



PO Box 2551  
2257 West Broadway  
South Portland, ME 04106

1.800.370.3473  
fax 207.879.0540

www.norrisinc.com

Please fax this information to the Administrative Sales Assistant at the So. Portland Office at (207)-879-0540.

## Building Owner Information Form

Job Name:	Project #:
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Electrical Contractor:
------------------------

# NFPA requires this information for proper documentation

***\*The contractor MUST provide all of the information with an asterisk below before ANY equipment can be released.***

*If building owner contact is unknown provide contact name/tel. of GC and check box*

Electrical Contractor Contact Name:	
Estimated Date Equip. Needed:	*Estimated Finals Date:

*Building Owner:
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*Job Site Address:
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*City:	State:	Zip:
--------	--------	------

*Contact Name:	Check here if GC
----------------	------------------

*Phone #:	Fax #:
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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 JOB-SITE**

**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 of your 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 (wrapped with tape) 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 apply if special arrangements were not made ahead. Call your customer service representative.**
  - 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, then please turn to page 2.**
-



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## **IMPORTANT INFORMATION FOR THE BUILDING OWNERS SPECIAL NOTE REGARDING ALARM MONITORING SERVICES**

**Included within your alarm system package is a digital communicator, which sends a coded message 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:**     **The Marquis Lofts**

**System:**     **Fire Alarm System  
Entry System**

**Submitted**   **Norris Inc.**  
**By:**           **2257 West Broadway  
South Portland, Maine 04106  
Telephone: (800) 370-3473**

**Date:**         **September 8th, 2014**

## 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

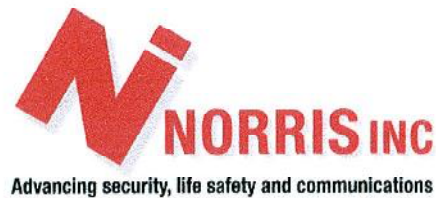
Provide quality engineered systems, exceptional service.

## 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 products 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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## **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 infrastructures 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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## **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 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 &/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.**





## 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 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 LogMeln. 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 will allow fast and efficient troubleshooting 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 or 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 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.



*This is to certify that*

**NORRIS, INC.**

*is an authorized Engineered Systems Distributor for NOTIFIER*

*During the year of 2014*

*Signed for on behalf of NOTIFIER*

*Vice President Sales - Americas*

**Norris Inc**

2257 West Broadway

South Portland, ME 04106

1-800-370-3473

**COREY ELECTRIC, INC.**

609 MAIN STREET, STE 3

WESTBROOK, ME 04092

Tel:207-591-8151

Fax:207-591-8153

**317303SP****Equipment List****Marquis Lofts (33 Lafayette)****Description**

NOTIFIER-NFW-50, Addressable fire alarm control panel  
ADI-IM-12180, 12V 18AH Battery  
ADI-R5-RJ31X, UL 8P8C RJ31X JACK  
ADI-R5-804R8, SILVER SATIN 8' PLUG - PLUG  
NOTIFIER-NOT-BG12LX, Addressable Pull Station.  
NOTIFIER-NP-100, Intelligent Addressable Photo detector,w/base.  
NOTIFIER-NMM-100P, Address Mini Mod  
NOTIFIER-P2R, Horn Strobe, Wall, Red, Multi Cd  
Space Age-SSU00686, Fire Alarm Records Cabinet  
SPAAGEELE-IE0091, Notifier Lock  
Knox Box, Recessed, Black, w/ Lift Door  
TEKTON-AM642/08P, Vandal Pnl,spkr,8 buttons & name holders,postal release  
TEKTON-OH601, AM612/AM642 series/10-16 buttons or w/postal release. FI/Box  
TEKTON-IR104E, APT Stn, F/mnt,4-wire, curved plastic plate, Braille  
TEKTON-IH101, Housing for IR100-series Stats  
TEKTON-PK543A, Amplifier/Relay/PS for 5,4/ 3 wire APT Stats.  
TEKTON-SS102A, Transformer 16 VAC, 10 VA, UL# Listed

# FireWarden-50(E)

## Intelligent Addressable FACP with Built-In Communicator



Addressable Fire Alarm Control Panels

### General

The NOTIFIER FireWarden-50 (NFW-50) is a Fire Alarm Control Panel (FACP) and Digital Alarm Communicator/Transmitter (DACT) combined into one circuit board. This compact, intelligent addressable control panel supports up to 50 addressable devices in any combination of detectors or modules. With an extensive list of powerful features, the FireWarden-50 programs just like FireWarden-100 products, yet fits into applications previously served only by conventional panels.

The FireWarden-50's integral DACT transmits system status (alarms, troubles, AC loss, etc.) to a Central Station via the public switched telephone network. It also allows remote and local programming of the control panel using the PS-Tools Upload/Download utility. In addition, the control panel may be programmed or interrogated off-site via the public switched telephone network. Any personal computer with Windows™ 95 or greater, and compatible modem with a speed of 14.4 kbps or faster and Upload/Download software, may serve as a Service Terminal. This allows download of the entire program or upload of the entire program, history file, walk-test data, current status and system voltages.

The power supply and all electronics are contained on a single circuit board supported on a new quick install chassis and housed in a metal cabinet. Available accessories include local and remote upload/download software, remote annunciators, and reverse polarity/city box transmitter. (4XTM)

The FireWatch Series internet monitoring modules IPDACT-2 and IPDACT-2UD permit monitoring of alarm signals over the Internet, saving the monthly cost of two telephone lines. Although not required, the secondary telephone line may be retained providing backup communication over the public switched telephone line.

**NOTE:** Unless otherwise specified, the term FireWarden-50 is used in this data sheet to refer to both the FireWarden-50 and the FireWarden-50E FACPs. For FireWarden-50C, refer to DN-60446.

### Features

- Listed to UL Standard 864, 9th edition.
- Auto-program (learn mode) reduces installation time. Reports two devices set to the same address.
- On-board DACT.
- Two independently programmable Style Z (Class A) or Style Y (Class B) NAC circuits.
- Selectable strobe synchronization for System Sensor, Wheelock, and Gentex devices.
- Remote Acknowledge, Silence, Reset and Drill via addressable monitor modules.
- Two programmable relays and one fixed trouble relay.
- Built-in Programmer.
- Telephone Line Active LEDs.
- EIA-232 PC interface.
- Integral 80-character LCD display with backlighting.
- Real-time clock/calendar with automatic daylight savings control.
- History file with 500 event capacity.
- Automatic detector sensitivity testing (NFPA 72 compliant).
- Automatic device type-code verification.



- Point trouble identification.
- Waterflow selection per module point.
- Alarm verification selection per detector point.
- Maintenance alert warns when smoke detector dust accumulation is excessive.
- One-person audible or silent walk test with walk-test log and printout.
- System alarm verification selection per detector point.
- PAS (Positive Alarm Sequence) and Pre-signal per point (NFPA 72 compliant).
- Up to eight ANN-BUS annunciators
- Remote Acknowledge, Alarm Silence, Reset and Drill via addressable modules or remote annunciator.
- Upload/Download (local or remote) of program and data via integral DACT.

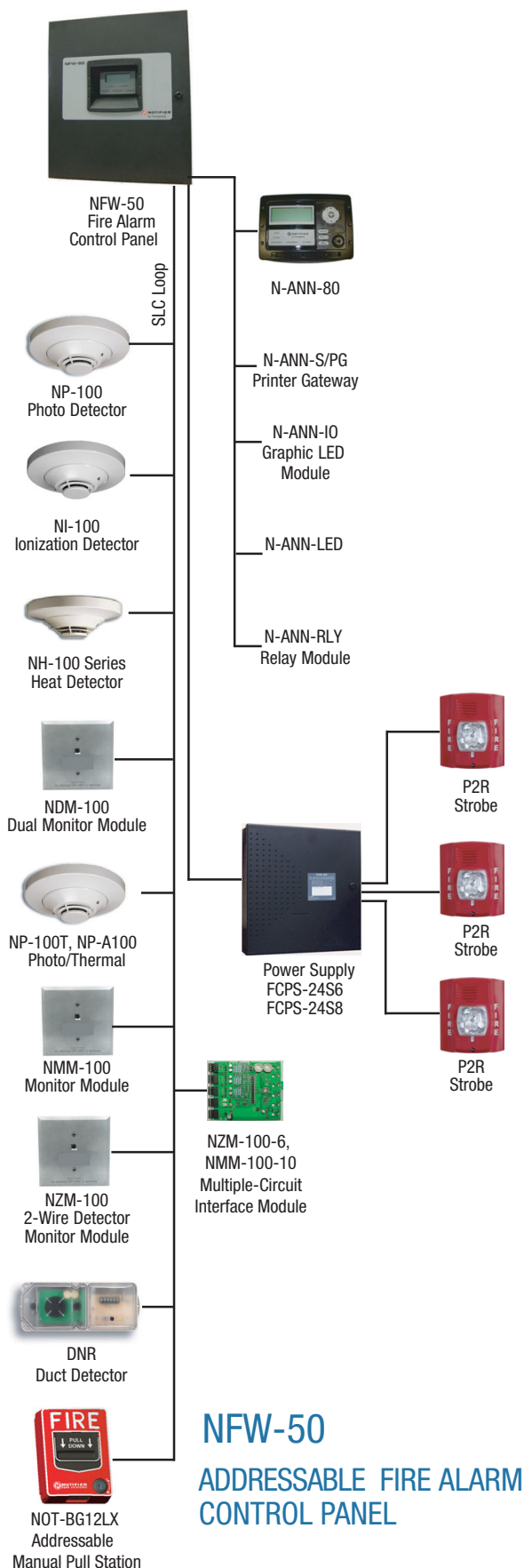
### SLC COMMUNICATION LOOP

- Single addressable SLC loop which meets NFPA Style 4, 6 and 7 requirements.
- 50 addressable device capacity (any combination of addressable detectors and modules).
- Compatible with NOTIFIER FireWarden addressable devices (refer to the *FireWarden SLC Wiring Manual*).

### NOTIFICATION APPLIANCE CIRCUITS (NACS)

- Two independently programmable output circuits. Circuits can be configured for the following outputs:
  - **Style Y** (Class B)
  - **Style Z** (Class A)
  - **Door Holder Service** (cannot be used for notification appliances)
  - **Aux Power Source** (cannot be used for notification appliances)
- Silence Inhibit and Autosilence timer options.
- Continuous, March Time, Temporal or California code for main circuit board NACs with two-stage capability.
- Selectable strobe synchronization per NAC.
- 2.5 A total power for NACs.

**NOTE:** Maximum or total 24VDC system power shared between all NAC circuits and the ANN-BUS is 2.7 A.



## PROGRAMMING AND SOFTWARE

- Autoprogram (learn mode) reduces installation time.
- Custom English labels (per point) may be manually entered or selected from an internal library file.
- Two programmable Form-C relay outputs.
- 20 software zones.
- Continuous fire protection during online programming at the front panel.
- Program Check automatically catches common errors not linked to any zone or input point.
- **OFFLINE PROGRAMMING:** Create the entire program in your office using PS-Tools, Windows®-based software package, and upload/download system programming locally. PS-Tools is available on [www.magni-fire.com](http://www.magni-fire.com).

