

# Portland, Maine



# Yes. Life's good here.

Permitting and Inspections Department

# Fire Alarm Permit Application

Construction Address: 77 Washington Ave							
Total Square Footage of Proposed Structure: 30	0550						
Tax Assessor's Chart, Block & Lot           Chart#         Block#         Lot#           13         I43         3A	Applicant Name: Cunningham Security Systems  Address: 10 Princes Point Rd Yarmouth ME 04096						
Cost of Work: \$ 6000	Phone: <b>846-3350</b>						
Cost of Work: \$ 6000	Email: michelle@cuninghamsecurity.com						
Lessee/Owner Name (if different):  Dayton 59 LLC	Contractor Name (if different):						
Address: 132 Washingtomn Ave Portland ME 04101	Address:						
Phone:	Phone:						
Email:	Email:						
Current use (i.e. single family): Multi Use							
If vacant, what was the previous use?							
Proposed specific use: Multi Use							
Is property part of a subdivision? If yes, name: No							
Project description: Installation of additional fire alarm devices and to be tied into the existing fire alarm system							
Life Safety Code Occupancy Classification:							
Is this new work or a renovation to an existing sy							
	than 75 feet above the lowest level of Fire Department						
access (high-rise)? No							
	ertification of system*: Cunningham Security Systems						
Electrical permit #: EIEC 2020 - 0249	1						
	No If yes, complete all items for approval):						
AES approved installing contractor:							
Documentation of AES approval:							
Property Owner:							
Property Owner Billing Address:							
Property common name:							
E-911 address for protected premises:							
Emergency contact phone: Additional emergency contact phone:							
Number of stories protected:							
Is the building protected by a supervised, automatic sprinkler system?							
Name of person to contact when the permit is ready: Michelle OBrien							
Address: 10 Princes Point Rd							
City, State & Zip: Yarmouth ME 04096							
Email Address: michekke@cunninghamsecurity.com	Phone: 846-3350						

# NP-100(A) Series

# Addressable Photoelectric Detectors





**Addressable Devices** 

#### 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.

#### **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.



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

#### **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,



ewed for Code Compliance

#### **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):  $0^{\circ}$ C to  $49^{\circ}$ C (32°F to 120°F); for NP-100T(A):  $0^{\circ}$ 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: S1115.
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: Sames 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 mm²). 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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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.

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

# FCPS-24FS8(C/E)

# 8 Amp, 24 Volt Remote Power Supply





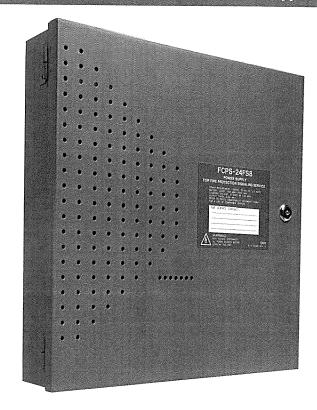
**Power Supplies** 

The Fire\*Lite FCPS-24FS8(C/E) is a compact, cost-effective, 8-amp remote power supplies with battery charger. The FCPS-24FS8C/E) may be connected to any 12 or 24 volt fire alarm control panel (FACP) or may stand-alone. Primary applications include notification appliance (bell) circuit (NAC) expansion (to support ADA requirements and NAC synchronization) or auxiliary power to support 24 volt system accessories. The FCPS provides regulated and filtered 24 VDC power to four notification appliance circuits configured as either two Class B (Style Y) and Class A (Style Z, with ZNAC-4 option module) or four class B only. Alternately, the four outputs may be configured as any combination of resettable/non-resettable power outputs (optimal for powering four-wire smoke detectors. The FCPS-24FS8(C/E) also contains a battery charger capable of charging up to 18.0 Amp hour batteries. The FCPS-24FS8C is ULC-listed.

**NOTE:** Unless otherwise specified, the term FCPS-24FS8 used in this document refers to the FCPS-24FS8, FCPS-24FS8C, and FCPS-24FS8E.

#### **Features**

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



#### **Specifications**

#### Primary (AC) Power:

- FCPS-24FS8/C: 120 VAC, 60 Hz, 3.2A maximum
- FCPS-24FS8E: 240 VAC, 50 Hz, 1.6A maximum
- Wire Size: minimum #14 AWG (2.0mm<sup>2</sup>) with 600 V insulation

#### **Control Input Circuit:**

- Trigger Input Voltage: 9 to 32 VDC
- Trigger Current: 2.0 mA (16 32 V); Per Input: 1.0 mA (9 16 V)

Trouble Contact Rating: 5 A at 24 VDC

Auxiliary Power Output: Special application power 500 mA maximum

#### **Output Circuits:**

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

### Secondary Power (Battery) Charging Circuit:

- · Supports lead-acid batteries only
- · Float-charge voltage: 27.6 VDC
- · Maximum current charge: 250 mA
- · Maximum battery capacity: 7.0 AH



03/16/2020

#### **Applications**

**Example 1:** Expand notification appliance power an additional 8 amps. Use up to four Class B (Style Y) outputs or four Class A (Style Z) outputs (using ZNAC-4). For example, the FACP notification appliance circuits will activate the FCPS when reverse-polarity activation occurs. Trouble conditions on the FCPS are sensed by the FACP through the notification appliance circuit.

