FIRE ALARM CUT SHEETS

FOR THE

NEW HVAC SYSTEM

At

Channel Islands High School
1400 Raider Way
Oxnard, CA 93033

In the Oxnard Union High School District

Prepared for

The Oxnard Union High School District
309 South “K” Street
Oxnard, CA 93030

October 27, 2020

Gamewell FCI FIRE CONTROL INSTRUMENTS

by Honeywell

E3 Series® Control Panel

Description

The E3 Series® Expandable Emergency Evacuation System by Gamewell-FCI is in the forefront of the latest generation of fire alarm control panels. Employing the new high-speed Velociti® sensors, the E3 Series provides previously unattainable polling speed and response together with the flexibility demanded by today's emergency evacuation systems. In addition to their high-speed polling rate, the Velociti Series of sensors feature bi-polar LEDs that flash green for normal polling, and light red steadily to indicate an alarm.

The E3 Series is equipped with an 80-character LCD-E3 alphanumeric LCD display that allows 40 characters to be user-defined for custom installations. Up to six keyboard LCD displays may also be remotely located. In addition, you can install five of the familiar LCD-7100/RAN-7100 remote displays. The displays show instant system status information and can be connected in any desired area of an installation.

A high-speed 32-bit processor easily tackles a wide array of applications from small office buildings to multi-complex, high-rise installations.

The 64 node networking is made possible by 625K baud/ ARCNET communications using twisted-pair copper cable, fiber-optic cable, or a combination of both. In addition, the Addressable Node Expander (ANX) board expands the network to 122 nodes.

The basic E3 Series is equipped with an ILI-MB-E3/ILI95-MB-E3 Intelligent Loop Interface-Main Board, ILI-S-E3/ ILI95-S-E3 Intelligent Loop Interface Expansion Board, ANX, and ASM-16 Addressable Switch Module that features 16 software programmable switches, each accompanied by red, green and yellow LEDs that can be programmed to indicate operation of the switches. Additional ASM-16 modules may be added to expand the operation to a plateau previously unimagined.

The Intelligent Loop Interface - Expansion Board (ILI-S-E3/ ILI95-S-E3 provides the E3 Series control panel with two additional electrically isolated signaling line circuits. The layout is similar to the ILI-MB-E3/ILI95-MB-E3 with the exception that a number of components are omitted. It occupies one node on the Broadband network.

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UL® is a registered trademark of Underwriters Laboratories Inc.

Expandable Emergency Evacuation System

E3 Series

Features

- IBC Seismic Certified.
- Listed under UL® Standard 864, 9th Edition.
- UL Listed for smoke control (dedicated and non-dedicated) when properly configured.
- FM/UL Listed for Pre-action/Deluge use.
- Styles 4, 6, or 7* signaling line circuits.
- Two to 244 SLCs each supporting 159 sensors, 159 modules and 159 addressable sounder bases.
- 625K baud ARCNET communications using wire, fiber, or mixed configurations for installation flexibility.
- High-speed 32 bit processor and 8100 event history log.
- Advanced Boolean logic-based programming such as AND, OR, NOT, time delay and calendar functions configurable via computer programming.
- Supports up to (16), ASM-16 addressable switch or ANU-48 LED driver modules per ILI-MB-E3/ILI95-MB-E3.
- Two Class A, Style Z or Class B, Style Y, notification appliance circuits rated at 2.0 amps. per circuit.
- Integral city connection.
- Flexible 115,200 baud high speed RS-232 interface.
- 40 character user-defined text per device.
- 15 LCD-SLP displays/annunciators, 6 LCD-E3 displays/ annunciators, 5 LCD-7100/RAN-7100 remote LED annunciators per ILI-MB-E3/ILI95-MB-E3.

**Style 7 wiring requires the use of System Sensor M500X Isolator Modules.*

SIGNALING

UL LISTED S1869 FM APPROVED 3025415 MEA Approved FDNY #: 6175 COA # 231-06-E 7165-1703:0125 City of Chicago Approved Class1 Class2 High Rise City of Denver Approved THE VMC GROUP Reference Certificate of Compliance VMA-45894-02C (Revision 1)

ISO 9001 CERTIFIED ENGINEERING & MANUFACTURING QUALITY SYSTEMS

GAMEWELL-FCI
12 Clintonville Road, Northford, CT 06472-1610 USA • Tel: (203) 484-7161 • Fax: (203) 484-7118

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www.gamewell-fci.com

Description (Continued)

Each ILI-MB-E3/ILI95-MB-E3 can support as many as sixteen ANU-48 LED Driver modules supporting hundreds of LEDs on a 3rd party graphic annunciator for remote annunciation. The ANU-48 modules may be installed in any Listed remote annunciator. It can be remotely located via an RS-485 serial interface.

An array of cabinets allows for neat, compact, attractive installations.

Installation

The E3 Series expandable emergency evacuation system offers four cabinet size options. A typical cabinet includes a backbox, an inner door, and an outer door. The E3 Series cabinet assembly is a compact 19 3/8" (49 cm) wide wall-mounted enclosure.

Cabinet A includes the following four options:

- Cabinet A1 inner door mounted to the backbox. The backbox houses one NGA module.
- Cabinet A2 inner door mounted to the backbox. The backbox houses one LCD-E3 module.
- Two or three-bay inner door mounted to the backbox. The backbox typically houses one LCD-E3, or one NGA, and one or two ASM-16 modules.

Cabinet B contains a space for the ILI-MB-E3/ILI95-MB-E3, PM-9/PM-9G modules and batteries set inside the backbox. Additional module options mounted on the backbox include the DACT-E3, and RPT-E3 or ILI-S-E3/ILI95-S-E3/ANX. The 2-bay inner door houses one LCD-E3 module and one ASM-16 module.

Both Cabinets C and D include the following:

- Pre-assembled outer door that gives visibility to the fire fighter's phone handset and a microphone voice messaging system.
- Two inner door panel selections that may contain optional modules to meet the facility operation requirements.

In the Cabinet B, C and D backboxes, the ANX appears in the same place as the ILI-MB-E3/ILI95-MB-E3 and PM-9/PM-9G. For information on the installation instructions for any of the E3 Series cabinets, refer to the E3 Series® Expandable Emergency Evacuation Installation/Operating Manual Part Number: 9000-0574.

Specifications

Operating Voltage:	24 VDC
Operating Temperature:	Not to exceed the range of 32° to 120° F (0 to 49° C)
Relative Humidity:	Not to exceed 93% non-condensing at 90° F (32° C)

Features (Continued)

Velociti® Intelligent Sensor Features:

- Poll 318 devices in less than two seconds.
- Activate up to 159 outputs in less than five seconds.
- LED's blink associated device address during Walk Test.
- Fully digital, hi-precision protocol.
- Up to 9 levels of sensitivity adjustment.
- Pre-Alarm adjustable between 15 levels for both Alert and Action.
- Day/night automatic sensing adjustment.
- Sensitivity windows:
  - Ion .05 to 2% obscuration.
  - Photo 1 to 3% obscuration.
  - Laser .02 to 2% obscuration.
  - MCS Acclimate2F .5 to 4%, also self-adjustable options 1 to 2%, 2 to 3%, and 3 to 4%.
  - HARSH 1 to 3% obscuration.
- Drift compensation.
- Each Loop Card has its own integral processor providing maximum survivability on loss of any other component. SLC provides full response on loss of any other system processor.
- Optional programmable switches can be configured to enable, disable or group any combination of output devices.
- Integrated point or Grouped Cross Zoning allows for numerous devices installed at any location to cooperate and determine alarm condition.
- Automatic detector sensitivity testing.
- DIRTY and VERY DIRTY detector maintenance alerts.

Ordering Information

Part Number	Description
ILI-MB-E3	Intelligent Loop Interface-Main Board
ILI95-MB-E3	Intelligent Loop Interface-Main Board
ILI-S-E3	Intelligent Loop Interface-Expansion Board
ILI95-S-E3	Intelligent Loop Interface-Expansion Board
ANX-SR	Addressable Node Expander-Single Ring
ANX-MR-FO	Addressable Node Expander-Multi-Ring Fiber Optic
ANX-MR-UTP	Addressable Node Expander-Multi-Ring Twisted-pair
LCD-E3	LCD-E3, LCD Keypad Display
RPT-E3-FO	Network Repeater (fiber and twisted-pair)
RPT-E3-UTP	Network Repeater (twisted-pair only)
DACT-E3	Digital Alarm Communicator Transmitter
ANU-48	ANU-48 LED Driver Module
ASM-16	Addressable Switch Module
NGA	LCD Network Graphic Annunciator
PM-9	Power Supply Module
PM-9G	Power Supply Module
LCD-7100	Remote LCD Display
RAN-7100	Remote LCD Display

For additional information on the cabinets, refer to the E3 Series Cabinets data sheet (Part Number: 9020-0649).

Seismic Battery Bracket Kits

For information on the types of Seismic Battery Bracket Kits that are available, the Seismic Battery Bracket Kit Part Numbers and the installation instructions, refer to the following documents:

- Seismic Battery Bracket Installation Guide, P/N: 53839
- E3 Series Cabinets Data Sheet, P/N: 9020-0649

CALIFORNIA DEPARTMENT OF FORESTRY & FIRE PROTECTION
OFFICE OF THE STATE FIRE MARSHAL
FIRE ENGINEERING - BUILDING MATERIALS LISTING PROGRAM

LISTING SERVICE

LISTING No. 7165-1703:0125

CATEGORY: 7165 -- FIRE ALARM CONTROL UNIT (COMMERCIAL)

LISTEE: GAMEWELL-FCI12 Clintonville Road, Northford, CT 06472
Contact: Megan Sisson (203) 484-6544 Fax (203) 484-7309
Email: megan.sisson@honeywell.com

DESIGN: Model E3 Series® BROADBAND and E3 Series® CLASSIC Voice Evacuation System. The E3 Systems may also work in conjunction with all the sub-assemblies of listee's 7100 Series Control Panel and NetSOLO systems (CSFM Listing No. 7165-1703:105 and 6911-1703:116, and 6911-1703:118).

Unit conveys all fire alarm, audio evacuation, voice paging, and fire fighter communications. Power-limited; non-coded, automatic, manual, smoke control, water flow, sprinkler supervisory, local auxiliary, central station, remote station, and proprietary service. Refer to listee's data sheet for additional detailed product description and operational considerations.

System components:

ILI-MB-E3; Intelligent Loop Interface Master Board
PM-9, PM-9G*; Power Supply
ILI-95-MB-E3, ILI-95-S-E3; Loop Interface Subassemblies
E3BB-FLUSH-LCD; Enclosure for ICD-E3
E3BB-BA/-RA/-BAA/-RAA/-BB/-RB/-BC/-RC/-BD; Cabinets*
RPT-E3-FO or; Repeater Sub-assembly, Fiber Optic or
RPT-E3-UTP; Repeater Sub-assembly, Unshielded twisted pair wire
LCD-E3; LCD Keypad Display
DACT-E3 sub-assembly; Digital alarm communicator transmitter
ILI-S-E3; Intelligent Loop Unit, Expansion Board
ANX-SR, ANX-MR-FO, ANX-MR-UTR; Addressable Node Expanders Sub Assembly*
INCC-E; Intelligent Network Enclosure*
INCC; Intelligent Network Central Command*
INI-VG, INI-VGC-UTP, INI-VGC-FO, INI-VGX-UTP; Intelligent Network Interface Sub Assembly*
INI-VGX-FO, INI-VGE-UTP, INI-VGE-FO; Intelligent Network Interface Sub Assembly*
ASM-16; Annunciator Switch Sub Assembly*
INX; Network Audio Transponder Enclosure*
ANU-48; Annunciator Sub Assembly*
NGA; Touch Screen LCD Display Sub Assembly*
LCD-7100; Remote LCD Display*
SBB-C4, SBB-D4; Backbox*

*Rev. 03-18-11bh

This listing is based upon technical data submitted by the applicant. CSFM Fire Engineering staff has reviewed the test results and/or other data but does not make an independent verification of any claims. This listing is not an endorsement or recommendation of the item listed. This listing should not be used to verify correct operational requirements or installation criteria. Refer to listee's data sheet, installation instructions and/or other

Date Issued: **July 01, 2020** *Listing Expires* **June 30, 2021**

Authorized By: ***DAVID CASTILLO,**, M.E., F.P.E.*

Fire Engineering Division

FCI-VDR-D4B, FCI-DR-C4B, FCI-CR-D4B; Doors with locks*
AA-100, AA-120; Amplifiers*
AM-50-25, AM-50-70; Amplifier Sub Assembly*
CHG120; Battery Charger with Cabinet*
BC-1/FCI-LBB; Backbox*
IPDACT-2; IP Digital Alarm Communicator*
FPJ; Firefighters's Telephone Jack Receptacle*
FHS; Portable Firefighters's Telephone Handset*
7100 Series#; Fire Alarm Control Panel or
INI-7100 UTP#; Intelligent Network Interface Sub-assembly, [Twisted, unshielded wire] or
INI-7100 FO#; Intelligent Network Interface

RATING: 120 V, 60 Hz, 3.5 A Primary; 24 V dc, 9A Secondary

INSTALLATION: In accordance with listee's printed installation instructions, NFPA 72, applicable codes & ordinances and in a manner acceptable to the authority having jurisdiction.

MARKING: Listee's name, model designation, electrical rating and UL label.

APPROVAL: Listed as fire alarm control unit for use with separately listed electrically and functionally compatible initiating and indicating devices. Suitable for high-rise applications when used with the above voice evacuation systems.

This control unit can generate a distinctive three-pulse Temporal Pattern Fire Alarm Evacuation Signal (for total evacuation) in accordance with NPFA 72, 2002 Edition.

This control unit meets the requirements of UL Standard 864, 9th Edition.

NOTE: For Fire Alarm Verification Feature (delay of alarm signaling), the Retard/Reset/Restart period shall be 30 seconds or less.

*Rev. 03-18-11bh

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Authorized By: ***DAVID CASTILLO,**, M.E., F.P.E.*

Fire Engineering Division

FIRE CONTROL INSTRUMENTS
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SNAC-4

SUPPLEMENTARY NOTIFICATION APPLIANCE CIRCUIT PANEL

FM APPROVED

DESCRIPTION

The Supplementary Notification Appliance Circuit Panel (SNAC-4) provides four, (4), 24 VDC Class A, Style Z or Class B, Style Y notification appliance circuits, with a total capacity of 6 amperes. These circuits may be activated in groups of two or four by connection to normally open dry contacts or existing Class A or Class B notification appliance circuits with operating voltages ranging from 12 to 32 VDC. The panel may be used to replace earlier versions of the SNAC family. Either non-coded operation, coded operation, temporal pattern or a combination is possible.

The SNAC-4 operates from 120/240 VAC input and contains its own battery charger, capable of maintaining a set of 7 A/H batteries. It is supervised for ground fault, overcurrent, open circuits and low battery conditions.

The regulated power supply allows the SNAC-4 to be compatible with any Listed, nominal 24 VDC notification appliances.

Ground fault, battery and circuit trouble conditions in the SNAC-4 automatically open the notification appliance circuit used to activate the SNAC-4, transmitting a trouble signal to the main fire alarm control panel. The ground fault detection circuit may be disabled.

The unit contains a set of dry, jumper programmable (N/O or N/C) trouble actuated contacts, rated 1 amp. @ 24 VDC (resistive). Transfer of these contacts for AC power failure is delayed for a period of ten (10) hours. This delay feature may be disabled.

A power limited, non-resettable auxiliary power output of 1.75 amps is available if the panel is arranged via jumper to disconnect itself from the batteries during AC power failure. An output of 0.150 amp. is available when the SNAC-4 is connected to a control panel requiring 24 hr. standby. The current is reduced to .050 amp. when 60 hour standby is required.

APPROVALS

UL	S1949
Factory Mutual	3001096
NYC	MEA 239-98-E
CSFM	Approved

FEATURES

- **Switching Technology Power Supply**
- **UL Listed as a Fire Alarm Accessory for Use With any FCI or other UL Listed Fire Alarm Control**
- **Four (4) Class A (Style Z) or Class B (Style Y) Notification Appliance Circuits**
- **High Current Output (1.75 Amp.)**
- **Compact Construction**
- **Simple Installation**
- **Integral Ground Fault Detection**
- **Programmable Trouble Contacts (N/O or N/C) with Optional Delayed AC Failure Indication**
- **Compatible With any Listed 24 VDC Notification Appliances**

TECHNICAL AND ORDERING INFORMATION

Operating power	120 VAC, 3 amp., or 240 VAC, 2 amp., 50/60 Hz, (Jumper selectable)
Standby battery circuit	24 VDC (nominal) 7 ampere/hours, max.
Supervisory current	0.060 amp. to 0.235 amp.
Alarm current	0.120 amp. (excluding notification appliances)
Alarm output	6.0 amp. max. @ 24 VDC
Dimensions	14" H x 14" W x 3 1/2" D (35.56 x 35.56 x 8.89 cm)
Operating temperature	32^{o} to 120^{o} F (0^{o} to 49^{o} C)
Relative humidity	85% (non-condensing)
Part Number	1100-1179

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16 Southwest Park, Westwood, MA 02090 USA TEL: (781) 471-3000 FAX: (781) 471-3099

HPF24S6 and HPF24S8

Description

The HPF24S6 and HPF24S8 are compact, cost-effective, 6 amp. or 8 amp. remote power supplies with integral battery chargers. These adaptable power supplies may be connected to any 12 or 24 volt Fire Alarm Control Panel (FACP) or the power supplies may stand alone. Primary applications include the following:

- Notification Appliance Circuits (NAC) expansion to support ADA requirements and NAC synchronization
- Auxiliary power to support 24 volt system accessories

These power supplies provide regulated and filtered 24 VDC power to four (4), 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 follows:

- all non-resettable
- all resettable
- two non-resettable
- two resettable

The power supplies also contain a battery charger with a charging capacity of up to 18 Amp Hour batteries.

The HPF24S6 and HPF24S8 power supplies comply with the following Agency standards:

- NFPA 72 National Fire Alarm Code,
- UL Standard 864, 9th Edition for control units for Fire Alarm Systems (NAC expander mode).
- UL 1481 Power Supplies for Fire Alarm Systems (stand-alone mode).

Power Supplies with Battery Chargers

HFP24S6/8 dh1061.jpg

Features

- UL Listed NAC synchronization using System Sensor, Cooper-Wheelock or Gentex (Commander Series) appliances
- Cascade up to ten (10) power supplies (four (4) power supplies with Gentex) with strobe timing maintained
- Operates as a sync follower or a sync generator (default)
- Contains two (2), fully -isolated input/control circuits energized from FACP notification appliance circuit (NAC expander mode) or jumpered permanently on (stand-alone mode)
- Configured to internally house addressable SLC control module for alarm activation
- Four (4) Class B (Style Y) or four (4), Class A (Style Z) (with ZNAC-4 Module) notification appliance circuits
- 6.0A or 8.0A (depending on model) full load output (3.0A maximum per circuit) in NAC expander mode (UL Standard 864)
- 4.0A or 6.0A continuous output in stand-alone mode (UL Standard 1481)

An ISO 9000-2000 Company

SIGNALING UL LISTED UOXX.S6677 UTRZ.S6677 7315-1637:102

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Features (Continued)

- In stand-alone mode, output power circuits configured as resettable, (using the FACP reset switch), non-resettable, or a combination of both.
- 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.
- Normally-closed trouble relay.
- Fully supervised power supply, battery and notification appliance circuits.
- Selectable earth fault detection.
- AC trouble report selectable for immediate or up to 8 hour delay.
- Compatible with any UL 864 fire alarm control which uses 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” H x 14.5” W x 2.75” D (38.1 H x 36.8 W x 7.0 D cm).
- Includes an integral battery charger capable of charging up to 18 AH batteries. The cabinet has the capacity of housing 7.0 AH batteries.
- Battery charger may be disabled via DIP (Dual In-Line Package) switch for applications requiring larger batteries.
- Fixed, clamp-type terminal blocks accommodate up to 12 AWG (3.1 mm^2) wire.

Specifications

Primary (AC) Power

- HPF24S6: 120 VAC 60 Hz, 3.2A maximum
- HPF24S8: 120 VAC 60 Hz, 3.2A maximum
- Wire size: minimum 14 AWG (2.0 mm²) with 600V insulation

Control Input Circuit

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

Trouble Contact Rating

- 5.0A at 24 VDC

Auxiliary Power Output

- Specific Application Power - 500 mA maximum

Specifications (Continued)

Output Circuits

- +24 VDC filtered, regulated
- 3.0A maximum for any one circuit
- 4.0A maximum total continuous current for all outputs (Stand-alone mode) for the HPF24S6 and 6A for the HPF24S8
- 6A or 8A, depending on the model, maximum total short-term current for all outputs (NAC Expander mode).

Secondary Power (Battery) Charging Circuit

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

Ordering Information

Model	Description
HPF24S6	Remote charger 6A power supply (120 VAC). Includes the main printed circuit board, transformers, red enclosure, and installation instructions
HPF24S8	Remote charger 8A power supply (120 VAC). Includes the main printed circuit board, transformers, red enclosure, and installation instructions
FCPS-24S6RB	Replacement mother board
ZNAC-4 -	Class A (Style Z) NAC option module
BAT-1270 -	Battery, 12 volt, 7.0 AH (two required)

CALIFORNIA DEPARTMENT OF FORESTRY & FIRE PROTECTION
OFFICE OF THE STATE FIRE MARSHAL
FIRE ENGINEERING - BUILDING MATERIALS LISTING PROGRAM

LISTING SERVICE

LISTING No. 7315-1637:0102

CATEGORY: 7315 -- POWER UNITS

LISTEE: Honeywell International Inc.One Fire-Lite Place, Northford, CT 06472
Contact: Megan Sisson (203) 484-6544 Fax (203) 484-7309
Email: megan.sisson@honeywell.com

DESIGN: Models HPF24S6, HPF24S8, HPFF8, HPFF8E, HPFF8CM, HPFF8CME, HPFF12, HPFF12E, *HPFF12CM and *HPFF12CME power limited power supply/battery chargers used for supervision and expanded power driving capability of up to four Notification Appliance Circuits (FACP Fire Circuits, Signaling Devices) or resettable/non resettable outputs. Model ZNAC-4 Class A converter. Refer to listee's data sheet for additional detailed product description and operational considerations.

RATING: 120 VAC, 24 VDC

INSTALLATION: In accordance with listee's printed installation instructions, applicable codes and ordinances and in a manner acceptable to the authority having jurisdiction.

MARKING: Listee's name, product designation, electrical rating and UL label.

APPROVAL: Listed as power supply/battery chargers for use with separately listed compatible fire alarm control units.

XLF: 7315-0075:0206

*Rev. 10-20-10 bh

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Date Issued: **July 01, 2020** *Listing Expires* **June 30, 2021**

Authorized By: ***DAVID CASTILLO,**, M.E., F.P.E.*

Fire Engineering Division

MS-7 Series

Description

The Gamewell-FCI, MS-7 Series manual fire alarm stations are available in a wide variety of configurations. The Stations comply with the Americans with Disabilities Act (ADA) 5-lb. maximum pull force requirement. Operating instructions and Braille text are engraved in the handle. All stations have a key lock/reset which is keyed alike with Gamewell-FCI fire alarm control panels and other manual fire alarm stations.

MS-7AF Velociti Addressable Station

The MS-7AF Velociti® Series addressable station is a double action station designed for installation in the signaling line circuit of Gamewell-FCI analog addressable control panels. Activation of the station causes its assigned address to register at the control panel. The door contains an LED which flashes green in normal condition and lights steady red when the station has been activated.* The station features screw terminals.

MS-7ASF Velociti Addressable Station

The MS-7ASF Velociti® Series addressable station is a single action station designed for installation in the signaling line circuit of Gamewell-FCI analog addressable control panels. Activation of the station causes its assigned address to register at the control panel. The door contains an LED which flashes green in normal condition and lights steady red when the station has been activated.* The station features screw terminals.

The Velociti® Series stations use a communication protocol that substantially increases the speed of communication between the sensors and certain Gamewell-FCI analog addressable fire alarm controls. These devices operate in a grouped fashion. If one of the devices in the group has a status change, the panel's microprocessor stops the group poll and focuses on the single device. The net effect is response speed up to five times greater than earlier designs.

MS-7 Double Action Station

The MS-7 double action station is used with conventional fire alarm control panels. It features a set of single pole contacts and screw terminals for connection to an initiating circuit.

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UL® is a registered trademark of Underwriter's Laboratories Inc.

LEXAN® is a registered trademark of GE Plastics, a subsidiary of General Electric Company.

Non-Coded, Manual Fire Alarm Stations

MS-7

Features

- Addressable stations compatible with all Gamewell-FCI analog addressable fire alarm controls
- Conventional stations suitable for use with any UL® Listed control panel
- Both single and double action stations available
- Tumbler lock for test and reset keyed alike with Gamewell-FCI controls
- Surface or semi-flush mounting
- Shock and vibration resistant
- Stations (MS-7LOB) Listed for outdoor applications
- Complies with ADA pull force requirements

*Only the red LED is operative in panels that do not operate in Velociti mode.

An ISO 9001-2000 Company

SIGNALING UL LISTED S2465 FM APPROVED 3023594 MEA Approved 67-02-E Vol.VIII 07150-0694:261

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MS-7S Single Action Station

The MS-7S single action station is used with conventional fire alarm control panels. It features a set of single pole contacts and wire leads for connection to an initiating circuit.

MS-7SP Double Action Station

The MS-7SP is a double action station similar to the MS-7 station, with the additional feature of both English and Spanish instructions molded into the unit.

MS-7LR Dual-action Agent Release Station

The MS-7LR is designed for use with the Gamewell-FCI fire alarm control panels with releasing capabilities and Flex Series releasing systems. It features a set of single pole contacts and screw terminals for connection to an initiating circuit.

MS-7LRA Agent Release Station with Abort

The MS-7LRA is designed for use with the Gamewell-FCI fire alarm control panels with releasing capabilities and Flex Series releasing systems where system abort capabilities are required. It consists of an MS-7LR mounted on a plate with an abort switch and LED indicators for system normal, and system activated status.

MS-7LOB Double Action Station (Listed for Outdoor Applications)

The MS-7LOB station must be mounted on a Model SB-I/O backbox. In retrofit applications, the station is UL Listed for use with the WP-10 backbox. It is intended for use with conventional control panels and has a set of single pole contacts and screw terminals.

Mounting

The MS-7 interior stations may be surface mounted or semi-flush mounted on a standard double-gang, or 4-inch (10.2 cm) square electrical box. An optional trim ring (BG12TR) may also be used for semi-flush mounting.

NYC-Plate

The NYC-Plate provides the backplate for the manual pull station. (See Figure 1).

