great service you deserve. Whether your needs involve industrial, commercial, institutional, or educational applications, you can trust that Norris Inc. has the complete resources it takes to provide the right solution, right away.

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LIMITED WARRANTY

Norris Inc. warrants that the products of its manufacturers shall be free from defects in materials or workmanship as warranted by the manufacturer which is typically for a one (1) year period from the completed installation date, but not always. The completed installation date will be the date when the end-user was able to begin using or started using the product(s) or the system, whether partially or in its entirety. For projects that have a specification or bid instructions to follow which contains specific warranty requirements, Norris Inc. will always honor the warranty terms exactly as specified in the project's specifications or bid documents, which may be more or less in coverage and duration than the manufacturer's warranty. In performing hundreds of projects per year with thousands of different products it is impossible for Norris Inc. to track the terms and details of specified or individual product warranties. Therefore, Norris Inc. will request that the owner's representative provide these special warranty details when the warranty work is requested; otherwise a standard one (1) year warranty on the equipment will be honored. The manufacturer's warranty is for equipment only and does not include any labor and/or shipping costs. All warranties provided by Norris Inc. are limited with the same limitations included with the manufacturer's warranty which is included in the manuals of the products being provided.

The warranty will apply only if such goods have been properly installed, are subject to normal proper use and have not been modified in any manner whatsoever. Upon return of the defective product, Norris Inc. will, at its sole discretion, either repair or replace, at no cost, such goods determined to have a defect in materials or workmanship. In cases of a warranty repair, Norris Inc. will use its sole discretion to determine if a suitable replacement part can be provided on loan while the repairs are being performed.

All warranty work is performed during regular business hours. If emergency warranty work is required, the customer will pay the difference between the emergency service bill and our normal hourly charges.

Norris Inc.'s limited warranty does not apply to those products that are damaged due to misuse, abuse, negligence, exposure to adverse environmental conditions, acts of God, or have been modified in any manner whatsoever.

Norris Inc.'s standard terms and conditions are provided with our invoices. Those Terms and Conditions shall be provided upon request.

NORRIS INC. SHALL NOT UNDER ANY CIRCUMSTANCES BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING FROM LOSS OF LIFE AND/OR PROPERTY OR OTHER DAMAGE OR LOSSES OWING TO THE FAILURE OF NORRIS INC. PRODUCTS BEYOND THE COST OF REPAIR OR REPLACEMENT OF ANY DEFECTIVE PRODUCTS.

NORRIS INC. MAKES NO WARRANTY OF FITNESS OR MERCHANTABILITY AND NO OTHER WARRANTY, ORAL OR WRITTEN, EXPRESS OR IMPLIED AS ALLOWED TO THE FULLEST EXTENT OF THE LAW.

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OUR CONTINUOUS COMMITMENT TO OUR ENVIRONMENT

At Norris Inc, we are proudly committed to continuous environmental improvement for a sustainable future and to develop strong partnerships within our community.

Our mission while running our operations is to do everything within our power to improve the environmental quality of our world and to work together to create a clean and safe place to live in and work in for future generations.

We will incorporate and promote green practices within our operations with policies to support it, a system of rewarding those that fully embrace it and then will regularly review our practices for continuous improvement.

We will establish policies, make investments in technologies and set the example in our own operations to include our ongoing commitment to go paperless and making it a requirement to Reuse, Reduce, & Recycle, to turn off unneeded lights, to not allow our vehicles to idle, to encourage carpooling and to utilize practical energy efficient transportation.

We will always be 100% compliant with all applicable environmental laws and regulations and will report any violations.

We will remain committed to working locally and whenever possible to sell and use locally manufactured products.

We will insist that every purchase we make will include a review of its environmental impact with a very high priority to selecting the greenest products and services available.

We will remain committed to selling low energy products. This includes promoting wireless technologies, using existing wire infrastructure in our installations, promoting solar powered devices, using our Remote Services in lieu of on-site service calls and performing calculations to minimize power supply and battery needs.

We will educate our employees and customers to illustrate that green practices and purchases are almost always less costly in the long run.

We will support and give priority to organizations that show the strongest commitment to the environment.

We will actively encourage and promote the same responsible green practices that we utilize in the work place to our employees for use in their everyday personal lives.

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REMOTE INTERNET CONNECTIONS

As an added service to our customers and in order to facilitate the commissioning of the system(s) being provided within this submittal and then later to provide warranty support Norris Inc. may (at Norris Inc's option) use internet connections to gain access to the system(s) being provided. Many methods can be used, but the most popular is utilizing software named LogMeIn. This software or any other method used to connect to the customer's network will allow Norris Inc's technicians the ability to get onto the programming and diagnostic levels of the system(s) being provided via the building owner's or tenant's data network and program, diagnose or make needed changes to the operation of the system(s). This will provide a better working atmosphere to perform programming from a controlled environment without the disruptions of a construction job-site and allow fast and efficient trouble shooting and/or servicing if problems should occur later. Acceptance of this submittal by those approving it shall constitute an acceptance and approval to perform the work necessary to install and/or enable these network connections if Norris Inc. chooses to do so. It is the sole responsibility of the submittal approvers to advise the building owners and/or tenants that Norris Inc. has the ability to gain access to their network. At the specific request of those approving this submittal or the contractor that Norris Inc. is working for the building owners or tenants that own the network, Norris Inc. can remove or disable the ability to connect to the building's network. However, leaving it in place will allow for quicker and more cost effective service when it is needed. Under absolutely no circumstances shall Norris Inc, its principals, employees, or heirs to be held responsible for any losses incurred as a result of this network connection or the inability for the network connection to operate as expected.

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This is to certify that

NORRIS, INC.

is an authorized Premier Engineered Systems Distributor for
NOTIFIER

During the year of ***2020***

ESD Since 1987

Richard Bauer
Vice President Sales

Norris Inc.
2257 West Broadway
South Portland, ME 04106

TD Bank 1 Portland Square Fit-Up

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Date:
2/19/2020
Project #:
1639

Equipment List

Manufacturer	Part Number	Description
NOTIFIER	NBG12LX	PULL STATION
NOTIFIER	FSP951IV	SMOKE DETECTOR
NOTIFIER	B3006IV	DETECTOR BASE
NOTIFIER	FSP951R	REMOTE TEST CAPABLE INTELLIGENT PHOTO
NOTIFIER	DNR	DUCT DETECTOR, NON-RELAY, NO HEAD.
NOTIFIER	DST3	SAMPLING TUBE
SYSTEM SENSOR	RTS151	REMOTE TEST STATION
NOTIFIER	FRM1	RELAY MODULE
NOTIFIER	FCPS24S8	REMOTE POWER SUPPLY
MISCELLANEOUS	SP127	12V 7AH BATTERY
NOTIFIER	E5024MCWFR	SPEAKER STROBE, WALL, RED
WHEELOCK	STR	STROBE, WALL, RED

NBG-12LX

Addressable Manual Pull Station

NOTIFIER® by Honeywell

Intelligent/Addressable Devices

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, and the NSP-25 panel. 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 standby current:** 375 µA.
- **Maximum SLC alarm current:** 5 mA.
- **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**

The NBG-12LX
Addressable Manual Pull Station

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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

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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. (Listed for Canadian and non-Canadian applications.)

NBG-12LXSP: Spanish/English labelled version.

NBG-12LXP: Portuguese labelled version.

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/ULC Listed:** S692 (listed for Canadian and non-Canadian applications).
- **MEA:** 67-02-E.
- **CSFM:** 7150-0028:0199.
- **FDNY:** COA #6085 (NFS2-640), COA #6098 (NFS2-3030).
- **BSMI:** CI313066760047.
- **U.S. Coast Guard.**
- **Lloyd's Register.**
- **FM Approved.**

Patented: U.S. Patent No. D428,351; 6,380,846; 6,314,772; 6,632,108.

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ISO 9001 CERTIFIED
ENGINEERING & MANUFACTURING
QUALITY SYSTEMS

This document is not intended to be used for installation purposes.
We try to keep our product information up-to-date and accurate.
We cannot cover all specific applications or anticipate all requirements.
All specifications are subject to change without notice.

Made in the U.S. A.

For more information, contact Notifier. Phone: (203) 484-7161, FAX: (203) 484-7118.
www.notifier.com

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FSP-951 Series

Intelligent Plug-In Photoelectric Smoke Detectors

NOTIFIER® by Honeywell

Intelligent/Addressable Devices

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.

FSP-951 in B300-6 Base

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.

Thermal Ratings: Fixed-temperature setpoint 135°F (57°C).

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.*

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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/DNRW. 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/DNRW.

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.

B501-WHITE-BP: Bulk pack of B501-WHITE contains 10.

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-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 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.

B200S-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.

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 with, ULC listing.

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

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) 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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03/06/2020

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NOTIFIER® by Honeywell

DNR(A) and DNRW Intelligent Photoelectric Duct Detectors

The Notifier DNR(A) 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.

The DNRW duct smoke detector, with its NEMA-4 rating, is listed as a watertight, UV resistant 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 4,000 feet per minute (0.5 – 20.32 m/s), temperatures of -4°F – 158°F (-20°C – 70°C), and a humidity range of 0 – 95 percent (non-condensing.)

An improved cover design isolates the sensor head, which allows for ease of maintenance. A cover tamper feature indicates a trouble signal for a removed or improperly installed sensor cover. The housing provides a 3/4-inch conduit knockout and ample space to facilitate easy wiring and mounting of a relay module.

The Notifier DNR(A) duct smoke detectors can be customized to meet local codes and specifications without additional wiring and are compatible with all previous models, including remote test accessories.

