



Permitting and Inspections Department

Fire Alarm Permit Application

Construction Address: 901 Washington Ave.	
Total Square Footage of Proposed Structure: 5527 sqft of Tenant Fit up	
Tax Assessor's Chart, Block & Lot Chart# <input type="text"/> Block# <input type="text"/> Lot# <input type="text"/>	Applicant Name: Norris Inc.
Cost of Work: \$ 6613.00	Address: 2257 West Broadway South Portland, ME. 04106
Lessee/Owner Name (if different): MAINE MEDICAL CENTER	Phone: 207-883-3473
Address: 22 BRANHALL PORTLAND, ME	Email: melissap@norrisinc.com
Phone: 661-7704	Contractor Name (if different): Favreau Elec
Email: <input type="text"/>	Address: 37 Jordan Ave. Brunswick, ME. 04011
Current use (i.e. single family): OFFICE SPACE	Phone: (207) 725-2005
If vacant, what was the previous use? OFFICE SPACE	Email: tobiek@favreau-electric.com
Proposed specific use: MMC Vocational Services	
Is property part of a subdivision? If yes, name: no	
Project description: add, remove and relocate fire alarm devices as needed for suite fit up	
Life Safety Code Occupancy Classification: <input type="text"/>	
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)? no	
Name of company providing programming and certification of system*: Norris Inc.	
Electrical permit #: ELEC 2019-02008	
Will a master box be installed? <input type="radio"/> Yes <input checked="" type="radio"/> No If yes, complete all items for approval:	
AES approved installing contractor: <input type="text"/>	
Documentation of AES approval: <input type="text"/>	
Property Owner: <input type="text"/>	
Property Owner Billing Address: tobiek@favreau-electric.com	
Property common name: <input type="text"/>	
E-911 address for protected premises: <input type="text"/>	
Emergency contact phone: <input type="text"/> Additional emergency contact phone: <input type="text"/>	
Number of stories protected: <input type="text"/>	
Is the building protected by a supervised, automatic sprinkler system? <input checked="" type="radio"/> Yes <input type="radio"/> No	
Name of person to contact when the permit is ready: Melissa Peters, Norris Inc.	
Address: same as above	
City, State & Zip: <input type="text"/>	
Email Address: melissap@norrisinc.com	Phone: 883-3473 x1104

*For a list of approved fire alarm companies, see www.portlandmaine.gov/1486/Approved-Fire-Alarm-Companies
389 Congress Street, Room 315/Portland Maine 04101/www.portlandmaine.gov/tel: 207-874-8703/fax: 207-874-8716

#3847



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Permitting and Inspections
Department
Approved 12/13/2019

CITY OF PORTLAND ELECTRICAL PERMIT



To the Electrical Inspector, Portland Maine:
The undersigned hereby applies for a permit to make electrical installations in accordance with the laws of Maine, the City of Portland's Electrical Ordinances, National Electric Code and the following specifications:

PERMIT ID: ELEC2019-02008
ISSUE DATE: 10/16/2019
ADDRESS: 65 PLEASANT HILL DRIVE
CBL: 171 A005001

CMP Work Order #:
Applicant: Favreau Electric Inc.
Phone #: 2077252005

Meter Make/Model:
Owner:
Phone #:

OUTLETS:	68	Receptacles	27	Switches	0	Smoke Detectors
FIXTURES:	0	Incandescent	80	Fluorescent	0	Strips
SERVICES:						
TEMPORARY SERVICES						
METERS:	0					
MOTORS:	0					
RESID/COMMER:	0	Electric Units				
HEATING:	0	Oil/Gas Units		Interior		Exterior
APPLICANCES:	0	Ranges	0	Cook Tops	0	Wall Ovens
	0	Insta-hot	0	Water Heaters	0	Fans
	0	Dryers	0	Disposals	0	Dishwashers
	0	Compactors	0	Spas	0	Washing Machines
MISC:	0	Air Cond (Window)	1	Alarms/Commer	9	Emergency Lights
	0	Air Cond (Central)	0	Alarms/Resid	0	Pools
	0	HVAC	0	Heavy Duty (CRKT)	0	Thermostat
	0	Signs	0	EMS	0	Emer Generators
	0	Alterations	0			
PANELS:	0	Service	0	Remote	0	Main
TRANSFORMERS:	0	0-25 Kva	0	26-200 Kva	0	Over 200 Kva

DESCRIPTION OF WORK: Renovation to office space at Vocational Studies

CONTRACTOR INFORMATION

Name: NEAL FAVREAU **Telephone:** (207)725-2005 **License Number:** MS60003538
Address: **Email:**

Applicant Signature: /S/Dottie Lakin



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.



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 or 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.



**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.



Norris Inc.

PO Box 2551
2257 West Broadway
South Portland, ME 04106

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Fax 207-879-0540

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SUBMITTAL PACKAGE

Project: MMC Vocational Services

System: Fire Alarm

Submitted by: Norris Inc.

2257 West Broadway

South Portland, Maine 04106

Telephone: 1-800-370-3473

Submittal Date: 11/25/2019



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.



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.



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.



