

**RTS2, RTS2-AOS, AOS  
Multi-Signaling Accessory**

**SPECIFICATIONS**

|                    |   |
|--------------------|---|
| Dimensions:        | 4.8"W x 5.3"H x 1.6"D (12.2cm W x 11.9 cm H x 3.8 cm D) |
| Weight:            | 0.35 lb. (160 g)  |
| Operating Voltage: | 20-29 VDC   |
| Power Requirements |   |
| Standby:           | 3.0 mA max.   |
| Trouble:           | 16.0 mA max   |
| Alarm w/o strobe:  | 30 mA max   |
| Alarm with strobe: | 55 mA max   |
| Connections:       | Strip terminal, 14 AWG to 22 AWG wire                   |
| Wiring Distance:   | 1000 Feet From Duct Smoke Detector                      |
| Sounder:           | 85 dBA at ten feet                                      |
| Temperature:       | 14°F to 140°F (-10°C to 60°C)                           |
| Humidity:          | 95% relative humidity; non-condensing                   |
| Listing:           | UL 268 and ULC S529-02                                  |

Notice: This manual should be left with the owner/user of this equipment.

**GENERAL INFORMATION**

The National Fire Protection Association (NFPA) has published codes, standards, and recommended practices for the installation and use of this product. It is recommended that the installer be familiar with these requirements, with local codes, and any special requirements of the local authority having jurisdiction. For further information, consult NFPA 72 and 90A requirements.

The System Sensor RTS2 and RTS2-AOS multi-signaling accessories are designed for use with System Sensor InnovairFlex 4-wire conventional duct smoke detectors only. The accessory has two bicolored LEDs that indicate the sensor status of up to two connected duct smoke detectors. The key switch on the unit can be used to select a connected duct detector sensor (either sensor 1 or sensor 2), and the selected sensor can be tested or both sensors can be reset simultaneously using the test/reset button. LED status indications include: Standby (green blink), Trouble (amber), Maintenance (amber blink) and Alarm (red).

With the key switch selected, there is also the capability of obtaining a sensitivity measurement of the selected sensor using the SENS-RDR sensitivity reader (sold separately).

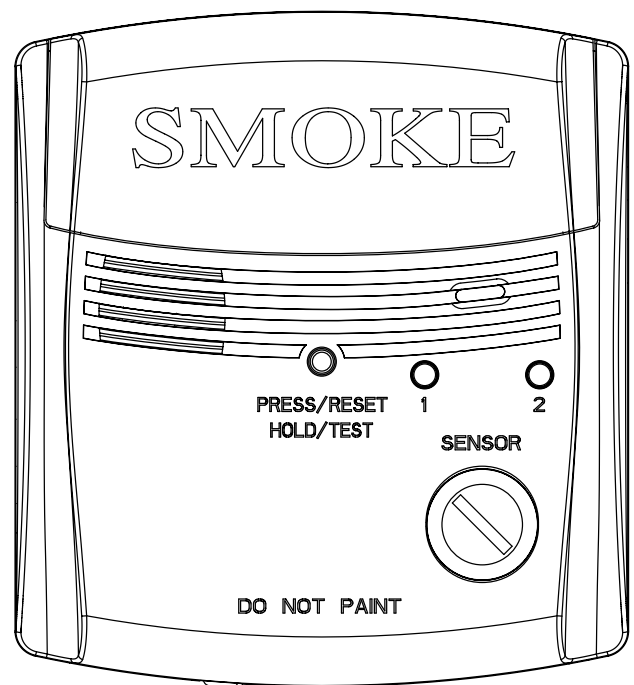
**SPECIFIC FEATURES OF THE RTS2 AND RTS2-AOS INCLUDE:**

- Standby (Green Blink), Trouble (Amber), Maintenance (Amber Blink) and Alarm (Red) LEDs to indicate detector status
- Keyswitch to select desired sensor, enable test/reset button and sensitivity reading
- Test/reset button
- Sensitivity reading ability with SENS-RDR (sold separately)
- Selectable continuous or temporal tone
- AOS-Add-On-Strobe (included on RTS2-AOS model)
- Provisions for single- or double-gang box mounting
- Ability to discretely monitor two sensors when duct smoke detectors are configured in a 2-to-1 set up (See InnovairFlex duct smoke detector manual for reference.)

