Specifications

Dimensions	2.4 in x 4.3 in x 1.7 in (60 mm x 108 mm x 42 mm)
Batteries	Panasonic CR123A Lithium 3 VDC ⎓ Duracell DL123A Lithium 3 VDC ⎓ Sanyo CR123A Lithium 3 VDC ⎓ Battery life for one battery is up to 3 years. Adding a second battery (optional) can increase battery life up to 6 years total.
Battery capacity	1400 mAh (minimum)
Pet immunity	Up to 100 lbs (45 kg)
Operating temperature	-10°C to +55°C (+14°F to +131°F) UL: 0°C to 49°C (+32°F to +120°F)
Non-condensing humidity	0% to 93% at +40°C (+104°F) UL: 0% to 85% at +30°C (+86°F)
Mounting height	7.5 ft to 9 ft (2.3 m to 2.7 m)
Use	For indoor use only

FCC

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

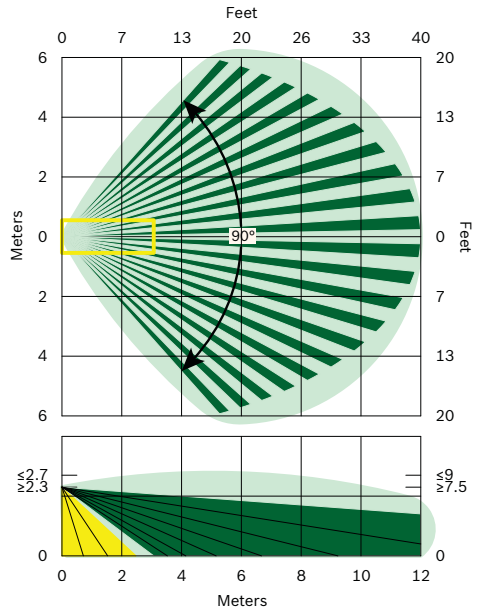
- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help

IC

Under Industry Canada regulations, this radio transmitter may only operate using an antenna of a type and maximum (or lesser) gain approved for the transmitter by Industry Canada.
To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (e.i.r.p.) is not more than that necessary for successful communication.
Conformément à la réglementation d'Industrie Canada, le présent émetteur radio peut fonctionner avec une antenne d'un type et d'un gain maximal (ou inférieur) approuvé pour l'émetteur par Industrie Canada.

Dans le but de réduire les risques de brouillage radioélectrique à l'intention des autres utilisateurs, il faut choisir le type d'antenne et son gain de sorte que la puissance isotrope rayonnée équivalente (p.i.r.e.) ne dépasse pas l'intensité nécessaire à l'établissement d'une communication satisfaisante.

Coverage Pattern



Top: Overhead view
Bottom: Side view

Key

- Dark green - PIR detection zones
- Yellow - PIR detection look-down zones
- Light green - Doppler radar range

RADION TriTech ZB
Wireless Motion Detector
RFDL-ZB/RFDL-ZB-EU/RFDL-ZB-H/K/CHI
RFDL-ZB-MS/RFDL-ZB-ES

BOSCH

en Installation Guide

Bosch Security Systems, Inc.
130 Perinton Parkway
Fairport, NY 14450
USA

www.boschsecurity.com

Bosch Sicherheitssysteme GmbH
Robert-Bosch-Ring 5
85630 Grasbrunn
Germany

F.01U.314.054 | 03 | 2016.08

1 | Overview

The RADION TriTech ZB is a wireless PIR and Doppler radar motion detector with ZigBee technology that is simple to install.