Figure 1 NYC-Plate

Specifications

Material:	Lexan®
Contact Ratings:	0.25 amps. @ 30 VAC/VDC (resistive)
Dimensions:	5 5/8" H x 4 1/4" W x 1 1/4" D (14 x 10.1 x 3.2 cm)
Operating Temperature	
(MS-7AF, MS-7ASF):	32° to 120° F (0° to 49° C)
(MS-7LOB):	-30° to 150° F (-35° to 66° C)
Relative Humidity	
(MS-7AF, MS-7ASF):	10 to 93% (non-condensing)
(MS-7LOB):	85% ± 5% @ 86° ± 3.6° (30° ± 2° C)
Alarm Current:	.0030 amp. 0.007 for LED
Supervisory Current	
(MS-7AF, MS-7ASF):	.00030 amps.

Ordering Information

Part Number	Description
MS-7	Double action station
MS-7AF**	Velociti addressable double action station
MS-7ASF**	Velociti addressable single action station
MS-7S	Single action station, wire leads
MS-7SP	Double action station, English and Spanish instructions
MS-7LR	Agent release station, dual-action
MS-7LRA	Agent release station with abort switch, LED indicators, dual- action
MS-7LOB	Double action station, outdoor use (Includes SB-I/O - Indoor/outdoor use backbox)
SB-I/O	Indoor/outdoor use backbackbox
SB-10	Surface backbox
BG12TR	Trim ring for semi-flush mount, plastic
NY-PLATE	NYC backplate for manual pull station

**For use with the Gamewell-FCI analog addressable control panels only.

CALIFORNIA DEPARTMENT OF FORESTRY & FIRE PROTECTION
OFFICE OF THE STATE FIRE MARSHAL
FIRE ENGINEERING - BUILDING MATERIALS LISTING PROGRAM

LISTING SERVICE

LISTING No. 7150-1703:0119

CATEGORY: 7150 -- FIRE ALARM PULL BOXES

LISTEE: GAMEWELL-FCI12 Clintonville Road, Northford, CT 06472
Contact: Megan Sisson (203) 484-6544 Fax (203) 484-7309
Email: megan.sisson@honeywell.com

DESIGN: Model MS-7AF dual action fire alarm pull box. Refer to listee's data sheet for detailed product description and operational considerations.

INSTALLATION: In accordance with listee's printed installation instructions, applicable codes and ordinances and in a manner acceptable to the authority having jurisdiction.

MARKING: Listee's name, model number, rating, and UL label.

APPROVAL: Listed as fire alarm pull boxes for use with separately listed compatible fire alarm control units. Refer to listee's Installation Instruction Manual for details.

* These manual pull boxes meet the requirements of UL Standard 38, 1999 Edition and California amendments.

NOTE: Formerly: 7150-0694:261

XLF: 7150-0028:0199

*Updated 09-08-2009 fm

This listing is based upon technical data submitted by the applicant. CSFM Fire Engineering staff has reviewed the test results and/or other data but does not make an independent verification of any claims. This listing is not an endorsement or recommendation of the item listed. This listing should not be used to verify correct operational requirements or installation criteria. Refer to listee's data sheet, installation instructions and/or other

Date Issued: **July 01, 2020** *Listing Expires* **June 30, 2021**

Authorized By: ***DAVID CASTILLO,**, M.E., F.P.E.*

Fire Engineering Division

Velociti® Series ASD-PL2F, ASD-PTL2F and ASD-PL2FR

Description

The Gamewell-FCI Velociti® Series, analog addressable plug-in smoke sensors with integral communication provide features that surpass conventional sensors. Sensitivity can be programmed in the control panel software, and is continuously monitored and reported to the panel. Point ID capability allows each sensor's address to be set, providing exact locations for selective maintenance when the chamber contamination reaches an unacceptable level. The ASD-PL2F photoelectric sensor's unique optical sensing chamber is engineered to sense smoke produced by a wide range of combustion sources. Dual electronic thermistors add 135°F (57°C) fixed-temperature thermal sensing on the ASD-PTL2F model.

The Velociti® Series use a communication protocol that substantially increases the speed of communication between the sensors and certain Gamewell-FCI analog addressable fire alarm controls. These devices operate in a grouped fashion. If one of the devices in the group has a status change, the panel's microprocessor stops the group poll and concentrates on the single device. The net effect is a response speed up to five times greater than earlier designs.

Ordering Information

Model	Description
ASD-PL2F	Analog, addressable photoelectronic smoke sensor
ASD-PTL2F	Analog, addressable photoelectronic smoke sensor with thermal sensing
ASD-PL2FR	Analog, addressable photoelectronic smoke sensor used with the DNR duct base when the remote test is required.

Velociti® is a registered trademark of Honeywell International Inc.

UL® is a registered trademark of Underwriters Laboratories Inc.

Analog, Addressable Photoelectronic Smoke Sensor

ASD-PL2F/ASD-PTL2F

ASD-PL2FR

Features

- Sleek, low-profile design
- Visual rotary, decimal switch addressing (01-159)
- Built-in functional test switch activated by an external magnet
- Bicolor LEDs flash green whenever the sensor is addressed, and light steady red on alarm*
- Optional relay, isolator, or sounder bases
- Low standby current
- Analog addressable communication
- Stable communication technique with noise immunity
- Optional remote, single-gang LED Indicator (RA400Z)
- Compatible with Gamewell-FCI analog addressable panels

Note: *Only the red LED is operative in panels that do not operate in Velociti® mode.

An ISO 9001-2000 Company

SIGNALING UL LISTED S1913 FM APPROVED 3023594 MEA Approved 219-02-E Vol.VI 7272-1703:121

GAMEWELL-FCI
12 Clintonville Road, Northford, CT 06472-1653 USA • Tel: (203) 484-7161 • Fax: (203) 484-7118
Specifications are for information only, are not intended for installation purposes, and are subject to change without notice. No responsibility is assumed by Gamewell-FCI for their use.
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Installation

ASD-PL2F plug-in sensors use a separate base to simplify installation, service, and maintenance. A special tool allows maintenance personnel to plug-in and remove sensors without using a ladder.

Mount the base on a box which is at least 1.5" (3.8 cm) deep. Suitable mounting base boxes include:

- 4.0" (10.2 cm) square box
- 3.5" (8.9 cm) or 4.0" (10.2 cm) octagonal box
- Single-gang box (except relay or isolator bases)
- With B200SR base, mounted on a 4.0" (10.2 cm) square box
- With B224RB or B224BI base, mounted on a 3.5" (8.9 cm) octagonal box, or a 4.0" (10.2 cm) octagonal or square box

NOTE: Because of the inherent supervision provided by the SLC, end-of-line resistors are not required. Wiring “T-taps” or branches are permitted for Style 4 (Class “B”) wiring.

Sensor Spacing

Gamewell-FCI recommends that the spacing sensors be used in compliance with NFPA 72.

Specifications

Size:	2.1” (5.1 cm) high x 4.1” (10.4 cm) diameter installed in the B501 base, 6.1” (15.5 cm) diameter installed in the ADB-FL base.
Shipping Weight:	5.2 oz. (147 g)
Operating Temperature:	ASD-PL2F: 32° F to 120° F (0° C to 49° C) ASD-PTL2F: 32° F to 100° F (0° C to 38° C)
UL®-Listed Velocity Range:	0-4000 ft./min. (1,219.2 m/min.), suitable for installation in ducts.
Relative Humidity:	10-93% (non-condensing)
Thermal Ratings:	Fixed-temperature setpoint 135° F (57° C)

Electrical Specifications

Voltage Range:	15 – 32 volts DC peak
Standby Current:	(max. avg.): .0003 A @ 24 VDC (one communication every 5 seconds with LED enabled)
Maximum Alarm Current:	.0065 A @ 24 VDC (LED) lit).

Bases and Options

ADB-FL	6.1” (15.5 cm) diameter
B200SR	6.875” (17.46 cm) Base Diameter 2.0” (5.08 cm) Base Height
B224RB Relay Base	Screw terminals: Up to 14 AWG (2.0 mm^2) Relay type: Form-C Rating: 2.0A @ 30 VDC resistive; 0.3 A @ 110 VDC inductive; 1.0 A @ 30 VDC inductive. Dimensions: 6.2” x 1.2” (15.7 x 3.0 cm) **Maximum:** 25 devices between isolator bases.
RA400Z	Remote alarm indicator, LED.
BCK-200	Black detector covers (box of 10)
DNR	Duct smoke housing

CALIFORNIA DEPARTMENT OF FORESTRY & FIRE PROTECTION
OFFICE OF THE STATE FIRE MARSHAL
FIRE ENGINEERING - BUILDING MATERIALS LISTING PROGRAM

LISTING SERVICE

LISTING No. 7272-1703:0121

CATEGORY: 7272 -- SMOKE DETECTOR-SYSTEM TYPE-PHOTOELECTRIC

LISTEE: GAMEWELL-FCI12 Clintonville Road, Northford, CT 06472
Contact: Megan Sisson (203) 484-6544 Fax (203) 484-7309
Email: megan.sisson@honeywell.com

DESIGN: Models ASD-PL2F, ASD-PL2FR*, ASD-FILTREXF, ASD-PTL2F, and MCS-ACCLIMATE2F photoelectric smoke detector. Models ASD-PL2F and MCS-ACCLIMATE2F employ a 135°F supplement integral heat sensor which only assists in a fire situation. This thermal circuitry is NOT approved for use in lieu of a required heat detector. Refer to listee's data sheet for detailed product description and operational considerations.

INSTALLATION: In accordance with listee's printed installation instructions, applicable codes and ordinances and in a manner acceptable to the authority having jurisdiction.

MARKING: Listee's name, model number, electrical rating, and UL label.

APPROVAL: Listed as photoelectric smoke detectors when used in conjunction with listee's separately listed compatible fire alarm control units and bases. All models are suitable for open areas and inside duct installations with air velocities between 0-4000 FPM. Models ASD-PL2F and ASD-PL2FR are also approved for installations inside System Sensor duct detector housing DNR (OSFM Listing No. 3242-1653:209) and DNRW (OSFM Listing No. 3242-1653:210)*.

NOTE: The photoelectric type detectors are generally more effective at detecting slow, smoldering fires which smolder for hours before bursting into flame. Sources of these fires may include cigarettes burning in couches or bedding. The ionization type detectors are generally more effective at detecting fast, flaming fires that consume combustible materials rapidly and spread quickly. Sources of these fires may include paper burning in a waste container or a grease fire in the kitchen.

FORMERLY: 7272-1209:160 and 7272-0694:263

XLF: 7272-1653:0123

*Rev. 01-28-2010 fm

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Date Issued: **July 01, 2020** *Listing Expires* **June 30, 2021**

Authorized By: ***DAVID CASTILLO,**, M.E., F.P.E.*

Fire Engineering Division

Velociti® Series
ATD-L2F, ATD-RL2F

Addressable Thermal Sensor

Description

The Gamewell-FCI Velociti® Series, addressable plug-in thermal sensors with integral communication provide features that surpass conventional sensors. Point ID capability allows each sensor's address to be set, providing exact locations for pinpointing alarm locations and for selective maintenance. ATD thermal sensors use an innovative thermistor sensing circuit to produce 135°F/57°C fixed-temperature (ATD-L2F). The ATD-RL2F provides a combination 15°/minute rate-of-rise with 135° fixed thermal detection that is included in a low-profile package. The ATD-HL2F provides fixed high-temperature detection at 190°F/88°C. These thermal sensors provide cost-effective, addressable property protection in a variety of applications.

The Velociti® Series uses a communication protocol that substantially increases the speed of communication between the sensors and Gamewell-FCI analog addressable fire alarm controls. These devices operate in a grouped fashion. If one of the devices in the group has a status change, the panel's microprocessor stops the group poll and concentrates on the single device. The net effect is response speed up to five times greater than earlier designs.

Installation

ATD plug-in sensors use a separate base to simplify installation, service, and maintenance. A special tool allows maintenance personnel to plug-in and remove sensors without using a ladder.

Mount the base on a box which is at least 1.5" (3.8 cm) deep. Suitable mounting base boxes include:

- 4.0" (10.2 cm) square box.
- 3.5" (8.9 cm) or 4.0" (10.2 cm) octagonal box.
- Single-gang box (except relay or isolator base).
- With B200SR base, mounted on a 4.0" (10.2 cm) square box.
- With B224RB or B224BI base, mounted on a 3.5" (8.9 cm) octagonal box, or a 4.0" (10.2 cm) octagonal or square box.

NOTE: Because of the inherent supervision provided by the SLC, end-of-line resistors are not required. Wiring "T-taps" or branches are permitted for Style 4 (Class "B") wiring.

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UL® is a registered trademark of Underwriters Laboratories Inc.
ULC® is a registered trademark of Underwriters Laboratories Canada Inc.

ATD-L2F

Features

- Sleek, low-profile design
- Visual rotary switch addressing
- Built-in functional test switch activated by an external magnet
- Bicolor LEDs flash green whenever the sensor is addressed, and light steadily red on alarm*
- Optional relay, isolator, or sounder bases
- Low standby current
- Addressable communication
- Stable communication technique with noise immunity
- Optional remote, single-gang LED accessory (RA-400Z)
- Suitable for installation in ducts

Note: *Only the red LED is operative in panels that do not operate in Velociti® mode.

An ISO 9000-2000 Company

SIGNALING UL LISTED S2332 FM APPROVED 3023594 MEA Approved 219-02-E Vol.VI 7270-1703:115

GAMEWELL-FCI
12 Clintonville Road, Northford, CT 06472-1610 USA • Tel: (203) 484-7161 • Fax: (203) 484-7118
Specifications are for information only, are not intended for installation purposes, and are subject to change without notice. No responsibility is assumed by Gamewell-FCI for their use.
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Specifications

Size:	2.1" (5.3 cm) high x 4.1" (10.4 cm) diameter installed in B501 base, 6.1" (15.5 cm) diameter installed in the ADB-FLF base
Shipping Weight:	4.8 oz. (137 g)
Operating Temperature:	
ATD-L2F or ATD-RL2F	–4° F to 100° F (–20° C to 38°C)
ATD-HL2	–4° F to 150°F (–20 C to 66°C)
Sensor Spacing:	UL® approved for 50 ft. (15.2 m) center to center FM approved for 25 x 25 ft. (7.6 x 7.6 m) spacing
Relative Humidity:	10 – 93% (non-condensing)
ATD-L2F	Fixed-temperature setpoint 135°F (57°C)
ATD-RL2F	Combination 135° F fixed temperature and 15° (8.3°c) per minute rate-of-rise°
ATD-HL2F	Fixed-temperature setpoint 190°F (88°C)

Electrical Specifications

Voltage Range:	15 - 32 volts DC peak
Standby Current:	200 mA @ 24 VDC (without communication)
(max. avg.)	.0003 A @ 24 VDC (one communication every 5 seconds with LED enabled)
LED Current (max.)	.0065 A @ 24 VDC (LED lit)
Voltage Range	15 –32 volts DC peak

Specifications

Bases and Options

ADB-FLF	6.1" (15.5 cm) diameter standard base
B501	4.1" (10.4 cm) diameter flangeless base
B200SR	Standard Sounder base, UL® 864 9th Edition compliant, ULC® Listed
Diameter:	6.875" (17.46 cm)
B224RB	Relay Base Up to 14 AWG (2.0 mm^2) Relay type: Form-C **Rating:** 2.0A @ 30 VDC resistive 0.3 A @ 110 VDC inductive 1.0 A @ 30 VDC inductive
B224RB	Relay Base
Dimensions:	6.2" (15.7 cm) x 1.2" (3.0 cm)
B224BI	Isolator Base
Dimensions:	6.2" (15.7 cm) x 1.2" (3.0 cm) Maximum 25 devices between isolator bases
RA-400Z	Remote alarm indicator, LED
BCK-200	Black detector covers (box of 10)

Ordering Information

Model	Description
ATD-L2F	Addressable thermal sensor, fixed, 135° F
ATD-RL2F	Addressable thermal sensor, combination fixed,135° F and 15°/minute rate-of-rise.
ATD-HL2F	Addressable thermal sensor, fixed, 190° F

CALIFORNIA DEPARTMENT OF FORESTRY & FIRE PROTECTION
OFFICE OF THE STATE FIRE MARSHAL
FIRE ENGINEERING - BUILDING MATERIALS LISTING PROGRAM

LISTING SERVICE

LISTING No. 7270-1703:0115

CATEGORY: 7270 -- HEAT DETECTOR

LISTEE: GAMEWELL-FCI12 Clintonville Road, Northford, CT 06472
Contact: Megan Sisson (203) 484-6544 Fax (203) 484-7309
Email: megan.sisson@honeywell.com

DESIGN: Models ATD-L2, *ATD-L2F, ATD-HL2 AND *ATD-HL2F (fixed temperature) and ATD-RL2, *ATD-RL2F (fixed temperature with Rate-of-Rise) electronic heat detectors. Refer to listee's data sheet for additional detailed product description and operational considerations.

RATING: ATD-L2, *-L2F, ATD-RL2, -*RL2F = 135°F fixed temperature
ATD-HL2, *-HL2F = 190°F fixed temperature

INSTALLATION: In accordance with listee's printed installation instructions, applicable codes and ordinances and in a manner acceptable to the authority having jurisdiction.

MARKING: Listee's name, model number, electrical ratings, and UL Label.

APPROVAL: Listed as heat detectors for use with separately listed compatible fire alarm control units. Refer to listee's Installation Instruction Manual for details.

NOTE: FORMERLY: 7270-0694:256

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Date Issued: **July 01, 2020** *Listing Expires* **June 30, 2021**

Authorized By: ***DAVID CASTILLO,**, M.E., F.P.E.*

Fire Engineering Division

INTELLIGENT BASES

Standard, Relay, Isolator, Sounder, and Low Frequency Sounder Bases

To meet local code and application requirements, Gamewell-FCI® offers standard 4" and 6" bases, as well as specialty base designs including relay, isolator, sounder and low frequency sounder bases that are UL listed for low frequency operation and comply with NFPA 72 requirements for sleeping spaces for the new Gamewell-FCI Series of addressable detectors as well as previous generations.

The standard 4" and 6" bases offer a plug-in detector base intended for use in intelligent systems, with screw terminals provided for power (+ and –), and remote annunciator connections. Communication takes place over the power (+ and –) lines. The 4" base offers a compact design while the 6" base provides compatibility with a wider range of junction boxes.

The specialty bases support application driven requirements. These bases employ a separate mounting plate that installs on various junction box sizes to eliminate unsightly surface-mount boxes. The mounting plate enables pre-wiring of all connections to speed and simplify installation.

Relay bases (B224RB-WH/B224RB-IV) provide one form-C contact relay for control of auxiliary functions, such as door closure and elevator recall. The relay can operate in two different modes (short and long delay). The activation time for the short delay is 60-100 milliseconds, while the activation time for the long delay is 6-10 seconds. A shunt with pin headers, located on the base PC board, is used to set the delay timing.

Isolator bases (B224BI-WH/B224BI-IV) allow the Signaling Line Circuit (SLC) loop to operate under fault conditions created from a short circuit preventing an entire communication loop from being disabled. The base isolates the section of the loop containing the short circuit from the remainder of the circuit and automatically restores when the fault is corrected.

Sounder and low frequency (-LF) sounder bases are designed for new and existing dwelling unit applications. They offer maximum flexibility in installation, configuration, and operation to meet or exceed UL 268 and UL 464 requirements. The low frequency sounder bases are designed to meet the NFPA 72 sleeping space requirement to produce a fundamental frequency of 520 Hz +/- 10% with a square wave or its equivalent. Studies show that a lower frequency, centered around 520 Hz, is the most ideal to wake sleeping occupants, even those with mild to severe hearing loss.

B300-6 Standard 6" Base (White)

B200S-WH Sounder Base (White)

B501-WHITE Flangeless 4" Base (White)

B501-BL Flangeless 4" Base (Black)

FEATURES AND BENEFITS

- Bases enable quick and secure detector plug-in
- SEMS Screws provide easy wiring connection
- UL 268 compliant
- Support for 12-24 AWG provides installation flexibility
- Multiple base formats meet application requirements
- Standard white color with ivory and black options
- Mechanical locking feature restricts removal of attached sensor head
- Specialty Base Features:
- Pre-wired mounting plate simplifies installation
- Application driven feature sets
- Sounder bases both UL268 and UL464 compliant

Honeywell

Gamewell FCI FIRE CONTROL INSTRUMENTS

The B200S sounder and LF sounder bases (B200S-WH/B200S-IV/B200S-LF-WH/B200S-LF-IV) adopt the same address as the detector, but use a unique device type on the loop. The Fire Alarm Control Panel (FACP) can use that address to command an individual sounder — or a group of sounders — to activate. The command set from the FACP can be tailored to multiple event-driven tone outputs allowing selection of volume (75 or 85 dBA), tone (ANSI Temporal 3, ANSI Temporal 4, or March Time) and group. In addition, some FACPs will enable custom tone patterns. The B200S series sounder bases recognize the System Sensor synchronization protocol. This enables them to be used as a component of the general evacuation signal — along with other System Sensor AV appliances — when connected to a power supply or FACP output capable of generating the System Sensor synchronization pulses.

The B200SR sounder and LF sounder bases (B200SR-WH/B200SR-IV/B200SR-LF-WH/B200SR-LF-IV) are fully compatible with existing B501BH Series sounder base installations. The device enables users to select one of two B501-supported tones (ANSI Temporal 3 or Continuous) through a jumper.

PRODUCT LINE INFORMATION

INTELLIGENT BASES

"-IV" suffix indicates Ivory color model.

"-BL" suffix indicates Black color model.

"-WH" and "-WHITE" suffix indicates White color model.

B210LP: Flanged mounted base.

B210LPA: Same as B210LP; ULC listed.

B210LPBP: Bulk pack of B210LP, contains 10.

B300-6: White, 6" base, standard flanged low-profile mounting base

B300-6-BP: Bulk pack of B300-6, package contains 10

B300-6-IV: Ivory,6" base, standard flanged low-profile mounting base.

B501-WHITE: White, 4" standard European flangeless mounting base. UL/ULC listed

B501-WHITE-BP: Bulk pack of B501-WHITE, contains 10

B501-BL: Black, 4" standard European flangeless mounting base

B501-IV: Ivory color, 4" standard European flangeless mounting base

B224RB-WH: White, relay base

B224RB-IV: Ivory, relay base

B224BI-WH: White, isolator detector base

B224BI-IV: Ivory isolator detector base

B200S-WH: White, Intelligent addressable sounder base capable of producing sound output in high or low volume with ANSI Temporal 3, ANSI Temporal 4, continuous tone, marching tone, and custom tone; Uses Velociti® protocol

B200S-IV: Ivory, Intelligent addressable sounder base capable of producing sound output in high or low volume with ANSI Temporal 3, ANSI Temporal 4, continuous tone, marching tone, and custom tone; Uses Velociti® protocol

B200S-LF-WH: White, Low Frequency Intelligent, programmable sounder base, produces a fundamental frequency of 520 Hz +/- 10% with a square wave or its equivalent; designed to meet the NFPA 72 sleeping space requirement

B200S-LF-IV: Ivory, Low Frequency Intelligent, programmable sounder base, produces a fundamental frequency of 520 Hz +/- 10% with a square wave or its equivalent; designed to meet the NFPA 72 sleeping space requirement

B200SR-WH: White, Intelligent sounder base capable of producing sound output with ANSI Temporal 3 or continuous tone; Intended for retrofit applications

B200SR-IV: Ivory, Intelligent sounder base capable of producing sound output with ANSI Temporal 3 or continuous tone; Intended for retrofit applications

B200SR-LF-WH: White, Low Frequency Intelligent, programmable sounder base, produces a fundamental frequency of 520 Hz +/- 10% with a square wave or its equivalent; designed to meet the NFPA 72 sleeping space requirement; intended for retrofit applications

B200SR-LF-IV: Ivory, Low Frequency Intelligent, programmable sounder base, produces a fundamental frequency of 520 Hz +/- 10% with a square wave or its equivalent; designed to meet the NFPA 72 sleeping space requirement. Intended for retrofit applications.

MOUNTING KITS AND ACCESSORIES

TR300: White, replacement flange for B210LP, B300-6 base

TR300-IV: Ivory, replacement flange for B210LP, B300-6-IV base

RA100Z: Remote LED annunciator, 3 – 32 VDC, mounts to a U.S. single-gang electrical box; For use with B501 and B300-6

M02-04-00: Test magnet

M02-09-00: Test magnet with telescoping handle

CK300: White, detector color kit, pack of 10

CK300-IV: Ivory, detector color kit, pack of 10

CK300-BL: Black, detector color kit, pack of 10

JUNCTION BOX SELECTION GUIDE

Base Models	Single Gang	Double Gang	3.5" Oct.	4.0" Oct.	4.0" Square	4.0" Square with 3.0" mud ring	50 mm	60 mm	70 mm	75 mm
B200S,B200SR	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No
B501	No	No	Yes	No	No	Yes	Yes	Yes	Yes	No
B300-6	Yes	No	Yes	Yes	Yes	Yes	No	No	No	No
B224BI, B224RB	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No

Box depth contingent on base and wire size.
Refer to National Electric Code or applicable local codes for appropriate recommendations.
Applies to all model variants "BL", "-LF", "-IV", "-WH", and "-WHITE". See Product Line Information for detailed model description.

INTELLIGENT BASES TECHNICAL SPECIFICATIONS

ELECTRICAL

For B300-6 Series bases:
- **Operating voltage:** 15 to 32 VDC
- **Standby current:** 170 µA maximum

For B501 Series bases:
- **Operating voltage:** 15 to 32 VDC
- **Standby current:** 150 µA maximum

For B200 Series bases:
- **External supply voltage:** 16 to 33 VDC (FWR)
- **Standby current:** 500 µA maximum
- **Alarm current for B200S(-IV)(-WH):**
  35 mA maximum at high-volume setting
  15 mA maximum at low-volume setting
- **Alarm current for B200S-LF(-IV)(-WH)** High-volume setting:
  70 mA maximum @ 33.0 VDC
  90 mA maximum @ 24.0 VDC
  140 mA maximum @16.0 VDC
- **Alarm current for B200S-LF(-IV)(-WH)** Low-volume setting:
  15 mA maximum @ 33.0 VDC
  20 mA maximum @ 24.0 VDC
  25 mA maximum @ 16.0 VDC
- **Alarm current for B200SR(-IV)(-WH):** 35 mA maximum
- **Alarm current for B200SR-LF(-IV)(-WH):**
  65 mA maximum @ 33.0 VDC
  90 mA maximum @ 24.0 VDC
  125 mA maximum @16.0 VDC

SLC operating voltage: 15 to 32 VDC

SLC standby current: See applicable sensor specification

Sound output: Greater than 85 dBA minimum; measured in a UL reverberant room at 10 feet, 24 Volts (continuous tone)

For B224BI, B224RB (-IV) (-WH) bases:
- **Operating voltage:** 15 to 32 VDC (powered by SLC)
- **Standby ratings:** <450 µA maximum @ 24 VDC
- **Set time: (B224RB(-IV)(-WH) only):** short delay 60-100 msec; long delay 6-10 seconds
- **Reset time: (B224RB/-IV/-WH only):** 20 milliseconds maximum
- **Relay characteristics: (B224RB/-IV/-WH only):** two-coil latching relay; one Form-C contact; ratings (UL/CSA): 0.9 A @ 125 VAC, 0.9 A @ 110 VDC, and 3.0 A @ 30 VDC

PHYSICAL

Note: Specifications applies to all model variants "-BL", "-LF", "-IV", -WH, -WHITE. See Product Line Information for detailed model description.

