

MS-9050UD(E)

Fire Alarm Control Panel with DACT



Addressable

General

The Fire•Lite MS-9050UD(E) 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 of any type of detectors and modules. With an extensive list of powerful features, the MS-9050UD programs just like Fire•Lite's larger products, yet fits into applications previously served only by conventional panels.

The MS-9050UD'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 PK-CD 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 Fire•Lite Upload/Download software kit PK-CD, 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.

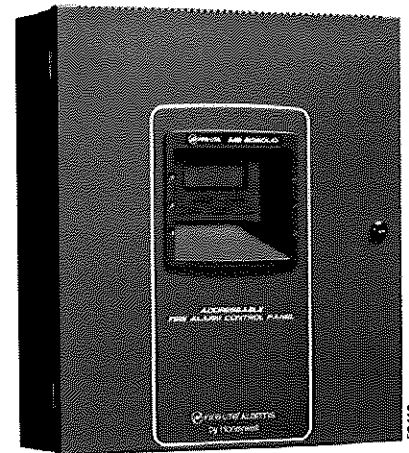
The power supply and all electronics are contained on a single circuit board supported on a new quick install chassis and housed in a metal cabinet. Available accessories include local and remote upload/download software, remote annunciators, and reverse polarity/city box transmitter. (4XTMF)

New options include a UL listed printer, PRN-6F and the new IPDACT Internet Monitoring module. 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 MS-9050UD is used in this data sheet to refer to both the MS-9050UD and the MS-9050UDE FACP's. For MS-9050UDC, refer to DF-60445.

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.

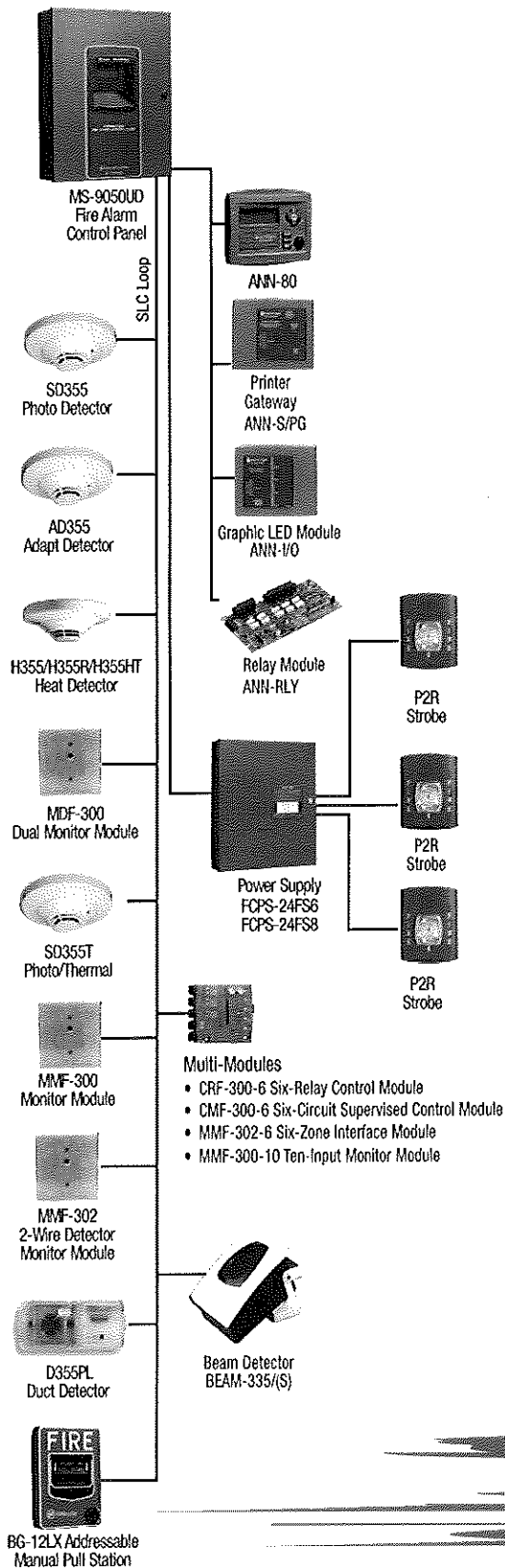
SLC COMMUNICATION LOOP

- 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 Fire•Lite's addressable devices (refer to *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 a Windows®-based software package (order programming kit PK-CD, containing PS-Tools, separately). Upload/download system programming locally.

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

MS-9050UD(E): 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 MS-9050UDC, refer to DF-60445.)

PK-CD: Contains PS-Tools programming software for Windows®-based PC computer (cable not included).

DP-51050: Optional dress panel for the MS-9050UD.

TR-CE: Optional trim ring for semi-flush mounting.

BB-2F: Optional cabinet for one or two modules.

BB-6F: 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.

BB-55F: Battery box, houses two 55 AH batteries

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

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

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

DAT-600: Battery charger, see data sheet DF-50007.

PR17PK-CABLE: Cable printer/personal computer interface cable.

PRN-6F: ILL 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 ether-

net Internet connection. Requires compatible Teldat Visoralarm Central Station Receiver. Can use DHCP or static IP. (See data sheet df-52424 for more information.)

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

IPSPLT: Y-adaptor option allows connection of both panel diater 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

4XTMF 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

ANN-80(-W): Remote LCD annunciator mimics the information displayed on the FACP LCD display. Recommended wire type is un-shielded. (Basic model is red; order -W version for white; see DF-52417.)

ANN-I/O: LED Driver Module provides connections to a user supplied graphic annunciator. (See DF-52430.)

ANN-LED: Annunciator Module provides three LEDs for each zone: Alarm, Trouble, and Supervisory. Ships with red enclosure. (See DF-60241.)

ANN-RLED: Provides alarm (red) indicators for up to 30 input zones or addressable points. (See DF-60241.)

ANN-RLY: Relay Module provides 10 programmable Form-C relays. Can be mounted inside the cabinet. (See DF-52431.)

ANN-S/PG: Serial/Parallel Printer Gateway module provides a connection for a serial or parallel printer. (See DF-52429.)

ADDRESSABLE DEVICES

All feature a polling LED and rotary switches for addressing.

CP355: Addressable low-profile ionization smoke detector.

SD355: Addressable low-profile photoelectric smoke detector.

SD355T: Addressable low-profile photoelectric smoke detector with thermal sensor.

SD355R: Remote test capable addressable photoelectric smoke detector for use with DNR(W) duct detector housing.

H355: Fast-response, low-profile heat detector.

H355R: Fast-response, low-profile heat detector with rate-of-rise option.

H355HT: Fast-response, low-profile heat detector that activates at 190°F/88°C.

AD355: Low-profile, intelligent, "Adapt" multi-sensor detector (B350LP base included).

BEAM355: Intelligent beam smoke detector.

BEAM355S: Intelligent beam smoke detector with integral sensitivity test.