## User interface

### LED INDICATORS

- AC Power (green)
- Fire Alarm (red)
- Supervisory (yellow)
- Trouble (yellow)
- Alarm Silenced signals (yellow)

### KEYPAD

- 16 key alpha-numeric pad
- Acknowledge/Step
- Alarm Silenced
- Drill (Manual Evacuate)
- Reset (lamp test)

## Product Line Information

**NFW-50:** Combination DACT/Fire Alarm Control Panel with one SLC loop. Includes main circuit board with display, chassis with transformer, backbox with door, plastic bag containing screws, cables, key, etc., manual. (For NFW-50C, refer to DN-60446.)

**NFW-50E:** Same as NFW-50, but operates at 240 VAC.

**NFW-50R:** Same as NFW-50, with red backbox and door.

**DP-51050B:** Optional dress panel for NFW-50 (black).

**DP-51050:** Optional dress panel for the NFW-50R (red).

**TR-CE-B:** Optional trim ring for semi-flush mounting. (Black. For red, order **TR-CE**.)

**BB-XP:** Optional cabinet for one or two modules.

**BB-25:** Optional cabinet for up to six modules mounted on CHS-6 chassis.

**BB-26:** Battery backbox, holds up to two 25 AH batteries and CHG-75.

**NFS-LBB:** Battery box, houses two 55 AH batteries

**CHS-6:** Chassis, mounts up to six multi-modules in a BB-25 cabinet.

**CHG-75:** Battery charger for lead-acid batteries with a rating of 25 to 75 AH.

**CHG-120:** Remote battery charging system for lead-acid batteries with a rating of 55 to 120 AH. Requires additional NFS-LBB for mounting.

**NOTE:** CHG-120 or CHG-75 required for batteries larger than 18AH.

**BAT Series:** Batteries, see data sheet DN-6933.

**PRT/PK-CABLE:** Cable printer/personal computer interface cable.

**PRN-6:** UL listed compatible event printer. Uses tractor-fed paper.

**IPDACT, IPDACT-2/2UD Internet Monitoring Module:** Mounts in bottom of enclosure with optional mounting kit (PN IPBRKT). Connects to primary and secondary DACT telephone output ports for internet communications over customer provided ethernet internet connection. Requires compatible Teldat Visoralarm Central Station Receiver. Can use DHCP or static IP. (See data sheet dn-60408 for more information.)

**IPBRKT:** Mounting kit for IPDACT-2/2UD in common enclosure.

**IPSPLT:** Y-adaptor option allows connection of both panel dialer outputs to one IPDACT-2/2UD cable input.

**AC-TRMBLK:** AC Terminal Block mounts to a metal bracket, in turn, mounts to the FACP chassis. Use AC-TRMBLK when wire nuts are not allowed for AC connections to the transformer.

### OPTIONAL MODULES

**4XTM Reverse Polarity Transmitter Module:** Provides a supervised output for local energy municipal box transmitter, alarm and trouble. Includes a disable switch and disable trouble LED.

**ANN-SEC:** Optional secondary ANN-BUS interface module. Note: Used only with firmware 3.0 or higher.

### COMPATIBLE ANNUNCIATORS

**N-ANN-80(-W):** Remote LCD annunciator mimics the information displayed on the FACP LCD display. Recommended wire type is un-shielded. (Basic model is black; order -W for white; see DN-7114.)

**N-ANN-I/O:** LED Driver Module provides connections to a user supplied graphic annunciator. (See DN-7105.)

**N-ANN-LED:** Annunciator Module provides three LEDs for each zone: Alarm, Trouble, and Supervisory. Ships with red enclosure. (See DN-60242.)

**N-ANN-RLED:** Provides alarm (red) indicators for up to 30 input zones or addressable points. (See DN-60242.)

**N-ANN-RLY:** Relay Module provides 10 programmable Form-C relays. Can be mounted inside the cabinet. (See DN-7107.)

**N-ANN-S/PG:** Serial/Parallel Printer Gateway module provides a connection for a serial or parallel printer. (See DN-7103.)

### ADDRESSABLE DEVICES

All feature a polling LED and rotary switches for addressing.

**NI-100:** Addressable low-profile ionization smoke detector.

**NP-100:** Addressable low-profile photoelectric smoke detector.

**NP-100T:** Addressable low-profile photoelectric smoke detector with thermal sensor.

**NP-100R:** Remote test capable addressable photoelectric smoke detector for use with DNR(W) duct detector housing.

**NH-100:** Fast-response, low-profile heat detector.

**NH-100R:** Fast-response, low-profile heat detector with rate-of-rise option.

**NH-100H:** Fast-response, low-profile heat detector that activates at 190°F/88°C.

**NP-A100:** Addressable low-profile multi-sensor detector.

**DNR:** InnovairFlex low-flow non-relay duct-detector housing. (Order NP-100R separately.)

**DNRW:** InnovairFlex low-flow non-relay duct-detector housing, with NEMA-4 rating. Watertight. (Order NP-100R separately.)

**NMM-100:** Addressable Monitor Module for one zone of normally-open dry-contact initiating devices. Mounts in standard 4.0" (10.16 cm.) box. Includes plastic cover plate and end-of-line resistor. Module may be configured for either a Style B (Class B) or Style D (Class A) IDC.

**NDM-100:** Dual Monitor Module. Same as NMM-100 except it provides two Style B (Class B) only IDCs.

**NMM-100P:** Miniature version of NMM-100. Excludes LED and Style D option. Connects with wire pigtails. May mount in device backbox.

**NZM-100A:** Similar to NMM-100A. Addressable Monitor Module for one zone of conventional two-wire detectors. Requires resettable 24 VDC power. Refer to the *Device Compatibility Document* for listed compatible devices and quantity limitation.

**NZM-100-6:** Six-zone interface module. Mount one or two modules in a BB-XP cabinet (optional). Mount up to six modules on a CHS-6 chassis in a BB-25 cabinet.

**NMM-100-10:** Ten-input monitor module. Mount one or two modules in a BB-2 cabinet (optional). Mount up to six modules on a CHS-6 chassis in a BB-25 cabinet.

**NC-100:** Addressable Control Module for one Style Y/Z (Class B/A) zone of supervised polarized Notification Appliances. Mounts directly to a 4.0" (10.16 cm.) electrical box. Notification Appliance Circuit option requires external 24 VDC to power notification appliances.

**NC-100R:** Addressable relay module containing two isolated sets of Form-C contacts, which operate as a DPDT switch. Mounts directly to a 4.0" (10.16 cm.) box, surface mount using the SMB500.

**NOT-BG12LX:** Addressable manual pull station with interface module mounted inside.

**N100-ISO:** Fault Isolator Module.

**SMB500:** Used to mount all modules except the NMM-100P.

**NOTE:** For more information on Compatible Addressable Devices for use with the FireWarden-50, see the following data sheets (document numbers): N100-ISO (DN-6994), NP-100 series (DN-6995), NI-100 (DN-6996), NH-100/NH-100R (DN-6997), DNR/InnovairFlex (DN-60424, DN-60429), NP-A100 (DN-6998), NMM-100/NMM-100P/NDM-100/NZM-100 (DN-6999), NC-100 (DN-7000), NC-100R (DN-60383), NMM-100-10 (DN-6990), and NOT-BG12LX (DN-7001).

### ADDRESSABLE DEVICE ACCESSORIES

**End-of-Line Resistor Assembly (R-47K and R-3.9K):** The 47k ohm assembly supervises the NMM-100-10, NDM-100, NMM-100P, and NC-100 module circuits. The 3.9k ohm assembly supervises the NZM-100-6 module circuit. These resistors are included with each module.

**Power Supervision Relay:** Supervises the power to 4-wire smoke detectors and notification appliances.

### Wiring Requirements

While shielded wire is not required, it is recommended that all SLC wiring be twisted-pair to minimize the effects of electrical interference. Refer to the panel manual for wiring details.

# SYSTEM SPECIFICATIONS

## System Capacity

- Intelligent Signalling Line Circuits..... 1
- Addressable device capacity ..... 50
- Programmable software zones ..... 20
- Annunciators ..... 8

## Electrical Specifications

**AC Power:** FireWarden-50: 120 VAC, 60 Hz, 3.0 A. FireWarden-50E: 240 VAC, 50 Hz, 1.5 A. Wire size: minimum 14 AWG (2.00 mm<sup>2</sup>) with 600 V insulation. Nonpower-limited, supervised.

**Battery:** Two 12 V 18 AH lead-acid batteries. Battery Charger Capacity: 7-18 AH (FireWarden-50 cabinet holds maximum of two 18 AH batteries.)

**Communication Loop:** Supervised and power-limited.

**Notification Appliance Circuits:** Terminal Block provides connections for two NACs, Style Y (Class B) or Style Z (Class A). Special Application power. Power-limited, supervised circuitry. Maximum signaling current per circuit: 2.5 A. End-of-Line Resistor: 4.7k ohm, ½ watt (P/N 71252 UL listed) for Style Y (Class B) NAC. Refer to the *NOTIFIER Device Compatibility Document* for listed compatible devices.

**Two Programmable Relays and One Fixed Trouble Relay:** Contact rating: 2.0 A @ 30 VDC (resistive), 0.5 A @ 30 VAC (resistive). Form-C relays, nonpower-limited, nonsupervised.

## Cabinet Specifications

**Door:** 19.26" (48.92 cm.) high x 16.82" (42.73 cm.) wide x 0.72" (1.82 cm.) deep. **Backbox:** 19.00" (48.26 cm.) high x 16.65" (42.29 cm.) wide x 5.25" (13.34 cm.) deep. **Trim Ring (TR-CE/B):** 22.00" (55.88 cm.) high x 19.65" (49.91 cm.) wide.

## Shipping Specifications

**Weight:** 26.9 lbs. (12.20 kg.) **Dimensions:** 20.00" (50.80 cm.) high x 22.5" (57.15 cm.) wide x 8.5" (21.59 cm.) deep.

## Temperature and Humidity Ranges

This system meets NFPA requirements for operation at 0 – 49°C/32 – 120°F and at a relative humidity 93% ± 2% RH

(noncondensing) at 32°C ± 2°C (90°F ± 3°F). However, the useful life of the system's standby batteries and the electronic components may be adversely affected by extreme temperature ranges and humidity. Therefore, it is recommended that this system and its peripherals be installed in an environment with a normal room temperature of 15 – 27°C/60 – 80°F.

## NFPA Standards

The FireWarden-50 complies with the following NFPA 72 Fire Alarm Systems requirements:

- **LOCAL** (Automatic, Manual, Waterflow and Sprinkler Supervisory).
- **AUXILIARY** (Automatic, Manual and Waterflow) (requires 4XTM).
- **REMOTE STATION** (Automatic, Manual and Waterflow) (Where a DACT is not accepted, the alarm, trouble and supervisory relays may be connected to UL 864 listed transmitters. For reverse polarity signaling of alarm and trouble, 4XTM is required.)
- **PROPRIETARY** (Automatic, Manual and Waterflow).
- **CENTRAL STATION** (Automatic, Manual and Waterflow, and Sprinkler Supervised).
- **OT, PSDN** (Other Technologies, Packet-switched Data Network)

## Agency Listings and Approvals

The listings and approvals below apply to the basic FireWarden-50 control panel. In some cases, certain modules may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- **UL:** S635
- **FM approved**
- **CSFM:** 7165-0028:239
- **MEA:** 442-06-E Vol. 2

**NOTE:** See DN-60446 for ULC-listed model.

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# NP-100(A) Series

## Addressable Photoelectric Detectors for the FireWarden Series



Addressable

### General

The NP-100(A), NP-100T(A) and NP-100R(A) addressable, low-profile plug-in photoelectric detectors use a state-of-the-art photoelectric sensing chamber with communications to provide open area protection and are used exclusively with NOTIFIER's **FireWarden Series** (FireWarden-100-2 and FireWarden-50) and **Spartan** (NSP-25) Addressable Fire Alarm Control Panels (FACPs). The NP-100T(A) adds thermal sensors that will alarm at a fixed temperature of 135°F (57°C). Since these detectors are addressable, they will help emergency personnel quickly locate a fire during its early stages, potentially saving precious rescue time while also reducing property damage. Two LEDs on each sensor light to provide a local, visible sensor indication. Remote LED annunciator capability is available as an optional accessory, PN RA100Z(A). The NP-100R(A) is a remote test capable detector for use with DNR(A)/DNRW duct smoke detector housings.



