

AVTECH's Smoke Sensor is a wired smoke detector with additional electronics that allow it to interface with Room Alert as a switch sensor; you may set up and receive alerts remotely when the switch state changes to assist your IT staff in monitoring and protecting your valuable IT equipment.

The Smoke Sensor monitors the air, and when smoke reaches its sensing chamber, it alarms. This unit will not sense gas, heat, or flame.

Smoke Sensor Package Contents

- One (1) Smoke Sensor
- One (1) 25' speaker cable
- One (1) AVTECH 12V power adapter

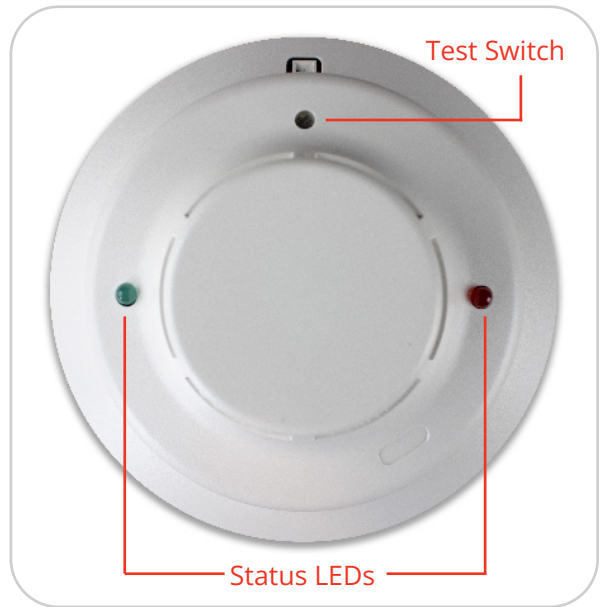
LED Modes

State	Green LED	Red LED
Power-up	Blink 10 sec	Blink 10 sec
Normal (standby)	Blink 5 sec	—
Out of sensitivity	—	Blink 5 sec
Alarm	—	Solid

Power-up Sequence for LED Status Indication

Condition	Duration
Initial LED Status Indication	80 seconds
Initial LED Status Indication (<i>if excessive electrical noise is present</i>)	4 minutes

If during power-up, the detector determines there is excessive electrical noise in the system such as those caused by improper grounding of the system or the conduit, both LEDs will blink for up to 4 minutes before displaying detector status.



Do not use this sensor in hazardous (classified) locations or life safety applications.

Do not use this sensor as a substitute for a complete fire detection system.

Install Your Smoke Sensor

Before you begin:

Read "Avoid These Locations" in this document for placement recommendations.

Step 1: Attach the included Mounting Base to the ceiling (or wall).

The sensor's mounting base can be mounted:

- To a single gang box
- To a 3½" or 4" octagonal box
- To a 4" square box with a plaster ring
- Directly to the ceiling using drywall fasteners

Tamper-resistant feature

This optional feature prevents removal from the mounting base without the use of a tool.

- To engage this feature, cut the small plastic tab as labeled on the mounting base.
- To remove the detector from the base once it has been made tamper resistant, use a small screwdriver to depress the square tamper release tab, located on the skirt of the mounting base.



Do not paint over the Smoke Sensor. Paint may clog the openings to the sensing chamber and prevent the unit from operating properly.

Step 2: Connect to power.

The smoke sensor can be powered either by the included power adapter or by connecting it to your existing 12/24V system.

Using the included power adapter

- See wiring diagram on page 3.

Using your existing 12/24V system

- Strip approximately ¼" of insulation from the end of the feed wire, insert it into the proper base terminal, and tighten the screw to secure the wire in place.
- The screw terminals in the mounting base accept 14–22 gauge wire. Twisted pair may be used to provide additional protection against extraneous electrical interference.

All wiring must be installed in compliance with the National Electrical Code, applicable state and local codes, and any special requirements of the local Authority Having Jurisdiction.

Smoke Sensor (RMA-SS2-SEN)

Your Smoke Sensor comes with a power adapter consisting of two wires, each stripped at one end. One of these wires features a faint white dashed line.