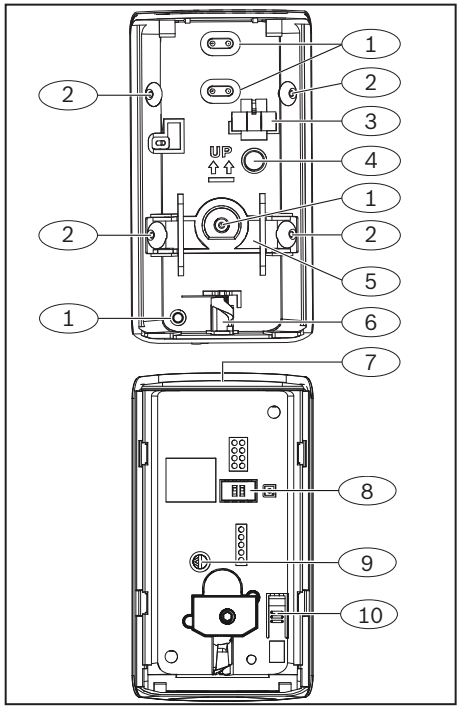


Figure 1.1: Detector base interior view (top), detector body interior view (bottom)

Callout – Description
1 – Flat surface mounting holes
2 – Corner surface mounting holes
3 – Horizontal removable bubble level
4 – Vertical position bubble level holder (swivel mount only)
5 – Tamper plate
6 – Rotary lock
7 – Battery tray location
8 – Feature switches
9 – Look-down adjustment
10 – Tamper switch

NOTICE!
At least one screw must be inserted into the tamper plate for tamper protection.

2 | Product Contents

This poduct contains:
- Wireless motion detector
- Installation instructions
- Hardware pack
- Battery tray with one battery

You will need a power drill with a phillips head bit and a flat-head screwdriver to perform the installation.

3 | Installation considerations

Use a smart phone and scan the following QR code for more information regarding installation and mounting considerations.

Point away from:
- Glass exposed to the outdoors
- Direct and indirect sunlight
- Objects that change temperature rapidly such as heat sources or air conditioning outlets
- Outside traffic
- Objects animals might climb on (stairs, shelves, furniture)

Install:
- On solid, vibration free surface
- On a flat or corner surface
- Within recommended mounting height range measured from the floor
- Where an intruder is most likely to cross through the coverage pattern

Do not install:
- Near rotating machines or other moving objects within the coverage pattern
- Near objects that can block the field-of-view
- Where an intruder would only walk directly toward or away from the detector.
- Near direct hot or cold drafts

Pet immunity:
- Up to 100 lbs (45 kg)

NOTICE!
Use of a bracket might reduce range and increase dead zone areas.

4 | Installation

Open the detector and mount the base to either a flat surface, a corner, or a bracket.
Opening the detector:
1. Turn the rotary lock at the bottom of the detector to the open position. The body slides down. Refer to *Figure 4.1*.
2. Pull apart to remove it from the base.

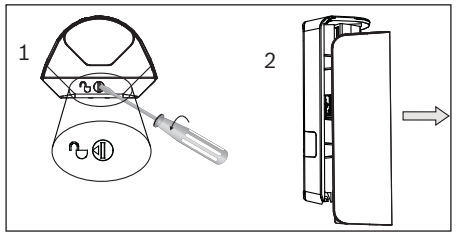


Figure 4.1: Unlock and open detector

Mounting the base:
1. Identify mounting location and surface for install. (Optional mounting brackets: B335 and B338. Sold separately).
2. Identify mounting holes to use based on the mounting surface. Refer to *Figure 1.1*.
3. Break away or drill through the appropriate mounting hole coverings in the base.

NOTICE!
Do not break away or separate the tamper plate from the base.

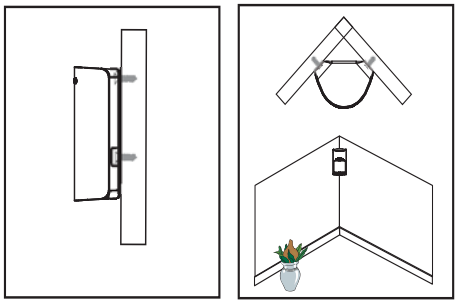


Figure 4.2 Surface mount: left; corner mount: right

NOTICE!
Supported mounting heights range from 7.5 ft to 9 ft (2.3 m to 2.7 m).