**Example 2:** Use the FCPS to expand auxiliary regulated 24-volt system power up to 6 amps. Both resettable and non-resettable power options are available. Resettable outputs are created by connecting the resettable output from the FACP to one or both of the FCPS inputs.

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

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

\*NOTE: Addressable FACPs are capable of locating control and monitor modules at distances of up to 10,000 feet (3,046 meters).

#### Sync Follower/Generator Note

In some installations, it is necessary to synchronize the flash timing of all strobes in the system for ADA compliance. Strobes accomplish this by monitoring very short timing pulses on the NAC power which are created by the FACP. When installed at the end of a NAC wire run, the FCPS-24FS8 can track (i.e. "follow") the strobe synchronization timing pulses on the existing NAC wire run. This maintains the overall system flash timing of the additional strobes attaches to the FCPS.

When the FCPS-24FS8 is configured (via DIP switch settings) as a "sync follower," the FCPS' NAC outputs track the strobe synchronization pulses present at the FCPS' sync input terminal. The pulses originate from an upstream FACP or other power supply.

When the FCPS-24FS8 is configured (via DIP switch settings) as a "sync generator," the FCPS' sync input terminals are not used. Rather, the FCPS is the originator of the strobe synchronization pulses on the FCPS' NAC outputs. In "sync generator" mode, the sync type (System Sensor, Wheelock, or Gentex) is selectable via DIP switch settings.

#### **Standards and Codes**

The FCPS-24FS8 complies with the following standards:

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

#### **Agency Listings and Approvals**

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

UL Listed: S2424ULC Listed: S2424

CSFM Approved: 7315-0075:0206

MEA: 219-02EFM Approved

#### **Ordering Information**

FCPS-24FS8: 8.0 A, 120 VAC remote charger power supply. Includes main printed circuit board, transformers, enclosure (15"H  $\times$  14.5"W x 2.75"D [cm: 38.1H x 36.83W x 6.985D]), and installation instructions

FCPS-24FS8C: Same as FCPS-24FS8, ULC-Listed

**FCPS-24FS8E:** 8.0 A, 240 VAC remote charger power supply. Includes main printed circuit board, transformers, enclosure (15"H x 14.5"W x 2.75"D [cm: 38.1H x 36.83W x 6.985D]), and installation instructions

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

EOLR-1: 12/24 VDC end-of-line relay for monitoring four-wire

smoke detector power

**BAT-1270:** Battery, 12-volt, 7.0 AH (two required) **PS-1270:** Battery, 12-volt, 7.0 AH (two required)

**90286:** Optional module mounting kit, is required to install an addressable module on the power supply main circuit board

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Country of Origin: USA

For more information, contact Fire\*Lite Alarms. Phone: (800) 627-3473, FAX: (877) 699-4105. www.firelite.com

# PAM-1, PAM-2, and PAM-4

# **Multi-Voltage Relay Modules**



Relays

#### General

Air Products & Controls, Inc. PAM-1, PAM-2, and PAM-4 Multi-Voltage Relay Modules are encapsulated multi-voltage devices. The PAM-1 relay provides 10.0 Amp Form-C contacts and may be energized by one of three input voltages: 24 VAC, 24 VDC, or 115 VAC. The PAM-2 relay provides 7.0 Amp Form-C contacts and may be energized by one of two input voltages: 12 VDC or 24 VDC. The PAM-4 relay provides 10.0 Amp Form-C contacts and may be energized by a wide voltage range from 9 VDC to 40 VDC.

A red LED is provided on both models. When illuminated, it indicates the relay coil is energized.

Either model may be mounted by using the double-sided adhesive tape, the self-drilling screw, or by placing loosely in a backbox.

PAM-1, PAM-2, and PAM-4 Relay Modules are ideal for applications where remote relays are required for control or status feedback. They are suitable for use with HVAC, temperature control, fire alarm, security, energy management, and lighting control systems.

## **Specifications**

#### Power requirements:

- PAM-1: 0.015 Amps per position @ 24 VDC, 24 VAC, 115 VAC.
- PAM-2: 0.015 Amps per position @12 VDC or 24 VDC.
- PAM-4: 0.015 Amps per position @ 24 VDC or 12 VDC.

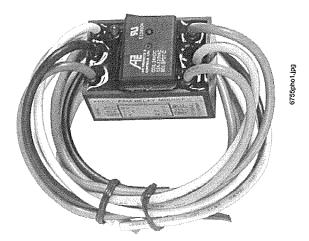
Relay: UL-recognized SPDT.

#### **Contact Rating:**

- PAM-1: 10.0 A @ 115 VAC, 7.0 A @ 28 VDC, 250uA @ 5 VDC.
- PAM-2: 7.0 A @ 115 VAC, 7.0 A @ 28 VDC, 250uA @ 5 VDC.
- PAM-4: 10.0 A @ 120 VAC, 7.0 A @ 24 VDC, 250uA @ 5 VDC.