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 Engineered Systems Distributor for NOTIFIER

During the year of 2019

Richard Bauer
Vice President Sales

ESD Since 1987

MMC Vocational ServicesReviewed for Code Compliance
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1/23/2019**Date:**

1/25/2019

Project #:

1411

Contractor:Favreus Electric
(207) 725-2005**Equipment List**

<u>Quantity</u>	<u>Manufacturer</u>	<u>Part Number</u>	<u>Description</u>
2	NOTIFIER	NBG12L	CONVENTIONAL PULL STATION
1	NOTIFIER	FCPS24S8	REMOTE POWER SUPPLY
2	SIGMASTEK	SP127	12V 7AH BATTERY
5	WHEELOCK	HSR	HORN STROBE, WALL, RED
7	WHEELOCK	STR	STROBE, WALL, RED

NBG-12 Series

Non-Coded Conventional Manual Fire Alarm Pull Stations



Conventional Initiating Devices

General

The NOTIFIER **NBG-12 Series** is a cost-effective, feature-packed series of non-coded manual fire alarm pull stations. It was designed to meet multiple applications with the installer and end-user in mind. The NBG-12 Series features a variety of models including single- and dual-action versions.

The NBG-12 Series provides an alarm initiating input signal to conventional fire alarm control panels (FACPs) such as the SFP Series, and to XP Transponders. Its innovative design, durable construction, and multiple mounting options make the NBG-12 Series simple to install, maintain, and operate.

Features

- Aesthetically pleasing, highly visible design and color.
- Attractive contoured shape and light textured finish.
- Meets ADA 5 lb. maximum pull-force.
- Meets UL 38, Standard for Manually Actuated Signaling Boxes.
- Easily operated (single- or dual-action, model dependent), yet designed to prevent false alarms when bumped, shaken, or jarred.
- PUSH IN/PULL DOWN handle latches in the down position to clearly indicate the station has been operated.
- The word "ACTIVATED" appears on top of the handle in bright yellow, further indicating operation of the station.
- Operation handle features white arrows showing basic operation direction for non-English-speaking persons.
- Braille text included on finger-hold area of operation handle and across top of handle.
- Multiple hex- and key-lock models available.
- U.S. patented hex-lock needs only a quarter-turn to lock/unlock.
- Station can be opened for inspection and maintenance without initiating an alarm.
- Product ID label viewable by simply opening the cover; label is made of a durable long-life material.
- The words "NORMAL" and "ACTIVATED" are molded into the plastic adjacent to the alarm switch (located inside).
- Four-position terminal strip molded into backplate.
- Terminal strip includes Phillips combination-head captive 8/32 screws for easy connection to Initiating Device Circuit (IDC).
- Terminal screws backed-out at factory and shipped ready to accept field wiring (up to 12 AWG/3.1 mm²).
- Terminal numbers are molded into the backplate, eliminating the need for labels.
- Switch contacts are normally open.
- 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.
- Backplate is large enough to overlap a single-gang backbox cutout by 1/2" (1.27 cm).
- Optional trim ring (**BG12TR**).
- Spanish versions (*FUEGO*) available (**NBG-12LSP**, **NBG-12LPSP**).
- Designed to replace the legacy **NBG-10** Series.
- Models packaged in attractive, clear plastic (PVC), clam-shell-style, Point-of-Purchase packages. Packaging includes a cutaway dust/paint cover in shape of pull station.



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6643cov.jpg

Construction

- Cover, backplate and operation handle are all molded of durable polycarbonate material.
- Cover features white lettering and trim.
- Red color matches System Sensor's popular SpectrAlert® Advance horn/strobe series.

Operation

The NBG-12 manual pull stations provide a textured finger-hold area that includes Braille text. In addition to PUSH IN and PULL DOWN text, there are arrows indicating how to operate the station, provided for non-English-speaking people.

Pushing in and then pulling down on the handle activates the normally-open alarm switch. Once latched in the down position, the word "ACTIVATED" appears at the top in bright yellow, with a portion of the handle protruding at the bottom as a visible flag. Resetting the station is simple: insert the key or hex (model dependent), twist one quarter-turn, then open the station's front cover, causing the spring-loaded operation handle to return to its original position. The alarm switch can then be reset to its normal (non-alarm) position manually (by hand) or by closing the station's front cover, which automatically resets the switch.

Specifications

PHYSICAL SPECIFICATIONS:

	pull station	SB-10	SB-I/O	WBB	WP-10
H	5.500 in. (13.97 cm)	5.500 in. (13.97 cm)	5.601 in. (14.23 cm)	4.25 in. (10.79 cm)	6.000 in. (15.24 cm)
W	4.121 in. (10.467 cm)	4.125 in. (10.478 cm)	4.222 in. (10.72 cm)	4.25 in. (10.79 cm)	4.690 in. (11.913 cm)
D	1.390 in. (3.531 cm)	1.375 in. (3.493 cm)	1.439 in. (3.66 cm)	1.75 in. (4.445 cm)	2.000 in. (5.08 cm)

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ELECTRICAL SPECIFICATIONS:

Switch contact ratings: gold-plated; rating 0.25 A @ 30 VAC or VDC. **Auxiliary contact circuit** (Terminals 3 & 4, NBG-12LA): rated to 3.0 A @ 30 VAC or VDC.