D355PL: InnovairFlex low-flow non-relay duct-detector housing; includes SD355R.

DNR: InnovairFlex low-flow non-relay duct-detector housing. (Order SD355R separately.)

DNRW: InnovairFlex low-flow non-relay duct-detector housing, with NEMA-4 rating. Watertight. (Order SD355R separately.)

MMF-300: 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.

MDF-300: Dual Monitor Module. Same as MMF-300 except it provides two Style B (Class B) only IDCs.

MMF-301: Miniature version of MMF-300. Excludes LED and Style D option. Connects with wire pigtails. May mount in device backbox.

MMF-302A: Similar to MMF-300A. 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.

CMF-300: 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.

CRF-300: 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.

BG-12LX: Addressable manual pull station with interface module mounted inside.

I300: This module isolates the SLC loop from short circuit conditions (required for Style 6 or 7 operation).

SMB500: Used to mount all modules except the MMF-301 and M301.

MMF-300-10: Ten-input monitor module. Mount one or two modules in a BB-2F cabinet (optional). Mount up to six modules on a CHS-6 chassis in a BB-6F cabinet.

MMF-302-6: Six-zone interface module. Mount one or two modules in a BB-2F cabinet (optional). Mount up to six modules on a CHS-6 chassis in a BB-6F cabinet.

CMF-300-6: Six-circuit supervised control module. Mount one or two modules in a BB-2F cabinet (optional). Mount up to six modules on a CHS-6 chassis in a BB-6F cabinet.

CRF-300-6: Six-relay control module (Form-C relays): Mount one or two modules in a BB-2F cabinet (optional). Mount up to six modules on a CHS-6 chassis in a BB-6F cabinet.

NOTE: For more information on Compatible Addressable Devices for use with the MS-9050UD, see the following data sheets (document numbers): AD355 (DF-52386), BG-12LX (DF-52013), CMF-300-6 (DF-52365), CRF-300-6 (DF-52374), CMF/CRF Series (DF-52130), CP355 (DF-52383), H355 Series (DF-52385), I300 (DF-52389), MMF-300 Series/MDF-300 (DF-52121), MMF-300-10 (DF-52347), MMF-302-6 (DF-52356), SD355/SD355T (DF-52384).

ADDRESSABLE DEVICE ACCESSORIES

End-of-Line Resistor Assembly (R-47K and R-3.9K): The 47k ohm assembly supervises the MMF-300, MDF-300, MMF-301, and CMF-300 module circuits. The 3.9k ohm assembly supervises the MMF-302 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: MS-9050UD 120 VAC, 60 Hz, 3.0 A. MS-9050UDE: 240 VAC, 50 Hz, 1.5 A. Wire size: minimum 14 AWG (2.00 mm²) with 600 V insulation. Nonpower-limited, supervised.

Battery: Two 12 V 18 AH lead-acid batteries. Battery Charger Capacity: 7-18 AH (MS-9050UD 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 *FireLite 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):** 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 (non-

condensing) 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 MS-9050UD(E) complies with the following NFPA 72 Fire Alarm Systems requirements:

- **LOCAL** (Automatic, Manual, Waterflow and Sprinkler Supervisory).
- **AUXILIARY** (Automatic, Manual and Waterflow) (requires 4XTMF).
- **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, 4XTMF 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 MS-9050UD(E) 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:** S624
- **FM approved**
- **CSFM:** 7165-0075:210
- **MEA:** 442-06-E

NOTE: See DF-60445 for ULC-listed model.

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We cannot cover all specific applications or anticipate all requirements.
All specifications are subject to change without notice.



Made in the U.S.A.

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

ANN-80

80-Character LCD Serial Annunciator

 **FIRE-LITE ALARMS**
by Honeywell

Annunciators

General

The ANN-80 annunciator is a compact, backlit, 80-character LCD fire annunciator that mimics the Fire Alarm Control Panel (FACP) display. It provides system status indicators for AC Power, Alarm, Trouble, Supervisory, and Alarm Silenced conditions. The ANN-80 and the FACP communicate over a two-wire serial interface employing the ANN-BUS communication format. Connected devices are powered, via two additional wires, by either the host FACP or a remote UL-listed, filtered power supply. ANN-80 is red; for white, order ANN-80-W.

The ANN-80 displays English-language text of system point information including device type, zone, independent point alarm, trouble or supervisory status, as well as any custom alpha labels programmed into the control panel. It includes control switches for remote control of critical system functions. (A keyswitch prevents unauthorized operation of the control switches.)

Up to eight ANN-80s may be connected to the ANN-BUS of each FACP. No programming is required, which saves time during system commissioning.

Features

- Listed to UL Standard 864, 9th Edition.
- Backlit 80-character LCD display (20 characters x 4 lines).
- Mimics all display information from the host panel.
- Control switches for System Acknowledge, Signal Silence, Drill, and Reset.
- Control switches can be independently enabled or disabled at the FACP.
- Keyswitch enables/disables control switches and mechanically locks annunciator enclosure
- Keyswitch can be enabled or disabled at the FACP.
- Enclosure supervised for tamper.
- System status LEDs for AC Power, Alarm, Trouble, Supervisory, and Alarm Silence.
- Local sounder can be enabled or disabled at the FACP.
- ANN-80 connects to the ANN-BUS terminal on the FACP and requires minimal panel programming.
- Displays device type identifiers, individual point alarm, trouble, supervisory, zone, and custom alpha labels.
- Time-and date display field.
- Surface mount directly to wall or to single, double, or 4" square electrical box.
- Semi-flush mount to single, double, or 4" square electrical box. Use ANN-SB80KIT for angled view mounting.
- Can be remotely located up to 6,000 feet (1,800 m) from the panel.
- Backlight turns off during AC loss to conserve battery power but will turn back on if an alarm condition occurs.
- May be powered by 24 VDC from the host FACP or by remote power supply (requires 24 VDC).
- Up to eight ANN-80s can be connected on the ANN-BUS.

Controls and Indicators

- AC Power
- Alarm
- Trouble



S2417rev.06

- Supervisory
- Alarm Silenced

Specifications

- **Operating voltage range:** 18 VDC to 28 VDC.
- **Current consumption @ 24 VDC nominal** (filtered and non-resettable): 40 mA maximum.
- **Ambient temperature:** 32°F to 120°F (0°C to 49°C).
- **Relative humidity:** 93% ± 2% RH (noncondensing) at 32°C ± 2°C (90°F ± 3°F).
- 5.375" (13.65 cm.) high x 6.875" (17.46 cm.) wide x 1.375" (3.49 cm.) deep.
- For use indoors in a dry location.
- All connections are power-limited and supervised.

Agency Listings and Approvals

The listings and approvals below apply to the ANN-80. 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: S2424
- FM approved
- CSFM: 7120-0075:211
- MEA: 442-06-E

The ANN-BUS

POWERING THE DEVICES ON THE ANN-BUS FROM AUXILIARY POWER SUPPLY

The ANN-BUS can be powered by an auxiliary power supply when the maximum number of ANN-BUS devices exceeds the ANN-BUS power requirements. See the FACP manual for more information.