Ambient Temperature Range: -58°F to 185°F (-50°C to 85°C).

**Dimensions:** 1.5" (3.81 cm) high x 1.0" (2.54 cm) wide x 0.875" (2.223 cm) deep, with 12" (30.48 cm) wire leads @ 18 AWG (0.75 mm<sup>2</sup>).



PAM-1

## **Agency Listings and Approvals**

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UL Listed: S3403

MEA: 73-92-E, Volume XXI
 CSFM: 7300-1004:101

#### **Product Line Information**

**PAM-1:** Single SPDT relay with LED, double-sided adhesive tape, mounting screw, 12" (30.48 cm) leads, and six wire nuts.

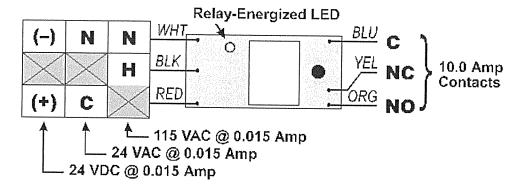
PAM-2: Single SPDT relay with LED, double-sided adhesive tape, mounting screw, 12" (30.48 cm) leads, and six wire nuts.

PAM-4: Single SPDT relay with LED, double-sided adhesive tape, mounting screw, 12" (30.48 cm) leads, and six wire nuts.

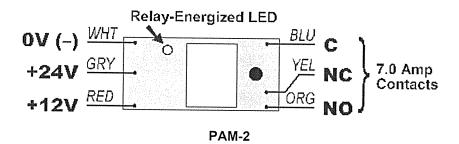


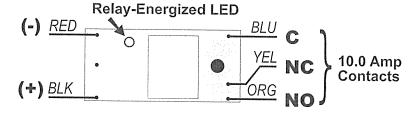


## **Wiring Diagrams**



PAM-1





PAM-4

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# Indoor Selectable-Output Strobes and Horn Strobes for Ceiling Applications

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



- · Plug-in design with minimal intrusion into the back box
- Tamper-resistant construction
- Automatic selection of 12- or 24-volt operation at 15 and 30 candela
- Field-selectable candela settings on ceiling units: 15, 30, 75, 95, 115, 150, and 177
- · Horn rated at 88+ dBA at 16 volts
- Rotary switch for horn tone and two volume selections
- Universal mounting plate for ceiling units
- Mounting plate shorting spring feature checks wiring continuity before device installation
- Electrically Compatible with legacy SpectrAlert and SpectrAlert Advance devices
- · Compatible with MDL3 sync module
- · Listed for ceiling mounting only



**The System Sensor L-Series** offers the most versatile and easy-to-use line of horns, strobes, and horn strobes in the industry with lower current draws and modern aesthetics. With white and red plastic housings, wall and ceiling mounting options, System Sensor L-Series can meet virtually any application requirement.

The entire L-Series product line of ceiling-mount strobes and horn strobes include a variety of features that increase their application versatility while simplifying installation. All devices feature a plug-in design with minimal intrusion into the back box, making installations fast and foolproof while virtually eliminating costly and time-consuming ground faults.

To further simplify installation, the L-Series utilizes a universal mounting plate so installers can mount them to a wide array of back boxes. With an onboard shorting spring, installers can test wiring continuity before the device is installed.

Installers can also easily adapt devices to a suit a wide range of application requirements using field-selectable candela settings, automatic selection of 12- or 24-volt operation, and a rotary switch for horn tones with two volume selections.

# **Agency Listings**





FIA approved exception ALERT models 3057383

7125-1653:050 7135-1653:050



03/16/2020

## L-Series Specifications

Architect/Engineer Specifications

#### General

L-Series ceiling-mount strobes and horn strobes shall mount to a standard  $4 \times 4 \times 1\%$ -inch back box, 4-inch octagon back box, or double-gang back box. Two-wire products shall also mount to a single-gang  $2 \times 4 \times 17\%$ -inch back box. A universal mounting plate shall be used for mounting ceiling and wall products. The notification appliance circuit wiring shall terminate at the universal mounting plate. Also, L-Series products, when used with the Sync•Circuit. Module accessory, shall be powered from a non-coded notification appliance circuit output and shall operate on a nominal 12 or 24 volts. When used with the Sync•Circuit Module, 12-volt-rated notification appliance circuit outputs shall operate between 8.5 and 17.5 volts; 24-volt-rated notification appliance circuit outputs shall operate between 16.5 and 33 volts. Indoor L-Series products shall operate between 32 and 120 degrees Fahrenheit from a regulated DC or full-wave rectified unfiltered power supply. Ceiling strobes and horn strobes shall have field-selectable candela settings including 15, 30, 75, 95, 115, 150, and 177.

