

Installation Instructions for the RF940E Passive Infrared Detector

1.0 General Information

The RF940E is a high performance PIR Motion Sensor which uses advanced signal processing to provide outstanding catch performance and unsurpassed false alarm immunity. With Bosch Security Systems Pet Friendly® pet immunity, the RF940E will not detect a dog up to 13kg, two cats, and numerous rodents. It contains an integral RF transmitter capable of transmitting 300 meters in open air. (Actual acceptable transmitter range should be verified for each installation). The transmitter sends a battery report with each transmission and transmits a supervisory signal to the control panel every 13 minutes.

2.0 Specifications

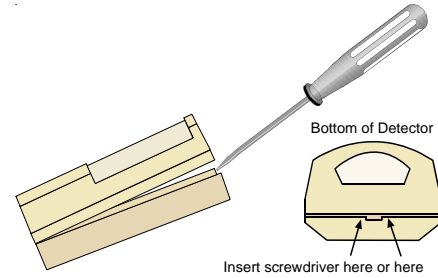
- **Dimensions (H x W x D):** 7.6 cm x 5.7 cm x 3.8 cm
- **Coverage Area:** 12 m x 12 m
- **Operating Temperature:** 0° to +49°C. 0 to 95% relative humidity noncondensing.
- **Frequency Band:** 433.42 MHz
- **Maximum RF Power:** Less than 10 mW
- **Operating Voltage:** Supplied by two 3 VDC lithium batteries
- **Battery Life:** Approximately 5 years under normal operating conditions using the recommended battery types.
- **Recommended Battery Types:** Duracell DL123A, Energizer EL123AP, or Panasonic CR123A.
- **Compatible Receivers:** RF3212E, RF3222E, or RF3224E
- **Compliance:** CE 0165 - this device complies with EN 300683, EN 300220, and 89/336/EEC
- **Options:** B335 Low Profile Swivel Mount Bracket (The use of brackets may reduce range and increase dead zone areas)

3.0 Mounting Procedure

Surface or Corner Mounting (without swivel bracket)

- The maximum wireless range of the detector, in open air, is approximately 300 meters. In normal household or commercial applications it is recommended that the detector be kept within 100 meters of the control panel receiver to which it is assigned. It is recommended that the detector be temporarily mounted, using double sided tape, and tested for both detector coverage and RF range from the desired location before permanent mounting.
- Mount the detector where an intruder will most likely cross through the coverage pattern.
- **Do not** mount in areas with large metallic surfaces (e.g. heating ducts) or electrical wiring which may inhibit the sensor's RF signals from reaching the Control Panel Receiver.
- **Do not** mount the detector outdoors or where direct sunlight can reach it.
- In pet immune applications, **do not** mount where pets can climb because the upper areas are not pet immune.

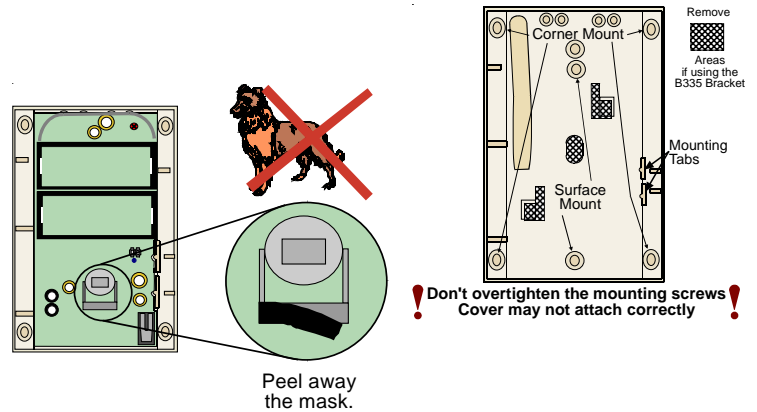
- Remove the detector's cover using a small flatblade screwdriver.



- Remove the board from the case by pressing the mounting tabs toward the side of the case and gently lifting the board.
- Punch out appropriate holes in the mounting plate (for surface or corner applications). For optional swivel mount bracket, see instructions that come with the bracket.

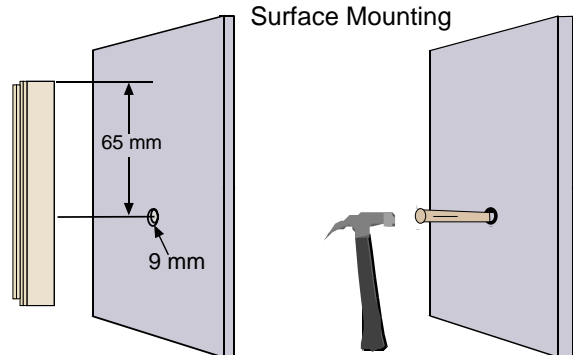
NOTE: To avoid possible circuit board damage, use **only** the mounting hardware provided in the appropriate punch-out mounting holes.

- **In non-pet applications only**, if look-down is desired, **peel away the look-down mask**. Do not remove the clear plastic lens.
- Mount the detector between 2.3 m and 2.7 m high.