Features

- Photoelectric, integrated low-flow technology
- Air velocity rating from 100 ft/min – 4,000 ft/min (0.5 m/s – 20.32 m/s)
- Versatile mounting options: square or rectangular configuration
- Broad ranges for operating temperature (-4°F – 158°F, -20°C – 70°C) and humidity (0% – 95% non-condensing)
- Patented sampling tube installs from front or back of the detector with no tools required
- Cover tamper signal
- Increased wiring space with a newly added 3/4” conduit knockout
- Available space within housing to accommodate mounting of a relay module
- Easily accessible code wheels on sensor head (sold separately)
- Clear cover for convenient visual inspection
- Remote testing capability
- Requires com line power only
- Accommodates an addressable relay module, sold separately, (FRM-1) for applications requiring a Form-C relay

Specifications

Size: (Rectangle) 14.38 in (37 cm) Length; 5 in (12.7 cm) Width, 2.5 in (6.6 cm) Depth

Size: (Square) 7.75 in (19.7 cm) Length; 9 in (22.9 cm) Width; 2.5 in (6.35 cm) Depth

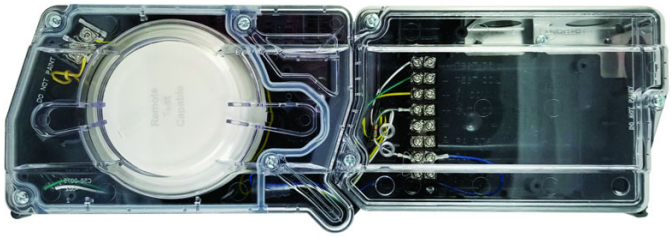
Weight: 1.6 lb (0.73 kg)

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

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

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

Air Duct Velocity: 100 – 4,000 ft/min (0.5 – 20.32 m/s)



Accessories

Notifier 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 detectors accessories are UL listed.

DNR(W) housings with a date code of 0013 or higher do not require external 24VDC for remote test applications when used with a remote-test-capable detector.

ACCESSORY CURRENT LOADS AT 24 VDC

Device	Standby	Alarm
RA100Z	0mA	12mA Max
RTS151/RTS151KEY	0mA	12mA Max

Agency Listings and Approvals

Consult product manual for lists of compatible UL-Listed devices. 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, S3705
- **ULC:** S635
- **CSFM:** 3240-1653:0209
- **FM approved**

Product Line Information

NOTE: *“A suffix indicates ULC listed model.*

DNR(A): Intelligent non-relay photoelectric low flow smoke detector housing. Requires photoelectric smoke detector (sold separately).

DNRW: Watertight intelligent non-relay photoelectric low flow duct smoke detector housing. Requires photoelectric smoke detector (sold separately). NEMA-4 rated.

FSP-951R(A)-IV: Remote test capable addressable low-profile photoelectric smoke detector; ivory; supports CLIP and FlashScan® protocols

FSP-951R(A): Remote test capable addressable low-profile photoelectric smoke detector; white; supports FlashScan protocol only

FSP-951(A)-IV: Addressable low-profile photoelectric smoke detector; ivory; supports CLIP and FlashScan protocols

FSP-951R(A): Addressable low-profile photoelectric smoke detector; white; supports FlashScan protocol only

DCOIL: Remote test coil. Required for older DNR(W) duct detector housing

DUCTCOV: Retrofit DNR cover for manufactured prior to April 2014

DUCTCOVW: Retrofit DNRW cover for manufactured prior to April 2014

DST1(A): Metal sampling tube duct width up to 1 ft (0.3m)

DST1.5(A): Metal sampling tube duct widths up to 1 ft – 2 ft (0.3 – 0.6 m)

DST3(A): Metal sampling tube duct widths up to 2 ft – 4 ft (0.6 – 1.2 m)

DST5(A): Metal sampling tube duct widths up to 4 ft – 8 ft (1.2 – 2.4 m)

DST10(A): Metal sampling tube duct widths up to 8 ft – 12 ft (2.4 – 3.7 m)

DH400OE-1: Weatherproof enclosure

ETX: Metal exhaust tube duct, width 1 ft (0.3 m)

M02-04-00: Test magnet

P48-21-00: End cap for metal sampling tubes

RA100Z(A): Remote annunciator alarm LED

RTS151(A): Remote test station

RTS151KEY(A): Remote test station with key lock

Important Notes

- DNR(W) duct detector housings with a date code of 0013 or higher do not require a DCOIL or auxiliary 24 VDC for remote test applications when used with a remote test capable detector.
- DNR(W) duct detector housings with a date code of 0012 or earlier require a DCOIL and auxiliary 24 VDC power for remote test applications.

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Country of Origin: Mexico

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Department
Approved: 03/06/2020

NOTIFIER®
by Honeywell

Duct Smoke Detector Accessories

for Notifier/System Sensor Products

NOTIFIER® by Honeywell

Miscellaneous

General

Duct smoke detector accessories add functionality to the duct smoke system by allowing quick, convenient inspections at eye level and effective audible and visual notification options. All System Sensor duct smoke detectors and accessories are UL listed.

Specifications

APA151 PIEZO ANNUNCIATOR

The **APA151** piezo annunciator, which replaces the APA451 with a new, improved look, provides an audible alarm signal, a red LED to indicate alarm status, and a green LED to indicate power status. It is intended for use with System Sensor 4-wire conventional duct smoke detector applications without a system control panel, to comply with NFPA 90A.

APA151.wmf

APA151 Piezo Annunciator	
Voltage	Regulated 24 VDC
Operating Voltage	16 to 33 VDC
Maximum Alarm Current	30 mA
Temperature Range	32°F to 120°F (0°C to 49°C)
Relative Humidity	10 to 93%, non-condensing
Wire Gauge	12 to 18 AWG
Dimensions	4.6” H x 2.9” W x .45” D

MHR/MHW MINI-HORNS

The **MHR** and **MHW** SpectrAlert® Advance mini-horns feature temporal or continuous tones at high and low volume settings. Their small footprint allows mounting to single-gang back boxes for applications where a small device is desired.

MHR.wmf, MHW.wmf

60535cov.wmf

MHR/MHW SpectrAlert Advance Mini-Horns	
Voltage	Regulated 12 DC or FWR (Full Wave Rectified) or Regulated 24 VDC or FWR
Operating Voltage	8 to 33 VDC (9 to 33 VDC with Sync-Circuit™ Module)
Sounder Current Draw	22 mA RMS max. at 8 to 17.5 Volts DC 17 mA RMS max. at 8 to 17.5 Volts FWR 29 mA RMS max. at 16 to 33 Volts DC 25 mA RMS max. at 16 to 33 Volts FWR
Temperature Range	32°F to 120°F (0°C to 49°C)
Humidity Range	10 to 93% non-condensing
Nominal Sounder Frequency	3 kHz
Wire Gauge	12 to 18 AWG
Dimensions	4.6”H x 2.9”W x 0.45”D

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RA100Z/RA100ZA REMOTE ANNUNCIATORS

The **RA100Z** and **RA100ZA** remote annunciators are designed for both conventional and intelligent applications. Their red LED provides visual indication of an alarm condition.

RA100Z.wmf

RA100Z/RA100ZA Remote Annunciator	
Voltage Range	Conventional System: 3.1 to 32 VDC Intelligent System: 18 to 32 VDC
Maximum Alarm Current	10 mA
Dimensions	4.6"H x 2.8"W x 1.3"D

RTS151/RTS151KEY REMOTE TEST STATIONS

The **RTS151** and **RTS151KEY** remote test stations are automatic fire detector accessories designed to test duct smoke detectors from a convenient location. For 4-wire detectors, the **RTS151KEY** test station features a multi-colored LED that alternates between steady green and red. For 2-wire detectors, the LED illuminates red for alarm.

RTS151.wmf, RTS151KEY.wmf

RTS151 Remote Test Station	
Power Requirements	Alarm LED 2.8 to 32 VDC, 10 mA max. Total Current: 95 mA max.
Test Switch	10 VA @ 32 VDC
Reset Switch	10 VA @ 32 VDC
Alarm Response Time	40 seconds max.
Temperature Range	14°F to 140°F (-10°C to 60°C)
Relative Humidity	95% non-condensing
Wire Gauge	14 to 18 AWG
Dimensions	4.8"H x 2.9W x 1.4"D

RTS151KEY Remote Test Station with Key	
Power Requirements	Power LED (Green): 14 to 35 VDC, 12 mA max. Alarm LED (RED): 2.8 to 32 VDC, 12 mA max.
Alarm Response Time	40 seconds max.
Temperature Range	14°F to 140°F (-10°C to 60°C)
Relative Humidity	95% non-condensing
Wire Gauge	14 to 18 AWG
Dimensions	4.6"H x 2.75W x 1.8"D

RTS2/RTS-AOS MULTI-SIGNALLING ACCESSORIES

The **RTS2** and **RTS2-AOS** multi-signaling accessories are designed to work with InnovairFlex 4-wire conventional duct smoke detectors. These accessories include a key switch that can be used to select one of two connected sensors to be tested, reset, or both by a push button switch. They also enable sensitivity measurements using the SENS-RDR sensitivity reader (sold separately). The **AOS** (Add-On Strobe) is an optional accessory included with the **RTS2-AOS** model.

RTS-AOS.wmf, AOS.wmf

RTS2 and RTS-AOS Multi-signaling Accessory	
Voltage	20 to 29 VDC
Power Requirements	Standby: 3.0 mA max. Trouble: 16.0 mA max. Alarm without Strobe: 30 mA max. Alarm with Strobe: 55 mA max.
Sounder	85 dBA at 10 ft.
Temperature Range	14°F to 140°F (-10°C to 60°C)
Relative Humidity	95% non-condensing
Wire Gauge	14 to 22 AWG
Dimensions	4.8"W x 5.3"H x 1.6"D

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Product Line Information

APA151: Piezo Annunciator

MHR: Mini-Horn, Red

MHW: Mini-Horn, White

RA100Z/RA100ZA: Remote Annunciator

RTS151: Remote Test Station

RTS151KEY: Remote Test Station with Key

RTS2: Multi-signaling Accessory

AOS: Add-On Strobe

RTS2-AOS: Multi-Signaling Accessory

Temperature and Humidity Ranges

This system meets NFPA requirements for operation at 0 – 49ºC/32 – 120ºF and at a relative humidity 93% ± 2% RH (noncondensing) at 32ºC ± 2ºC (90ºF ± 3ºF). 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 – 27ºC/60 – 80ºF.

