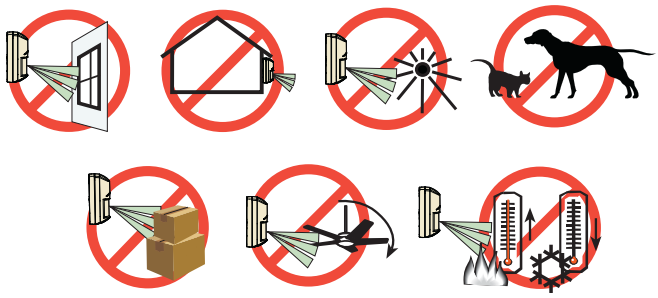
TriTech Ceiling Mount PIR/Microwave Detector

DS9360

BOSCH

en Installation Guide





-40°C to +49°C
(-40°F to +120°F)
UL Listed installations, the temperature range is 0°C to +49°C (+32°F to +120°F)

Pour les installations certifiées NFA2P, Température de fonctionnement -10°C à +55°C

0 - 95% Relative Humidity
(0 - 85% UL Installations)

Changes or modifications not expressly approved by Bosch Security Systems, Inc. can void the user's authority to operate the equipment.

EN 50131-2-4 Grade 2
EN 50130-5 Environmental Class II
IP30 IK04 (EN 60529, EN 62262)

UL
Perform Walk Test at least once a year.
Use only a Listed limited-power source.
The Listed control unit or a Listed burglary power supply must provide 4 hours (32 mAh) of standby power.
Install the unit in accordance with National Electrical Code NFPA 70.
Adjust the microwave range control, if necessary, to achieve maximum range.

Certificat NF A2P 2820200006A0
2 boucliers NF324 - H58
Autosurveillance à l'ouverture
Immunité champ magnétique
Test sans masque de vision verticale et sans immunité aux animaux
www.afnor.org
www.cnpp.com

SELV
Connect all wiring to a safety extra-low voltage (SELV) circuit only.

Ligue todas as cablagens apenas a um circuito de segurança de tensão extra baixa.

Conecte el cableado únicamente a un circuito de seguridad para voltajes muy bajos.

Alle Drähte sind ohne Ausnahme an Niederspannung anzuschließen.

Sluit alle bedrading uitsluitend aan op een circuit met een extra lage veiligheidsspanning.

Prenez soin de connecter tous les câbles à un circuit à très basse tension de sécurité (TBTS).

Collegare tutti i cavi esclusivamente a un circuito di sicurezza a bassissima tensione.

This product is intended for use in the following countries within the European Union and in other countries outside of the European Union:
Austria, Belgium, Denmark, Finland, Greece, Luxembourg, Netherlands, Norway, Spain, Sweden, Italy

Specifications	
Dimensions (HxDia)	3.5 in. x 5.25 in. (8.9 cm x 13.3 cm)
Input Power	6.0 to 15.0 VDC; 8 mA standby, 60 mA in alarm with LEDs enabled. Use only an Approved Limited Power Source.
Standby Power	There is no internal standby battery. Standby power must be provided by an Approved Limited Power Source. Eight mAh required for each hour of standby time needed. For UL Listed Requirements, 32 mAh standby current is required.
Alarm Relay	Silent-operating Form "C" relay. Contacts rated <100 mA, 25 VDC, 2.5W <20 Ohm closed maximum for DC resistive loads.
Tamper	Contacts rated at 28 VDC, 125 mA maximum, <1 Ohm. To be connected to a SELV (Safety Extra-Low Voltage) circuit only. Connect tamper circuit to a 24-hour protection circuit.
Compliance	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 undesirable operation.

För svensk installationsanvisning se www.boschsecurity.se.

1 Installation Considerations

Never install the detector in an environment that causes an alarm condition in one technology. Good installations start with the LED off when there is no target motion. It should never be left to operate with the tri-color LED in a constant or intermittent green, yellow, or red condition.

NOTICE!
Microwave energy will pass through glass and most common non-metallic construction walls.

Eliminate interference from nearby outside sources.
Point the unit away from outside traffic (roads/alleys).

2 Mounting

Select a location likely to intercept an intruder moving beneath and across the coverage pattern. Recommended mounting height range is 8 to 18 feet (2.4 to 5.5 m).

The surface should be solid and vibration-free. (i.e. Drop tiles should be secured if the area above the tiles is used as an air return for HVAC systems).

1. Remove the base from the enclosure by pressing the two enclosure release tabs inward while lifting the enclosure away from the base. Refer to *Figure 2.1*.