#### Strobe

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

#### Horn Strobe Combination

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

#### Synchronization Module

The module shall be a System Sensor Sync Circuit model MDL3 listed to UL 464 and shall be approved for fire protective service. The module shall synchronize L-Series strobes at 1 Hz and horns at temporal three. Also, while operating the strobes, the module shall silence the horns on horn strobe models over a single pair of wires. The module shall mount to a 4 11/16 × 4 11/16 × 2 1/8-inch back box. The module shall also control two Style Y (class B) circuits or one Style Z (class A) circuit. The module shall synchronize multiple zones. Daisy chaining two or more synchronization modules together will synchronize all the zones they control. The module shall not operate on a coded power supply.

Physical/Electrical Specifications	
Standard Operating Temperature	32°F to 120°F (0°C to 49°C)
Humidity Range	10 to 93% non-condensing
Strobe Flash Rate	1 flash per second
Nominal Voltage	Regulated 12 VDC or regulated 24 DC/FWR <sup>1</sup>
Operating Voltage Range <sup>2</sup>	8 to 17.5 V (12 V nominal) or 16 to 33 V (24 V nominal)
Operating Voltage Range (MDL3)	8.5 to 17.5V (12 V nominal) or 16.5 to 33 V (24V nominal)
Input Terminal Wire Gauge	12 to 18 AWG
Ceiling-Mount Dimensions (including lens)	6.8" diameter × 2.5" high (173 mm diameter × 64 mm high)
Ceiling-Mount Surface Mount Back Box Skirt Dimensions (SBBCRL, SBBCWL)	6.9" diameter x 3.4" high (175 mm diameter x 86 mm high)

#### Notes:

- 1. Full Wave Rectified (FWR) voltage is a non-regulated, time-varying power source that is used on some power supply and panel outputs.
- 2. P, S, PC, and SC products will operate at 12 V nominal only for 15 and 30 cd.



# **UL Current Draw Data**

95

115

150

177

UL Max. Strobe Current Draw (mA RMS) 8-17.5 Volts 16-33 Volts Candela DC DC FWR Candela 15 87 41 60 Range 30 153 63 86 75 N/A 111 142

N/A

N/A

N/A

N/A

134

158

189

226

164

191

228

264

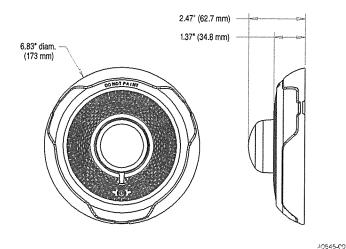
<b>UL Max. Horn Current</b>	UL Max. Horn Current Draw (mA RMS)									
		8-17.5 Volts	16–33 Vo	lts						
Sound Pattern	dB	DC	DC	FWR						
Temporal	High	39	44	54						
Temporal	Low	28	32	54						
Non-Temporal	High	43	47	54						
Non-Temporal	Low	29	32	54						
3.1 KHz Temporal	High	39	41	54						
3.1 KHz Temporal	Low	29	32	54						
3.1 KHz Non-Temporal	High	42	43	54						
3.1 KHz Non-Temporal	Low	28	29	54						
Coded	High	43	47	54						
3.1 KHz Coded	High	42	43	54						

	8-17.5 V	olts	16–33 Vo	olts					
DC Input	15cd	30cd	15cd	30cd	75cd	95cd	115cd	150cd	177cd
Temporal High	103	167	71	90	143	165	187	217	254
Temporal Low	96	165	54	71	137	161	185	211	249
Non-Temporal High	106	173	71	90	141	165	187	230	273
Non-Temportal Low	95	166	54	71	124	161	170	216	258
3.1K Temporal High	111	164	69	94	147	163	184	229	257
3.1K Temporal Low	103	163	54	88	143	155	185	212	252
3.1K Non-Temporal High	111	172	69	94	144	164	202	229	271
3.1K Non-Temporal Low	103	169	54	88	131	155	187	217	259
	16–33 Vo	lts					***************************************		
FWR Input	15cd	30cd	75cd	95cd	115cd	150cd	177cd		
Temporal High	107	135	179	198	223	254	286		
Temporal Low	78	101	151	172	199	229	262		
Non-Temporal High	107	135	179	198	223	254	286	***************************************	·
Non-Temportal Low	78	101	151	172	199	229	262	1711-1	***
3.1K Temporal High	108	135	179	200	225	255	289		***************************************
3.1K Temporal Low	79	101	150	171	196	229	260		***************************************
3.1K Non-Temporal High	108	135	179	200	225	255	289		
3.1K Non-Temporal Low	79	101	150	171	196	229	260		

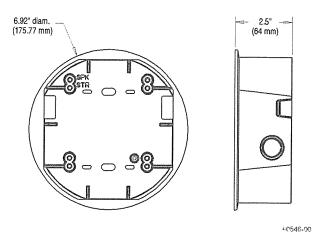
# Horn Strobe Tones and Sound Output Data

Horn Stro	obe Output (dBA)				
O			8-17.5	16–33	
Switch	0		Volts	Volts	
Position	Sound Pattern	dB	DC	DC	FWR
1	Temporal	High	84	89	89
2	Temporal	Low	75	83	83
3	Non-Temporal	High	85	90	90
4	Non-Temporal	Low	76	84	84
5	3.1 KHz Temporal	High	83	88	88
6	3.1 KHz Temporal	Low	76	82	82
7	3.1 KHz Non-Temporal	High	84	89	89
8	3.1 KHz Non-Temporal	Low	77	83	83

