Agent Release Control Panel

Designed with:

3M™ Novec™ 1230
Fire Protection Fluid

RP-2002(E)

System Capacity

• Annunciators: 8

Electrical Specifications

• RP-2002 (FLPS-7 Power Supply): 120 VAC, 60 Hz, 3.66 amps

• RP-2002E (FLPS-7 Power Supply): 240 VAC, 50 Hz, 2.085 amps

• Wire size: minimum 14 AWG (2.0 mm²) with 600 V insulation, supervised, nonpower-limited

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

Dimensions:

– Height 20.00" (50.80cm)

– Width 22.50" (57.15cm)

– Depth 8.50" (21.59cm)

Temperature and Humidity Ranges

This system meets NFPA requirements for operation at 0 – 49°C/32 – 120°F and at a relative humidity 93% ± 2% RH (noncondensing) at 32°C ± 2°C (90°F ± 3°F). However, the useful life of the system's standby batteries and the electronic components may be adversely affected by extreme temperature ranges and humidity. Therefore, it is recommended that this system and its peripherals be installed in an environment with a normal room temperature of 15 – 27°C/60 – 80°F.

NFPA Standards

The RP-2002(E) complies with the following NFPA 72 Fire Alarm Systems requirements:

– NFPA 12 CO2 Extinguishing Systems

– NFPA 12A Halon 1301 Extinguishing Systems

– NFPA 12B Halon 1211 Extinguishing Systems

– NFPA 72 National Fire Alarm Code for Local Fire Alarm

Systems and Remote Station Fire Alarm Systems (requires an optional Remote Station Output Module)

– NFPA 2001 Clean Agent Fire Extinguishing Systems

Agency Listings and Approvals

The listings and approvals below apply to the basic RP- 2002(E) control panels. In some cases, certain modules may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

• UL: S635

• FM approved

• CSFM: 7165-0028:0245

• MEA: 333-07-E

• Seismic Listing: Reference certificiate of compliance

VMA - 45894-01 by the VMC Group

NOTE: For ULC-listed model, see DN-60444.

The RP-2002 is a six-zone FACP for single and dual hazard agent releasing applications. The RP-2002 provides reliable fire detection, signaling and protection for commercial, industrial and institutional buildings requiring agent-based releasing. The RP-2002 is compatible with System Sensor's i3 detectors which are conventional smoke detectors that can transmit a maintenance trouble signal to the FACP indicating the need for cleaning and a supervisory 'freeze' signal when the ambient temperature falls below the detector rating of approximately 45°F (7.22°C). In addition, the control panel is compatible with conventional input devices such as two-wire smoke detectors, four-wire smoke detectors, pull stations, waterflow devices, tamper switches and other normally-open contact devices. Refer to the Notifier Device Compatibility Document for a complete listing of compatible devices. Four outputs are programmable as NACs (Notification Appliance Circuits) or releasing circuits. Three programmable Form-C relays (factory programmed for Alarm, Trouble and Supervisory) and 24 VDC special application resettable and non-resettable power outputs are also included on the main circuit board. The RP-2002 supervises all wiring, AC voltage, battery charger and battery level. Activation of a compatible smoke detector or any normallyopen fire alarm initiating device will activate audible and visual signaling devices, illuminate an indicator, display alarm information on the panel's LCD, sound the piezo sounder at the FACP, activate the FACP alarm relay and operate an optionalmmodule used to notify a remote station or initiate an auxiliarymcontrol function. The RP-2002E offers the same features as the RP-2002 but allows connection to 220/240 VAC. Unless otherwise specified, the information in this data sheet applies to both the 110/120 VAC and 220/240 VAC versions of the panels.

Designed with:

3M™ Novec™ 1230 Fire Protection Fluid

RP-2002(E)

Features

• Listed to UL Standard 864, 9th edition.
• FM Approved.
• Designed for agent releasing standards NFPA 12, 12A, 12B, and 2001.
• Meets International Building Code (IBC) seismic requirements.
• Disable/Enable control per input zone and output zone.
• Extensive transient protection.
• Dual hazard operation.
• Adjustable pre-discharge, discharge and waterflow delay timers.
• Cross-zone (double-interlock) capability.
• Six programmable Style B (Class B) IDCs (Initiating Device Circuit).
• System Sensor i3 series detector compatible.
• Four programmable Style Y (Class B) output circuits - (special application power).
• Strobe synchronization:
– System Sensor
– Wheelock
– Gentex
– Faraday
– Amseco
• Three programmable Form-C relays.
• 7.0 amps total 24 VDC output current.
• Resettable and non-resettable output power.
• Built-in Programmer.
• ANN-BUS connector for communication with optional devices (up to 8 total of any of the following):
– N-ANN-80 Remote LCD Annunciator
– N-ANN-I/O LED Driver
– N-ANN-S/PG Printer Module
– N-ANN-RLY Relay Module
– N-ANN-LED Annunciator Module
• 80-character LCD display (backlit).
• Real-time clock/calendar with daylight savings time control.
• History log with 256 event storage.
• Piezo sounder for alarm, trouble and supervisory.
• 24 volt operation.
• Low AC voltage sense.
• Outputs Programmable for:
– Releasing Circuits or NACS