NP-100(A) in B210LP(A) Base

B210-2851.jpg

### Features

#### SLC loop

- Two-wire loop connection.
- Unit uses base for wiring.

#### Addressing

- Addressable by device.
- Rotary, decimal addressing: 01 – 99 with FireWarden-100-2 and NSP-25, and 01 – 50 with FireWarden-50.

#### Architecture

- Unique single-source, dual-chamber design to respond quickly and dependably to a broad range of fires.
- Sleek, low-profile design.
- Integral communications and built-in type identification.
- Built-in tamper-resistant feature.
- Removable cover and insect-resistant screen for simple field cleaning.

#### Operation

- Withstands air velocities up to 4,000 feet-per-minute (20 m/sec.) without triggering a false alarm.
- Factory preset at 1.5% nominal sensitivity for panel alarm threshold level.
- Visible LED “blinks” when the unit is addressed (communicating with the fire panel) and latches on in alarm.

#### Mechanicals

- Sealed against back pressure.
- Direct surface mounting or electrical box mounting.
- Mounts to: single-gang box, 3.5" (8.89 cm) or 4.0" (10.16 cm) octagonal box, or 4.0" (10.16 cm) square electrical box (using a plaster ring — included).

#### Other system features

- Fully coated circuit boards and superior RF/transient protection.
- 94-V0 plastic flammability rating.
- Low standby current.

#### Options

- Remote LED output connection, PN RA100Z(A).

### Applications

Use photoelectric detectors in life-safety applications to provide a broad range of fire-sensing capability, especially where smoldering fires are anticipated. Ionization detectors are often better than photoelectric detectors at sensing fast, flaming fires.

### Construction

These detectors are constructed of off-white fire resistant plastic. NP-100(A) series plug-in, low-profile smoke detectors are designed to commercial standards and offer an attractive appearance.

### Installation

NP-100(A) series plug-in detectors use a detachable mounting 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-60054.

**NOTE:** Because of the 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. NP-100R(A) mounts in a DNR(A)/DNRW duct detector housing.

### Operation

Each NP-100(A) series detector uses one of 99 possible addresses on the FireWarden-100-2 and NSP-25, or one of 50 possible addresses on the FireWarden-50 Signaling Line Circuit (SLC). It responds to regular polls from the system and reports its type and status.

The addressable photoelectric sensor in the NP-100(A) series has a unique unipolar chamber that responds quickly and uniformly to a broad range of smoke conditions. It can withstand wind gusts up to 4,000 feet-per-minute (20 m/sec.) without sending an alarm level signal. Because of its unipolar chamber, the NP-100(A) series is approximately two times more responsive than most photoelectric sensors. This makes it a more stable detector.



## Detector Sensitivity Test

Each detector can have its sensitivity tested (required per NFPA 72, Chapter 14 on *Inspection, Testing and Maintenance*) when installed/connected to a FireWarden-100-2 or FireWarden-50 addressable fire alarm control panel. The results of the sensitivity test can be printed off the FireWarden-100-2 or FireWarden-50 for record keeping.

## Specification

**Voltage range:** 15 – 32 VDC (peak).

**Standby current:** 300 µA @ 24 VDC.

**LED current:** 6.5 mA @ 24 VDC (latched “ON”).

**Air velocity:** 4,000 ft./min. (20 m/sec.) maximum.

**Size:** 2.1" (5.33 cm) high; base determines diameter.

- **B210LP(A):** 6.1" (15.5 cm) diameter.
- **B501(A):** 4.1" (10.4 cm) diameter.
- **B200SR(A):** 6.875" (17.46 cm) diameter.
- **B224RB(A):** 6.2" (15.748 cm) diameter.

**Weight:** 3.6 oz. (102 g).

**Operating temperature range:** for **NP-100(A):** 0°C to 49°C (32°F to 120°F); for **NP-100T(A):** 0°C to 38°C (32°F to 100°F). **NP-100R(A):** installed in a DNR(A)/DNRW -20°C to 70°C (-4°F to 158°F).

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

**Relative humidity:** 10% – 93%, non-condensing.

## Listings

Listings and approvals below apply to the NP-100(A), NP-100T(A), and NP-100R(A) detectors. 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 Listed:** S1115.
- **ULC Listed:** S911.
- **CSFM:** 7272-0028:0231.
- **MEA:** 243-02-E Vol. 2.
- **Maryland State Fire Marshal:** permit 2173.
- **FM approved.**

## Product Line Information

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

**NP-100:** Addressable photoelectric detector; B210LP base included.

**NP-100A:** Same as NP-100 with ULC Listing; B210LPA base included.

**NP-100T:** Same as NP-100 but with **thermal** element; B210LP base included.

**NP-100TA:** Same as NP-100T with ULC Listing; B210LPA base included.

**NP-100R:** Remote test capable addressable photoelectric detector for use with a DNRA/DNRW duct detector housing; B210LP base included.

**NP-100RA:** Same as NP-100R with ULC Listing for use with a DNRA duct detector housing; B210LPA base included.

## INTELLIGENT BASES

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

**NOTE:** For details about intelligent bases and their mounting, see DN-60054.

**B210LP(A):** Plug-in detector base (included); standard U.S. flanged low-profile mounting base.

**B210LPBP:** Bulk pack of B210LP; package contains 10.

**B501(A):** Standard European flangeless mounting base.

**B501BP:** Bulk pack of B501; package contains 10.

**B200SR(A):** Intelligent sounder base capable of producing sound output with ANSI Temporal 3 or continuous tone. Replaces B501BH series bases in retrofit applications.

**B224RB(A):** Plug-in System Sensor **relay** base. Screw terminals: up to 14 AWG (2.0 mm<sup>2</sup>). Relay type: Form-C. Rating: 2.0 A @ 30 VDC resistive; 0.3 A @ 110 VDC inductive; 1.0 A @ 30 VDC inductive.

**B224BI(A):** Plug-in System Sensor **isolator** detector base. Maximum 25 devices between isolator bases (see DN-6994).

## ACCESSORIES

**F110:** Retrofit flange to convert B210LP(A) to match the B710LP(A) profile, or to convert older high-profile bases to low-profile.

**F110BP:** Bulk pack of F110; package contains 15.

**F210:** 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 B210LP(A) bases only.

**SMB600:** Surface mounting kit

**M02-04-00:** Test magnet.

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

**XR2B:** Detector removal tool. Allows installation and/or removal of detector heads from bases in high ceiling applications.

**XP-4:** Extension pole for XR2B. Comes in three 5-foot (1.524 m) sections.

**T55-127-010:** Detector removal tool without pole.

**BCK-200B:** Black detector covers for use with NP-100(A) only; box of 10.

**WCK-200B:** White detector covers for use with NP-100(A) only; box of 10.

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# NBG-12LX

## Addressable Manual Pull Station



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 mm<sup>2</sup> 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

### Installation

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

### Operation

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

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

### Architectural/Engineering Specifications

Manual Fire Alarm Stations shall be non-coded, with a key-operated reset lock in order that they may be tested, and so designed that after actual Emergency Operation, they cannot be restored to normal except by use of a key. An operated station shall automatically condition itself so as to be visually detected as activated. Manual stations shall be constructed of red-colored polycarbonate material with clearly visible operating instructions provided on the cover. The word FIRE shall appear on the front of the stations in white letters, 1.00 inches (2.54 cm) or larger. Stations shall be suitable for surface mounting on matching backbox SB-10 or SB-I/O; or semi-flush mounting on a standard single-gang, double-gang, or

4" (10.16 cm) square electrical box, and shall be installed within the limits defined by the Americans with Disabilities Act (ADA) or per national/local requirements. Manual Stations shall be Underwriters Laboratories listed.

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

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

## Product Line Information

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

## NMM-100(A), NMM-100P(A), NZM-100(A), and NDM-100(A) for FireWarden Series Panels



Intelligent Addressable Devices

### General

Four different monitor modules are available for Notifier's FireWarden Series intelligent control panels for a variety of applications. Monitor modules supervise a circuit of dry-contact input devices, such as conventional heat detectors and pull stations, or monitor and power a circuit of two-wire smoke detectors (NZM-100(A)).

**NMM-100(A)** is a standard-sized module (typically mounts to a 4" [10.16 cm] square box) that supervises either a Style D (Class A) or Style B (Class B) circuit of dry-contact input devices.

**NMM-100P(A)** is a miniature monitor module a mere 1.3" (3.302 cm) H x 2.75" (6.985 cm) W x 0.5" (1.270 cm) D that supervises a Style B (Class B) circuit of dry-contact input devices. Its compact design allows the NMM-100P(A) to be mounted in a single-gang box behind the device it monitors.

**NZM-100(A)** is a standard-sized module that monitors and supervises compatible two-wire, 24 volt, smoke detectors on a Style D (Class A) or Style B (Class B) circuit.

**NDM-100(A)** is a standard-sized dual monitor module that monitors and supervises two independent two-wire Style B (Class B) dry-contact initiating device circuits (IDCs) at two separate, consecutive addresses in intelligent, two-wire systems.

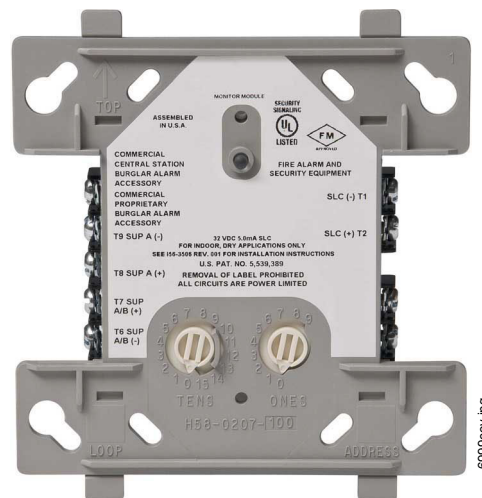
### NMM-100(A) Monitor Module

- Built-in type identification automatically identifies this device as a monitor module to the control panel.
- Powered directly by two-wire SLC loop. No additional power required.
- High noise (EMF/RFI) immunity.
- SEMS screws with clamping plates for ease of wiring.
- Direct Decade entry of address: 01 – 99 on FireWarden-100-2, 01 – 50 on FireWarden-50.
- LED flashes during normal operation and latches on steady to indicate alarm.

