



Harnett
COUNTY
NORTH CAROLINA



Emergency Services Department

www.harnett.org

Plan Review, Inspection and Permit Fees

Application Number **08-50020908**

\$100.00	☐	Explosive Materials (90 Days)
\$ 35.00	☐	Explosive Materials (48 Hrs)
\$ 25.00	☐	Fireworks Public Display
\$ 20.00	☐	Final Inspection
\$ 25.00	☒	Fire Alarm Testing
\$ 25.00	☐	Fixed Fire Suppression
\$ 10.00	☐	Insecticide Fog/Fumigation
\$ 50.00	☐	Testing of Pipes/UST/AGST
\$ 50.00	☐	Plans up to 5000 ft ²
\$100.00	☐	Plans 5001 ft ² to 10,000 ft ²
\$150.00	☐	Plans 10,001 ft ² to 25,000 ft ²
\$250.00	☐	Plans 25,001 ft ² and over
\$ 25.00	☐	Sprinkler Certification Test
\$ 25.00	☐	Standpipe Testing
\$ 25.00	☐	Special Assembly
\$ 10.00	☐	Temporary Kiosks/Displays
\$ 10.00	☐	Tents greater than 700 ft ²
\$ 50.00	☐	Tank Installation (charge for each tank)
\$ 50.00	☐	Tank Removal (charge for each tank)

\$ 25.00

Total

Michael L. Martin *MLM*
Code Enforcement Official

September 3, 2009
Date



Harnett
COUNTY
NORTH CAROLINA



Emergency Services Department

www.harnett.org

September 3, 2009

Southeastern Video and Security
1314 NC Hwy 210 South
Roseboro, NC 28382

Lillypad's Childhood Development Center
5920 US 401 North
Lillington, NC 27546

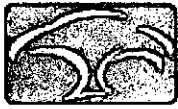
Application Number 08-50020908

Mr. Pollard;

Thank you for submitting the fire alarm plans for the daycare. The plans have been carefully reviewed by a qualified code enforcement official to examine for full compliance with the North Carolina Fire Prevention Code and all other fire protection regulatory documents. There are some items that were found during the plan review process that need to be addressed before a final inspection of the new facility can be given. These items are outlined and described below.

- **907.1.2 Fire Alarm Equipment**
 - Systems and their components shall be listed and approved for the purpose for which they are installed.

- **907.17 Acceptance tests.**
 - Upon completion of the installation of the fire alarm system, alarm notification appliances and circuits, alarm-initiating devices and circuits, supervisory-signal initiating devices and circuits, signaling line circuits, and primary and secondary power supplies shall be tested in accordance with NFPA 72
 - 100 % testing of devices



Harnett
COUNTY
NORTH CAROLINA



Emergency Services Department

www.harnett.org

- **907.18 Record of completion.**
 - A record of completion in accordance with NFPA 72 verifying that the system has been installed in accordance with the approved plans and specifications shall be provided

Thank you again for submitting fire alarm plans for the daycare. Please review the plans and adhere to any notes and alterations that were made in addition to the original drawings. These remarks are for the plans that were submitted and its original intent. These remarks do not apply if the original intent changes or what was submitted on the above date changes. If you have any questions, please do not hesitate to call this office.

Again, thank you and we look forward to working with you during the construction period!

Sincerely,

Michael L. Martin
Deputy Fire Marshal

Harnett County

Office of the Fire Marshal
P.O. Box 370
Lillington, N.C. 27546
(910)-893-7580

Permit Certificate

Business Name: LILLYPADS CHILD DEVELOPMENT CENTER

Address: 5920 N US 401
LILLINGTON, NC 27546

Phone:

The following permit has been issued:

Permit No. 0900056

Type: 045 Fire Alarm Test

Issued Date: 09/03/2009
Effective Date: 09/03/2009
Expiration Date: 12/31/2010

This permit certificate has been issued for [☒] construction / [☐] operational purposes located at the above business location. This permit has been issued and will be enforced in accordance with section 105 of the N.C. State Fire Prevention Code. Please contact our office for any further questions regarding this permit.

Inspector:  Michael (30) L Martin

9/3/09
Date



Harnett
COUNTY
NORTH CAROLINA



Emergency Services Department

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Plan Review, Inspection and Permit Fees

Application Number **08- 50020908**

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\$150.00	☐	Plans 10,001 ft ² to 25,000 ft ²
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\$ 25.00	☐	Sprinkler Certification Test
\$ 25.00	☐	Standpipe Testing
\$ 25.00	☐	Special Assembly
\$ 10.00	☐	Temporary Kiosks/Displays
\$ 10.00	☐	Tents greater than 700 ft ²
\$ 50.00	☐	Tank Installation (charge for each tank)
\$ 50.00	☐	Tank Removal (charge for each tank)

\$ 120.00 Total

Michael L. Martin
Code Enforcement Official

10/17/08
Date



Harnett
COUNTY
NORTH CAROLINA



Emergency Services Department

www.harnett.org

200 N. 13th Street
Suite 19
Erwin, NC 28339

Mailing Address:
PO Box 370
Lillington, NC 27546

ph: 910-893-7580
fax: 910-893-5025

October 16, 2008

Robert Naylor
289 Straw Pond School Road
Newton Grove, NC 28366

Lilypads Child Development Center
US 401 North
Lillington, NC 27546

Application Number 08-50020908

Mr. Naylor,

Thank you for submitting the plans for the daycare. The plans have been carefully reviewed by a qualified code enforcement official to examine for full compliance with the North Carolina Fire Prevention Code and all other fire protection regulatory documents. There are some items that were found during the plan review process that need to be addressed before a final inspection of the new facility can be given. These items are outlined and described below.

- **906.1 Fire Extinguishers**

- Fire extinguishers shall be placed in approved locations as drawn by the code enforcement official on the approved plans on FP-1.
- The fire extinguishers provided shall have a minimum rating of 2A 10B: C and shall not be installed higher than 5 feet above the finished floor.

- **Fire Department Access**

- The fire department access shall extend to within 150 feet of all portions of the facility.
- The fire department access road shall be of an unobstructed width of not less than 20 feet and shall have an unobstructed vertical clearance of not less the 13 feet 6 inches.

- **506.1 Knox Box**

- A secure key box shall be installed on the new building that houses all keys to all the doors within the building in which the fire department would need access to in the event of an emergency.
- Knox Box ID stickers shall be placed on all exterior doors in which entry to the building may be gained.
- The box shall be mounted not to exceed 48 – 60 inches in height.
- An authorized order form is included with this letter (Choose any of the 3200 Series listed on the back of the order form).
- The Knox Box can also house keys to other buildings located on the same campus.

- **703.1 Maintenance of Fire Assemblies**

- The required fire-resistance rating of fire-resistance-rated construction (including walls, fire stops, shaft enclosures, partitions and floors) shall be maintained. Such elements shall be properly repaired, restored or replaced when damaged, altered, breached or penetrated. Openings made therein for the passage of pipes, electrical conduit, wires, ducts, air transfer openings, and holes made for any reason shall be protected with approved methods capable of resisting the passage of smoke and fire. Openings through fire-resistance-rated assemblies shall be protected by self-closing or automatic-closing doors of approved construction meeting the fire protection requirements for the assembly
- Future penetrations to be sealed with some type of removable fire stop.

- **505.1 Physical Address**

- The physical address of the building shall be posted in a conspicuous place so that it can be seen on approach from the road, access road, and/or parking lot.
- The numbers used to make up the physical address shall be at least 5 inches in height.

- **907.12 Duct Detectors**

- Duct smoke detectors shall be connected to the building's fire alarm control panel when a fire alarm system is provided. Activation of a duct smoke detector shall initiate a visible and audible supervisory signal at a constantly attended location. Duct smoke detectors shall not be used as a substitute for required open area detection.

3

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Fire Marshal / Permits Management	
Mailing: P. O. Box 370 Lillington, NC 27546 Physical: 200 North 13th Street, Suite 19 Erwin, NC 28339	910-893-7580 910-893-5025

APPLICATION FOR PLAN REVIEW

APPLICATION NUMBER: 28 . 500 20708
TODAY'S DATE: 10.8.08 RECEIVED BY: d/dunson
SUBMITTED BY: Robert Naylor
NAME OF PROJECT: Lillypads Child Development Center
PHYSICAL ADDRESS: 401 N. Lillington (911 Address not assigned yet.)
PHONE NUMBER: 910-249-2258/ EXT.: —
CONTACT PERSON: Robert Naylor
MAILING ADDRESS: 289 Straw Pond School Road / Newton Grove, N.C. 28366
PHONE NUMBER: 910-567-2296
CONTRACTOR'S NAME: Robert Naylor
MAILING ADDRESS: SAME AS ABOVE
PHONE NUMBER: 910-567-2296

NOTICE

PLANS THAT ARE SUBMITTED WILL BE REVIEWED AS QUICKLY AS POSSIBLE, WITH AN AVERAGE TIME OF REVIEW BETWEEN 7 - 10 WORKING DAYS.

