

RADION TriTech ZB Wireless Motion Detector

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Invented for life



- ▶ Passive infrared and microwave Doppler radar detection with First Step Processing for superior catch performance and best-in-class false alarm immunity
- ▶ Pet Friendly – resists false alarms from animals up to 45 kg (100 lbs)
- ▶ Flexible mounting height, no adjustments – reduces installation time and false alarms, improves catch performance
- ▶ Self-locking enclosure with bi-axial bubble level for faster installation
- ▶ Up to 3 years battery life with 1 battery or 6 years with optional second battery

The RADION TriTech ZB Wireless Motion Detector uses a combination of passive infrared (PIR) and microwave Doppler radar detection technologies with advanced signal processing. This combination ensures maximum false alarm immunity while ensuring catch performance for residential and small commercial applications. The detector uses two Fresnel lenses designed to produce sharply-focused images throughout the field of view providing superior detection of intruders. The main lens provides a high density (77 zone) 7-layer pattern, and the selectable lockdown lens provides an additional three lockdown zones. Easy installation and flexible mounting height provides state-of-the-art detection while minimizing installation time and complexity. Pet Friendly intelligence generates alarm signals for human intruders without generating false alarm signals from pets.

Functions

ZigBee technology

This motion detector utilizes ZigBee technology, a global wireless standard for communicating to both smart devices and security systems in a home automation environment. This ZigBee Certified product works in global 2.4 GHz networks supporting ZigBee HA1.2.



ZigBee
Certified product

Home automation

ZigBee technology uses a mesh network that keeps devices connected and working together, with outstanding battery life. ZigBee wireless home

automation systems connect security with home operational and control devices, giving the customer convenience and peace of mind.

TriTech detection technology

TriTech uses Passive Infrared (PIR) and Doppler radar with advanced signal processing. When both technologies find an intruder and when this motion aligns with the alarm requirements of the signal processing algorithm, an alarm conditions transmits out. By combining these two technologies, the detector prevents false alarms from objects a PIR-only detector senses. You can also adjust the Doppler radar sensitivity to align with application requirements.

First Step Processing

This feature prevents false alarms from sources that are not human targets. It adjusts the detector's sensitivity based on signal amplitude, polarity, slope, and timing. This removes the need for the installer to select the sensitivity level.

Pet-Friendly

The installer can turn pet immunity on or off based upon application requirements. When pet immunity is turned off, the detector increases sensitivity by approximately 20%, for applications that require higher levels of catch performance. When pet immunity is turned on, the detector can distinguish between signals caused by humans and signals caused by pets. It ignores signals caused by one or two animals or pets up to 45 kg (100 lb) or numerous rodents.

Doppler Radar Noise Adaptive Processing

Microwave Doppler radar noise adaptive processing adjusts to background disturbances. This reduces false alarms while keeping catch performance.

Supervised Radar and PIR

Patented, fully supervised Doppler radar circuitry ensures single technology (PIR) coverage in the event the Doppler radar subsystem fails.

Dynamic Temperature Compensation

This feature monitors the ambient temperature and adjusts the signal processing for proper catch performance in critical temperature ranges.

Active White Light Suppression

An internal light sensor measures the level of light intensity in line with the detector. Advanced signal processing prevents false alarms from bright light sources.

Sealed Optics and Electronics

The optics and electronics are assembled into the front enclosure and are sealed with a protective cover to prevent damage during installation and to keep out drafts and insects.

Wall-to-Wall Coverage

An improved lookdown zone and coverage range of 12 m x 12 m (40 ft x 40 ft) gives wall-to-wall coverage.

Self-locking Enclosure

The sliding self-locking enclosure lets you install the detector faster and easier.

Removable Mounting Bubble Level

The integrated bi-axial bubble level lets you align the detector base to the contours of your wall or to install the detector onto an optional swivel mounting bracket.

Extended battery life

The motion detector utilizes a dual-battery compartment allowing for additional battery life by using an optional 2nd lithium battery. To preserve battery life, LED and alarm indications are visible and transmitted only after 3 minutes have passed since the previous alarm restoral. Note that the LED is only visible when the LED switch is set to on.

Test Features

To maximize battery life, you can stop the externally visible alarm LED. For customer peace of mind, you can engage the LED to show motion detection. Leaving the LED on reduces battery life by approximately six months.

Certifications and approvals

Region	Agency	Certificate
US and Canada	*cETLus	Control No.31707912 Conforms to ANSI/UL Std. 639 Conforms to ULC Std. S306-03
	*FCC	FCC Part 15 Class B
	*IC	RSS247, issue 1, RSS210, issue 8, Cert No: 1249A-DLZB
	ZigBee	ZigBee HA 1.2 Cert No. ZIG16056ZHA25780-24

