INSTALLATION AND MAINTENANCE INSTRUCTIONS

Dual Voltage Speakers for Fire and ECS/MNS Systems – Wall and Ceiling Mount

SYSTEM SENSOR®
3825 Ohio Avenue, St. Charles, Illinois 60174
800/736-7672, FAX: 630/377-6495
www.systemsensor.com

For use with the following models:
Wall Speakers: SPRL, SPWL
Ceiling Speakers: SPCRL, SPCWL

PRODUCT SPECIFICATIONS

Standard Operating Temperature:	32°F to 120°F (0°C to 49°C)
Humidity Range:	10 to 93% Non-condensing
Nominal Voltage:	25 Volts or 70.7 Volts
Maximum Supervisory Voltage:	50 VDC
Speaker Frequency Range:	400 – 4000 Hz
Power Settings:	¼, ½, 1, 2 Watts
Input terminal wire gauge:	12 to 18 AWG

PRODUCT DIMENSIONS			
WALL PRODUCTS	Length	Width	Depth
Wall Speaker	6.520" (165 mm)	5.00" (127 mm)	0.97" (24.6 mm)
CEILING PRODUCTS	Length	Width	Depth
Ceiling Speaker	6.8" (173 mm)	N/A	1.00" (25.4mm)

MOUNTING BOX OPTIONS
SPEAKERS
4" x 4" x 2 1/8" or deeper

NOTICE: This manual shall be left with the owner/user of this equipment.

BEFORE INSTALLING

Please read the System Sensor Voice Evacuation Application Guide, which provides detailed information on speaker notification devices, wiring and special applications. Copies of this manual are available from System Sensor. NFPA 72 and NEMA guidelines should be observed.

Important: The notification appliance used must be tested and maintained following NFPA 72 requirements.

GENERAL DESCRIPTION

System Sensor series of notification appliances offer a wide range of audible and visible devices for life safety notification. Our line of speakers is designed to be used at either 25 or 70.7 volts, and operate at any one of four input power levels. Our speakers are suitable for dry and damp environments. These products are electrically backwards compatible with previous generation of System Sensor speakers. With its low total harmonic distortion, the System Sensor SPL series offers high fidelity sound output. Wall and ceiling products may be used interchangeably (wall products may be used on ceiling and ceiling product may be used on wall).

The speakers, and all power level settings, are listed to ANSI/UL 1480 requirements for public mode applications.

FIRE ALARM SYSTEM CONSIDERATIONS

All wiring must be installed in compliance with the National Electrical Code (NEC) and applicable local codes. System Sensor recommends installing fire alarm speakers in compliance with NFPA 72, ANSI/UL 1480 and NEC 760.

WIRING AND MOUNTING

All wiring must be installed in compliance with the National Electric Code and the local codes as well as the authority having jurisdiction. Wiring must not be of such length or wire size which would cause the notification appliance to operate outside of its published specifications. Improper connections can prevent the system from alerting occupants in the event of an emergency.

Wire sizes up to 12 AWG (2.5 mm²) may be used with the mounting plate. The mounting plate ships with the terminals set for 12 AWG wiring.

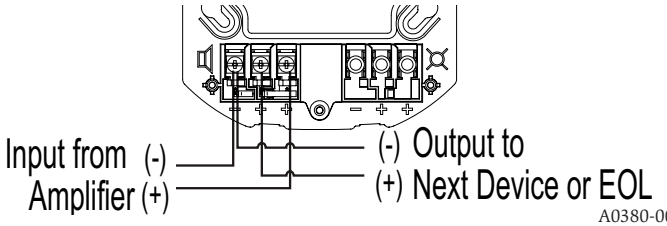
Make wire connections by stripping about 3/8" of insulation from the end of the wire. Then slide the bare end of the wire under the appropriate clamping plate and tighten the clamping plate screw.

See Figure 1 for wiring terminals and strip guide reference.

1. Connect the speaker as shown in Figure 1.

2. There are two rotary switches on the back of the product. The first switch is used to select either 25 or 70.7 volts input and the second switch is used to select the input power of ¼, ½, 1 or 2 watts. (See Figure 2.)