Leveling the motion detector:
1. Position the base on the surface and mount in place using one screw and drywall anchor only. Do not over-tighten.
2. Use the bubble level to ensure the base is level from side to side. Refer to *Figure 4.3 - A*.
3. Remove the bubble level and place it into the bubble level holder to verify vertical alignment. This is applicable for swivel mount brackets only. Refer to *Figure 4.3 - B*.
4. Make adjustments until the base is level, and mark the remaining surface mounting hole locations.
5. Remove the bubble level from the holder and place it back to its original position.
6. Secure the base with the remaining screws. Use a total of 3 screws and drywall anchors for surface mount installations, and 2 screws and drywall anchors for corner mount installations.

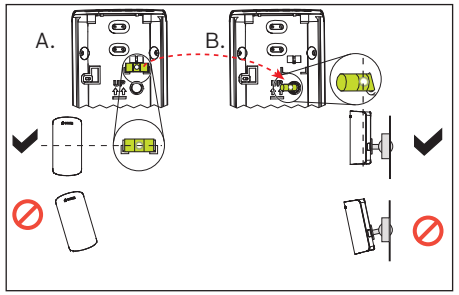


Figure 4.3: Level detector

5 | Configuration

Configure the features and options located on the detector body before placing the detector body on the base.

5.1 | Set the switches

Setting the switches:
1. Switch 1- Radar sensitivity. This detector has two sensitivity settings; HI and LO. The default is set at HI. This setting provides optimal detection for most installations. Set the sensitivity to LO to decrease the radar range. Refer to table 5.1.
2. Switch 2 - LED illumination. The LED illuminates when the device detects PIR and Doppler radar activity. By default, the LED is off (switch down). Place the switch in the on position (switch up) if you want the LED illumination during normal operation.

NOTICE!
The LED is active during the pairing process and walk test regardless of the setting of Dip switch 2.

NOTICE!
To preserve battery life, LED indications are visible only after 3 minutes have passed since the previous alarm restoral when the LED switch is set to on.

Radar sensitivity	Switch setting
ON OFF 1 RADAR	HI LO 1 RADAR
	HI LO 1 RADAR
LED illumination	Switch setting
ON OFF 2 LED	ON OFF 2
	ON OFF 2

Table 5.1: Switch settings

5.2 | Look-down and Pet immunity switch

The motion detector has a rotary dial to enable or disable the look-down zone. This look-down zone should be disabled in locations with pets. Refer to *Figure 5.2*.

- Enable the look-down zone by turning the dial to the right. Use this to detect the area underneath the device.
- Disable the look-down lens to decrease sensitivity and to reduce false alarms in locations with pets.

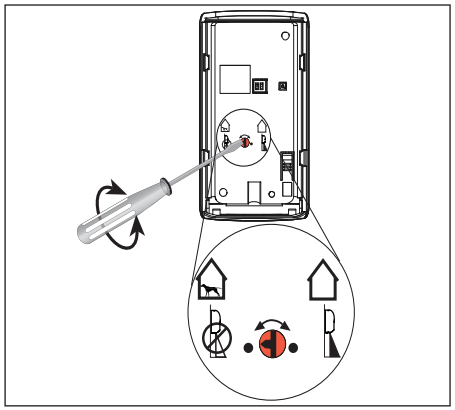


Figure 5.2: Look-down adjustment

6 | Battery installation

The battery tray has two compartments. The device requires one battery to operate (included) and is installed. Add a second battery (not included) to extend battery life. If installing for the first time, remove the battery cardboard insert.
To install the batteries:

1. Slide the battery tray into the detector body using two fingers with the finger cavity facing out.
2. Slide the tray in until the top of the tray is flush with the top of the detector body and you feel it “click” into position. The LED stays lit for 2 seconds immediately after the battery “clicks” into place. Refer to battery insertion sequence in *Figure 6.1*.