Fire Marshal/Emergency Management

Mailing: P. O. Box 370 Lillington, NC 27546
Physical: 200 North 13th Street, Suite 19
Erwin, NC 28339

910-893-7580
910-893-5025

APPLICATION FOR PLAN REVIEW

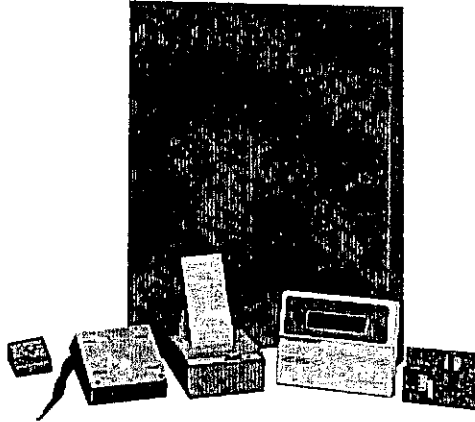
APPLICATION NUMBER: 08-500 20908
TODAY'S DATE: 7-31-09 RECEIVED BY: V.C. [Signature]
SUBMITTED BY: Keith Pollard
NAME OF PROJECT: Lillypad's Childhood Development Center
PHYSICAL ADDRESS: Hwy 401 N., Lillington, NC
PHONE NUMBER: _____ EXT.: _____
CONTACT PERSON: Robert Naylor
MAILING ADDRESS: _____
PHONE NUMBER: (910) 249-2258
CONTRACTOR'S NAME: Southeastern Video & Security
MAILING ADDRESS: 13134 NC Hwy 210 S. Roseboro, NC 28382
PHONE NUMBER: (910) 531-4233 Cell (910) 818-0127

NOTICE

PLANS THAT ARE SUBMITTED WILL BE REVIEWED AS QUICKLY AS POSSIBLE, WITH AN AVERAGE TIME OF REVIEW BETWEEN 7 - 10 WORKING DAYS.

VISTA-128FB/V128FB-24

COMMERCIAL FIRE AND
PARTITIONED ALARM PLATFORM



Designed to integrate seamlessly with CCTV, access control and Honeywell's full range of fire and burglary components, the VISTA-128FB provides the ultimate protection of life and property. The UL listed Commercial Fire and Burglary Control Platform controls up to eight partitions and supports up to 128 zones/points using hardwired, wireless and addressable V-Plex® technologies.

A diverse line of Honeywell initiating devices, notification circuits, digital dialers, keypads, RF receivers and relays support this extremely powerful control platform.

The VISTA-128FB has been designed to mount quickly and easily in an attack resistant cabinet and is available in 12V and 24V models.

FEATURES

- Supports addressable V-Plex access control points using VistaKey (1 to 8 doors)
- Supports up to 15 doors of access control using Vista Gateway Module (VGM)*
- Supports CCTV applications with the new VistaView-100 CCTV switcher module
- Identifies the point or zone of a fire or alarm, using the new FSA-8/ FSA-24 Fire system annunciator
- Stores up to 512 events and can accommodate 150 user codes
- New E2 software simplifies programming
- Easily programmed and maintained with newly upgraded Compass Downloader software
- Eight hardwired zones standard, expandable to 120 V-Plex addressable points/zones or 128 wireless points/zones
- Can control eight separate areas independently (8 partitions)
- Two on-board notification (bell) circuits delivering 2.3A @ 12V or 3.4 amp @ 24V
- Automatic smoke detector sensitivity maintenance testing

* Connects to Honeywell's Passpoint Access Control Systems. Maximum 32 doors.

VISTA-128FB/V128FB-24

COMMERCIAL FIRE AND PARTITIONED ALARM PLATFORM

Honeywell

SPECIFICATIONS:

• Cabinet dimensions

- 18"H X 14.5"W X 4.3"D

• Environmental

- Storage temp: -14°F to 158°F (-10°C to 70°C)
- Operating temp: -32°F to 122°F (0°C to 50°C)
- Humidity: 85% RH

• EMI

Meets or exceeds the following requirements:

- FCC Part 15, Class B Device
- FCC Part 68
- IEC EMC Directive

• Agency Listings

Burglary

- UL609 Grade A Local Mercantile Premises and
- Mercantile Safe and Vault
- UL611/1610 Grades A, AA, Central Station
- UL365 Grades A, AA Police Connect

• Fire

- UL864 FPA72 Local, Central Station and Remote Station
- Factory Mutual
- California State Fire Marshal
- MEA
- UL985

• Additional Features

- Notification Appliance Circuits (two)
 - Programmable
 - Temporal code compliant
 - Individually silenceable
- Programmable on-board auxiliary relay
 - SIA false alarm reduction features:
 - Exit Error Logic
 - Exit Delay Reset
 - Cross Zoning
 - Call Waiting Defeat
 - Recent Close Report

- Supports commercial hardwired, addressable V-Plex polling loop and wireless zones

- Hardwired zones:

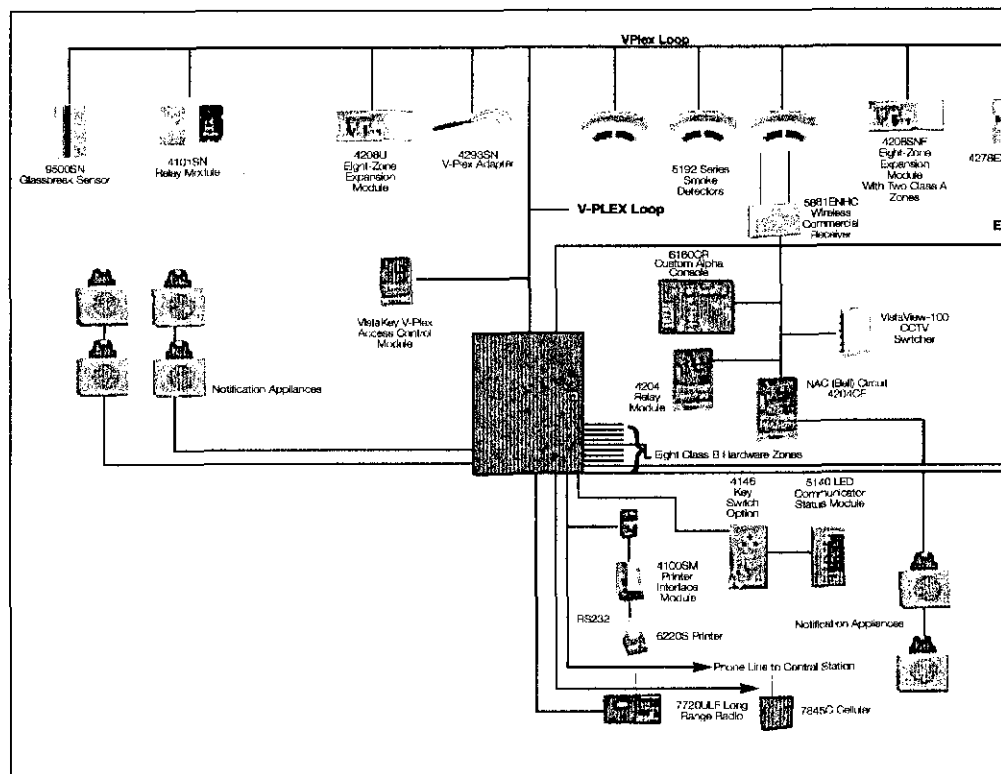
- Provides nine style B hardwired zones
- EOLR supervised for Fire and UL burglary installations
- Supports N.O or N.C. sensors
- Individually assignable to one or all eight partitions
- Up to 16 two-wire smoke detectors each zone 1 and 2 (32 total)
- Up to 50 two-wire glass break detectors on zone eight

- Patented addressable V-Plex polling loopV-Plex technology:

- Supports up to 120 two-wire zones/points
- Global polling technology for faster processing

- Increased current draw capacity (128mA)
- Supervised by panel
- Individually assignable to partitions, notification circuit (bell) output or aux relay
- 4,000 ft capability without the use of shielded cable
- Extender/Isolation bus module
- Two-wire smoke detector zone/group expansion module adds two or four zones
- Eight zone - Class A and B Extender Module
- One zone supervised Contact Monitor Module

- UL Listed wireless expansion
- Supports up to 128 wireless zones using 5881 Receiver
- Supervised by control for check-in signals



VISTA-128FB/V128FB-24

COMMERCIAL FIRE AND PARTITIONED ALARM PLATFORM

SPECIFICATIONS:

- **Auxiliary devices**

- 6160CR Alpha Keypad
Commercial Fire
- 6139R - Red Alpha
Keypad/Annunciator
- FSA-8 & FSA-24 Fire System
Annunciator
- 4204 - Relay Module, four form C
contacts
- 4204CF - Two supervised output
circuits
- 6220S - System printer used with
4100SM Serial Interface Module
- 5140DLM, FSA-8, FSA-24,
FSAKSM Fire Annunciator

- **Two-wire and four-wire smoke detectors conventional**

- System Sensor smoke detectors

- **Horn/Strobes**

- System Sensor notification appliances

- **Manual pull stations**

- 5140MPS-1
- 5140MPS-2

- **V-Plex (addressable) devices**

- 4101SN Single Relay/Zone Module
- 4190SN Remote Point Module -
two zones
- 4190WH Two Point Multiplex RPM
- 4193SN Two Zone Serial Interface
Module
- 4208U Loop Expansion Module -
eight zones
- 4208SNF Class A/13 Expander
Module

- 4209U Group Zoning Module -
two/four zones
- 4293SN One Zone Serial Interface
Module
- 4297 Isolation/Extender Module