ENGINEERING/ARCHITECTURAL SPECIFICATIONS

Manual Fire Alarm Stations shall be non-code, with a key- or hex-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 or hex. An operated station shall automatically condition itself so as to be visually detected as activated. Manual stations shall be constructed of red colored LEXAN (or polycarbonate equivalent) with clearly visible operating instructions provided on the cover. The word **FIRE** shall appear on the front of the stations in white letters, 1.00 inches (2.54 cm) or larger.* Stations shall be suitable for surface mounting on matching backbox SB-10 or SB-I/O; or semi-flush mounting on a standard single-gang, double-gang, or 4" (10.16 cm) square electrical box, and shall be installed within the limits defined by the Americans with Disabilities Act (ADA) or per national/local requirements. Manual Stations shall be Underwriters Laboratories listed.

NOTE: *The words "FIRE/FUEGO" on the NBG-12LSP and NBG-12LPSP shall appear on the front of the station in white letters, approximately 3/4" (1.905 cm) high.

Pre-Signal Models

The NBG-12LPS and NBG-12LPSP pull stations are non-coded manual pull stations which provide a FACP with two normally open alarm initiating input signals. "Pre-signal" input is activated by pushing in, then pulling down, the dual-action handle. A "general" alarm input signal can be manually activated via a momentary rocker switch mounted inside the unit. This general alarm switch can only be accessed by opening the cover with the supplied key/lock. See diagram at right.

Agency Listings and Approvals

The listings and approvals below apply to the NBG-12 Series pull stations. 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.

- **C(UL)US** Listed: file S692.
- **CSFM** approved: file 7150-0028:199.
- **FM** approved (except NBG-12LPS, NBG-12LPSP).
- **MEA** approved: file 67-02-E (NBG-12, NBG-12L, NBG-12LOB, NBG-12LA).
- **Lloyd's Register** type approved: file 93/60141 (E3) (NBG-12, NBG-12L, NBG-12LA, NBG-12LOB, NBG-12S).
- **U.S. Coast Guard** approved: files 161.002/23/3 (AFP-200 with NBG-12, NBG-12L, NBG-12S); 161.002/42/1 (NFS-640 with NBG-12, NBG-12L, NBG-12S); 161.002/27/3 (AFP1010/AM2020 with NBG-12, NBG-12L, NBG-12S).
- **Patented:** U.S. Patent No. D428,351; 6,380,846; 6,314,772; 6,632,108.

Product Line Information

NBG-12S: Single-action pull station with pigtail connections, hex lock.

NBG-12: Dual-action pull station with SPST N/O switch, screw terminal connections, **hex lock**.

NBG-12L: Dual-action pull station with SPST N/O switch, screw terminal connections, **key lock**.

NBG-12LSP: Same as NBG-12L with English/Spanish (FIRE/FUEGO) labeling.

NBG-12LPS: Dual-action pull station with pre-signal option.

NBG-12LPSP: Same as NBG-12LPS with English/Spanish (FIRE/FUEGO) labeling.

NBG-12LOB: Dual-action pull station with key lock, outdoor applications listings (NBG-12LO), and backbox. Includes SB-I/O indoor/outdoor backbox, and sealing gasket. Model will also mount to WP-10 weatherproof backbox in retrofit applications.

NOTE: NBG-12LO not available separately; NBG-12LO + approved backbox = NBG-12LOB.

Outdoor applications listings apply to NBG-12LOB combination.

NBG-12LA: Dual-action pull station with key lock and annunciator contacts.

SB-10: Surface-mount backbox, metal.

SB-I/O: Surface-mount backbox, plastic. (Included with NBG-12LOB.)

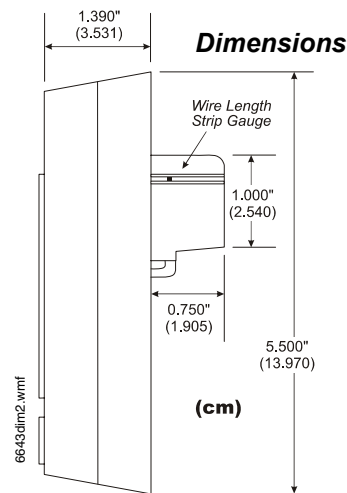
BG12TR: Optional trim ring for semi-flush mounting.

WP-10: Outdoor use backbox.

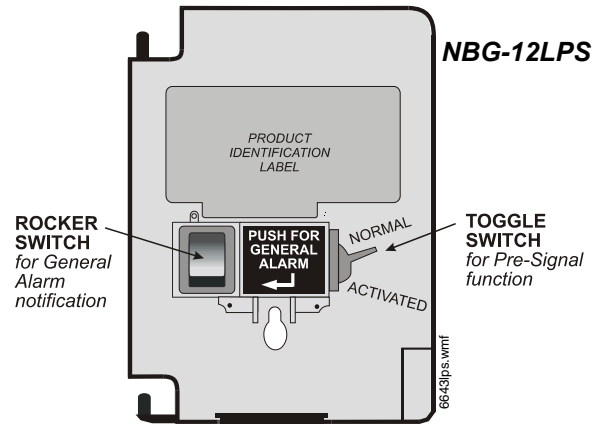
17021: Keys, set of two. (Included with key-lock pull stations.)

17007: Hex key, 9/64". (Included with hex-lock pull stations.)