Diameter:
- **B501-WHITE:** 4" (10.16 cm)
- **B300-6, B210LP:** 6.1" (15.49 cm)
- **B224BI, B224RB:** 6.2" (15.748 cm)
- **B200S, B200SR:** 6.875" (17.46 cm)

Wire gauge:
- **B224BI, B224RB:** 14 to 24 AWG
- **B300-6, B210LP, B501, B200S, B200SR**12 to 24 AWG

Temperature range:
- **B224BI, B224RB, B200S, B200SR:** 32°F to 120°F (0°C to 49°C)
- **B300-6, B210LP, B501:** -4°F to 150°F (-20°C to 66°C)

Humidity range: 10% to 93% RH, non-condensing

System temperature and humidity ranges: This system meets NFPA requirements for operation at 0°C to 49°C (32°F to 120°F); and at a relative humidity (non-condensing) of 85% at 30°C (86°F) per NFPA, and 93% ± 2% at 32°C ± 2°C (89.6°F ± 1.1°F) per ULC. 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 all peripherals be installed in an environment with a nominal room temperature of 15°C to 27°C (60°F to 80°F).

AGENCY LISTINGS AND APPROVALS

The listings and approvals below apply to intelligent bases as noted. In some cases, certain modules or applications may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

UL Listed: S911

FM Approved

CSFM: 7300-1653:0109, 7300-1653:0126, 7300-1653:0213, 7300-1653:0238

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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.

Country of origin: Mexico

Honeywell Gamewell-FCI
12 Clintonville Road
Northford, CT 06472-1610
203.484.7161
www.gamewell-fci.com

9021-60540 | K | 07/19
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CALIFORNIA DEPARTMENT OF FORESTRY & FIRE PROTECTION
OFFICE OF THE STATE FIRE MARSHAL
FIRE ENGINEERING - BUILDING MATERIALS LISTING PROGRAM

LISTING SERVICE

LISTING No. 7300-1653:0109

CATEGORY: 7300 -- FIRE ALARM CONTROL UNIT ACCESSORIES/MISC. DEVICES

LISTEE: System Sensor, Unincorporated Div of Honeywell Int'l Inc.3825 Ohio Ave, St. Charles, IL 60174
Contact: Megan Sisson (203) 484-6544 Fax (203) 484-7309
Email: megan.sisson@honeywell.com

DESIGN: Models B401, B401B, B401R, B401BR, B401BR-750, B401R-750, B402B, B404B, B404BT, B406B, B501, B501B, 14506587-002, B501BH, B501BHT, B401BH, B110LP, B110RLP, B110RLP750, B112LP, B114LP, B114LPBT, B116LP, B210LP, B501-BL, B501-IV, *B501-WHITE, B300-6, B300-6-IV, B300-6-IS detector bases. Refer to listee's data sheet for detailed product description and operational considerations.

INSTALLATION: In accordance with listee's printed installation instructions, applicable codes and ordinances and in a manner acceptable to the authority having jurisdiction.

MARKING: Listee's name, *model number, *electrical rating and UL label.

APPROVAL: Listed as detector bases for use with separately listed compatible detectors. *Refer to Manufacturers Installation Instruction Manual for details.

NOTE: Formerly 7300-1209:128

*Rev 04-03-18 gt

This listing is based upon technical data submitted by the applicant. CSFM Fire Engineering staff has reviewed the test results and/or other data but does not make an independent verification of any claims. This listing is not an endorsement or recommendation of the item listed. This listing should not be used to verify correct operational requirements or installation criteria. Refer to listee's data sheet, installation instructions and/or other

Date Issued: **July 01, 2020** *Listing Expires* **June 30, 2021**

Authorized By: ***DAVID CASTILLO,**, M.E., F.P.E.*

Fire Engineering Division

FRC Series

Fire Rated Ceiling Access Doors

FRC Series access doors are rated by Underwriters Laboratories for 1-1/2 hours, "B" label in walls, and by Warnock Hersey for 3 hours in ceilings and 2 hours in walls. The FRC Series Doors should be utilized when providing access in fire rated walls and ceilings. FRC Series Doors have heavy-duty spring closures to ensure positive latching when panel closes. An interior latch release is also included on all doors to enable unlocking from inside.

Door is fabricated from 20 gage, galvannealed steel with a prime coat finish. Door panel is provided with 2" of insulation in a sandwich type construction.

Frame is fabricated from 16 gage, galvannealed steel with a prime coat finish and provided with masonry anchors and bolt holes.

Hinge is fully concealed and mounted on the long side of the rectangular door panel.

Exterior latch is a dual purpose lock that features a knurled knob and key operation. Both are provided at time of shipping.

Interior latch release slide is included enabling door to be opened from the inside.

Guide Specification

Provide Elmdor® FRC Series, Fire Rated Ceiling Access Doors (specify model number and options). Access door frame shall be fabricated from 16 gage galvannealed steel with a prime coat finish and provided with masonry anchors and bolt holes. Access door panel shall be fabricated from 20 gage, galvannealed steel with a prime coat finish. Door shall be filled with 2" thick, fire rated insulation, and be welded pan type. Access door shall have automatic closer, be self-latching and contain interior latch release. Exterior latching shall be recessed and universal self-latching bolt, operated by either a knurled knob or flush key. Finish shall be a prime coat suitable for painting.

Underwriters Laboratories classification shall be: Classified access frame and fire door assembly 1-1/2 hours, "B" Label. Meets ANSI-UL 10B standard. Finish shall be a prime coat suitable for painting.

ELMDOR/STONEMAN • P.O. BOX 3527 • CITY OF INDUSTRY, CA 91744-0527 U.S.A. • TEL: (800) 591-9181 • (626) 968-8699 • FAX: (626) 333-4109
A Division of Acorn Engineering Company www.elmdorstoneman.com • E-mail: info@elmdorstoneman.com

MODEL NUMBER AND OPTIONS SELECTION

BASE MODEL NUMBER

❑ FRC Fire Rated Ceiling Access Door

Suffix Options

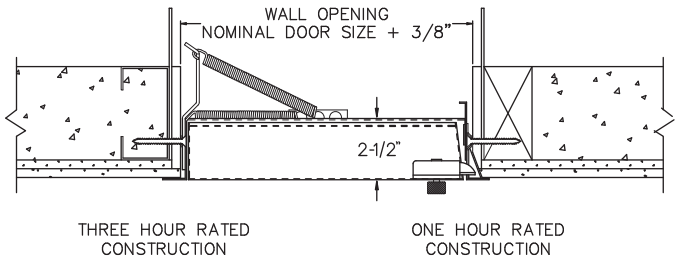
❑ -GB Galvanized Drywall Bead
❑ -MLP Mortise Cylinder Lock (Prep)
❑ -SS Stainless Steel Construction. (Type 304 No 4 Finish Satin Finish)

STANDARD AVAILABLE SIZES

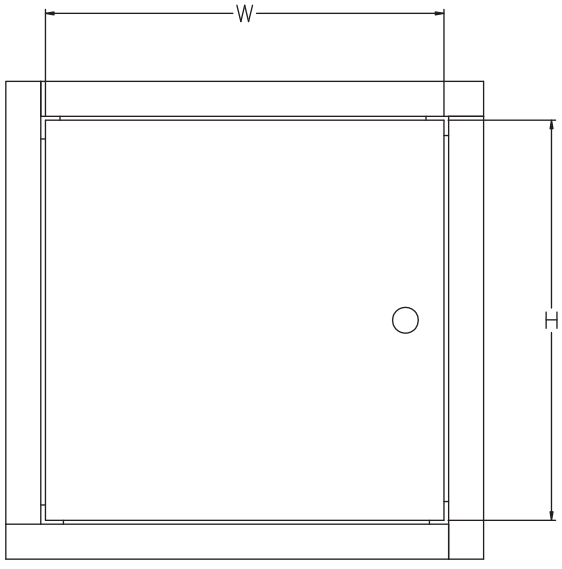
Special sizes available upon request.

NOMINAL DOOR SIZE (W X H)	CEILING OPENING	WALL OPENING	LATCHES	WEIGHT
FRC 8" x 8"	9-5/8" x 9-5/8"	8-3/8" x 8-3/8"	1	11 lbs.
FRC 10" x 10"	11-5/8" x 11-5/8"	10-3/8" x 10-3/8"	1	12 lbs.
FRC 12" x 12"	13-5/8" x 13-5/8"	12-3/8" x 12-3/8"	1	15 lbs.
FRC 14" x 14"	15-5/8" x 15-5/8"	14-3/8" x 14-3/8"	1	17 lbs.
FRC 16" x 16"	17-5/8" x 17-5/8"	16-3/8" x 16-3/8"	1	18 lbs.
FRC 18" x 18"	19-5/8" x 19-5/8"	18-3/8" x 18-3/8"	1	20 lbs.
FRC 20" x 20"	21-5/8" x 21-5/8"	20-3/8" x 20-3/8"	1	24 lbs.
FRC 22" x 30"	23-5/8" x 31-5/8"	22-3/8" x 30-3/8"	2	32 lbs.
FRC 24" x 24"	25-5/8" x 25-5/8"	24-3/8" x 24-3/8"	1	28 lbs.
FRC 24" x 36"	25-5/8" x 37-5/8"	24-3/8" x 36-3/8"	2	40 lbs.

Note: On sizes 16" x 16" and larger, an extra spring is supplied with the door and must be attached from back of door pan to framing, or floor above, in such a manner to ensure that door is self closing.



SIDE VIEW



FRONT VIEW

Dimensions are subject to manufacturer's tolerance of plus or minus 1/4". Elmdor/Stoneman assumes no responsibility for use of void or suspended data. Please visit **www.elmdorstoneman.com** for most current specifications. © Copyright 2009 Elmdor/Stoneman, City of Industry, CA, A Division of Acorn Engineering Company.

SELECTION SUMMARY & APPROVAL FOR MANUFACTURING

Model Number & Options_____ Quantity_____
Company_____ Date_____
Contact_____ Title_____
Approval for Manufacturing/Signature_____

FRC *Revised: 7/16/09*

GENTEX CORPORATION

120VAC Remote Visual Signal

GXS-120 SERIES

Applications

The GXS-120 Series is a high quality remote visual signaling appliance that offers dependable remote annunciation. The GXS-120 is ideal for applications where a dependable visual alarm is required in applications such as hotels, dormitories and apartments.

The GXS-120 Series has a constant flash rate of 1Hz. The GXS-120 Series is provided with a two position terminal block (12-18AWG).

The GXS-120 has a 177 candela strobe that meet the requirements of the ADA. GXS-120 appliances are ANSI/UL 1971 listed and are warranted for three years from the date of purchase.

Standard Features

- Nominal voltage 120VAC
- 177 candela strobe meets the requirements of NFPA 72 and meets the requirements of ADA
- Unit Dimensions: 4.5" high x 4.56" wide x 2.25" deep
- Terminal blocks (12-18 AWG)
- Flash rate 1Hz
- Wide variety of mounting options for new construction and retrofit applications
- ANSI/UL 1971 listed for fire protective service/signal for hearing impaired
- Faceplate available in red or off-white

GXS-120 Series Remote Strobe		
Model Number	**Part Number**	**Candela (ANSI/UL 1971)**
GXS-120177WR	904-0780-002	177
GXS-120177WW	904-0758-002	177
GXS-120177CR	904-0781-002	177
GXS-120177CW	904-0759-002	177

GXS-120 Series Strobe Current Ratings	
Candela	**177cd**
UL Max	209mA

NOTES:

Operating temperature: 32° to 120°F (0° to 49°C)
GXS-120 Series is **not** listed for outdoor use

"W" = Wall mount "C" = Ceiling mount
"R" = Red faceplate "W" = Off-White faceplate
"P" = Plain (no lettering)

The plain "P" units are non-returnable.

Product Listings

SIGNALING UL LISTED

- ANSI/UL 1971
- CSFM Listing 7125-569:114
- MEA #285-91-E
- BFP (City of Chicago)

Product Compliance

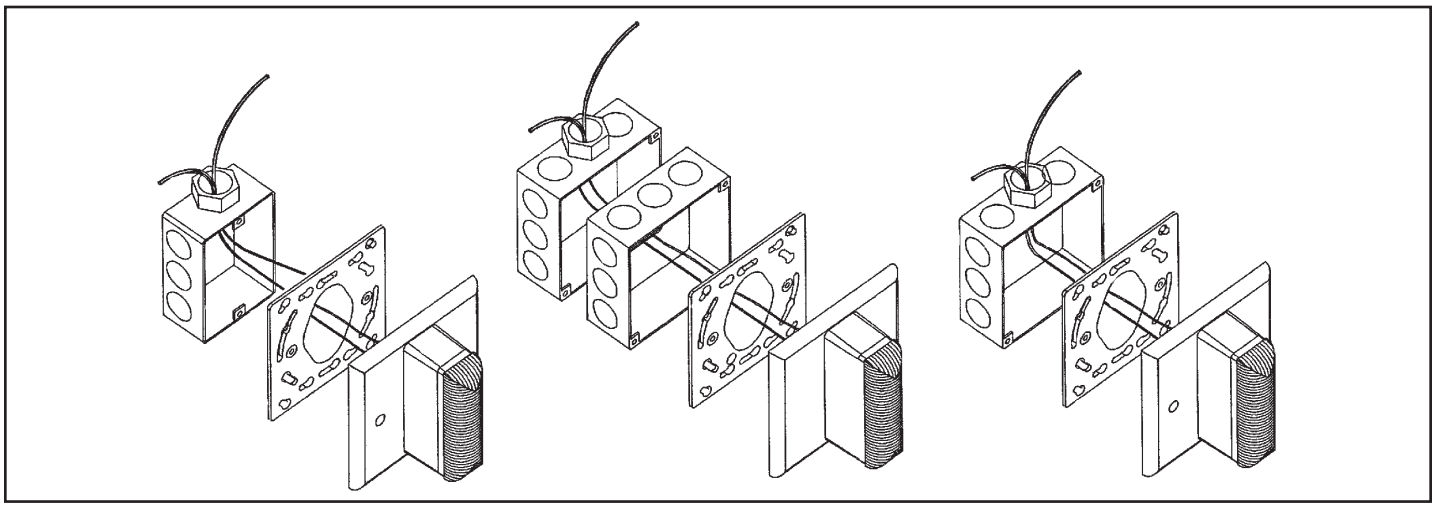
- Americans with Disabilities Act (ADA)
- NFPA 72
- IBC/IFC/IRC
- Quality Management System is certified to: ISO 9001:2008

NEMA MEMBER

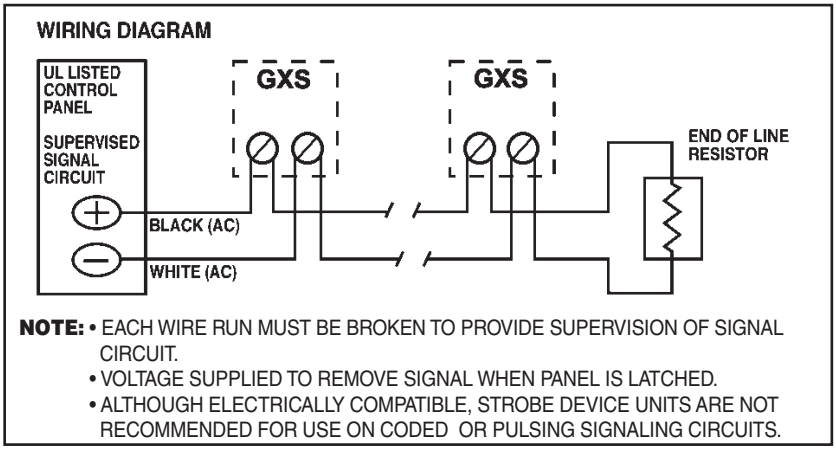
ASSEMBLED IN THE USA

GXS-120 SERIES

Mounting Rough-in Box and Run Wiring



Wiring Diagram GXS-120



NOTE: • EACH WIRE RUN MUST BE BROKEN TO PROVIDE SUPERVISION OF SIGNAL CIRCUIT.
• VOLTAGE SUPPLIED TO REMOVE SIGNAL WHEN PANEL IS LATCHED.
• ALTHOUGH ELECTRICALLY COMPATIBLE, STROBE DEVICE UNITS ARE NOT RECOMMENDED FOR USE ON CODED OR PULSING SIGNALING CIRCUITS.

Architect & Engineering Specifications

The visual signal shall be the Gentex Model GXS-120 or approved equal. The visual appliance shall be ANSI/UL 1971 listed by Underwriters Laboratories.

The visual appliance shall be installed in accordance with the appropriate provisions of the National Fire Protection Association, American National Standards or other applicable state and local requirements.

The visual signal shall be capable of mounting to a single gang, double gang, double work box or 4" square back box. The visual signal shall have a constant flash rate of 1Hz regardless of listed input voltage.

24 units per carton
12 pounds per carton

GENTEX CORPORATION
Fire Protection Products Group • www.gentex.com
10985 Chicago Drive • Zeeland, Michigan 49464
616.392.7195 • 1.800.436.8391 • 616.392.4219 Fax

Gentex Corporation reserves the right to make changes to the product data sheet at their discretion.

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551-0036-03

CALIFORNIA DEPARTMENT OF FORESTRY & FIRE PROTECTION
OFFICE OF THE STATE FIRE MARSHAL
FIRE ENGINEERING - BUILDING MATERIALS LISTING PROGRAM

LISTING SERVICE

LISTING No. 7125-0569:0114

CATEGORY: 7125 -- FIRE ALARM DEVICES FOR THE HEARING IMPAIRED

LISTEE: Gentex Corporation10985 Chicago Drive, Zeeland, MI 49464
Contact: Keiffer Sestric (616) 392-7195 Fax (616) 392-4219
Email: keiffer.sestric@gentex.com

DESIGN: Strobe Models GXS-2-15, GXS-2-15/75, GXS-4-15, GXS-4-15/75, GXS-4-30, GXS-4-30/75, GXS-4-60, GXS-4-110 and GXS-120-177; AVP-2-15, AVP-2-15/75, AVP-4-15, AVP-4-15/75, AVP-4-30/75, AVP-4-110, AVP-4-110-1, and AVP-120-177. All units may be followed by suffix -C or -W (ceiling or wall mount) and -W or -R (white or red). Models with suffix -Z are synchronized strobe and are intended for connection with the sync module. Refer to listee's data sheet for additional detailed product description and operational considerations.

RATING:
Candela: -15: 15cd; -15/75: 15cd & 75cd at 00 angle axis
-30/75: 30cd & 75cd at 00 angle axis; -30: 30cd; -60: 60cd
-110: 110cd; -177: 177cd
Electrical: -120: 120 VAC; -4: 21-30 VDC; -2: 10-16 VDC
Flash Rate: 60 flashes per minute

INSTALLATION: In accordance with listee's printed installation instructions, applicable codes and ordinances and in a manner acceptable to the authority having jurisdiction.

MARKING: Listee's name, model number, electrical and candela ratings and UL label.

APPROVAL: Listed as horn and horn/strobes for use with separately listed compatible fire alarm control units. For indoor use only. Model WGEC1638-75 is intended for outdoor use when used with Model GOE outdoor enclosure (CSFM Listing No. 7300-0569:124). Model WGEC1638-75 is intended for private mode signaling use only and not approved for hearing impaired application.

*The audible in Models GEH24, GEC24, GEC3-24, and WGEC1638 may produce distinctive tones including: mechanical, 2400Hz and chime tones in continuous and temporal 3 settings as well as a whoop tone in either a high or low dBA setting.

*The audible in Model HS24 may produce a horn piezo frequency of 3100Hz. Model GCC24 may produce distinctive tones including mechanical and 2400Hz. Both models are capable of continuous and temporal 3 settings.

NOTE: Formerly 7300-0569:114

*Rev. 12-09-2003

This listing is based upon technical data submitted by the applicant. CSFM Fire Engineering staff has reviewed the test results and/or other data but does not make an independent verification of any claims. This listing is not an endorsement or recommendation of the item listed. This listing should not be used to verify correct operational requirements or installation criteria. Refer to listee's data sheet, installation instructions and/or other

Date Issued: **July 01, 2020** *Listing Expires* **June 30, 2021**

Authorized By: ***DAVID CASTILLO,**, M.E., F.P.E.*

Fire Engineering Division

Cooper-Wheelock

MT Series

Description

Cooper-Wheelock's Series MT and MT Strobe Multitone electronic appliances offer a choice of eight (8) nationally and internationally recognized alerting sounds: Horn, Bell, March Time Horn, Code-3 Tone, Code-3 Horn, Slow Whoop, Siren or Hi/Lo Tone. The Code-3 Horn and tone patterns are engineered to comply with NFPA/ANSI Temporal Pattern specifications without requiring additional equipment. With MT and MT Strobe appliances, one alarm appliance meets most of your signaling needs. Strobe models can be synchronized using the Cooper-Wheelock SM, DSM Sync Modules or a power supply equipped with Cooper-Wheelock's patented Sync Protocol.

The MT Strobes are designed for ADA applications with maximum performance, reliability and cost-effectiveness while meeting or exceeding the latest requirements of NFPA 72, ANSI 117.1, UFC and UL® Standard 1971 as well as meeting ADA requirements concerning photosensitive epilepsy.

Each MT and MT Strobe appliance has two installer selective sound output levels: STANDARD dBA and HIGH dBA. Non-strobe versions provide selectable voltage capability in one unit, 12VDC or 24VDC. Strobe versions are specific for either 12VDC or 24VDC and all models may be used with filtered or unfiltered (full-wave-rectified) input voltages. Separate input terminals are available, shunt wires are provided to enable both tone and strobe to operate simultaneously from a single input.

The Series MT Multitone Strobe appliances are UL Listed for indoor wall mount applications under Standard 1971 for Signaling Devices for the Hearing Impaired and under Standard 464 for Audible Signaling Appliances.

General Notes on Strobes

- Strobes are designed to flash once flash per second minimum over their "Regulated Voltage Range". Note that NFPA-72 specifies a flash rate of 1 to 2 flashes per second and ADA Guidelines specifies a flash rate of 1 to 3 flashes per second.
- All candela ratings represent minimum effective Multitone Strobe intensity based on UL Standard 1971.
- MT Strobe models are UL Standard 1971 Listed for indoor use with a temperature range of 32°F to 120°F (0°C to 49°C) and maximum humidity of 93% ±2%.

Lexan® is a registered trademark of GW Plastics, a subsidiary of General Electric Corp.

UL® is a registered trademark of Underwriter's Laboratories Inc.

Multitone Electronic Appliances

MT Series

Features

- One alarm appliance with eight (8) selective signals to provide superior sound penetration for various ambient and wall conditions with two field selectable sound output levels
- Audible and strobe can operate from a single NAC circuit with any of the eight (8) audible sounds
- Selectable input voltage on non-strobe versions. Strobe versions are factory set for either 12 or 24VDC, with a wide-Listed voltage range, filtered (DC) and FWR
- Designed to meet or exceed ADA/NFPA/UFC/ANSI Standards and Accessibility Guidelines
- Complies with OSHA 29, Part 1910.165
- Series MT appliances have IN and OUT wiring terminations that accept two #12 to #18 American Wire Gauge (AWG) wires at each terminal. Inputs are polarized for compatibility with standard reverse polarity type supervision
- Code-3 Horn and Tone meet ANSI/NFPA temporal pattern for standard emergency evacuation signaling
- MT Strobe models available with 15/75 and 75 candela ratings for independent or single input activations and can be synchronized using Wheelock's SM or DSM sync module(s) or a power supply with built-in Wheelock Sync Protocol
- Mounts to either 4" square or double gang boxes (important for retrofit installations). Attractive flush or surface mounting
- No additional trim plate required for flush mounting

SIGNALING
LISTED
E5946
(Multitone Signals Models)
E5946/S5391
(Multitone Strobe Signals Models)
FM APPROVED
7125-0785:0155
7135-0785:0118
CS243

ISO 9001 CERTIFIED ENGINEERING & MANUFACTURING QUALITY SYSTEMS

GAMEWELL-FCI
12 Clintonville Road, Northford, CT 06472-1653 USA • Tel: (203) 484-7161 • Fax: (203) 484-7118
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General Notes on Strobes (Continued)

- The MT-12/24 and MTWP models for outdoor use are Listed for -31°F to 150°F (-35°C to 66°C) and maximum humidity of 95%.
- MT Audible is UL Standard 464 Listed.
- "Regulated Voltage Range" is the newest terminology used by UL to identify the voltage range. Prior to this change UL used the terminology "Listed Voltage Range".

Engineer's Specifications

The notification appliance shall be a Cooper-Wheelock Series MT audible/visual appliance or equivalent. Notification appliance shall be electronic and use solid state components. Electromechanical alternatives are not approved. Each electronic appliance shall provide eight (8) field selectable alarm tones. The tones shall consist of: HORN, BELL, MARCH TIME HORN, CODE-3 HORN, CODE-3 TONE, SLOW WHOOP, SIREN and HI/LO. Tone selection shall be by durable dip switch assembly and not clips or jumpers. The Multitone Audible appliance shall be UL Listed under Standard 464 for Audible Signal Appliances. The audible and the strobe shall be able to operate from a single NAC circuit while producing any of these tones. The appliance shall provide two output sound levels: STANDARD and HIGH dBA. The HIGH dBA setting shall provide a minimum 5 dBA increase in sound output at nominal voltage. The HIGH anechoic dBA measurement at 10 feet at the alarm HORN SETTING shall be 101 dBA minimum for MT and 92 dBA minimum for MT Strobes, at nominal voltage. Operating voltages shall be either 12 VDC or 24 VDC using filtered power or unfiltered power supply (full-wave-rectified). All models shall have provisions for standard reverse polarity type supervision and IN/OUT field wiring using terminals that accept #12 to #18 AWG wiring.

Combination audible/visual appliances shall incorporate a Xenon flashtube enclosed in a rugged Lexan® lens or equivalent with solid state circuitry. Strobe shall produce a flash rate of one (1) flash per second minimum over the voltage range. The strobe intensity shall be rated per UL and Listed under Standard 1971 for Signaling Devices for the Hearing Impaired for 1575 or 75 candela. The 15/75 candela strobe shall be specified when 15 candela or with 75 candela intensity on-axis is required. Strobe Models shall incorporate circuitry for synchronized strobe flash and shall be designed for compatibility with Cooper-Wheelock SM and/or DSM Sync Modules or a Power Supply with Cooper-Wheelock's Sync Protocol.