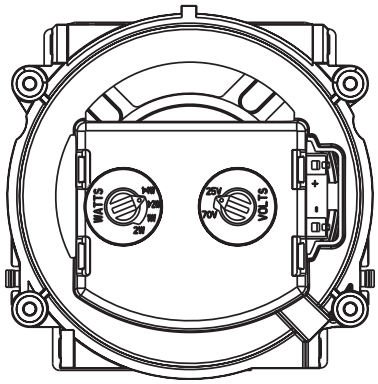
FIGURE 1. WIRING DIAGRAM AND WIRING TERMINALS



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Wiring Terminals	NOTE: Do not loop electrical wiring under terminal screws. Wires connecting the device to the control panel must be broken at the device terminal connection in order to maintain electrical supervision.
1. Negative (-). Line in and out 2. Positive (+). Line in and out 3. Positive (+). Line in and out	

FIGURE 2. SPEAKER WATTAGE AND VOLTAGE SETTINGS

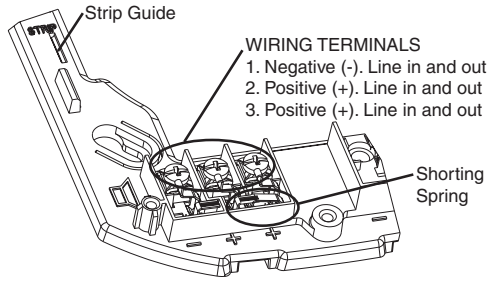


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SHORTING SPRING FEATURE

System Sensor notification appliances come with a shorting spring that is provided between terminals 2 and 3 of the mounting plate to enable system continuity checks after the system has been wired, but prior to installation of the final product. (See Figure 3.) This spring will automatically disengage when the product is installed, to enable supervision of the final system.

FIGURE 3. SHORTING SPRING



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AVAILABLE POWER SETTINGS

System Sensor offers a wide range of power settings for your life safety needs, including ¼, ½, 1, and 2W.

Sound levels data per UL 1480 can be found in Table 1. Directional characteristics can be found in Table 2.

TABLE 1. SOUND LEVELS FOR EACH TRANSFORMER POWER SETTING

Setting	UL Reverberant (dBA @10 ft)	UL Anechoic (dBA @10 ft)
¼ W	79	79
½ W	82	82
1 W	85	85
2 W	88	88

⚠CAUTION

Signal levels exceeding 130% rated signal voltage can damage the speaker. Consequently, an incorrect tap connection may cause speaker damage. This means that if a 25V tap is selected when a 70.7V amplifier is being used, speaker damage may result. Therefore, be sure to select the proper taps for the amplifier voltage/input power level combination being used.

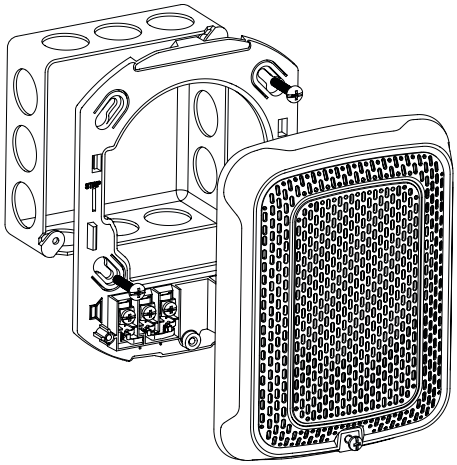
TABLE 2 DIRECTIONAL CHARACTERISTICS

Angle (degrees)	Decibels
70°	-3dB
90°	-6dB

MOUNTING

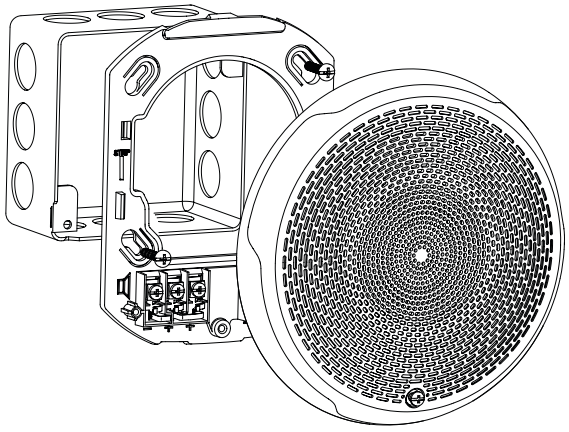
1. Attach mounting plate to junction box. The mounting plate is compatible with 4" x 4" x 2⅛" or deeper junction boxes. (See Figures 4 and 5.)