NOTE: For addressable NBG-12LX models, see data sheet DN-6726.



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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

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

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



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

Features

- UL-Listed NAC synchronization using System Sensor, Wheelock, or Gentex "Commander²" 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).



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- 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 (3.1mm²) 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 (2.0mm²) 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 FACP's 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.

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**



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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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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

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



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

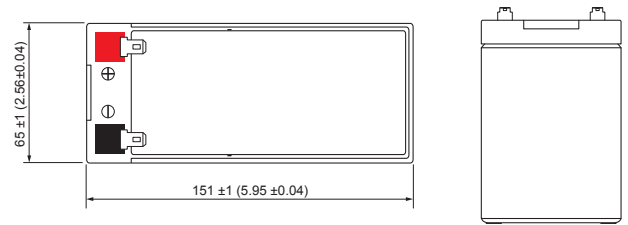
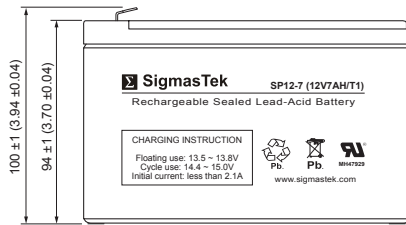
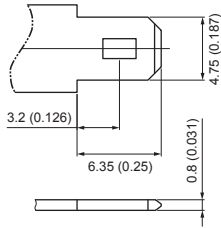
Constant Power Discharge (Watts Per Cell) at 25°C (77°F)

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

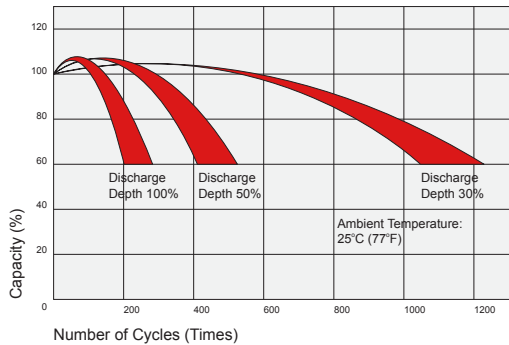
Dimensions

T1 Terminal

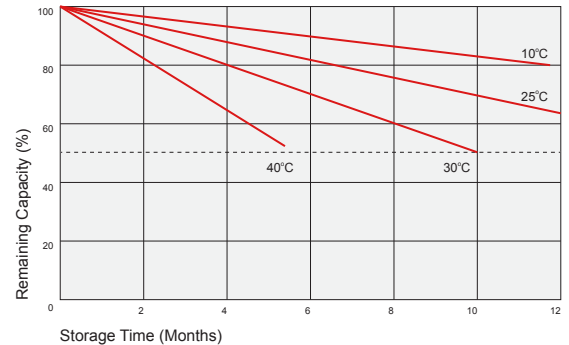
Unit: mm (inches)