The strobes shall not drift out of synchronization at any time during operation. If the module fails to operate (i.e., contacts remain closed), the strobes shall revert to a non-synchronized default flash rate.

Strobe activation shall be via independent input or from the same input circuit as the audible.

The combination audible/visual appliances shall be installed indoors and may be surface or flush mounted. They shall mount to standard electrical hardware requiring no additional trim plate or adapter. The aesthetic appearance shall not have any mounting holes or screw heads visible when the installation is completed.

Engineer's Specifications (Continued)

The appliance shall be finished in a textured red color.

The Series MT-12/24 audible appliance may be installed indoor or outdoor with the proper back box.

For Weatherproof applications where specifications require 75 cd @ -31°F (-35°C) and full temperature range of -31°F to 150°F refer to Data Sheet S9004 and/or Installation Instructions P84150.

WARNING!

CONTACT Cooper-WHEELOCK FOR THE CURRENT "INSTALLATION INSTRUCTIONS" P82467 MT-12/24, P84155 MT w/Strobe P84150 MTWP WEATHERPROOF "GENERAL INFORMATION" SHEET (P82380) ON THESE PRODUCTS. THESE DOCUMENTS DO UNDERGO PERIODIC CHANGES. IT IS IMPORTANT THAT YOU HAVE CURRENT INFORMATION ON THESE PRODUCTS. THESE MATERIALS CONTAIN IMPORTANT INFORMATION THAT SHOULD BE READ PRIOR TO SPECIFYING OR INSTALLING THESE PRODUCTS, INCLUDING:

- TOTAL CURRENT REQUIRED BY ALL APPLIANCES CONNECTED TO SYSTEM SECONDARY POWER SOURCES.
- FUSE RATINGS ON NOTIFICATION APPLIANCE CIRCUITS TO HANDLE PEAK CURRENTS FROM ALL APPLIANCES ON THOSE CIRCUITS.
- COMPOSITE FLASH RATE FROM MULTIPLE STROBES WITHIN A PERSON'S FIELD OF VIEW.
- THE VOLTAGE APPLIED TO THESE PRODUCTS MUST BE WITHIN THEIR RATED INPUT VOLTAGE RANGE.
- INSTALLATION IN OFFICE AREAS AND OTHER SPECIFICATION AND INSTALLATION ISSUES.
- USE STROBES ONLY ON CIRCUITS WITH CONTINUOUSLY APPLIED OPERATING VOLTAGE. DO NOT USE STROBE ON CODED OR INTERRUPTED CIRCUITS IN WHICH THE APPLIED VOLTAGE IS CYCLED ON AND OFF AS THE STROBE MAY NOT FLASH.
- FAILURE TO COMPLY WITH THE INSTALLATION INSTRUCTIONS OR GENERAL INFORMATION SHEETS COULD RESULT IN IMPROPER INSTALLATION, APPLICATION, AND/OR OPERATION OF THESE PRODUCTS IN AN EMERGENCY SITUATION,WHICH COULD RESULT IN PROPERTY DAMAGE AND SERIOUS INJURY OR DEATH TO YOU AND/OR OTHERS.
- CONDUCTOR SIZE (AWG), LENGTH AND AMPACITY SHOULD BE TAKEN INTO CONSIDERATION PRIOR TO DESIGN AND INSTALLATION OF THESE PRODUCTS, PARTICULARLY IN RETROFIT INSTALLATIONS.

Wiring

Figure 1 illustrates the MT Signal wiring.

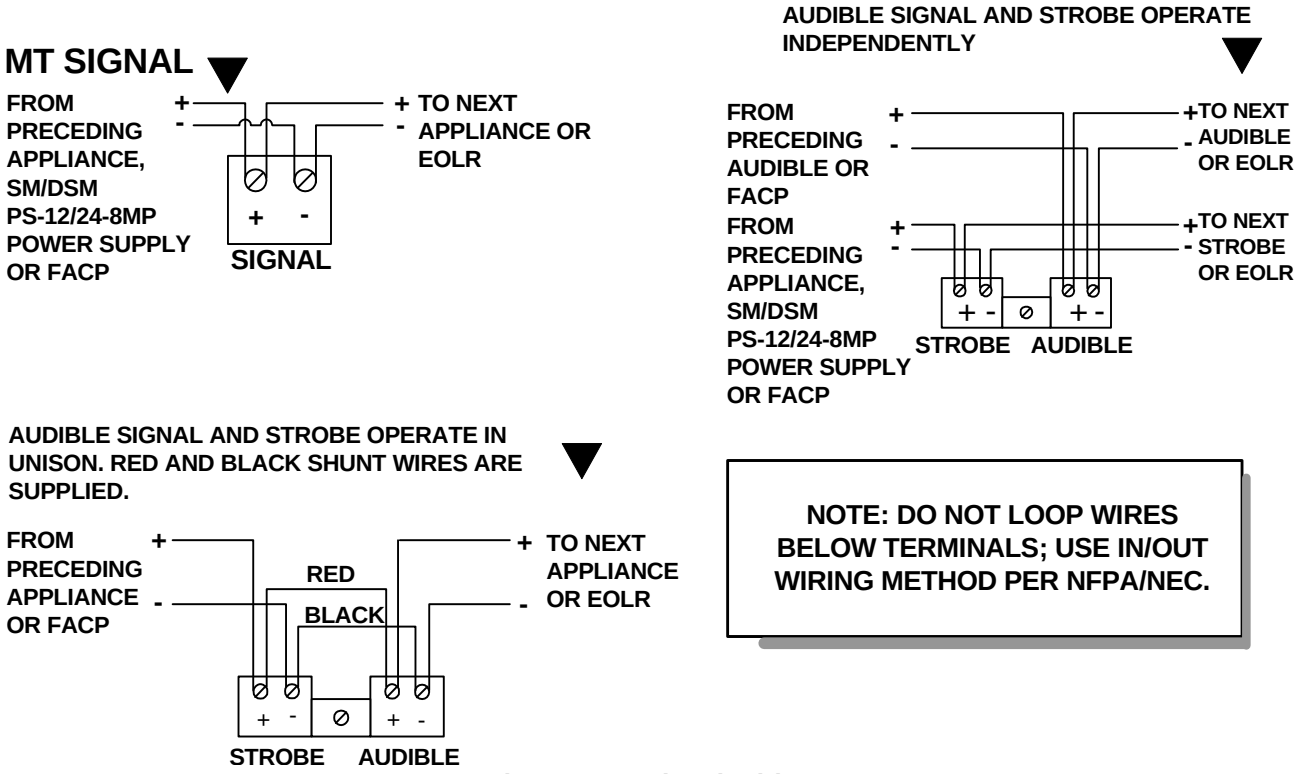

Figure 1 MT Signal Wiring

Ordering Information

Model Number	Input Voltage	Rated Candela	Mounting Options***	Agency Approvals				
				UL	MEA	CSFM	FM	BFP
MT-12/24-R”	12/24	-	D,E,F,L,M,O,P,R	X	X	X	X	X
MT-241575W-FR*	24	15 (75 or AXIS)	D,E,F,L,M,O,P,R	X	X	X	X	*
MT-2475W-FR	24	75	D,E,F,L,M,O,P,R	X	X	X	X	*
MTWP-2475W-FR**	24	75** (@-31°F/-35°C)	M	X	X	X	X	*
MT4-115-R	115 VAC	-	D,E,J,K,N,O,R	X	X	X	X	X
MT4-115-WH-VFR##	115 VAC	15	D,E,J,K,N,O,R	X	X	X	X	X
Sync Models	**Input Voltage**	**Average Current (AMPS)**	**Mounting Options**	**UL**	**MEA**	**CSFM**	**FM**	**BFP**
SM-12/24-R	12 or 24		W	X	X	X	X	X
DSM-12/24-R	12 or 24		W	X	X	X	X	X

NOTES:

+MT-12/24 Audible can be used with Cooper-Wheelock’s RSSP Multi-Candela for applications requiring 15, 30, 75, 110 cd Wall Strobes.

**MTWP-2475W is Weatherproof and rated for 75 cd @ -31°F (-35°C). See Cooper-Wheelock Data Sheet S9004 or Installation Instruction P84150.

***For additional information, please refer to the mounting options data sheet.

****SM Sync Modules are rated for 3.0 amperes at 12/24 VDC; DSM Dual Circuit Modules are rated for 3.0 amperes per circuit. Maximum number of interconnected DSM modules is twenty (20). Refer to Cooper-Wheelock Data Sheet S3000.

Use MT-241575W when 15cd is specified. 15/75 is UL Listed for 15cd with 75cd on AXIS.

Series WH Strobe is listed for UL Standard 1638 only. See Cooper-Wheelock Instruction Sheet P83159.

WARNING! PLEASE READ THESE SPECIFICATIONS AND INSTALLATION INSTRUCTIONS CAREFULLY BEFORE USING, SPECIFYING OR APPLYING THIS PRODUCT. FAILURE TO COMPLY WITH ANY OF THE FOLLOWING INSTRUCTIONS, CAUTIONS AND WARNINGS COULD RESULT IN IMPROPER APPLICATION, INSTALLATION AND/OR OPERATION OF THESE PRODUCTS IN AN EMERGENCY SITUATION, WHICH COULD RESULT IN PROPERTY DAMAGE, AND SERIOUS INJURY OR DEATH TO YOU AND/OR OTHERS.

Tone	Average Mean Current Ratings				dBA Reverberant Ratings Per UL 464				dBA Anechoic Ratings	
	@24 VDC		@ 12 VDC		@ 24 VDC		@ 12 VDC		@ 12 and 24 VDC	
	HI	STD	HI	STD	HI	STD	HI	STD	HI	STD
Horn	0.040	0.025	0.100	0.020	92	87	90	77	99	93
Bell	0.020	0.013	0.031	0.010	86	80	85	69	92	87
March Time Horn	0.040	0.025	0.100	0.020	89	84	89	74	99	93
Code-3 Horn	0.040	0.025	0.100	0.020	88	83	88	73	99	93
Code-3 Tone	0.028	0.017	0.060	0.015	85	80	84	70	95	90
Slow Whoop	0.048	0.026	0.100	0.025	90	89	89	75	99	94
Siren	0.036	0.023	0.082	0.020	89	84	89	75	98	93
HI/LO	0.021	0.014	0.044	0.012	86	81	86	71	93	88

Note 1: If the strobe and audible operate on the same circuit, add the strobe current from Table 2 to the audible current from Table 1. For Peak and Inrush current across the listed voltage range refer to Installation Instructions.

Note 2: *Average RMS Current is per UL average RMS method and Average Mean Current is per UL average mean method. For rated In Rush and Peak current across the UL listed voltage range for both filtered DC and unfiltered VRMS (FWR), see installation instructions.

Table 1: dBA and Current Ratings for Multitone Audible Portion

UL 12 and 24 VDC Voltage Range	Average RMS Current*	Average Mean Current		
	MT-241575W	MT2475W	MT-121575W	MTWP2475W
16.0 VDC	.101	.215	-	.158
24.0 VDC	.064	.140	-	.107
33.0 VDC	.047	.114	-	.090
8.0 VDC	-	-	.336	-
12.0 VDC	-	-	.179	-
17.5 VDC	-	-	.136	-

NOTES on dBA/CURRENT RATINGS TABLE 1 and 2 ABOVE:

1) Anechoic dBA is measured on axis in a non-reflective (free field) test room using fast meter response. For peak dBA (measured with peak meter response), add 5 dBA to typical anechoic values shown in tables above.

2) Reverberant dBA is a minimum UL rating based on sound power measurements in a reverberant test room.

***CAUTION!** This setting is acceptable only for general signaling (non-fire alarm) use. Use the “high” dBA setting with this tone or use a different tone for public mode fire alarm service.

Table 2: Strobe Current Ratings (AMPS)

Tones	Pattern Description
Horn	Broadband Horn (Continuous)
Bell	1560 Hz Modulated (0.07 se. ON/Repeater)
March Time Horn	Horn (0.25 sec. ON/O.25 sec. OFF/Repeat)
Code-3 Horn	Horn (ANSI S3.41 Temporal Pattern)
Code-3 Horn	500 Hz (ANSI S3.41 Temporal Pattern)
Slow Whoop	500-1200 Hz Sweep (4.0 sec. ON/0.5 sec. OFF/Repeat)
Siren	600-1200 Hz Sweep (10 sec. ON/Repeat)
Hi/Lo	1000/800 Hz (0.25 sec. ON/Alternate)

Table 3: Alarm Tones

Disclaimer: Cooper-Wheelock products must be used within their published specifications and must be PROPERLY specified, applied, installed, operated, maintained and operationally tested in accordance with their installation instructions at the time of installation and at least twice a year or more often and in accordance with local, state and federal codes, regulations and laws. Specification, application, installation, operation, maintenance and testing must be performed by qualified personnel for proper operation in accordance with all of the latest National Fire Protection Association (NFPA), Underwriters’ Laboratories (UL), National Electrical Code (NEC), Occupational Safety and Health Administration (OSHA), local, state, county, province, district, federal and other applicable building and fire standards, guidelines, regulations, laws and codes including, but not limited to, all appendices and amendments and the requirements of the local authority having jurisdiction (AHJ).

CALIFORNIA DEPARTMENT OF FORESTRY & FIRE PROTECTION
OFFICE OF THE STATE FIRE MARSHAL
FIRE ENGINEERING - BUILDING MATERIALS LISTING PROGRAM

LISTING SERVICE

LISTING No. 7135-0785:0118

CATEGORY: 7135 -- AUDIBLE DEVICES

LISTEE: Cooper Wheelock Inc.7246 16th St. E., Ste. 105, Sarasota, FL 34243
Contact: Tom Conover (941) 487-2336
Email: thomas.conover@cooperindustries.com

DESIGN: Model MT-12/24, MT-115 and MT4-12/24, and MT4-115 multi-tone audible devices followed by R, W, S, or X to indicate package color.

Models MT-12, MT4-12, MT-24, MT4-24 multi-tone audible/strobe signals followed by A, B, G, R or W to indicate lens color, followed by S (15 cd), H (15 cd) or M (117 cd) to indicate strobe intensity, and other suffixes to designate orientation, lens lettering and plate color.

Models MT-115-WH and MT4-115-WH multi-tone audible/visual devices (Rated 15 cd).

Refer to listee's data sheet for additional detailed product description and operational considerations.

RATING:

Suffix	-12:	*8-17.5 VDC
	-24:	*16-33 VDC
	-115:	120 VAC

INSTALLATION: In accordance with listee's printed installation instructions, NFPA 72, applicable codes and ordinances and in a manner acceptable to the authority having jurisdiction. Models MT series are surface mount and suitable for outdoor with Model IOB back box. Models MT4 series are flush mount and suitable for outdoor with model WBB back box.

MARKING: Listee's name, model number, electrical/candela rating and UL label.

APPROVAL: Listed as audible and audible/visual signaling devices for use with separately listed electrically compatible fire alarm control units. Not suitable for the hearing impaired application.

These appliances can produce a distinctive three-pulse Temporal Pattern Fire Alarm Evacuation Signal (for total evacuation) in accordance with NFPA 72, 2002 Edition. Refer to manufacturer's Installation Manual for details.

NOTE:

*Rev. 06-13-2006

This listing is based upon technical data submitted by the applicant. CSFM Fire Engineering staff has reviewed the test results and/or other data but does not make an independent verification of any claims. This listing is not an endorsement or recommendation of the item listed. This listing should not be used to verify correct operational requirements or installation criteria. Refer to listee's data sheet, installation instructions and/or other

Date Issued: **July 01, 2020** *Listing Expires* **June 30, 2021**

Authorized By: ***DAVID CASTILLO,**, M.E., F.P.E.*

Fire Engineering Division

Velociti® Series
AOM-2RF

Description

The Gamewell-FCI Velociti® Series, addressable output relay control module (AOM-2RF) allows an Gamewell-FCI analog addressable fire alarm control to switch discrete relay contacts by code command. The relay provides two (2), isolated sets of Form-C contacts which transfer simultaneously. Circuit connections to the relay contacts are not supervised by the module.

The Velociti® Series use a communication protocol that substantially increases the speed of communication between the sensors and certain Gamewell-FCI analog addressable fire alarm controls. These devices operate in a grouped fashion. If one of the devices in the group has a status change, the panel's microprocessor stops the group poll and concentrates on the single device. The net effect is response speed up to five times greater than earlier designs.

The AOM-2RF Module is designed for installation in the signaling line circuit of any Gamewell-FCI analog addressable fire control panel. The module contains a panel controlled LED. The AOM-2RF is designed to mount in a 4" square junction box 2 1/8" deep.

Relay Contact Ratings			
Current Rating	**Maximum Voltage**	**Load Description**	**Application**
3A	30 VDC	Resistive	Non-Coded
2A	30 VDC	Resistive	Coded
0.9A	110 VDC	Resistive	Non-Coded
0.5A	125 VAC	Resistive	Non-Coded
0.5A	30 VDC	Inductive (L/R=5ms)	Coded
1A	30 VDC	Inductive (L/R=2ms)	Coded
0.5A	125 VAC	Inductive (PF=.35)	Non-Coded
0.7A	75 VAC	Inductive	Non-Coded

Velociti® Series is a registered trademark of Honeywell International Inc.

Addressable Output Relay Control Module

AOM-2RF

Features

- Two (2) sets of Form "C" contacts
- Visual rotary, decimal switch addressing (01-159)
- Bicolor LEDs flash green whenever the sensor is addressed, and light steady red on alarm*
- Compact size allows easy installation

Note: Only the red LED is operative in panels that do not operate in Velociti® mode.

Specifications

Supervisory current: .000375 amps.
Alarm current: .0065 amps.
Operating temperature: 32° to 120° F (0° to 49° C)
Relative humidity: 10 to 93% relative humidity (non-condensing)
Dimensions: 4 1/2" H x 4" W x 1 1/4" (11.4 x 10.2 x 3.2 cm)

Ordering Information

Model	Description
AOM-2RF	Addressable output relay control module

An ISO 9001-2000 Company

SIGNALING
LISTED S1949
APPROVED 3023594
MEA Approved 227-03-E Vol.IV 07300-0694:178

GAMEWELL-FCI
12 Clintonville Road, Northford, CT 06472-1653 USA • Tel: (203) 484-7161 • Fax: (203) 484-7118
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Velociti® Series
AMM-2F

Addressable Monitor Module

Description

The Gamewell-FCI Velociti® Series, addressable monitor module AMM-2F is a single Style B, Class B initiating device circuit (IDC) with a 47KW end-of-line resistor. This module provides an address for any device or group of devices connected to this circuit on the signaling line circuit (SLC) of the Gamewell-FCI addressable series fire alarm control panel. Any initiating device with normally open (N.O.) dry contacts may be made addressable when connected to the AMM-2F module.

The Velociti® Series use a communication protocol that substantially increases the speed of communication between the sensors and certain Gamewell-FCI analog addressable fire alarm controls. These devices operate in a grouped fashion. If one of the devices in the group has a status change, the panel's microprocessor stops the group poll and concentrates on the single device. The net effect is response speed up to five times greater than earlier designs.

The AMM-2F module can be programmed to provide a wide variety of input functions to the Gamewell-FCI addressable series fire alarm control panels. It can be identified as a manual station, heat detector, plenum detector, waterflow switch, tamper switch, N.O. contact, smoke detector, projected beam smoke detector, sub loop, remote zone, etc. It can also serve as a remote system silence, system reset, system acknowledge or drill switch. It is even possible to customize its device type to meet specific job requirements.

The initiating device circuit of the AMM-2F can support a maximum line resistance of up to 40 ohms allowing the use of linear heat detection devices. The compact size facilitates the installation of the module inside manual stations, or mounting boxes of various types of alarm initiating devices.

Velociti® is a registered trademark of Honeywell International Inc.
UL® is a registered trademark of Underwriters Laboratories Inc.

AMM-2F

Features

- Compact size allows easy installation
- Class B, Style B, initiating circuit
- 40 Ohm line resistance for each initiating device circuit
- Connects to any normally open dry contact device

Specifications

Supervisory Current:	.000375 amps
Alarm Current:	.00060 amps
Operating Temperature:	32° to 120° F (0° to 49° C)
Relative Humidity:	10 to 93% (non-condensing)
End-of-Line Resistance:	47K ohms
Dimensions:	1.3" L x 2.5" W x 0.5" D (3.3 x 6.4 x 1.3 cm)

Ordering Information

Part Number	Description
AMM-2F	Addressable monitor module, single circuit, Style B, Class B

An ISO 9001-2000 Company

SIGNALING UL LISTED S1949 · FM APPROVED 3023594 · MEA Approved 227-03-E VOL IV · 7300-1703:102

GAMEWELL-FCI
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CALIFORNIA DEPARTMENT OF FORESTRY & FIRE PROTECTION
OFFICE OF THE STATE FIRE MARSHAL
FIRE ENGINEERING - BUILDING MATERIALS LISTING PROGRAM

LISTING SERVICE

LISTING No. 7300-1703:0102

CATEGORY: 7300 -- FIRE ALARM CONTROL UNIT ACCESSORIES/MISC. DEVICES

LISTEE: GAMEWELL-FCI12 Clintonville Road, Northford, CT 06472
Contact: Megan Sisson (203) 484-6544 Fax (203) 484-7309
Email: megan.sisson@honeywell.com

DESIGN: Models AMM-4, *AMM-4F, AMM-2 and *AMM-2F monitor modules and Models AOM, AOM-2, AOM-2R, *AOM-2RF, AOM-2S and *AOM-2SF control modules. Refer to listee's data sheet for detailed product description and operational considerations.

INSTALLATION: In accordance with listee's printed installation instructions, applicable codes and ordinances and in a manner acceptable to the authority having jurisdiction.

MARKING: Listee's name, model designation, electrical rating and UL label.

APPROVAL: Listed as accessories for use with separately listed compatible control units. System Sensor Model SMB500 surface mount box (CSFM Listing No. 7300-1653:103) may be used as an enclosure for these modules

NOTE: FORMERLY: 7300-0694:178

XLF: 7300-1653:0103

12-4-07

This listing is based upon technical data submitted by the applicant. CSFM Fire Engineering staff has reviewed the test results and/or other data but does not make an independent verification of any claims. This listing is not an endorsement or recommendation of the item listed. This listing should not be used to verify correct operational requirements or installation criteria. Refer to listee's data sheet, installation instructions and/or other

Date Issued: **July 01, 2020** *Listing Expires* **June 30, 2021**

Authorized By: ***DAVID CASTILLO,**, M.E., F.P.E.*

Fire Engineering Division

Velociti® Series MCS-COF

Description

The Advanced Multi-Criteria Fire/CO Detector (MCS-COF) is an addressable device that provides both fire and carbon monoxide (CO) detection. For fire detection, the detector combines the following four separate sensing elements in one unit.

- Smoke
- Carbon Monoxide (CO)
- Light/flame
- Heat

These elements sense multiple components of a fire. This approach enables an enhanced sensitivity to real fire with a heightened immunity to nuisance particulate. For CO, the detector's electrochemical sensing cell creates a separate signal for life safety CO detection.

Released through the incomplete burning of various fuels, CO is a colorless, odorless and deadly gas that is virtually impossible to detect with the human senses. Because the potential exists for dangerous levels of CO to accumulate in almost any building, legislation mandates the use of CO detection in commercial spaces in the U.S. The MCS-COF is Listed to the UL® 2075 Standard for system-connected life safety carbon monoxide monitoring.

It is designed to be used with the Gamewell-FCI, E3 Series or S3 Series fire alarm control panel only. The MCS-COF should be used in conjunction with the B200S intelligent sounder base, which can generate either of the following patterns:

- Temp 3 pattern for fire.
- Temp 4 pattern for CO alarm indication.

The B200S recognizes the System Sensor synchronization protocol. This feature enables it to be used as a component of the general evacuation signal, along with other System Sensor horns, horn strobes, and chimes, when the MCS-COF is connected to a power supply or Fire Alarm Control Panel (FACP) output that is capable of generating the System Sensor synchronization pulses. With each sounder base carrying a unique address, the FACP can then command an individual sounder, or a group of sounders, to activate. The command set from the panel can be tailored to the specific event, allowing selection of volume, tone, and group. For more information on the B200S, refer to Data Sheet P/N: 9021-60671.

E3 Series® is a registered trademark of Honeywell International Inc.
UL® is a registered trademark of Underwriters Laboratories Inc.

Advanced Multi-Criteria
Fire/CO Detector

MCS-COF in a B200S Sounder Base

Features

- Offers the unique function to detect the following four major elements of a fire:
  - Smoke
  - Carbon Monoxide (CO)
  - Light/flame
  - Heat
- Supplies a separate CO detection signal.
- Presents the highest nuisance alarm immunity.
- Produces an automatic drift compensation of smoke sensor and CO cell.
- Uses only one address on the SLC.
- Includes the EasyTest CO testing capability.
- Complies with UL® Listed Standard 268 and UL® Listed Standard 2075.
- Separates the audible signal for fire or CO alarm when used with the B200S Base.
- Provides the CO cell end-of-life warning and fault.

SIGNALING
UL LISTED
S1195 7275-1703:0175

ISO 9001 CERTIFIED ENGINEERING & MANUFACTURING QUALITY SYSTEMS

GAMEWELL-FCI
12 Clintonville Road, Northford, CT 06472-1610 USA • Tel: (203) 484-7161 • Fax: (203) 484-7118

Specifications are for information only, are not intended for installation purposes, and are subject to change without notice. No responsibility is assumed by Gamewell-FCI for their use.
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Specifications

Physical Specifications

Base Diameter: 6.875" (17.46 cm) installed in a B200S base
Base Height: 3.46" (8.79 cm) installed in B200S base
Shipping Weight: 4.6 oz
Color: Ivory
Material: Bayblend FR110
Operating Temperature Range: 32° F to 100° F (0° C to 38° C)
Operating Humidity Range: 15 to 90% relative humidity (non-condensing)
Air Velocity: 0 to 4,000 ft/min (0 to 20 m/sec)

Electrical Specifications

Operating Voltage Range: 15 to 32 VDC
Maximum Standby Current: 300 µA at 24 VDC (no communication every 5 seconds with LED blink enabled).
Maximum Alarm Current (LED on): 7.2 mA at 24 VDC

Sensitivity Settings & Suggested Applications

Level 1: 1% per foot (30.48 cm) of smoke. Very clean environments: Used in Laboratories.
Level 2: 2% per foot (30.48 cm) of smoke. Clean environments: Used in offices.
Level 3: 3% per foot (30.48 cm) of smoke. Moderately clean environments: Used in hotel rooms, dorm rooms.
Level 4: 3% per foot (30.48 cm) of smoke with different algorithm processing and weighting of sensor elements. Used in hotel rooms near a shower, boiler rooms.
Level 5: 4% per foot (30.48 cm) of smoke. Used in equipment rooms, kitchens, paint shop.
Level 6: Thermal alarm at 135° F (57° C).