Agency Listings and Approvals

The listings and approvals below apply to the basic products. 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: S4011 (APA 151, MHR, MHW), S2522 (RTS2, RA100Z, RTS151, RTS151KEY, RTS2-AOS)**
- **FM Approved**
- **CSFM: 7135-1653:0212**

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Made in the U.S. A.

FCM-1(A) & FRM-1(A) Series

Control and Relay Modules

NOTIFIER® by Honeywell

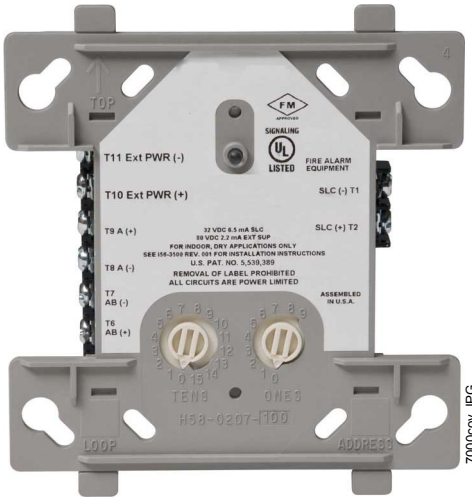
Intelligent / Addressable Devices

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.



FCM-1(A)

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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). 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.*

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).
- 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.

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:** S3705 (A version only)
- **FM Approved**
- **CSFM:** 7300-0028:0219
- **MEA:** 14-00-E
- **FDNY:** COA #6067, #6065

Contact Ratings for FRM-1(A)

Current Rating	Maximum Voltage	Load Description	Application
3 A	30 VDC	Resistive	Non-Coded
2 A	30 VDC	Resistive	Coded
.9 A	110 VDC	Resistive	Non-Coded
.9 A	125 VDC	Resistive	Non-Coded
.5 A	30 VDC	Inductive (L/R=5ms)	Coded
1 A	30 VDC	Inductive (L/R=2ms)	Coded
.3 A	125 VAC	Inductive (PF=0.35)	Non-Coded
1.5 A	25 VAC	Inductive (PF=0.35)	Non-Coded
.7 A	70.7 VAC	Inductive (PF=0.35)	Non-Coded
2 A	25 VAC	Inductive (PF=0.35)	Non-Coded

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.

FRM-1(A): Intelligent Addressable Relay 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.*
- *Notifier SLC Wiring Manual, document 51253.*

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Made in the U.S. A.

FCPS-24S6(C/E) & FCPS-24S8(C/E)

6- & 8-Amp 24-Volt Remote Power Supplies

NOTIFIER® by Honeywell

Power Supplies

General

The FCPS-24S6E (6-amp) and FCPS-24S8E (8-amp) are remote power supplies with battery charger. The FCPS-24S6/-24S8 may be connected to any 12 or 24 volt fire alarm control panel (FACP) or may be used as stand-alone supplies. Primary applications include notification appliance circuit (NAC) expansion (to support ADA requirements and NAC synchronization) or auxiliary power to support 24 volt system accessories. The FCPS-24S6/-24S8 provides regulated and filtered 24 VDC power to four notification appliance circuits configured as either four Class B (Style Y) or Class A (Style Z, with ZNAC-4 option module). Alternately, the four outputs may be configured as all non-resettable, all resettable or two non-resettable and two resettable. The FCPS-24S6/-24S8 also contains a battery charger capable of charging up to 18 AH batteries. FCPS-24S6C & FCPS-24S8C are ULC-listed.

NOTE: *Unless otherwise specified, the terms FCPS-24S6 and FCPS-24S8 used in this document refers to the standard FCPS-24S6 and FCPS-24S8, FCPS-24S6C and FCPS-24S8C, the FCPS-24S6E and FCPS-24S8E*

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Features

- UL-Listed NAC synchronization using System Sensor, Wheelock, or Gentex "Commander^2" appliances.
- Operates as a "sync-follower" or as a "sync-generator" (default). *See note on page 2.*
- Contains two fully-isolated input/control circuits - triggered from FACP NAC (NAC expander mode) or jumped permanently "ON" (stand-alone mode).
- Four Class B (Style Y) or four Class A (Style Z, with ZNAC-4 module) NACs.
- 6-amp (FCPS-24S6) or 8-amp (FCPS-24S8) full load output, with 3 amps maximum/circuit, in NAC expander mode (UL 864).
- 4-amp (FCPS-24S6) or 6-amp (FCPS-24S8) continuous output in stand-alone mode (UL 1481).
- Compatible with coded inputs; signals passed through.
- Optional power-supervision relay (EOLR-1).
- In stand-alone mode, output power circuits may be configured as: resettable, (reset line from FACP required), non-resettable, or a mix of two and two.
- Fully regulated and filtered power output - optimal for powering four-wire smoke detectors, annunciators, and other system peripherals requiring regulated/filtered power.
- Power-limiting technology meets UL power-limiting requirements.
- Form-C normally-closed trouble relay.
- Fully supervised power supply, battery, and NACs.
- Selectable earth fault detection.
- AC trouble report selectable for immediate 2-hour delay.
- Works with virtually any UL 864 fire alarm control which utilizes an industry-standard reverse-polarity notification circuit (including unfiltered and unregulated NAC power).
- Requires input trigger voltage of 9 - 32 VDC.
- Self-contained in compact, locking cabinet - 15"H x 14.5"W x 2.75"D (cm: 38.1H x 36.83W x 6.985D).
- Includes integral battery charger capable of charging up to 18 AH batteries. Cabinet capable of housing 7.0 AH batteries.
- Battery charger may be disabled via DIP switch for applications requiring larger batteries.
- Fixed, clamp-type terminal blocks accommodate up to 12 AWG (3.1mm^2) wire.

Specifications

Primary (AC) Power:

- FCPS-24S6C/-24S8C: 120 VAC, 60 Hz, 3.2A maximum.
- FCPS-24S6E/-24S8E: 240 VAC, 50 Hz, 1.6A maximum.
- Wire Size: minimum #14 AWG (2.0mm^2) with 600 V insulation.

Control 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: 5 A at 24 VDC.

Auxiliary Power Output: Specific application power 500 mA maximum.

Output Circuits:

- +24 VDC filtered, regulated.
- 3.0 A maximum for any one circuit.
- Total continuous current for all outputs (stand-alone mode):
  - FCPS-24S6: 4.0 A maximum.
  - FCPS-24S8: 6.0 A maximum.
- Total short-term current for all outputs (NAC expander mode):
  - FCPS-24S6: 6.0 A maximum.
  - FCPS-24S8: 8.0 A maximum.

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.

Applications

Example 1: Expand notification appliance power an additional 6.0 A (FCPS-24S6) or 8.0 A (FCPS-24S8). Use up to four Class B (Style Y) outputs or four Class A (Style Z) outputs (using ZNAC-4). For example, the FACP notification appliance circuits will activate the FCPS when reverse-polarity activation occurs. Trouble conditions on the FCPS are sensed by the FACP through the notification appliance circuit.

Example 2: Use the FCPS to expand auxiliary regulated 24-volt system power up to 4.0 A (FCPS-24S6) or up to 6.0 A (FCPS-24S8). Both resettable and non-resettable power options are available. Resettable outputs are created by connecting the resettable output from the FACP to one or both of the FCPS inputs.

Example 3: Use addressable control modules to activate the FCPS instead of activating it through the FACP notification appliance circuits. This typically allows for mounting the FCPS at greater distances* away from the FACP while expanding system architecture in various applications.

For example, an addressable control module is used to activate the FCPS, and an addressable monitor module is used to sense FCPS trouble conditions. Local auxiliary power output from the FCPS provides power to the addressable control module.

***NOTE:** Addressable FACPs are capable of locating control and monitor modules at distances of up to 12,500 feet (3,810 meters).*

Sync Follower/Generator Note

In some installations, it is necessary to synchronize the flash timing of all strobes in the system for ADA compliance. Strobes accomplish this by monitoring very short timing pulses on the NAC power which are created by the FACP. When installed at the end of a NAC wire run, the FCPS-24S6/-24S8 can track (i.e. "follow") the strobe synchronization timing pulses on the existing NAC wire run. This maintains the overall system flash timing of the additional strobes attaches to the FCPS.

When the FCPS-24S6/-24S8 is configured (via DIP switch settings) as a "sync follower," the FCPS's NAC outputs track the strobe synchronization pulses present at the FCPS's sync input terminal. The pulses originate from an upstream FACP or other power supply.

When the FCPS-24S6/-24S8 are configured (via DIP switch settings) as a "sync generator," the FCPS's sync input terminals are not used. Rather, the FCPS is the originator of the strobe synchronization pulses on the FCPS's NAC outputs. In "sync generator" mode, the sync type (System Sensor, Wheelock, or Gentex) is selectable via DIP switch settings.

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Standards and Codes

The FCPS-24S6 and FCPS-24S8 comply with the following standards:

- **NFPA 72** National Fire Alarm Code.
- **UL 864** Standard for Control Units for Fire Alarm Systems (NAC expander mode).
- **UL 1481** Power Supplies for Fire Alarm Systems.

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 (FCPS-24S6C & FCPS-24S8C)
- **CSFM Approved:** 7315-0028:225
- **MEA:** 299-02-E
- **FM Approved**

Ordering Information

FCPS-24S6: 6.0 A, 120 VAC remote charger power supply. Includes main printed circuit board, transformers, enclosure (15"H x 14.5"W x 2.75"D [cm: 38.1H x 36.83W x 6.985D]), and installation instructions.

FCPS-24S6C: Same as above, ULC-listed.

FCPS-24S6R: Same as FCPS-24S6 with red enclosure.

FCPS-24S6E: 6.0 A, 240 VAC remote charger power supply. Includes main printed circuit board, transformers, enclosure (15"H x 14.5"W x 2.75"D [cm: 38.1H x 36.83W x 6.985D]), and installation instructions.

