

## INSTALLATION AND MAINTENANCE INSTRUCTIONS

# V4R24ADAS Series Speaker with Synchronized ADA Strobes for Fire Protective Signaling Systems



A Division of Pittway  
3825 Ohio Avenue, St. Charles, Illinois 60174  
1-800-SENSOR2, FAX: 630-377-6495

### Specifications

#### Speaker

Frequency Range: 400 Hz to 4000Hz  
Supervision: Capacitive input for supervisory DC voltage  
Mounting: Standard 4" X 4" electrical box  
Surface mount directly to box  
Semiflush mount, using model MP-SF or MP-SFB

Input Voltage (Vrms)	Power Tap (Watts)	Minimum Output (dBA)	
		UL Reverberant	Anechoic @ 10 ft.
25 or 70.7	1/4	75	78
25 or 70.7	1/2	78	81
25 or 70.7	1	81	84
25 or 70.7	2	84	87

#### Strobe

Model	Supply Voltage Range	Operating Current from Regulated Supply			Operating Current from Full-Wave Rectified Unfiltered Supply		
		Average Operating Current	Peak Current (mA)	Inrush Current (AMPS) 20/30 Vrms	Average Operating Current (mArms)	Peak Current (mA)	Inrush Current (Amps) 20/30 Vrms
V4R2415ADAS	20-30V	106	200	5.0/7.0	125	250	5.0/7.0
V4R241575ADAS	20-30V	195	350	5.0/7.0	180	395	5.0/7.0

Note: Inrush current lasts on the order of microseconds

### General

The National Fire Protection Association has published standards and recommended practices for the installation and use of the appliances described in these instructions. It is recommended that the installer become familiar with these standards and practices, local codes, and any special requirements of the authority having jurisdiction.

The speakers can operate at any one of four input power levels at either of two input voltages. The system voltage and sound power levels are selected at the time of installation, but can be changed, if necessary.

The speaker is also equipped with a capacitive input to allow for DC supervision.

An attached 24 VDC strobe at 15, or 15/75 candela (cd) is also included with the speaker. Although they are assembled into a unit, the strobe and speaker are electrically independent and require separate power sources.

Strobes can be powered by means of a full-wave rectified unfiltered supply, and will flash at a rate of one flash per second.

**NOTE:** ADAS Series devices operating in the same zone will not be synchronized if energized at different times (i.e., if more than one controller is controlling the same zone.)

The light output rating of the V4R2415ADAS and V4R241575ADAS is 15 cd.

**NOTE:** The light output at 0° viewing angle for V4R241575ADAS is 75 cd.

**Installation - For Strobe Placement See NFPA 72, Chapter 6**

**NOTE:** Installation procedure must comply with all applicable local codes and any special requirements of the authority having jurisdiction.

**Electrical**

All wiring must be installed in compliance with the National Electrical Code and all applicable local codes as well as any special requirements of the authority having jurisdiction, using the proper wire size. This also includes all applicable NFPA Standards, ANSI/UL 1480, and NEC 760.

1. Connect the speaker and strobe as shown in Figure 2. Keep in mind that even though the speaker and strobe are a single mechanical unit, they are electrically independent - the strobe must be connected to a DC supply and the speaker to a 25V<sub>rms</sub> or 70.7 V<sub>rms</sub> amplifier.

Even though V4R24ADAS series speakers can be used with 25 V<sub>rms</sub> or 70.7 V<sub>rms</sub> amplifiers, permanent damage can result if the speaker is improperly connected. Therefore, be sure to use the COM and 25 terminals when a 25 V<sub>rms</sub> amplifier is being used. Similarly, use the COM and 70.7 terminals if a 70.7 V<sub>rms</sub> amplifier is in the system.

**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 to ensure electrical supervision.

2. See Figure 2. The speaker is equipped with five posts and an associated plug with red and black wires. The center post is COM (common) while the others are labeled 2W, 1/4W, 1/2W, and 1W, respectively.

The installer selects any one of four input power levels by installing the plug onto COM and the appropriate power post. When connecting this plug, make sure the black wire is connected to the COM post and the red wire to the numbered post. Otherwise, permanent speaker damage could result.