Warning: After the CO cell has reached the end-of-life, the CO sensor no longer provides life safety protection. However, when the fire detector enters Photo, Thermal, Infrared (PTIR) mode, the following sensitivities apply:

Level 1: 1% per foot (30.48 cm) of smoke. Very clean environments: Used in Laboratories.
Level 2: 2% per foot (30.48 cm) of smoke. Clean environments: Used in offices.
Level 5: 3% per foot (30.48 cm) of smoke. Moderately clean environments: Used in hotel rooms, dorm rooms.
Level 6: Thermal alarm at 135° F (57° C).

Specifications (Continued)

CO Monitoring UL Standard Reference - Alarm Thresholds are as follows:

Parts per Million	70 ± 5ppm	150±5ppm	400± 10ppm
Detector Response Time, min.	60-240	10-50	4-15

Note: Per UL Standard 2075, the MCS-COF has been tested to the sensitivity limits defined in UL Standard 2034.

Ordering Information

Part Number	Description
MCS-COF	Advanced Multi-Criteria Fire/CO Detector **Note:** Due to the unique nature of this detector, please consult your Fire Alarm Control Panel Manufacturer for the specific model and compatibility.
Accessories:	
B200S	Addressable Sounder Base
M02-04-01	Detector Test Magnet
M02-09-01	Telescoping Test Magnet

CALIFORNIA DEPARTMENT OF FORESTRY & FIRE PROTECTION
OFFICE OF THE STATE FIRE MARSHAL
FIRE ENGINEERING - BUILDING MATERIALS LISTING PROGRAM

LISTING SERVICE

LISTING No. 7275-1703:0175

CATEGORY: 7275 -- COMBINATION SMOKE/CO DETECTOR-PHOTOELECTRIC TYPE

LISTEE: GAMEWELL-FCI12 Clintonville Road, Northford, CT 06472
Contact: Megan Sisson (203) 484-6544 Fax (203) 484-7309
Email: megan.sisson@honeywell.com

DESIGN: Model MCS-COF combination multi-criteria photoelectric smoke and Carbon Monoxide detector with supplemental heat sensor. Refer to listee's data sheet for additional detailed product description and operational considerations.

RATING: 15-32 VDC

INSTALLATION: In accordance with listee's printed installation instructions, NFPA 72, NFPA 720, applicable codes & ordinances and in manner acceptable to the authority having jurisdiction.

MARKING: Listee's name, product number, electrical rating and UL label.

APPROVAL: Listed as smoke detectors for use with Model B200S base and listee's separately listed compatible fire alarm control units. Also suited for gas and vapor detection. The supplemental heat sensor is intended for use to reduce the nuisance alarm and is not intended for use as a stand alone heat detector.

XLF: 7275-0028:0264

12-13-11 gt

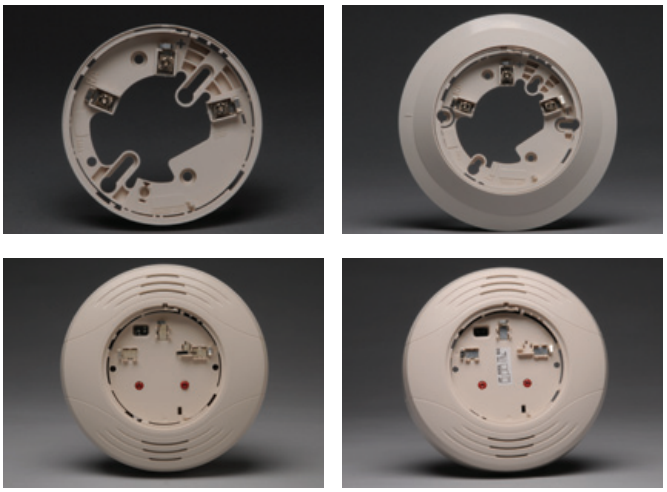
This listing is based upon technical data submitted by the applicant. CSFM Fire Engineering staff has reviewed the test results and/or other data but does not make an independent verification of any claims. This listing is not an endorsement or recommendation of the item listed. This listing should not be used to verify correct operational requirements or installation criteria. Refer to listee's data sheet, installation instructions and/or other

Date Issued: **July 01, 2020** *Listing Expires* **June 30, 2021**

Authorized By: ***DAVID CASTILLO,**, M.E., F.P.E.*

Fire Engineering Division

200 Series Mounting Base Options



System Sensor mounting bases and kits provide a variety of installation options for detectors in any application.

Features

- Bases enable quick and secure detector plug-in
- SEMS screws provide easy wiring connection
- Support for 12-24 AWG provides installation flexibility
- Multiple accessory options provide mounting flexibility
- Sounder bases are compliant with UL 464 and UL 268

To meet local code and application requirements, System Sensor offers relay, isolator, and sounder base options for 200 Series detectors. Relay bases provide one form C contact relay for control of auxiliary functions, such as door closure and elevator recall. Isolator bases allow loops to continue to operate under fault conditions and automatically restore when the fault is removed. Sounder bases are available in a combination temporal 3 and continuous tone model (B200SR) or an addressable model (B200S) that can be activated by the fire alarm control panel based on the event.†

200 Series Bases provide a variety of mounting options to meet your installation challenges. Bases come in flanged or flangless versions for mounting to a variety of junction boxes. See the 200 Series Junction Box Selection Guide on the next page for junction box options. Surface mounting boxes are also available.

Agency Listings

Model	Listings
B501	UL, ULC,* FM, CSFM
B210LP	UL, ULC, FM, CSFM
B200S	UL, ULC, FM, CSFM
B200SR	UL, ULC, FM, CSFM
B224RB	UL, ULC, FM, CSFM
B224BI	UL, ULC, FM, CSFM

* For ULC-listed products, add “A” to the model number (e.g., B501A).

† Consult your fire alarm control panel manufacturer for compatibility with the addressable model of the sounder base.

Specifications – 200 Series Bases

Physical Specifications			
Diameter	B501: 4.1" (104 mm); B210LP: 6.1" (155 mm); B224BI, B224RB, B200SR, B200S: 6.875" (175 mm)		
Wire Gauge	B224BI, B224RB, B200SR, B200S, B210LP, B501: 24 to 12 AWG		
Temperature Range	Refer to applicable sensor Operating Temperature Range using the Base/Sensor Cross Reference Chart at systemsensor.com		
Humidity Range	10% to 93% RH non-condensing		
B224RB/B224BI Electrical Ratings		**B200SR/B200S Electrical Ratings**	
Operating Voltage	15 to 32 VDC (powered by SLC)	**External Supply Voltage**	16 to 33 VDC (VFWR)
Standby Current	170/450 μA max.	**Standby Current**	500 μA max.
Set Time (B224RB only)	Short Delay: 60 to 100 msec Long Delay: 6 to 10 sec		
Reset Time (B224RB only)	20 msec max.		
Relay Characteristics (B224RB only)	2 coil latching relay 1 Form C contact UL/ULC Rating: 0.5 A @ 125 VAC 0.9 A @ 125 VDC 3 A @ 30 VDC	**Sound Output**	Greater than 90 dBA measured in anechoic room at 10 feet, 24 volts. 85 dBA minimum in UL reverberant room
		Alarm Current	35 mA max.

200 Series Junction Box Selection Guide

Model	Single Gang	3.5" Octagonal	4" Octagonal	4" Square	4" Square*	50 mm	60 mm	70 mm	75 mm
B501	No	Yes	No	No	Yes	Yes	Yes	Yes	No
B210LP	Yes	Yes	Yes	Yes	Yes	No	No	Yes	No
B224RB	Yes	No	Yes	Yes	Yes	No	No	Yes	No
B224BI	Yes	No	No	Yes	Yes	No	No	Yes	No
B200SR/B200S	Yes	Yes†	Yes	Yes	Yes†	No	No	Yes	No

* with 3.0" mud ring

† B200SA is not compatitble with this junction box

Note: Box depth contingent on base and wire size. Refer to National Electric Code or applicable local codes for appropriate recommendations.

Ordering Information, 200 Series Bases

Model	Description
B501*	4" Flangeless Mounting Base
B501BP*	4" Flangeless Mounting Base Bulk Pack
B210LP*	6" Flanged Mounting Base
B210LPBP*	6" Flanged Mounting Base Bulk Pack
B200SR*	Standard Sounder Base (Compatible with B501BH Series)
B200S*	Intelligent Addressable Sounder Base
B224RB*	Relay Base
B224BI*	Isolator Base
200 Series Accessories	
SMB600	Surface Mounting Kit (flanged)
F110	Accessory Flange Ring for 6" Base
F110BP	Accessory Flange Ring for 6" Base Bulk Pack
F210	Accessory New Smaller Flange Ring for 6" Base
RA100Z*	Remote LED Annunciator
M02-04-00	Detector Test Magnet
M02-09-00	Test Magnet with Telescoping Handle
XR2B	Detector Removal Tool (T55-127-000 included)
XP-4	Extension Pole for XR2B (5 to 15 ft.)
T55-127-000	Detector Removal Head
BCK-200B	Black Detector Kit
WCK-200B	White Detector Kit

* Add "A" to model number for ULC-listed product (e.g., B501A)

B200S Addressable Sounder Base Product Overview

When used with compatible fire alarm control panels, the B200S sounder base provides unmatched flexibility to configure the output to various events. When combined with System Sensor SpectrAlert® Advance notification appliances, the B200S can serve as a UL464 compliant component of the general evacuation signaling, improving aesthetics and reducing system costs.

Features*:

- Simple addressing scheme - base adopts the same address as attached sensor
- Synchronizable with SpectrAlert Advance notification appliances
- Four standard tone patterns at two selectable volumes
- Custom tone capability
- Support for Temporal-4 CO annunciation

** Note: Some features are dependent on Fire Alarm Panel programming. Consult your Fire Alarm Panel manual for more information on the capabilities of your system.*

SYSTEM SENSOR®

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www.systemsensor.com

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SPDS13801 • 09/12

CALIFORNIA DEPARTMENT OF FORESTRY & FIRE PROTECTION
OFFICE OF THE STATE FIRE MARSHAL
FIRE ENGINEERING - BUILDING MATERIALS LISTING PROGRAM

LISTING SERVICE

LISTING No. 7300-1653:0213

CATEGORY: 7300 -- FIRE ALARM CONTROL UNIT ACCESSORIES/MISC. DEVICES

LISTEE: System Sensor, Unincorporated Div of Honeywell Int'l Inc.3825 Ohio Ave, St. Charles, IL 60174
Contact: Megan Sisson (203) 484-6544 Fax (203) 484-7309
Email: megan.sisson@honeywell.com

DESIGN: Models B200S and B200SR detector audible sounder bases. Model B200S is capable of producing sound output in High and Low output with T3, T4, continuous tone, marching tone, and custom tone. Model B200SR can only be configured for T3 and continuous tone depending on the jumper setting. *Models B200S and B200SR may be followed by a two digit suffix, indicating the color of the detector's enclosure: -WH for white, -IV for ivory, -BL for black etc.
Refer to listee's data sheet for additional detailed product description and operational considerations.

INSTALLATION: In accordance with listee's printed installation instructions, applicable codes and ordinances and in a manner acceptable to the authority having jurisdiction.

MARKING: Listee's name, model number, electrical rating and UL label.

APPROVAL: Listed as audible devices/detector bases for use with listes's separately listed compatible detectors. Units can generate the distinctive three-pulse Temporal Pattern Fire Alarm Evacuation Signal (for total evacuation) in accordance with NFPA 72, 2007 Edition. Refer to listee's Installation Instruction Manual for details.

*Rev 04-03-18 gt

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Date Issued: **July 01, 2020** *Listing Expires* **June 30, 2021**

Authorized By: ***DAVID CASTILLO,**, M.E., F.P.E.*

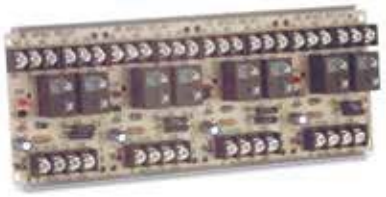
Fire Engineering Division

AIR PRODUCTS AND CONTROLS

You in Control

MR-100, 200 SERIES

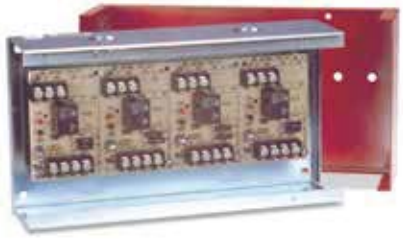
MULTI-VOLTAGE CONTROL RELAYS



PRODUCT DESCRIPTION

The MR Series Multivoltage Control Relays offer SPDT or DPDT 10 Amp resistive contacts which may be operated by one of four input control voltages. A single relay may be energized from a voltage source of 24VDC, 24VAC, 120VAC or 230VAC by wiring to appropriate input terminals.

Each relay position contains a red LED which indicates the relay coil is energized. Relays may be "snapped apart" from a standard 4 module assembly and used independently. These Devices are Ideal for applications where local contacts are required for system status, remote contacts for control of electrical loads and general purpose switching. They are suitable for use with HVAC, Temperature Control, Fire Alarm, Security, Energy Management and Lighting Control Systems.



FEATURES

- Relays may be energized from a voltage source of 18 to 35VDC or VAC, 120VAC or 230VAC
- Each relay position contains a red LED, which illuminates when the coil is energized. This provides a time saving device when checking an installed system – no metering is required
- Single, dual or triple relay modules may be "snapped apart" from standard 4-position master
- DC control inputs are polarized
- For continuous duty use at 24VAC, 24VDC, 120VAC, or 230VAC
- Available in dust resistant enclosures with LED viewing port(s)
- /C versions mounted in enclosures
- /C/R versions with red covers for NYC and other uses
- /T versions come complete with track mounting hardware which facilitates installation in standard cabinets
- UL recognized relays rated at 10,000,000 mechanical operations
- UL listed as Control Unit Accessory

SIGNALING c UL us LISTED

CSFM LISTED

MEA ACCEPTED

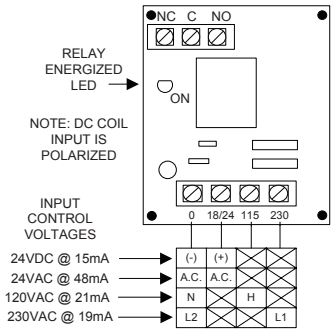
RECOGNIZED COMPONENT

WIRING

(TYPICAL FOR ONE MODULE POSITION)

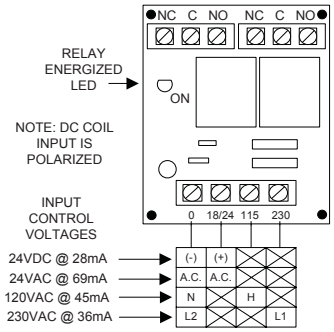
MR-101

SPDT CONTACT
RESISTIVE: 7A @ 30VDC,
10A @ 125VAC, 7A @ 250VAC
INDUCTIVE: .25HP 125/250VAC (N.C.),
.33 HP 125/250VAC (N.O.)



MR-201

DPDT CONTACTS
RESISTIVE: 7A @ 30VDC,
10A @ 125VAC, 7A @ 250VAC
INDUCTIVE: .25HP 125/250VAC (N.C.
.33 HP 125/250VAC (N.O.)



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PRODUCT SPECIFICATIONS

MODEL NUMBER:	MODULE POSITIONS	CONTACT CONFIGURATION PER POSITION	TRACK MOUNTED H X W X D	ENCLOSURE MOUNTED H X W X D	COVER MATERIAL	UL* FILE S3403	MEA FILE 73-92-E	CSFM FILE 7300-1004
MR-101/T	1	SPDT	3.25" (82mm) 2.125" (54mm) 1.50" (38mm)			UOXX2		:106
MR-101/C	1	SPDT		5.125" (130mm) 3.125" (79mm) 2.50" (63mm)	Grey ABS-94VO Plastic	UOXX UOXX2 UOXX7	Vol. 14	:101
MR-101/C/R	1	SPDT			Red ABS-94VO Plastic		Vol. 22	
MR-104/T	4	SPDT	3.25" (82mm) 8.50" (215mm) 1.50" (38mm)			UOXX2		:106
MR-104/C	4	SPDT		5.125" (130mm) 9.50" (241mm) 2.50" (63mm)	Plated 18ga CRS	UOXX UOXX2 UOXX7	Vol. 14	:101
MR-104/C/R	4	SPDT			Red 18ga CRS			
MR-201/T	1	DPDT	3.25" (82mm) 2.125" (54mm) 1.50" (38mm)			UOXX2		:106
MR-201/C	1	DPDT		5.125" (130mm) 3.125" (79mm) 2.50" (63mm)	Grey ABS-94VO Plastic	UOXX UOXX2 UOXX7	Vol. 16	:101
MR-201/C/R	1	DPDT			Red ABS-94VO Plastic		Vol. 22	
MR-204/T	4	DPDT	3.25" (82mm) 8.5" (215mm) 1.50" (38mm)			UOXX2		:106
MR-204/C	4	DPDT		5.125" (130mm) 9.50" (241mm) 2.50" (63mm)	Plated 18ga CRS	UOXX UOXX2 UOXX7	Vol. 16	:101
MR-204/C/R	4	DPDT			Red 18ga CRS			

COIL VOLTAGE:	MR-100: 24(18-35)VDC, 24(18-35)VAC, 120VAC, 230VAC MR-200: 24(18-35)VDC, 24VAC, 120VAC, 230VAC (Pull in voltage: 75% of nominal max. @ 25°C; Drop out voltage: 25% of nominal min. @ 25°C)
POLARIZED:	DC input only
ENERGIZED LED INDICATOR:	One per module position
CURRENT REQUIREMENT:	Per module position: MR-100 Series = 48mA max/ MR-200 Series = 69mA max
CONTACT RATINGS:	7A @ 28VDC / 10A (NO:1/6HP, NC:1/8HP) @ 120VAC / 7A @ 230VAC
CONTACT CONSTRUCTION:	Dry Form "C"
ENVIRONMENTAL:	32°F to 120°F (0°C to 49°C) @ 85% RH (@ 32°F), Non-condensing, Non-freezing
WIRING:	Solid or stranded; #14 to #22 AWG terminals
/T VERSIONS:	3.5" wide, low profile plastic snap track provided with mounting screws
/C VERSIONS:	Backbox: 18ga CRS, plated with 1/2" conduit knockouts top and bottom

*UOXX=Control Unit Accessories, System; 2=Component; 7=Certified for Canada

NOTICE: The information contained in this document is intended only as a summary and is subject to change without notice. The products described have specific instructional/installation documentation, which covers various technical, approval, code, limitation and liability information. Copies of this documentation along with any general product warning and limitation documents, which also contain important information, are provided with the product and are also available from Air Products and Controls Inc. The information contained in all of these documents should be considered before specifying or using the products. Any example applications shown are subject to the most current enforced local/national codes, standards, approvals, certifications, and/or the authority having jurisdiction. All of these resources, as well as the specific manufacturer of any shown or mentioned related equipment, should be consulted prior to any implementation. For further information or assistance concerning the products, contact Air Products and Controls Inc. Air Products and Controls Inc. reserves the right to change any and all documentation without notice.

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CALIFORNIA DEPARTMENT OF FORESTRY & FIRE PROTECTION
OFFICE OF THE STATE FIRE MARSHAL
FIRE ENGINEERING - BUILDING MATERIALS LISTING PROGRAM

LISTING SERVICE

LISTING No. 7300-1004:0101

CATEGORY: 7300 -- FIRE ALARM CONTROL UNIT ACCESSORIES/MISC. DEVICES

LISTEE: Apollo America Inc.25 Corporate Dr., Auburn Hills, MI 48326
Contact: John Schertel (248) 332-3900 Fax (248) 332-8807
Email: John.Schertel@apollo-fire.com

DESIGN: Models MR-101/C, *MR-101/C/R, *MR-101-SSE/C, *MR-101-SSE/C/R, MR-104/C, *MR_104/C/R, *MR-104-SSE/C, *MR-104-SSE/C/R, MR-201/C, MR-201/C/*R, *MR-201-SSE/C, *MR-201-SSE/C/R, MR-204/C, MR-204/C/*R, *MR-204-SSE/C, *MR-204-SSE/C/R, PAM-1, PAM-2, PAM-3, PAM-4, PAM-SD, RIC-1, RIC-2, RIC-3, RIC-4, MR-RIC-301/*C, *MR-RIC-301/C/R, MR-RIC-305*/C, * MR-RIC-305/C/R, MR-RIC-401*/C, *MR-RIC-401/C/R, MR-RIC-405*/C and *MR-RIC-405/C/R relay modules. *Models MR-ITM/C and MR-ITM/C/R relay modules (with test mode). Refer to listee's data sheet for detailed product description and operational considerations.

INSTALLATION: In accordance with listee's printed installation instruction, applicable codes & ordinances and in a manner acceptable to the authority having jurisdiction.

MARKING: Listee's name, electrical rating and UL label.

APPROVAL: Listed as relay modules for use with separately listed compatible fire alarm control units. Refer to manufacturer's Installation Manual for details.

NOTE: 1. Formerly Air Products and Controls, Inc.

*Rev. 04-03-14 gt

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Date Issued: **July 01, 2020** *Listing Expires* **June 30, 2021**

Authorized By: ***DAVID CASTILLO,**, M.E., F.P.E.*

Fire Engineering Division

Velociti® Series
ABD-2F and ABD-RT2F

Description

The Gamewell-FCI Velociti® Series, ABD-2F and addressable projected beam smoke sensor is uniquely suited to sense smoke in hostile environments or open areas with high ceilings where spot-type sensors are unsuitable or difficult to install and maintain. It is intended for use in the signaling line circuits with the E3 Series® ILI-MB-E3 and ILI-S-E3 (Velociti mode only). The ABD-2F consists of a combination transmitter/receiver unit and a reflector. When smoke enters the path between the unit and the reflector, it causes a reduction in the signal, and when the smoke level reaches the predetermined threshold, an alarm results.

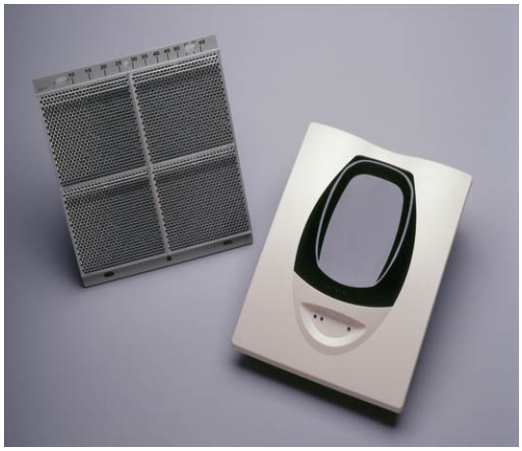
A unique single-ended reflective design offers simpler installation than the traditional transmitter and receiver types of beam sensors. Alignment is swiftly accomplished via an optical sight and a 2-digit signal strength meter integral with the product. Listed for operation from –22° F to 131° F, the ABD-2F can be installed in garages, warehouses and other hostile environments where temperature extremes exceed the capability of spot-type sensors.

The Velociti® Series uses a communication protocol that substantially increases the speed of communication between the sensors and Gamewell-FCI analog addressable fire alarm controls. These devices operate in a grouped fashion. If one of the devices in the group changes status, the panel's microprocessor stops the group poll and concentrates on the single device. The net effect is response speed up to five times greater than earlier designs.

The unit has four (4), standard sensitivity selections along with two (2), Acclimate settings. When either of the two Acclimate settings are selected, the sensor will automatically adjust its sensitivity using advanced software algorithms to select the optimum sensitivity for the specific environment.

Velociti® and E3 Series® are registered trademarks of Honeywell International Inc.

Single-Ended Reflected Type
Beam Smoke Sensor



ABD-2F/RT2F

Features

- Single-ended, reflective design
- Six (6), user-selectable sensitivity levels
- 16 to 328 foot (4.9 to 99.9 m) detection range
- Compatible with the E3 Series® ILI-MB-E3 and ILI-S-E3
- Integral sensitivity test feature (ABD-2SF)
- Digital display - no special tools required
- User-friendly alignment procedure
- Integral automatic gain control compensates for signal deterioration from dust build-up
- Remote test station (optional)

An ISO 9001-2000 Company

SIGNALING LISTED S1913 · FM APPROVED 3023594 · MEA Approved 219-02-E Vol. VI · 07260-0694:262

GAMEWELL-FCI
12 Clintonville Road, Northford, CT 06472-1610 USA • Tel: (203) 484-7161 • Fax: (203) 484-7118
Specifications are for information only, are not intended for installation purposes, and are subject to change without notice. No responsibility is assumed by Gamewell-FCI for their use.
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Description (continued)

The ABD-RT2F is equipped with an integral sensitivity test feature consisting of a test filter attached to a servo motor inside the sensor optics. The ABD-RT2F requires an additional, external power supply. Using the remote test station Model RTS451, the motor moves the filter in the path of the light beam, thereby serving as an accurate test of the receiver sensitivity. This test feature allows the user to quickly and easily meet the annual maintenance and test requirements of NFPA 72.

Specifications

Operating Temperature Range:	-22° F to 131° F (-30° C to 55° C)
Operating Humidity Range:	10% to 93 RH non-condensing
Dimensions:	
Detector:	10" H x 7.5" W x 3.3" D (25.4 H x 19 W x 8.4 D cm)
Reflector:	16-230 ft. (4.9 x 70.1 m) 7.9" H x 9.1" W (20 H x 23 W cm)
Voltage Range:	15 to 32 VDC
Alarm Current:	8.5 mA max.
Standby Current:	2 mA max. avg. @ 24 VDC

Ordering Information

Model	Description
ABD-2F	Single-ended reflected type beam smoke sensor
ABD-RT2F	Single-ended smoke sensor with integral sensitivity test
BEAMLRK	Long range accessory kit (required for applications with a range over 230 ft. (70m)
BEAMMMK	Multi-mount kit (provides ceiling or wall mount capability with increased angular adjustment)
BEAMSMK	Surface mount kit
RTS451	Remote test station
RTS451KEY	Remote test station with key lock

CALIFORNIA DEPARTMENT OF FORESTRY & FIRE PROTECTION
OFFICE OF THE STATE FIRE MARSHAL
FIRE ENGINEERING - BUILDING MATERIALS LISTING PROGRAM

LISTING SERVICE

LISTING No. 7260-1703:0120

CATEGORY: 7260 -- SMOKE DETECTION SYSTEM-BEAM TYPE

LISTEE: GAMEWELL-FCI12 Clintonville Road, Northford, CT 06472
Contact: Megan Sisson (203) 484-6544 Fax (203) 484-7309
Email: megan.sisson@honeywell.com

DESIGN: Models ABD-2F and ABD-RT2F analog type, Projected Beam Smoke Detector. Model ABD-RT2F contains a test feature consisting of a servo motor (and associated circuitry), which rotates an arm to obscure the optical path between the photodiode and IRLED simulating smoke. Refer to listee's data sheet for detailed product description and operational considerations.