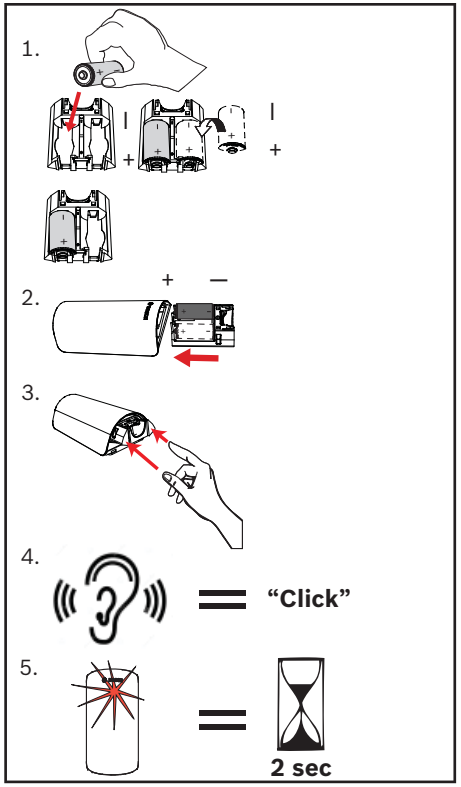


Figure 6.1: Battery insertion

7 | Pairing process

NOTICE!
Verify your home control system or security control panel is powered up and operational before beginning the pairing process.

The unit powers up when batteries are installed. Slide the detector body onto the mounted base.
Pairing the detector with the controller:

1. The red LED lights for two seconds, then the detector enters pairing mode.
2. The red LED flashes three times every five seconds until the controller discovers the detector. Complete the next step within three minutes to limit battery consumption.
3. As soon as the detector enters pairing mode, go to the controller and complete the pairing process according to the controller manufacturer’s instructions.

NOTICE!
If the controller does not discover the motion detector within three minutes, the motion detector exits pairing mode. The motion detector restarts pairing when motion is detected.

8 | Complete the setup

Follow the instructions below to walk test the motion detector and adjust the radar.

8.1 | Walk test the detector

Use a smart phone and scan the following QR code for additional information on walk test.

NOTICE!
Product must be walk tested at least once each year.

Performing the walk test:

1. Remove the detector body from the base then slide it back on. This starts a 15 second timer. The LED cycles red, yellow, and green during this time. As soon as the LED cycling has completed, walk test mode starts.
2. Once started, the detector remains in walk test mode for as long as it senses motion. If no motion is detected for 90 seconds, the unit exits walk test mode. Be sure to begin walk testing within the 90 second window.
3. Start the walk test from the farthest point of the sensor’s coverage pattern.
4. During the walk test, observe the LED colors.
   - Green indicates PIR activity only,
   - Yellow indicates radar activity only.
   - Red indicates both PIR and radar activity. This is preffered.
5. Adjust the radar setting (either HI or LO) during the walk test until the red LED displays. See Section 8.2 *Adjust the radar*.

8.2 | Adjust the radar

1. Remove the detector body from the base and change the switch configuration from HI or LO to make adjustments.
2. Verify LED activity from the detector. Refer to Section 3 *Installation* if you don’t see any LED activity. The absence of LED activity might indicate an improper mounting height and will have to be adjusted. Refer to *Figure 5.1* for switch settings.
3. Replace the detector on the base. Repeat walk test procedures and range adjustments until the PIR and radar detection range are the same (indicated by red LED).

8.3 | Complete the walk test

1. Once you complete the walk test, do not disturb the detector’s coverage pattern for 90 seconds.
2. After 80 seconds, the detector flashes red to indicate the walk test time is about to expire.
3. After flashing for 10 seconds, the detector exits walk test mode.