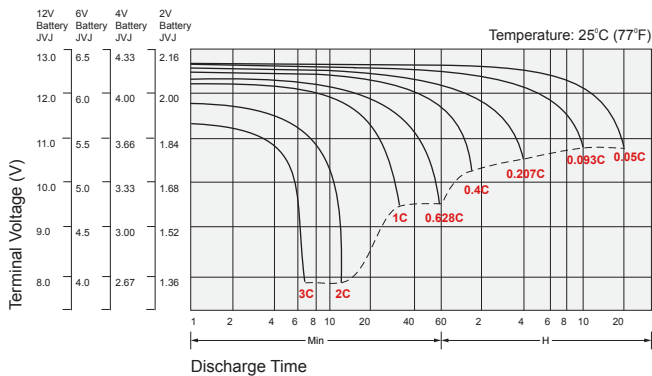
Cycle Service Life



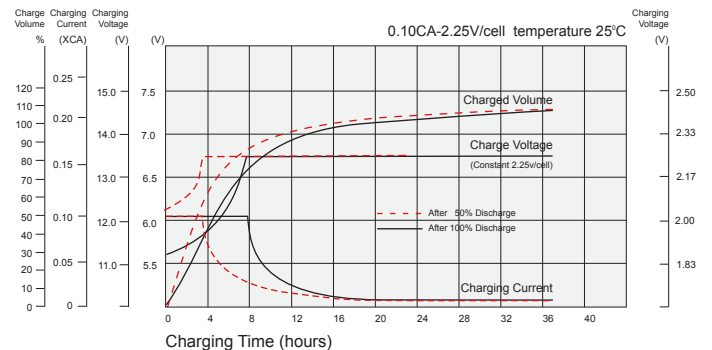
Self Discharge Characteristics



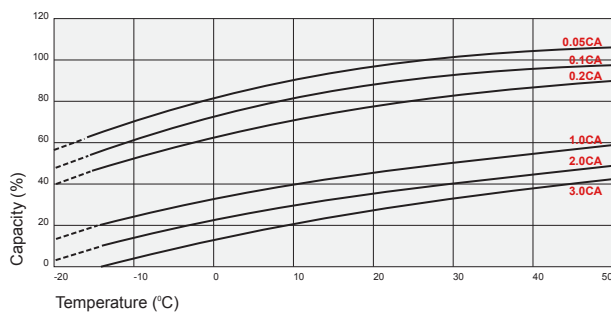
Discharge Characteristics



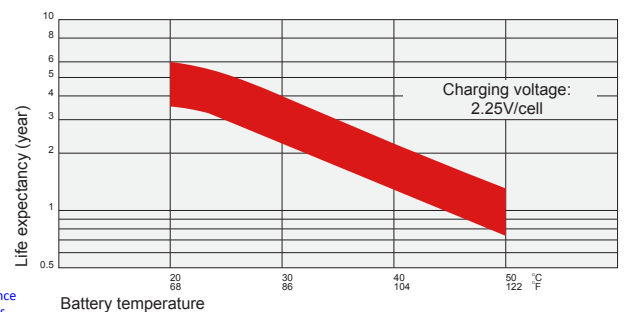
Float Charging Characteristics



Temperature Effects in Relation to Battery Capacity



Temperature Effects on Long Term Float Life



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Contact Information

SigmasTek
7651 W 100th Place
Bridgeview, IL 60455, USA

T: (888) 988-8290
www.sigmastek.com
order@sigmastek.com

Exceder Strobe, Horn Strobe, and Horn Notification Appliances



Description

The Wheelock Exceder Series of notification appliances feature a sleek modern design that will please building owners with reduced total cost of ownership. Installers will benefit from its comprehensive feature list, including the most candela options in one appliance, low current draw, no tools needed for setting changes, voltage test points, 12/24 VDC operation, universal mounting base and multiple mounting options for both new and retrofit construction.

The Wheelock Exceder Series incorporates high reliability and high efficiency optics to minimize current draw allowing for a greater number of appliances on the notification appliance circuit. All strobe models feature an industry first of 8 candela settings on a single appliance. 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 captivated screw to prevent the screw from falling during installation.

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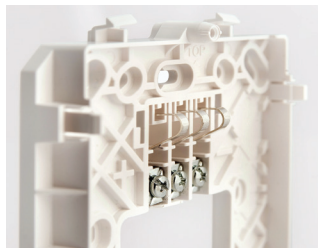
Features

- Sleek modern aesthetics
- Finger slide switches
- Voltage test points
- Multiple voltages
- 3 Audible settings
 - 90, 95, 99 dB
- Industry leading—8 candela settings on 1 device
 - Wall: 15/1575/30/75/95/110/135/185
 - Ceiling: 15/30/60/75/95/115/150/177

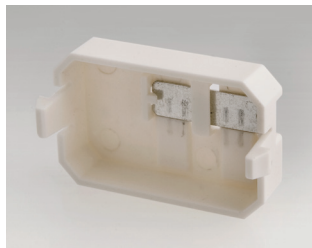


- Universal mounting base
 - Ceiling and wall
 - Mounts to 5 backbox types: 1 gang, 2 gang, 4" square, 3.5" octal. & 4" octal. (100mm for international customers)

Universal mounting base

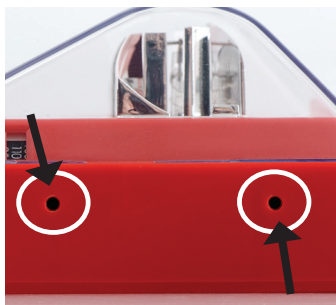


Contact cover



Common base for wall and ceiling with 5 mounting options

- Voltage test points for quick troubleshooting and easy spot checking (wall models only)



- Environmentally friendly
 - Low current draw
- Up to 9 models now in 1 appliance draw^①
- 12/24VDC on a single appliance
- Easy to remember model numbers

^① Patented

Note: Please read these specifications and associated installation instructions, before using, specifying, or installing this product. Visit Eaton.com/massnotification for current installation instructions.

General Notes

- Strobes are designed to flash at 1 flash per second minimum over their "Regulated Voltage Range".
- 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).

Compatibility and requirements

- Synchronize using the 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 1 flash per second over the "Regulated Voltage" range

Compliance

- UL 1971, UL 464, ULC, CSFM, FM
- ADA/NFPA/ANSI/OSHA
- RoHS





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Table 1. Strobe Ratings per UL Standard 1971

Model	Regulated Voltage Range VDC	UL Max Current ^①												12 VDC	
		24 VDC / 24 FWR													
		15	15/75	30	60	75	95	110	115	135	150	177	185	15	15/75
ST	8.0-33.0	0.057	0.070	0.085	—	0.135	0.163	0.182	—	0.205	—	—	0.253	0.110	0.140
STC	8.0-33.0	0.061	—	0.085	0.103	0.135	0.163	—	0.182	—	0.205	0.253	—	0.110	—

Table 2. Horn Strobe Ratings per UL 1971 & Anechoic at 24 VDC

Model	Regulated Voltage Range VDC	UL Max Current ^① at Anechoic 99 dBA												12 VDC	
		24 VDC													
		15	15/75	30	60	75	95	110	115	135	150	177	185	15	15/75
HS	8.0-33.0	0.082	0.095	0.102	—	0.148	0.176	0.197	—	0.242	—	—	0.282	0.125	0.159
HSC	8.0-33.0	0.082	—	0.102	0.141	0.148	0.176	—	0.197	—	0.242	0.282	—	0.125	—