RATING: 15-32 VDC

INSTALLATION: In accordance with listee's printed installation instructions, applicable codes and ordinances and in a manner acceptable to the authority having jurisdiction.

MARKING: Listee's name, model number, electrical rating, and UL label.

APPROVAL: Listed as a projected beam smoke detection system for use with System Sensors Models BEAMMMK and BEAMSMK mounting kits and separately listed compatible fire alarm control units. Refer to listee's Installation Instruction Manual for details.

NOTE: Formerly: 7260-1209:229, and 7260-0694:262

XLF: 7260-1653:0169

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Authorized By: ***DAVID CASTILLO,**, M.E., F.P.E.*

Fire Engineering Division

Indoor Selectable-Output Low Frequency Sounders and Low Frequency Sounder Strobes

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

Features

- 520 Hz ± 10% square wave tone, NFPA compliance
- Full candela range plus High/Low tone options to optimize current draw for a wide variety of applications
- Compact, standard, and round ceiling options
- Field-selectable candela settings on wall units: 15, 30, 75, 95, 110, 135, and 185
- Rotary switch for High and Low, Temp3 and Temp4 settings
- Plug-in design with minimal intrusion into the back box
- Mounting plate shorting spring checks wiring continuity before device installation
- Electrically compatible with legacy SpectrAlert and SpectrAlert Advance devices (Direct replacement for HW/R-LF and P2R/WH-LF)
- Compatible with MDL3 sync module
- Sounders listed for ceiling and wall mounting
- Sounder Strobe listed for wall mounting
- Updated modern aesthetics

The L-Series offers the most versatile and easy-to-use line of low frequency sounder and low frequency sounder strobes in the industry. With white and red plastic housings, listed for wall and ceiling mounting, L-Series Low Frequency can meet virtually any application requirement.

The low frequency sounder and low frequency sounder strobes were designed to address the NFPA 72 sleeping space requirements that require a low frequency notification appliance that operates within frequency range of 520 Hz ± 10% and is of a square wave tone. Like the entire L-Series product line they include a variety of features that increase their application versatility while simplifying installation. All devices feature plug-in designs with minimal intrusion into the back box, making installations fast and foolproof while virtually eliminating costly and time-consuming ground faults.

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

Installers can also easily adapt devices to a suit a wide range of application requirements using field-selectable candela settings, 24-volt operation, and a rotary switch for 520 Hz low frequency sounder tones.

Agency Listings

SIGNALING UL LISTED S4011

FM APPROVED PR452768

Horns only: 7135-1653:0516
Horn/Strobes: 7125-1653:0517

L-Series Specifications

Architect/Engineer Specifications

General

L-Series low frequency sounder and low frequency sounder strobes shall mount to a standard 4 × 4 × 1½-inch back box, 4-inch octagon back box, or double-gang back box. Two-wire products shall also mount to a single-gang 2 × 4 × 1⅞-inch back box. A universal mounting plate shall be used for mounting products. The notification appliance circuit wiring shall terminate at the universal mounting plate. Also, L-Series products, when used with the Sync•Circuit™ Module accessory, shall be powered from a non-coded notification appliance circuit output and shall operate on a nominal 12 or 24 volts. When used with the Sync•Circuit Module, 24-volt-rated notification appliance circuit outputs shall operate between 16.5 and 33 volts. Indoor L-Series products shall operate between 32 and 120 degrees Fahrenheit (0°C to 49°C) from a regulated DC or full-wave rectified unfiltered power supply. Low Frequency Sounder strobes shall have field-selectable candela settings including 15, 30, 75, 95, 110, 135, 185. The field selectable tones will sound within the frequency range of 520 Hz ±10% square wave tone and have a permanent marking on the housing that reads “low frequency sounder”.

Low Frequency Sounder

The low frequency sounder shall be a System Sensor L-Series Model _____ listed to UL 464 and shall be approved for fire protective service. The low frequency sounder and the Sync•Circuit™ MDL3 Module accessory, if used, shall be powered from a notification appliance circuit output and shall operate on a nominal 24 volts (includes fire alarm panels with built-in sync). When used with the Sync•Circuit Module MDL3, 24-volt rated notification appliance circuit outputs shall operate between 16.5 to 33 volts. If the notification appliances are not UL 9th edition listed with the corresponding panel or power supply being used, then refer to the compatibility listing of the panel to determine maximum devices on a circuit. The low frequency sounder has an option to switch between temporal three or temporal four pattern, non-temporal (continuous) pattern and coded supply within the frequency range of 520Hz ± 10% square wave tone. The low frequency sounder shall operate on a coded or non-coded power supply with high and low volume settings.

Low Frequency Sounder Strobe Combination

The low frequency sounder strobe shall be a System Sensor L-Series Model _____ listed to UL 1971 and UL 464 and shall be approved for fire protective service. The low frequency sounder 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 sounder shall have an option to switch between a temporal three or temporal four pattern and a non-temporal (continuous) pattern. These options are set by a multiple position switch. The low frequency sounder on low frequency sounder strobe models shall operate on a non-coded power supply with high and low volume settings. The field selectable tones will sound within the frequency range of 520 Hz ±10% square wave tone.

Synchronization Module

The module shall be a System Sensor Sync•Circuit model MDL3 listed to UL 464 and shall be approved for fire protective service. The module shall synchronize SpectrAlert strobes at 1 Hz and low frequency sounder at temporal three. Also, while operating the strobes, the module shall silence the low frequency sounder on low frequency sounder strobe models over a single pair of wires. The module shall mount to a 4 11/16 × 4 11/16 × 2⅛-inch back box. The module shall also control two Class B circuits or one Class A circuit. The module shall synchronize multiple zones. Daisy chaining two or more synchronization modules together will synchronize all the zones they control. The module shall not operate on a coded power supply.

Physical/Electrical Specifications

Standard Operating Temperature	32°F to 120°F (0°C to 49°C)
Humidity Range	10 to 93% non-condensing
Frequency Range	520 Hz ± 10%
Strobe Flash Rate	1 flash per second
Nominal Voltage Low Frequency Sounder	Regulated 24 DC/FWR[1]
Nominal Voltage Range Low Frequency Sounder Strobe	Regulated 24 VDC/FWR[1]
Operating Voltage Range	16 to 33 V (24 V nominal)
Operating Voltage Range MDL3 Sync Module	16.5 to 33 V (24 V nominal)
Input Terminal Wire Gauge	12 to 18 AWG

Dimensions	
Wall Sounder Strobe (including lens)	5.6" L x 4.7" W x 1.9" D (142 mm L x 119 mm W x 49 mm D)
Standard Wall Sounder	5.6" L × 4.7" W × 1.5" D (142 mm L × 119 mm W × 38 mm D)
Compact Wall Sounder	5.25" L x 3.46" W x 1.5" D (133mm L x 88mm W x 38mm D)
Ceiling Sounder	6.8" diameter x 1.4" high (173mm diameter x 36mm high)
Standard Wall Sounder with SBBRL/SBBWL Surface Mount Back Box	5.7” L x 4.8” W x 3.3” D (145 mm L x 120 mm W x 87 mm D)
Compact Wall Sounder with SBBGRL/SBBGWL Surface Mount Back Box	5.4” L x 3.6” W x 3.0” D (137 mmL x 91mm W x 76 mm D)
Low Frequency Ceiling Sounder with SBBCRL/SBBCWL Surface Mount Back Box	6.9" diameter x 3.9" high (175mm diameter x 99mm 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.

UL Current Draw and Sound Output Data

Low Frequency Wall Sounder Strobe Current Draw (mA) and Sound Output (dBA)

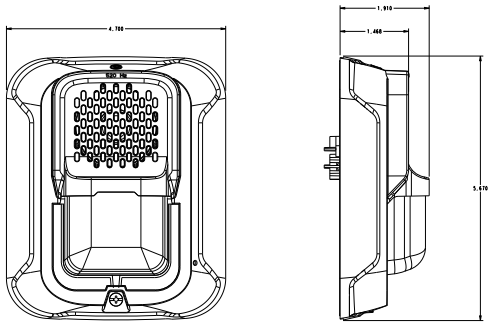
Pos	Tone	Volume Setting	Current Draw (mA)													Sound Output (dBA)	
			16-33 VDC							16-33 FWR							16-33 V
			15cd	30cd	75cd	95cd	110cd	135cd	185cd	15cd	30cd	75cd	95cd	110cd	135cd	185cd	DC	FWR
1	Temporal 3	High	98	115	158	173	182	212	266	136	153	188	206	228	258	304	80	80
2	Temporal 3	Low	98	102	141	162	173	202	255	150	150	176	194	216	242	280	76	76
3	Temporal 4	High	98	108	137	151	178	202	252	200	198	169	188	212	242	290	80	80
4	Temporal 4	Low	102	104	122	136	163	187	237	176	174	154	173	197	227	275	76	76
5	Continuous	High	141	158	198	216	234	264	305	190	207	249	268	289	321	368	80	80
6	Continuous	Low	120	128	179	196	215	244	285	165	182	226	244	266	297	342	76	76

UL Max. Low Frequency Sounder Current Draw (mA RMS)

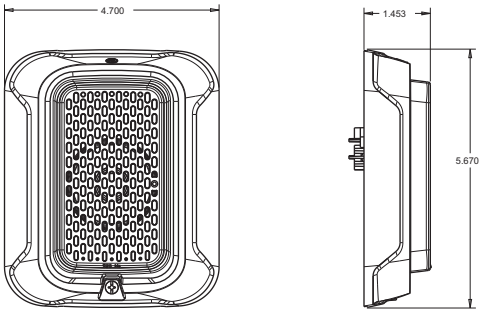
Pos	Tone	Volume Setting	Current Draw (mA)		Sound Output (dBA) Reverberant	
			16–33 Volts		16–33 Volts	
			DC	FWR	DC	FWR
1	Temporal 3	High	108	150	80	80
2	Temporal 3	Low	78	76	76	76
3	Temporal 4	High	111	151	80	80
4	Temporal 4	Low	80	76	76	76
5	Continuous	High	111	151	80	80
6	Continuous	Low	80	76	76	76
7	Coded	High	111	151	80	80
8	Coded	Low	80	76	76	76

*NOTE: For coded tones, temporal coding must be provided by the NAC. If the NAC voltage is held constant, the sounder output will remain constantly on. Coded ratings provided are for continuous voltage.

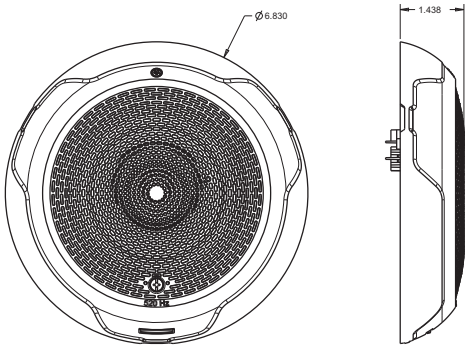
L-Series Dimensions



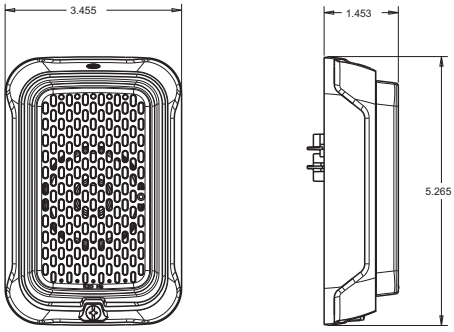
Wall LF Sounder Strobe



Wall LF Sounder



Ceiling LF Sounder



Compact Wall LF Sounder

Part No.		Description
Red	White	
Low Frequency Sounder Strobes		
P2RL-LF	P2WL-LF	LF Sounder Strobe, Wall
Low Frequency Sounders		
HRL-LF	HWL-LF	LF Sounder, Wall
HGRL-LF	HGWL-LF	Compact LF Sounder, Wall
HCRL-LF	HCWL-LF	LF Sounder, Ceiling
Accessories		
MDL3R	MDL3W	Sync•Circuit™ Module, UL-listed
SBBRL	SBBWL	Surface Mount Back Box, Wall
SBBCRL	SBBCWL	Surface Mount Back Box, Ceiling
SBBGRL	SBBGWL	Surface Mount Back Box, Wall, Compact

System Sensor® is a registered trademark and
Sync•Circuit™ is a trademark
of Honeywell International, Inc.

SYSTEM SENSOR®

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.
AVDS910-01 • 10/1/2019

CALIFORNIA DEPARTMENT OF FORESTRY & FIRE PROTECTION
OFFICE OF THE STATE FIRE MARSHAL
FIRE ENGINEERING - BUILDING MATERIALS LISTING PROGRAM

LISTING SERVICE

LISTING No. 7125-1653:0517

CATEGORY: 7125 -- FIRE ALARM DEVICES FOR THE HEARING IMPAIRED

LISTEE: System Sensor, Unincorporated Div of Honeywell Int'l Inc.3825 Ohio Ave, St. Charles, IL 60174
Contact: Megan Sisson (203) 484-6544 Fax (203) 484-7309
Email: megan.sisson@honeywell.com

DESIGN: Models P2RL-LF and P2WL-LF are low frequency horn/strobes. For these models, the horn has a 6 position selectable tone settings.

Refer to listee's printed data sheet for additional detailed product description and operational considerations.

RATING: 16-33 VDC

INSTALLATION: In accordance with the listee's printed installation instructions, NFPA 72, applicable codes and ordinances and in a manner acceptable to the authority having jurisdiction.

MARKING: Listee's name, date of manufacturer, model number, electrical ratings, audibility ratings, and UL label.

APPROVAL: Listed as horn/strobes when used with separately listed compatible fire alarm control units. For indoor dry use. Operating Temperature Range: 0°C to 49°C (32°F to 120°F). Authority having jurisdiction should be consulted prior to installation. Refer to listee's Installation Instruction Manual for details.

07-01-19 gt

This listing is based upon technical data submitted by the applicant. CSFM Fire Engineering staff has reviewed the test results and/or other data but does not make an independent verification of any claims. This listing is not an endorsement or recommendation of the item listed. This listing should not be used to verify correct operational requirements or installation criteria. Refer to listee's data sheet, installation instructions and/or other

Date Issued: **July 01, 2020** *Listing Expires* **June 30, 2021**

Authorized By: ***DAVID CASTILLO,**, M.E., F.P.E.*

Fire Engineering Division

CALIFORNIA DEPARTMENT OF FORESTRY & FIRE PROTECTION
OFFICE OF THE STATE FIRE MARSHAL
FIRE ENGINEERING - BUILDING MATERIALS LISTING PROGRAM

LISTING SERVICE

LISTING No. 7135-1653:0516

CATEGORY: 7135 -- AUDIBLE DEVICES

LISTEE: System Sensor, Unincorporated Div of Honeywell Int'l Inc.3825 Ohio Ave, St. Charles, IL 60174
Contact: Megan Sisson (203) 484-6544 Fax (203) 484-7309
Email: megan.sisson@honeywell.com

DESIGN: Models HRL-LF, HWL-LF, HCRL-LF, HCWL-LF, HGRL-LF and HGWL-LF are low frequency horns.

Horn models HRL-LF, HWL-LF, HGRL-LF and HGWL-LF may be mounted on the wall and are intended for indoor use only unless otherwise indicated.

Horn models HCRL-LF, HCWL-LF may be mounted on the ceiling and are intended for indoor use only unless otherwise indicated.

The standard horn models are the HRL-LF, HCRL-LF (red enclosure) and HWL-LF, HCWL-LF (white enclosure). The horn has an 8 position selectable tone settings.

Models HGRL-LF and HGWL-LF perform the same as HRL-LF/HWL-LF and use a “compact” housing which is intended to mount to a single gang electrical box.

Refer to listee's printed data sheet for additional detailed product description and operational considerations

RATING: The models HRL-LF, HW-LF, HCRL-LF, HRWL-LF, HGRL-LF and HGWL-LF are rated 16-33 Vdc/VFWR (REGULATED 24 DC/FWR).

INSTALLATION: In accordance with the listee’s printed installation instructions, NFPA 72, applicable codes and ordinances and in a manner acceptable to the authority having jurisdiction.

MARKING: Listee's name, model number, electrical rating, audibility ratings and UL label

APPROVAL: Listed as audible devices when used with separately listed compatible fire alarm control units. For indoor dry use. Operating Temperature Range: 0°C to 49°C (32°F to 120°F). Authority having jurisdiction should be consulted prior to installation. Refer to listee’s Installation Instruction Manual for details.

07-01-19

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Date Issued: **July 01, 2020** *Listing Expires* **June 30, 2021**

Authorized By: ***DAVID CASTILLO,**, M.E., F.P.E.*

Fire Engineering Division

Amplify

Commercial CO Protection

SL-701 Duct Mounted CO Detectors

Duct Mounted CO Detector continuously monitors level of Carbon Monoxide at the common offender of CO emissions: Central AHU

THE SL-701 DETECTOR SAMPLES THE AIR STREAM AT THE AHU SUPPLY AND/OR RETURN. IN THE EVENT DANGEROUS LEVELS OF CO ARE DETECTED, THE SL-701 WILL SHUT DOWN THE AHU TO PREVENT THE SPREAD OF HARMFUL GAS TO OCCUPIED SPACE.

THE MSR-50/CO REMOTE INDICATOR AUDIBLY AND VISUALLY NOTIFIES FACILITY SAFETY MANAGEMENT OF THE SITUATION.

Gain Trust and Confidence as a Complete Solutions Provider

The SL-701 Duct Carbon Monoxide Detector provides early detection of invisible carbon monoxide in air moving through the HVAC duct supply, return, or both in commercial, industrial, or residential applications.

NFPA 720-2009 standardizes CO detection for all buildings, to include schools, hotels, nursing homes and other commercial structures. Chapter 4, 4.3.1.2 states, "Where no carbon monoxide product listing standard exists, products listed for fire alarm service shall be permitted provided all the requirements of this standard are met."

The SL-2000 duct smoke detector from APC is UL Listed to UL268A, UROX, UROX7. The SL-701 utilizes all the same SL-2000 components except for the UL-recognized CO sensor which replaces the smoke sensor.

The SL-701 is a CO System Detector, it is not a smoke detector or a CO alarm.

Healthier Environment with a Proactive Life Safety Slant

NFPA 720-2009 chapter 5, 5.5.5.4.1 states that, "System designers shall consider the spread of carbon monoxide through an occupancy through the HVAC system." The SL-701 addresses this directly.

Automation functions from simple relay logic to robust, complex interfaces are easily achieved utilizing the dry contacts of this conventional detector.

Designed to prevent the circulation of CO by air handlers, fans and blowers, complete systems may be automatically shut down in an alarm state; HVAC fresh air intake and / or exhaust systems can be engaged; interaction with provided smoke control systems can be coordinated.

At the most basic level, when an SL-701 is installed, facility management is alerted to CO exposure the instant dangerous levels are detected within the ductwork, prior to full circulation into the conditioned space.

Easy To Order, Install, Test & Perform Regular Maintenance

The SL-701-KIT is available, offering the convenience of a complete package containing:

- SL-701 Duct CO Detector
- FAST Tube sampling tubes
- MSR-50/CO Remote Accessory featuring Temp-4 audible and LED-based strobe visual alarm indications
- Mounting templates, hardware and installation instructions

Also available:

- TG-701 Aerosol CO for testing
- AV-Checker - Measures air velocity
- Duct-Checker - Measures pressure differential to confirm proper duct detector operation

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AIR PRODUCTS AND CONTROLS

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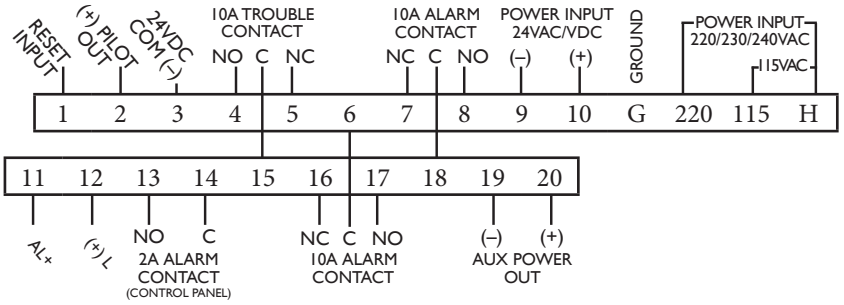
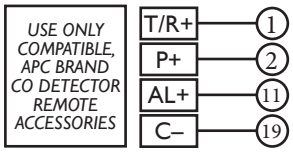
WIRING



MSR-50/CO WIRING



PRODUCT SPECIFICATIONS

MODEL NUMBER:	**SL-701**	230VAC, 115VAC, 24VAC, 24VDC
SENSOR MODEL NUMBER:	**SL-701**	7-CO
APPROVALS		Electrochemical Carbon Monoxide Sensor is a UL Recognized component in accordance with the requirements of UL2034. Also meets EN50291 requirements. SL-2000 Series Duct Smoke Detector Fire Alarm Certifications referenced side one: UL & CUL Listed (UL268A, UROX, UROX7) File # S2829 CSFM Listed (3240-1004:105); MEA Accepted (73-92-E, VOL. 27)
SAMPLING TUBES:	**FAST Tube**	Sectional sampling tube
	STN-2.5	Metal sampling tube for 6" to 2.5' duct width
	STN-5.0	Metal sampling tube for 2.5' to 5.0' duct width
	STN-10.0	Metal sampling tube for 5.0' to 10.0' duct width
ACCESSORIES: (All available from Air Products and Controls Inc.)	MSR-50/CO remote accessory TG-701 aerosol test gas T-PB power supplies WP-2000 weatherproof enclosure	

POWER REQUIREMENTS:

Input Power	Standby Current	Alarm Current
24VAC	55mA	190mA
24VDC	14mA	68mA
115VAC	22mA	32mA
230VAC	12mA	18mA

RELAY CONTACT RATING:	
Alarm Contacts:	Resistive load: 2 sets form "C" rated at 10 Amps @ 115VAC Resistive load: 1 set form "A" rated at 2 Amps
Trouble Contacts:	Resistive load: 1 set form "C" rated at 10 Amps @ 115VAC
AIR VELOCITY:	100 to 4,000 ft./min.
AMBIENT TEMPERATURE:	32ºF to 158ºF (0ºC to 70ºC)
HUMIDITY:	10% to 85% RH Non-Condensing / Non-Freezing
WIRING:	Solid or stranded: #12 to #22 AWG terminals
MATERIAL:	Grey plastic backbox, clear plastic cover (Makrolon 94V-0) Do not expose to corrosive atmospheres
DIMENSIONS:	13 ½" L x 4 ½" W x 2 ¼" D
MAX. NET WT.:	2 ½ lbs.
HARDWARE:	7" exhaust tube, FAST Tube starter sampling tube, sampling tube end cap, mounting template, and mounting hardware included

The SL-701 is a CO system detector, it is not a smoke detector or a CO alarm. It detects carbon monoxide as caused by fossil fuel fired appliances and/or as introduced from the outside in fresh air intakes in the HVAC system. It is intended for use in addition to, not in place of, point-type / open area CO detectors as required by national and local codes.

PRODUCT FEATURES

- ❖ Sensor performs to the National Standards set by OSHA (IAQ) & UL 2075/2034 (Life Safety)
- ❖ Compatible with Building Automation and Combination CO/Fire alarm systems
- ❖ "Snap-in" Sensor is easily replaced at end-of-life
- ❖ Solid green LED on sensor head indicates normal operation
- ❖ Detector Test Mode allows for aerosol CO testing through Test Port with cover in place
- ❖ Historical, retrievable reporting data stored at the unit
- ❖ Unit performs "hidden" self-test every 24 hours to verify sensor life and connections
- ❖ Interconnect up to 30 units for common functions
- ❖ No additional screens or filters to clean
- ❖ Complete wiring details permanently attached to unit

NOTICE: The information contained in this document is intended only as a summary and is subject to change without notice. The products described have specific instructional/installation documentation, which covers various technical, approval, code, limitation and liability information. Copies of this documentation along with any general product warning and limitation documents, which also contain important information, are provided with the product and are also available from Air Products and Controls Inc. The information contained in all of these documents should be considered before specifying or using the products. Any example applications shown are subject to the most current enforced local/national codes, standards, approvals, certifications, and/or the authority having jurisdiction. All of these resources, as well as the specific manufacturer of any shown or mentioned related equipment, should be consulted prior to any implementation. For further information or assistance concerning the products, contact Air Products and Controls Inc. Air Products and Controls Inc. reserves the right to change any and all documentation without notice.

CALIFORNIA DEPARTMENT OF FORESTRY & FIRE PROTECTION
OFFICE OF THE STATE FIRE MARSHAL
FIRE ENGINEERING - BUILDING MATERIALS LISTING PROGRAM

LISTING SERVICE

LISTING No. 3240-1004:0105

CATEGORY: 3240 -- DUCT SMOKE DETECTOR HOUSING/BASE

LISTEE: Apollo America Inc.25 Corporate Dr., Auburn Hills, MI 48326
Contact: John Schertel (248) 332-3900 Fax (248) 332-8807
Email: John.Schertel@apollo-fire.com

DESIGN: Models RWH-N, RWH-P, RWL-N, RWL-P, RWX-N, RWX-P, RWJ-N, RWJ-P, RWF-N, RWF-P and SL-2000-N and SL-2000-P duct smoke detectors. All units are four-wire duct detectors. Suffix -N indicates the unit employs an ionization smoke detector head. Suffix -P indicates the unit employs a photoelectric smoke detector head.
Refer to listee's data sheet for additional detailed product description and operational considerations.

RATING: 24 VAC, 24 VDC, 115 VAC or 230 VAC

INSTALLATION: In accordance with listee's printed installation instructions, applicable codes & ordinances and in a manner acceptable to the authority having jurisdiction.

MARKING: Listee's name, model number, electrical rating and UL label.

APPROVAL: Listed as duct detectors for use with separately listed compatible fire alarm control units when installed in HVAC systems with air velocity between 500 and 4000 ft./min.

*The Model SL-2000-N duct detectors are suitable for use in ducts where the air velocity is between 100ft/min and 4000ft/min. When the air deflector is used, the air velocity range is between 100ft/min and 2000ft/min. When not used, the range is between 300 ft/min and 4000ft/min.

*The Model SL-2000-P duct detectors are suitable for use in ducts where the velocity is between 100ft/min. and 4000ft/min. When the air deflector is used, the air velocity range is between 100ft/min and 4000ft/min. When not used, the range is between 1000 ft/min and 4000ft/min.

NOTE: 1. Formerly Air Products and Controls, Inc.

*Rev. 08-15-2007

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Date Issued: **July 01, 2020** *Listing Expires* **June 30, 2021**

Authorized By: ***DAVID CASTILLO,**, M.E., F.P.E.*

Fire Engineering Division

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

Agency Listings

SIGNALING UL LISTED
S4011
S5512
S3593

FM APPROVED
3023572

MEA approved
MEA452-05-E

7125-1653:186 (indoor strobes)
7300-1653:187 (outdoor strobes)
7125-1653:188 (horn/strobes, chime/strobes)
7135-1653:189 (horns, chimes)

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.