The NMM-100(A) Monitor Module is intended for use in intelligent, two-wire systems, where the individual address of each module is selected using the built-in rotary switches. It provides either a two-wire or four-wire fault-tolerant Initiating Device Circuit (IDC) for normally-open-contact fire alarm and supervisory devices. The module has a panel-controlled LED indicator.

### NMM-100(A) APPLICATIONS

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



NMM-100(A) (Type H)

### NMM-100(A) OPERATION

Each NMM-100(A) uses one of the available module addresses on an SLC loop. It responds to regular polls from the control panel and reports its type and the status (open/normal/short) of its Initiating Device Circuit (IDC). A flashing LED indicates that the module is in communication with the control panel. The LED latches steady on alarm (subject to current limitations on the loop).

### NMM-100(A) SPECIFICATIONS

**Nominal operating voltage:** 15 to 32 VDC.

**Maximum current draw:** 5.0 mA (LED on).

**Average operating current:** 350  $\mu$ A (LED flashing), 1 communication every 5 seconds, 47k EOL.

**Maximum IDC wiring resistance:** 40 ohms.

**EOL resistance:** 47K ohms.

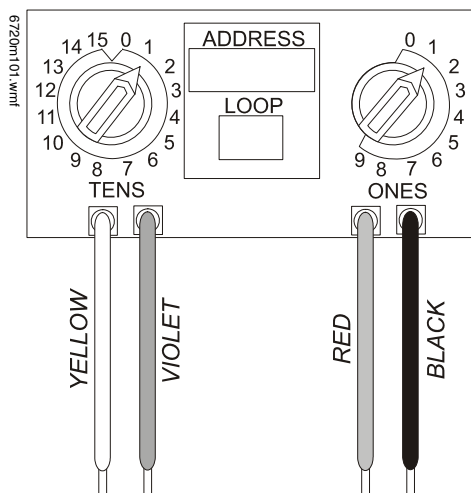
**Temperature range:** 32°F to 120°F (0°C to 49°C).

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

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

## NMM-100P(A) Mini Monitor Module

- Built-in type identification automatically identifies this device as a monitor module to the panel.
- Powered directly by two-wire SLC loop. No additional power required.
- High noise (EMF/RFI) immunity.
- Tinned, stripped leads for ease of wiring.
- Direct Decade entry of address: 01 – 99 on FireWarden-100-2, 01 – 50 on FireWarden-50.



The NMM-100P(A) Mini Monitor Module can be installed in a single-gang junction directly behind the monitored unit. Its small size and light weight allow it to be installed without rigid mounting. The NMM-100P(A) is intended for use in intelligent, two-wire systems where the individual address of each module is selected using rotary switches. It provides a two-wire initiating device circuit for normally-open-contact fire alarm and security devices. NMM-100P(A)

### NMM-100P(A) APPLICATIONS

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

### NMM-100P(A) OPERATION

Each NMM-100P(A) uses one of the available module addresses on an SLC loop. It responds to regular polls from the control panel and reports its type and the status (open/normal/short) of its Initiating Device Circuit (IDC).

### NMM-100P(A) SPECIFICATIONS

Nominal operating voltage: 15 to 32 VDC.

**Average operating current:** 350  $\mu$ A, 1 communication every 5 seconds, 47k EOL; 600  $\mu$ A Max. (Communicating, IDC Shorted).

**Maximum IDC wiring resistance:** 40 ohms.

**Maximum IDC Voltage:** 11 Volts.

**Maximum IDC Current:** 400  $\mu$ A.

**EOL resistance:** 47K ohms.

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

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

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

**Wire length:** 6" (15.24 cm) minimum.

## NZM-100(A) Interface Module

- Supports compatible two-wire smoke detectors.
- Supervises IDC wiring and connection of external power source.
- High noise (EMF/RFI) immunity.
- SEMS screws with clamping plates for ease of wiring.
- Direct Decade entry of address: 01 – 99 on FireWarden-100-2, 01 – 50 on FireWarden-50.
- LED flashes during normal operation.
- LED latches steady to indicate alarm on command from control panel.

The NZM-100(A) Interface Module is intended for use in intelligent, addressable systems, where the individual address of each module is selected using built-in rotary switches. This module allows intelligent panels to interface and monitor two-wire conventional smoke detectors. It transmits the status (normal, open, or alarm) of one full zone of conventional detectors back to the control panel. All two-wire detectors being monitored must be UL compatible with the module.

### NZM-100(A) APPLICATIONS

Use the NZM-100(A) to monitor a zone of two-wire smoke detectors. The monitored circuit may be wired as an NFPA Style B (Class B) or Style D (Class A) Initiating Device Circuit. A 3.9 K ohm End-of-Line Resistor (provided) terminates the end of the Style B or D (class B or A) circuit (maximum IDC loop resistance is 25 ohms). Install ELR across terminals 8 and 9 for Style D application.

### NZM-100(A) OPERATION

Each NZM-100(A) uses one of the available module addresses on an SLC loop. It responds to regular polls from the control panel and reports its type and the status (open/normal/short) of its Initiating Device Circuit (IDC). A flashing LED indicates that the module is in communication with the control panel. The LED latches steady on alarm (subject to current limitations on the loop).

### NZM-100(A) SPECIFICATIONS

**Nominal operating voltage:** 15 to 32 VDC.

**Maximum current draw:** 5.1 mA (LED on).

**Maximum IDC wiring resistance:** 25 ohms.

**Average operating current:** 300  $\mu$ A, 1 communication and 1 LED flash every 5 seconds, 3.9k eol.

**EOL resistance:** 3.9K ohms.

**External supply voltage (between Terminals T3 and T4):** DC voltage: 24 volts power limited. Ripple voltage: 0.1 Vrms maximum. Current: 90 mA per module maximum.

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

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

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

## NDM-100(A) Dual Monitor Module

The NDM-100(A) Dual Monitor Module is intended for use in intelligent, two-wire systems. It provides two independent two-wire initiating device circuits (IDCs) at two separate, consecutive addresses. It is capable of monitoring normally open contact fire alarm and supervisory devices. The module has a single panel-controlled LED.

**NOTE:** The NDM-100(A) provides two Style B (Class B) IDC circuits ONLY. Style D (Class A) IDC circuits are NOT supported in any application.

### NDM-100(A) SPECIFICATIONS

**Normal operating voltage range:** 15 to 32 VDC.

**Maximum current draw:** 6.4 mA (LED on).

**Average operating current:** 750  $\mu$ A (LED flashing).

**Maximum IDC wiring resistance:** 1,500 ohms.

**Maximum IDC Voltage:** 11 Volts.

**Maximum IDC Current:** 240  $\mu$ A

**EOL resistance:** 47K ohms.

**Maximum SLC Wiring resistance:** 40 Ohms.

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

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

**Dimensions:** 4.5" (11.43 cm) high x 4" (10.16 cm) wide x 2.125" (5.398 cm) deep.

### NDM-100(A) AUTOMATIC ADDRESSING

The NDM-100(A) automatically assigns itself to two addressable points, starting with the original address. For example, if the NDM-100(A) is set to address "26", then it will automatically assign itself to addresses "26" and "27".

**NOTE:** "Ones" addresses on the NDM-100(A) are 0, 2, 4, 6, or 8 only. Terminals 6 and 7 use the first address, and terminals 8 and 9 use the second address.



#### CAUTION:

Avoid duplicating addresses on the system.

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## Installation

NMM-100(A), NZM-100(A), and NDM-100(A) modules mount directly to a standard 4" (10.16 cm) square, 2.125" (5.398 cm) deep, electrical box. They may also be mounted to the SMB500 surface-mount box. Mounting hardware and installation instructions are provided with each module. All wiring must conform to applicable local codes, ordinances, and regulations. These modules are intended for power-limited wiring only.

The NMM-100P(A) module is intended to be wired and mounted without rigid connections inside a standard electrical box. All wiring must conform to applicable local codes, ordinances, and regulations.

## Agency Listings and Approvals

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

- **UL:** S635
- **ULC:** S635
- **FM Approved**
- **CSFM:** 7300-0028:0230 (NMM-100, NMM-100P, NZM-100); 7300-0028:0237 (NDM-100)

- **MEA:** 72-01-E Vol. 2 (NMM-100, NMM-100P, NZM-100); 227-03-E Vol. 3 (NDM-100)

## Product Line Information

**NOTE:** "A" suffix indicates ULC-listed model.

**NMM-100(A):** Monitor module.

**NMM-100P(A):** Monitor module, miniature.

**NZM-100(A):** Monitor module, two-wire detectors.

**NDM-100(A):** Monitor module, dual, two independent Class B circuits.

**SMB500:** Optional surface-mount backbox.

**NOTE:** See installation instructions and refer to the SLC Wiring Manual, PN 52304.

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

# SpectrAlert® Advance

## Selectable Output Notification Appliances



### Audio/Visual Devices

#### General

System Sensor® SpectrAlert® Advance selectable-output horns, strobes and horn/strobes are rich with features guaranteed to cut installation times and maximize profits. The SpectrAlert Advance series of notification appliances is designed to simplify your installations, with features such as: plug-in designs, instant feedback messages to ensure correct installation of individual devices, and eleven field-selectable candela settings for wall and ceiling strobes and horn/strobes.

More specifically, when installing Advance products, first attach a universal mounting plate to a four-inch square, four-inch octagon, or double-gang junction box. The two-wire mounting plate attaches to a single-gang junction box.

Then, connect the notification appliance circuit wiring to the SEMS terminals on the mounting plate.

Finally, attach the horn, strobe, or horn/strobe to the mounting plate by inserting the product's tabs in the mounting plate's grooves. The device will rotate into position, locking the product's pins into the mounting plate's terminals. The device will temporarily hold in place with a catch until it is secured with a captured mounting screw.

#### SpectrAlert Advance products allow you to choose:

- 12 or 24 volts.
- 15, 15/75, 30, 75, 95, 110, 115, 135, 150, 177, or 185 candela by way of a rear-mounted slide switch and front viewing window.
- Horn tones and volume by way of a rotary switch.
- The SpectrAlert Advance series includes outdoor notification appliances. Outdoor strobes and horn/strobes (two-wire and four-wire) are available for wall or ceiling. Outdoor horns are available for wall only. All System Sensor outdoor products are rated between  $-40^{\circ}\text{F}$  and  $151^{\circ}\text{F}$  ( $-40^{\circ}\text{C}$  and  $66^{\circ}\text{C}$ ) in wet or dry applications.

#### Models available:

- Indoor wall-mount: horn, strobe, 2-wire horn/strobe, 4-wire horn/strobe.
- Indoor ceiling-mount: strobe, 2-wire horn/strobe, 4-wire horn/strobe.
- Outdoor wall-mount: horn, strobe, 2-wire horn/strobe, 4-wire horn/strobe.
- Outdoor ceiling-mount: strobe, 2-wire horn/strobe, 4-wire horn/strobe.

#### Features

- Plug-in design.
- Same mounting plate for wall- and ceiling-mount units.
- Shorting spring on mounting plate for continuity check before installation.
- Captive mounting screw.
- Tamper-resistance capability.
- Field-selectable candela settings on wall and ceiling units: 15, 15/75, 30, 75, 95, 110, 115, 135, 150, 177, 185.
- Automatic selection of 12 or 24 volt operation at 15 and 15/75 candela.
- Outdoor wall and ceiling products.