FCPS-24S8: 8.0 A, 120 VAC remote charger power supply. Includes main printed circuit board, transformers, enclosure (15"H x 14.5"W x 2.75"D [cm: 38.1H x 36.83W x 6.985D]), and installation instructions.

FCPS-24S8C Same as above, ULC-listed.

FCPS-24S8R: Same as FCPS-24S8 with red enclosure.

FCPS-24S8E: 8.0 A, 240 VAC remote charger power supply. Includes main printed circuit board, transformers, enclosure (15"H x 14.5"W x 2.75"D [cm: 38.1H x 36.83W x 6.985D]), and installation instructions.

ZNAC-4: Class A (Style Y) NAC option 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).

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ISO 9001 CERTIFIED ENGINEERING & MANUFACTURING QUALITY SYSTEMS

This document is not intended to be used for installation purposes.
We try to keep our product information up-to-date and accurate.
We cannot cover all specific applications or anticipate all requirements.
All specifications are subject to change without notice.

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SP12-7
(12V7AH/T1)

Specifications

Nominal Voltage	12V	
Nominal Capacity (20HR)	7AH	
Dimension	Length	151mm (5.95 inches)
	Width	65mm (2.56 inches)
	Height	94mm (3.70 inches)
	Total Height (with Terminal)	100mm (3.94 inches)
Approximate Weight	2.05 kg (4.52 lbs)	
Battery Type	Valve Regulated Lead-Acid Battery, AGM Design	
Terminal Type	T1	
Rated Capacity	7.20AH	(20hr,1.75V/cell,25°C/77°F)
	6.70AH	(10hr,1.75V/cell,25°C/77°F)
	5.95AH	(5hr,1.75V/cell,25°C/77°F)
	6.54AH	(3hr,1.60V/cell,25°C/77°F)
	4.20AH	(1hr,1.60V/cell,25°C/77°F)
Max. Discharge Current	105A	
Internal Resistance	30mΩ	
Operating Temp. Range	Discharge:	-20°C(-4°F)~50°C (122°F)
	Charge:	-20°C(-4°F)~50°C (122°F)
	Storage:	-20°C(-4°F)~40°C (104°F)
Nominal Operating Temp. Range	25±3°C (77±5°F)	
Container Material	ABS (Option: 94-HB & 94-V0 flame retardant case)	
Capacity affected by Temperature	40°C (104°F)	103%
	25°C (77°F)	100%
	0°C (32°F)	86%
Self Discharge	SigmasTek SP series batteries may be stored for up to 6 months at 25°C (77°F) and then a freshening charge is recommended. For higher temperatures the time interval will be shorter.	

Applications

- Uninterruptible Power Supply (UPS)
- Electric wheelchairs, scooters, bikes
- Electronic apparatus and equipment
- Alarm and security systems
- Emergency first responder equipment
- Emergency lighting
- Medical devices
- Electric carts
- Telecom equipment
- Switchgear
- Solar power systems

MH47929

Constant Current Discharge (Amperes Per Battery) at 25°C (77°F)

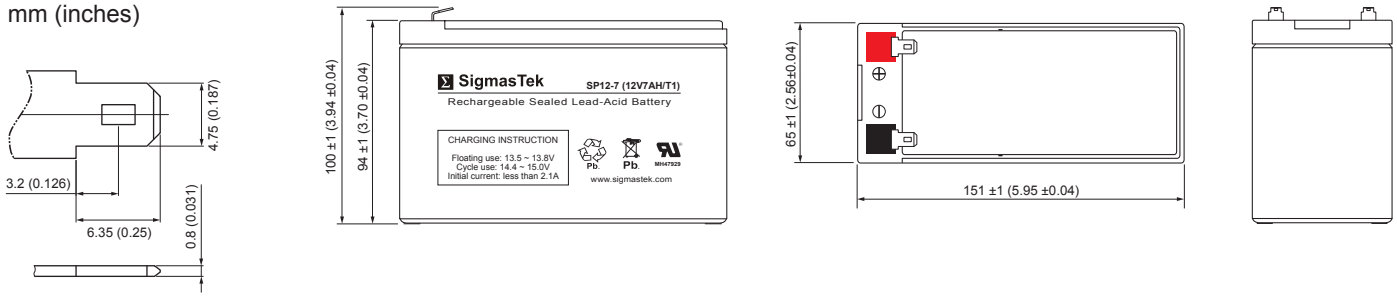
F.V. (V/cell) \ Discharge Time	5min	10min	15min	30min	1h	2h	3h	5h	8h	10h	20h
1.60V	27.6	17.6	12.8	7.83	4.20	2.55	2.18	1.29	0.79	0.70	0.39
1.65V	25.6	17.2	12.4	7.50	4.16	2.50	1.85	1.26	0.78	0.70	0.37
1.70V	23.7	17.1	12.0	6.80	4.00	2.45	1.75	1.23	0.78	0.67	0.36
1.75V	23.4	16.5	11.7	6.48	3.92	2.42	1.70	1.19	0.77	0.67	0.36
1.80V	20.7	15.4	10.6	6.00	3.65	2.36	1.67	1.18	0.76	0.66	0.35
1.85V	20.5	13.8	10.5	5.88	3.52	2.20	1.50	1.11	0.72	0.65	0.34

Constant Power Discharge (Watts Per Cell) at 25°C (77°F)

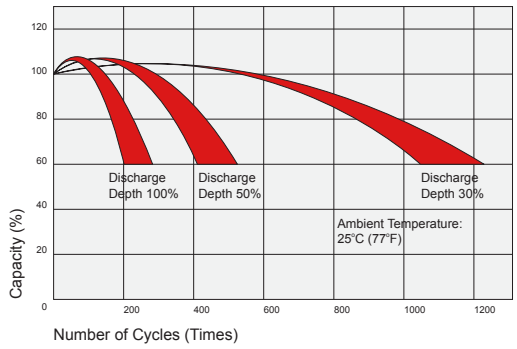
F.V. (V/cell) \ Discharge Time	5min	10min	15min	30min	1h	2h	3h	5h	8h	10h	20h
1.60V	302	197	150	87	49.1	24.4	19.1	13.0	9.00	7.24	3.81
1.65V	291	189	147	86	48.7	25.2	19.0	13.0	8.94	7.24	3.81
1.70V	280	186	146	85	48.0	25.0	18.9	12.9	8.81	7.22	3.80
1.75V	264	179	141	83	47.2	24.4	18.7	12.9	8.71	7.18	3.79
1.80V	228	171	135	80	45.8	23.6	18.4	12.7	8.57	7.18	3.72
1.85V	226	160	125	74	40.0	21.0	17.0	12.0	8.10	6.90	3.70

Dimensions

T1 Terminal
Unit: mm (inches)



Cycle Service Life



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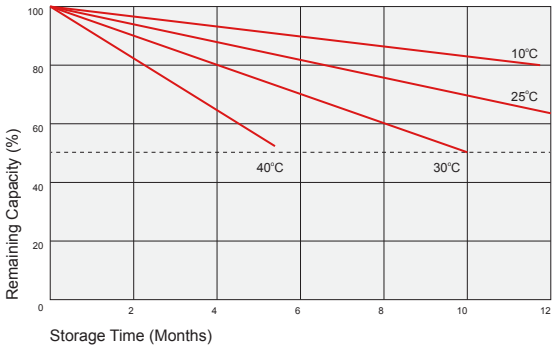
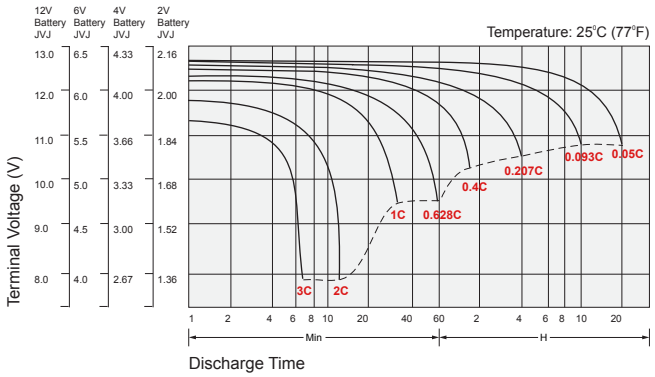
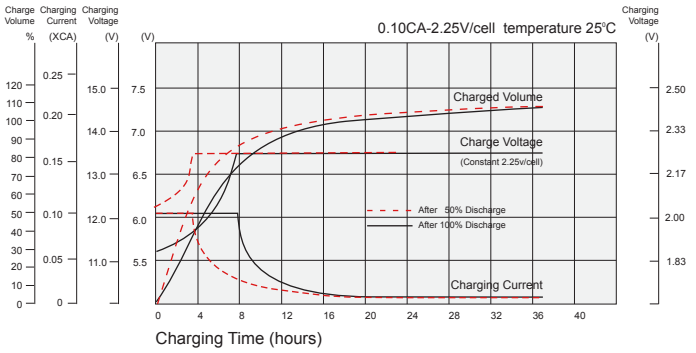
Self Discharge Characteristics



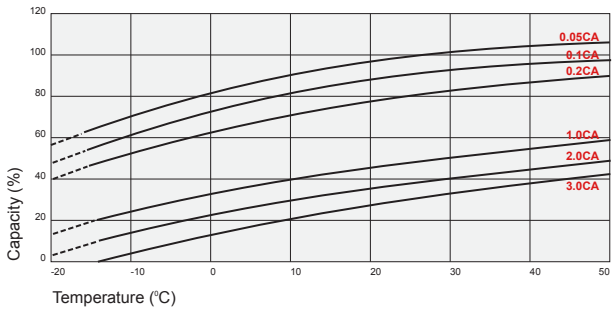
Discharge Characteristics



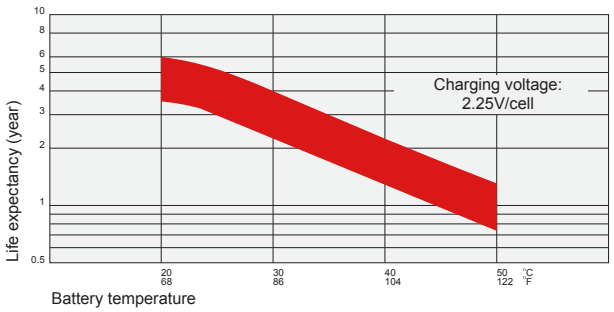
Float Charging Characteristics



Temperature Effects in Relation to Battery Capacity



Temperature Effects on Long Term Float Life



Contact Information

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E50 Series

Speaker and Speaker Strobes

Reviewed for Code Compliance
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05/06/2020

NOTIFIER® by Honeywell

Audio/Visual Devices

Description

The Cooper Wheelock Series E50 Speakers and Speaker Strobes feature high efficiency sound output, with dual voltage (25/70 VRMS) capability and field selectable taps from 1/8 to 2 watts. They are designed to provide a sleek, aesthetic appearance for emergency voice/alarm communications systems. All Series E50 models mount to standard 4" x 2-1/8" electrical boxes (with no extension ring required) and incorporate a speaker mounting plate for faster installation. The grille cover snaps on so no mounting screws are visible. Attractive surface boxes are also available for surface installations.

