RADION smoke is a photoelectric wireless detector that transmits alarm signals to the wireless receiver when smoke is detected. RFSM-A version includes both rate of rise and fixed threshold temperature heat detection.

**System overview**

RADION wireless security solution from Bosch provides the range, scalability and exceptional battery life required to ensure reliable performance and superior quality. Advanced diagnostics and multiple device enrollment options make installation and maintenance simple and cost effective. With a complete line of peripherals, RADION provides the flexibility for virtually any application requirement.

**Functions**

**Alarm Mode**
The detector’s built-in 85 dBA sounder initiates an alarm signal and an RF signal indicating the alarm condition is sent when the detector goes into alarm mode. The receiver signals the control panel identifying the specific detector in alarm. Alarm conditions are non-latching so if the alarm condition goes away (smoke dissipates), the detector returns to a normal state.

The photoelectric smoke detector continuously acquires ambient obscuration data as it monitors the surrounding environment. The red LED blinks every time a sample is taken. If any one sample is above the calibrated alarm threshold, two more samples are taken at 4 second intervals. If all three samples are above the calibrated alarm threshold, the detector goes into alarm mode.

**Status indicator**
The LED and sounder indicate the status of the detector but not of the RF signaling circuitry. Under normal conditions, the red LED flashes regularly while the sensor monitors the surrounding environment. When the sensor detects smoke, the LED changes from flashing to steady ON and the sounder produces a loud, continuous tone.

**Test Silence button operation**
A Test Silence button allows for performance of the sounder and sensitivity tests and silencing of alarm sounder and trouble chirp.

**Drift compensation**
The detector has built-in drift compensation that allows the alarm to adjust sensitivity automatically as it becomes dirty over time. The drift compensation feature dramatically increases the time between cleanings, as well as reducing the chance of a nuisance alarm.
## Certifications and approvals

<table>
<thead>
<tr>
<th>Region</th>
<th>Regulatory compliance/quality marks</th>
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<tbody>
<tr>
<td>Australia</td>
<td>RCM [RFSM]</td>
</tr>
<tr>
<td>Europe</td>
<td>CPR EN 14604 2005AC 2008 (compliant with Reg. 3052011EU)</td>
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<tr>
<td></td>
<td>CE EMC, LVD, RED, RoHS [RFSM]</td>
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<td>Russia</td>
<td>GOST TC N RU J-NL.MH09.B.00334 EAC</td>
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<td>USA</td>
<td>UL 20121214-S3019 [RFSM-A]</td>
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<td></td>
<td>UL UL 268 - Smoke Detectors for Fire Alarm Signaling Systems</td>
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<tr>
<td></td>
<td>CSFM California State Fire Marshal (see our website)</td>
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## Installation/configuration notes

### Mounting considerations

Mount smoke detectors on interior ceilings preferably at, or near the center of the ceiling. When mounting in the center of the ceiling is not practical, mount on the ceiling no closer than 10 cm (4 in) to walls or corners, or on an inside wall between 10 cm (4 in) and 15 cm (6 in) from the ceiling, near the middle of the wall.

### Notice

Do not mount smoke detectors on drop ceiling tiles. Mount to a metal runner. Because installation on metal surfaces can affect the RF propagation pattern of the radio transceiver, verify the suitability of the installation site before detector installation.

## Technical specifications

### Properties

| Dimension          | 142 mm x 61 mm (5.6 in x 2.4 in) |

## Power

### Power/Voltage

Two CR123A Lithium battery, 3 VDC

### Battery life

Up to 5 years

## Environmental considerations

### Sensitivity

- **RFSM-A**: 0.14 to 0.43 dB/m (0.97 to 2.99%/ft.)
- **RFSM**: 0.10 to 0.18 dB/m (0.71 to 1.25%/ft.)

### Temperature

0°C to +49°C (+32°F to +120°F)

### Relative humidity

Up to 93% non-condensing

### Cover and wall tamper switch

Transmits a tamper switch signal when the unit is removed from its base, or the unit is pulled away from the mounting surface.

### Drift compensation

1.64%/m (0.5%/ft) maximum

### Sounder

85 dBA at 3 m

### Frequency

433.42 MHz

### Use

Intended for indoor use

### Heat alarm specifications (applies to RFSM-A only)

- **Rate of rise**: 15°F (8.3°C/minute >40.6°C)
- **Fixed**: 135°F +/- 5°F (57.2°C +/- 2.8°C)

## Compatibility

### Receivers

- B810 wireless SDI2 bus interface
- RFRC-OPT wireless option bus interface
- RFRC-STR wireless streamline bus interface
- RFRC-STR2 wireless streamline bus interface AU
- RF3212E wireless streamline bus interface
- RF3222E wireless multiplex bus interface
## Ordering information

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
<th>Geographic Use</th>
<th>Order Number</th>
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<tbody>
<tr>
<td>RFSM-A</td>
<td>Wireless smoke detector</td>
<td>Photoelectric and dual fixed/rate-of-rise detector. For use in North and South America.</td>
<td>RFSM-A</td>
</tr>
<tr>
<td>RFSM</td>
<td>Wireless smoke detector</td>
<td>Photoelectric detector. For use in Europe, Africa, and Australia.</td>
<td>RFSM</td>
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