• NACs programmable for:
– Silence Inhibit
– Auto-Silence
– Strobe Synchronization
– Selective Silence (horn-strobe mute)
– Temporal or Steady Signal
– Silenceable or Non-silenceable
– Release Stage Sounder

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• Automatic battery charger with charger supervision.
• Optional Dress Panel DP-51050 (red).
• Optional Trim Ring TR-CE (red) for semi-flush mounting the cabinet.
• Optional N-CAC-5X Class A Converter Module for Outputs and IDCs.
• Optional 4XTM Municipal Box Transmitter Module.
• Optional Digital Alarm Communicators (411, 411UD, 411UDAC).
• Optional ANN-SEC card for a secondary ANN-BUS.

PROGRAMMING AND SOFTWARE:
• Custom English labels (per point) may be manually entered or selected from an internal library file.
• Programmable Abort operation.
• Three programmable Form-C relay outputs.
• Pre-programmed and custom application templates.
• Continuous fire protection during online programming at the front panel.
• Program Check automatically catches common errors not linked to any zone or input point.

USER INTERFACE:
• Integral 80-character LCD display with backlighting.
• Real-time clock/calendar with automatic daylight savings adjustments.
• ANN-Bus for connection to remote annunciators.
• Audible or silent walk test capabilities.
• Piezo sounder for alarm, trouble, and supervisory.

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Agent Release Control Panel

Designed with:

3M™ Novec™ 1230
Fire Protection Fluid

RP-2002(E)

Controls and Indicators

LED INDICATORS
• FIRE ALARM (red).
• SUPERVISORY (yellow).
• TROUBLE (yellow).
• AC POWER (green).
• ALARM SILENCED (yellow).
• DISCHARGED (red).
• PRE-DISCHARGE (red indicator).
• ABORT (yellow indicator).
CONTROL BUTTONS
• ACKNOWLEDGE.
• ALARM SILENCE.
• SYSTEM RESET (lamp test).
• DRILL.
AC Power – TB1
• RP-2002: 120 VAC, 60 Hz, 3.66 amps.
• RP-2002E: 240 VAC, 50 Hz, 2.085 amps.
• Wire size: minimum #14 AWG (2.0 mm2) with 600V insulation.
• Supervised, nonpower-limited.
Battery (sealed lead acid only) – J12:
• Maximum Charging Circuit - Normal Flat Charge: 27.6
VDC @ 1.4 amp. Supervised, nonpower-limited.
• Maximum Charger Capacity: 26 Amp Hour battery (two
18 Amp Hour batteries can be housed in the FACP cabinet.
Larger batteries require separate battery box such as the
BB-26 or NFS-LBBR).
• Minimum Battery Size: 7 Amp Hour.
Initiating Device Circuits - TB4 and TB6
• Zones 1 - 5 on TB4.
• Zone 6 on TB6.
• Supervised and power-limited circuitry.
• Style B (Class B) wiring with Style D (Class A) option.
• Normal Operating Voltage: Nominal 20 VDC.
• Alarm Current: 15 mA minimum.
• Short Circuit Current: 40 mA max.
• Maximum Loop Resistance: 100 Ohms.
• End-of-Line Resistor: 4.7K Ohms, 1/2 watt (PN 71252).
• Standby Current: 4 mA.
Refer to the Notifier Device Compatibility Document for listed
compatible devices.
Notification Appliance and Releasing Circuit(s) - TB5 and

