

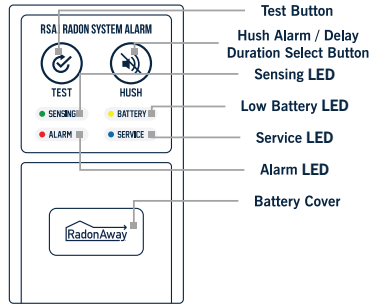


# RSA1 Radon System Alarm

w/PPS Technology

US PATENT #11,513,017 B2

P/N 28535  
Model# RSA1



## ABOUT THE ALARM

The Radon System Alarm (alarm) is a vacuum monitoring product utilizing piezoresistive pressure sensor (PPS) technology. This product provides audible and visual indication when the Radon System vacuum pressure has dropped below the preset operating limit resulting in insufficient pressure to be effective.

## BOX CONTENTS

- RSA1 Radon System Alarm
- Wall Mount Adapter (flat)
- Pipe Mount Adapter (curved)
- Silicone Alarm/Pipe Connector Elbow
- Battery
- Product Instructions
- Two Adapter Mounting Screws

## FEATURES

- Easy Installation
- Battery Operated (No Wiring Required)
- Vacuum Sensing
- Visual and Audible Indicators
- Selectable Alarm & Service Delay Functions (48 Hours / 7 Days / 30 Days)
- Hush and Test Buttons
- Mounts on 2", 3", 4" or 6" Pipe, or Flat Surfaces



## INSTALLATION INSTRUCTIONS

This alarm is for conditioned\* indoor installations only and should be located in an area where it will be readily observed by the occupants. Outdoor installation will void the warranty!

\*Conditioned: Living space or other space that is temperature and humidity controlled.

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## TOOLS NEEDED

A drill with 9/16" and 1/16" diameter drill bits are required for all installations to install the pipe connector bracket. A liquid level is recommended for proper alignment of the pipe insert bracket and/or wall bracket.

## DIRECT PIPE MOUNTING – HORIZONTAL & VERTICAL PIPE

1. Choose a location on the suction side of the radon fan (a minimum of 12 inches from fan) in an area readily observable by building occupants.
2. Drill a hole using a 9/16" drill bit. Clean hole of drill debris and burrs. NOTE: BEFORE AFFIXING THE ADAPTER, MAKE SURE THE PIPE LOCATION SURROUNDING THE HOLE IS CLEAN AND FREE OF DIRT, OILS, GREASE AND DEBRIS.
3. Without removing the protective film on the pipe mount adapter, test the fit by placing the adapter into the hole in the pipe and adjust hole if necessary.
4. Peel back the protective film on the mounting tape and insert the alarm bracket into the drilled hole, making sure it is level, and firmly press in place to seat mounting tape. NOTE: ADAPTER MUST BE PRESSED FIRMLY AGAINST PIPE FOR 30 SECONDS TO ENSURE THAT THE DOUBLESIDED TAPE BONDS TO THE PIPE AND BRACKET SURFACES.
5. Once the adapter has been affixed via the double-sided tape, secure the adapter plate using two of the four adapter plate holes and two screws provided with the alarm. Using a 1/16" drill bit, drill pilot holes

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in the pipe in the 9 and 3 O'clock positions and insert the two screws until flush with the bracket face. NOTE: REGARDLESS OF ADAPTER ORIENTATION (HORIZONTAL OR VERTICAL IN RELATION TO THE ALARM), USING THE TWO SCREW HOLES LOCATED AT 9 AND 3 O'CLOCK ENSURES THAT THE SCREWS DO NOT INTERFERE WITH SLIDING THE ALARM ONTO THE ADAPTER.

6. Connect the short leg end of the silicone pipe connector elbow to the alarm housing port located inside the battery compartment by pushing it onto the port barb.
7. Slide the alarm housing onto the pipe mounting with the alarm positioned in the vertical orientation.
8. Connect the open end of the silicone pipe connector elbow to the pipe mounting bracket port by pushing it onto the port barb.
9. The alarm is now installed and ready for activation. See ACTIVATION section for alarm activation instructions.

## REMOTE – WALL MOUNTING

1. Mount the RSA1 Alarm within 50' of where the radon system piping will be monitored. Wall surface must be clean and free of dirt, oils and grease.
2. Using a liquid level and pencil, mark a line on the wall surface where the edge of the RSA1 housing will be located.
3. Mount the pipe adapter (at a minimum distance of 12 inches from the fan) on the suction side of the radon fan. Drill a hole using a 9/16" drill bit. Clean hole of drill debris and make sure the pipe surrounding the hole is clean and free of dirt, oils

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and grease.

4. Without removing the protective film on the pipe mount adapter, test the fit by placing the adapter into the hole in the pipe and adjust hole if necessary.
5. Peel back the protective film on the mounting tape and insert the pipe mounting bracket onto the radon system pipe.
6. Connect one end of the tubing (50' max; sold separately) to the pipe mount adapter by pushing the tubing onto the port barb. Route the tubing to the location where the RSA1 alarm will be mounted, avoiding pinching or kinking the tubing along the way.
7. Insert the tubing into the hole located at the bottom of the alarm housing until it reaches into the battery compartment.
8. Connect the tubing to the alarm housing by pushing the tubing onto the port barb. Slide the wall mounting bracket into the back of the alarm housing.
9. Peel back the protective film on the mounting tape and firmly press the assembled alarm/bracket assembly onto the wall to seat mounting tape, making sure it is aligned with the pencil mark previously placed on the wall.