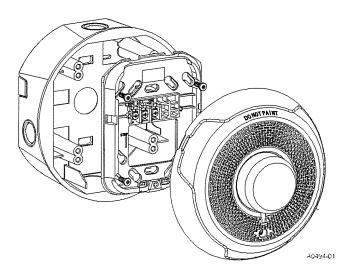
# **L-Series Dimensions**



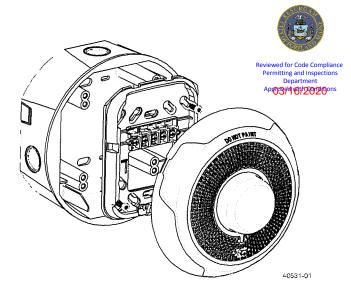
Ceiling-Mount Horn Strobes



Ceiling Surface Mount Back Box



2-Wire Ceiling Mount Horn Strobes with Ceiling Surface Mount Back Box



4-Wire Ceiling Mount Horn Strobes with Ceiling Surface Mount Back Box

# L-Series Ordering Information

Model	Description
Ceiling Ho	rn Strobes
PC2RL	2-Wire, Horn Strobe, Red
PC2WL	2-Wire, Horn Strobe, White
PC4RL	4-Wire, Horn Strobe, Red
PC4WL	4-Wire, Horn Strobe, White

Model	Description
Ceiling Strobes	
SCRL	Strobe, Red
SCWL	Strobe, White
SCWL-CLR-ALERT	Strobe, White, ALERT
Accessories	
TRC-2	Universal Ceiling Trim Ring Red
TRC-2W	Universal Ceiling Trim Ring White
SBBCRL	Ceiling Surface Mount Back Box, Red
SBBCWL	Ceiling Surface Mount Back Box, White

For a ceiling-listed horn-only device, see AVDS865 "Indoor Selectable-Output Horns, Strobes, and Horn Strobes for Wall Applications".







# Indoor Selectable-Output Horns, Strobes, and Horn Strobes for Wall Applications

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

## **Features**

- Updated Modern Aesthetics
- · Small profile devices for Horns and Horn Strobes
- · Plug-in design with minimal intrusion into the back box
- Tamper-resistant construction
- Automatic selection of 12- or 24-volt operation at 15 and 30 candela
- Field-selectable candela settings on wall units:
   15, 30, 75, 95, 110, 135, and 185
- Horn rated at 88+ dBA at 16 volts
- Rotary switch for horn tone and two volume selections
- · Mounting plate for all standard and all compact wall units
- Mounting plate shorting spring checks wiring continuity before device installation
- Electrically compatible with legacy SpectrAlert and SpectrAlert Advance devices
- · Compatible with MDL3 sync module
- Strobes and Horn Strobes listed for wall mounting only
- · Horns listed for wall or ceiling use

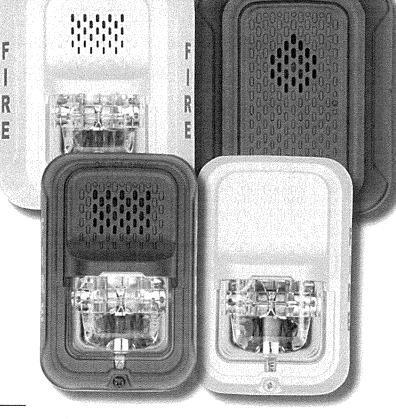
## **Agency Listings**











**The System Sensor L-Series** offers the most versatile and easy-to-use line of horns, strobes, and horn strobes in the industry with lower current draws and modern aesthetics. With white and red plastic housings, standard and compact devices, and plain, FIRE, and FUEGO-printed devices, System Sensor L-Series can meet virtually any application requirement.

The L-Series line of wall-mount horns, strobes, and horn strobes include a variety of features that increase their application versatility while simplifying installation. All devices feature plug-in designs with minimal intrusion into the back box, making installations fast and foolproof while virtually eliminating costly and time-consuming ground faults.

To further simplify installation and protect devices from construction damage, the L-Series utilizes a universal mounting plate for all models with an onboard shorting spring, so installers can test wiring continuity before the device is installed.

Installers can also easily adapt devices to a suit a wide range of application requirements using field-selectable candela settings, automatic selection of 12- or 24-volt operation, and a rotary switch for horn tones with two volume selections.



## L-Series Specifications

Reviewed for Code Complia Permitting and Inspection Department 03/16/2020

#### Architect/Engineer Specifications

#### General

L-Series standard horns, strobes, and horn strobes shall mount to a standard 2 x 4 x 17/8-inch back box, 4 x 4 x 11/2-inch back box, 4-inch octagon back box, or double-gang back box. L-Series compact products shall mount to a single-gang 2 x 4 x 17/2-inch back box. A universal mounting plate shall be used for mounting ceiling and wall products for all standard models and a separate universal mounting plate shall be used for mounting wall compact models. The notification appliance circuit wiring shall terminate at the universal mounting plate. Also, L-Series products, when used with the Sync◆Circuit™ Module accessory, shall be powered from a non-coded notification appliance circuit output and shall operate on a nominal 12 or 24 volts. When used with the Sync◆Circuit Module, 12-volt-rated notification appliance circuit outputs shall operate between 8.5 and 17.5 volts; 24-volt-rated notification appliance circuit outputs shall operate between 32 and 120 degrees Fahrenheit from a regulated DC or full-wave rectified unfiltered power supply. Strobes and horn strobes shall have field-selectable candela settings including 15, 30, 75, 95, 110, 135, and 185.