TB7
• Four Output Circuits.
• Style Y (Class B) or Style Z (Class A) with optional converter
module.
• Special Application power.
• Supervised and power-limited circuitry.
• Normal Operating Voltage: Nominal 24 VDC.
• Maximum Signaling Current: 7.0 amps (3.0 amps maximum
per NAC).
• End-of-Line Resistor: 4.7K Ohms, 1/2 watt (PN 71252).
• Max. Wiring Voltage Drop: 2 VDC.
Refer to the Notifier Device Compatibility Document for compatible
listed devices.
Form-C Relays - Programmable - TB8
• Relay 1 (factory default programmed as Alarm Relay)
• Relay 2 (factory default programmed as fail-safe Trouble
Relay)
• Relay 3 (factory default programmed as Supervisory Relay)
• Relay Contact Ratings:
– 2 amps @ 30 VDC (resistive)
– 0.5 amps @ 30 VAC (resistive)
Auxiliary Trouble Input – J6
The Auxiliary Trouble Input is an open collector circuit which
can be used to monitor external devices for trouble conditions.
It can be connected to the trouble bus of a peripheral, such as
a power supply, which is compatible with open collector circuits.
Special Application Resettable Power - TB9
• Operating Voltage: Nominal 24 VDC.
• Maximum Available Current: 500 mA - appropriate for
powering 4-wire smoke detectors (see note).
• Power-limited Circuitry.
Refer to the Notifier Device Compatibility Document for compatible
listed devices.
NOTE: Total current for resettable power, nonresettable power and
Output Circuits must not exceed 7.0 amps.
Special Application Resettable or Nonresettable Power -
TB9
• Operating Voltage: Nominal 24 VDC.
• Maximum Available Current: 500 mA (see note 1).
• Power-limited Circuitry.
• Jumper selectable by JP31 for resettable or nonresettable
power.
Refer to the Notifier Device Compatibility Document for compatible
listed devices.

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Agent Release Control Panel

FM APPROVED UL ULC

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RP-2002(E)

Product Line Information

RP-2002: Six-zone, 24 volt Agent Release Control Panel (includes backbox, power supply, technical manual, and a frame & post operating instruction sheet) for single and dual hazard agent releasing applications.

RP-2002E: Same as above but allows connection to 220/240 VAC.

N-CAC-5X: Class A Converter Module can be used to convert the Style B (Class B) Initiating Device Circuits to Style D (Class A) and Style Y (Class B) Output Circuits to Style Z (Class A).

NOTE: Two Class A Converter modules are required to convert all four Output Circuits and six Initiating Device Circuits.

4XTM: Transmitter Module provides a supervised output for local energy municipal box transmitter and alarm and trouble reverse polarity. It includes a disable switch and disable trouble LED.

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

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

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

N-ANN-RLY (16911): Relay Module, which can be mounted inside or outside the cabinet, provides 10 programmable Form-C relays. (See DN-7107).

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

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

ANN-SEC: Optional card for a secondary ANN-BUS. See 53944.

DP-51050: Dress panel (red) is available as an option. The dress panel restricts access to the system wiring while allowing access to the membrane switch panel.

TR-CE: Trim-ring (red) is available as an option. The trim-ring allows semi-flushing mounting of the cabinet.

BB-26: Battery box, holds up to two 26 Amp Hour batteries and CHG-75.

NFS-LBBR: Battery box, houses two 55 Amp Hour batteries, red.

SEISKIT-COMMENC: Seismic mounting kit; required for seismic-certified installations.

BAT Series Batteries: Refer to DN-6933.

PRN-6: UL-listed compatible event printer. Dot-matrix, tractorfed paper, 120 VAC.

PRT-PK-CABLE: Programming cable. Used to update the FACP's flash firmware. (Also requires an RS485 to RS232 converter).

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Photoelectric Smoke Detector

Designed with:

3M™ Novec™ 1230 Fire Protection Fluid

i³ Series

General

System Sensor's i³™ Series photoelectric and photoelectric/thermal smoke detectors represent a significant advancement in conventional detection, incorporating three key features: installation ease, intelligence, and instant inspection.

Installation ease. The i³ Series redefines installation ease with its plug-in design. This allows an installer to pre-wire the bases included with the heads. The large wire-entry port and in-line terminals provide ample room for neatly routing the wiring inside the base. The base accommodates a variety of backbox mounting methods, as well as direct mounting with drywall anchors. To complete the installation, i³ Series heads plug into the base with a simple Stop-Drop 'N Lock™ action.

Intelligence. i³ Series detectors offer a number of intelligent features to simplify testing and maintenance. Drift compensation and smoothing algorithms, to minimize nuisance alarms, are standard in the i³ Series. When connected to the 2W-MOD loop test/maintenance module, an SFP-2402/-2404 panel, SFP-5UD/10UD, or RP-2001/2002 two-wire i³ detectors are capable of generating a remote maintenance signal when they need cleaning. This signal is indicated by LEDs located at the module and at the panel. To read the sensitivity of i³ detectors, the SENS-RDR is a wireless device that displays sensitivity in terms of percent-per-foot obscuration.