Indoor Ceiling  
Horn/Strobe



Outdoor Ceiling  
Strobe



Indoor Wall  
Horn/Strobe



Indoor Ceiling  
Strobe



Indoor Wall  
Horn



Outdoor Wall  
Strobe

- Outdoor products rated from  $-40^{\circ}\text{F}$  and  $151^{\circ}\text{F}$  ( $-40^{\circ}\text{C}$  and  $66^{\circ}\text{C}$ ).
- Outdoor products rainproof per UL50 (NEMA 3R) and weatherproof per NEMA 4X, IP56
- Minimal intrusion into the backbox.
- Horn rated at 88+ dbA at 16 volts.
- Rotary switch for tone selection.
- Three horn volume settings.
- Electrically compatible with existing SpectrAlert products.

#### Engineering Specifications

SpectrAlert Advance horns, strobes, and horn/strobes shall mount to a standard 4.0" x 4.0" x 1.5" (10.16 x 10.16 x 3.81 cm) backbox, 4.0" (10.16 cm) octagonal backbox, or a double-gang backbox. Two-wire products shall also mount to a single-gang 2.0" x 4.0" x 1.875" (5.08 x 10.16 x 4.763 cm) backbox. A universal mounting plate shall be used for mounting ceiling and wall products. The notification appliance circuit wiring shall terminate at the universal mounting plate. Also, SpectrAlert Advance products, when used with the Sync•Circuit™ Module accessory, shall be powered from a non-coded notification appliance circuit output and shall operate on a nominal 12 or 24 volts. When used with the Sync•Circuit Module, 12-volt rated notification appliance circuit outputs shall operate between 9 and 17.5 volts; 24-volt rated notification appliance circuit outputs shall operate between 17 and 33 volts. Indoor SpectrAlert Advance products shall operate between  $32^{\circ}\text{F}$  and  $120^{\circ}\text{F}$  ( $0^{\circ}\text{C}$  and  $49^{\circ}\text{C}$ ) from a regulated DC, or full-wave-rectified, unfiltered power supply. Strobes and horn/strobes shall have field-selectable candela settings including 15, 15/75, 30, 75, 95, 110, 115, 135, 150, 177, 185.



## STROBE

The strobe shall be a System Sensor SpectrAlert Advance Model \_\_\_\_\_ listed to UL 1971 and shall be approved for fire protective service. The strobe shall be wired as a primary-signaling notification appliance and comply with the Americans with Disabilities Act requirements for visible signaling appliances, flashing at 1 Hz over the strobe's entire operating voltage range. The strobe light shall consist of a xenon flash tube and associated lens/reflector system.

## HORN/STROBE COMBINATION

The horn/strobe shall be a System Sensor SpectrAlert Advance Model \_\_\_\_\_ listed to UL 1971 and UL 464 and shall be approved for fire protective service. The horn/strobe shall be wired as a primary-signaling notification appliance and comply with the Americans with Disabilities Act requirements for visible signaling appliances, flashing at 1 Hz over the strobe's entire operating voltage range. The strobe light shall consist of a xenon flash tube and associated lens/reflector system. The horn shall have three audibility options and an option to switch between a Temporal 3 pattern and a Non-Temporal (continuous) pattern. These options are set by a multiple position switch. On four-wire products, the strobe shall be powered independently of the sounder. The horn on horn/strobe models shall operate on a coded or non-coded power supply.

## OUTDOOR PRODUCTS

SpectrAlert Advance outdoor horns, strobes and horn/strobes shall be listed for outdoor use by UL and shall operate between -40°F and 151°F (-40°C and 66°C). The products shall be listed for use with a System Sensor outdoor/weather-proof backbox with half-inch and three-fourths-inch conduit entries.

## SYNCHRONIZATION MODULE

The module shall be a System Sensor Sync•Circuit MDL3R or MDL3W listed to UL 464 and shall be approved for fire protective service. The module shall synchronize SpectrAlert strobes at 1 Hz and horns at Temporal 3. Also, while operating the strobes, the module shall silence the horns on horn/strobe models over a single pair of wires. The module shall mount to a 4.688" x 4.688" x 2.125" (11.906 x 11.906 x 5.398 cm) backbox. The module shall also control two Style Y (class B) circuits or one Style Z (Class A) circuit. The module shall synchronize multiple zones. Daisy-chaining two or more synchronization modules together will synchronize all the zones they control. The module shall not operate on a coded power supply.

## Strobe Current Draw, UL Maximum (mA RMS)

Candela	8 – 17.5 V		16 – 33 V		
	DC	FWR	DC	FWR	
Standard Candela Range	15	123	128	66	71
	15/75	142	148	77	81
	30	NA	N/A	94	96
	75	NA	NA	158	153
	95	NA	NA	181	176
	110	NA	NA	202	195
	115	NA	NA	210	205
High Candela Range	135	NA	NA	228	207
	150	NA	NA	246	220
	177	NA	NA	281	251
	185	NA	NA	286	258

## Operating Specifications

- **Standard operating temperature:** 32°F to 120°F (0°C to 49°C).
- **K Series operating temperature:** -40°F to 151°F (-40°C to 66°C).
- **Humidity range:** 10% to 93% non-condensing (indoor products).
- **Strobe flash rate:** 1 flash per second.
- **Nominal voltage:** regulated 12 VDC/FWR or regulated 24 VDC/FWR. **NOTE:** Full Wave Rectified (FWR) voltage is a non-regulated, time-varying power source that is used on some power supply and panel outputs.
- **Operating voltage range:** 8 V to 17.5 V (12 V nominal); or 16 V to 33 V (24 V nominal). **NOTE:** P, S, PC, and SC products will operate at 12 V nominal only for 15 cd and 15/75 cd.
- **Input terminal wire gauge:** 12 to 18 AWG (3.31 to 0.821 mm<sup>2</sup>).
- **Ceiling-mount dimensions (including lens):** 6.8" diameter x 2.5" deep (17.3 cm diameter x 6.4 cm deep).
- **Wall-mount dimensions (including lens):** 5.6" H x 4.7" W x 2.5" D (14.2 cm H x 11.9 cm W x 6.4 cm D).
- **Horn dimensions:** 5.6" H x 4.7" W x 1.3" D (14.2 cm H x 11.9 cm W x 3.3 cm D).

## Agency Listings and Approvals

The listings and approvals below apply to SpectrAlert Advance Selectable Output Notification 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 Listed:** S4011 (HR\_\_, HW\_\_, P2\_\_, P4\_\_, PC2\_\_, PC4\_\_ models); S5512 (models SCR, SCRH, SCW, SCWH, SR, SRH, SW, SWH); S3593 (SCRHK, SCRK, SRHK, SRK).
- **ULC Listed:** S4011 (HRA, HRKA); S5512 (typically "A" models, with exception of outdoor strobes). See Canadian data sheet for listings and specifications.
- **FM approved**
- **MEA: 452-05-E**
- **CSFM: 7125-1653:0186** (SCR, SCRH, SCW, SCWH, SR, SRH, SW, SWH); **7300-1653:0188** (P2\_, P4\_, PC2\_, PC4\_ modules); **7135-1653:0189** (HR, HRK, HW); **7300-1653:0187** (SCRHK, SCRK, SRHK, SRK).

## Horn Current Draw, UL Maximum (mA RMS)

Sound Pattern	dB	8 – 17.5 V		16 – 33 V	
		DC	FWR	DC	FWR
Temporal	High	57	55	69	75
Temporal	Medium	44	49	58	69
Temporal	Low	38	44	44	48
Non-temporal	High	57	56	69	75
Non-temporal	Medium	42	50	60	69
Non-temporal	Low	41	44	50	50
Coded	High	57	55	69	75
Coded	Medium	44	51	56	69
Coded	Low	40	46	52	50

### Horn and Horn/Strobe Rotary Switch Setting

Setting	Repetition Rate	dB Level
1	Temporal horn	High
2	Temporal horn	Medium
3	Temporal horn	Low
4	Normal horn	High
5	Normal horn	Medium
6	Normal horn	Low
7*	Externally coded	High
8*	Externally coded	Medium
9*	Externally coded	Low

**\*NOTE:** Settings 7, 8, and 9 are not available on 2-wire horn/strobe.

### Horn and Horn/Strobe Output (dBA)

Switch Position	Sound Pattern	dB	8 – 17.5 V		16 – 33 V	
			DC	FW R	DC	FW R
1	Temporal	High	78	78	84	84
2	Temporal	Medium	74	74	80	80
3	Temporal	Low	71	73	76	76
4	Non-temporal	High	82	82	88	88
5	Non-temporal	Medium	78	78	85	85
6	Non-temporal	Low	75	75	81	81
7*	Coded	High	82	82	88	88
8*	Coded	Medium	78	78	85	85
9*	Coded	Low	75	75	81	81

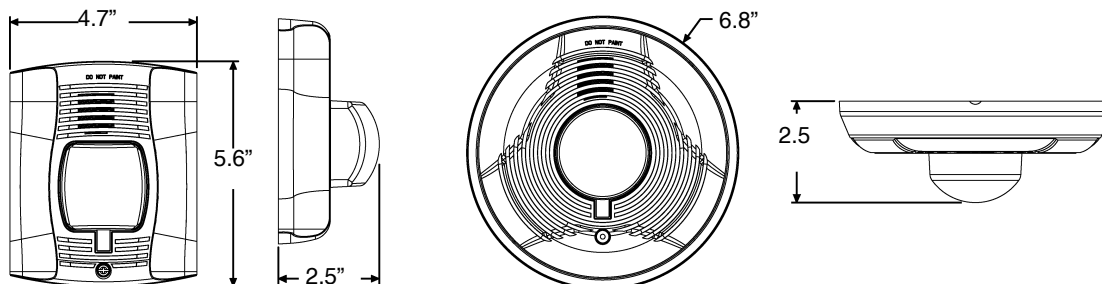
**\*NOTE:** Settings 7, 8, and 9 are not available on 2-wire horn/strobe.