- **V-Plex (addressable) smoke detectors**

- 5192SD
- 5192SDT

- **Passive infrared detectors**

- 998MX
- 4275EX-SN
- 4278EX-SN
- Quest 2260SN

- **V-Plex (addressable) contacts**

- 4939SN-WH
- 4944SN-WH
- 4959SN

- **Glassbreak detectors**

- 9500SN

- **VISTA Interactive Phone Module**

- 4286 Voice Module

- **Optional 24V power supply**

- PS24 - 24V power supply - 3.4A

- **Long range radio**

- Long range radio 7720ULF-XX,
7845C, 7835CFPK

- **Upgraded software**

- Upgraded Compass Downloader
Windows compatible

- **Wireless devices**

- 5804 - Wireless Key
- 5804BD - Bi-Directional Key
- 5804BDV - Bi-Directional with voice
- 5816 - Door/Window Transmitter
- 5819 - Shock Sensor
- 5827BD - Bi-Directional Keypad
- 5849 - Glassbreak Detector
- 5881 Series - RF Receiver
supporting 5800 wireless detectors
- 5890 - PIR

- **Access control**

- VistaKey V-Plex (addressable)
Access Control
- VistaKey-SK Starter Kit
- VistaKey-EX Expansion Kit
- VGM Vista Gateway Module to
PassPoint Access Control
(Honeywell Access Systems)

- **CCTV**

- VistaView-100-CCTV Switch
Module

- **Commercial wireless devices**

- 5869 - Hold up Transmitter
- 5817CB - Wireless Commercial
Transmitter
- 5881ENHC - Commercial
Fire/Burg Receiver
- 5808W3 - Wireless Smoke Detector
- 5809 - Wireless Heat Detector

ORDERING

VISTA-128FB	Commercial Fire and Partitioned Burglary Alarm Platform 12V Model
V128FB-24	Commercial Fire and Partitioned Burglary Alarm Platform 24V Model

For more information: www.honeywell.com/security/hsc

Automation and Control Solutions

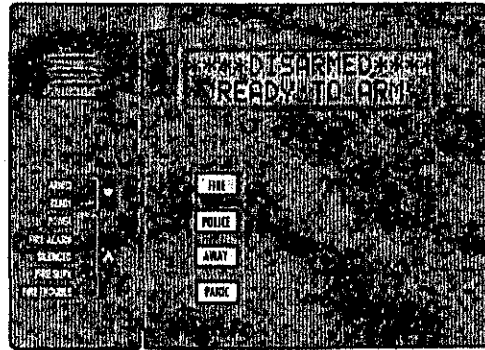
Honeywell Security & Communications
2 Corporate Center Dr. Suite 100
Melville, NY 11747
1.800.467.5875
www.honeywell.com

Honeywell

L/VIS128FB/D
May 2009
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6160CR

COMMERCIAL FIRE ALPHA KEYPAD



The 6160CR is an addressable remote keypad intended for use in commercial fire applications with Honeywell's control platforms. The keys are continuously backlit for convenience and easy visibility. The LCD display is backlit

only when a key is depressed*, or when the system is in alarm or trouble condition.

* Note: On some platforms, the LCD may be programmed to remain on at all times (see panel instructions for details).

FEATURES

- Four programmable function keys
- Built-in sounder
- Four LEDs
 - Armed
 - Ready
 - Trouble
 - Supervisory
- Large easy-to-read display
- Red removable door
- Physical
 - 5.250" W x 7.437" H x 1.312" D

SPECIFICATIONS

Display

- Alphanumeric, 32-character (2 lines x 16 characters)
- LCD back light LEDs:
 - Armed (red)
 - Ready (green)
 - *Trouble (yellow)
 - *Supervisory (yellow)

* See control panel's instructions for specific applications regarding Trouble and Supervisory LEDs.

Sounder

- High-quality speaker

Electrical

- 45mA standby 150mA in alarm (sounder, back light and LED on)

Wiring Table (All keypads)

DI	"Data IN" to control panel from keypad
-	Ground (-aux. Power)
+	+12VDC (+aux. Power)
DO	"Data OUT" from control panel to keypad

Compatibility

- Supports Control Platforms
 - VISTA-32FB Rev. 3 and higher
 - VISTA-128FB Rev. 4 and higher
 - VISTA-128FBP
 - VISTA-250FBP
 - V128FBP-24
 - V250FBP-24

UL/CUL Listed for Residential and Commercial Fire and Burg installations. To be employed with manufacturer's listed control units as indicated in the installation instructions.

ORDERING

6160CR

Commercial Fire Alpha Keypad

Automation and Control Solutions

Honeywell Security & Communications
2 Corporate Center Dr. Suite 100
P.O. Box 9040
Melville, NY 11747
www.honeywell.com

Honeywell

L/6160CR/D
October 2008
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www.firelite.com

July 8, 2004

DF-52301 • D-025

FCPS-24FS6 24 Volt, 6 Amp Remote Power Supply

Section: Power Supplies/Accessories

GENERAL

The **FCPS-24FS6** is a compact, cost-effective, 6-amp remote power supply with battery charger. The FCPS-24FS6 may be connected to any 12- or 24-volt Fire Alarm Control Panel (FACP) or may stand alone. Primary applications include Notification Appliance (bell) Circuit (NAC) expansion (to support ADA requirements and NAC synchronization) or auxiliary power to support 24-volt system accessories. The FCPS-24FS6 provides *regulated* and *filtered* 24 VDC power to four Notification Appliance Circuits configured as either four Class B (Style Y) or Class A (Style A, with ZNAC-4 option module). Alternately, the four outputs may be configured as all non-resettable or all resettable or two non-resettable and two resettable. The FCPS-24FS6 also contains a battery charger capable of charging up to 18 Amp Hour batteries.

FEATURES

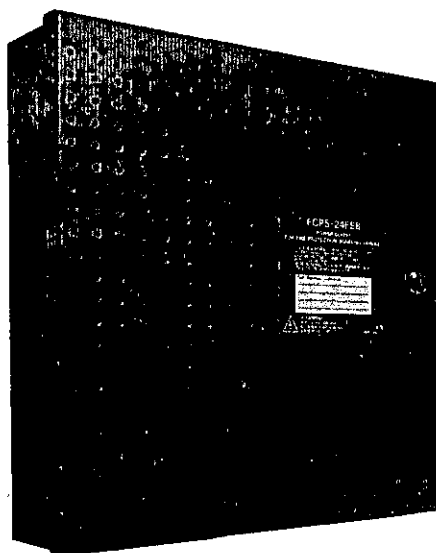
- UL Listed NAC Synchronization using System Sensor, Wheelock or Gentex (Commander Series) appliances.
- Cascadable up to 10 power supplies (four with Gentex) with strobe timing maintained.
- Operates as a sync follower or a sync generator (default).
* See note on reverse side.
- Contains two, fully-isolated input/control circuits (triggered from FACP Notification Appliance Circuit [NAC expander mode] or jumpered permanently on [stand-alone mode]).
- Optional mounting kit, P/N 90286, to internally house addressable SLC control module (CRF-300 or CMF-300) for alarm activation.
- Four Class B (Style Y) or four Class A (Style Z) (with ZNAC-4 Module) Notification Appliance Circuits.
- 6.0 A full load output (3.0 A maximum per circuit) in NAC expander mode (UL 864).
- 4.0 A continuous output in stand-alone mode (UL 1481).
- In stand-alone mode, output power circuits may be configured as resettable (reset line from FACP required) or non-resettable or a mix of two and two.
- Fully *regulated* and *filtered* power output (optimal for powering four-wire smoke detectors, annunciators and other system peripherals requiring regulated/filtered power).
- Power-limiting technology meets UL power-limiting requirements.
- Form-C normally-closed trouble relay.
- Fully supervised power supply, battery and Notification Appliance Circuits.
- Selectable earth fault detection.
- AC trouble report selectable for immediate or 8 hour delay.
- Works with virtually any UL 864 fire alarm control which utilizes an industry-standard reverse-polarity notification circuit (including unfiltered and unregulated bell power).
- Requires input trigger voltage of 9.0 - 32 VDC.
- Self-contained in compact, lockable cabinet (15" [38.1 cm] H x 14.5" [36.8 cm] W x 2.75" [7.0 cm] D).
- Includes integral battery charger capable of charging up to 18 AH batteries. Cabinet capable of housing 7.0 AH batteries.
- Battery charger may be disabled via dip switch for applications requiring larger batteries.
- Fixed, clamp-type terminal blocks accommodate up to 12 AWG (3.1 mm²) wire.



California
State Fire
Marshal
7315-0075:206

MEA

219-02-E



Fire-Lite® Alarms is a Honeywell company.

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.

For more information, contact Fire-Lite Alarms, One Fire-Lite Place, Northford, Connecticut 06472. Phone: (800) 627-3473, Toll-Free FAX: (877) 699-4105.

ISO 9001
CERTIFIED
ENGINEERING & MANUFACTURING
QUALITY SYSTEMS

STANDARDS and CODES

The FCPS-24FS6 complies with the following standards:

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

SPECIFICATIONS

Primary (AC) Power

- FCPS-24FS6: 120 VAC 60 Hz, 3.2 A maximum
- Wire size: minimum 14 AWG (2.0 mm²) with 600V insulation.

Control Input Circuit

- Trigger Input Voltage: 9.0 to 32 VDC.
- Trigger Current: 2.0 mA (16 - 32 V).
(per input) 1.0 mA (9 - 16 V).

Trouble Contact Rating

- 5.0 A at 24 VDC.

Auxiliary Power Output

- Specific Application Power - 500 mA maximum.

Output Circuits

- +24 VDC filtered, regulated.
- 3.0 A maximum for any one circuit.
- 4.0 A maximum total continuous current for all outputs (Stand-alone mode).
- 6.0 A maximum total short-term current for all outputs (NAC Expander mode).

Secondary Power (Battery) Charging Circuit

- Supports lead-acid batteries only.
- Float Charge Voltage: 27.6VDC.
- Maximum Charge Current: 1.5 A.
- Maximum Battery Capacity: 18 AH.