9 | Operation and maintenance

In the normal operating mode, an alarm is transmitted only after three minutes have passed since the previous alarm. This three minute lockout time reduces unnecessary RF transmissions in high traffic areas thereby extending battery life.
It is recommended to clean the detector lens periodically using a moisten cloth dipped in water.

9.1 | Battery replacement

Perform the following to replace the batteries:

1. Remove the detector from the base. Refer to Section 3 *Installation* to unlock the detector.
2. Hold the detector body with one hand. With the other hand, insert the tip of your finger into the cavity at the top of the battery tray.
3. Press down while sliding the tray completely out of the motion detector body. Refer to *Figure 9.1*.
4. Insert one or two batteries, observing proper polarity. Refer to the diagram on the battery tray for proper positioning.
5. Slide the battery tray into the detector body using two fingers with the finger cavity facing out. Be certain to slide the tray in until the top of the tray is flush with the top of the detector body until you feel it “click” into position.

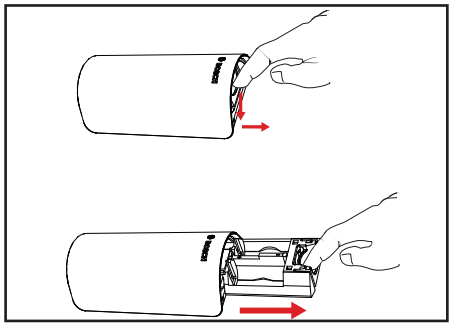


Figure 9.1: Removing the battery tray

NOTICE!
Battery life for one battery is good up to 3 years. Using a second battery (optional) can increase battery life up to 6 years total.

NOTICE!
Replace all old batteries with new ones. Do not mix between old batteries and new batteries.

NOTICE!
Bosch is committed to responsible environmental stewardship. Please dispose of batteries in accordance with local laws and regulations in your area. Contact your local waste disposal authorities or consult www.e-cyclingcentral.com to find an electronics recycling center near you.

9.2 | Detector reset

Unlock and open the detector then follow the steps below to reset the detector to factory settings:

1. Remove the battery tray.
2. Press and hold the tamper switch.
3. Reinsert the battery tray.
4. Release the tamper switch within four seconds after the battery tray is reinserted.
5. Slide the detector body onto the base.
6. Repeat Sections 7 and 8 completely.

NOTICE!
The detector can also be reset remotely through the supporting controller.

10 | Troubleshooting

Refer to the following sections for troubleshooting information.

10.1 | Low battery

A trouble status reported on the controller might be the result of low batteries on the detector. To trouble-shoot the condition, begin by replacing the batteries. Refer to Section 4 *Installation* to unlock the detector and Section 9.1 *Battery replacement* to open/replace batteries. Replacing the detector:

1. Slide the detector back onto the base. This starts a 15 second timer. The LED cycles red, green, and yellow during this time. As soon as the LED cycling has completed, walk test mode starts.
2. Complete all steps in Section 7.

10.2 | Detector malfunction

A trouble or error status report might occur when the detector experiences a failure (for example low battery, detection failure). This is indicated by a single red LED flash every 10 seconds during normal operation, or by a rapid sequence of four red LED flashes when the detector attempts to enter walk test mode. Check your control panel status for more information.

10 | Certifications

Region	Agency	Certification
US and Canada	* Intertek	Control No.3170792 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 Certified product	This ZigBee® Certified product works in global 2.4 GHz networks supporting ZigBee HA 1.2. ZigBee® Certified is a registered trademark of the ZigBee Alliance. ZigBee Cert No.ZIG16056ZHA25780-24
*ONLY for models RFDL-ZB, RFDL-ZB-ES, and RFDL-ZB-MS		

Trademarks
All hardware and software product names used in this document are likely to be registered trademarks and must be treated accordingly.

Bosch Security Systems, Inc. product manufacturing dates
Use the serial number located on the product label and refer to the Bosch Security Systems, Inc. website at http://www.boschsecurity.com/datecodes/.

WPP