Instant inspection. The i³ Series provides wide-angle red and green LED indicators for instant inspection of detector condition. The LEDs indicate: normal standby, out-of-sensitivity, alarm, or freeze trouble conditions. The "EZ Walk" loop test feature is available on two-wire i³ Series detectors when connected to the 2W-MOD loop test/maintenance module. The "EZ Walk" feature verifies the initiating loop wiring by providing LED status indication at each detector.

Features

- Plug-in detector line — mounting base included.
- Large wire-entry port.
- In-line terminals with SEMS screws.
- Mounts to octagonal and single-gang backboxes, 4" (101.6 mm) square backboxes, or directly to ceiling.
- Stop-Drop 'N Lock attachment to base.
- Removable detector cover and chamber for easy cleaning.
- Built-in remote maintenance signaling.
- Drift compensation and smoothing algorithms.
- Simplified sensitivity measurement.
- Wide-angle, dual-color LED indication.
- Loop testing via "EZ Walk" feature.
- Built-in test switch.

Specifications

PHYSICAL SPECIFICATIONS

Operating Temperature Range: For models 2W-B and 4WB: 32°F to 120°F (0°C to 49°C); for thermal models 2WT-B and 4WT-B: 32°F to 100°F (0°C to 37.8°C).

Operating Humidity Range: 0% – 95% RH, non-condensing.

Thermal Sensor: 135°F (57.2°C) fixed (models 2WT-B, 4WT-B).

Freeze Trouble: 41°F (5°C) (models 2WT-B and 4WT-B).

Sensitivity: 2.5%/foot (0.762%/meter) nominal.

Input Terminals: Utilize 14 to 22 AWG wire.

Dimensions (including base): 5.3" (134.62 mm) diameter, 2.0" inches (50.8 mm) high.

Weight: 6.3 oz. (178.6 grams).

Mounting Options: 3.5" (88.9 mm) octagonal backbox; 4"

(101.6 mm) octagonal backbox; single-gang backbox; 4"

(101.6 mm) square backbox with a plaster ring; or direct mount to ceiling.

ELECTRICAL SPECIFICATIONS

Operating Voltage: 12/24 V non-polarized nominal; 8.5 V minimum; 35 V maximum.

Maximum Alarm Current: For two-wire models: 130 mA limited by control panel; For four-wire models: 20 mA @ 12 V, 23 mA @ 24 V.

Alarm Contact Ratings: For four-wire models: 0.5 A @ 30 VAC/VDC; not applicable for two-wire models.

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Photoelectric Smoke Detector

Designed with:

3M™ Novec™ 1230
Fire Protection Fluid

i³ Series

Agency Listings and Approvals

In some cases, certain modules may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.
• UL: S911
• FM approved
• CSFM: 7272-1653:152
• MEA: 290-01-E
• Maryaldn State Fire Marshal: Permit # 2093

LED Modes	Green LED	Red LED
Power Up	Blink every 10 seconds	Blink every 10 seconds
Normal (Standby)	Blink every 5 seconds	OFF
Out of Sensitivity	OFF	Blink every 5 seconds
Freeze Trouble	OFF	Blink every 10 seconds
Alarm	OFF	Solid ON
Power up Sequence for LED Indication		
Condition	Duration	
Initial LED Status Indication	80 Seconds	

Architectural/EngineeringSpecifications

Smoke detector shall be a System Sensor i³ Series model number _____, Listed to Underwriters Laboratories UL 268 Fire Protection Signaling Systems. The detector shall be a photoelectric type (models 2W-B, 4W-B) or a combination photoelectric/thermal (models 2WT-B, 4WT-B) with thermal sensor rated at 135°F (57.2°C). The detector shall include a mounting base for mounting to 3.5" (88.9 mm) and 4" (101.6 mm) octagonal, single-gang, and 4" (101.6 mm) square backboxes with a plaster ring, or directly mount to the ceiling using drywall anchors. Wiring connections shall be made by means of SEMS screws. The detector shall allow pre-wiring of the baseand the head shall be a plug-in type. The detector shall have a nominal sensitivity of 2.5%/foot (0.762%/meter) as measured in the UL smoke box. The detector shall be capable of automaticallyadjusting its sensitivity by means of drift compensation and smoothing algorithms. The detector shall provide dual-color LED indication which blinks to indicate power-up, normal standby, out-of-sensitivity, alarm, and freeze trouble (models 2WT-B, 4WT-B) conditions. When used in conjunction with the 2W-MOD module, two-wire moduels shall include a maintenance signal to indicate the need for maintenance at the alarm control panel, and shall provide a loop testing capability to verify the circuit without testing each detector individually.