ORDERING INFORMATION

FCPS-24FS6 Remote charger power supply (120 VAC). Includes main printed circuit board, transformers, red enclosure, and installation instructions.

FCPS-2456RB Replacement mother board.

PN 90286 FCPS-24F Module Mounting Kit

ZNAC-4 Class A (Style Z) NAC option module

A77-716B 12/24 VDC end-of-line relay for monitoring 4-wire smoke detector power.

BAT-1270 Battery, 12 volt, 7.0 AH (two required).

APPLICATIONS

Example 1

Expand notification appliance power an additional 6.0 amps. Use up to 4 Class B (Style Y) outputs or 4 Class A (Style Z) outputs (using the ZNAC-4).

In this example, the FACP notification appliance circuits will activate the FCPS-24FS6 when reverse polarity activation occurs. Trouble conditions on the FCPS-24FS6 are sensed by the FACP through the Notification Appliance Circuit.

Example 2

Use the FCPS-24FS6 to expand auxiliary regulated 24 volt system power up to 4 amps. Both non-resettable and resettable power options are available.

Resettable outputs are created by connecting the resettable output from the FACP to one or both of the FCPS-24FS6 inputs.

Example 3

Use addressable control modules to activate the FCPS-24FS6 versus the FACP Notification Appliance Circuits. This typically allows for mounting the FCPS-24FS6 at greater distances* away from the FACP while expanding system architecture in various applications.

In this example, an addressable control module is used to activate the FCPS-24FS6 and an addressable monitor module is used to sense FCPS-24FS6 trouble conditions. Local auxiliary power output from the FCPS-24FS6 provides power to the addressable control module.

*Fire-Lite's MS-9200, MS-9200UD, (198-point) or MS-9600 (636-point) addressable FACP's have the capability of locating control and monitor modules up to 10,000 feet (3048 m) away.

Sync Follower/Generator Note: In some installations, it is necessary to synchronize the flash timing of all strobes in the system for ADA compliance. Strobes accomplish this by monitoring very short timing pulses on the NAC power, which are created by a Fire Alarm Control Panel such as the Fire-Lite MS-9600. When installed at the end of a MS-9600 NAC wire run, this power supply can track (i.e. "follow") the strobe synchronization timing pulses on the existing NAC wire run. This maintains the overall system flash timing of the additional strobes attached to this power supply.

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

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

BG-12 Series

Manual Fire Alarm Pull Stations



Conventional Initiating Devices

General

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

The BG-12 Series provides Fire-Lite Alarm Control Panels (FACPs), as well as other manufacturers' controls, with a manual alarm initiating input signal. Its innovative design, durable construction, and multiple mounting options make the BG-12 Series simple to install, maintain, and operate.

Features

- Aesthetically pleasing, highly visible design and color.
- Attractive contoured shape and light textured finish.
- Meets ADA 5 lb. maximum pull-force.
- Meets UL 38, Standard for Manually Actuated Signaling Boxes.
- Easily operated (single- or dual-action), yet designed to prevent false alarms when bumped, shaken, or jarred.
- PUSH IN/PULL DOWN handle latches in the down position to clearly indicate the station has been operated.
- The word "ACTIVATED" appears on top of the handle in bright yellow, further indicating operation of the station.
- Operation handle features white arrows showing basic operation direction for non-English-speaking persons.
- Braille text included on finger-hold area of operation handle and across top of handle.
- Multiple hex- and key-lock models available.
- U.S. patented hex-lock needs only a quarter-turn to lock/unlock.
- Station can be opened for inspection and maintenance without initiating an alarm.
- Product ID label viewable by simply opening the cover; label is made of a durable long-life material.
- The words "NORMAL" and "ACTIVATED" are molded into the plastic adjacent to the alarm switch (located inside).
- Four-position terminal strip molded into backplate.
- Terminal strip includes Phillips combination-head captive 8/32 screws for easy connection to Initiating Device Circuit (IDC).
- Terminal screws backed-out at factory and shipped ready to accept field wiring (up to 12 AWG/3.1 mm²).
- Terminal numbers are molded into the backplate, eliminating the need for labels.
- Switch contacts are normally open.
- Can be surface-mounted (with **SB-10** or **SB-1/O**) or semi-flush mounted. Semi-flush mount to a standard single-gang, double-gang, or 4" (10.16 cm) square electrical box.
- Backplate is large enough to overlap a single-gang backbox cutout by 1/2" (1.27 cm).
- Optional trim ring (**BG12TR**).
- Spanish versions (**FUEGO**) available (**BG-12LSP**, **BG-12LPSP**).
- Designed to replace the Fire-Lite legacy **BG-10** Series.
- Models packaged in attractive, clear plastic (PVC), clam-shell-style, Point-of-Purchase packages. Packaging includes a cutaway dust/paint cover in shape of pull station.



Construction

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

Operation

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

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

Specifications

PHYSICAL SPECIFICATIONS:

	pull station	SB-I/O	SB-10
Height	5.5 inches (13.97 cm)	5.801 inches (14.23 cm)	5.5 inches (13.97 cm)
Width	4.121 inches (10.47 cm)	4.222 inches (10.72 cm)	4.121 inches (10.47 cm)
Depth	1.39 inches (3.53 cm)	1.439 inches (3.66 cm)	1.375 inches (3.49 cm)

52004dim.tbl

ELECTRICAL SPECIFICATIONS:

Switch contact ratings: gold-plated; rating 0.25 A @ 30 VAC or VDC.

ENGINEERING/ARCHITECTURAL SPECIFICATIONS

Manual Fire Alarm Stations shall be non-code, with a key- or hex-operated reset lock in order that they may be tested, and so designed that after actual Emergency Operation, they cannot be restored to normal except by use of a key or hex. An operated station shall automatically condition itself so as to be visually detected as activated. Manual stations shall be constructed of red colored LEXAN (or polycarbonate equivalent) with clearly visible operating instructions provided on the cover. The word **FIRE** shall appear on the front of the stations in white letters, 1.00 inches (2.54 cm) or larger. Stations shall be suitable for surface mounting on matching backbox SB-10 or SB-I/O; or semi-flush mounting on a standard single-gang, double-gang, or 4" (10.16 cm) square electrical box, and shall be installed within the limits defined by the Americans with Disabilities Act (ADA) or per national/local requirements. Manual Stations shall be Underwriters Laboratories listed.

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



Agency Listings and Approvals

The listings and approvals below apply to the BG-12 Series pull stations. In some cases, certain modules may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- **C(UL)US:** S711
- **FM Approved**
- **CSFM:** 7150-0075:184
- **MEA:** 67-02-E
- **Patented:** U.S. Patent No. D428,351; 6,380,846; 6,314,772; 6,632,108.

Product Line Information

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

BG-12SL: Same as BG-12 with key lock.

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

BG-12L: Same as BG-12 with key lock.

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

BG-12LOB: Same as BG-12L with "outdoor use" listing. Includes outdoor listed backbox, and sealing gasket.

BG-12LO: Same as BG-12L with "outdoor use" listing. Does not include backbox.

BG-12LA: Same as BG-12L with auxiliary contacts.

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

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

SB-10: Surface-mount backbox, metal.

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

BG12TR: Optional trim ring for semi-flush mounting.

17003: Keys, set of two. (Included with key-lock pull stations.)

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

NOTE: For addressable BG-12LX models, see data sheet DF-52013.

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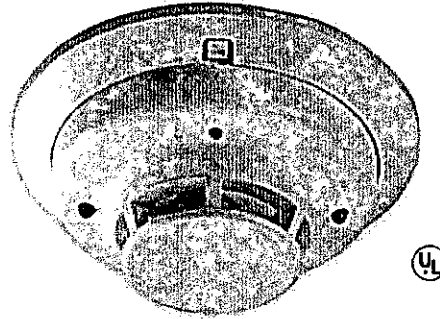
This document is not intended to be used for installation purposes.
We try to keep our product information up-to-date and accurate.
We cannot cover all specific applications or anticipate all requirements.
All specifications are subject to change without notice.



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

5193SD/5193SDT

V-PLEX® ADDRESSABLE SMOKE DETECTOR



Honeywell's 5193SD/SDT Addressable Photoelectric Smoke Detector is designed to provide open area protection and to be used with compatible UL-listed Honeywell control panels that support V-Plex technology. The detector incorporates a state-of-the-art optical sensing chamber and an advanced microprocessor. Built-in Drift Compensation algorithms automatically maintain proper operation at factory calibrated detection levels, even when sensitivity is altered due to the presence of contaminants settling into the unit's chamber. The 5193SDT also features a restorable, built-in, fixed temperature (135° F/57.2° C) thermal detector.

FEATURES

- **Easy Installation:** Installation of the 5193SD/SDT detector is simplified by the use of a mounting base that may be pre-wired to the system, allowing the detector to be easily installed or removed for maintenance or service. (See Figure 1).
- **LED Status Indicators:** Two LEDs (green and red) provide local visual indication of the detector's status – including normal operation, alarm, out of sensitivity and trouble conditions.
- **Test button:** This button allows the user to perform periodic testing of the detector's circuitry and verify that the detector is within the sensitivity limits.
- **Versatile Mounting:** Mounting is made simple with the included hardware and the large mounting ports, which accommodate drywall anchors for easy surface mounting. (See Figure 1).
- **Tamper Protection and Tamper Resistance:** The detector contains a built-in tamper switch that can communicate back to the control panel in the event the detector is removed from its base. For an added level of security, the detector also includes a tamper resistant element that prevents removal from the base without the use of tools. (See Figure 1).