Terminals

+ (In)	+ (Out)	— (Input)	N.O.	C
Power adapter wire (no dashed line)	Empty	Power adapter wire with dashed line	Speaker cable wire (comes already attached)	Speaker cable wire (comes already attached)



Step 3: Attach the Smoke Sensor to the mounting bracket.

Position the base of the Smoke Sensor over the mounting bracket and turn clockwise (right) until the unit clicks into place.

Step 4: Test your Smoke Sensor

See “Test your Smoke Sensor” in this document for instructions.

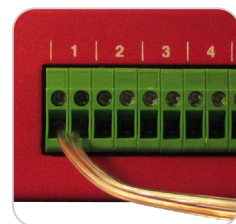
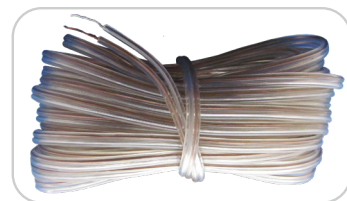
Step 5: Connect your Smoke Sensor to Room Alert.



Do not connect the switch sensor inputs (dry contacts) on AVTECH products to any live circuit. Use only low-voltage 2-wire cable to connect switch sensor inputs.

Your Smoke Sensor comes with one end of the 25' speaker cable already attached. Follow these steps to attach the other end to a switch port on your Room Alert:

1. Separate and strip the leads on the free end of the speaker cable, exposing about ¼" of wire.
2. Run the speaker cable back to your Room Alert. Try to avoid running it near large electromagnetic devices or fluorescent lights, which produce EMI and can interfere with sensor readings.
3. Connect the free ends (the ¼" leads) of the speaker cable to an open switch port on your Room Alert. Be sure the bare wire, not the insulation, connects to the port. The leads are non-polarized, so you may connect either lead to either side of the open port.



Avoid These Locations

- In or near areas where particles of combustion are normally present such as kitchens, garages (vehicle exhaust), near furnaces, hot water heaters, or gas space heaters.
- In very cold or very hot areas.
- In wet or excessively humid areas, or next to bathrooms with showers.
- In dusty, dirty, or insect-infested areas.
- Near fresh air inlets / returns or excessively drafty areas. Air conditioners, heaters, fans, and fresh air intakes and returns can drive smoke away from the detector.

Maintain Your Smoke Sensor

Test your Smoke Sensor

Detectors must be tested after installation and following maintenance. After power up, allow at least 80 seconds for the detector to stabilize before testing. To test:

- An opening for the recessed test switch is located on the detector housing.
- Insert a small screwdriver or allen wrench (0.18" max) into the test switch opening; push and hold.
- If the detector is within the listed sensitivity limits, its red LED should light within five seconds.

If the LED does not light during testing, make sure the detector is snapped in securely to its base. If it still does not alarm, replace the sensor immediately.

Clean your Smoke Sensor

At a minimum, cleaning should be performed annually. To clean the Smoke Sensor:

- Remove the detector cover by turning counterclockwise.
- Vacuum the cover or use canned air to remove any dust or debris.
- Remove the top half of the screen/sensing chamber by lifting straight up.
- Vacuum or use canned air to remove any dust or particles that are present on both chamber halves.
- Replace the top half of the screen/sensing chamber by aligning the arrow on the screen/sensing chamber with the arrow on the housing. Press down firmly until the screen/sensing chamber is fully seated.
- Replace the detector cover by placing it over the screen/sensing chamber and turning it clockwise until it snaps into place.
- Reinstall the detector and test.

Relocate your Smoke Sensor if necessary

Relocate the unit if it sounds frequent unwanted alarms. See "Avoid These Locations" in this document for more information.

Replace Your Smoke Sensor

Replace your Smoke Sensor immediately if it is not operating properly.