ANN-BUS DEVICE ADDRESSING

Each ANN-BUS device requires a unique address (ID Number) in order to communicate with the FACP. A maximum of 8 devices can be connected to the FACP ANN-BUS communication circuit. See the FACP manual for more information.

WIRE REQUIREMENTS: COMMUNICATIONS CIRCUIT

The ANN-80 connects to the FACP ANN-BUS communications circuit. To determine the type of wire and the maximum wiring distance that can be used with FACP ANN-BUS accessory modules, it is necessary to calculate the total worst case current draw for all modules on a single 4-conductor bus. The total worst case current draw is calculated by adding the individual worst case currents for each module.

NOTE: For total worst case current draw on a single ANN-BUS refer to appropriate FACP manual.

After calculating the total worst case current draw, the following table specifies the maximum distance the modules can be located from the FACP on a single wire run. The table ensures 6.0 volts of line drop maximum. In general, the wire length is limited by resistance, but for heavier wire gauges, capacitance is the limiting factor.

These cases are marked in the chart with an asterisk (*). Maximum length can never be more than 6,000 feet (1,800 m), regardless of gauge used. See table below.

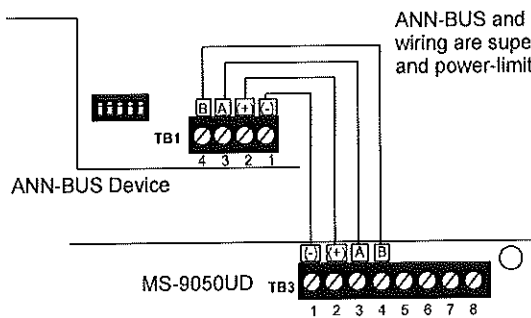
WIRE REQUIREMENTS: POWER CIRCUIT

- 14 to 18 AWG (0.75 - 2.08 mm²) wire for 24 VDC power circuit is acceptable. Power wire distance limitation is set by 1.2 volt maximum line drop from source to end of circuit.
- All connections are power-limited and supervised.
- A maximum of eight ANN-80 modules may be connected to this circuit.

| Communication Pair Wiring Distance: FACP to Last ANN-BUS Module | | | | |
|---|-----------|-----------|-------------|------------|
| Total Worst Case Current Draw (amps) | 22 Gauge | 18 Gauge | 16 Gauge | 14 Gauge |
| 0.100 | 1,852 ft. | 4,688 ft. | * 6,000 ft. | *6,000 ft. |
| 0.200 | 926 ft. | 2,344 ft. | 3,731 ft. | 5,906 ft. |
| 0.300 | 617 ft. | 1,563 ft. | 2,488 ft. | 3,937 ft. |
| 0.400 | 463 ft. | 1,172 ft. | 1,866 ft. | 2,953 ft. |
| 0.500 | 370 ft. | 938 ft. | 1,493 ft. | 2,362 ft. |
| 0.600 | 309 ft. | 781 ft. | 1,244 ft. | 1,969 ft. |
| 0.700 | 265 ft. | 670 ft. | 1,066 ft. | 1,687 ft. |
| 0.800 | 231 ft. | 586 ft. | 933 ft. | 1,476 ft. |
| 0.900 | 206 ft. | 521 ft. | 829 ft. | 1,312 ft. |
| 1.000 (max.) | 185 ft. | 469 ft. | 746 ft. | 1,181 ft. |

WIRING CONFIGURATION

The following figure illustrates the wiring between the FACP and ANN-BUS devices.



FACP Wiring to ANN-BUS Device

ORDERING OPTIONS:

ANN-80: Red 80 character LCD Annunciator.

ANN-80-W: White, 80 character LCD Annunciator.

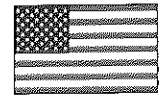
ANN-SB80KIT-R: Red surface mount backbox with angled wedge.

ANN-SB80KIT-W: White surface mount backbox with angled wedge.

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Made in the U.S. A.

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

BG-12LX

Addressable Manual Pull Station



Addressable Devices

General

The Fire-Lite BG-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 (mounted inside) for Fire-Lite's addressable fire alarm control panels (FACPs). Because the BG-12LX is addressable, the control panel can display the exact location of the activated manual station. This leads fire personnel quickly to the location of the alarm.

Features

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

Construction

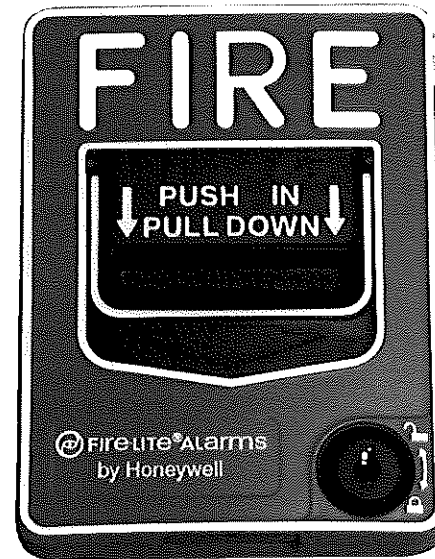
Shell, door, and handle are molded of durable polycarbonate material with a textured finish.

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 μ A.
- **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**

Installation

The BG-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 BG-12LX is being semi-flush mounted, then the optional trim ring (BG12TR) may be used. The BG12TR is



FLPullStation.jpg

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 with Breakaway Tab removed for MS-9600 Series, 1 – 99 and MS-9200UDLS, 1 – 50 for MS-9050UD).

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.

Product Line Information

BG-12LX: Dual-action addressable pull station. Includes key locking feature. (Listed for Canadian and non-Canadian applications.)

SB-10: Surface backbox; metal.

SB-I/O: Surface backbox; plastic.

BG12TR: Optional trim ring.

17003: Keys, set of two.

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:** S711 (listed for Canadian and non-Canadian applications).
- **MEA:** 67-02-E.
- **CSFM:** 7150-0075:0184.
- **FM Approved.**

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

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



Made in the U.S. A.

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

SD355(A) Series

Addressable Photoelectric Smoke Detectors

 **FIRE·LITE® Alarms**
by Honeywell

Addressable Devices

General

The SD355(A), SD355T(A), and SD355R(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 Fire•Lite's Addressable Fire Alarm Control Panels (FACPs). The SD355T(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 SD355R(A) is a remote test capable detector for use with D355PL(A) or 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 MS-9200 series, and 01 – 159 with MS-9600 series.

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).



SD355(A) in B210LP(A) Base

B210-2951.jpg

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. SD355(A) series plug-in, low-profile smoke detectors are designed to commercial standards and offer an attractive appearance.

Installation

SD355(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 DF-60059.

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. SD355R(A) mounts in a D355PL(A) or DNR(A)/DNRW duct detector housing.