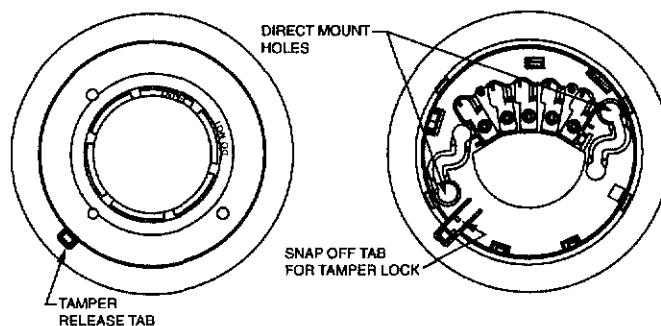


Figure 1: Tamper-Resistant Feature/Wiring

5193SD/5193SDT

V-PLEX® ADDRESSABLE SMOKE DETECTOR

SPECIFICATIONS

- **Heat Sensor:** (Model 5193SDT):
135° F (57.2° C);
Fixed Temperature Electronic Thermistors
- **Operating Ambient Temperature Range:**
32° to 100° F (0° to 38° C)
- **Operating Humidity Range:**
0 to 95% RH non-condensing
- **Storage Temperature Range:**
-4° to 158° F (-20° to 70° C)
- **Diameter (including base):** 5.3 inches
- **Height (including base):** 2.0 inches
- **Weight:** 6.3 oz.
- **Agency Listing:** UL-268
- **System Voltage Range:** 7-14V
- **Standby Current** (maximum @ 12V)
LED off: 1.2mA
LED on: 2.8mA

ACCESSORY (sold separately)

To measure the detector's sensitivity, the **SENS-RDR Infrared Sensitivity Reader tool** (sold separately) should be used. It reduces testing time, simplifies sensitivity measurements and displays them precisely in terms of percent per foot obscuration. The SENS-RDR eliminates the need for magnets, voltmeters and ladders.

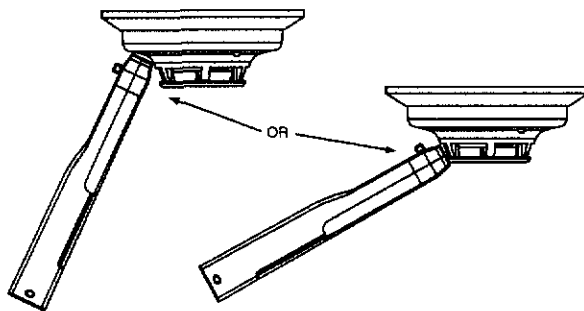
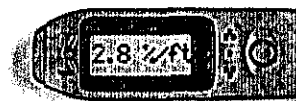
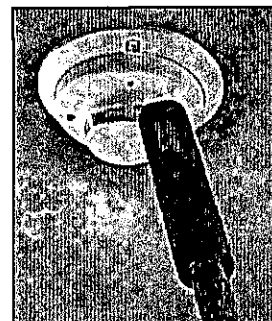


Figure 2: Position of Reader



ORDERING

5193SD

Addressable Photoelectric Smoke Detector

5193SDT

Addressable Photoelectric Smoke Detector with Integral Heat Sensor

Accessory sold separately:

SENS-RDR

Handheld Sensitivity Reader

Automation and Control Solutions

Honeywell Security & Communications
2 Corporate Center Dr. Suite 100
P.O. Box 9040
Melville, NY 11747
www.honeywell.com

Honeywell

L/5193SDT/D
May 2009
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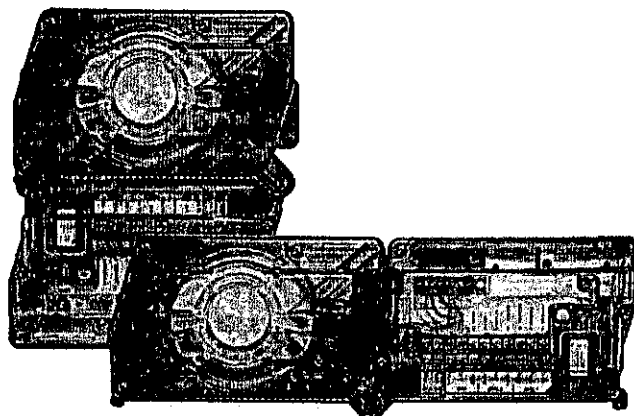
4-Wire Photoelectric Duct Smoke Detector

The InnovairFlex™ Series are the only duct smoke detectors flexible enough to fit configurations from square to rectangular and everything in between.

Features

- Photoelectric, integrated low-flow technology
- Air velocity rating from 100 ft/min to 4,000 ft/min (0.5 m/s to 20.32 m/sec)
- Versatile mounting options: square or rectangular configuration
- Plug-in sensor offers superb false alarm immunity and the latest sensor technology
- Broad ranges for operating temperature (–4°F to 158°F) and humidity (0% to 95% non-condensing)
- Patented sampling tube installs from front or back of the detector with no tools required
- Increased wiring space with a newly added 3/4-inch conduit knockout
- One easy-access Test/Reset button and improved LED status
- Patented interconnect feature for multi-fan shutdown
- New high contrast terminal designations
- Built-in short circuit protection from operator wiring errors
- Field selectable settings for configuring the detector
- Two DPDT Form-C relay contacts
- 24 VAC/DC or 120VAC
- Backward compatibility with existing Innovair products, including remote accessories

Agency Listings



Innovairflex

The InnovairFlex D4120 4-wire photoelectric duct smoke detector features a pivoting housing that fits both square and rectangular footprints and mounts to round or rectangular ductwork. This unit senses smoke in the most challenging conditions, operating in airflow speeds of 100 to 4,000 feet per minute, temperatures of –4°F to 158°F, and a humidity range of 0 to 95 percent (non-condensing). A plug-in sensor head offers improved false alarm immunity and simple installation, testing, and maintenance. An improved cover design isolates the sensor head from the low-flow feature for simple maintenance.

The InnovairFlex housing provides ample wiring space, a 3/4-inch conduit knockout, and built-in short circuit protection to prevent damage to sensitive components during installation. High contrast terminal designations make wiring easy. With its 2:1 sensor-to-power capability, the power board of the D4120 may be used to monitor a second sensor, D4S, simultaneously (i.e., supply and return side). As many as 50 InnovairFlex detectors can be interconnected. When one unit senses smoke, all interconnected detectors will switch their relays; only the detector sensing smoke will go into alarm, thus pinpointing the fire source.

An easy-access Test/Reset button makes it possible to test the unit with the cover on. Three DIP switches can be used to configure field selectable settings: cover tamper delay, number of sensors to be controlled, and shut down on trouble option. Each power board has two LEDs that can be used to indicate the status of connected sensors, and a quick reference imprinted on the cover explains the LED status indications (Standby, Maintenance, Trouble, and Alarm). The InnovairFlex duct smoke detector can be customized to meet local codes and specifications without additional wiring. The new InnovairFlex product line is compatible with all previous Innovair models, including remote test accessories.

WARNING: Duct smoke detectors are **NOT** a substitute for open area smoke detectors; **NOT** a substitute for early warning detection; **NOT** a replacement for a building's regular fire detection system. Refer to NFPA 72 and 90A for additional information.

InnovairFlex™ Duct Smoke Detector Specifications

Architectural/Engineering Specifications

The air duct smoke detector shall be a System Sensor InnovairFlex™ D4120 Photoelectric Duct Smoke Detector. The detector housing shall be UL listed per UL 268A specifically for use in air handling systems. The flexible housing of the duct smoke detector fits multiple footprints from square to rectangular. The detector shall operate at air velocities of 100 feet per minute to 4000 feet per minute (0.5 to 20.32 meters/second). The unit shall be capable of controlling up to 50 air handling systems when interconnected with other detectors. The detector shall be capable of providing a trouble signal in the event that the front cover is removed. It shall be capable of local testing via magnetic switch, test button on the cover, or remote testing using the SSK451 Multi-Signaling Accessory or the RTS451KEY Remote Test Station. Terminal connections shall be of the strip and clamp method suitable for 12–18 AWG wiring.

Physical Specifications

Size: (Rectangular Dimensions)	14.38 in (37 cm) Length; 5 in (12.74 cm) Width; 2.5 in (6.36 cm) Depth
(Square Dimensions)	7.75 in (19.7 cm) Length; 9 in (22.9 cm) Width; 2.5 in (6.35 cm) Depth
Weight:	2.5 lbs (1.14 kg)
Operating Temperature Range:	D4120 & D4S: –4° to 158°F (–20° to 70°C); D4P120: –40° to 158°F (–40° to 70°C)
Storage Temperature Range:	D4120 & D4S: –22° to 158°F (–30° to 70°C); D4P120: –40° to 158°F (–40° to 70°C)
Operating Humidity Range:	0% to 95% relative humidity non-condensing
Air Duct Velocity:	100 to 4000 ft/min (0.5 to 20.32 m/sec)

Electrical Ratings

Power supply voltage:	20–29 VDC	24 VAC 50–60 Hz	120 VAC 50–60 Hz
Input capacitance:	270 µF max.	270 µF max.	N/A
Reset voltage:	3.0 VDC min.	2.0 VAC min.	10 VAC min.
Reset time: (with RTS451)	.03 to 0.3 sec.	.03 to 0.3 sec.	.03 to 0.3 sec.
Reset time: (by power down)	0.6 sec. max.	0.6 sec. max.	0.6 sec. max.
Power up time:	35 sec. max.	35 sec. max.	35 sec. max.
Alarm response time:	15 sec.	15 sec.	15 sec.
Sensitivity Test:	See detector label	See detector label	See detector label

Current Requirements: (Using No Accessories)

Max. standby current:	21 mA @ 24VDC	65 mA RMS @ 24VAC 60Hz	20 mA RMS @ 120VAC 60Hz
Max. alarm current:	65 mA @ 24VDC	135 mA RMS @ 24VAC 60Hz	35 mA RMS @ 120VAC 60Hz

Contact Ratings

Alarm initiation contacts: (SPST)	2.0A @ 30 VDC (resistive)
Alarm auxiliary contacts: (DPDT)	10A @ 30 VDC (resistive); 10A @ 250 VAC (resistive); ½ HP @ 240 VAC ; ¼ HP @ 120 VAC

Note: Alarm auxiliary contacts shall not be connected to initiating circuits of control panels. Use the alarm initiation contact for this purpose.