Model	Regulated Voltage Range VDC	UL Max Current ^① at Anechoic 95 dBA												12 VDC	
		24 VDC													
		15	15/75	30	60	75	95	110	115	135	150	177	185	15	15/75
HS	8.0-33.0	0.073	0.083	0.087	—	0.139	0.163	0.186	—	0.230	—	—	0.282	0.122	0.153
HSC	8.0-33.0	0.073	—	0.087	0.128	0.139	0.163	—	0.186	—	0.230	0.272	—	0.122	—

Model	Regulated Voltage Range VDC	UL Max Current ^① at Anechoic 90 dBA												12 VDC	
		24 VDC													
		15	15/75	30	60	75	95	110	115	135	150	177	185	15	15/75
HS	8.0-33.0	0.065	0.075	0.084	—	0.136	0.157	0.184	—	0.226	—	—	0.267	0.120	0.148
HSC	8.0-33.0	0.065	—	0.084	0.120	0.136	0.157	—	0.184	—	0.226	0.267	—	0.120	—

① UL max current rating is the maximum RMS current within the listed voltage range (16-33 VDC for 24 VDC units). For strobes the UL max current is usually at the minimum listed voltage (16 VDC for 24 VDC units). For audibles the max current is usually at the maximum listed voltage (33 VDC for 24 VDC units). For unfiltered ratings, see installation instructions.

Table 3. Horn Ratings per UL Anechoic

Model	Regulated Voltage Range VDC	99 dB	95 dB	90 dB
HN	16-33.0	0.064	0.044	0.022
HNC	16-33.0	0.084	0.044	0.022
HN	8.0-17.5	0.047	0.026	0.017
HNC	8.0-17.5	0.047	0.026	0.017

Table 4. Specification & Ordering Information

Model	Strobe Candela	Sync w/ Wheelock Power Supplies	DSM or	12/24 VDC ^①	Mounting Options
Horn Strobes					
HSR	15/1575/30/75/95/110/135/185	X		X	UMB ^②
HSW	15/1575/30/75/95/110/135/185	X		X	UMB ^②
HSRC	15/30/60/75/95/115/150/177	X		X	UMB ^②
HSWC	15/30/60/75/95/115/150/177	X		X	UMB ^②
Strobes					
STR	15/1575/30/75/95/110/135/185	X		X	UMB ^②
STW	15/1575/30/75/95/110/135/185	X		X	UMB ^②
STRC	15/30/60/75/95/115/150/177	X		X	UMB ^②
STWC	15/30/60/75/95/115/150/177	X		X	UMB ^②
Horn					
HNR		X		X	UMB ^②
HNW		X		X	UMB ^②
HNRC		X		X	UMB ^②
HNWC		X		X	UMB ^②

① 12 VDC models feature 15 & 15/75 settings

② UMB = Universal Mounting Base

Model Legend

HN	= Horn	R	= Red
ST	= Strobe	A	= Agent Lettering (strobes only)
HS	= Horn Strobe	AL	= Alert Lettering (strobes only)
C	= Ceiling Mount	N	= No Lettering (strobes only)
W	= White		

Example 1: STRC = Strobe, Red, Ceiling Mount
 Example 2: HSR = Horn Strobe, Red, Wall Mount
 Example 3: HSW = Horn Strobe, White, Wall Mount
 Example 4: STW-AL = Strobe, White, Wall Mount, Alert Lettering



Example: HSR



Example: HSWC



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Architects and 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 (1) 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 (3) field selectable settings for dBA levels and shall have a choice of continuous or temporal (Code 3) audible outputs.

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-inch square, 3.5-inch octal, 4-inch octal 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.

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 be 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.

When synchronization is required, the appliance shall be compatible with Wheelock's DSM Sync Modules, Wheelock Power Supplies or other manufacturer's 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 (1) 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.

Wall Appliances: UL Standard 1971, UL Standard 464, California State Fire Marshal (CSFM), ULC, FM, RoHS

Ceiling Appliances: UL Standard 1971, UL Standard 464, California State Fire Marshal (CSFM), ULC, FM, RoHS

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



WE ENCOURAGE AND SUPPORT NICET CERTIFICATION
3 YEAR WARRANTY

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Cleveland, OH 44122
United States
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Eaton
Life safety & mass notification solutions
273 Branchport Ave.
Long Branch, NJ 07740
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NOTIFICATION APPLIANCE CIRCUIT VOLTAGE DROPS											
MMC Vocational Services											
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	345FT	1.141A	1.99 VDC	8.28%	22.01	VDC	18.41	VDC	38%
FCPS #1: 1.141A/8A Spare Capacity: 86%											
Calculated @ Maximum Distance/Current											



Reviewed for Code Compliance
 Permitting and Inspections
 Department
 Approved by: 12/13/2019



System Power Requirements

FCPS-24s8 Power Supply

Protected Premises: <u>MMC Vocational Services</u>	Date: <u>11/25/2019</u>
Address: <u>901 Washington Ave</u>	
City: <u>Portland</u> State: <u>Maine</u>	Zip: <u>04103</u>
Prepared By: <u>Norris Inc.</u>	Phone: <u>1-800-370-3473</u>
Address: <u>2257 West Broadway</u>	Email: jbridges@norrisinc.com
City: <u>South Portland</u> State: <u>Maine</u>	Zip: <u>04106</u>

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 1.29 Amps

Current load on the primary power supply during alarm conditions.