Operation

Each SD355(A) series detector uses one of 99 possible addresses on the MS-9200 series and up to 318 (159 on each loop) on the MS-9600 series Signaling Line Circuit (SLC). It responds to regular polls from the system and reports its type and status.

The addressable photoelectric sensor in the SD355(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 SD355(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 MS-9200 series or MS-9600 series addressable fire alarm control panel. The results of the sensitivity test can be printed off the MS-9200 series or MS-9600 series 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 **SD355(A):** 0°C to 49°C (32°F to 120°F); for **SD355T(A):** 0°C to 38°C (32°F to 100°F). **SD355R(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 SD355(A), SD355T(A), and SD355RT(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:** S1059.
- **ULC Listed:** S1059.
- **CSFM:** 7272-0075:0194.
- **MEA:** 243-02-E.
- **FM approved.**

Product Line Information

NOTE: "A" suffix indicates ULC Listed model.

SD355: Addressable photoelectric detector; B210LP base included.

SD355A: Same as SD355 with ULC Listing; B210LPA base included.

SD355T: Same as SD355 but with *thermal* element; B210LP base included.

SD355TA: Same as SD355T with ULC Listing; B210LPA base included.

SD355R: Remote test capable addressable photoelectric detector for use with a D355PL(A) or DNRA/DNRW duct detector housing; B210LP base included.

SD355RA: Same as SD355R with ULC Listing for use with a D355PLA or DNRA duct detector housing; B210LPA base included.

INTELLIGENT BASES

NOTE: "A" suffix indicates ULC Listed model.

NOTE: The detector's plug-in base can be changed off for special applications. For details about intelligent bases and their mounting, see DF-60059.

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 DF-52389).

ACCESSORIES

F110: Retrofit flange to convert B210LP(A) to match the B350LP(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.

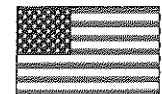
BCK-200B: Black detector covers for use with SD355(A) only; box of 10.

WCK-200B: White detector covers for use with SD355(A) only; box of 10.

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

H355(A) Series

Intelligent Addressable Thermal Detectors

 **FIRE·LITE ALARMS**
by Honeywell

Addressable Devices

General

The Fire·Lite Alarms H355(A) Series thermal detectors are addressable sensors that use a state-of-the-art thermistor sensing circuit for fast response. These sensors provide open-area protection and are intended for use with Fire·Lite's addressable Fire Alarm Control Panels (FACPs).

The H355(A) and H355R(A) sensors provide fixed temperature alarm detection at 135°F (57°C). The H355R(A) sensor also responds to rate-of-rise conditions of greater than 15°F (8.3°C) per minute. The H355HT(A) is a fixed high-temperature detector that activates at 190°F (88°C). These thermal detectors provide addressable property protection in a variety of applications.

Two LEDs on each sensor light to provide a local, visible sensor indication. Remote LED annunciator capability is available using an optional accessory, the RA100Z.

Features

SLC loop:

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

Addressing:

- Addressable by device.
- Rotary, decimal addressing: 01 – 159 with MS-9600 series, 01 – 99 with MS-9200 series.

Architecture:

- Sleek, low-profile, stylish design.
- State-of-the-art thermistor technology for fast response.
- Integral communications and built-in device-type identification.
- Built-in tamper resistant feature.
- Built-in functional test switch activated by external magnet.

Operation:

- Factory preset at 135°F (57°C) for the H355(A) and H355R(A); 190°F (88°C) for the H355HT(A).
- Rate-of-rise triggers at 15°F (8.3°C) per minute for the H355R(A).
- 360°-field viewing angle of the visual alarm indicators (two bicolor LEDs). LEDs blink red in Normal condition and turn on steady red in Alarm.
- Visible LEDs "blink" every time the unit is addressed.

Mechanicals:

- Sealed against back pressure.
- SEMS screws for wiring of the separate base.
- Designed for direct-surface or electrical-box mounting.
- Plugs into separate base for ease of installation and maintenance.
- Separate base allows interchange of photoelectric, ionization and thermal sensors.

Other system features:

- Remote test feature from the panel.
- Walk test with address display.
- Low standby current.



H355(A) in B210LP(A) Base

B210-2251.jpg

- 94-5V plastic flammability rating.

Options:

- Remote LED output connection to optional RA100Z remote LED annunciator.
- Flanged surface mounting kit.

Installation

H355(A) Series plug-in intelligent thermal detectors use a detachable base to simplify installation, service and maintenance. Installation instructions are shipped with each detector.

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 DF-60059.

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 only.

Applications

Use thermal detectors for protection of property.

Construction

These detectors are constructed of off-white fire-resistant plastic. The H355(A) Series plug-in intelligent thermal detectors are designed to commercial standards and offer an attractive appearance.

Operation

Each H355(A) Series detector uses one of 159 (MS-9600 series) or 99 (MS-9200 series) possible addresses on a control panel SLC loop. It responds to regular polls from the control panel and reports its type and the status. If it receives a test command from the panel (or a local magnet test), it stimulates its electronics and reports an alarm. It blinks its LEDs when polled and turns the LEDs on when commanded by the panel. The H355(A) Series offers features and performance that represent the latest in thermal detector technology.

Specifications

Size: 2.1" (5.3 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.

Shipping weight: 4.8 oz. (137 g).

Installation temperature:

- H355(A), H355R(A): –4°F to 100°F (–20°C to 38°C).
- H355HT(A): –4°F to 150°F (–20°C to 66°C).

Humidity range: 10% to 93% relative humidity (noncondensing).

Voltage range: 15 to 32 VDC peak.

Standby current: 300 µA @ 24 VDC (one communication every five seconds with LED blink enabled).

LED current: 6.5 mA @ 24 VDC.

Mounting: B210LP(A) flanged base, included. See "Product Line Information: Intelligent Bases" if using a different base.

Fixed-temperature setpoint: 135°F (57°C) for the H355(A) and H355R(A); 190°F (88°C) for the H355HT(A).

Rate-of-rise detection: responds to greater than 15°F (8.3°C) per minute.

Listings and Approvals

Listings and approvals below apply to the H355(A) Series 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:** S2517.
- **ULC Listed** (models H355A, H355RA, H355HTA).
- **CSFM approved:** 7270-0075:0195.
- **FM approved.**

Product Line Information

NOTE: "A" suffix indicates ULC Listed model.

H355: Intelligent thermal sensor; 135° F (57° C); B210LP base included.

H355A: Same as H355 but with ULC Listing; B210LPA base included.

H355R: Same as H355 with *rate-of-rise* feature; B210LP base included.

H355RA: Same as H355R but with ULC Listing; B210LPA base included.

H355HT: Intelligent fixed high-temperature thermal detector; 190° F (88° C); B210LP base included.

H355HTA: Same as H355HT but with ULC Listing; B210LPA base included.

INTELLIGENT BASES

NOTE: "A" suffix indicates ULC Listed model.