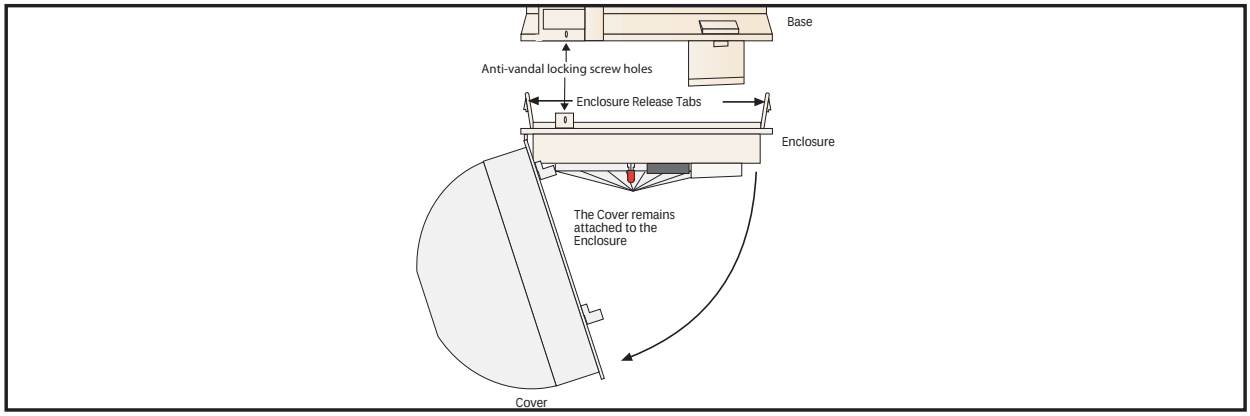


Figure 2.1: Opening cover

NOTICE!
Slightly rock the enclosure side-to-side during removal to overcome the friction caused by the base-to-enclosure terminal pins.

2. Open the cover by turning counterclockwise. One side of the cover will remain attached to the base of the detector. Do not attempt to entirely remove the cover. Refer to *Figue 2.1*.
3. Route wiring as necessary to the rear of the base and through the center hole. Refer to *Figure 2.2*.

NOTICE!
Be sure all wiring is de-energized before routing.

4. Firmly mount the base. Depending on local regulations, the base may be directly surface mounted using anchors, mollies, or wing-nuts, or may be mounted to standard 4-inch octagonal or square electrical boxes.

NOTICE!
The DS9360 base will not completely cover a 4-inch square box. Where aesthetics are important, a 4-inch octagonal box is recommended.

NOTICE!
Mounting to removable ceiling tiles is not recommended unless a sandwich is made of the base, ceiling tile, and a back plate behind the tile. Covers used for 4-inch octagonal and square boxes make a suitable back plate (when used with bolts and wing nuts, as an example).

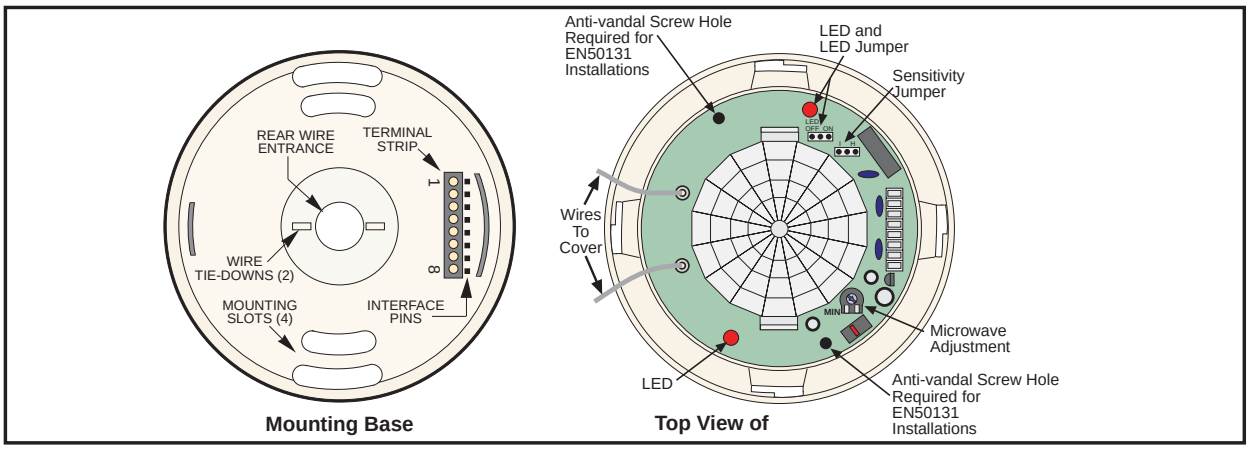


Figure 2.2: Mounting

3 Wiring

CAUTION!
Only apply power after all connections have been made and inspected. Do not coil excess wiring inside detector. Use no smaller than #22 AWG (0.8 mm) wire in the terminal strip.