Secondary Load Requirements 2.00 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 1.286 A	x	Required Alarm Time (hours)	
		0.084 hours	0.11
Total Secondary Load			1.67
Derating factor			x 1.2
Secondary Load Requirements			2.00

AH

Battery Selection 7 Amp Hours

Select batteries from the list below.

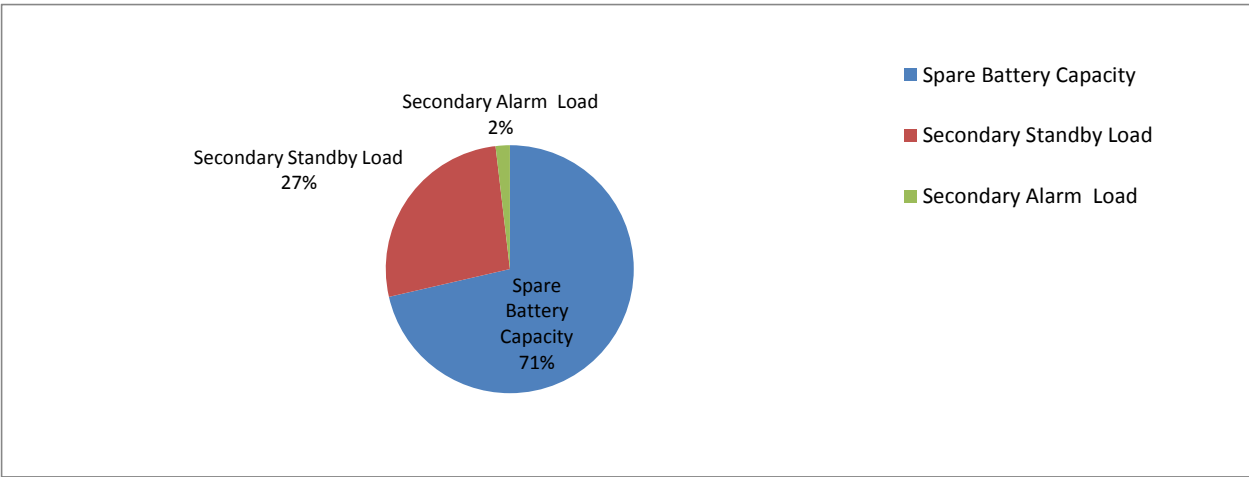
7 AH BAT-1270 Battery (12 volt)

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



Battery Distribution Chart

Shows amp-hour distribution of your selections.



Comments

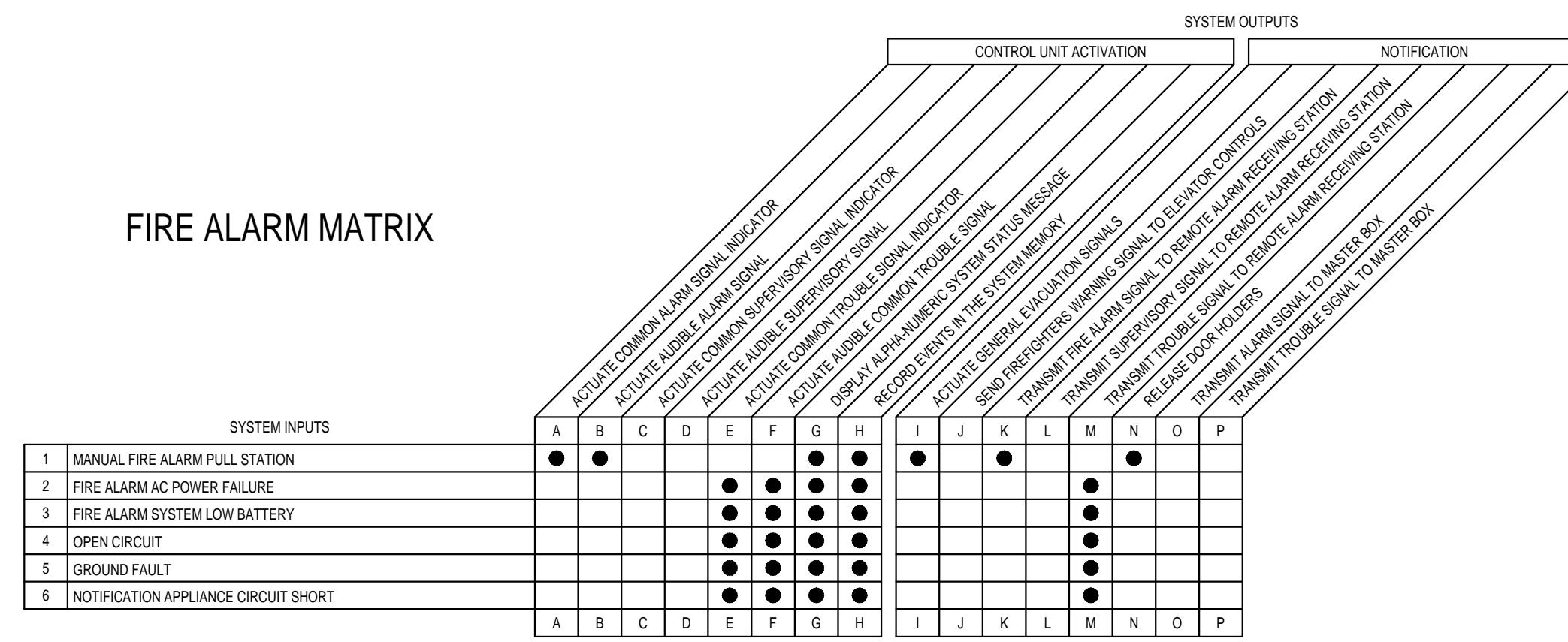
1. Batteries will fit in the FACP cabinet.
2. Selected battery size meets secondary load requirements.
3. The selected batteries (7AH) are within the charger range of this power supply (7-18AH).