The Series E50 Speaker Strobe models use Cooper Wheelock low current draw Series RSS strobes for wall mounted applications. Strobe options include patented MCW multi-candela strobes with field selectable candela settings of 15/30/75/110 cd or high intensity MCWH strobes with field selectable 135/185 candela. Models with 1575 candela (75 cd on axis) are also offered.

Series E50 Speakers and Speaker Strobes provide high audio output with clear audibility and are designed to meet the critical needs of the life safety industry for effective emergency voice communications, tone signaling and visible signaling to alert the hearing impaired.

The strobe portion of all Series E Speaker Strobes may be synchronized when used in conjunction with the Cooper Wheelock SM, DSM Sync Modules or the Cooper Wheelock's PS-24-8MC Power Supply with Patented Sync Protocol. Cooper Wheelock synchronized strobes offer an easy way to comply with ADA and NFPA regulations concerning photosensitive epilepsy.

Series E50 Speaker Strobes are UL Listed for indoor use under Standard 1971 (Signaling Devices for the Hearing-Impaired) and Standard 1480 (Speaker Appliances). All inputs employ IN/OUT wiring terminals for fast installation using #12 to #18 AWG wiring and are compatible with FACP line supervision.

Color options for the Series E50 Speakers and Speaker Strobes are red or off-white.

Series E50 Speaker

Series E50 Speaker Strobe

Features

Approvals include: UL Standard 1971, UL Standard 1480, New York City (MEA), California State Fire Marshal (CSFM), Factory Mutual (FM) and Chicago (BFP). See approvals by model in Specifications and Ordering Information

ADA/NFPA/ANSI compliant

Complies with OSHA 29 Part 1910.165

Wall mount speaker strobe models with field selectable candela settings of 15/30/75/110cd or 135/185cd (Multi-Candela models), or 1575cd (Single Candela model)

Field selectable taps for 25 or 70 VRMS operation from 1/8 watt up to 2 watts

High efficiency design for maximum output at minimum wattage across a frequency range of 400 to 4000 HZ

24 VDC strobes produce 1 flash per second with wide UL "Regulated Voltage" of 16 to 33 volts using filtered DC or unfiltered VRMS input voltage

Synchronize with Cooper Wheelock SM, DSM or Cooper Wheelock PS-12/24-8CP and PS-12/24-8MP Power Supply with built-in sync protocol

Mount to 4" square x 2-1/8" deep backbox with no extension ring required

Snap on grille cover with no visible mounting screws

Fast installation with IN/OUT screw terminals using #12 to #18 AWG wires

WARNING: PLEASE READ THESE SPECIFICATIONS AND ASSOCIATED INSTALLATION INSTRUCTIONS CAREFULLY BEFORE USING, SPECIFYING OR APPLYING THIS PRODUCT.
VISIT WWW.COOPERWHEELOCK.COM OR CONTACT COOPER WHEELOCK FOR THE CURRENT INSTALLATION INSTRUCTIONS.
FAILURE TO COMPLY WITH ANY OF THESE INSTRUCTIONS, CAUTIONS OR WARNINGS COULD RESULT IN IMPROPER APPLICATION, INSTALLATION AND/OR OPERATION OF THESE PRODUCTS IN AN EMERGENCY SITUATION, WHICH COULD RESULT IN PROPERTY DAMAGE, AND SERIOUS INJURY OR DEATH TO YOU AND/OR OTHERS.

General Notes

Strobes are designed to flash at 1 flash per second minimum over their "Regulated Voltage Range". Note that NFPA-72 specifies a flash rate of 1 to 2 flashes per second and ADA Guidelines specify a flash rate of 1 to 3 flashes per second.

All candela ratings represent minimum effective Strobe intensity based on UL Standard 1971.

Series NS Strobe products are listed under UL Standard 1971 for indoor use with a temperature range of 32°F to 120°F (0°C to 49°C) and maximum humidity of 93% (± 2%).

Series NH horns are listed under UL Standard 464 for audible signal appliances (Indoor use only).

"Regulated Voltage Range" is the newest terminology used by UL to identify the voltage range. Prior to this change UL used the terminology "Listed Voltage Range".

Table 1: Average RMS Current

E50 Speaker Strobes	E50 Strobe Current - Wall Mount						
	241575W	24MCW				24MCWH	
	1575cd	15cd	30cd	75cd	110cd	135cd	185cd
24VDC	.060	.041	.063	.109	.140	.195	.270
UL max.*	.090	.060	.092	.165	.220	.300	.420

***NOTE:** RMS current ratings are per UL average RMS method. UL max current rating is the maximum RMS current within the listed voltage range (16-33v for 24v units). For strobes the UL max current is usually at the minimum listed voltage (16v for 24v units). For unfiltered FWR ratings, see installation instructions.*

Table 2: E50 UL Reverberant dBA @ 10 Feet**

Watts	1/8	1/4	1/2	1	2
E50 Speaker	77	79.5	82.5	85	88
E50 Speaker Strobe	77	79.5	82.5	85	88

***NOTE:** dBA ratings are based on UL testing under UL Standard 1480*

Architectural/Engineering Specifications

The speaker appliances shall be Cooper Wheelock Series E50 Speakers and the speaker strobe appliances shall be Cooper Wheelock Series E50 Speaker Strobes or approved equals. The speakers shall be UL Listed under Standard 1480 for Fire Protective Service and speakers equipped with strobes shall be listed under UL Standard 1971 for Signaling Devices for the Hearing-Impaired. In addition, the strobes shall be certified to meet the requirements of FCC Part 15, Class B.

All speakers shall be designed for a field selectable input of either 25 or 70 VRMS, with selectable power taps from 1/8 watt to 2 watts. All models shall have listed sound output of up to 89 dBA at 10 feet and a listed frequency response of 400 to 4000 Hz. The speaker shall incorporate a sealed back construction. All inputs shall employ terminals that accept #12 to #18 AWG wire sizes. The strobe portion of the appliance shall produce a flash rate of one (1) flash per second over the Regulated Voltage Range and shall be of low current design. Where Multi-Candela Speaker Strobes are specified, the strobe intensity shall have field selectable settings and shall be rated per UL Standard 1971 at 15/30/75/110cd or 135/185cd for wall mounting. The selector switch for selecting the candela shall be tamper resistant. The 1575 candela strobe shall be specified when 15 candela UL Standard 1971 Listing with 75 candela on-axis is required.

When synchronization is required, the strobe portion of the appliance shall be compatible with the Cooper Wheelock's SM, DSM sync modules or Cooper Wheelock PS-24-8MC Power Supply with built-in Patented Sync Protocol. The strobes shall not drift out of synchronization at any time during operation. If the sync module or Power Supply fails to operate, (i.e., contacts remain closed), the strobe shall revert to a non-synchronized flash rate.

The speaker and speaker strobe appliances shall be designed for indoor flush mounting to 4" x 2-1/8" electrical boxes without need for an extension ring or surface mounting to Cooper Wheelock's E50SB or E50SSB surface boxes. The speaker and speaker strobe shall incorporate a speaker mounting plate with a snap-on grille cover. The finish of the Series E50 speakers and speakers strobes shall be white or red.

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:** S2652 (all); S5391 (E50-241575W-FR, E50-241575W-FW, E50-24MCW-FR, E50-24MCW-FW)
- **MEA:** 151-92-E
- **CSFM:** 7125-0785-165; 7320-0785:166
- **FM Approved**
- **Bureau of Fire Protection - Chicago**

Ordering Information

Model	Wall Mount	Ceiling Mount	Strobe Candela	Grill Color	Flush Mount Backbox	Surface Mount Backbox	Mounting Options	Agency Approvals				
								UL	MEA	CSFM	FM	BFP
E50-R	X	X	-	Red	4" x 4" x 2-1/8"	E50SB-R	E,O,P,Q,R,U,Y,AA	X	X	X	X	*
E50-W	X	X	-	White	4" x 4" x 2-1/8"	E50SB-W	E,O,P,Q,R,U,Y,AA	X	X	X	X	*
E50-241575W-FR	X	-	15 (75 on Axis)	Red	4" x 4" x 2-1/8"	E50SSB-R	E,Q,U,BB	X	X	X	X	*
E50-241575W-FW	X	-	15 (75 on Axis)	White	4" x 4" x 2-1/8"	E50-SSB-W	E,Q,U,BB	X	X	X	X	*
E50-24MCW-FR	X	-	15/30/75/110	Red	4" x 4" x 2-1/8"	E50SSB-R	E,Q,U,BB	X	X	X	X	*
E50-24MCW-FW	X	-	15/30/75/110	White	4" x 4" x 2-1/8"	E50-SSB-W	E,Q,U,BB	X	X	X	X	*
E50-24MCWH-FR	X	-	135/185	Red	4" x 4" x 2-1/8"	E50SSB-R	E,Q,U,BB	X	X	X	X	*
E50-24MCWH-FW	X	-	135/185	White	4" x 4" x 2-1/8"	E50-SSB-W	E,Q,U,BB	X	X	X	X	*

***NOTE:** PENDING.*

***NOTE:** Due to continuous development of our products, specifications and offerings are subject to change without notice in accordance with Cooper Wheelock Inc. standard terms and conditions.*

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03/06/2020

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Wheelock® Exceder™

Horns and Strobes

NOTIFIER® by Honeywell

Audio/Visual Devices

General

The Wheelock® Exceder™ Series of notification appliances feature a sleek modern design and numerous features including eight candela options in one appliance, low current draw, no tools needed for setting changes, 12/24 VDC operation, universal mounting base and multiple mounting options.