FIGURE 4. WALL SPEAKER



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FIGURE 5. CEILING SPEAKER



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1. Connect field wiring to terminals, as shown in Figure 1.

2. If the product is not to be installed at this point, use the protective dust cover to prevent contamination of the wiring terminals on the mounting plate.

3. To attach product to mounting plate, remove the protective dust cover, hook tabs on the top of the product housing into the grooves on mounting plate.

4. Then, hinge the product into position to engage the pins on the product with the terminals on the mounting plate. Make sure that the tabs on the back of the product housing fully engage with the mounting plate.

5. Secure product by tightening the single mounting screw in the front of the product housing.

⚠CAUTION

The "hold in place" snaps are not intended to secure the product to the back box. The product must be secured to the back box using the screws provided.

⚠CAUTION

Factory finish should not be altered: Do not paint!

⚠CAUTION

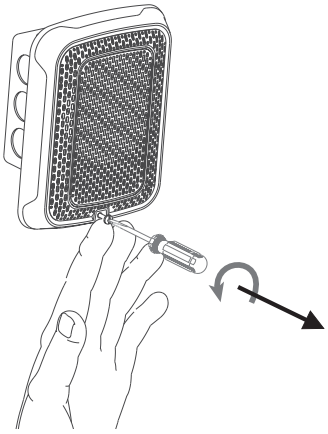
Do not over tighten mounting plate screws; this may cause mounting plate to flex.

TAMPER SCREW

For tamper resistance, the standard captive screw may be replaced with the enclosed Torx screw.

1. To remove the captive screw, back out the screw and apply pressure to the back until it disengages from the housing. Replace with the supplied Torx screw. (See Figure 6.)

FIGURE 6. TAMPER SCREW



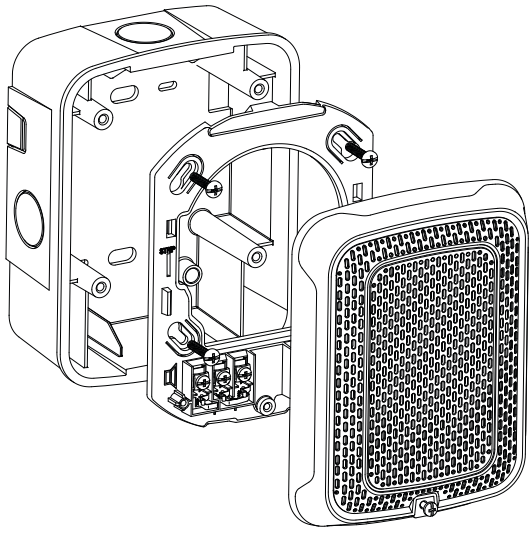
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NOTE: Wall speaker shown in this example.

SURFACE MOUNT BACK BOX MOUNTING

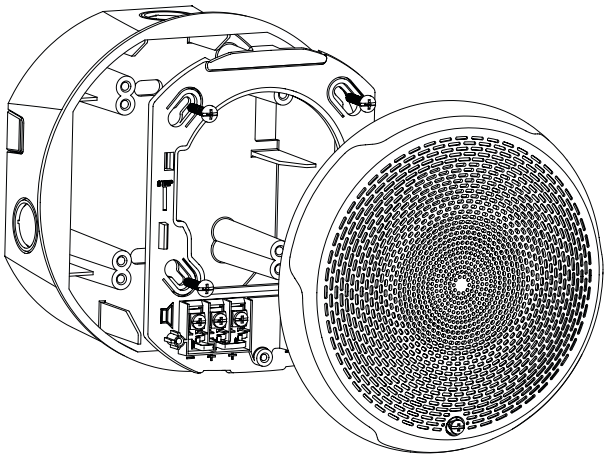
1. The surface mount back box may be secured directly to the wall or ceiling. A grounding bracket with ground screw capability is provided if needed. For wall see Figure 7, and for ceiling see Figure 8.