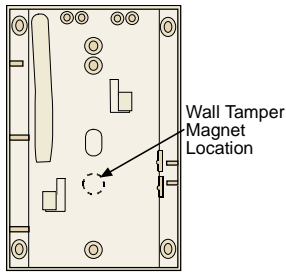
If wall tamper is desired:

- Determine the location of the detector. Measure 65 mm from the center of the detector and mark the spot on the wall. Drill a 9 mm hole in the wall.
- For Surface Mounting:

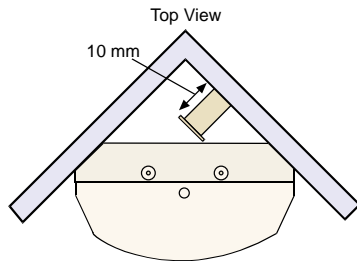
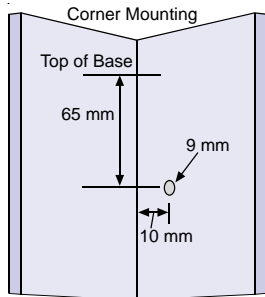


- Tap the magnet into the wall.

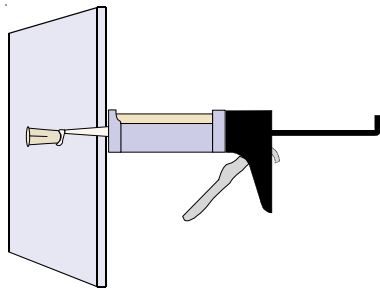
- Align the detector base over the magnet as shown below:



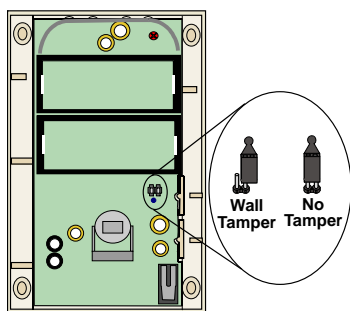
- For Corner Mounting:



- Do not mount the magnet flush with the wall. A small amount of adhesive is recommended to keep the magnet in place.



- Set the Wall Tamper jumper.



4.0 Programming your Control/Communicator Panel

There is a two part ID sticker located on the back of the cover of the RF940E. You will need the number off this sticker to program this device into the system.



See your Panel's Wireless Reference Guide for programming information for wireless-type devices.

5.0 Battery Installation

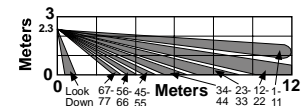
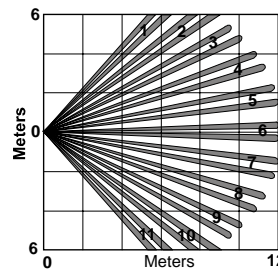
The batteries are not installed in the detector when it is shipped. When installing the batteries it is necessary to observe proper polarity or the sensor may not function. When the batteries are installed, wait at least 5 minutes before activating the Walk Test Mode. The LED will stop flashing when the detector is ready to test (the sensor requires "lack of motion" to stabilize on startup).

6.0 Walk Testing

NOTE: Mount the detector between 2.3 m and 2.7 m high and consult the following pattern drawings:

Lens Patterns

Broad Coverage - Standard on the RF940E



Top View

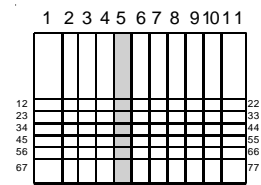
Pattern Testing

Remove and replace cover to activate a 90 second Walk Test Mode. During this Test Mode, any activity in the sensor's coverage pattern will cause a transmitted alarm and LED activation. Each alarm will also extend the Test Mode for an additional 90 seconds.

Walk Testing should be done across the coverage pattern. The edge of the coverage pattern is determined by the first flash of the LED. This may change slightly depending upon the sensitivity setting. Walk Test the unit from both directions to determine the pattern boundaries.

Although generally not required, if masking is desired, the lens diagram shows the appropriate areas to be masked. Use an opaque material (such as, electrical tape) to mask the desired areas.

NOTE: Excessive use of the Walk Test Mode may reduce battery life. Use only for initial setup and maintenance testing.



RF940E Lens (inside view)

Final Testing

While the detector is in the Walk Test Mode, turn on all heating and air conditioning sources which would normally be active during the protection period. Stand away from the sensor and outside the coverage pattern and watch for alarms.

After setup and tests are completed, and there has been no activity in the sensor's coverage pattern for approximately 90 seconds, the LED will flash to indicate that the Walk Test mode is ending.

NOTE: In the normal operating mode, an alarm can be transmitted only after three (3) minutes have passed since the previous alarm restoral. This 3 minute lockout time reduces unnecessary RF transmissions in high traffic areas thereby extending battery life.

Maintenance

At least once a year, the range and coverage should be verified for proper operation. To assure daily operation, the end user should be instructed to walk through the far end of the coverage pattern to verify an alarm output prior to arming the system.