Models with an audible feature 3 sound settings (90, 95, 99 dB). All switches to change settings can be set without the use of a tool and are located behind the appliance to prevent tampering. Wall models feature voltage test points to take readings with a voltage meter for troubleshooting and AHJ inspection.

The Wheelock® Exceder™ Series of wall and ceiling notification appliances feature a Universal Mounting Base (UMB) designed to simplify the installation and testing of horns, strobes, and combination horn strobes. The separate universal mounting base can be pre-wired to allow full testing of circuit wiring before the appliance is installed and the surface is finished. It comes complete with a contact cover for protection against dirt, dust, paint and damage to the contacts. The contact cover also acts as a shunting device to allow pre-wire testing for common wiring issues.

The contact cover is polarized to prevent it from being installed incorrectly and prevents the appliance from being installed while it is on the UMB. When the contact cover is removed the circuit will show an open until the appliance is installed. The UMB allows for consistent installation and easy replacement of appliances if required. Wall models provide an optional locking screw for extra secure installation, while the ceiling models provide a captive screw to prevent the screw from falling during installation.

Features

- Multiple voltages
- Voltage test points for quick troubleshooting and easy spot-checking (wall models only)
- 3 audible settings (90, 95, 99 dB)
- 8 Candela settings
  - Wall - 15/1575/30/75/95/110/135/185
  - Ceiling - 15, 30, 60, 75, 95, 115, 150, 177
- Finger-slide switches
- Sleek modern aesthetics
- Common base for wall and ceiling with 5 mounting options:
  - 1-gang
  - 2-gang
  - 4 inch square
  - 3.5 inch octagonal
  - 4 inch octagonal

Compatibility and Requirements

- Synchronize using Wheelock Sync Modules, or panels with built-in Wheelock patented sync protocol.
- Compatible with UL “Regulated Voltage” using filtered VDC or unfiltered VRMS input voltage
- Strobes produce one flash per second over the Regulated Voltage range.

Wall

Ceiling

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General Notes

- All candela ratings represent minimum effective strobe intensity based on UL Standard 1971.
- Series Exceder Strobe products are Listed under UL Standards 1971 and 464 for indoor use with a temperature range of 32°F to 120°F (0°C to 49°C) and maximum humidity of 93% (± 2%) UL 464 (85% UL 1971).
- Series Exceder horns are under UL Standard 464 for audible signal appliances (Indoor use only).
- Product naming conventions: The Exceder line’s model codes break down into easy-to-remember codes.
  HN = Horn, ST = Strobe, HS = Horn-strobe, C = Ceiling Mount, W = White, and R = Red. So “STRC” can be read as “Strobe, Red, Ceiling-mount.”., and “HSW” is “Horn-strobe, white, wall-mount.”
- Refer to your fire alarm panel or power supply manual when calculating the number of devices allowed per circuit.

Architects/Engineers Specifications

The notification appliances shall be Wheelock Exceder Series HS Audible Strobe appliances, Series ST Visual Strobe appliances and Series HN Audible appliances or approved equals. The Series HS and ST Strobes shall be listed for UL Standard 1971 (Emergency Devices for the Hearing-Impaired) for Indoor Fire Protection Service. The Series HS and HN Audibles shall be UL Listed under Standard 464 (Fire Protective Signaling). All Series shall meet the requirements of FCC Part 15 Class B. All inputs shall be compatible with standard reverse polarity supervision of circuit wiring by a Fire Alarm Control Panel (FACP) with the ability to operate from 8 to 33 VDC. Indoor wall models shall incorporate voltage test points for easy voltage inspection.

The Series HS Audible Strobe and ST Strobe appliances shall produce a flash rate of one flash per second over the Regulated Voltage Range and shall incorporate a Xenon flashtube enclosed in a rugged Lexan® lens. The Series shall be of low current design. Where Multi-Candela appliances are specified, the strobe intensity shall have 8 field selectable settings at 15,

15/75, 30, 75, 95, 110, 135, 185 candela for wall mount and 15, 30, 60, 75, 95, 115, 150, 177 candela for ceiling mount. The selector switch for selecting the candela shall be tamper resistant. The 15/75 candela strobe shall be specified when 15 candela UL Standard 1971 Listing with 75 candela on-axis is required (e.g. ADA compliance). Appliances with candela settings shall show the candela selection in a visible location at all times when installed.

The audible shall have a minimum of three field selectable settings for dBA levels and shall have a choice of continuous or temporal (Code 3) audible outputs.

MOUNTING OPTIONS

The Series HS Audible Strobe, ST Strobe and Series HN Audible shall incorporate a patented Universal Mounting Base that shall allow mounting to a single-gang, double-gang, 4" square, 3.5" octagonal, 4" octagonal or 100mm European type back boxes. Two wire appliance wiring shall be capable of directly connecting to the mounting base. Continuity checking of the entire NAC circuit prior to attaching any notification appliances shall be allowed. Product shall come with contact cover to protect contact springs. Removal of an appliance shall result in a supervision fault condition by the Fire Alarm Control Panel (FACP). The mounting base shall be the same base among all horn, strobe, horn strobe, wall and ceiling models. All notification appliances shall be backwards compatible.

PHYSICAL SPECIFICATIONS

The Series HS and ST wall models shall have a low profile measuring 5.24" H x 4.58" W x 2.19" D. Series HN wall shall measure 5.24" H x 4.58" W x 1.6" D. The Series HSC and STC shall been round and have a low profile with a diameter of 6.68" x 2.63" D. Series HNC ceiling shall have a diameter of 6.68" x 1.50" D.

SYNCHRONIZATION

When synchronization is required, the appliance shall be compatible with Wheelock®ís SM, DSM Sync Modules, Wheelock® Power Supplies or other manufacturerís panels with built-in Wheelock® Patented Sync Protocol. The strobes shall not drift out of synchronization at any time during operation. If the sync protocol fails to operate, the strobe shall revert to a non-synchronized flash-rate and still maintain one flash per second over its Regulated Voltage Range. The appliance shall also be designed so that the audible signal may be silenced while maintaining strobe activation when used with Wheelock® synchronization protocol.

Standards and Codes

Modules in this series comply with UL Standard 1971, UL Standard 464, California State Fire Marshal (CSFM), and ULC.

Agency Listings

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:** S5391 (Strobes); E5946 (Horns, Horn/strobes).
- **ULC Listed**
- **CSFM Listed:** 7125-0785:168.

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03/06/2020

Specification & Ordering Information

Model	Strobe Candela	12/24 VDC	Mounting Options
Horn Strobes			
HSR	15, 15/75, 30, 75, 95, 110, 135, 185	X	Universal Mounting Base
HSW	15, 15/75, 30, 75, 95, 110, 135, 185	X	Universal Mounting Base
HSRC	15, 30, 60, 75, 95, 115, 150, 177	X	Universal Mounting Base
HSWC	15, 30, 60, 75, 95, 115, 150, 177	X	Universal Mounting Base
Strobes			
STR	15, 15/75, 30, 75, 95, 110, 135, 185	X	Universal Mounting Base
STW	15, 15/75, 30, 75, 95, 110, 135, 185	X	Universal Mounting Base
STRC	15, 30, 60, 75, 95, 115, 150, 177	X	Universal Mounting Base
STWC	15, 30, 60, 75, 95, 115, 150, 177	X	Universal Mounting Base
Horns			
HNR	—	X	Universal Mounting Base
HNW	—	X	Universal Mounting Base
HNRC	—	X	Universal Mounting Base
HNWC	—	X	Universal Mounting Base

*12 VDC models feature 15 and 15/75 settings

NOTE: *Due to continuous development of Cooper Wheelock products, specifications and offerings are subject to change without notice in accordance with Cooper Wheelock Inc., dba Cooper Notification standard terms and conditions.*

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This document is not intended to be used for installation purposes.
We try to keep our product information up-to-date and accurate.
We cannot cover all specific applications or anticipate all requirements.
All specifications are subject to change without notice.

Made in the U.S. A.

For more information, contact Notifier. Phone: (203) 484-7161, FAX: (203) 484-7118.
www.notifier.com

NOTIFICATION APPLIANCE CIRCUIT VOLTAGE DROPS												
TD Bank 1 Portland Square												
Portland, Maine												
PANEL	**CIRCUIT**	**WIRE GAUGE**	**LENGTH**	**CURRENT DRAW**	**VOLTAGE DROP**		**VOLTAGE LOSS**	**END VOLTAGE @ 24.0VDC**		**END VOLTAGE @ 20.4VDC**		**CIRCUIT LOAD**
FCPS #1	NAC 1	14	175FT	0.976A	0.86	VDC	3.59%	23.14	VDC	19.54	VDC	33%
FCPS #1	NAC 2	14	215FT	0.924A	1	VDC	4.18%	23	VDC	19.4	VDC	31%
FCPS #1	NAC 3	14	335FT	0.841A	1.42	VDC	5.93%	22.58	VDC	18.98	VDC	28%
FCPS #1	NAC 4	14	345FT	0.841A	1.47	VDC	6.11%	22.53	VDC	18.93	VDC	28%
FCPS #1: 3.582A/8A Spare Capacity: 55%												
Calculated @ Maximum Distance/Current												

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NOTIFIER® by Honeywell

AC Branch Current

Select devices using the "Qty" column.
Use yellow cells to enter quantities and current values.
To show only selected devices, select "Show Selected Devices".
To clear selected devices, select "Clear Selections".