Supervisory contacts: (SPDT)	2.0A @ 30 VDC (resistive); 2.0A @ 125 VAC (resistive)
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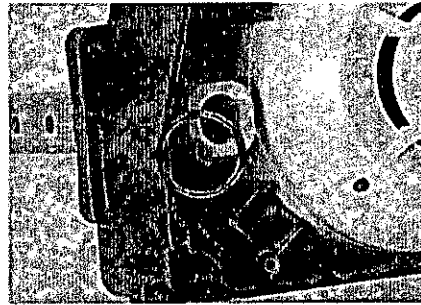
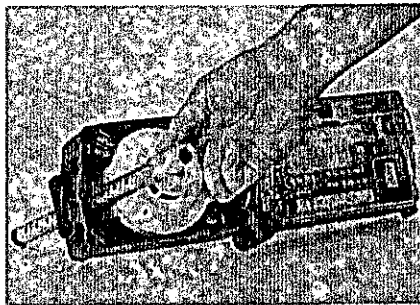
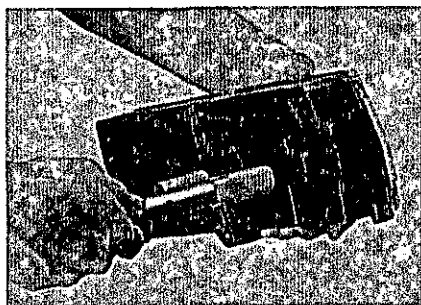
Accessory Current Loads at 24 VDC

Device	Standby	Trouble	Alarm
APA151/APA451	12.5 mA	n/a	30 mA Max.
MHR/MHW	0 mA	n/a	29 mA Max.
RA400Z	0 mA	n/a	12 mA Max.
RTS451/RTS451KEY	0 mA/12 mA	n/a	12 mA Max.
SSK451	8 mA Max.	16 mA Max.	40 mA Max.

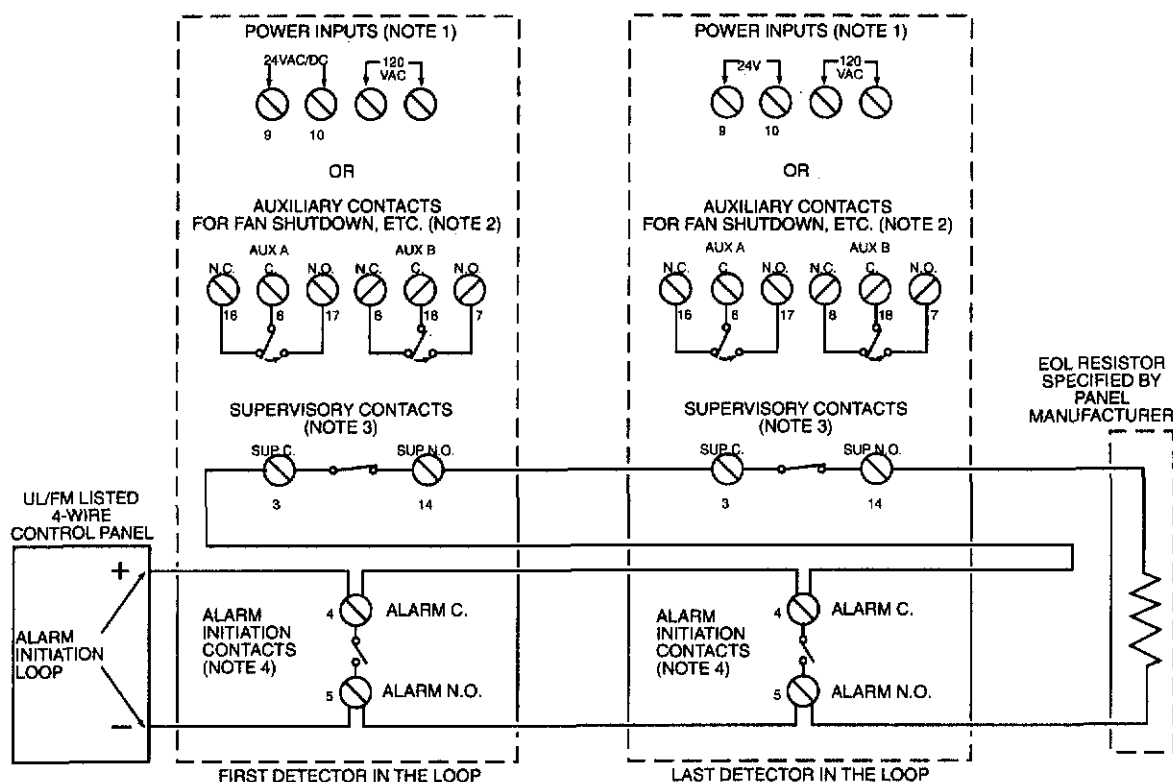
Note: Any combination of accessories may be used such that the given accessory loads are: 110 mA or less at the Aux output, and 50 mA or less at the Alarm output

Installing the InnovairFlex Sampling Tube

The InnovairFlex sampling tube may be installed from the front or back of the detector. The tube locks securely into place and can be removed by releasing the front or rear locking tab (front locking tab shown below right).



Wiring for 4-wire Duct Smoke Detector and Accessories



NOTE 1: 24V Power Inputs accept a non-polarized 24VDC or 24VAC 50-60Hz. 120VAC Power Inputs accept only 120VAC 50-60Hz. Connect power source to appropriate terminals of each detector. See specifications for additional power supply information.

NOTE 2: Auxiliary contacts shown in standby position. Contacts switch during alarm as indicated by arrows. Auxiliary contacts are not to be used for connection to the control panel. See specifications for contact ratings.

NOTE 3: Supervisory contacts shown in standby position. Open contacts indicate a trouble condition to the panel. See specifications for contact ratings.

NOTE 4: Alarm Initiation contacts shown in standby position. Closed contacts indicate an alarm condition to the panel. See specifications for contact ratings.

*Please refer to the corresponding installation manual for accessory wiring diagrams.

Important Notes on 2:1 Sensor-to-Power Capability

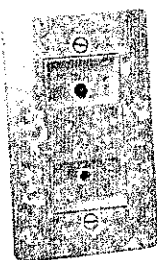
- 2:1 sensor-to-power capability is not available for all InnovairFlex models. The feature is only available on the D4120 4-wire conventional models.
- 2:1 sensor-to-power capability can be enabled using one D4120 and one D4S, or two D4S and one D4P120.

Important Interconnect Notes

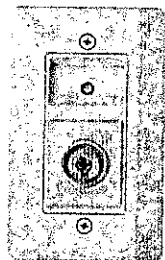
- When using the interconnect feature, all interconnected units must be powered using the same independent supply.
- Polarity must be maintained throughout the interconnect wiring. Connect the INT+ terminal on unit 1 to the INT+ terminal on unit 2 and so on. Similarly, connect the INT/AUX- terminal on unit 1 to the INT/AUX- terminal on unit 2 and so on.
- Up to 50 D4120 units, 50 D4P120 units, or 50 units of combination may be interconnected.
- Up to 10 DH100ACDC units may be interconnected. Please note that each of the 9 DH100ACDC units interconnected may be replaced by three D4P120 units. Therefore, when using the interconnect feature a single DH100ACDC can drive either 9 DH100ACDCs or 27 D4120 units.
- * NOTE: Alarm can be reset only at the initiating device and not at the devices interconnected.

Accessories

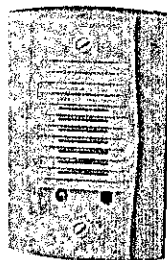
System Sensor provides system flexibility with a variety of accessories, including two remote test stations and several different means of visible and audible system annunciation. As with our duct smoke detectors, all duct smoke detector accessories are UL listed.