**CONTENTS**

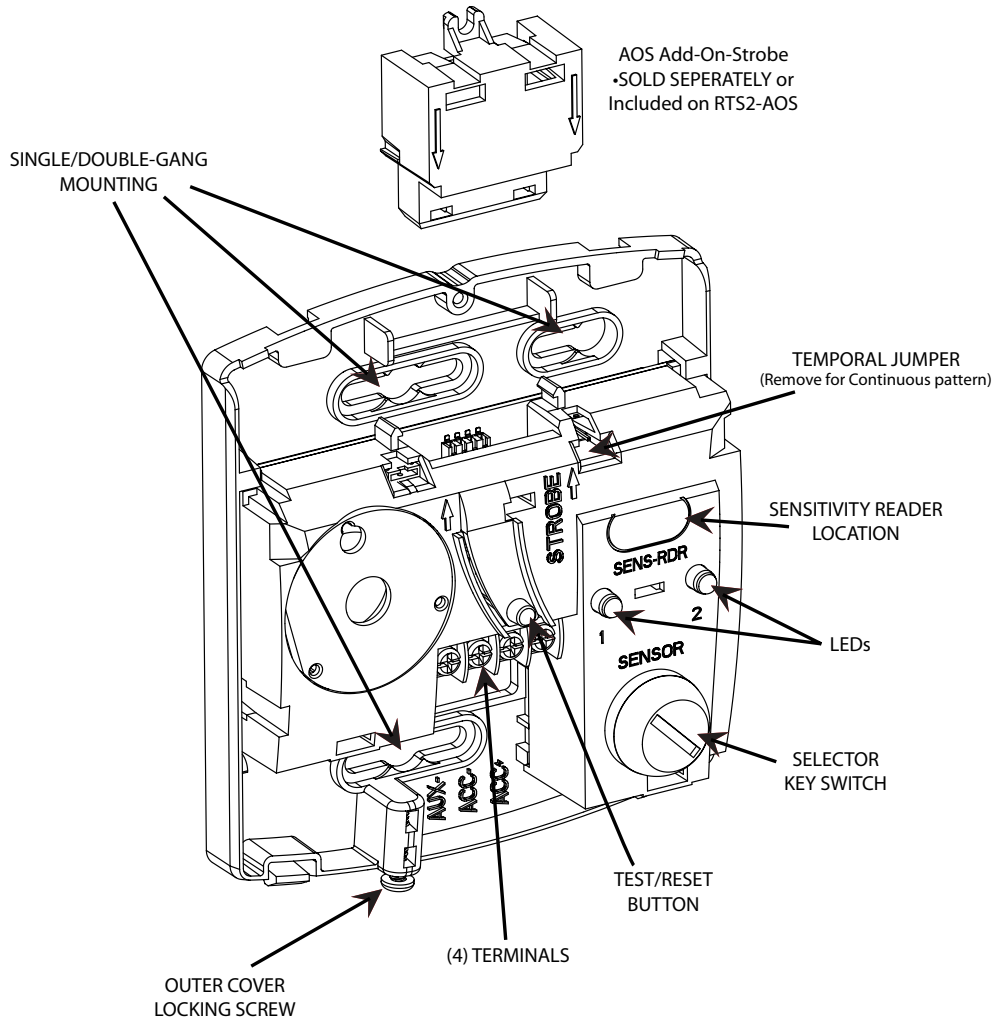
- 1 RTS2 or RTS2-AOS Multi-Signaling Accessory
- 1 Mounting Hardware Kit (Contains (2) sets of mounting screws and (1) tamper resistant outer cover mounting screw.

**FIGURE 1:**



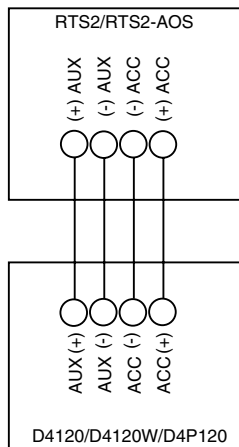
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**FIGURE 2:**



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**FIGURE 3: WIRING DIAGRAM**



NOTE: If polarity of Acc. (+) and Acc. (—) are reversed, an Amber LED on sensor 2 of the duct smoke detector power board will exist indicating a trouble condition.

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**INSTALLATION**

**Installing the Mounting Plate**

1. Secure the mounting plate to a single- or double-gang electrical box with (2) mounting screws provided. Note: If mounting to a single-gang box, the Add-On Strobe (AOS) must be removed prior to mounting. To remove the AOS, squeeze opposing sides lightly next to arrows and slide vertically.
2. If applicable, install the AOS onto the mounting plate as shown in Figure 2. Note, the RTS-AOS includes the AOS.

NOTE: installation per ULC S524-02

**Temporal Sounder**

The RTS2 accessory provides the option of sounding a continuous or temporal pattern. The RTS2 will default to sound in a temporal pattern. For a continuous pattern, remove the jumper located just to the right of the “Strobe” text on the mounting plate as shown in Figure 2.