#### Strobe

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

#### Horn Strobe Combination

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

#### Synchronization Module

The module shall be a System Sensor Sync • Circuit model MDL3 listed to UL 464 and shall be approved for fire protective service. The module shall synchronize Strobes at 1 Hz and horns at temporal three. Also, while operating the strobes, the module shall silence the horns on horn strobe models over a single pair of wires. The module shall mount to a 411/16 × 21/6-inch back box. The module shall also control two Style Y (class B) circuits or one Style Z (class A) circuit. The module shall synchronize multiple zones. Daisy chaining two or more synchronization modules together will synchronize all the zones they control. The module shall not operate on a coded power supply.

Physical/Electrical Specifications	
Standard Operating Temperature	32°F to 120°F (0°C to 49°C)
Humidity Range	10 to 93% non-condensing
Strobe Flash Rate	1 flash per second
Nominal Voltage	Regulated 12 DC or regulated 24 DC/FWR <sup>1</sup>
Operating Voltage Range <sup>2</sup>	8 to 17.5 V (12 V nominal) or 16 to 33 V (24 V nominal)
Operating Voltage Range MDL3 Sync Module	8.5 to 17.5 V (12 V nominal) or 16.5 to 33 V (24 V nominal)
Input Terminal Wire Gauge	12 to 18 AWG
Wall-Mount Dimensions (including lens)	5.6"L × $4.7$ "W × $1.91$ "D (143 mm L × 119 mm W × 49 mm D)
Compact Wall-Mount Dimensions (including lens)	5.26" L x 3.46" W x 1.91" D (133 mm L x 88 mm W x 49 mm D)
Horn Dimensions	5.6"L × 4.7"W × 1.25"D (143 mm L × 119 mm W × 32 mm D)
Compact Horn Dimensions	5.25" L x 3.45" W x 1.25" D (133 mm L x 88 mm W x 32 mm D)

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



# **UL Current Draw Data**

		8-17.5 Volts	16-33 V	olts
	Candela	DC	DC	FWR
Candela	15	88	43	60
Range	30	143	63	83
	75	N/A	107	136
	95	N/A	121	155
	110	N/A	148	179
	135	N/A	172	209
	185	N/A	222	257

UL Max. Hom Current	Draw (mA P	Me)		Reviewed for Code Permitting and I Departm 03/16/2	nspections ent
Or Max. Hom Garrent	DIAW (IIIA F	8–17.5 Volts	16–33 Vo	olts	
Sound Pattern	dB	DC	DC	FWR	
Temporal	High	39	44	54	
Temporal	Low	28	32	54	
Non-Temporal	High	43	47	54	
Non-Temporal	Low	29	32	54	
3.1 KHz Temporal	High	39	41	54	
3.1 KHz Temporal	Low	29	32	54	
3.1 KHz Non-Temporal	High	42	43	54	
3.1 KHz Non-Temporal	Low	28	29	54	
Coded	High	43	47	54	
3.1 KHz Coded	High	42	43	54	

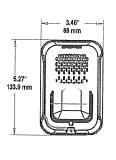
UL Max. Current Draw (m/	4 RMS), Wa	ll Horn Strot	oe, Candela	Range (15–1	85 ed)				
	8–17.5 V	olts	16–33 Vo	olts					
DC Input	15cd	30cd	15cd	30cd	75cd	95cd	110cd	135cd	185cd
Temporal High	98	158	54	74	121	142	162	196	245
Temporal Low	93	154	44	65	111	133	157	184	235
Non-Temporal High	106	166	73	94	139	160	182	211	262
Non-Temportal Low	93	156	5 <b>1</b>	71	119	139	162	190	239
3.1K Temporal High	93	156	53	73	119	140	164	190	242
3.1K Temporal Low	91	154	45	66	112	133	160	185	235
3.1K Non-Temporal High	99	162	69	90	135	157	175	208	261
3.1K Non-Temporal Low	93	156	52	72	119	138	162	192	242
	16-33 Vo	lts							
FWR Input	15cd	30cd	75cd	95cd	110cd	135cd	185cd	****	***
Temporal High	83	107	156	177	198	234	287		**************************************
Temporal Low	68	91	145	165	185	223	271		
Non-Temporal High	111	135	185	207	230	264	316	7,7	
Non-Temportal Low	79	104	157	175	197	235	283		
3.1K Temporal High	81	105	155	177	196	234	284		
3.1K Temporal Low	68	90	145	166	186	222	276		
3.1K Non-Temporal High	104	131	177	204	230	264	326	***************************************	
3.1K Non-Temporal Low	77	102	156	177	199	234	291	***************************************	