SpectrAlert Advance Specifications

Architect/Engineer Specifications

General

SpectrAlert Advance horns, strobes and horn/strobes shall mount to a standard 4 × 4 × 1½-inch back box, 4-inch octagon back box or double-gang back box. Two-wire products shall also mount to a single-gang 2 × 4 × 1⅞-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 4 11/16 × 4 11/16 × 2 1/8-inch back box. The module shall also control two Style Y (class B) circuits or one Style Z (class A) circuit. The module shall synchronize multiple zones. Daisy chaining two or more synchronization modules together will synchronize all the zones they control. The module shall not operate on a coded power supply.

Physical/Electrical Specifications

Standard Operating Temperature	32°F to 120°F (0°C to 49°C)
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 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 × 2.5″ high (173 mm diameter × 64 mm high)
Wall mount dimensions (including lens)	5.6″L × 4.7″W × 2.5″D (142 mm L × 119 mm W × 64 mm D)
Horn dimensions	5.6″L × 4.7″W × 1.3″D (142 mm L × 119 mm W × 33 mm D)
Wall-mount back box skirt dimensions (BBS-2, BBSW-2)	5.9″L × 5.0″W × 2.2″D (151 mm L × 128 mm W × 56 mm D)
Ceiling-mount back box skirt dimensions (BBSC-2, BBSCW-2)	7.1″ diameter × 2.25″ high (180 mm diameter × 57 mm high)
Wall-mount weatherproof back box dimensions (SA-WBB)	5.7″L × 5.1″W × 2.0″D (145 mm L × 130 mm W × 51 mm D)
Ceiling-mount weatherproof back box dimensions (SA-WBBC)	7.1″ diameter × 2.0″ high (180 mm diameter × 51 mm high)
Wall-mount trim ring dimensions (TR-HS, TRW-HS)	5.7″L × 4.812″W × 0.35″D (146 mm L × 122 W mm × 9 D mm)
Ceiling-mount trim ring dimensions (TRC-HS, TRCW-HS)	6.9″ diameter × 0.35 high (176 mm diameter × 9 mm high)

Notes:

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

UL Current Draw Data

UL Max. Strobe Current Draw (mA RMS)

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

UL Max. Horn Current Draw (mA RMS)

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

UL Max. Current Draw (mA RMS), 2-wire Horn/Strobe, Standard Candela Range (15–115 cd)

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

UL Max. Current Draw (mA RMS), 2-wire Horn/Strobe, High Candela Range (135–185 cd)

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

Candela Derating

For K series products used at low temperatures, listed candela ratings must be reduced in accordance with this table.

Strobe Output (cd)

Listed Candela	Candela rating at –40°F
15	Do not use below 32°F
15/75	
30	
75	44
95	70
110	110
115	115
135	135
150	150
177	177
185	185

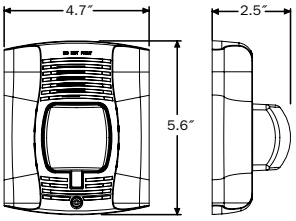
Horn Tones and Sound Output Data

Horn and Horn/Strobe Output (dBA)

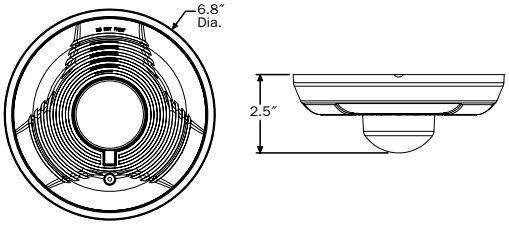
			8–17.5 Volts		16–33 Volts		24 Volt Nominal			
							Reverberant		Anechoic	
Switch Position	Sound Pattern	dB	DC	FWR	DC	FWR	DC	FWR	DC	FWR
1	Temporal	High	78	78	84	84	88	88	99	98
2	Temporal	Medium	74	74	80	80	86	86	96	96
3	Temporal	Low	71	73	76	76	83	80	94	89
4	Non-temporal	High	82	82	88	88	93	92	100	100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

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

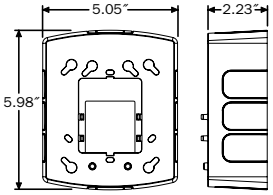
SpectrAlert Advance Dimensions



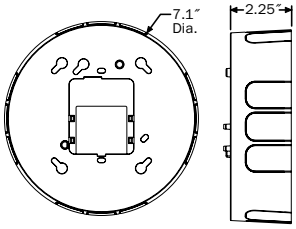
Wall-mount horn/strobes



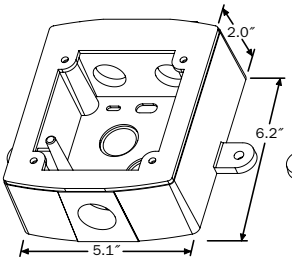
Ceiling-mount horn/strobes



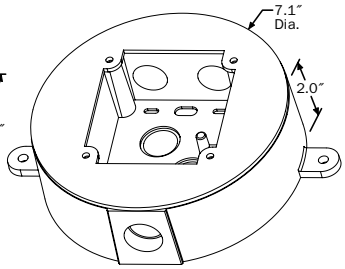
Wall back box skirt



Ceiling back box skirt



Wall weatherproof back box



Ceiling weatherproof back box

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).

SYSTEM SENSOR®

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.

A05-0395-005 • 8/08 • #2018

CALIFORNIA DEPARTMENT OF FORESTRY & FIRE PROTECTION
OFFICE OF THE STATE FIRE MARSHAL
FIRE ENGINEERING - BUILDING MATERIALS LISTING PROGRAM

LISTING SERVICE

LISTING No. 7125-1653:0186

CATEGORY: 7125 -- FIRE ALARM DEVICES FOR THE HEARING IMPAIRED

LISTEE: System Sensor, Unincorporated Div of Honeywell Int'l Inc.3825 Ohio Ave, St. Charles, IL 60174
Contact: Megan Sisson (203) 484-6544 Fax (203) 484-7309
Email: megan.sisson@honeywell.com

DESIGN: Synchronous type strobe lights, Models SR, SRH, SW, SW-CLR-ALERT, SWH, SCR, SCRH, SCW, SCW-CLR-ALERT and SCWH followed by the suffix -P, -SP, -PG, or none.

Intended for indoor use mounted on the wall or the ceiling. Refer to listee's data sheet for additional detailed product description and operational considerations.

RATING: 8-17.5 or 16-33 VDC/FWR
Candela: 15, 15/75, 30, 75, 95, 110, 115, *135, *150, *177, *185cd

INSTALLATION: In accordance with listee's printed installation instructions, applicable codes and ordinances, and in a manner acceptable to the authority having jurisdiction.

MARKING: Listee's name, model number, electrical rating and UL label.

APPROVAL: Listed as strobe lights suitable for hearing impaired application when used with separately listed compatible fire alarm control units. Suitable for indoor use, wall or ceiling mounted. Refer to listee's Installation Instruction Manual for details.

*Rev. 03-11-10 fm

This listing is based upon technical data submitted by the applicant. CSFM Fire Engineering staff has reviewed the test results and/or other data but does not make an independent verification of any claims. This listing is not an endorsement or recommendation of the item listed. This listing should not be used to verify correct operational requirements or installation criteria. Refer to listee's data sheet, installation instructions and/or other

Date Issued: **July 01, 2020** *Listing Expires* **June 30, 2021**

Authorized By: ***DAVID CASTILLO,**, M.E., F.P.E.*

Fire Engineering Division

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

Agency Listings

SIGNALING UL LISTED
S4011
S5512
S3593

FM APPROVED
3023572

MEA approved
MEA452-05-E

7125-1653:186 (indoor strobes)
7300-1653:187 (outdoor strobes)
7125-1653:188 (horn/strobes, chime/strobes)
7135-1653:189 (horns, chimes)

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.

SpectrAlert Advance Specifications

Architect/Engineer Specifications

General

SpectrAlert Advance horns, strobes and horn/strobes shall mount to a standard 4 × 4 × 1½-inch back box, 4-inch octagon back box or double-gang back box. Two-wire products shall also mount to a single-gang 2 × 4 × 1⅞-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 4 11/16 × 4 11/16 × 2 1/8-inch back box. The module shall also control two Style Y (class B) circuits or one Style Z (class A) circuit. The module shall synchronize multiple zones. Daisy chaining two or more synchronization modules together will synchronize all the zones they control. The module shall not operate on a coded power supply.

Physical/Electrical Specifications

Standard Operating Temperature	32°F to 120°F (0°C to 49°C)
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 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 × 2.5″ high (173 mm diameter × 64 mm high)
Wall mount dimensions (including lens)	5.6″L × 4.7″W × 2.5″D (142 mm L × 119 mm W × 64 mm D)
Horn dimensions	5.6″L × 4.7″W × 1.3″D (142 mm L × 119 mm W × 33 mm D)
Wall-mount back box skirt dimensions (BBS-2, BBSW-2)	5.9″L × 5.0″W × 2.2″D (151 mm L × 128 mm W × 56 mm D)
Ceiling-mount back box skirt dimensions (BBSC-2, BBSCW-2)	7.1″ diameter × 2.25″ high (180 mm diameter × 57 mm high)
Wall-mount weatherproof back box dimensions (SA-WBB)	5.7″L × 5.1″W × 2.0″D (145 mm L × 130 mm W × 51 mm D)
Ceiling-mount weatherproof back box dimensions (SA-WBBC)	7.1″ diameter × 2.0″ high (180 mm diameter × 51 mm high)
Wall-mount trim ring dimensions (TR-HS, TRW-HS)	5.7″L × 4.812″W × 0.35″D (146 mm L × 122 W mm × 9 D mm)
Ceiling-mount trim ring dimensions (TRC-HS, TRCW-HS)	6.9″ diameter × 0.35 high (176 mm diameter × 9 mm high)

Notes:

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

UL Current Draw Data

UL Max. Strobe Current Draw (mA RMS)

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

UL Max. Horn Current Draw (mA RMS)

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

UL Max. Current Draw (mA RMS), 2-wire Horn/Strobe, Standard Candela Range (15–115 cd)

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

UL Max. Current Draw (mA RMS), 2-wire Horn/Strobe, High Candela Range (135–185 cd)

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

Candela Derating

For K series products used at low temperatures, listed candela ratings must be reduced in accordance with this table.

Strobe Output (cd)

Listed Candela	Candela rating at –40°F
15	Do not use below 32°F
15/75	
30	
75	44
95	70
110	110
115	115
135	135
150	150
177	177
185	185

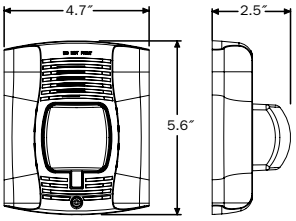
Horn Tones and Sound Output Data

Horn and Horn/Strobe Output (dBA)

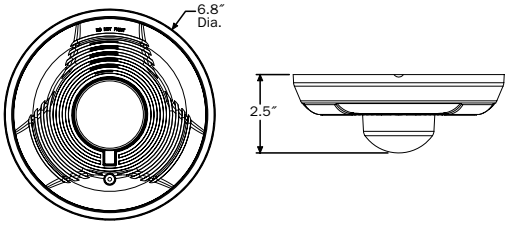
			8–17.5 Volts		16–33 Volts		24 Volt Nominal			
							Reverberant		Anechoic	
Switch Position	Sound Pattern	dB	DC	FWR	DC	FWR	DC	FWR	DC	FWR
1	Temporal	High	78	78	84	84	88	88	99	98
2	Temporal	Medium	74	74	80	80	86	86	96	96
3	Temporal	Low	71	73	76	76	83	80	94	89
4	Non-temporal	High	82	82	88	88	93	92	100	100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

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

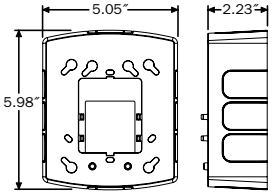
SpectrAlert Advance Dimensions



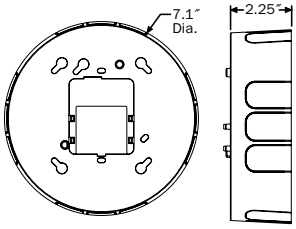
Wall-mount horn/strobes



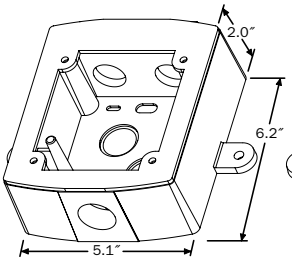
Ceiling-mount horn/strobes



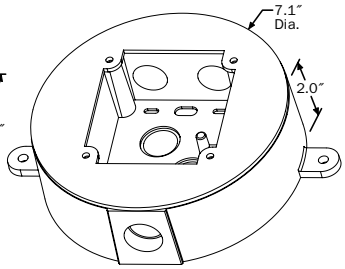
Wall back box skirt



Ceiling back box skirt



Wall weatherproof back box



Ceiling weatherproof back box

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).

SYSTEM SENSOR®

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.

A05-0395-005 • 8/08 • #2018

CALIFORNIA DEPARTMENT OF FORESTRY & FIRE PROTECTION
OFFICE OF THE STATE FIRE MARSHAL
FIRE ENGINEERING - BUILDING MATERIALS LISTING PROGRAM

LISTING SERVICE

LISTING No. 7125-1653:0188

CATEGORY: 7125 -- FIRE ALARM DEVICES FOR THE HEARING IMPAIRED

LISTEE: System Sensor, Unincorporated Div of Honeywell Int'l Inc.3825 Ohio Ave, St. Charles, IL 60174
Contact: Megan Sisson (203) 484-6544 Fax (203) 484-7309
Email: megan.sisson@honeywell.com

DESIGN: Models CHSR and CHSW Chime/Strobes.
Models P2R, P2W, P2RH and P2WH Horn/Strobes two-wire type, rectangular enclosure.
Models PC2R, PC2W, PC2RH and PC2WH Horn/Strobes two-wire type, round enclosure
Models P4R, P4W, P4RH and P4WH Horn/Strobes four-wire type, rectangular enclosure.
Models PC4R, PC4W, PC4RH and PC4WH Horn/Strobes* four-wire type, round enclosure.
All models are intended for indoor use only unless other wise indicated. Models may be followed by the suffix “K” indicating indoor or outdoor use, or may be followed by suffix “P” for plain housing with no lettering. “K” suffix models are suitable for outdoor applications at temperatures from -40°F to +151°F (-40°C to +66°C) and are rated NEMA 4X when used with the System Sensor weather proof back boxes models SA-WBB (Wall), SA-WBBW (Wall), SA-WBBC (Ceiling) and *SA-WBBCW (Ceiling). Refer to listee's data sheet for additional detailed product description and operational considerations.

RATING: Standard Horn/Strobes and Chime/Strobes 8 - 17.5 or 16-33 VDC/FWR
Hi CD Horn/Strobes 16-33 VDC/FWR

INSTALLATION: In accordance with listee's printed installation instructions, applicable codes and ordinances, and in a manner acceptable to the authority having jurisdiction.

MARKING: Listee's name, model number, electrical rating, and UL label.

APPROVAL: Listed as *horn/strobes or chime/strobes suitable for signaling appliances and equipment for the hearing impaired applications when used with separately listed compatible fire alarm control units. Horn/strobes with -K suffix are suitable for indoor or outdoor use, ceiling or wall mount. Chime section is suitable for private mode and indoor use only.
Horn/Strobes or chime/strobes* can generate the distinctive three-pulse audible Temporal Pattern Fire Alarm Evacuation Signal (for total evacuation) in accordance with NFPA 72, 2010 Edition. Refer to listee’s Installation Instruction Manual for details.

*Corrected 12-15-11 bh

This listing is based upon technical data submitted by the applicant. CSFM Fire Engineering staff has reviewed the test results and/or other data but does not make an independent verification of any claims. This listing is not an endorsement or recommendation of the item listed. This listing should not be used to verify correct operational requirements or installation criteria. Refer to listee’s data sheet, installation instructions and/or other

Date Issued: **July 01, 2020** *Listing Expires* **June 30, 2021**

Authorized By: ***DAVID CASTILLO,**, M.E., F.P.E.*

Fire Engineering Division

Outdoor Selectable-Output Horns, Strobes, and Horn Strobes

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

Features

- Automatic selection of 12- or 24-volt operation at 15 and 15/75 candela
- Field-selectable candela settings on wall and ceiling units: 15, 15/75, 30, 75, 95, 110, 115, 135, 150, 177, and 185
- Plug-in design with minimal intrusion into the back box
- Tamper-resistant construction
- Universal mounting plate for wall- and ceiling-mount units
- Mounting plate shorting spring tests wiring continuity before devices are installed
- Weatherproof per NEMA 4X, IP56
- Listed to UL 1638 (strobe) and UL 464 (horn)
- Rated from –40°F to 151°F
- Horn rated at 88+ dBA at 16 volts
- Rotary switch for horn tone and three volume selections
- Compatible with System Sensor synchronization protocol and legacy SpectrAlert products

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

SpectrAlert Advance outdoor horns, strobes, and horn strobes can be used indoors or outdoors in wet or dry applications, and can provide reliable operation from –40°F to 151°F.

Like the entire SpectrAlert Advance product line, these devices include a variety of features that increase their application versatility while simplifying installation. All devices feature plug-in designs with minimal intrusion into the back box, which make installations fast and foolproof while virtually eliminating costly and time-consuming ground faults.

All horns, strobes, and horn strobes use a universal mounting plate with an onboard shorting spring that tests wiring continuity before the device is installed, protecting devices from damage. In addition, field-selectable candela settings, automatic selection of 12- or 24-volt operation, and a rotary switch for horn tones with three volume selections enables installers to easily adapt devices to suit a wide range of application requirements.

Agency Listings

SIGNALING UL LISTED
S4011 (chimes, horn strobes, horns)
S3593 (outdoor and alert strobes)

FM APPROVED
3023572

MEA approved
MEA452-05-E

7300-1653:187 (outdoor strobes)
7125-1653:188 (horn strobes, chime strobes)
7135-1653:189 (horns, chimes)

SpectrAlert Advance Outdoor Horn, Strobe, and Horn Strobe Specifications

Architect/Engineer Specifications

General

SpectrAlert Advance outdoor horns, strobes and horn strobes shall mount to a weatherproof back box. A universal mounting plate shall be used for mounting ceiling and wall products. The notification appliance circuit wiring shall terminate at the universal mounting plate. Also, SpectrAlert Advance products, when used with the Sync•Circuit™ Module accessory, shall be powered from a non-coded notification appliance circuit output and shall operate on a nominal 12 or 24 volts. When used with the Sync•Circuit Module, 12-volt-rated notification appliance circuit outputs shall operate between 9 and 17.5 volts; 24-volt-rated notification appliance circuit outputs shall operate between 17 and 33 volts. Outdoor SpectrAlert Advance products shall operate between –40 and 151 degrees Fahrenheit from a regulated DC or full-wave rectified unfiltered power supply. Strobes and horn strobes shall have field-selectable candela settings including 15, 15/75, 30, 75, 95, 110, 115, 135, 150, 177, and 185.

Strobe

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

Horn Strobe Combination

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

Physical/Electrical Specifications

Operating Temperature	–40°F to 151°F (–40°C to 66°C)
Strobe Flash Rate	1 flash per second
Nominal Voltage	Regulated 12 DC/FWR or regulated 24 DC/FWR[1]
Operating Voltage Range[2]	8 to 17.5 V (12 V nominal) or 16 to 33 V (24 V nominal)
Input Terminal Wire Gauge	12 to 18 AWG
Ceiling-Mount Dimensions (including lens)	6.8″ diameter × 2.5″ high (173 mm diameter × 64 mm high)
Wall-Mount Dimensions (including lens)	5.6″ L × 4.7″ W × 2.5″ D (142 mm L × 119 mm W × 64 mm D)
Horn Dimensions	5.6″ L × 4.7″ W × 1.3″ D (142 mm L × 119 mm W × 33 mm D)
Wall-Mount Weatherproof Back Box Dimensions (SA-WBB)	5.7″ L × 5.1″ W × 2.0″ D (145 mm L × 130 mm W × 51 mm D)
Ceiling-Mount Weatherproof Back Box Dimensions (SA-WBBC)	7.1″ diameter × 2.0″ high (180 mm diameter × 51 mm high)

Notes:

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

UL Current Draw Data

UL Max. Strobe Current Draw (mA RMS)

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

UL Max. Horn Current Draw (mA RMS)

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

UL Max. Current Draw (mA RMS), 2-Wire Horn Strobe, Standard Candela Range (15–115 cd)

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

UL Max. Current Draw (mA RMS), 2-Wire Horn Strobe, High Candela Range (135–185 cd)

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

Candela Derating

For K series products used at low temperatures, listed candela ratings must be reduced in accordance with this table.

Strobe Output (cd)

Listed Candela	Candela rating at –40°F
15	Do not use below 32°F
15/75	
30	
75	44
95	70
110	110
115	115
135	135
150	150
177	177
185	185

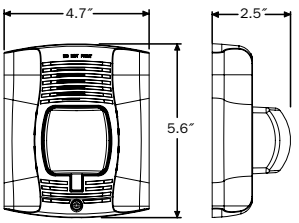
Horn Tones and Sound Output Data

Horn and Horn Strobe Output (dBA)

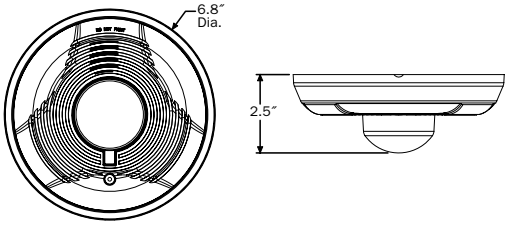
			8–17.5 Volts		16–33 Volts		24-Volt Nominal			
							Reverberant		Anechoic	
Switch Position	Sound Pattern	dB	DC	FWR	DC	FWR	DC	FWR	DC	FWR
1	Temporal	High	78	78	84	84	88	88	99	98
2	Temporal	Medium	74	74	80	80	86	86	96	96
3	Temporal	Low	71	73	76	76	83	80	94	89
4	Non-Temporal	High	82	82	88	88	93	92	100	100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

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

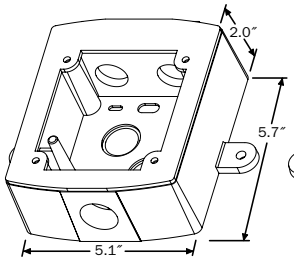
SpectrAlert Advance Dimensions



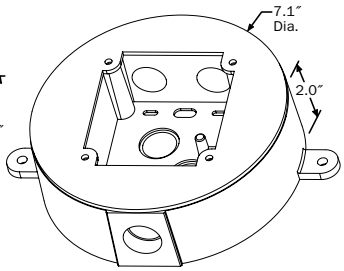
Wall-mount horn strobes



Ceiling-mount horn strobes



Wall weatherproof back box



Ceiling weatherproof back box

SpectrAlert Advance Ordering Information

Model	Description
Wall Horn Strobes	
P2RK*†	2-Wire Horn Strobe, Standard cd, Red, Outdoor
P2RHK*†	2-Wire Horn Strobe, High cd, Red, Outdoor
P2WK*†	2-Wire Horn Strobe, Standard cd, White, Outdoor
P2WHK*†	2-Wire Horn Strobe, High cd, White, Outdoor
P4RK†	4-Wire Horn Strobe, Standard cd, Red, Outdoor
P4WK	4-Wire Horn Strobe, Standard cd, White, Outdoor
P2RHK-120	2-Wire Horn Strobe, High cd, Red, Outdoor, 120 V
Wall Strobes	
SRK*†	Strobe, Standard cd, Red, Outdoor
SRHK*†	Strobe, High cd, Red, Outdoor
SWK*†	Strobe, Standard cd, White, Outdoor
SWHK*†	Strobe, High cd, White, Outdoor

Model	Description
Ceiling Horn Strobes	
PC2RK	2-Wire Horn Strobe, Standard cd, Red, Outdoor
PC2RHK	2-Wire Horn Strobe, High cd, Red, Outdoor
PC2WK	2-Wire, Horn Strobe, Standard cd, White, Outdoor
PC2WHK	2-Wire, Horn Strobe High cd, White, Outdoor
PC4WK	4-Wire, Horn Strobe, Standard cd, White, Outdoor
PC4WHK	4-Wire, Horn Strobe, High cd, White, Outdoor
Ceiling Strobes	
SCRK	Strobe, Standard cd, Red, Outdoor
SCRHK	Strobe, High cd, Red, Outdoor
SCWK	Strobe, Standard cd, White, Outdoor
SCWHK	Strobe, High cd, White, Outdoor
Horns	
HRK	Horn, Red, Outdoor

Notes:

* Add "-P" to model number for plain housing (no "FIRE" marking on cover), e.g., P2RK-P.

† Add "-R" to model number for weatherproof replacement device (no back box included), especially for use with weatherproof outdoor flush mounting plate, WTP and WTPW.

"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.

SYSTEM SENSOR®

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.

A05-0456-001 • 06/09 • #2190

CALIFORNIA DEPARTMENT OF FORESTRY & FIRE PROTECTION
OFFICE OF THE STATE FIRE MARSHAL
FIRE ENGINEERING - BUILDING MATERIALS LISTING PROGRAM

LISTING SERVICE

LISTING No. 7135-1653:0189

CATEGORY: 7135 -- AUDIBLE DEVICES

LISTEE: System Sensor, Unincorporated Div of Honeywell Int'l Inc.3825 Ohio Ave, St. Charles, IL 60174
Contact: Megan Sisson (203) 484-6544 Fax (203) 484-7309
Email: megan.sisson@honeywell.com

DESIGN: Models HR, HW Horns and CHR, CHW chimes. Intended for indoor use only unless otherwise indicated. Models may be followed by the suffix “K” indicating indoor or outdoor use. “K” suffice models are suitable for outdoor applications at temperatures from -40°F to +151°F (-40°C to +66°C) and are rated NEMA *4X when used with the System Sensor weather proof back boxes models SA-WBB (Wall), *SA-WBBW (Wall), SA-WBBC (Ceiling) and *SA-WBBCW (Ceiling). Models CHR and CHW are intended for private mode use only. Suitable for wall or ceiling mount.
Refer to listee's data sheet for additional detailed product description and operational considerations.

RATING: 8 - 17.5 or 16-33 Vdc/VFWR

INSTALLATION: In accordance with listee's printed installation instructions, applicable codes and ordinances, and in a manner acceptable to the authority having jurisdiction.

MARKING: Listee's name, model number, electrical rating, and UL label.

APPROVAL: Listed as audible devices when used with separately listed compatible fire alarm control units.

Units can generate the distinctive three-pulse Temporal Pattern Fire Alarm Evacuation Signal (for total evacuation) in accordance with NFPA 72, 2002 Edition. Refer to listee’s Installation Instruction Manual for details.