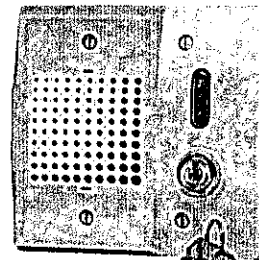
RTS451 UL S2522



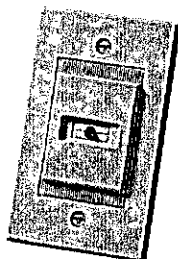
RTS451KEY UL S2522



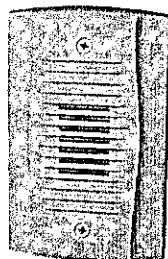
APA151 UL S4011



SSK451 UL S2522



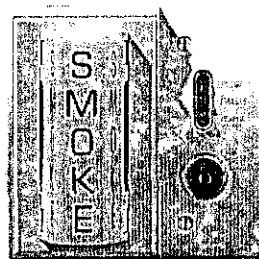
RA400Z UL S2522



MHW UL S4011



MHR UL S4011



SSK451 with PS24LOW strobe and PS12/24 LENS lens

Ordering Information

Part No.	Description		
D4120	4-wire photoelectric low-flow duct smoke detector		
Accessories			
D4S	4-wire photoelectric sensor component only	MHR	Mini Horn, Red
D4P120	4-wire photoelectric power board component only, 24 VAC/DC, 120 VAC	MHW	Mini Horn, White
2D51	4-wire conventional photoelectric sensor head	P48-21-00	End cap for metal sampling tubes
DST1	Metal sampling tube duct width up to 1ft (0.3m)	PS12/24SLNSC	Ceiling-mount "SMOKE" lens
DST1.5	Metal sampling tube duct widths 1 ft to 2 ft (0.3 to 0.6 m)	PS12/24SLNSW	Wall-mount "SMOKE" lens
DST3	Metal sampling tube duct widths 2 ft to 4 ft (0.6 to 1.2 m)	PS24LO	Mini-Alert add-on strobe (red)
DST5	Metal sampling tube duct widths 4 ft to 8 ft (1.2 to 2.4 m)	PS24LOW	Mini-Alert add-on strobe (white)
DST10	Metal sampling tube duct widths 8 ft to 12 ft (2.4 to 3.7 m)	RA400Z	Remote annunciator alarm LED
APA151	Remote annunciator with piezo alarm	RTS451	Remote test station
DH400 OE-1	Weatherproof enclosure	RTS451KEY	Remote test station with key lock
ETX	Metal exhaust tube duct width 1ft (0.3m)	SSK451	Multi-signaling accessory
M02-04-00	Test magnet		



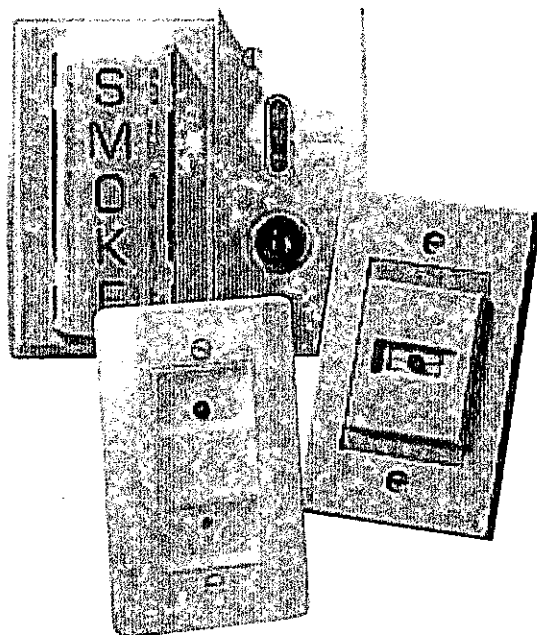
3825 Ohio Avenue • St. Charles, IL 60174
Phone: 800-SENSOR2 • Fax: 630-377-6495

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Product specifications subject to change without notice. Visit systemsensor.com for current product information, including the latest version of this data sheet.
A05-0419-000 - 8/08 - #1836



Duct Smoke Detector Accessories

Expand the versatility of the Innovair™ line of duct smoke detectors with System Sensor notification and test accessories.



Available Accessories

APA151	Piezo Annunciator
MHR	Mini-Horn, Red
MHW	Mini-Horn, White
PS24LO	Mini-Alert Add-on Strobe (red)
PS24LOW	Mini-Alert Add-on Strobe (white)
PS12/24SLENSW	Wall-Mount "SMOKE" Lens
RA400Z	Remote Annunciator
RTS451	Remote Test Station
RTS451KEY	Remote Test Station with Key
SSK451	Multi-Signaling Accessory

These products add functionality to the duct detection system by allowing quick, convenient inspections at eye level and effective audible and visible notification options. All System Sensor duct detectors and accessories are UL listed.

The **APA151** piezo annunciator, which replaces the APA451 with a new, improved look, provides an audible alarm signal, a red LED to indicate alarm status, and a green LED to indicate power status. It is intended for use with System Sensor 4-wire conventional duct smoke detector applications without a system control panel, to comply with NFPA 90A.

The **MHR and MHW** SpectrAlert® Advance mini-horns feature temporal or continuous tones at high and low volume settings. These horns are ideal for applications, where a small notification device is desired. Their small footprint allows mounting to single gang back boxes for aesthetically sensitive applications.

The **PS24LO and PS24LOW** mini alert add-on strobes can be attached to the SSK451 multi-signaling accessory for visual alarm signaling. The **PS12/24SLENSW** "SMOKE" lens is available to meet special code requirements in certain jurisdictions.

The **RA400Z** remote annunciator is designed for both conventional and intelligent applications. The red LED provides visual indication of an alarm condition.

The **RTS451 and RTS451KEY** remote test stations are automatic fire detector accessories designed to test duct detectors from a more convenient location. For 4-wire detectors, the RTS451KEY test station features a multi-colored LED that alternates between steady green and red. For 2-wire detectors, the LED illuminates red for alarm.

The **SSK451** multi-signaling accessory is designed to work with System Sensor 4-wire conventional duct smoke detectors. It combines a horn feature with the key-activated test and reset functions. Green, amber, and red LEDs indicate power, trouble, and alarm conditions, respectively.

Agency Listings

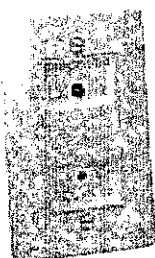


Specifications, Duct Smoke Detector Accessories

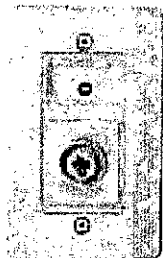
APA151 Piezo Annunciator	
Voltage	Regulated 24 VDC
Operating Voltage	16 to 33 VDC
Maximum Alarm Current	30 mA
Temperature Range	0°C to 49°C (32°F to 120°F)
Relative Humidity	10 to 93% non-condensing
Wire Gauge	12 to 18 AWG
Dimensions	4.6 in H x 2.9 in W x .45 in D
MHR/MHW SpectraAlert Advance Mini-Horns	
Voltage	Regulated 12 DC or FWR (Full Wave Rectified) or Regulated 24VDC or FWR
Operating Voltage	8 to 33 VDC (9 to 33 VDC with Sync-Circuit™ Module)
Sounder Current Draw	22 mA RMS max at 8 to 17.5 Volts DC 17 mA RMS max at 8 to 17.5 Volts FWR 29 mA RMS max at 16 to 33 Volts DC 25 mA RMS max at 16 to 33 Volts FWR
Temperature Range	0°C to 49°C (32°F to 120°F)
Humidity Range	10 to 93% non-condensing
Nominal Sounder Frequency	3 kHz
Wire Gauge	12 to 18 AWG
Dimensions	4.6 in H x 2.9 in W x 0.45 in D
PS24LO/PS24LOW Mini-Alert Add-on Strobes	
Voltage	24 VDC
Temperature Range	0°C to 49°C (32°F to 120°F)
Wire Gauge	12 to 18 AWG
Dimensions	3.8 in H x 1.6 in W x 1.6 in D
RA400Z Remote Annunciator	
Voltage Range	Conventional System: 3.1 to 32 VDC Intelligent System: 18 to 32 VDC
Maximum Alarm Current	10 mA
Dimensions	4.6 in H x 2.8 in W x 1.3 in D

RTS451 Remote Test Station	
Power Requirements	Alarm LED: 2.8 to 32 VDC, 7.5 mA max. Total Current: 105 mA max.
Test Switch	10 VA @ 32 VDC
Reset Switch	10 VA @ 32 VDC
Alarm Response Time	40 seconds max.
Temperature Range	-10°C to 60°C (14°F to 140°F)
Relative Humidity	95% non-condensing
Wire Gauge	14 to 18 AWG
Dimensions	4.6 in H x 2.75 in W x 1.8 in D
RTS451KEY Remote Test Station with Key	
Power Requirements	Power LED (Green): 14 to 35 VDC, 12 mA max. Alarm LED (Red): 2.8 to 32 VDC, 7.5 mA max. Total Current: 103 mA maximum
Alarm Response Time	40 seconds maximum
Temperature Range	-10°C to 60°C (14°F to 140°F)
Relative Humidity	95% non-condensing
Wire Gauge	14 to 18 AWG
Dimensions	4.6 in H x 2.75 in W x 1.8 in D
SSK451 Multi-signaling Accessory	
Voltage	24 VDC
Power Requirements	Standby: 8 mA Trouble: 16 mA Alarm without strobe: 40 mA Alarm with strobe: 65 mA
Sounder	87 dBA at ten feet
Temperature Range	-10°C to 60°C (14°F to 140°F)
Relative Humidity	95% non-condensing
Wire Gauge	14 to 22 AWG
Dimensions	4.8 in H x 4.7 in W x 1.5 in D

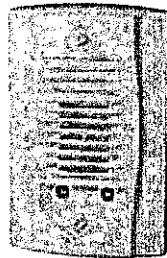
For the very latest product specifications and listing information, please visit the System Sensor web site at www.systemsensor.com.