**CAUTION**

If the power option plug is not plugged into one of the option positions, the speaker will not sound and there will be no trouble indication at the panel. Always make sure that the individual speakers are tested after installation per NFPA regulations.

**Mounting**

**A. General**

Both slotted head and Phillips head screws are supplied with the speaker/strobe. Use the slotted head screw to mount the device or combination of devices on the electrical box. Use the phillips head screws for attaching accessories to the speaker.

The speaker/strobe must be wall mounted so that the top of the lens is 24 inches below the ceiling.

**B. Surface Wall Mount**

See Figure 3. Attach the speaker/strobe to a standard 4-inch electrical box, using the two 8-32 X 1-7/16" slotted screws provided. Fill the remaining screws with the short #8 sheet metal screws, provided.

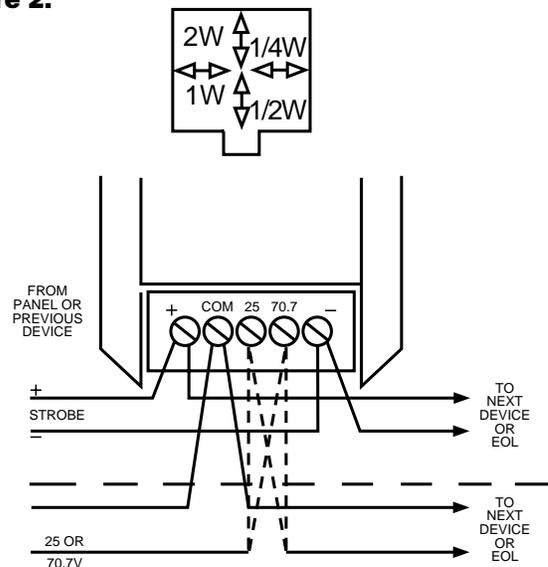
**C. Semiflush Wall Mount**

(a) System Sensor semiflush mounting plates are shipped with #8 nuts already installed from the back.

(b) Attach the semiflush mounting plate to a standard 4-inch square electrical box using the two 8-32 X 5/8" slotted screws, provided, at diagonally opposite corners, as shown in Figure 4.

(c) Wire the speaker/strobe as described in Electrical and

**Figure 2:**



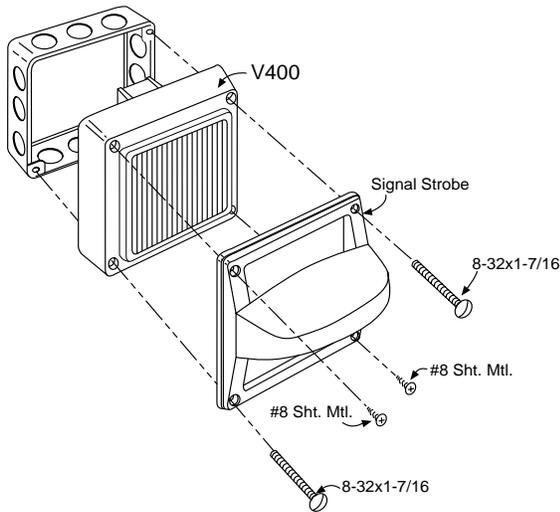
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mount it on the plate using the two 8-32 X 1-7/16" slotted screws in diagonally opposite corners. Thread a #8 sheet metal screw into each of the two remaining holes in the speaker/strobe.