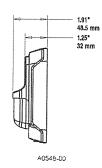
# Horn Tones and Sound Output Data

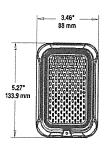
Horn and	Horn Strobe Output (di	3/A\)			
			8-17.5	16–33	
Switch			Volts	Volts	
Position	Sound Pattern	dB	DC	DC	FWR
1	Temporal	High	84	89	89
2	Temporal	Low	75	83	83
3	Non-Temporal	High	85	90	90
4	Non-Temporal	Low	76	84	84
5	3.1 KHz Temporal	High	83	88	88
6	3,1 KHz Temporal	Low	76	82	82
7	3.1 KHz Non-Temporal	High	84	89	89
88	3.1 KHz Non-Temporal	Low	77	83	83
9*	Coded	High	85	90	90
10*	3,1 KHz Coded	High	84	89	89

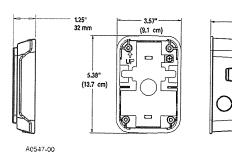
<sup>\*</sup> Settings 9 and 10 are not available on 2-wire horn strobes. Temporal coding must be provided by the NAC. If the NAC voltage is held constant, the horn output remains constantly on.

## L-Series Dimensions









Compact Strobe, Horn Strobe

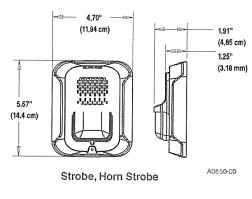
Compact Horn

Compact Wall Surface Mount Back Box SBBGRL, SBBGWL

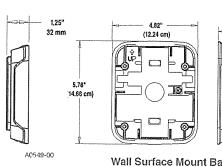
(3.9 cm)

40557-00

(4,69 cm)







Wall Surface Mount Back Box SBBRL/SBBWL

# L-Series Ordering Information

Model	Description			
Wall Horn Strobes				
P2RL	2-Wire, Horn Strobe, Red			
P2WL	2-Wire, Horn Strobe, White			
P2GRL	2-Wire, Compact Horn Strobe, Red			
P2GWL	2-Wire, Comp 2 fils act Horn Strobe, White			
P2RL-P	2-Wire, Horn Strobe, Red, Plain			
P2WL-P	2-Wire, Horn Strobe, White, Plain			
P2RL-SP	2-Wire, Horn Strobe, Red, FUEGO			
P2WL-SP	2-Wire, Horn Strobe, White, FUEGO			
P4RL	4-Wire, Horn Strobe, Red			
P4WL	4-Wire, Horn Strobe, White			
Wall Strobes				
SRL	Strobe, Red			
SWL	Strobe, White			
SGRL	Compact Strobe, Red			
SGWL	Compact Strobe, White			
SRL-P	Strobe, Red, Plain			
SWL-P	Strobe, White, Plain			
SRL-SP	Strobe, Red, FUEGO			
SWL-CLR-ALERT	Strobe, White, ALERT			

Model	Description	
Horns*		
HRL*	Horn, Red	
HWL.*	Horn, White	
HGRL*	Compact Horn, Red	
HGWL*	Compact Horn, White	
Accessori	es	
TR-2	Universal Wall Trim Ring Red	
TR-2W	Universal Wall Trim Ring White	
SBBRL	Wall Surface Mount Back Box, Red	
SBBWL	Wall Surface Mount Back Box, White	
SBBGRL	Compact Wall Surface Mount Back Box, Red	
SBBGWL	Compact Wall Surface Mount Back Box, White	



Reviewed for Code Compliance
Permitting and Inspections
Department
Apr 03445/2020 ons

#### Notes

All -P models have a plain housing (no "FIRE" marking on cover).
All -SP models have "FUEGO" marking on cover.
All -ALERT models have "ALERT" marking on cover,
"Horn-only models are listed for wall or ceiling use,

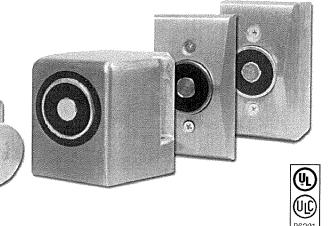




Technology that saves lives



Electromagnetic Door Holders



## Overview

Electromagnetic Door Holders are ruggedly constructed and attractively designed. The housing is finished with an aluminum color, durable baked polyester powder paint. The floor or wall section houses the electromagnet while the contact plate attaches to the door. The contact plate has a shock absorbing nylon (swivel) ball which allows the plate to adjust to any door angle. Floor units are available in single-door or double-door (back to back) versions. Wall units are available in flush or surface mounted versions.

Door releases should be installed wherever doors may be effectively used to confine smoke and fire, or where the release of a selfclosing door from a remote location is desirable for other reasons.

Fail-safe operation is an inherent feature of Kidde door holder-releases. If power fails, doors are released automatically but may be opened or closed manually at any time. All units are free of moving parts, are self-contained and require no maintenance.