**WIRING**

Wire the RTS2 as shown in Figure 3, for InnovairFlex 4-wire conventional duct smoke detectors. Limit wire runs to 25 ohms or less per interconnecting wire.

**NOTE:**

1. If polarity of Acc. (+) and Acc. (—) are reversed, an Amber LED on sensor 2 of the duct smoke detector power board will exist indicating a trouble condition.
2. One RTS2 can be wired to only one InnovairFlex power board.
3. If Aux. (+) and Aux. (—) wires are reversed, the strobe and sounder will not function.

**Installing the Outer Cover**

1. Install the outer cover on the mounting plate by sliding the outer cover over the upper tabs of the mounting plate as shown in Figures 4 and 5.
2. Tighten the outer cover mounting screw located at the bottom of the device. Note: The mounting screw can be replaced with the provided tamper resistant Torx screw, if desired.

**OPERATION**

The green “Standby” will blink every 5 seconds whenever the duct smoke detector is receiving power. The amber “Trouble” LED is lit when the duct smoke detector sensor is missing or the detector cover is removed. The delay to indicate a trouble condition once the cover is removed depends on the dip switch setting on the duct smoke detector power board. An LED with amber blink every 5 seconds indicates that the sensor is in “Maintenance” which indicates that the sensor needs to be cleaned or replaced. See Table 1 LED Status Indication for a detailed list of indications.

**ENABLING THE TEST/RESET/SENSITIVITY OPERATION**

Insert the key and turn to select either sensor 1 or 2. This will enable the selected sensor to be tested, reset, or sensitivity read. Note all test/reset/sensitivity functions can be initiated with the outer cover installed or directly on the mounting plate.

**TEST FUNCTION**

With the desired sensor selected by the key, press and hold the Test/Reset button for 2 seconds. If the sensor is within its sensitivity limits, the device will alarm within the next 3 seconds. The RTS2 will not initiate a test condition if a trouble exists on D4120.

**ALARM INDICATION**

Once the Test/Reset button has been pressed, the red alarm LED will illuminate and the horn will sound (within 5 seconds). If an AOS (add-on strobe) is installed, it will flash.

**RESET FUNCTION**

Reset is a common function to both sensors. Press and release the Test/Reset Button. The red alarm LED should turn off on both sensor LEDs and the horn will cease sounding. The strobe will cease flashing (if optional). The current sensor status will be indicated (See Table 1). Note, the key switch must still be selected for one of the sensors in order for the reset function to be enabled.

**SENSITIVITY FUNCTION**

When the key is installed and sensor 1 or 2 is selected, the selected sensor sensitivity can be read via a SENS-RDR (sold separately).

1. Select the desired sensor with the key.
2. Press the test button on the SENS-RDR. “Ready” should appear on the SENS-RDR display.
3. Hold the SENS-RDR up to the oval indentation on the mounting plate or outer cover (if installed). Within 10 seconds the sensor sensitivity will be displayed.

**DISABLING THE TEST/RESET/SENSITIVITY OPERATION**

When the key switch is returned to the neutral (vertical) position and removed, the Test/Reset button will be disabled.

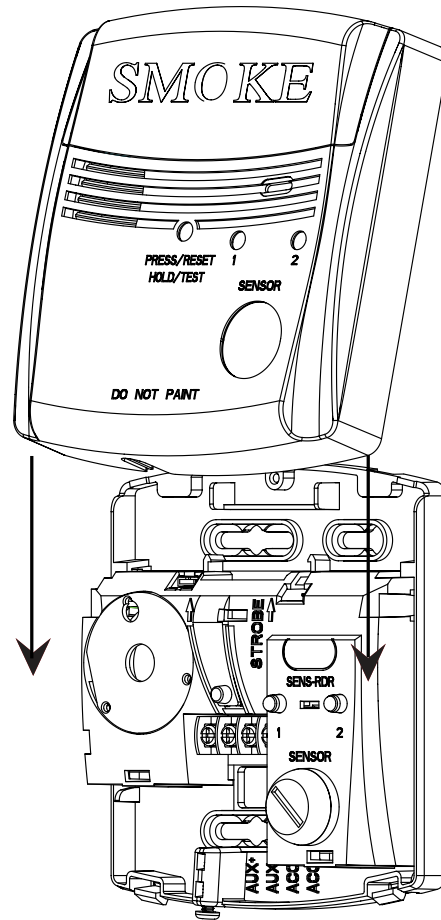
**TABLE 1: LED STATUS INDICATIONS**

| Mode                | Indication        |
|---------------------|-------------------|
| Off                 | LEDs off          |
| Initialization      | Green/Amber blink |
| Normal              | Green blink       |
| Maintenance         | Amber blink       |
| Communication Error | Amber long blink  |
| Trouble             | Solid Amber       |
| Alarm               | Solid Red         |

\*Please note that the mode of the LEDs on the RTS2 represent the mode of the respective sensors connected to the InnovairFlex duct power board.