Note: RSA1 uses a permanent tape that may cause damage if removed. If you must remove the mounted device, use a piece of dental floss or wire held tautly between two hands. Pull back and forth to split the tape, and release the mounted object. (See ACTIVATION section for alarm activation instructions).

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ACTIVATION

Prior to alarm activation, make sure both ends of the silicone pipe connector elbow are connected and the mitigation fan is running. Ensure battery is properly seated. Alarm is now powered on and will begin the activation sequence automatically.



Elbow

CALIBRATION

The RSA1 self-calibrates automatically upon installation of the battery. After the alarm is powered on, the system will run a 20-second initialization to measure baseline system operating pressure. The green sensing LED will flash during this time. A single beep of the buzzer will indicate the initialization is complete and the alarm is now active. No additional calibration is necessary.

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AUDIBLE ALARM DELAY SELECTION

The RSA1 comes equipped with three optional audible & service alarm delays. To select the desired alarm delay duration complete the following steps:  
Step 1: Press and hold “Hush” button for a minimum of 5 seconds to start the time delay selection mode.  
Step 2: Keep “Hush” button held down until the desired time delay appears (every 5 seconds) as shown below:

LED States	Descriptions	Delay durations	Note
<div><div>● SENSING</div><div>● ALARM</div></div>	Both the “SENSING” and the “ALARM” LED’s are lighted up.	48 hours	Default
<div><div>● SENSING</div></div>	Only the “SENSING” LED is lighted up.	7 days	Selected by holding down Hush button for 5 Seconds
<div><div>● ALARM</div></div>	Only the “ALARM” LED is lighted up.	30 days	Selected by holding “Hush” button down for 10 seconds

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Step 3: Stop depressing “Hush” button when desired time delay appears as indicated by the LEDs. Time delay selection mode will cycle in a continual loop until the “Hush” button is no longer depressed. Once the “Hush” button is no longer depressed the time delay mode will no longer be activated.

FUNCTIONAL MODES

Sensing Mode (Visual Only) - Green sensing LED blinks @ 60-second intervals (3 flashes).

Pre-Alarm Mode (Visual Only) - Red alarm LED blinks @ 60-second intervals when low or no pressure is sensed. Pre-alarm ends when the pressure is restored within the selected delay duration or it enters Alarm Mode.

Alarm Mode - After selected delay duration, buzzer beeps and Red alarm LED flashes, then no light or beep for 60 seconds, then repeat until “Hush” is pressed or system is serviced.

Service Mode - After 3 pre-alarm conditions occur within the selected delay duration, buzzer beeps and Blue service LED flashes, then no light or beeps for 60 seconds, then repeat until “Hush” is pressed or system is serviced.

Hush Mode - Silences audible sound for 7 days but visual remains as programmed; after 7 days goes back to sensing mode, alarm mode (with sound) or service mode (with sound).

Low Battery Mode - 1 “chirp” and simultaneous flash @ 5-minute intervals.

Test Mode – when “TEST” button pressed, audible “beep” sounds and all LEDs illuminate for 1 second before turning off for 10 seconds. After 10 seconds, the test button may be used again.

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FUNCTIONAL SPECIFICATIONS

- Sensing Range: -0.1”WC to -20”WC
- Alarm Range: ≥90% reduction of baseline pressure
- Service Condition: 3+ Pre-Alarm Trig. @ 48 Hrs
- After 48 Hours, 7 Days or 30 Days
- Low Battery Condition: <2.7 V
- Hush Button: Silences alarm sound for 7 days
- Test Button: Sounds alarm / activates lights
- Dimensions: W x H x D (2.19” x 3.75” x 1.37”)
- Overpressure: ±20”WC
- Audible Alarm: ~85 dba

Indicator LED Explanation

- Sensing, Green LED (Flashing) = Operating / Sensing
- Alarm, Red LED (Flashing) = Low / No Pressure (Vacuum)
- Service, Blue LED (Flashing) = Service Mode
- Battery, Yellow LED (Flashing) = Low Battery



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BATTERY REPLACEMENT/ RE-INSTALLATION

1. Remove existing battery.
2. Press and hold “TEST” AND “HUSH” buttons down until all indicator LEDs fade out completely and the alarm makes no chirping sound. Release buttons. Wait 5 seconds then repeat until there is no light and/or sound.
3. Be sure fan is operating and alarm tubing is still connected.
4. Install new battery and make sure it is properly seated.
5. 20-Second self-calibration operation will then begin. (refer to CALIBRATION section for additional information).

WARRANTY INFORMATION

Subject to applicable consumer protection legislation, RadonAway warrants that the Alarm (model RSA1) will be free from defective material and workmanship for a period of (2) years from the date of purchase. Warranty is contingent on installation in accordance with the instructions provided. This warranty does not apply where repairs or alterations have been made or attempted by others; or the unit has been abused or misused. Warranty does not include damage in shipment unless the damage is due to the negligence of RadonAway. All other warranties,

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expressed or written, are not valid. To make a claim under these limited warranties, you must return the defective item to RadonAway with a copy of the purchase receipt. RadonAway is not responsible for installation or removal cost associated with this warranty. In no case is RadonAway liable beyond the repair or replacement of the defective product FOB RadonAway.

THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THE DESCRIPTION ON THE FACE HEREOF. THERE IS NO WARRANTY OF MERCHANTABILITY. ALL OTHER WARRANTIES, EXPRESSED OR WRITTEN, ARE NOT VALID.

For service under these warranties, contact RadonAway for a Return Material Authorization (RMA) number and shipping information. No returns can be accepted without an RMA. If factory return is required, the customer assumes all shipping costs to and from factory.

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