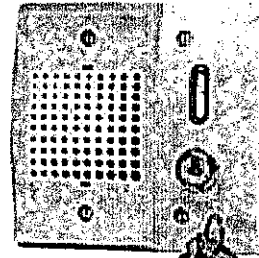
RTS451 UL S4011



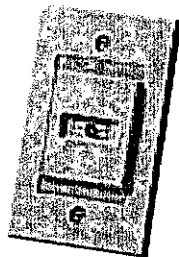
RTS451KEY UL S2522



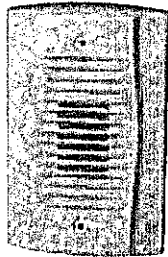
APA151 UL S4011



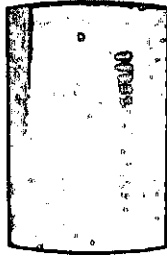
SSK451 UL S2522



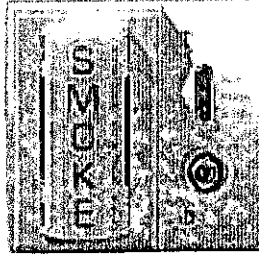
RA400Z UL S2522



MHW UL S4011



MHR UL S4011



SSK451 with PS24LOW strobe and PS12/24 LENS lens



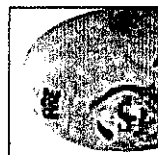
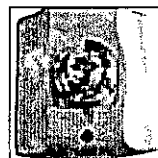
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A05-0375-003 • 6/08 • #1991



Selectable Output Horns, Strobes, and Horn/Strobes

SpectrAlert® Advance selectable-output horns, strobes, and horn/strobes are rich with features guaranteed to cut installation times and maximize profits.



SPECTRAlert
ADVANCE
from System Sensor

Features

- Electrically compatible with existing SpectrAlert products
- Automatic selection of 12- or 24-volt operation at 15 and 15/75 candela
- Plug-in design
- Field selectable candela settings on wall and ceiling units: 15, 15/75, 30, 75, 95, 110, 115, 135, 150, 177, 185
- Same mounting plate for wall- and ceiling-mount units
- Shorting spring on mounting plate for continuity check before installation
- Tamper resistant construction
- Outdoor wall and ceiling products rated from -40°F to 151°F
- Design allows minimal intrusion into the back box
- Horn rated at 88+ dbA at 16 volts
- Rotary switch for horn tone and three volume selections
- Outdoor products UL listed to UL 1638 (strobe) and UL 464 (horn) outdoor requirements
- Outdoor products NEMA 4X rated
- Compatible with MDL sync module

The SpectrAlert Advance series of notification appliances is designed to simplify installations, with features such as plug in designs, instant feedback messages to ensure correct installation of individual devices, and 11 field-selectable candela settings for wall and ceiling strobes and horn/strobes.

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

Next, 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.

The SpectrAlert Advance series includes outdoor notification appliances. Outdoor strobes and horn/strobes (two wire and four wire) are available for wall or ceiling. Outdoor horns are available for wall only. All System Sensor outdoor products are rated between minus 40 degrees Fahrenheit and 151 degrees Fahrenheit in wet or dry applications.

Agency Listings

SIGNALING



S4011
S5512
S3593



3023572

MEA
approved

MCA452-05-E



7125-1653:186 (indoor strobes)
7300-1653:187 (outdoor 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 1½-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 nine 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, 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 1Hz 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 1Hz 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.

Outdoor Products

SpectrAlert Advance outdoor horns, strobes and horn/strobes shall be listed for outdoor use by UL and shall operate between minus 40 degrees and 151 degrees Fahrenheit. The products shall be listed for use with a System Sensor outdoor/weatherproof back box with half inch and three-fourths inch conduit entries.

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 1Hz 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 4½" x 4½" x 2½"-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.

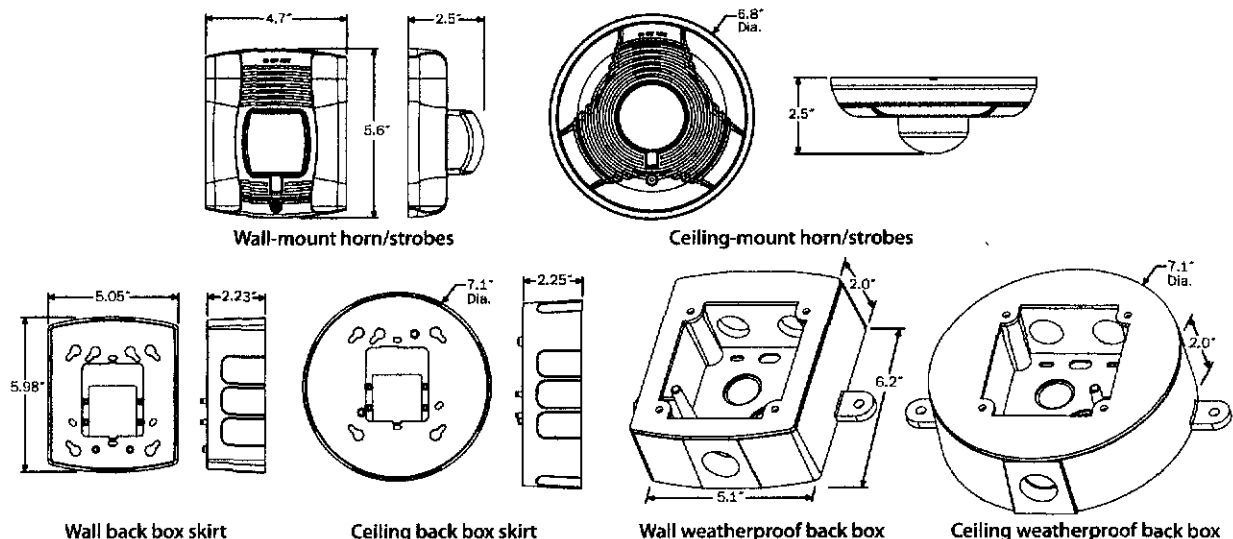
Physical/Electrical Specifications

Standard Operating Temperature	32°F to 120°F (0°C to 49°C)
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 12DC/FWR ¹ or regulated 24DC/FWR ¹
Operating Voltage Range ²	8 to 17.5 V (12V nominal) or 16 to 33 V (24 nominal)
Input terminal wire gauge	12 to 18 AWG
Ceiling mount dimensions (including lens)	6.8" diameter x 2.5" high (173 mm diameter x 64 mm high)
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)
Ceiling-mount back box skirt dimensions (BBSC-2, BBSCW-2)	7.1" diameter x 2.25" high (180 mm diameter x 57 mm high)
Wall-mount weatherproof back box dimensions (SA-WBB)	5.7"L x 5.1"W x 2.0"D (145 mm L x 130 mm W x 51 mm D)
Ceiling-mount weatherproof back box dimensions (SA-WBBC)	7.1" diameter x 2.0" high (180 mm diameter x 51 mm high)
Wall-mount trim ring dimensions (TR-HS, TRW-HS)	5.7"L x 4.812"W x 0.35"D (146 mm L x 122 W mm x 9 D mm)
Ceiling-mount trim ring dimensions (TRC-HS, TRCW-HS)	6.9" diameter x 0.35 high (176 mm diameter x 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.

SpectrAlert Advance Dimensions



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
P2RK*‡	2-wire Horn/Strobe, Standard cd, Red, Outdoor
P2RHK*‡	2-wire Horn/Strobe, High cd, Red, Outdoor
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
P4RK*‡	4-wire Horn/Strobe, Standard cd, Red, Outdoor
P4RHK*‡	4-wire Horn/Strobe, High cd, Red, Outdoor
P4W*	4-wire Horn/Strobe, Standard cd, White
P4WH*‡	4-wire Horn/Strobe, High cd, White
Wall Strobes	
SR*†	Strobe, Standard cd, Red
SRH*†	Strobe, High cd, Red
SRK*‡	Strobe, Standard cd, Red, Outdoor
SRHK*‡	Strobe, High cd, Red, Outdoor
SW*	Strobe, Standard cd, White
SWH*‡	Strobe, High cd, White
Ceiling Horn/Strobes	
PC2R*	2-wire Horn/Strobe, Standard cd, Red
PC2RH*	2-wire Horn/Strobe, High cd, Red
PC2RK*‡	2-wire Horn/Strobe, Standard cd, Red, Outdoor
PC2RHK*‡	2-wire Horn/Strobe, High cd, Red, Outdoor
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
PC4RK	4-wire Horn/Strobe, Standard cd, Red, Outdoor
PC4RHK*‡	4-wire Horn/Strobe, High cd, Red, Outdoor

Model	Description
Ceiling Horn/Strobes (cont'd.)	
PC4W	4-wire Horn/Strobe, Standard cd, White
PC4WH	4-wire Horn/Strobe, High cd, White
Ceiling Strobes	
SCR*	Strobe, Standard cd, Red
SCRH*	Strobe, High cd, Red
SCRK*‡	Strobe, Standard cd, Red, Outdoor
SCRHK*‡	Strobe, High cd, Red, Outdoor
SCW*†	Strobe, Standard cd, White
SCWH*†	Strobe, High cd, White
Horns	
HR	Horn, Red
HRK*‡	Horn, Red, Outdoor
HW	Horn, White
Accessories	
BBS-2	Back Box Skirt, Wall, Red
BBSW-2	Back Box Skirt, Wall, White
BBSC-2	Back Box Skirt, Ceiling, Red
BBSCW-2	Back Box Skirt, Ceiling, White
TR-HS	Trim Ring, Wall, Red
TRW-HS	Trim Ring, Wall, 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.

All outdoor units ending in "K" include a weatherproof back box.

□ Add "-R" to model number for weatherproof replacement device (no back box included).



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