*Rev 12-01-08 bh

This listing is based upon technical data submitted by the applicant. CSFM Fire Engineering staff has reviewed the test results and/or other data but does not make an independent verification of any claims. This listing is not an endorsement or recommendation of the item listed. This listing should not be used to verify correct operational requirements or installation criteria. Refer to listee’s data sheet, installation instructions and/or other

Date Issued: **July 01, 2020** *Listing Expires* **June 30, 2021**

Authorized By: ***DAVID CASTILLO,**, M.E., F.P.E.*

Fire Engineering Division

cerrowire

COPPER XHHW-2
Polytherm Cross-Linked Polyethylene
(XLP) Insulated Copper Conductors

- 90°C Dry or Wet
- 600 volts
- 1/0 and larger rated for CT use
- Sunlight Resistant
- Gasoline and Oil Resistant I & II

APPLICATIONS

- For use in conduit or other recognized raceways for service, feeder, and branch circuit applications as specified in the NEC®.
- Good choice for industrial applications where better insulation toughness and resistance to moisture and heat is desired.
- For use in wet or dry locations at temperatures up to 90°C.
- Sunlight resistant

CONDUCTORS

- Stranded conductors: Uncoated, soft copper per ASTM-B8 (2 AWG and 250 MCM-750 MCM), and ASTM-B787 (1 AWG-4/0)

INSULATION

- XLP (cross-linked polyethylene)

INDUSTRY STANDARDS

- UL 44—File No. E63539
- CSA LL 82214
- ASTM-B3
- ASTM-B8
- ASTM-B787
- Federal Specification: A-A-59544
- NFPA70: National Electrical Code®
- NEMA WC70/ICEA S-95-658

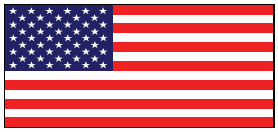
SURFACE PRINT

- Sample: 2 AWG XHHW-2 600V SUN-RES GASOLINE & OIL RESISTANT I & II (UL) E63539/XLPE RW90 (-40°C) CSA LL 82214

Product Code Number	Conductors		Insulation Thickness Mils.	Approx O.D. Inches	Allowable Ampacities*			Approx Net Wt. lbs./m ft.
	AWG Size	No. of Strands			60°C **	75°C ***	90°C ****	
117-4000	8	7	45	0.240	40	50	55	65
117-4200	6	7	45	0.280	55	65	75	97
117-4400	4	7	45	0.330	70	85	95	148
117-4500	3	7	45	0.353	-	-	110	180
117-4600	2	7	45	0.390	95	115	130	229
117-4700	1	19	55	0.450	110	130	150	293
117-5000	1/0	19	55	0.489	125	150	170	364
117-5200	2/0	19	55	0.530	145	175	195	449
117-5400	3/0	19	55	0.550	165	200	225	559
117-5600	4/0	19	55	0.640	195	230	260	698
117-6000	250	37	65	0.710	215	255	290	834
117-6400	300	37	65	0.760	-	-	320	995
117-6800	350	37	65	0.820	260	310	350	1152
117-7200	400	37	65	0.860	280	335	380	1309
117-8000	500	37	65	0.950	320	380	430	1622
117-8400	600	61	80	1.040	355	420	475	1947

** Per Table 310-16 NEC®
*** For termination to equipment for circuits rated 100 amperes or less, or marked for size 14 through 1 AWG conductors.
**** For termination to equipment for circuits rated over 100 amperes or marked for conductors larger than 1AWG.
**** Wet or dry locations.

Cerro Wire LLC
1099 Thompson Road, SE
Hartselle, AL 35640
Phone 800.523.3869 I Fax 877.877.9563
www.cerrowire.com



Made in USA

UL® LISTED

Rev 01-2010

COPPER XHHW-2
Polytherm Cross-Linked Polyethylene
(XLP) Insulated Copper Conductors

- 90°C Dry or Wet
- 600 volts
- 1/0 and larger rated for CT use
- Sunlight Resistant
- Gasoline and Oil Resistant I & II

APPLICATIONS
- For use in conduit or other recognized raceways for service, feeder, and branch circuit applications as specified in the NEC®.
- Good choice for industrial applications where better insulation toughness and resistance to moisture and heat is desired.
- For use in wet or dry locations at temperatures up to 90°C.
- Sunlight resistant

CONDUCTORS
- Stranded conductors: Uncoated, soft copper per ASTM-B8 (2 AWG and 250 MCM-750 MCM), and ASTM-B787 (1 AWG-4/0)

INSULATION
- XLP (cross-linked polyethylene)

INDUSTRY STANDARDS
- UL 44—File No. E63539
- CSA LL 82214
- ASTM-B3
- ASTM-B8
- ASTM-B787
- Federal Specification: A-A-59544
- NFPA70: National Electrical Code®
- NEMA WC70/ICEA S-95-658

SURFACE PRINT
- Sample: 2 AWG XHHW-2 600V SUNRES GASOLINE & OIL RESISTANT I & II (UL) E63539/XLPE RW90 (-40°C) CSA LL 82214

Package Code	K	R	M	P
AWG Size	**1000' reel**	**2000' reel**	**2500' reel**	**5000' reel**
8 stranded	X			X
6 stranded	X			X
4 stranded	X			X
3 stranded	X			X
2 stranded	X			X
1 stranded	X			X
1/0	X			X
2/0	X			X
3/0	X			X
4/0	X			X
250 MCM	X		X	
350 MCM	X		X	
400 MCM	X	X		
500 MCM	X		X	
600 MCM	X	X		

Cerro Wire LLC
1099 Thompson Road, SE
Hartselle, AL 35640
Phone 800.523.3869 I Fax 877.877.9563
www.cerrowire.com

Made in USA

LISTED

Rev 01-2010

cerrowire

THHN/THWN-2

Vinylon® PVC/Nylon

14 AWG—2 AWG

APPLICATIONS
- 600 volt building wire for use in commercial and industrial applications as specified in the NEC®
- 14 AWG-2 AWG is marked VW-1
- 8 AWG-2 AWG in black; Rated sunlight resistant

CONDUCTORS
- Solid conductors: Uncoated copper per ASTM-B3
- Stranded conductors: Uncoated copper per ASTM-B3, ASTM-B787

INSULATION
- Color coded, heat and moisture resistant PVC (polyvinyl chloride)

JACKET
- Nylon (polyamide), clear on 14 AWG-2 AWG colors
- Nylon on 8 AWG-2 AWG black

INDUSTRY STANDARDS
- UL 83: File No. E15119
- UL 1063 (MTW): File No. E85964
- AWM: File No. E11829
- Canadian Standard C22.2 No. 75 and CSA Bulletin No. 1451
- ASTM: B3, B8, B787
- WC70/ICEA S-95-658
- Federal Specification A-A-59544
- NFPA70: National Electrical Code®

SURFACE PRINT
- Sample: CERRO WIRE VINYLON-A 2 AWG (UL) MTW OR THWN-2 OR THHN OR GASOLINE AND OIL RESISTANT II OR AWM SUNLIGHT RESISTANT 600V—C(UL) TWN75 OR T90 NYLON VW-1

Product Code	Conductors		Covering		Approx O.D. Inches	Allowable Ampacities*			Approx Net Wt. lbs./m ft.
	AWG Size	No. of Strands	PVC Ins. Mils.	Nylon Jkt. Mils.		60°C **	75°C ***	90°C ****	
112-14XX	14	SOL	15	4	0.104	15	15	15	15
112-16XX	12	SOL	15	4	0.120	20	20	20	23
112-18XX	10	SOL	20	4	0.151	30	30	30	37
112-34XX	14	19	15	4	0.110	15	15	15	16
112-36XX	12	19	15	4	0.130	20	20	20	24
112-38XX	10	19	20	4	0.165	30	30	30	39
112-40XX	8	19	30	5	0.217	40	50	55	63
112-42XX	6	19	30	5	0.253	55	65	75	96
112-44XX	4	19	40	6	0.322	70	85	95	153
112-45XX	3	19	40	6	0.350	85	100	110	190
112-46XX	2	19	40	6	0.380	95	115	130	233

XX Color Add Code (see chart)
* Per Table 310-16 NEC®
** For termination to equipment for circuits rated 100 amperes or less, or marked for size 14 through 1 AWG conductors. Also for MTW used in wet locations or exposed to oil or coolant.
*** For termination to equipment for circuits rated over 100 amperes or marked for conductors larger than 1 AWG. Also for THWN-2 exposed to oil or coolant and MTW in dry locations.
**** For THHN used in dry locations and THWN-2 used in wet or dry locations. For ampacity derating purposes.

- 90°C Dry—75°C Wet/600 Volts
- Gasoline and Oil Resistant II
- Machine Tool Wire (Stranded): 90°C Dry
- Appliance Wire: 105°C Dry

- 14 AWG—10 AWG rated THHN/THWN: 90°C Dry, 75° Wet
- 8 AWG—2 AWG rated THHN/THWN-2: 90°C Dry or Wet

Cerro Wire LLC
1099 Thompson Road, SE
Hartselle, AL 35640
Phone 800.523.3869 I Fax 877.877.9563
www.cerrowire.com

Made in USA

UL LISTED

Rev 01-2010

cerrowire

THHN/THWN-2

Vinylon® PVC/Nylon

14 AWG—2 AWG

APPLICATIONS

- 600 volt building wire for use in commercial and industrial applications as specified in the NEC®
- 14 AWG-2 AWG is marked VW-1
- 8 AWG-2 AWG in black; Rated sunlight resistant

CONDUCTORS

- Solid conductors: Uncoated copper per ASTM-B3
- Stranded conductors: Uncoated copper per ASTM-B3, ASTM-B787

INSULATION

- Color coded, heat and moisture resistant PVC (polyvinyl chloride)

JACKET

- Nylon (polyamide), clear on 14 AWG-2 AWG colors
- Nylon on 8 AWG-2 AWG black

INDUSTRY STANDARDS

- UL 83: File No. E15119
- UL 1063 (MTW): File No. E85964
- AWM: File No. E11829
- Canadian Standard C22.2 No. 75 and CSA Bulletin No. 1451
- ASTM: B3, B8, B787
- WC70/ICEA S-95-658
- Federal Specification A-A-59544
- NFPA70: National Electrical Code®

SURFACE PRINT

- Sample: CERRO WIRE VINYLON-A 2 AWG (UL) MTW OR THWN-2 OR THHN OR GASOLINE AND OIL RESISTANT II OR AWM SUNLIGHT RE-

Color Available (Product Code 6th and 7th Digits)

AWG Size	Black 01	White 02	Red 03	Blue 04	Green 05	Orange 06	Yellow 07	Brown 08	Purple 09	Grey 10	Pink 11
14 solid	X	X	X	X	X	X	X	X	X	X	X
12 solid	X	X	X	X	X	X	X	X	X	X	X
10 solid	X	X	X	X	X	X	X	X	X	X	X
14 strand	X	X	X	X	X	X	X	X	X	X	X
12 strand	X	X	X	X	X	X	X	X	X	X	X
10 strand	X	X	X	X	X	X	X	X	X	X	X
8 strand	X[1]	X	X	X	X	X	X	X	X[2]	X	
6 strand	X[1]	X	X	X	X	X	X	X	X[2]	X	
4 strand	X[1]	X	X	X	X	X	X	X		X	
3 strand	X[1]	X	X	X	X	X	X	X		X	
2 strand	X[1]	X	X	X	X	X	X	X		X	

1 Only black 8 AWG and larger rated sunlight resistant
2 Not available in 5000' reels

Package Code	J	J	J	K	M	P	10	13	15	18
Size	500' spool 1000' ctn	500' spool 2000' ctn	500' reel	1000' reel	2500' reel	5000' reel	10000' reel	13000' reel	15000' reel	18000' reel
14,12 Solid and Strand		X			X					
10 Solid and Strand	X				X					
8 strand			X[5]	X[5]	X[5]	X[4]	X[1]			
6 strand			X[5]	X[5]	X[5]	X[4]	X[1]			
4 strand			X[3]	X[3]	X[1]	X[4]				X[1]
3 strand			X[1]	X[1]	X[1]	X[4]			X[1]	
2 strand			X[3]	X[2]	X[1]	X[4]		X[1]		

1 Available in black only
2 Available in black and green only
3 Available in black, white, red, and green only
4 Available in all colors except purple and pink
5 Available in all colors except pink

Cerro Wire Inc.
1099 Thompson Road, SE
Hartselle, AL 35640
Phone 800.523.3869 I Fax 877.877.9563
www.cerrowire.com

Made in USA

UL LISTED

Rev 01-2010

WEST PENN WIRE
AV, SECURITY & NETWORKING SOLUTIONS
Since 1971

60994B

12/2 Solid Shielded FPLP
Fire Alarm Signaling

Construction & Dimensions

CONSTRUCTION & DIMENSIONS	-
CONDUCTOR PARAMETER	-
• Number of Conductors	2
• AWG Size	12
• Conductor Stranding	Solid
• Conductor Type	Bare Copper
• Nominal DCR	1.8 Ohm/1000ft
• Cabling Lay Length	4 in
• Twists/Foot	3 twist/ft
INSULATION PARAMETER	-
• Insulation Type	Plenum PVC
• Insulation Thickness	0.009 in
• Insulation Color Code	1. Black 2.Red
SHIELDING PARAMETER	-
• Shield Type	Overall 100% Aluminum Foil
• Drain Wire Type	Tinned Copper
• Drain Wire AWG	24 AWG
ELECTRICAL CHARACTERISTICS	-
• Nom. Cap. Between Conductors	84 pF/ft
• Nom. Cap. Conductor to Shield	151 pF/ft

Overall Construction

OVERALL CONSTRUCTION PARAMETERS	-
Jacket Type	Flexible Plenum
Jacket Thickness	0.015 in
Nominal Cable O.D.	0.243 in
Plenum	Yes
NEC UL Rating	FPLP
RoHS Compliant	Yes
Pull Tension	166 lbs
Bend Radius	2.187 in
Cable Weight	54 lbs

Overall Electrical & Optical Characteristics

OVERALL ELECTRICAL/OPTICAL CHARACTERISTICS	-
UL Flammability	NFPA 262 Plenum
Operating Range	-0 to 60 Deg C
UL Voltage Rating	300

60994B

12/2 Solid Shielded FPLP

Fire Alarm Signaling

Related Products

RELATED PRODUCTS	-
Non Plenum Number	999
Aquaseal Number	AQC296
Aquaseal Direct Burial Number	AQ296

Technical Data Sheet
Aquaseal ® Fire-Alarm Cables

2833 West Chestnut Street
Washington, PA 15301
Toll Free: (800) 245-4964
Fax: (724) 222-6420
www.westpenn-wpw.com

PART NUMBER: **AQ224**

DESCRIPTION: 18/2 Stranded bare copper conductors, overall unshielded with Aquaseal tape and overall jacket.

NEC RATING: FPL – PLTC, NEC Article 760 And 725

APPROVALS: (UL) or (ETL)us Listed – **Direct Burial**

APPLICATION: Materials suitable for outdoor use (direct burial), and indoor trays, allows a variety of uses for (Low voltage industrial process control circuits, Power-Limited circuits, Power-Limited fire alarm circuits, Power-Limited tray cable PLTC)

Construction Parameters:

Conductor	18 AWG Bare Copper
Stranding	7x26
Insulation Material	PVC with Nylon
Insulation Thickness	PVC 0.015" Nom. Nylon .005" Nom.
Number of Conductors	2 (1 Pair)
Shield	None
Drain	None
Water-Blocking Tape	2 Ply water swellable tape
Jacket Material	Sunlight/ Moisture Resistant PVC
Jacket Thickness	0.040" Nom.
Overall Cable Diameter	0.270" Nom.
Approximate Cable Weight	59 Lbs/1M' Nom.
Flame Rating	UL 1685 Vertical Tray

Electrical & Environmental Properties:

Temperature Rating	-20deg C to 60deg C
Operating Voltage	300 V RMS
Max.Capacitance Between Conductors @ 1 KHz	25 pf/ft Nom.
DC Resistance per Conductor @ 20deg C	6.2 Ohms/1M' Nom.
Insulation Colors	Black, Red, Brown, Blue
Jacket Color	Black
RoHS Compliant	--
TIA455-82B Water Infiltration Test Compliant	Yes
UL 444 & 13 Compliant	Yes

Mechanical Properties:

Max. Recommended Pull Tension	84 lbs.
Min. Bend Radius (Install)	2.7"

Specification Issue Date: 7/06

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Standard Lengths are 1000ft.
The Jacket is sequentially footmarked.
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Technical Data Sheet
Aquaseal ® Fire-Alarm Cables

WEST PENN WIRE

2833 West Chestnut Street
Washington, PA 15301
Toll Free: (800) 245-4964
Fax: (724) 222-6420
www.westpenn-wpw.com

PART NUMBER: **AQ225**

DESCRIPTION: 16/2 Stranded bare copper conductors, overall unshielded with Aquaseal tape and overall jacket.

NEC RATING: FPL – PLTC, NEC Article 760 And 725

APPROVALS: (UL) or (ETL)us Listed –Direct Burial

APPLICATION: Materials suitable for outdoor use (direct burial), and indoor trays, allows a variety of uses for (Low voltage industrial process control circuits, Power-Limited circuits, Power-Limited fire alarm circuits, Power-Limited tray cable PLTC)

Construction Parameters:

Conductor	16 AWG Bare Copper
Stranding	7x24
Insulation Material	PVC with Nylon
Insulation Thickness	PVC 0.015" Nom. Nylon .005” Nom.
Number of Conductors	2 (1 Pair)
Shield	None
Drain	None
Water-Blocking Tape	2 Ply water swellable tape
Jacket Material	Sunlight/ Moisture Resistant PVC
Jacket Thickness	0.040" Nom.
Overall Cable Diameter	0.295" Nom.
Approximate Cable Weight	48 Lbs/1M' Nom.
Flame Rating	UL 1685 Vertical Tray

Electrical & Environmental Properties:

Temperature Rating	-20deg C to 60deg C
Operating Voltage	300 V RMS
Max.Capacitance Between Conductors @ 1 KHz	28 pf/ft Nom.
DC Resistance per Conductor @ 20deg C	4.2 Ohms/1M' Nom.
Insulation Colors	Black, Red
Jacket Color	Black
RoHS Compliant	--
TIA455-82B Water Infiltration Test Compliant	Yes
UL 444 & 13 Compliant	Yes

Mechanical Properties:

Max. Recommended Pull Tension	54 lbs.
Min. Bend Radius (Install)	2.9”

Specification Issue Date: 7/06

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Technical Data Sheet
Fire Alarm Cables- Addressable

2833 West Chestnut Street
Washington, PA 15301
Toll Free: (800) 245-4964
Fax: (724) 222-6420
www.westpenn-wpw.com

PART NUMBER: **D975**

DESCRIPTION: 18/2 Solid bare copper conductors, shielded with an overall jacket.

NEC RATING: FPL, NEC Article 760

APPROVALS: (UL) or (ETL)us Listed

APPLICATION: Indoor data fire alarm cable for (Data Circuits, Initiating Circuits, Notification Circuits, Addressable Systems)

Construction Parameters:

Conductor	18 AWG Bare Copper
Stranding	Solid
Insulation Material	Copolene
Insulation Thickness	0.012" Nom.
Number of Conductors	2(1Pair)
Shield	100% Aluminum Polyester Foil
Drain	Stranded Tinned Copper
Jacket Material	PVC
Jacket Thickness	0.015" Nom.
Overall Cable Diameter	0.210" Nom.
Approximate Cable Weight	27 Lbs/1M' Nom.
Flame Rating	UL1685 Vertical Tray Flame Test

Electrical & Environmental Properties:

Temperature Rating	-20deg C to 60deg C
Operating Voltage	300 V RMS
Max.Capacitance Between Conductors @ 1 KHz	25 pf/ft Nom.
Capacitance Between Conductors to Shield @ 1 KHz	45 pf/ft Nom.
DC Resistance per Conductor @ 20deg C	6.4 Ohms/1M' Nom.
Velocity of Propagation	71% Nom.
Insulation Colors	Black, Red
Jacket Color	Red
RoHS Compliant	No

Mechanical Properties:

Max. Recommended Pull Tension	43.2 lbs.
Min. Bend Radius (Install)	2”

Specification Issue Date: 7/06

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2833 West Chestnut Street
Washington, PA 15301
Toll Free: (800) 245-4964
Fax: (724) 222-6420
www.westpenn-wpw.com

PART NUMBER: **D980**

DESCRIPTION: 18/2 Solid bare copper conductors, unshielded with an overall jacket.

NEC RATING: FPL, NEC Article 760

APPROVALS: (UL) or (ETL)us Listed

APPLICATION: Indoor data fire alarm cable for (Data Circuits, Initiating Circuits, Notification Circuits, Addressable Systems)

Construction Parameters:

Conductor	18 AWG Bare Copper
Stranding	Solid
Insulation Material	Copolene
Insulation Thickness	0.015" Nom.
Number of Conductors	2
Shield	None
Drain	None
Jacket Material	PVC
Jacket Thickness	0.030" Nom.
Overall Cable Diameter	0.182" Nom.
Approximate Cable Weight	21 Lbs/1M' Nom.
Flame Rating	UL 1581 Vertical Tray Flame Test

Electrical & Environmental Properties:

Temperature Rating	-20deg C to 60deg C
Operating Voltage	300 V RMS
Max.Capacitance Between Conductors @ 1 KHz	16 pf/ft Nom.
DC Resistance per Conductor @ 20deg C	6.5 Ohms/1M' Nom.
Velocity of Propagation	71% Nom.
Insulation Colors	Black, Red
Jacket Color	Red
RoHS Compliant	--

Mechanical Properties:

Max. Recommended Pull Tension	39.2 lbs.
Min. Bend Radius (Install)	2”

Specification Issue Date: 7/06

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Washington, PA 15301
Toll Free: (800) 245-4964
Fax: (724) 222-6420
www.westpenn-wpw.com

PART NUMBER: **D990**

DESCRIPTION: 16/2 Solid bare copper conductors, unshielded with an overall jacket.

NEC RATING: FPL, NEC Article 760

APPROVALS: (UL) or (ETL)us Listed

APPLICATION: Indoor data fire alarm cable for (Data Circuits, Initiating Circuits, Notification Circuits, Addressable Systems)

Construction Parameters:

Conductor	16 AWG Bare Copper
Stranding	Solid
Insulation Material	Copolene
Insulation Thickness	0.015" Nom.
Number of Conductors	2
Shield	None
Drain	None
Jacket Material	PVC
Jacket Thickness	0.030" Nom.
Overall Cable Diameter	0.223" Nom.
Approximate Cable Weight	29 Lbs/1M' Nom.
Flame Rating	UL 1581 Vertical Tray Flame Test

Electrical & Environmental Properties:

Temperature Rating	-20deg C to 60deg C
Operating Voltage	300 V RMS
Max.Capacitance Between Conductors @ 1 KHz	18 pf/ft Nom.
DC Resistance per Conductor @ 20deg C	4.2 Ohms/1M' Nom.
Velocity of Propagation	71% Nom.
Insulation Colors	Black, Red
Jacket Color	Red
RoHS Compliant	--

Mechanical Properties:

Max. Recommended Pull Tension	62.4 lbs.
Min. Bend Radius (Install)	2.25”

Specification Issue Date: 7/06

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CALIFORNIA DEPARTMENT OF FORESTRY & FIRE PROTECTION
OFFICE OF THE STATE FIRE MARSHAL
FIRE ENGINEERING - BUILDING MATERIALS LISTING PROGRAM

LISTING SERVICE

LISTING No. 7160-0859:0102

CATEGORY: 7160 -- CABLES-OTHERS

LISTEE: West Penn Wire2833 W Chestnut St, Washington, PA 15301
Contact: Steve Courtwright (724) 222-7060 Ext: 810 Fax (724) 229-1151
Email: Steve.courtwright@westpenn-wpw.com

DESIGN: Type NPLF conductor cable. Refer to listee's data sheet for detailed product description and operational considerations.

INSTALLATION: In accordance with listee's printed installation instructions, applicable codes and ordinances and in a manner acceptable to the authority having jurisdiction.

MARKING: Listee's name, type, NEC rating and UL label.

APPROVAL: Listed as non-power limited conductor cable.

*Rev. 05-23-2005

This listing is based upon technical data submitted by the applicant. CSFM Fire Engineering staff has reviewed the test results and/or other data but does not make an independent verification of any claims. This listing is not an endorsement or recommendation of the item listed. This listing should not be used to verify correct operational requirements or installation criteria. Refer to listee's data sheet, installation instructions and/or other

Date Issued: **July 01, 2020** *Listing Expires* **June 30, 2021**

Authorized By: ***DAVID CASTILLO,**, M.E., F.P.E.*

Fire Engineering Division

CALIFORNIA DEPARTMENT OF FORESTRY & FIRE PROTECTION
OFFICE OF THE STATE FIRE MARSHAL
FIRE ENGINEERING - BUILDING MATERIALS LISTING PROGRAM

LISTING SERVICE

LISTING No. 7160-0859:0103

CATEGORY: 7160 -- CABLES-OTHERS

LISTEE: West Penn Wire2833 W Chestnut St, Washington, PA 15301
Contact: Steve Courtwright (724) 222-7060 Ext: 810 Fax (724) 229-1151
Email: Steve.courtwright@westpenn-wpw.com

DESIGN: Type NPLFP plenum cable. Refer to listee's data sheet for detailed product description and operational considerations.

INSTALLATION: In accordance with listee's printed installation instructions, applicable codes and ordinances and in a manner acceptable to the authority having jurisdiction.

MARKING: Type and UL label.

APPROVAL: Listed as non power-limited plenum cable.

*Rev. 05-23-2005

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Date Issued: **July 01, 2020** *Listing Expires* **June 30, 2021**

Authorized By: ***DAVID CASTILLO,**, M.E., F.P.E.*

Fire Engineering Division

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OFFICE OF THE STATE FIRE MARSHAL
FIRE ENGINEERING - BUILDING MATERIALS LISTING PROGRAM

LISTING SERVICE

LISTING No. 7161-0859:0101

CATEGORY: 7161 -- CABLES-FIRE PROTECTIVE SIGNALING

LISTEE: West Penn Wire2833 W Chestnut St, Washington, PA 15301
Contact: Steve Courtwright (724) 222-7060 Ext: 810 Fax (724) 229-1151
Email: Steve.courtwright@westpenn-wpw.com

DESIGN: Types FPL and FPLP power limited fire protective signaling cable. Refer to listee's data sheet for detailed product description and operational considerations.

INSTALLATION: In accordance with listee's printed installation instructions, NEC Article 760, applicable codes and ordinances and in a manner acceptable to the authority having jurisdiction.

MARKING: Listee's name, type, NEC rating and UL label.

APPROVAL: Listed as power-limited fire protective signaling cable.

*Rev. 05-23-2005

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Date Issued: **July 01, 2020** *Listing Expires* **June 30, 2021**

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Fire Engineering Division