NOTE: The detector's plug-in base can be changed off for special applications. For details about intelligent bases and their mounting, see DF-60059.

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 DF-52389*).

ACCESSORIES

F110: Retrofit flange to convert B210LP(A) to match the B350LP(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.

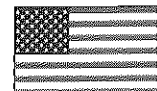
XP-4: Extension pole for XR2B. Comes in three 5-foot (1.524 m) sections.

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

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Indoor Selectable-Output Strobes and Horn Strobes for Ceiling Applications

SpectrAlert® Advance audible visible notification products are rich with features guaranteed to cut installation times and maximize profits.



SPECTRAlert
ADVANCE
System Sensor

Features

- Plug-in design with minimal intrusion into the back box
- Tamper-resistant construction
- Automatic selection of 12- or 24-volt operation at 15 and 15/75 candela
- Field-selectable candela settings on ceiling units: 15, 15/75, 30, 75, 95, 110, 115, 135, 150, 177, and 185
- Horn rated at 88+ dBA at 16 volts
- Rotary switch for horn tone and three volume selections
- Universal mounting plate for ceiling units
- Mounting plate shorting spring checks wiring continuity before device installation
- Electrically Compatible with legacy SpectrAlert devices
- Compatible with MDL sync module
- Listed for ceiling or wall mounting

The SpectrAlert Advance series offers the most versatile and easy-to-use line of horns, strobes, and horn strobes in the industry. With white and red plastic housings, wall and ceiling mounting options, and plain and FIRE-printed devices, SpectrAlert Advance can meet virtually any application requirement.

Like the entire SpectrAlert Advance product line, ceiling-mount 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, SpectrAlert Advance utilizes a universal mounting plate with an onboard shorting spring, so installers can test wiring continuity before the device is installed.

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

Agency Listings

SIGNALING

LISTED
S4011 (chimes, horn strobes, horns)
S5512 (strobes)


FM
APPROVED
3023572

MEA
approved
MEA452-05-E


7125-1653 166 (nd; or strobes)
7125-1653 188 (horn strobes,
chime strobes)
7135-1653 189 (horns, chimes)

SpectrAlert Advance Specifications

Architect/Engineer Specifications

General

SpectrAlert Advance strobes and horn strobes shall mount to a standard 4 × 4 × 1½-inch back box, 4-inch octagon back box, or double-gang back box. Two-wire products shall also mount to a single-gang 2 × 4 × 17/8-inch back box. A universal mounting plate shall be used for mounting ceiling and wall products. The notification appliance circuit wiring shall terminate at the universal mounting plate. Also, 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 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, 15/75, 30, 75, 95, 110, 115, 135, 150, 177, and 185.

Strobe

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

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 three 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.

Synchronization Module

The module shall be a System Sensor Sync•Circuit model MDL 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 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 × 411/16 × 21/8-inch back box. The module shall also control two Style Y (class B) circuits or one Style Z (class A) circuit. The module shall synchronize multiple zones. Daisy chaining two or more synchronization modules together will synchronize all the zones they control. The module shall not operate on a coded power supply.

Physical/Electrical Specifications

| | |
|---|--|
| Standard Operating Temperature | 32°F to 120°F (0°C to 49°C) |
| Humidity Range | 10 to 93% non-condensing |
| Strobe Flash Rate | 1 flash per second |
| Nominal Voltage | Regulated 12 DC/FWR or regulated 24 DC/FWR ¹ |
| Operating Voltage Range ² | 8 to 17.5 V (12 V nominal) or 16 to 33 V (24 V 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 Back Box Skirt Dimensions (BBSC-2, BBSCW-2) | 7.1" diameter × 2.2" high (180 mm diameter × 57 mm high) |
| Ceiling-Mount Trim Ring Dimensions (sold as a 5 pack) (TRC-HS, TRCW-HS) | 6.9" diameter × 0.35" high (175 mm diameter × 9 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 15/75 cd.

UL Current Draw Data

| UL Max. Strobe Current Draw (mA RMS) | | | | | |
|--------------------------------------|---------|--------------|-----|-------------|-----|
| | Candela | 8–17.5 Volts | | 16–33 Volts | |
| | | DC | FWR | DC | FWR |
| Standard Candela Range | 15 | 123 | 128 | 66 | 71 |
| | 15/75 | 142 | 148 | 77 | 81 |
| | 30 | NA | NA | 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 |

| UL Max. Current Draw (mA RMS), 2-Wire Horn Strobe, Standard Candela Range (15–115 cd) | | | | | | | | | |
|---|--------------|-------|-----|-------|-------------|-----|-----|-----|-----|
| | 8–17.5 Volts | | | | 16–33 Volts | | | | |
| | 15 | 15/75 | 15 | 15/75 | 30 | 75 | 95 | 110 | 115 |
| DC Input | 15 | 15/75 | 15 | 15/75 | 30 | 75 | 95 | 110 | 115 |
| Temporal High | 137 | 147 | 79 | 90 | 107 | 176 | 194 | 212 | 218 |
| Temporal Medium | 132 | 144 | 69 | 80 | 97 | 157 | 182 | 201 | 210 |
| Temporal Low | 132 | 143 | 66 | 77 | 93 | 154 | 179 | 198 | 207 |
| Non-Temporal High | 141 | 152 | 91 | 100 | 116 | 176 | 201 | 221 | 229 |
| Non-Temporal Medium | 133 | 145 | 75 | 85 | 102 | 163 | 187 | 207 | 216 |
| 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 |
| Temporal Medium | 129 | 152 | 78 | 88 | 103 | 160 | 184 | 202 | 206 |
| Temporal Low | 129 | 151 | 76 | 86 | 101 | 160 | 184 | 194 | 201 |
| Non-Temporal High | 142 | 161 | 103 | 112 | 126 | 181 | 203 | 221 | 229 |
| Non-Temporal Medium | 134 | 155 | 85 | 95 | 110 | 166 | 189 | 208 | 216 |
| Non-Temporal Low | 132 | 154 | 80 | 90 | 105 | 161 | 184 | 202 | 211 |

