RADION smoke

BOSCH
Invented for life

▶ Externally visible LED that indicates smoke detector status

▶ A built-in sounder for alarm alerts

▶ Supervised for low-battery, cover tamper, and removal from mounting surface tamper conditions

▶ Operational up to 5 years using two user replaceable CR123A Lithium batteries

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.

System overview

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.

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 regulary 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

Region	Regulatory compliance/quality marks	
Australia	RCM	[RFSM]
Europe	CPR	EN 14604 2005AC 2008 (compliant with Reg. 3052011EU)
	CE	EMC, LVD, RED, RoHS [RFSM]
Russia	GOST	TC N RU Д-NL.MH09.B.00334 EAC
USA	UL	20121214-S3019 [RFSM-A]
	UL	UL 268 - Smoke Detectors for Fire Alarm Signaling Systems
	CSFM	California State Fire Marshal (see our website)
	FCC	Part 15 Security/Remote Control Transmitter 433.42 MHZ
Canada	IC	1249A-RWSSFT [RFDW-SM-A, RFDW-RM-A, RFBT-A, RFUN-A, RFKF-A, RFRP-A, RFPR-12-A, RFPR-C12-A, RFSM-A, RFPB-TB-A, RFPB-SB-A, RFKF-FB-A, RFKF-TB-A, RFIN-A, RFGB-A]

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.

> **i** **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

Dimensions	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 0.43dB/m (0.97 to 2.99%/ft.) **RFSM**: 0.10 to 0.18dB/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/min >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