These door holder-releases have a holding force of approximately 15 to 25 Lbf (66 to 111N). The device holds a door open while energized. When de-energized by a relay controlled by the fire alarm system or other switch, the door is released to a closed position, checking the spread of smoke and flames. Electromagnetic door holders should be used and installed in accordance with local Building Codes and Standards.

## Standard Features

- Floor and wall mounted styles
- Low power consumption
- AC/DC models
- Completely silent operation
- 25 Lbf (111N) nominal holding force
- Adjustable, swivel contact plate

#### Basic Models

#### Floor Mounted:

The electromagnet portion consists of a floor plate and a floor housing which when installed with gaskets provided, form a weatherproof electrical junction box. Incoming conduit connects directly into floor plate.

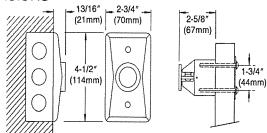
Floor mounted units are available with one (Cat. No. 1501) or two (Cat. No. 1502) magnet faces for holding a single door or two doors back to back.

#### Wall Mounted:

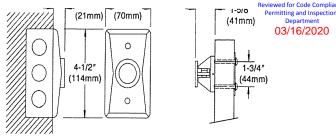
Wall mounted models are available in flush, semi-flush and surface mounting configurations. Flush and semi-flush models are designed for concealed wiring applications and mount on standard single gang (2 x 4 inch) outlet boxes. Surface mounted models mount on a surface adaptor housing (junction box), which is provided.

K85001-0421 Page 1 of 4

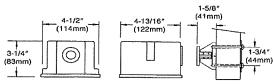
# Dimensions



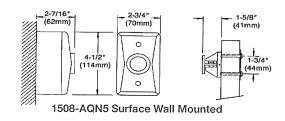
1504-AQN5 Flush Wall Mounted (Long Catch Plate)

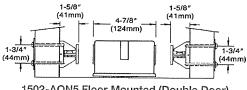


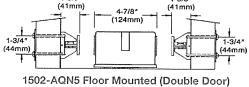
1505-AQN5 Flush Wall Mounted (Short Catch Plate)

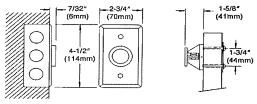


1501-AQN5 Floor Mounted (Single Door)





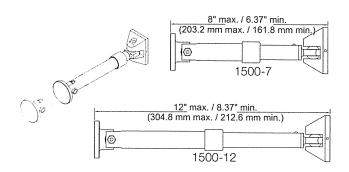


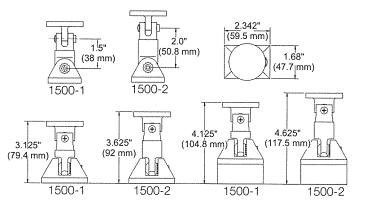


1509-AQN5 Completely Flush Wall Mounted

## Catch Plate Extensions

Only the extension rods are included. The end pieces are included with the doorholders or can be ordered separately.





# Specifications

Model No.	Style	Volts	Amps*	Permitting and Inspections Department
1501-AQN5	Floor Mounted (Single Door)			03/16/2020
1502-AQN5	Floor Mounted (Double Door)	and the state of t		
1504-AQN5	Flush Wall Mounted (Long Catch Plate)	24 Vac 60 Hz		
1505-AQN5 Flush Wall Mounted (Short Catch Plate)		24 Vdc 120 Vac 60 Hz	.015	
1508-AQN5	Surface Wall Mounted	and the definition of the antiference and the		
1509-AQN5	Completely Flush Wall Mounted	And the second s		
*1502-AON5 is a d	double unit which draws 015 per side			

# Ordering Information

Model No.	Description	Ship. Wt. Ib (kg)
1501-AQN5	Floor Mounted (Single Door)	5.4 (2.45)
1502-AQN5	Floor Mounted (Double Door)	5.0 (2.27)
1504-AQN5	Flush Wall Mounted (Long Catch Plate)	2.0 (0.91)
1505-AQN5	Flush Wall Mounted (Short Catch Plate)	2.0 (0,91)
1508-AQN5	Surface Wall Mounted	3.0 (1.36)
1509-AQN5	Completely Flush Wall Mounted	2.0 (0.91)
Accessories		
1500-1	Catch plate extension assembly, 1.5"	0.25 (0.11)
1500-2	Catch plate extension assembly, 2.5"	0.25 (0.11)
1500-7	Catch plate extension assembly (5.25 to 7.5 inches)	0.5 (0.23)
1500-12	Catch plate extension assembly (7.5 to 12 inches)	1.0 (0.45)
CS2595-5	Replacement armature - short (for use with 1501, 1502, 1505, 1508 and 1509 door holders)	0.25 (0.11)
CS2598-5	Replacement armature - long (for use with 1504 door holder)	0.25 (0.11)

**CAUTION:** These Door Holder units will not operate without electrical power.

K85001-0421





Technology that saves lives

Contact us...

Email: kidde.fire@fs.utc.com Web: <u>Kidde.com/EngineeredSystems</u>

Kidde is a UTC brand. 1016 Corporate Park Drive Mebane, NC 27302

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