Note: These selections only determine the AC branch current. If these devices will affect the battery requirements, you need to select them on the System Current Draw sheet.

(●) 120 VAC ( ) 220/240 VAC

Device	Qty		Current	Total
AA-30	0	x	1.00 A	
AA-120	0	x	1.85 A	
ACPS-2406	0	x	2.70 A	
APS-6R	0	x	2.50 A	
AVPS-24	0	x	1.00 A	
CHG-120	0	x	2.00 A	
FCPS-24	0	x	2.00 A	
FCPS-24S8	1	x	3.20 A	3.20 A
MPS-24A	0	x	1.80 A	
MPS-24B	0	x	2.40 A	
XPIQ	0	x	3.50 A	
XRM-24	0	x	1.00 A	
APS2-6R	0	x	2.90 A	
ACPS-610	0	x	5.00 A	
[ ]	0	x	0.00 A	
[ ]	0	x	0.00 A	
			AC Branch Required:	**3.20 A**

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NOTIFIER by Honeywell

System Power Requirements

FCPS-24s8 Power Supply

Protected Premises:	TD Bank			Date:	2/20/2020
Address:	1 Portland Square				
City:	Portland	State:	Maine	Zip:	04101
Prepared By:	Norris Inc.			Phone:	1-800-370-3473
Address:	2257 West Broadway			Email:	jbridges@norrisinc.com
City:	South Portland	State:	Maine	Zip:	04106

AC Branch Current Requirements

3.20 AMPS @ 120 VAC

Current required by source to power the fire alarm system.

Primary Standby Load

0.09 Amps

Current load on the primary power supply during **non-alarm** conditions.

Primary Alarm Load

3.73 Amps

Current load on the primary power supply during **alarm** conditions.

Secondary Load Requirements

2.99 Amp Hours

Total Secondary Load from the calculation table below.

Current Draw		Time (hours)	Total (AH)
Secondary Standby Load 0.065 A	x	Required Standby Time 24 hours	1.56
Secondary Alarm Load 3.727 A	x	Required Alarm Time (hours) 0.250 hours	0.93
		Total Secondary Load	2.49
		Derating factor	x 1.2
		Secondary Load Requirements	**2.99** AH

Battery Selection

7 Amp Hours

Select batteries from the list below.

7 AH BAT-1270 Battery (12 volt)

(•) Two ( ) Four (two 12VDC sets in parallel)

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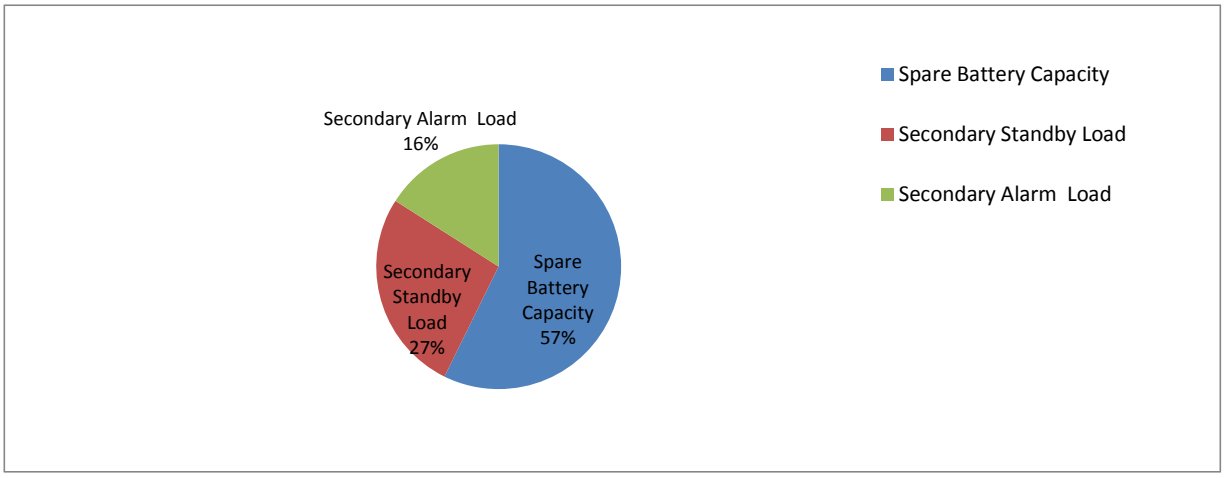
Battery Distribution Chart

Shows amp-hour distribution of your selections.



Comments

1. Batteries will fit in the FACP cabinet.
2. Selected battery size meets secondary load requirements.
3. The selected batteries (7AH) are within the charger range of this power supply (7-18AH).

Spare Battery Capacity	4.01	Battery Selection (AH) - Secondary Load Requirements (AH)
Secondary Standby Load	1.87	Secondary Standby Load (AH) * Derating Factor
Secondary Alarm Load	1.12	Secondary Alarm Load (AH) * Derating Factor

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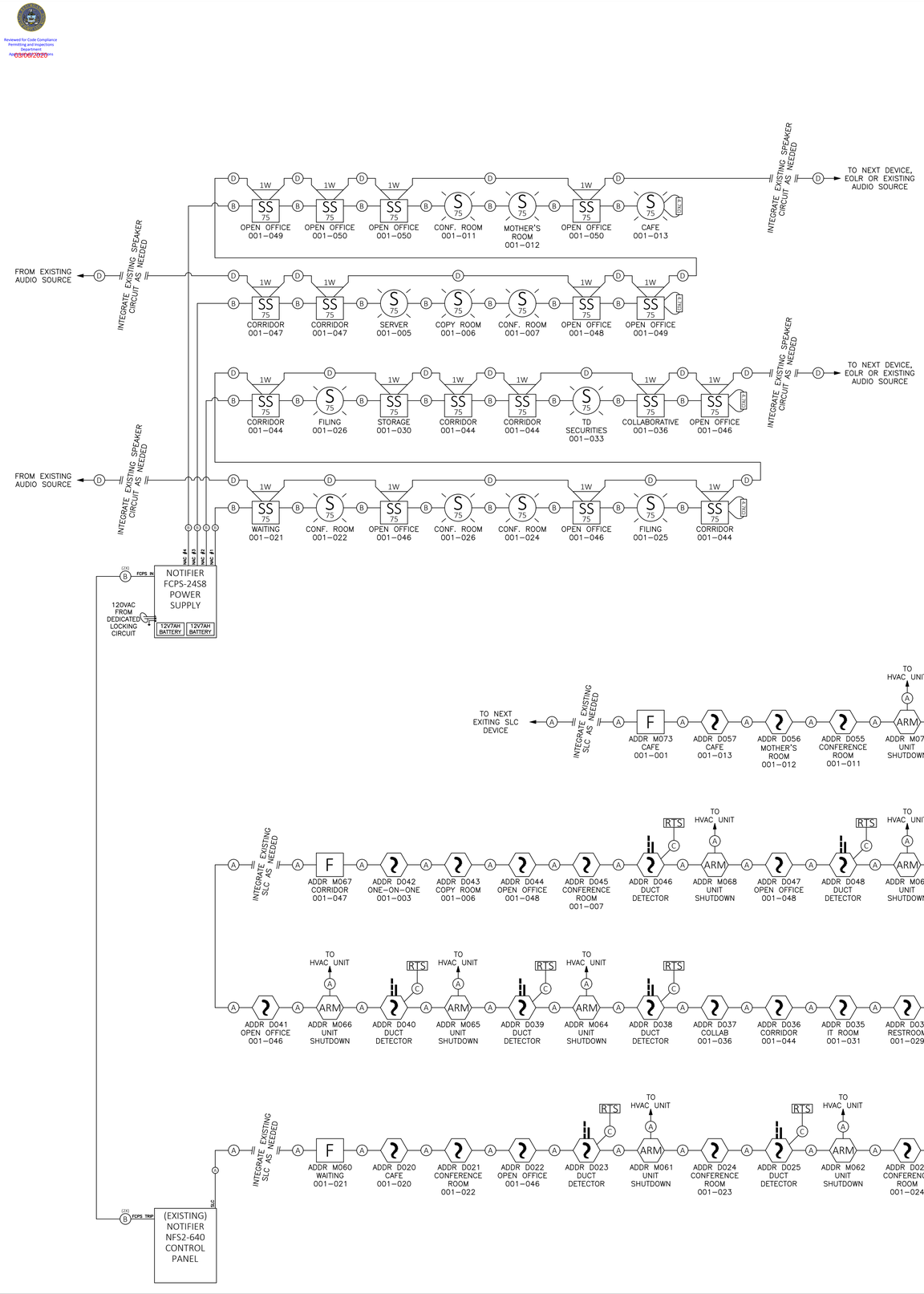

