1 | Overview

The RADION contact ZB Door Window Detector is a surface-mount wireless detector for monitoring door or window position (open or closed). The ZigBee® compatible radio allows connection to a security or home automation system. The detector also monitors temperature, and includes tamper detection.

2 | Product contents

The product box contains:

– 2 detectors with installed batteries

– 2 magnets

– 2 mounting brackets

– 2 tape strips for mounting brackets

– Installation instructions

3 | Installation considerations

– Suitable flat surfaces for installation include wood, metal, vinyl, glass, and painted surfaces.

– Installation on metal surfaces can affect the wireless propagation pattern of the radio transceiver.

– Verify proper clearance with the latch of the window or door and the detector. Failure to do so might make it difficult to access and open the detector for maintenance.

– Moving the home automation or security system may improve wireless communication range performance. In some instances, installing another device, such as a repeater, might be required.

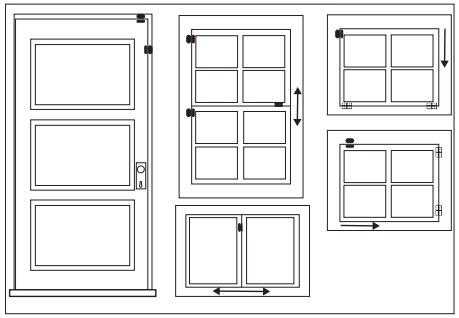

Figure 3.1: Door/window installation locations

4 | Installation

The detector requires 1 battery to operate, which is pre-installed in the detector.

Powering up the detector:

- Remove the battery isolation pull tab from the back of the detector. The detector powers up, and the green LED lights. The detector enters pairing mode when the green LED begins flashing 3 times every 5 seconds. Continue with *Section 4.1, Pairing process*.

4.1 | Pairing process

NOTICE!
Verify that the home automation or security system is powered up and operating. Then, put the system or control panel into pairing mode.

Pairing the detector with the controller:

1. With the detector in pairing mode (green LED flashing after powering up), go to the home automation or security system and complete the pairing process according to the system manufacturer's instructions. The manufacturer enrollment process might require additional time for discovery, moving the magnet, or tampering the detector (open and close detector cover) to trip the detector and re-enter pairing.
2. When pairing is complete, the detector enters test mode, and is ready for installation.

NOTICE!
If the system does not discover the detector within 2 minutes, the detector exits pairing mode. Restart pairing mode by either opening/closing the detector cover, moving the magnet, or powering the detector off, then on.

4.2 | LED behavior

The LED provides feedback during installation or test mode.

LED	Condition
Flashing	• Flashes at a variable rate indicates magnetic field strength • Flashes 3 times every 5 seconds during a 2 minute interval indicates pairing mode
Green	Good wireless signal strength performance
Red	Poor wireless signal strength performance
Off	• Normal operation and use • Optimal magnet gap distance • 90 seconds of inactivity during test mode

4.3 | Mounting and testing

Identify and test desired mounting locations before you permanently install the detector and magnet. Refer to *Section 3* for installation guidelines.

Mounting the detector and magnet:

1. Ensure the detector is in test mode.
2. Select a location for the detector on a stationary surface of an interior door or window frame. The exception is double hung windows, where the detector is mounted to a moving sash. Temporarily mount the detector.
3. Place the magnet near the detector and move it to the desired mounting location, making sure the alignment marks on the detector and magnet align. Place the magnet and detector side by side, and as close together as possible. The LED flash rate indicates the strength of the magnetic field. The LED turns off at the optimal placement of the magnet to the detector. Temporarily mount the magnet. The recommended magnet gap distance is 0.75 inches (19.05 mm).
4. To verify proper wireless signal strength, open the door or window and check the color of the LED. If the LED is green, the signal strength is acceptable. If the LED is red, reposition the magnet and detector, then recheck the LED color. When the device RSSI (Received Signal Strength Indicator) or LQI (Linked Quality Indicator) level is poor, the LED is red. Refer to *Section 4.2, LED Behavior*.
5. Open the door or window to test for proper clearance, and alarm operation. When the distance between the detector and magnet is greater than or equal to 1.3 inches (33 mm), the alarm triggers.
6. When the location is acceptable, permanently mount the detector and magnet using the double-sided tape on the base. If using screws for mounting, remove the detector and magnet covers to access the mounting holes. You may have to remove the tape on the bottom of the detector and magnet bases to mount flush on the surface. Refer to *Figure 4.2* for surface mounting, *Section 4.4*, and *Section 5* for removing the magnet and detector covers. For additional security, use an adhesive with the screws when mounting.

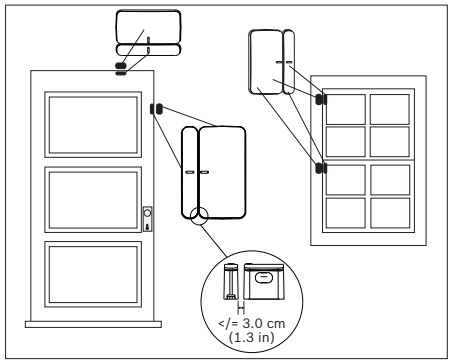

Figure 4.1: Correct alignment and placement

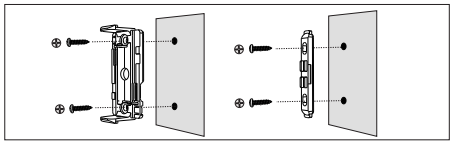

Figure 4.2: Detector and magnet mounting with screws

4.4 | Bracket mounting

The mounting bracket allows mounting of the magnet on its left or right side (90°), instead of its base. For example, use the mounting bracket for installations where the detector is mounted to the inside of a door frame. Refer to *Figure 4.3*.