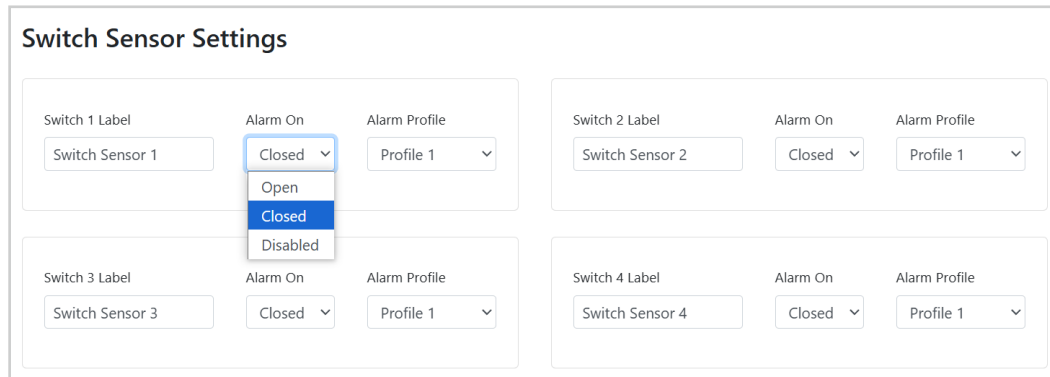
Sensor Features & Specifications

Environment Condition Monitored	Smoke
Type Of Sensor	Switch
Normal State	Open (Smoke Sensor not triggered)
Alarm State	Closed (Smoke Sensor triggered)
Sensor Cable Type	Low-voltage two-wire speaker cable
Included	Yes
Length	25'
Maximum Extendible Length	900'
System Voltage – Nominal	12/24 Volts Non-polarized
Min	8.5 Volts
Max	35 Volts
Max Standby Current	50 μ A average
Max Alarm Current	20 mA 12 Volt Systems 23 mA 24 Volt Systems
Alarm Contact Ratings	0.5 Amp @ 30 V AC/DC
Operating Temperature	32°F (0°C) to 120°F (49°C)
Operating Humidity Range	0 to 95% RH non-condensing
Diameter (including base)	5.3 inches
Height (including base)	2.0 inches
Weight	6.3 oz
Compatible Products	Any Room Alert “E,” “W” or “S” model Room Alert MAX via Wired Sensor Adapter

Configure Your Switch Sensor

Use Room Alert Monitor's Built-In Web Interface

Navigate to **Settings** → **Sensors** in your Room Alert Monitor's web interface. The options you see below will vary depending on your Room Alert model.



The screenshot displays the 'Switch Sensor Settings' web interface. It contains four configuration panels for Switch 1, 2, 3, and 4. Each panel has three fields: 'Switch X Label' (a text input), 'Alarm On' (a dropdown menu), and 'Alarm Profile' (a dropdown menu). In the 'Alarm On' dropdown for Switch 1, the 'Closed' option is selected and highlighted in blue. The other 'Alarm On' dropdowns also show 'Closed' as the selected option. All 'Alarm Profile' dropdowns show 'Profile 1' as the selected option. The 'Switch X Label' text inputs contain the default text 'Switch Sensor 1' through 'Switch Sensor 4' respectively.

1. Scroll down to *Switch Sensor Settings*.
2. Find the switch sensor label that matches the port you connected your switch sensor to. For example, if you used the first switch sensor port on your Room Alert Monitor, look for Sensor 1 Label; if you used the second, look for Sensor 2 Label, and so on.
3. In *Sensor X Label*, you may leave the default, "Switch Sen X," or enter something more descriptive. Room Alert "E" models accept up to 15 characters, including only letters, numbers, spaces, hyphens (-), underscores (_) or periods (.). Room Alert "S" models accept up to 30 characters, including the above and special characters, like ampersand (&).
4. In Alarm On, select the alarm state (**Open** or **Closed**) for your switch sensor. You may find the alarm state of your switch sensor under the Features & Specifications section of this Installation Note.
5. In Alarm Profile, which controls light towers and relays on your Room Alert Monitor, you may leave the default, **Profile 1**, or choose another profile from the drop-down menu.
6. Select **Save Settings** at the top or bottom of the page. Your Room Alert Monitor will automatically reboot and commit your changes.