\*\*Refer to the InnovairFlex installation and maintenance instructions for additional LED/Status details.

**FIGURE 4:**



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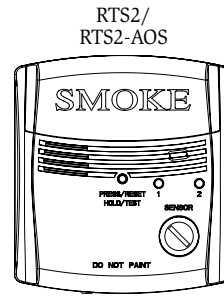
**FIGURE 5:**



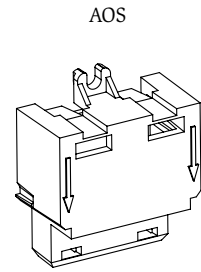
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**ORDERING INFORMATION**

|          |                                       |
|----------|---------------------------------------|
| RTS2     | Multi-Signaling Accessory             |
| RTS2-AOS | Multi-Signaling Accessory with Strobe |
| AOS      | Add-On Strobe                         |



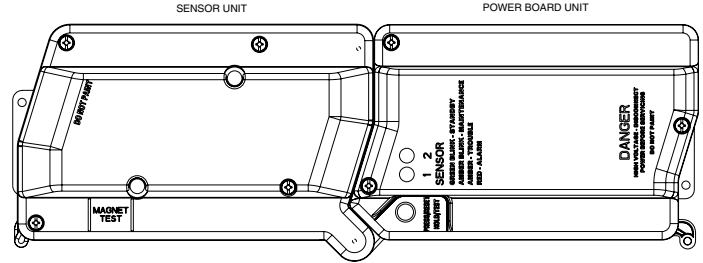
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**INNOVAIRFLEX DUCT SMOKE DETECTORS**

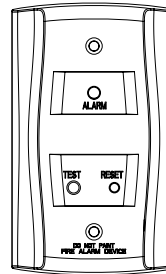
| UL     | ULC        | DESCRIPTION                              |
|--------|------------|--|
| D4120  | D4120(A)   | 4-Wire Photoelectric Duct Smoke Detector |
| D4120W | Not Listed | 4-Wire Watertight Duct Smoke Detector    |
| D4P120 | D4P120     | 4-Wire Power Board-Only Component        |
| D4S    | D4S        | 4-Wire Photoelectric Additional Sensor   |



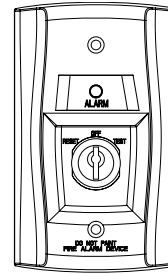
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**OTHER ACCESSORIES**

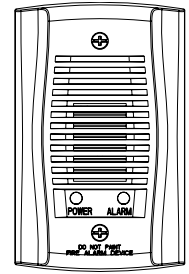
| UL        | ULC          | DESCRIPTION                             |
|-----------|--------------|---|
| RTS151    | Not Listed   | Remote Test/Reset Station               |
| RTS151KEY | RTS151KEY(A) | Key-Activated Remote Test/Reset Station |
| APA151    | Not Listed   | Piezo Annunciator                       |
| RA100Z    | RA100Z(A)    | Remote Annunciator Alarm                |
| SENS-RDR  | Not Listed   | Sensitivity Reader                      |



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**WARNING**

The sounder or sounder/strobe combination will not operate if the power is cut off for any reason.

If power is cut off for any reason, the sounder or strobe/sounder combination will not provide the desired audible or visual warning.

The sounder may not be heard. The loudness of the sounder meets or exceeds the current Underwriters Laboratories' standards. However, the sounder may not alert a sound sleeper or one who has recently used drugs or has been drinking alcoholic beverages. This sounder may not be heard if it is placed in an area that is separated by a closed door, or if it is located on a different floor from the person in a hazardous situation, or if it is placed too far to be heard over ambient noise, such as, traffic, air conditioners, machinery or musical appliances that may prevent alert persons from hearing the alarm. For these reasons, System Sensor recommends that sounders (85dBA minimum at 10 feet) used in a residence shall be placed on every level and in every bedroom that does not have a smoke detector with a built-in sounder.)

The sounder may not be heard by persons who are hearing-impaired. In this case, a visual indicator shall also be used.

The Sounder and add-on strobe are for supplemental signaling only.

The signal strobe may not be seen. 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 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 a positive photic response to visual stimuli with seizure, such as epileptics, should avoid prolonged exposure to environments in which strobe signals, including this strobe, are activated.

**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 the enclosed 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: System Sensor, Returns Department, 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 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.