Using the mounting bracket:

1. Remove the base of the magnet by inserting a small flat head screwdriver or similar tool in the slots on either end of the magnet base and carefully pry off.
2. Push the magnet cover onto the bracket.
3. Add a tape strip to the bottom of the bracket
4. If using screws, mount the bracket first, then replace the magnet cover. Refer to *Figure 4.3*.

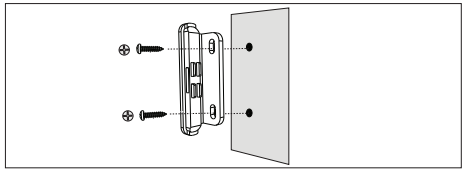

Figure 4.3: Mounting bracket using screws

4.5 | Thin window mounting

Use this procedure for special applications, such as thin windows where the magnet cover may prevent the window from opening.

Installing on thin windows:

1. Remove the base of the magnet by inserting a small flat head screwdriver or similar tool in the slots on either end of the magnet base and carefully pry off.
2. Pry out the enclosed magnets from the magnet cover using a small flat head screwdriver or similar tool. See *Figure 4.4*.

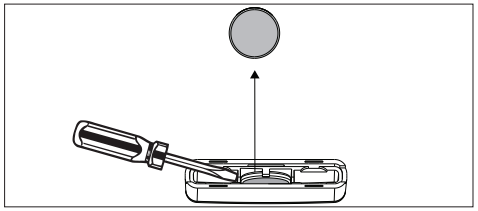

Figure 4.4: Remove magnet from magnet cover

3. Remove the round perforated section of tape from the base of the detector.
4. Attach the round section of tape to 1 magnet and place the magnet on the window opposite the detector. Use the alignment mark on the detector to align and center the magnet with the detector.

PRELIMINARY

5 | Battery replacement

Replacing the battery:

1. Open the detector by pushing in the 2 buttons on both sides of the cover, while pulling the base.
2. Remove the old battery.
3. Refer to the diagram on the inside cover for correct polarity orientation, then insert the new battery. The green LED lights. Refer to Figure 6.1.
4. Close the detector by pushing the detector cover onto the detector base until the buttons “click” into place and secure the cover.

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.ecyclingcentral.com to find an electronics recycling center near you.

6 | Resetting the detector

Resetting the detector:

1. Open the detector and remove the battery. Refer to *Section 5* for opening the detector.
2. Push and hold the tamper switch, and reinsert the battery. When the green LED turns on, release the tamper switch before the green LED turns off (within 4 seconds). Refer to *Figure 6.1*.
3. The LED turns off, then turns on for 2 seconds, and starts the pairing sequence (indicated by 3 LED flashes). The detector is now reset to factory defaults. See *Section 4.1* for pairing process.
4. Close the cover. Refer to *Section 5* for closing the detector.

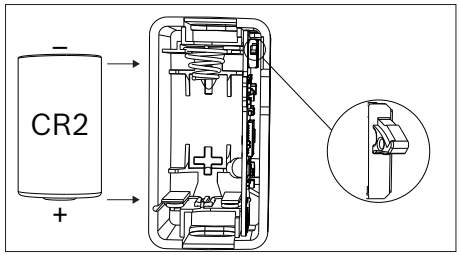

Figure 6.1: Tamper switch and battery orientation in detector

NOTICE!
You can reset the detector remotely using the supporting controller.

7 | Troubleshooting

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 5* for replacing the batteries.

Monitor the LED for issues when pairing or mounting the detector and magnet. The LED flashing pattern indicates wireless strength or magnetic field strength depending on color. Refer to *Section 4.2* for LED behavior.

8 | Certifications

Agency	Certification
C ETL US LISTED Intertek	Control No.3170792 Conforms to ANSI/UL Std. 634 ULC/ORD-C634-86
FCC	FCC ID: T3X-012
IC	IC ID: 1249A-012
ZigBee Certified product	This ZigBee® Certified product works in global 2.4 GHz networks supporting ZigBee HA 1.2.1. ZigBee® Certified is a registered trademark of the ZigBee Alliance. ZigBee® Cert No.xxx

9 | Specifications

Frequency (operating)	2.4 GHz
Max power transmitted	20 dBm
Battery replacement (1 per detector)	3 VDC ≥ 750mAh Energizer CR2 Lithium Duracell Ultra CR2 Lithium Panasonic CR2 Lithium Sanyo CR2 Lithium
Battery life	≥ 5 years with 16 open/close alarm events per day
Dimensions (detector)	1.8 in. x 0.92 in. x 0.79 in. (46.0 mm x 23.5 mm x 20.3 mm)
Dimensions (magnet)	1.8 in. x 0.32 in. x 0.79 in. (46.0 mm x 8.3 mm x 20.3 mm)
Temperature (operating)	-4°F to +122°F (-20°C to +50°C)
Storage temperature	14°F to +131°F (-10°C to +55°C)
Relative humidity	5% to 93% at +32°C (+90°F)
Magnet gap break distance	≥ 1.3 in. (33 mm) mounted to metal, vinyl, or wood

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.

Le présent appareil est conforme aux CNR d’Industrie Canada applicables aux appareils radio exempts de licence. L’exploitation est autorisée aux deux conditions suivantes : (1) l’appareil ne doit pas produire de brouillage, et (2) l’utilisateur de l’appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d’en compromettre le fonctionnement.

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.

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

RADION
contact ZB Door Window Detector
RFDW-ZBMS

BOSCH

en Installation Manual
fr Guide de l’installateur

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.330.365 | 00e | 2017.03