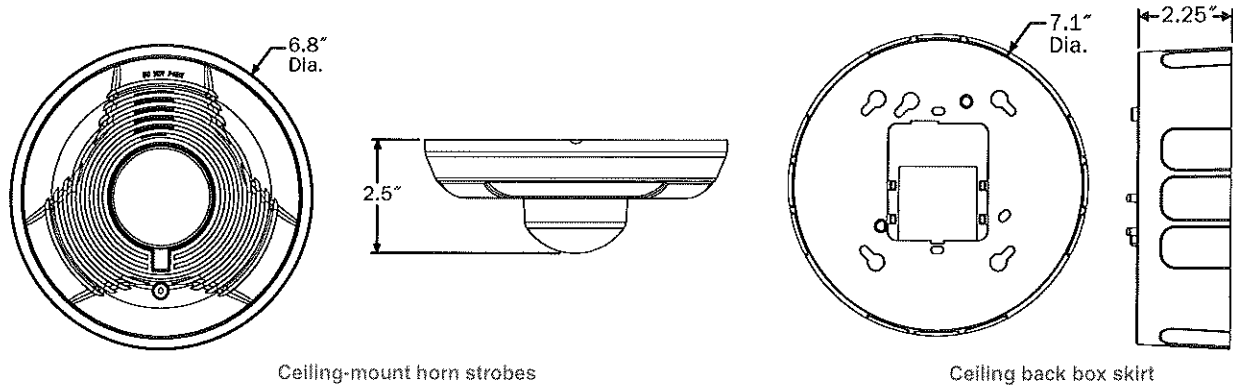
| UL Max. Current Draw (mA RMS), 2-Wire Horn Strobe, High Candela Range (135–185 cd) | | | | | | | | | |
|--|-------------|-----|-----|-----|---------------------|-------------|-----|-----|-----|
| | 16–33 Volts | | | | FWR Input | 16–33 Volts | | | |
| | 135 | 150 | 177 | 185 | | 135 | 150 | 177 | 185 |
| DC Input | 135 | 150 | 177 | 185 | FWR Input | 135 | 150 | 177 | 185 |
| Temporal High | 245 | 259 | 290 | 297 | Temporal High | 215 | 231 | 258 | 265 |
| Temporal Medium | 235 | 253 | 288 | 297 | Temporal Medium | 209 | 224 | 250 | 258 |
| Temporal Low | 232 | 251 | 282 | 292 | Temporal Low | 207 | 221 | 248 | 256 |
| Non-Temporal High | 255 | 270 | 303 | 309 | Non-Temporal High | 233 | 248 | 275 | 281 |
| Non-Temporal Medium | 242 | 259 | 293 | 299 | Non-Temporal Medium | 219 | 232 | 262 | 267 |
| Non-Temporal Low | 238 | 254 | 291 | 295 | Non-Temporal Low | 214 | 229 | 256 | 262 |

Horn Strobe Tones and Sound Output Data

| Horn Strobe Output (dBA) | | | | | | | | | | |
|--------------------------|---------------|--------|--------------|-----|-------------|-----|-----------------|-----|----------|-----|
| Switch Position | Sound Pattern | dB | 8–17.5 Volts | | 16–33 Volts | | 24-Volt Nominal | | | |
| | | | DC | FWR | DC | FWR | Reverberant | | Anechoic | |
| | | | DC | FWR | DC | FWR | DC | FWR | DC | FWR |
| 1 | Temporal | High | 78 | 78 | 84 | 84 | 88 | 88 | 99 | 98 |
| 2 | Temporal | Medium | 74 | 74 | 80 | 80 | 86 | 86 | 96 | 96 |
| 3 | Temporal | Low | 71 | 73 | 76 | 76 | 83 | 80 | 94 | 89 |
| 4 | Non-Temporal | High | 82 | 82 | 88 | 88 | 93 | 92 | 100 | 100 |
| 5 | Non-Temporal | Medium | 78 | 78 | 85 | 85 | 90 | 90 | 98 | 98 |
| 6 | Non-Temporal | Low | 75 | 75 | 81 | 81 | 88 | 84 | 96 | 92 |
| 7† | Coded | High | 82 | 82 | 88 | 88 | 93 | 92 | 101 | 101 |
| 8† | Coded | Medium | 78 | 78 | 85 | 85 | 90 | 90 | 97 | 98 |
| 9† | Coded | Low | 75 | 75 | 81 | 81 | 88 | 85 | 96 | 92 |

†Settings 7, 8, and 9 are not available on 2-wire horn strobes.

SpectrAlert Advance Dimensions



SpectrAlert Advance Ordering Information

| Model | Description |
|-----------------------------|--|
| Ceiling Horn Strobes | |
| PC2R* | 2-Wire Horn Strobe, Standard cd, Red |
| PC2RH | 2-Wire Horn Strobe, High cd, Red |
| PC2W*† | 2-Wire Horn Strobe, Standard cd, White |
| PC2WH* | 2-Wire Horn Strobe, High cd, White |
| PC4R | 4-Wire Horn Strobe, Standard cd, Red |
| PC4RH | 4-Wire Horn Strobe, High cd, Red |
| PC4W | 4-Wire Horn Strobe, Standard cd, White |

| Model | Description |
|------------------------|--------------------------------|
| Ceiling Strobes | |
| SCR | Strobe, Standard cd, Red |
| SCRH | Strobe, High cd, Red |
| SCW* | Strobe, Standard cd, White |
| SCWH | Strobe, High cd, White |
| Accessories | |
| BBSC-2 | Back Box Skirt, Ceiling, Red |
| | Back Box Skirt, Ceiling, White |
| TRC-HS | Trim Ring, Ceiling, Red |
| TRCW-HS | Trim Ring, Ceiling, White |

Notes:

* Add "-P" to model number for plain housing (no "FIRE" marking on cover), e.g., P2R-P.

† Add "-SP" to model number for "FUEGO" marking on cover, e.g., P2R-SP.

‡ "Standard cd" refers to strobes that include 15, 15/75, 30, 75, 95, 110, and 115 candela settings. "High cd" refers to strobes that include 135, 150, 177, and 185 candela settings.



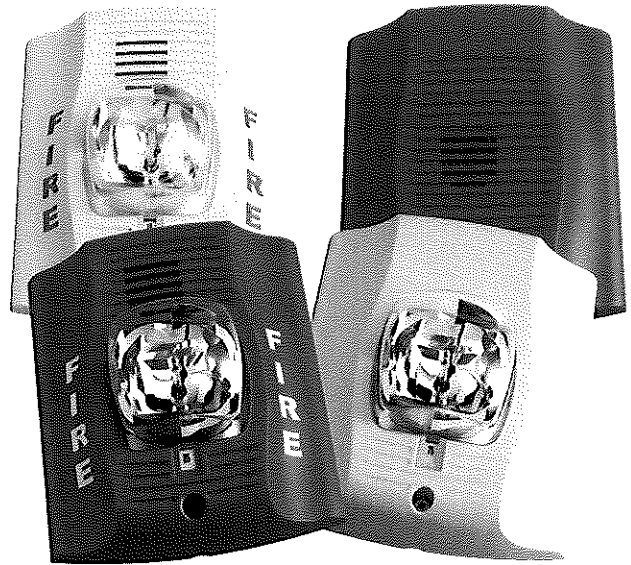
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 AVDS00501 • 3/12



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

SpectrAlert® Advance audible visible notification products are rich with features guaranteed to cut installation times and maximize profits.