### Two-Wire Horn/Strobe, **STANDARD** Candela Range (15 – 115 cd), UL Maximum Current Draw (mA RMS)

Input, Sound Pattern, dB Level	8 – 17.5 V		16 – 33 V						
	15	15/75	15	15/75	30	75	95	110	115
DC Input, Temporal, High	137	147	79	90	107	176	194	212	218
DC Input, Temporal, Medium	132	144	69	80	97	157	182	201	210
DC Input, Temporal, Low	132	143	66	77	93	154	179	198	207
DC Input, Non-temporal, High	141	152	91	100	116	176	201	221	229
DC Input, Non-temporal, Medium	133	145	75	85	102	163	187	207	216
DC Input, Non-temporal, Low	131	144	68	79	96	156	182	201	210
FWR Input, Temporal, High	136	155	88	97	112	168	190	210	218
FWR Input, Temporal, Medium	129	152	78	88	103	160	184	202	206
FWR Input, Temporal, Low	129	151	76	86	101	160	184	194	201
FWR Input, Non-temporal, High	142	161	103	112	126	181	203	221	229
FWR Input, Non-temporal, Medium	134	155	85	95	110	166	189	208	216
FWR Input, Non-temporal, Low	132	154	80	90	105	161	184	202	211

### Two-Wire Horn/Strobe, **HIGH** Candela Range (135 – 185 cd), UL Maximum Current Draw (mA RMS)

DC Input	16 – 33 V				FWR Input	16 – 33 V			
	135	150	177	185		135	150	177	185
DC, Temporal, High	245	259	290	297	FWR, Temporal, High	215	231	258	265
DC, Temporal, Medium	235	253	288	297	FWR, Temporal, Medium	209	224	250	258
DC, Temporal, Low	232	251	282	292	FWR, Temporal, Low	207	221	248	256
DC, Non-temporal, High	255	270	303	309	FWR, Non-temporal, High	233	248	275	281
DC, Non-temporal, Medium	242	259	293	299	FWR, Non-temporal, Medium	219	232	262	267
DC, Non-temporal, Low	238	254	291	295	FWR, Non-temporal, Low	214	229	256	262



## Ordering Information

Model	Description	Model	Description
<b>WALL HORN/STROBES</b>		<b>CEILING HORN/STROBES</b>	
P2R	2-wire horn/strobe, standard cd, red.	PC2R	2-wire horn/strobe, standard cd, red.
P2RH	2-wire horn/strobe, high cd, red.	PC2RH	2-wire horn/strobe, high cd, red.
P2RK	2-wire horn/strobe, standard cd, red, outdoor.	PC2RK	2-wire horn/strobe, standard cd, red, outdoor.
P2RHK	2-wire horn/strobe, high cd, red, outdoor.	PC2RHK	2-wire horn/strobe, high cd, red, outdoor.
P2W	2-wire horn/strobe, standard cd, white.	PC2W	2-wire horn/strobe, standard cd, white.
P2WH	2-wire horn/strobe, high cd, white.	PC2WH	2-wire horn/strobe, high cd, white.
P4R	4-wire horn/strobe, standard cd, red.	PC4R	4-wire horn/strobe, standard cd, red.
P4RH	4-wire horn/strobe, high cd, red.	PC4RH	4-wire horn/strobe, high cd, red.
P4RK	4-wire horn/strobe, standard cd, red, outdoor.	PC4RK	4-wire horn/strobe, standard cd, red, outdoor.
P4RHK	4-wire horn/strobe, high cd, red, outdoor.	PC4RHK	4-wire horn/strobe, high cd, red, outdoor.
P4W	4-wire horn/strobe, standard cd, white.	PC4W	4-wire horn/strobe, standard cd, white.
P4WH	4-wire horn/strobe, high cd, white.	PC4WH	4-wire horn/strobe, high cd, white.
<b>WALL STROBES</b>		<b>CEILING STROBES</b>	
SR	Strobe, standard cd, red.	SCR	Strobe, standard cd, red.
SRH	Strobe, high cd, red.	SCRH	Strobe, high cd, red.
SRK	Strobe, standard cd, red, outdoor.	SCRK	Strobe, standard cd, red, outdoor.
SRHK	Strobe, high cd, red, outdoor.	SCRHK	Strobe, high cd, red, outdoor.
SW	Strobe, standard cd, white.	SCW	Strobe, standard cd, white.
SWH	Strobe, high cd, white.	SCWH	Strobe, high cd, white.
<b>ACCESSORIES</b>		<b>HORNS</b>	
BBS-2A	Backbox skirt, wall, red.	HR	Horn, red.
BBSW-2A	Backbox skirt, wall, white.	HRK	Horn, red, outdoor.
BBSC-2A	Backbox skirt, ceiling, red.	HW	Horn, white.
BBSCW-2A	Backbox skirt, ceiling, white.	<b>ACCESSORIES, continued</b>	
SA-WBB	Weatherproof backbox, wall.	TR-HS	Trim Ring, wall, red, package of 5
SA-WBBC	Weatherproof backbox, ceiling.	TRW-HS	Trim Ring, wall, white, package of 5
WTP	Weatherproof, flush mount plate, red	TRC-HS	Trim Ring, ceiling, red, package of 5
WTPW	Weatherproof, flush mount plate, white	TRCW-HS	Trim Ring, ceiling, white, package of 5
<p><b>NOTE:</b> "High cd" refers to strobes that include 135, 150, 177, and 185 candela settings. "Standard cd" refers to strobes that include 15, 15/75, 30, 75, 95, 110, and 115 candela settings.</p> <p><b>NOTE:</b> For strobes and horn/strobes, add suffix "F" for French or "B" for Bilingual.</p> <p><b>NOTE:</b> All outdoor models ("K(A)" suffix) include a plastic weatherproof backbox.</p> <p><b>NOTE:</b> Add "-R" to models for weatherproof replacement device (no back box included). Only for use with weatherproof outdoor flush mounting plate, WTP and WTPW.</p> <p><b>NOTE:</b> Add "P" to model for plain housing. (No "FIRE" marking on cover.)</p>			

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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.

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**NO  
EXCUSES!**



# FAD



**FIRE ALARM DOCUMENTS**  
Records / Programs / Software

## FIRE ALARM DOCUMENTS

The FAD is the perfect fit to meet the demanding code requirements today. SAE's number one goal is to manufacture code compliant solutions and this product allows you to do just that. NFPA 72 2010 section 6.2.2.1 states, "A record of installed software and firmware version numbers shall be maintained at the location of the fire alarm control unit."

This durable 16 gauge steel enclosure with a solid piano hinge and key lock will keep all of your code required documents in one safe place. With a 4GB USB flash drive it stores your fire alarm software safe and secure eliminating the occurrences of the software not being on site when technicians arrive to service the system. Along with your fire alarm software you can store your test & inspection documents, service records, manuals & AS built drawings for the system. Using a standard USB B connector it allows you to plug in with any standard SB printer cable to upload or download information.

The FDB is designed to hold critical manuals and documents with a durable steel retainer. It has designated hooks to organize key rings and hold important business cards for easy access and reference. Inside the cover it has a organized note table that allows for documentation for passwords and other critical system information.

### Standard Features:

- Installed with a 4 gig digital flash drive with USB B connector
- 2 Key ring hooks to hold system keys
- Business card holder for key contacts
- Overall Dimensions are 12" x 13" tall and 2 ¼ deep
- 16 gauge steel box and cover for security
- Durable powercoat baked on finish other colors available
- Standard ¾" cat 30 key lock other lock assemblies available
- Solid stainless steel piano hinge
- Permanently screened white ink 1" high "Fire Alarm Documents"
- Legend sheet for passwords and system information



**ISO 9001  
REGISTERED  
COMPANY**



**ACEBOX**

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

## Specifications:

The fire alarm documents box (FAD) shall be constructed of 18 gauge cold rolled steel. It shall have a red powder coat epoxy finish. The cover shall be permanently screened with 1" high lettering "FIRE ALARM DOCUMENTS" with white indelible ink. The access door shall be locked with a 3/4" barrel lock and the hinge shall be a solid width 12" stainless steel piano hinge. The enclosure will supply 4 mounting holes. Inside the enclosure will accommodate standard 8 1/2 x 11 manuals and loose document records that will be protected within the enclosure. A legend sheet will be permanently attached to the door for system required documentation, key contacts and system information. The FAD will have securely mounted inside a minimum of 4 Gigabyte digital flash memory drive with a standard USB B connector for uploading and downloading information. The drive shall not be accessible without tools to any person whom gains access to the records. The enclosure shall also provide 2 key ring holders with a location to mount standard business type cards for key contact personnel.



USB Storage Interface  
Requires Standard USB-B  
Connector

Key Ring  
Hooks

Business  
Card Holder

For replacement forms order PIN: EA0316 (Qty. 10)

Property Information	Minimum Required Documentation (SIG-FUN)
Name of property: _____	(Reference NFPA-72 2013 Section 7.2.1)
Address: _____	1 Written narrative providing intent and system description
Description of property: _____	<input type="checkbox"/> NA <input type="checkbox"/> Enclosed <input type="checkbox"/> At Location
Occupancy type: _____	2 Riser diagram
	<input type="checkbox"/> NA <input type="checkbox"/> Enclosed <input type="checkbox"/> At Location
	3 Floor plan layout showing location of all devices and control equipment
	<input type="checkbox"/> NA <input type="checkbox"/> Enclosed <input type="checkbox"/> At Location
	4 Sequence of operation in either an input/output matrix or narrative form
	<input type="checkbox"/> NA <input type="checkbox"/> Enclosed <input type="checkbox"/> At Location
	5 Equipment technical data sheets
	<input type="checkbox"/> NA <input type="checkbox"/> Enclosed <input type="checkbox"/> At Location
	6 Manufacturers published instructions, including operation and maintenance instruction
	<input type="checkbox"/> NA <input type="checkbox"/> Enclosed <input type="checkbox"/> At Location
	7 Battery calculations (where batteries are provided)
	<input type="checkbox"/> NA <input type="checkbox"/> Enclosed <input type="checkbox"/> At Location
	8 Voltage drop calculations for notification appliance circuits
	<input type="checkbox"/> NA <input type="checkbox"/> Enclosed <input type="checkbox"/> At Location
	9 Completed record of inspection and testing in accordance with 7.6.6 and 7.8.2
	<input type="checkbox"/> NA <input type="checkbox"/> Enclosed <input type="checkbox"/> At Location
	10 Completed record of completion in accordance with 7.5.6 and 7.8.2
	<input type="checkbox"/> NA <input type="checkbox"/> Enclosed <input type="checkbox"/> At Location
	11 Copy of site specific software, where applicable
	<input type="checkbox"/> NA <input type="checkbox"/> Enclosed <input type="checkbox"/> At Location
	12 Record (as built) drawings
	<input type="checkbox"/> NA <input type="checkbox"/> Enclosed <input type="checkbox"/> At Location
	13 Periodic inspection, testing, and maintenance documentation in accordance with Section 7.6
	<input type="checkbox"/> NA <input type="checkbox"/> Enclosed <input type="checkbox"/> At Location
	14 Records, record retention, and record maintenance in accordance with 7.7
	<input type="checkbox"/> NA <input type="checkbox"/> Enclosed <input type="checkbox"/> At Location
Signed: _____	Signed: _____ Date: ____/____/____

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Legend sheet for storing system information including contacts, sign-off, maintenance & test information, and alternate locations of additional records.

## Ordering Information:

Part # Description

SSU00685 Fire Alarm Storage Cabinet RED

SSU00686 Custom screening with your Logo

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



Space Age Electronics, Inc.  
www.1sae.com  
800.486.1723 Toll Free  
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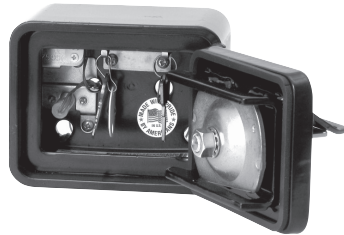
No Excuses, Just Solutions!

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Recessed Mount  
with Face Flange



Surface Mount



## High Security Industrial/Government Key Box



The number one high-security KNOX-BOX<sup>®</sup> is used for most commercial applications including businesses, schools, government and public buildings, community associations and apartment complexes. The 3200 Series KNOX-BOX holds keys, access cards and other small items necessary for emergency access.

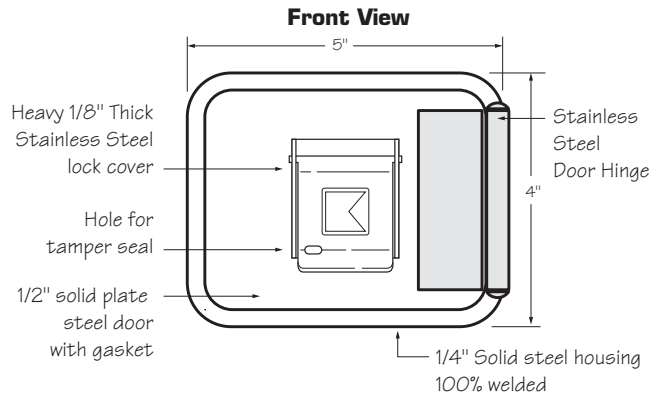
The hinged-door 3200 Series KNOX-BOX is more convenient than the lift-off door version because it allows single-handed operation and opened or closed, it's all one unit.