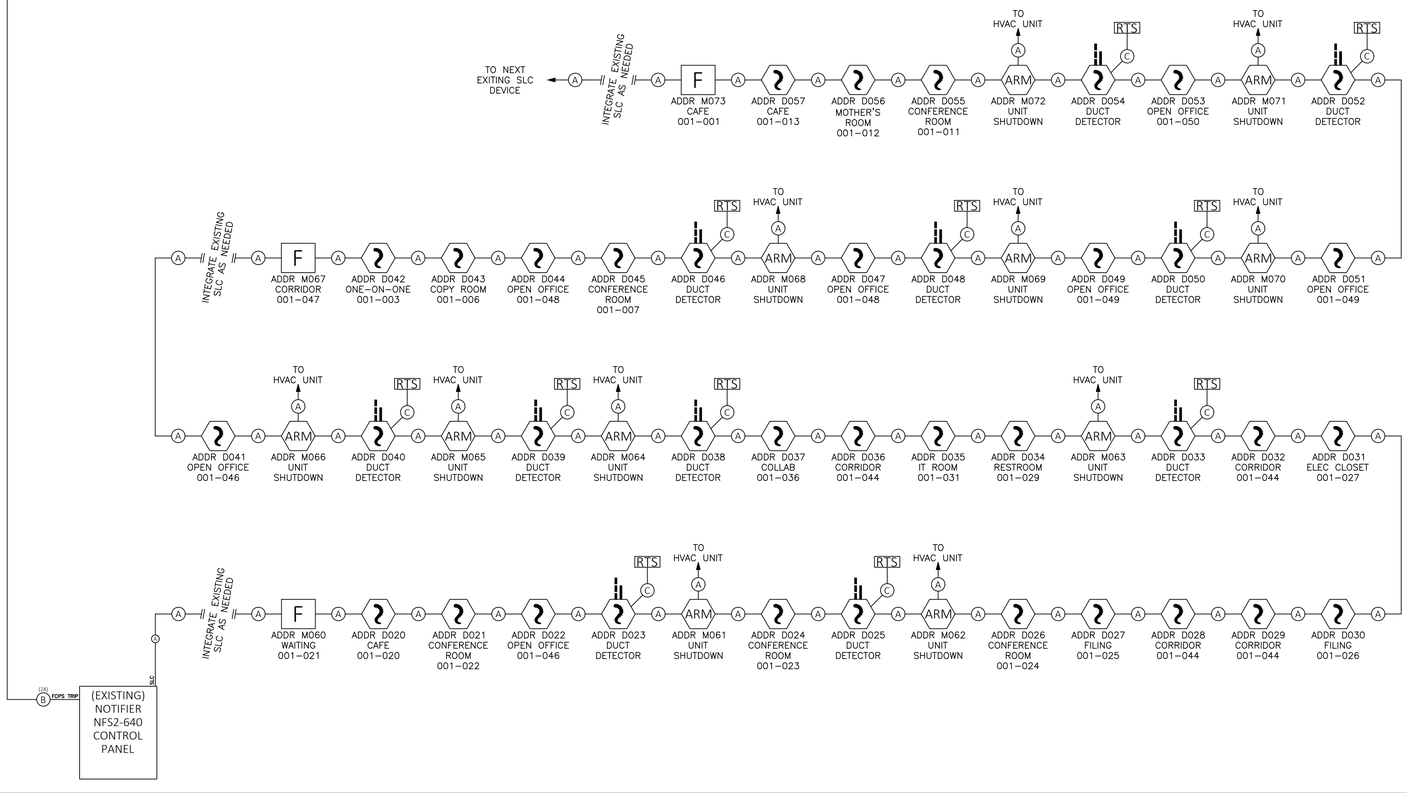

FIRE ALARM SYSTEM ADDITION MATRIX

SYSTEM OUTPUTS

CONTROL UNIT ACTIVATION | NOTIFICATION | REQUIRED FIRE SAFETY CONTROL

	SYSTEM INPUTS	A	B	C	D	E	F	G	H	J	K	L	M	N	O	P	Q	R	S	
1	MANUAL FIRE ALARM PULL STATION	●	●					●	●	●		●			●	●				1
2	AREA SMOKE DETECTOR	●	●					●	●	●		●			●	●				2
3	DUCT DETECTOR			●	●			●	●				●		●					3
4	FIRE ALARM AC POWER FAILURE					●	●	●	●				●							4
5	FIRE ALARM SYSTEM LOW BATTERY					●	●	●	●				●							5
6	OPEN CIRCUIT					●	●	●	●				●							6
7	GROUND FAULT					●	●	●	●				●							7
8	NOTIFICATION APPLIANCE CIRCUIT SHORT					●	●	●	●				●							8
		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S

ACTUATE COMMON ALARM SIGNAL INDICATOR
ACTUATE ALARM LAMP/LEDS
ACTUATE COMMON SUPERVISORY SIGNAL INDICATOR
ACTUATE ABORT SUPERVISORY SIGNAL INDICATOR
ACTUATE COMMON TROUBLE SIGNAL INDICATOR
DISPLAY ALARM/SUPERVISORY/TROUBLE MESSAGE
RECORD EVENTS IN THE SYSTEM MEMORY
ACTUATE DESIGNATED CONTROL OUTPUTS
SOND PRETRIGGERED WARNING SIGNAL TO EVACUATION CONTROLS
TRANSMIT FIRE ALARM SIGNAL TO REMOTE ALARM RECEIVING STATION
TRANSMIT SUPERVISORY SIGNAL TO REMOTE ALARM RECEIVING STATION
TRANSMIT TROUBLE SIGNAL TO REMOTE ALARM RECEIVING STATION
RELEASE DOORS HOLDING
TRANSMIT ALARM SIGNAL TO MASTER BOX
TRANSMIT TROUBLE SIGNAL TO MASTER BOX
RECALL ELEVATORS TO PRIMARY RECALL FLOOR
RECALL ELEVATORS TO ALTERNATE RECALL FLOOR
SHUTDOWN POWER TO ELEVATOR

SYMBOL LEGEND

DEVICES	NOTIFICATION
F — PULL STATION	SS 75 — SPEAKER STROBE
SMOKE DETECTOR	S 75 — STROBE
DUCT DETECTOR	XX = CANDELA RATING
RTS — REMOTE TEST STATION	W = WATTAGE TAP
ARM — RELAY MODULE	
ADDRESS AS AVAILABLE	

WIRE LEGEND

- (A) 2 COND 16 AWG TWISTED PAIR FPL CABLE
- (B) 2 COND 14 AWG FPL CABLE
- (C) 3 COND 18 AWG TWISTED PAIR FPL CABLE
- (D) 2 COND 16 AWG TWISTED SHIELDED FPL CABLE

RECOMMENDED WIRE SHOWN.
USE EXISTING EQUIVALENT

DEVICE ADDRESSES:

EACH DEVICE MUST BE LABELED WITH THE NODE, LOOP AND SLC ADDRESS.
DEVICE EXAMPLE: N1L1D001 MODULE EXAMPLE: N1L1M001
CARBON MONOXIDE DETECTORS MUST BE LABELED WITH THE MANUFACTURES REPLACEMENT DATE.
IMPORTANT! DUPLICATE ADDRESSES BETWEEN DEVICES AND MODULES ARE NOT AN ERROR. NOTE: PULL STATIONS ARE IDENTIFIED AS MODULES BY THE FIRE ALARM CONTROL PANEL.

INSTALLATION NOTES:

FIELD WIRING SHALL BE INSTALLED FOLLOWING THE CURRENT EDITION OF **NFPA 70: NATIONAL ELECTRIC CODE(2017)**, ALL APPLICABLE **MUNICIPAL, COUNTY, & STATE CODES, REQUIREMENTS, AND REGULATIONS**, AS WELL AS ALL **MANUFACTURER GUIDELINES FOR INSTALLATION**.

CONTROL PANELS, DEVICES, AND ALL OTHER SYSTEM COMPONENTS SHALL BE INSTALLED FOLLOWING THE CURRENT EDITION OF **NFPA 72: NATIONAL FIRE ALARM AND SIGNALING CODE(2019)**, ALL APPLICABLE **MUNICIPAL, COUNTY, & STATE CODES, REQUIREMENTS, AND REGULATIONS**, AS WELL AS ALL **MANUFACTURER GUIDELINES FOR INSTALLATION**.

THE INSTALLER SHALL FOLLOW CORRECT CONDUCTOR POLARITY, INDICATED CIRCUIT DIVISIONS, PROPER GROUNDING AND SHIELDING WITHOUT EXCEPTION. IMPROPER INSTALLATION CAN RESULT IN INTERFERENCE, TRANSIENT VOLTAGE, OR SHORT CIRCUITS CAUSING UNDESIRED OPERATION OR DAMAGE TO THE CONTROL PANEL, DEVICES AND ANY OTHER INTEGRATED COMPONENTS.

IF EXCEEDING 4500 FEET, THE GAUGE OF WIRE USED FOR THE SLC LOOP (IDENTIFIED AS "A" ON THIS PRINT), SHALL BE DETERMINED BY THE INSTALLER FOLLOWING GUIDELINES AND LIMITATIONS SET FORTH BY THE MANUFACTURER(NOTIFIER DOCUMENT #51253. *INTELLIGENT CONTROL PANEL SLC WIRING MANUAL*). THE SLC WIRING RISER IS SHOWN DIAGRAMMATICALLY ONLY TO ALLOW FOR VARIANCES IN ACTUAL WIRE DISTANCE, DEVICE PLACEMENT AND STRUCTURAL OR ENVIRONMENTAL REQUIREMENTS.

WIRE FOR THE NOTIFICATION APPLIANCE CIRCUITS (IDENTIFIED AS "B" ON THIS PRINT), SHALL FOLLOW THE SPECIFIC REQUIREMENTS OF THE **WIRING LEGEND**.

THIS SYSTEM MEETS NFPA REQUIREMENTS FOR OPERATION AT 32-120°F AND A RELATIVE HUMIDITY OF 91-95% AT 87-93°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 60-80°F.

DESIGN NOTES:

SYSTEM DESIGN PERFORMANCE AND COMPLIANCE WITH ALL APPLICABLE CODES AND REQUIREMENTS IS THE RESPONSIBILITY OF THE DESIGNING ENGINEER. PROPER INSTALLATION OF THIS SYSTEM AND ITS COMPONENTS IS THE RESPONSIBILITY OF THE INSTALLING CONTRACTOR. ANY ALTERATIONS, CHANGES, OR DEFICIENCIES MUST BE BROUGHT TO THE ATTENTION OF THE DESIGNING ENGINEER.

NORRIS INC. ASSUMES NO RESPONSIBILITY FOR ERRORS IN SYSTEM DESIGN OR INSTALLATION, AS WELL AS ANY COSTS ASSOCIATED WITH CORRECTING THESE ERRORS, IF ANY EXIST, UNLESS SYSTEM DESIGN OR INSTALLATION WAS PERFORMED BY NORRIS INC.

REVISION 0: SUBMITTAL 02/20/2020

FIRE ALARM WIRING RISER

PROJECT NUMBER: 1639

SCALE: NONE

PROJECT:
TD BANK
1 PORTLAND SQUARE
PORTLAND, MAINE 04101

DRAWN BY: JAB

CHECKED BY: MP

SHEET: FA-01

Norris Inc.
2257 BROADWAY SOUTH PORTLAND, MAINE