*ONLY for models RFDL-ZB and RFDL-ZB-MS

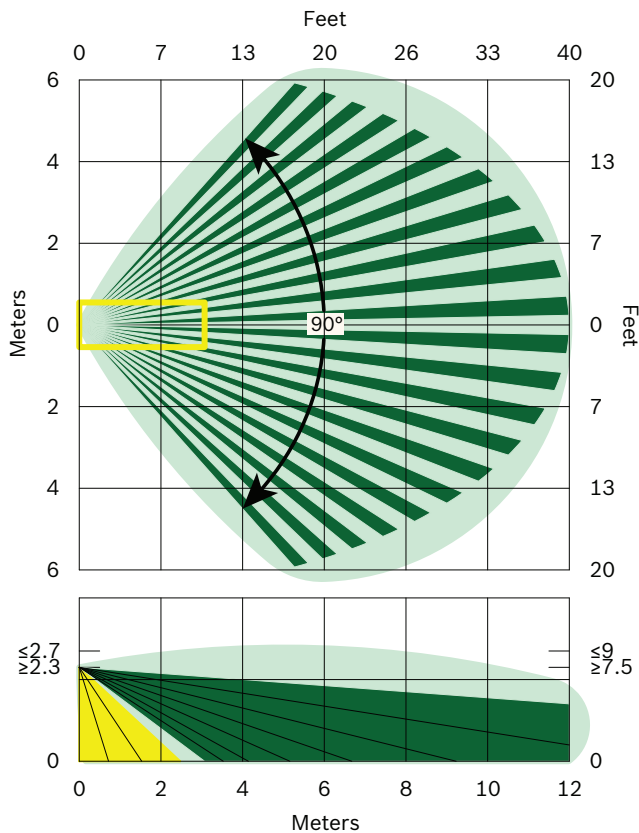
Region	Regulatory compliance/quality marks	
USA	Zigbee	[RFDL-ZB, RFDL-MS]

Installation/configuration notes

Compatibility information

Compatible with ZigBee Home Automation 1.2 compliant systems.

Coverage patterns



RADION TriTech ZB coverage pattern

Coverage pattern key

- PIR detection zones
- PIR detection look-down zones
- Doppler radar range

Mounting considerations

- Radio communication range depends on building construction and other factors.

Notice

Installation on metal surfaces can negatively affect the RF propagation pattern of the radio transceiver.

- For residential applications and applications that have small animals or pets, enable pet immunity mode.
- For commercial applications, disable pet mode for higher sensitivity.
- Install in high traffic areas to optimize catch performance.
- Mount the motion detector so it is aimed where an intruder will most likely cross through the coverage pattern.
- Mount the motion detector level both horizontally and vertically to avoid false alarms and reduced catch performance.

- Mount the motion detector on interior walls where it is protected from weather elements such as rain, snow, or direct sun light.
- Mount the motion detector between 2.3 m and 2.7 m (7.5 ft and 9 ft).
 - On a flat wall (surface mount).
 - In the junction of two perpendicular walls (corner mount).
 - On a flat wall with the optional B335-3 Swivel-mount Bracket.
 - On the ceiling with the optional B338 Ceiling-mount Bracket.
 - Lower mounting heights generally increase catch performance. Higher mounting heights increase false alarm immunity.



Notice

The use of optional mounting brackets can reduce the detector's range and increase the dead zone areas. Mount the motion detector level vertically to ensure optimal performance.

Technical specifications

Mechanical

Dimensions	2.4 in x 4.3 in x 1.7 in (60 mm x 108 mm x 42 mm)
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Environmental considerations

Relative humidity	0% to 93% at +40°C (+104°F) UL: 0% to 85% at +30°C (+86°F)
Temperature (operating)	-10°C to +55°C (+14°F to +131°F) UL: 0°C to +49°C (+32°F to +120°F)
Mounting considerations	Mount in dry indoor locations.
Mounting height	7.5 ft to 9 ft (2.3 m to 2.7 m)
Frequency	ZigBee: 2.4 GHz
Pet immunity	Enable or disable

Power requirements

Batteries	Panasonic CR123A Lithium 3 VDC Duracell DL123A Lithium 3 VDC Sanyo CR123A Lithium 3 VDC
Battery life	Up to 3 years using one battery. Up to 6 years using two batteries
Battery capacity	1400 mAh (minimum)



Notice

Do not mix between old batteries and new batteries.

Ordering information

RFDL-ZB Wireless detector, 40ft (12m), Zigbee

ZigBee certified motion detector with pet-friendly technology. Provides PIR and Doppler radar, 12 m x 12 m (40 ft x 40 ft) coverage. For use with compatible ZigBee systems in North and South America, Australia, and Asia Pacific region.

Order number **RFDL-ZB**

RFDL-ZB-MS Wireless detector, 40ft (12m), Zigbee

ZigBee certified motion detector with pet-friendly technology. Provides PIR and Doppler radar, 12 m x 12 m (40 ft x 40 ft) coverage. For use with iControl systems in North America, South America, Australia, and Asia-Pacific region.

Order number **RFDL-ZB-MS**

RFDL-ZB-CHI Wireless detector, 40ft (12m), Zigbee

ZigBee certified motion detector with pet-friendly technology. Provides PIR and Doppler radar, 12 m x 12 m (40 ft x 40 ft) coverage. For use with compatible ZigBee systems in China.

Order number **RFDL-ZB-CHI**

RFDL-ZBA-CHI Smart wireless motion sensor - Tri-tech
ZigBee certified motion detector with pet-friendly technology. Provides PIR and Doppler radar, 12 m x 12 m (40 ft x 40 ft) coverage. For use with Alibaba systems in China.

Order number **RFDL-ZBA-CHI**

Accessories

B335-3 Mounting bracket, swivel, low profile

Swiveling, low-profile, universal bracket for wall mounting. The vertical swivel range is +10° to -20°, while the horizontal swivel range is ±25°.

Order number **B335-3**

B338 Mounting bracket, ceiling, universal

Swiveling universal bracket for ceiling mounting. The vertical swivel range is +7° to -16°, while the horizontal swivel range is ±45°.

Order number **B338**

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