SPECTRAlert
ADVANCE
from SYSTEM SENSOR

Features

- Plug-in design with minimal intrusion into the back box
- Tamper-resistant construction
- Automatic selection of 12- or 24-volt operation at 15 and 15/75 candela
- Field-selectable candela settings on wall units: 15, 15/75, 30, 75, 95, 110, 115, 135, 150, 177, and 185
- Horn rated at 88+ dBA at 16 volts
- Rotary switch for horn tone and three volume selections
- Universal mounting plate for wall units
- Mounting plate shorting spring checks wiring continuity before device installation
- Electrically Compatible with legacy SpectrAlert devices
- Compatible with MDL sync module
- Listed for ceiling or wall mounting

The SpectrAlert Advance series offers the most versatile and easy-to-use line of horns, strobes, and horn strobes in the industry. With white and red plastic housings, wall and ceiling mounting options, and plain and FIRE-printed devices, SpectrAlert Advance can meet virtually any application requirement.

Like the entire SpectrAlert Advance product line, 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, SpectrAlert Advance utilizes a universal mounting plate 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 three volume selections.


Agency Listings

SIGNALING

LISTED
84911 (chimes, horn strobes, horns)
85512 (strobes)


FM
APPROVED
3923572

MEA
approved
MEA452-05-E


7125-1653 188 (indoor strobes)
7125-1653 188 (horn strobes,
chime strobes)
7135-1653 189 (horns, chimes)

SpectrAlert Advance Specifications

Architect/Engineer Specifications

General
 SpectrAlert Advance horns, strobes, and horn strobes shall mount to a standard 4 x 4 x 1½-inch back box, 4-inch octagon back box, or double-gang back box. Two-wire products shall also mount to a single-gang 2 x 4 x 17/8-inch back box. A universal mounting plate shall be used for mounting ceiling and wall products. The notification appliance circuit wiring shall terminate at the universal mounting plate. Also, SpectrAlert Advance products, when used with the Sync•Circuit™ Module accessory, shall be powered from a non-coded notification appliance circuit output and shall operate on a nominal 12 or 24 volts. When used with the Sync•Circuit Module, 12-volt-rated notification appliance circuit outputs shall operate between 8 and 17.5 volts; 24-volt-rated notification appliance circuit outputs shall operate between 16 and 33 volts. Indoor SpectrAlert Advance products shall operate between 32 and 120 degrees Fahrenheit from a regulated DC or full-wave rectified unfiltered power supply. Strobes and horn strobes shall have field-selectable candela settings including 15, 15/75, 30, 75, 95, 110, 115, 135, 150, 177, and 185.

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

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 three 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.

Synchronization Module
 The module shall be a System Sensor Sync•Circuit model MDL 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 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 x 411/16 x 21/8-inch back box. The module shall also control two Style Y (class B) circuits or one Style Z (class A) circuit. The module shall synchronize multiple zones. Daisy chaining two or more synchronization modules together will synchronize all the zones they control. The module shall not operate on a coded power supply.

Physical/Electrical Specifications

| | |
|--|--|
| Standard Operating Temperature | 32°F to 120°F (0°C to 49°C) |
| Humidity Range | 10 to 93% non-condensing |
| Strobe Flash Rate | 1 flash per second |
| Nominal Voltage | Regulated 12 DC/FWR or regulated 24 DC/FWR ¹ |
| Operating Voltage Range ² | 8 to 17.5 V (12 V nominal) or 16 to 33 V (24 V nominal) |
| Input Terminal Wire Gauge | 12 to 18 AWG |
| Wall-Mount Dimensions (including lens) | 5.6" L x 4.7" W x 2.5" D (142 mm L x 119 mm W x 64 mm D) |
| Horn Dimensions | 5.6" L x 4.7" W x 1.3" D (142 mm L x 119 mm W x 33 mm D) |
| Wall-Mount Back Box Skirt Dimensions (BBS-2, BBSW-2) | 5.9" L x 5.0" W x 2.2" D (151 mm L x 128 mm W x 56 mm D) |
| Wall-Mount Trim Ring Dimensions (sold as a 5 pack) (TR-HS, TRW-HS) | 5.7" L x 4.8" W x 0.35" D (145 mm L x 122 mm W x 9 mm D) |

- Notes:
1. Full Wave Rectified (FWR) voltage is a non-regulated, time-varying power source that is used on some power supply and panel outputs.
 2. P, S, PC, and SC products will operate at 12 V nominal only for 15 and 15/75 cd.

UL Current Draw Data

| UL Max. Strobe Current Draw (mA RMS) | | | | | | UL Max. Horn Current Draw (mA RMS) | | | | | |
|--------------------------------------|---------|--------------|-----|-------------|-----|------------------------------------|--------|--------------|-----|-------------|-----|
| | Candela | 8-17.5 Volts | | 16-33 Volts | | Sound Pattern | dB | 8-17.5 Volts | | 16-33 Volts | |
| | | DC | FWR | DC | FWR | | | DC | FWR | DC | FWR |
| Standard Candela Range | 15 | 123 | 128 | 66 | 71 | Temporal | High | 57 | 55 | 69 | 75 |
| | 15/75 | 142 | 148 | 77 | 81 | Temporal | Medium | 44 | 49 | 58 | 69 |
| | 30 | NA | NA | 94 | 96 | Temporal | Low | 38 | 44 | 44 | 48 |
| | 75 | NA | NA | 158 | 153 | Non-temporal | High | 57 | 56 | 69 | 75 |
| | 95 | NA | NA | 181 | 176 | Non-temporal | Medium | 42 | 50 | 60 | 69 |
| | 110 | NA | NA | 202 | 195 | Non-temporal | Low | 41 | 44 | 50 | 50 |
| High Candela Range | 115 | NA | NA | 210 | 205 | Coded | High | 57 | 55 | 69 | 75 |
| | 135 | NA | NA | 228 | 207 | Coded | Medium | 44 | 51 | 56 | 69 |
| | 150 | NA | NA | 246 | 220 | Coded | Low | 40 | 46 | 52 | 50 |
| | 177 | NA | NA | 281 | 251 | | | | | | |
| | 185 | NA | NA | 286 | 258 | | | | | | |

| UL Max. Current Draw (mA RMS), 2-Wire Horn Strobe, Standard Candela Range (15-115 cd) | | | | | | | | | | |
|---|--------------|-------|-----|-------|-------------|-----|-----|-----|-----|--|
| | 8-17.5 Volts | | | | 16-33 Volts | | | | | |
| | 15 | 15/75 | 15 | 15/75 | 30 | 75 | 95 | 110 | 115 | |
| DC Input | | | | | | | | | | |
| Temporal High | 137 | 147 | 79 | 90 | 107 | 176 | 194 | 212 | 218 | |
| Temporal Medium | 132 | 144 | 69 | 80 | 97 | 157 | 182 | 201 | 210 | |
| Temporal Low | 132 | 143 | 66 | 77 | 93 | 154 | 179 | 198 | 207 | |
| Non-Temporal High | 141 | 152 | 91 | 100 | 116 | 176 | 201 | 221 | 229 | |
| Non-Temporal Medium | 133 | 145 | 75 | 85 | 102 | 163 | 187 | 207 | 216 | |
| 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 | |
| Temporal Medium | 129 | 152 | 78 | 88 | 103 | 160 | 184 | 202 | 206 | |
| Temporal Low | 129 | 151 | 76 | 86 | 101 | 160 | 184 | 194 | 201 | |
| Non-Temporal High | 142 | 161 | 103 | 112 | 126 | 181 | 203 | 221 | 229 | |
| Non-Temporal Medium | 134 | 155 | 85 | 95 | 110 | 166 | 189 | 208 | 216 | |
| Non-Temporal Low | 132 | 154 | 80 | 90 | 105 | 161 | 184 | 202 | 211 | |