### Features and Benefits

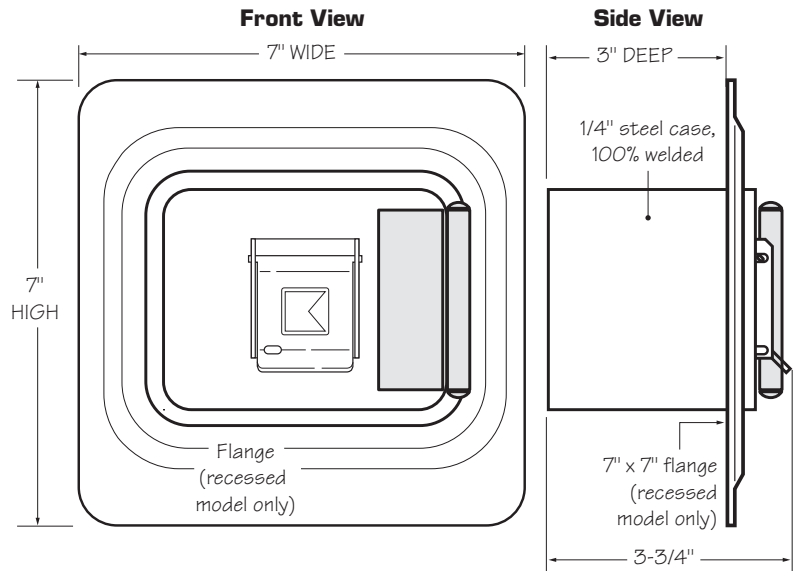
- Holds up to 10 keys and access cards in interior compartment
- Ensures high security. Box and lock are UL<sup>®</sup> Listed
- Includes a Knox-Coat<sup>®</sup> proprietary finishing process that protects Knox products up to four times better than standard powder coat
- Resists moist conditions with a weather resistant door gasket
- Hinged door allows single-handed operation
- Colors: Black, Dark Bronze or Aluminum
- Weight: Surface mount - 8 lbs.  
Recessed mount - 9 lbs.

### Options

- Alarm tamper switches (UL Listed)
- Recessed Mounting Kit (RMK) for recessed models only
- Inside switch for use on electrical doors, gates and other electrical equipment



**3200 Surface Mount**



**3200 Recessed Mount**

### Ordering Specifications

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

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

Exterior Dimensions: Surface mount body- 4"H x 5"W x 3-3/4"D  
Recessed mount flange- 7"H x 7"W

Lock: UL Listed. Double-action rotating tumblers and hardened steel pins accessed by a biased cut key.

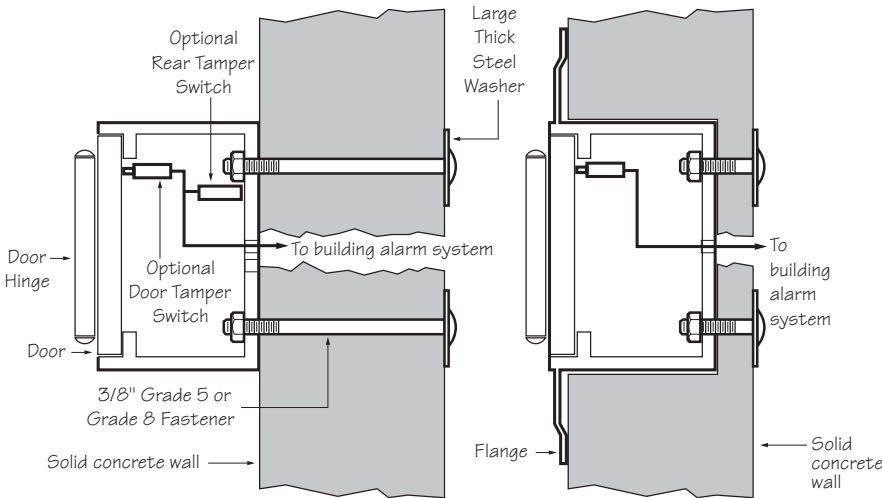
Finish: Knox-Coat<sup>®</sup> proprietary finishing process

Colors: Black, Dark Bronze or Aluminum

P/N: 3200 Series KNOX-BOX (mfr's cat. ID)

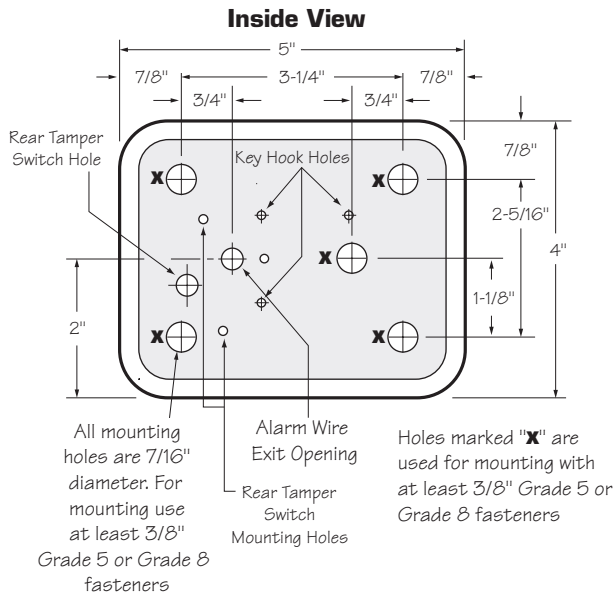
Mfr's Name: **KNOX COMPANY**

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



**3200 Series Hinged Door  
Surface Mount**

**3200 Series Hinged Door  
Recess Mount**



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

**Knox<sup>®</sup> Rapid Entry System**

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

**Recessed Mounting Kit**

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

**Installation In Cast Concrete**

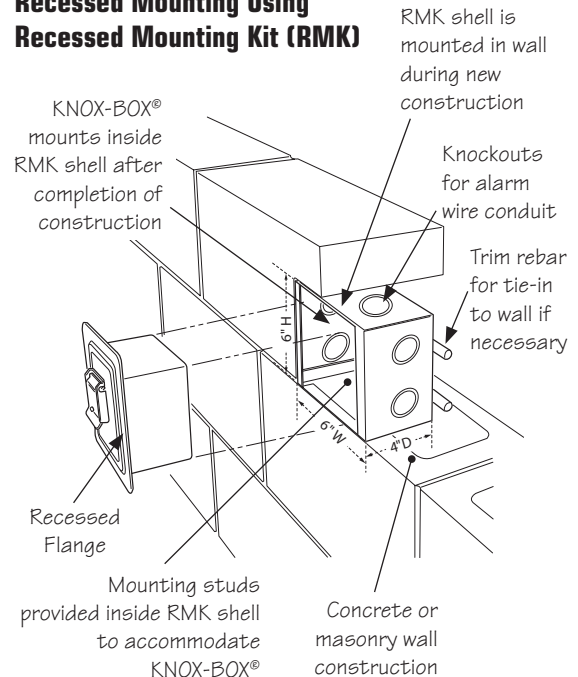
The optional Recessed Mounting Kit is for use in new concrete or masonry construction only. The kit includes a shell housing and mounting hardware to be cast-in-place. The KNOX-BOX is mounted into the shell housing after construction is completed.

**Dimensions**

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

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

**Recessed Mounting Using  
Recessed Mounting Kit (RMK)**





# AM642-series Vandal Resistant Entrance Panels

## IL524 Specification Sheet

Tek-ENTRY® Apartment Entry Systems • Rev. 9 - 12/2013

### Features

- Vandal-resistant panel and push button actuators
- Hands-free loud-speaking
- Weather-resistant Mylar speaker
- Self-wiping push button switches
- Decorative end caps
- Individually replaceable name holders
- Slim-line surface-mount option
- Simple installation

### Description

The AM642-series Vandal-Resistant Entrance Panel is for use with TekTone® loud-speaker suite stations.

The anodized aluminum panel is available in two sizes. The 4.75" x 11.25" panel accommodates 2 to 8 push buttons, and the 4.75" x 17.25" panel is used for applications requiring 10 to 16 push buttons or a postal release option.

Panels are equipped with a weather-resistant Mylar speaker protected by a louvered panel and perforated aluminum material. The speaker panel can accommodate up to 16 push buttons and actuators. In addition, the panel also contains up to 16 name holders with plastic lenses that snap easily into the panel and are individually replaceable.

### Specifications

Dimensions:	Height:	11.25" or 17.25"
	Width:	4.75"
Push button:	Individually replaceable type with self-wiping contacts	
Speaker:	2.5" (64 mm) voice frequency response	
Construction:	Anodized extruded aluminum panel	
Housings, flush:	OH600 Back Box for 2-8 buttons OH601 Back Box for 10-16 buttons	
Surface mount:	Add "S" to panel part number (example: AM642/10S).	
Name holders:	2.125" x 1.0625"	



**AM642-series Vandal Resistant Entrance Panels**

### Required Components

- IR100-series or IR200-series Apartment Stations
- PK543A Apartment Intercom Amplifier
- SS102A Transformer
- OH600 or OH601 Back Box (for flush mounted models)

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**TekTone®'s quality system is registered by UL® to the ISO 9001 standard. (Reference #10001510.)**





# SS102A and SS106 Transformers PO001 Electric Door Opener IL127 Specification Sheet

Rev. 14 - 04/2013



SS102A



SS106

SS102A and SS106 Transformers



PO001 Electric Door Opener

## Transformer Features

TekTone®'s SS102A and SS106 Class 2 Transformers offer compact, easy-to-install low voltage AC power sources for use with various TekTone® intercom systems. Both transformers are UL® Listed Class 2 transformers and will safely take themselves offline when overheated.

The transformers are constructed for easy surface installation or in a standard 1/2" knockout, and may be used in plastic or metal boxes. Primary wire connections are made using the pre-stripped pigtailed and ground wire; secondary connections are made using screw terminals.

## Specifications

SS102A	120 VAC primary, 16 VAC 10 VA secondary
SS106	120 VAC primary, 8 VAC 20 VA 16/24 VAC 30 VA secondary

## Electric Door Opener Features

TekTone®'s PO001 Electric Door Opener is for use in unlocking and locking doors from a variety of TekTone® remote stations. The door opener can be installed in place of the door lock, or on a door jamb with various door lock sets.

The PO001 is a normally locked type with heavy duty coils, and operates on 8-16 VAC or 3-6 VDC. The unit features a flat face with satin zinc finish and solid brass locking latch for long wear. The PO001 is reversible for mortise-type locks and latches up to 1/2" width and throw, and is ideal for most narrow jamb mortise-type installations. Depending on the specific job requirements, the PO001 can be reversed for right or left-hand door installation.