**D. Plaster Ring Mount**

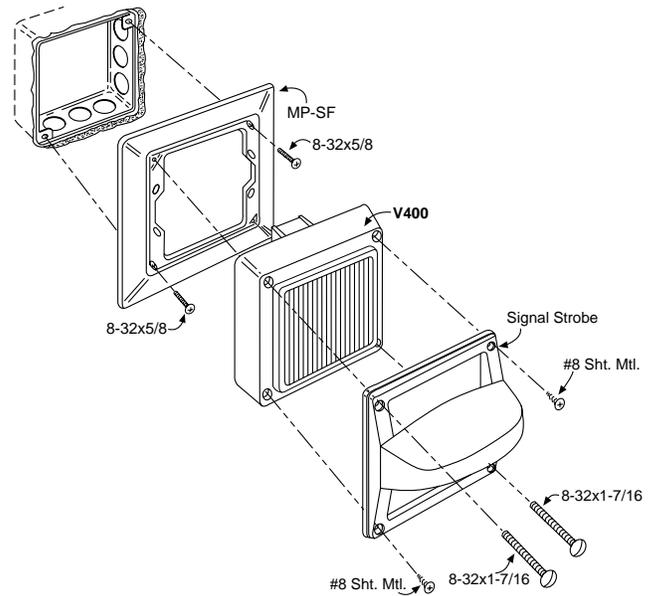
See Figure 5. Follow the **Semiflush Wall Mount** procedure, except attach the semiflush plate to the electrical box, using the two 6-32 X 5/8" screws.

**Figure 3. Surface wall mount:**



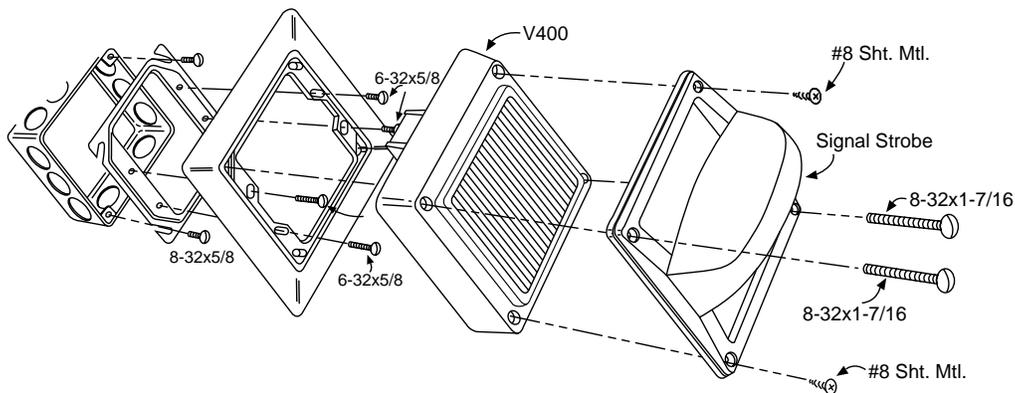
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**Figure 4. Semiflush wall mount:**



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**Figure 5. Plaster ring mount:**



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### The Limitations of Speakers and Speaker/Strobes

If the power option plug is not plugged into one of the option positions, the speaker will not sound and there will be no trouble indication at the panel. Always make sure that the individual speakers are tested after installation per NFPA regulations.

**The speaker may not be heard.** The loudness of the speaker meets (or exceeds) the current Underwriters Laboratories standards. However, the speaker may not attract the attention of 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.**

**The signal strobe may not be seen.** The electronic visual warning signal uses an extremely reliable xenon flash tube. It flashes at least once every second and meets the 1971 Underwriters Laboratories standard for the hearing impaired. The visual warning signal is suitable for direct viewing

and must be installed within an area where it can be seen by building occupants. The strobe must not be installed in direct sunlight or areas of high light intensity (over 60 foot candles) where the visual flash might be disregarded or not seen. **The strobe may not be seen by the visually impaired.**

**The signal strobe may cause seizures.** Individuals who have positive photic response to visual stimuli with seizures, such as persons with epilepsy, should avoid prolonged exposure to environments in which strobe signals, including this strobe, are activated.

**The signal strobe cannot operate from coded power supplies.** Coded power supplies produce interrupted power. The strobe must have an uninterrupted source of DC power in order to operate correctly.

System Sensor recommends that the speaker and signal strobe always be used in combination so that the risks from any of the above limitations are minimized.

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### Three-Year Limited Warranty

System Sensor warrants its enclosed speaker/strobe 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 speaker/strobe. 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 repair or replacement of any part of the speaker/strobe 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: System Sensor, Repair Depart-

ment, RA # \_\_\_\_\_, 3825 Ohio Avenue, St. Charles, IL 60174. Please include a note describing the malfunction and suspected cause of failure. The Company shall not be obligated to repair or 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.