Spare Battery Capacity	5.00	Battery Selection (AH) - Secondary Load Requirements (AH)
Secondary Standby Load	1.87	Secondary Standby Load (AH) * Derating Factor
Secondary Alarm Load	0.13	Secondary Alarm Load (AH) * Derating Factor



Reviewed for Code Compliance
 Permitting and Inspections Department
 Approved with Conditions
 12/13/2019

FIRE ALARM MATRIX



SYMBOL LEGEND

DEVICES	NOTIFICATION
PULL STATION	HORN STROBE
	STROBE
	XX = CANDELA RATING

WIRE LEGEND

2 COND 14 AWG FPL CABLE

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.

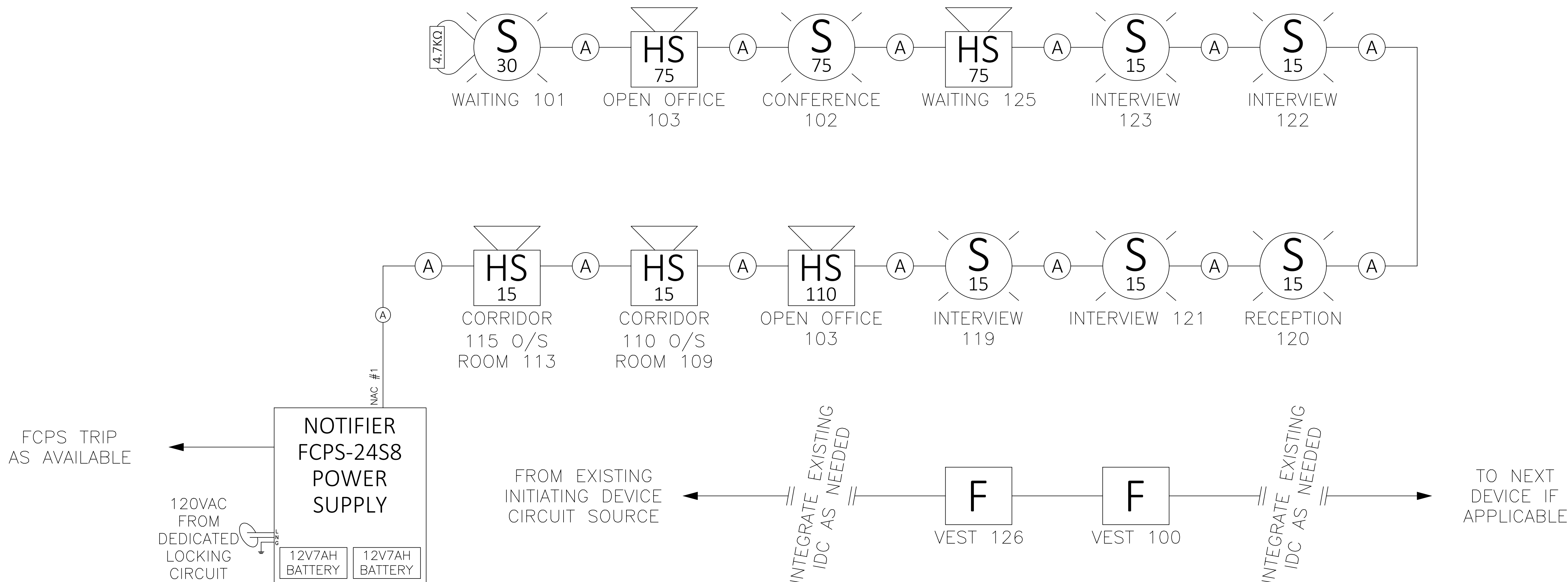
THE INSTALLER SHALL FOLLOW CORRECT CONDUCTOR POLARITY, INDICATED CIRCUIT DIVISIONS, PROPER GROUNDING AND SHIELDING WITHOUT EXCEPTION. IMPROPER INSTALLATION CAN RESULT IN INTERFERENCE, TRANSIENT VOLTAGE, OR SHORT CIRCUITS CAUSING UNDESIRABLE OPERATION OR DAMAGE TO THE CONTROL PANEL, DEVICES AND ANY OTHER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

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 MAY BE ADVERSELY AFFECTED BY 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 11/25/2019

FIRE ALARM WIRING RISER

PROJECT NUMBER: 1411	SCALE: NONE
PROJECT: MMC VOCATIONAL SERVICES 901 WASHINGTON AVE PORTLAND, MAINE 04103	DRAWN BY: JAB CHECKED BY: MP



2257 BROADWAY SOUTH PORTLAND, MAINE

SHEET:
FA-01