## Dimensions

Faceplate:	1.25" × 5.875"	(31.8 mm × 149 mm)
Case width:	0.9375"	(24 mm)
Case depth:	1.4375"	(37 mm)
Latch opening:	1.375"	(35 mm)

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# PK543A Apartment Intercom Amplifier for 5-, 4- & 3-Wire Remote Stations IL482 Specification Sheet

Tek-ENTRY® Apartment Entry Systems • Rev. 13 - 12/2013

## Features

- Easy installation
- Low-voltage operation
- Multiple applications
- Precision engineering

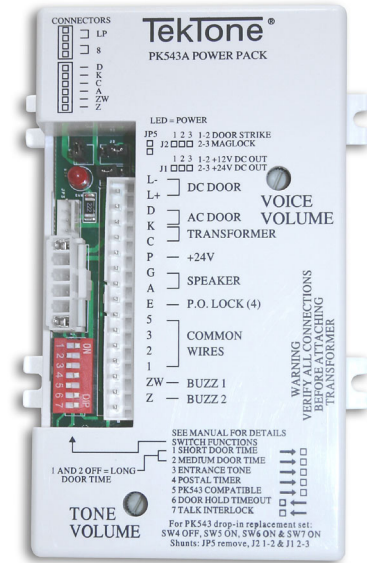
## Description

The PK543A Apartment Intercom Amplifier is a self-contained unit that does not require an external amplifier. The PK543A is designed for use with 3-, 4- or 5-wire apartment remote stations and provides amplification, control and power circuits needed to operate a complete apartment intercom system. Voice volume control and tone volume control are easily adjustable through the screwdriver opening on the front panel.

Additional functions include multiple door entrance operation with the PK502B; AC, DC or Maglock configurations with three selectable delayed door timing modes; post office door lock release; steady or warble call tones; power LED; selectable door button hold timeout; and selectable talk before door interlock (available for 4-wire stations only).

## Specifications

Dimensions:	Height: 5.5" (140 mm)
	Width: 3.125" (80 mm)
	Depth: 2" (51 mm)
Construction:	Flame-retardant (UL® 94V-0) plastic
Amplification:	Integrated Circuit amplifier including amplifier with frequency response, adjusted for ideal voice quality.
Call Tone:	Integrated circuit oscillator with steady and warble modes
Door Release:	AC, DC or Maglock (12 VDC/24 VDC)
Controls:	Voice Volume, Tone Volume and Dipswitches for selectable modes
Connections:	Polarized plug-in type
Power Required:	16 VAC, 10 VA
Mounting:	Surface mount



**PK543A Apartment Intercom Amplifier  
for 5-, 4- & 3-Wire Remote Stations**

## Required Components

AM-series or CM-series Entrance Panels  
IR-series Remote Stations  
SS102A or SS106 Transformers

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# IR103E, IR104E, IR105E

Apartment Intercom Stations

## IL486 Specification Sheet

Tek-ENTRY® Apartment Entry Systems • Rev. 12 - 01/2013

### Features

- Flush mounting
- Simple, push button operation
- Easy installation
- Advanced design
- Automatic privacy
- Clear voice quality
- Precision-engineered for reliability
- English text, international symbols and Braille

### Description

The IR103E, IR104E and IR105E Apartment Intercom Stations combine modern styling with ease of operation to provide natural, clear voice communication and positive door-release operation.

The stations are equipped with momentary-action push buttons for talk, listen and door operation. The attractive, flame-retardant ABS plastic faceplates are flush mounted and blend with any setting. The advanced circuitry and versatility permit use in large or small buildings, with one or several entrances.

Wiring is just 2 common and 1 selective wires for the IR103E station; 3 common and 1 selective wires for the IR104E station; and 4 common and 1 selective wires for the IR105E station. Connections are screw terminals.

A wide variety of optional accessories is available to provide additional functions, such as multiple entrance operation and post office door release.



IR103E, IR104E, IR105E

### Specifications

Dimensions:	Height:	6.875"	(175 mm)
	Width:	5"	(127 mm)
	Depth:	1.25"	(32 mm)
Finish:	Flame-retardant ABS plastic.		
Controls:	Individually replaceable push buttons with self-wiping contacts. Identified for talk, listen and door functions.		
Speaker/Mic:	2.5" (89 mm) with voice response. Also used for electronic tone signal.		
Connection:	Screw terminals		
Housings:	IH103 mounting plate or IH101 box		

### Required Components

AM/CM-series Entrance Panels  
PK543A Amplifier  
SS-series Transformers

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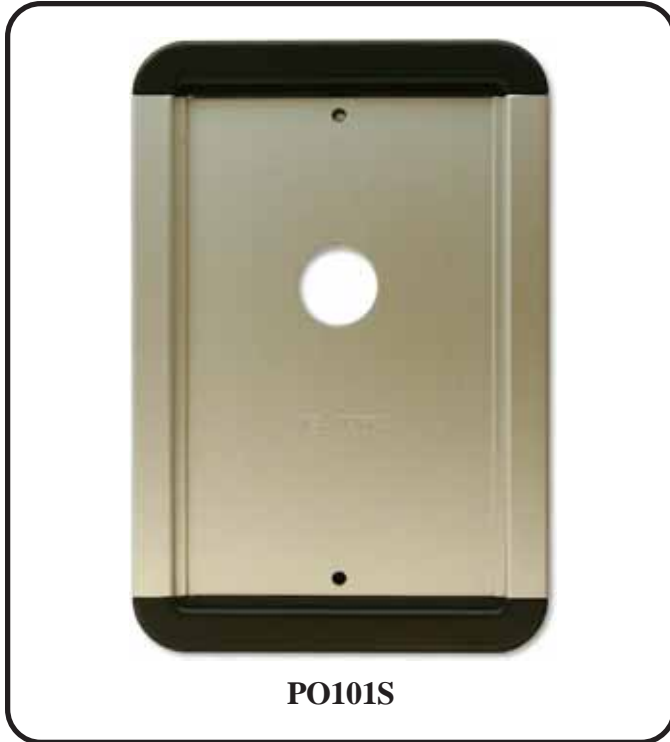
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# PO101S Postal Door Release Specification Sheet

IL593  
Section A  
Rev. 6 - 08/2010



**PO101S**

### FEATURES

The PO101S Postal Door Release provides for postal lock installation and microswitch control of door release devices. It is constructed of a rugged aluminum panel with durable, flame retardant ABS plastic endcaps. The extrusion design provides sufficient depth to make the panel surface mountable with no additional housing required. A gasket is also attached to the rear surface to increase the station's resistance to weather exposure.

### SPECIFICATIONS

Dimensions:	Height:	7.25"	(184 mm)
	Width:	4.9"	(125 mm)
	Depth:	1.5"	(38 mm)
Construction:	Rugged extruded aluminum panel with durable, flame retardant ABS plastic endcaps		
Finish:	Brushed aluminum		

### REQUIRED COMPONENTS

Tek-ENTRY®	Apartment Entry System
-or-	Vandal-Resistant Entry System

### ARCHITECTS' AND ENGINEERS' SPECIFICATION

Postal door release shall be TekTone® PO101S or approved equal. Postal door release panel shall be surface mountable and include a gasket to provide resistance to weather exposure. The postal door release shall be constructed of a rugged extruded aluminum panel with necessary mounting hardware and a microswitch to allow for the installation of a postal lock. Endcaps for the panel shall be molded of durable, flame retardant ABS plastic.

The microswitch shall have wire leads to provide for easy connection.

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# Housings Reference Chart

IL312  
Rev. 20 - 06/2013

**NOTES:**

1. For SF-series Emergency Switches, use single-gang ring, or single-gang ring and double-gang box IH357/IH358.
2. For LI-series Dome Lights, use double-gang ring (or double-gang ring and box).
3. For AM- and CM-series, see specification requirements.
4. For IR300-series Nurse Call Stations, use Steel City #3GC and #H3BD or exact equivalent.
5. For IR150B-series, use Steel City #3GC and #H3BD. If space is limited, use ARC-CO #2GBD and #3GC.
6. For IR150SS Station, use OH600 flush housing mounted horizontally.
7. The last two digits of frame and housing model numbers indicate the number of gangs (i.e., panel capacity). Exceptions: IH101, IH103, OH600, OH601, IH400A.
8. Attach the IH103 mounting plate to a finished wall, single-gang box, double-gang box or square masonry box.

Model #	IH101 backbox (flush)	IH103 plate (flush)	IH400A housing (desk)
IR100B	x	x	x
IR102C	x	x	x
IR103E	x	x	x
IR104E	x	x	x
IR105E	x	x	x
IR203E		x	x
IR204E		x	x
IR205E		x	x
IR207B	use standard 2-gang electrical box		
IR704BD	x	x	x
OR500 series	x	x	
OR600 series	use standard 1-gang electrical box		
SM201B SM201K/P	use standard 1-gang electrical box		x

## Dimension and Finish Chart—Housings, Frames, Desk Cabinets

Flush Mount Housings					
Model#	Overall Width	Wall Cutout Width	Overall Height	Wall Cutout Height	Overall Depth
IH101	4"	4-1/4"	5-1/2"	5-3/4"	1-3/4"
IH103	4-9/16"	n/a	5-7/8"	n/a	1/16"
OH150	5-1/4"	4-1/2"	12-5/8"	11-5/8"	3-3/4"
OH191	4-3/8"	4-1/2"	17-1/8"	17-1/4"	3-1/2"
OH192	8-3/8"	8-1/2"	17-1/8"	17-1/4"	3-1/2"
OH193	12-3/8"	12-1/2"	17-1/8"	17-1/4"	3-1/2"
OH194	16-3/8"	16-1/2"	17-1/8"	17-1/4"	3-1/2"
OH195	20-3/8"	20-1/2"	17-1/8"	17-1/4"	3-1/2"
OH201	5-3/8"	4-1/2"	16-7/8"	16-1/4"	3-7/8"
OH202	9-3/8"	8-1/2"	16-7/8"	16-1/4"	3-7/8"
OH203	13-3/8"	12-1/2"	16-7/8"	16-1/4"	3-7/8"
OH600	4"	4-1/4"	10-3/16"	10-3/8"	1-13/16"
OH601	4"	4-1/4"	16-1/16"	16-1/4"	1-13/16"

Flush Mount Frames		
Model #	Width	Wall Cutout
OF191	6-1/4"	-
OF192	10-1/4"	-
OF193	14-1/4"	-
OF194	18-1/4"	-
OF195	22-1/4"	-
Height: 19" (overall)		
Depth: 7/8"		
OF201	6-1/4"	4-1/2"
OF202	10-1/4"	8-1/2"
OF203	14-1/4"	12-1/2"
Height: 17-3/4" (overall)		
Cutout: 15-7/8"		
Depth: 2-1/2"		

Desk Cabinets		
Model #	Width	Depth
*IH302	9-1/2"	6"
*IH303	13-1/2"	6"
*IH304	17-1/2"	6"
IH400A	5"	7"
(white)		
* Cabinet Assembly Only. IH300 series Height = 17"		

Surface Mount Frames			
Model #	Width	Height	Depth
OF190S	4-1/4"	19-3/4"	1-1/2"
OF191S	6-1/4"	19"	2-1/4"
OF192S	10-1/4"	19"	2-1/4"
OF193S	14-1/4"	19"	2-1/4"
OF194S	18-1/4"	19"	2-1/4"
OF195S	22-1/4"	19"	2-1/4"

Surface Mount Housings	
Model #	Width
OH301	6-1/8"
OH302	10-1/8"
Height: 17-3/4"	
Depth: 3-5/8"	

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