FIGURE 7. WALL SURFACE MOUNT BACK BOX



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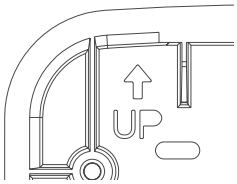
FIGURE 8. CEILING SURFACE MOUNT BACK BOX



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2. The wall mount box must be mounted with the up arrow pointing up. (See Figure 9.)

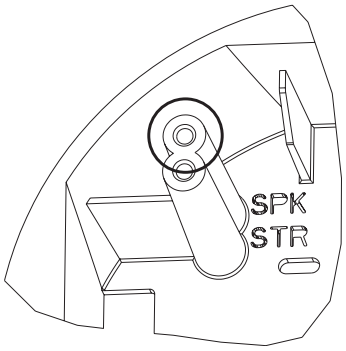
FIGURE 9. SMBB UP ARROW



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NOTE: Ceiling Surface Mount Back Box, SBBCRL/CWL is a common back box for ceiling horn strobes, strobes and ceiling speakers and speaker strobes. Use the top mounting holes for ceiling speaker and speaker strobe products. (See Figure 10.)

FIGURE 10. CEILING SURFACE MOUNT BACK BOX MOUNTING KEY HOLE PATTERN



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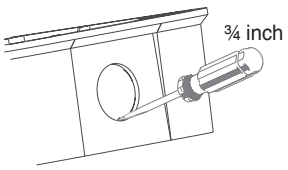
3. Threaded knockout holes are provided for the sides of the box for ¾ inch conduit adapter. Knockout holes in the back of the box can be used for ¾ inch rear entry.

4. To remove the ¾ inch knockout, we recommend you use a flat head screwdriver, place the blade of the flat head screwdriver in the inner edge of the knockout. Strike the screwdriver as you work your way around as shown in Figure 11.

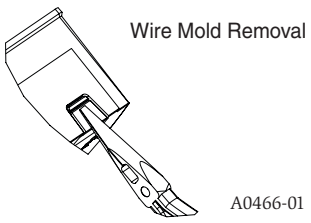
5. V500 and V700 raceway knockouts are also provided. Use V500 for low profile applications and V700 for high profile applications.

6. To remove the knockout turn pliers up, as shown in Figure 12.

FIGURE 11 AND 12. KNOCKOUT REMOVAL FOR SURFACE MOUNT BACK BOX AND WIRE MOLD REMOVAL



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NOTE: Use caution not to strike the knockout near the top edge of the wall version of the surface mount back box.

Please refer to insert for the Limitations of Fire Alarm Systems

⚠WARNING

THE LIMITATIONS OF SPEAKERS

Always make sure that the individual speakers are tested after installation per NFPA regulations. The speakers may not be heard. The loudness of the speaker meets (or exceeds) current Underwriters Laboratories' standards. However, the speaker may not alert a sound sleeper or one who has recently used drugs or has been drinking alcoholic beverages. The speaker may not be heard if it is placed on a different floor from the person in hazard or if placed too far away to be heard over the ambient noise such as traffic, air conditioners, machinery or music appliances that may prevent alert persons from hearing the alarm. The speaker may not be heard by persons who are hearing impaired.

THREE-YEAR LIMITED WARRANTY

System Sensor warrants its enclosed product to be free from defects in materials and workmanship under normal use and service for a period of three years from date of manufacture. System Sensor makes no other express warranty for this product. No agent, representative, dealer, or employee of the Company has the authority to increase or alter the obligations or limitations of this Warranty. The Company's obligation of this Warranty shall be limited to the replacement of any part of the product which is found to be defective in materials or workmanship under normal use and service during the three year period commencing with the date of manufacture. After phoning System Sensor's toll free number 800-SENSOR2 (736-7672) for a Return Authorization number, send defective units postage prepaid to: Honeywell, 12220 Rojas Drive, Suite 700, El Paso TX 79936, USA. Please include a note describing the malfunction and suspected cause of failure. The Company shall not be obligated to replace units which are found to be defective because of damage, unreasonable use, modifications, or alterations occurring after the date of manufacture. In no case shall the Company be liable for any consequential or incidental damages for breach of this or any other Warranty expressed or implied whatsoever, even if the loss or damage is caused by the Company's negligence or fault. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. This Warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

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