Product Line Information

2W-B: Two-wire photoelectric smoke detector.
C2W-BA: Same as 2W-B, ULC listing.
2WT-B: Two-wire photoelectric smoke detector with 135°F
(57.2°C) fixed thermal sensor.
C2WT-BA: Same as 2WT-B, ULC listing.
4W-B: Four-wire photoelectric smoke detector.
C4W-BA: Same as 4W-B, ULC listing.
4WT-B: Four-wire photoelectric smoke detector with 135°F
(57.2°C) fixed thermal sensor.
C4WT-BA: Same as 4WT-B, ULC listing.
ACCESSORIES:
2W-MOD2: Two-wire loop test/maintenance module.
SENS-RDR: Sensitivity reader.
A77-AB2: Retrofit adapter bracket, 6.6" (167.7cm) diameter.

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Dual Action Agent Release Station

Designed with:

3M™ Novec™ 1230 Fire Protection Fluid

NBG-12LR

General

The NBG-12LR is an Agent Release Station designed for use with Notifier Fire Alarm Control Panels with releasing capabilities and RP Series Releasing Systems.

Features

- Non-Coded, dual action operation
- Made with durable polycarbonate
- Optional surface backbox

Applications

The NBG-12LR is ideal for areas such as clean rooms and computer rooms where a chemical agent is used to extinguish a fire.

Product Line Information

NBG-12LRA: Agent Release station with abort swtich, release LED, Normal LED
NBG-12LR: Dual action agent release station
SBA-10: Surface backbox for NBG-12LRA
SB-10: Surface backbox for NBG-12LR

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Designed with:

**3M™ Novec™ 1230
Fire Protection Fluid**

General

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

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

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

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

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

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

Indoor Ceiling Horn/Strobe

Outdoor Ceiling Strobe

Indoor Wall Horn/Strobe

Indoor Ceiling Strobe

Indoor Wall Horn

Outdoor Wall Strobe

Features
• Plug-in design.
• Same mounting plate for wall- and ceiling-mount units.
• Shorting spring on mounting plate for continuity check before installation.
• Captive mounting screw.
• Tamper-resistance capability.
• Field-selectable candela settings on wall and ceiling units: 15, 15/75, 30, 75, 95, 110, 115, 135, 150, 177, 185.
• Automatic selection of 12 or 24 volt operation at 15 and 15/75 candela.
• Outdoor wall and ceiling products.
• Outdoor products rated from –40°F and 151°F (–40°C and 66°C).
• Outdoor products rainproof per UL50 (NEMA 3R) and weatherproof per NEMA 4X, IP56
• Minimal intrusion into the backbox.
• Horn rated at 88+ dbA at 16 volts.
• Rotary switch for tone selection.
• Three horn volume settings.
• Electrically compatible with existing SpectrAlert products.

Agency Listings and Approvals

The listings and approvals below apply to SpectrAlert Advance Selectable Output Notification Devices. In some cases, certain modules may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.
• UL Listed: S4011; S5512; S3593.
• ULC Listed: S4011; S5512
• FM approved
• MEA: 452-05-E
• CSFM: 7125-1653:0186; 7300-1653:0188; 7135-1653:0189; 7300-1653:0187.

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Engineering Specifications

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

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

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

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

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

Operating Specifications
• Standard operating temperature: 32°F to 120°F (0°C to 49°C).
• K Series operating temperature: –40°F to 151°F (–40°C to 66°C).
• Humidity range: 10% to 93% non-condensing (indoor products).
• Strobe flash rate: 1 flash per second.
• Nominal voltage: regulated 12 VDC/FWR or regulated 24 VDC/FWR. NOTE: Full Wave Rectified (FWR) voltage is a non-regulated, time-varying power source that is used on some power supply and panel outputs.
• Operating voltage range: 8 V to 17.5 V (12 V nominal); or 16 V to 33 V (24 V nominal). NOTE: P, S, PC, and SC products will operate at 12 V nominal only for 15 cd and 15/75 cd.
• Input terminal wire gauge: 12 to 18 AWG (3.31 to 0.821 mm²).
• Ceiling-mount dimensions (including lens): 6.8" diameter x 2.5" deep (17.3 cm diameter x 6.4 cm deep).
• Wall-mount dimensions (including lens): 5.6" H x 4.7" W x 2.5" D (14.2 cm H x 11.9 cm W x 6.4 cm D).
• Horn dimensions: 5.6" H x 4.7" W x 1.3" D (14.2 cm H x 11.9 cm W x 3.3 cm D).