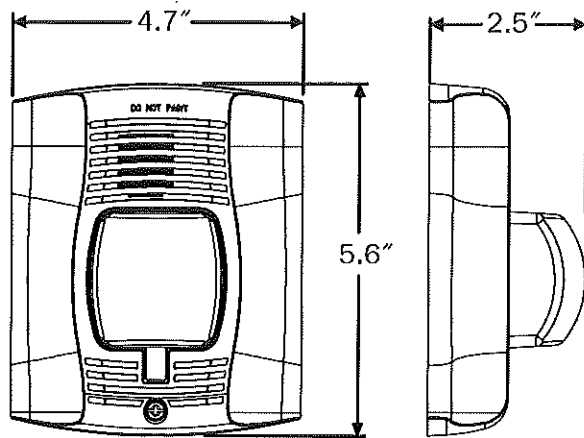
| UL Max. Current Draw (mA RMS), 2-Wire Horn Strobe, High Candela Range (135-185 cd) | | | | | | | | | | |
|--|-------------|-----|-----|-----|---------------------|-------------|-----|-----|-----|--|
| | 16-33 Volts | | | | FWR Input | 16-33 Volts | | | | |
| | 135 | 150 | 177 | 185 | | 135 | 150 | 177 | 185 | |
| DC Input | | | | | | | | | | |
| Temporal High | 245 | 259 | 290 | 297 | Temporal High | 215 | 231 | 258 | 265 | |
| Temporal Medium | 235 | 253 | 288 | 297 | Temporal Medium | 209 | 224 | 250 | 258 | |
| Temporal Low | 232 | 251 | 282 | 292 | Temporal Low | 207 | 221 | 248 | 256 | |
| Non-Temporal High | 255 | 270 | 303 | 309 | Non-Temporal High | 233 | 248 | 275 | 281 | |
| Non-Temporal Medium | 242 | 259 | 293 | 299 | Non-Temporal Medium | 219 | 232 | 262 | 267 | |
| Non-Temporal Low | 238 | 254 | 291 | 295 | Non-Temporal Low | 214 | 229 | 256 | 262 | |

Horn Tones and Sound Output Data

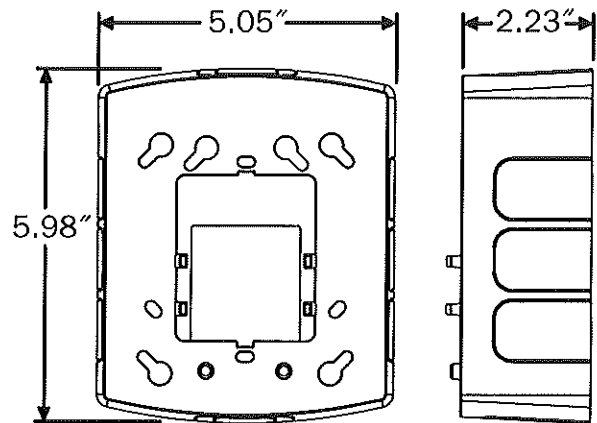
| Horn and Horn Strobe Output (dBA) | | | | | | | | | | |
|-----------------------------------|---------------|--------|-----------------|-----|----------------|-----|-----------------|-----|----------|-----|
| Switch Position | Sound Pattern | dB | 8-17.5 Volts | | 16-33 Volts | | 24-Volt Nominal | | | |
| | | | DC | FWR | DC | FWR | Reverberant | | Anechoic | |
| | | | DC | FWR | DC | FWR | DC | FWR | DC | FWR |
| 1 | Temporal | High | 78 | 78 | 84 | 84 | 88 | 88 | 99 | 98 |
| 2 | Temporal | Medium | 74 | 74 | 80 | 80 | 86 | 86 | 96 | 96 |
| 3 | Temporal | Low | 71 | 73 | 76 | 76 | 83 | 80 | 94 | 89 |
| 4 | Non-Temporal | High | 82 | 82 | 88 | 88 | 93 | 92 | 100 | 100 |
| 5 | Non-Temporal | Medium | 78 | 78 | 85 | 85 | 90 | 90 | 98 | 98 |
| 6 | Non-Temporal | Low | 75 | 75 | 81 | 81 | 88 | 84 | 96 | 92 |
| 7† | Coded | High | 82 | 82 | 88 | 88 | 93 | 92 | 101 | 101 |
| 8† | Coded | Medium | 78 | 78 | 85 | 85 | 90 | 90 | 97 | 98 |
| 9† | Coded | Low | 75 | 75 | 81 | 81 | 88 | 85 | 96 | 92 |

†Settings 7, 8, and 9 are not available on 2-wire horn strobes.

SpectrAlert Advance Dimensions



Wall-mount horn strobes



Wall back box skirt

SpectrAlert Advance Ordering Information

| Model | Description |
|--------------------------|--|
| Wall Horn Strobes | |
| P2R† | 2-Wire Horn Strobe, Standard cd†, Red |
| P2RH* | 2-Wire Horn Strobe, High cd, Red |
| P2W* | 2-Wire Horn Strobe, Standard cd, White |
| P2WH* | 2-Wire Horn Strobe, High cd, White |
| P4R* | 4-Wire Horn Strobe, Standard cd, Red |
| P4RH | 4-Wire Horn Strobe, High cd, Red |
| P4W | 4-Wire Horn Strobe, Standard cd, White |
| Wall Strobes | |
| SR† | Strobe, Standard cd, Red |
| SRH† | Strobe, High cd, Red |
| SW* | Strobe, Standard cd, White |
| SWH* | Strobe, High cd, White |

| Model | Description |
|--------------------|-----------------------------|
| Horns | |
| HR | Horn, Red |
| HW | Horn, White |
| Accessories | |
| BBS-2 | Back Box Skirt, Wall, Red |
| BBSW-2 | Back Box Skirt, Wall, White |
| TR-HS | Trim Ring, Wall, Red |
| TRW-HS | Trim Ring, Wall White |

Notes:

* Add "-P" to model number for plain housing (no "FIRE" marking on cover), e.g., P2R-P.

† Add "-SP" to model number for "FUEGO" marking on cover, e.g., P2R-SP.

‡ "Standard cd" refers to strobes that include 15, 15/75, 30, 75, 95, 110, and 115 candela settings. "High cd" refers to strobes that include 135, 160, 177, and 185 candela settings.



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