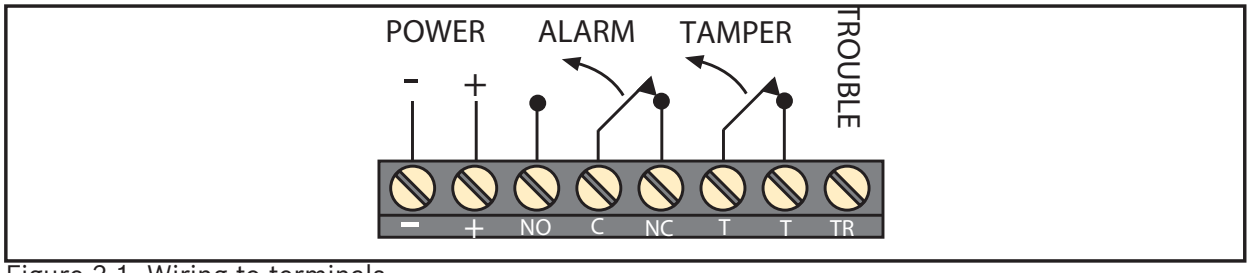


Figure 3.1: Wiring to terminals

Terminals 1 (-) & 2 (+): Power contacts.

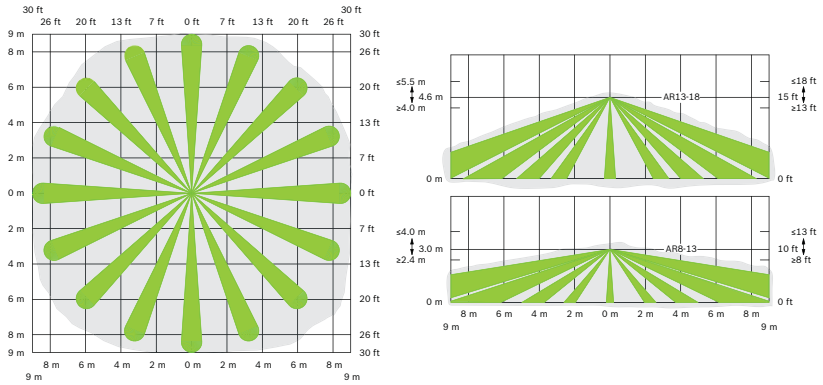
Terminals 3 (NO), 4 (C), & 5 (NC): Alarm relay contacts. Use terminals 4 & 5 for Normally Closed circuits. Do not use with capacitive or inductive loads.

Terminals 6 (T) & 7 (T): Normally Closed tamper contacts.

Terminal 8 (TR): Solid state Trouble output. Shorts to ground (-) when the detector is in a Trouble condition.

4 Coverage

- 360° by 60 ft. (18.3 m) diameter coverage when mounted on 8 to 18 ft (2.4 to 5.5 m) high ceilings.
- The coverage pattern consists of 64 zones grouped into 16 barriers, with one additional zone looking straight down from the unit (sabotage). Each barrier is 30 ft (9.2 m) long and 4.4 ft. (1.3 m) wide at 30 ft (9.2 m).
- The DS9360 comes with a choice of two optical modules. Refer to Section 5.1 to determine the best module for on ceiling height.



5 Optical Module

5.1 Selecting the Optical Module

1. For ceilings between 8 and 13 ft. (2.4 and 4.0 m) from the floor, use the optical module marked AR8-13. This marking can be found next to the two optical module tabs.
2. For ceilings between 13 and 18 ft. (4.0 and 5.5 m) high, use the optical module marked AR13-18.
3. To replace an optical module, push the optical module tabs towards the center until the module snaps free of the circuit board. Holding the new module by the tabs, snap the new module into place.
4. Replace the enclosure onto the base.
5. Close cover and turn clockwise to secure.

NOTICE!
Avoid fingerprints on the mirrored surfaces. Should the mirrored surfaces become soiled or otherwise marked, they can be cleaned using a soft, clean cloth and any commonly available, mild window cleaner.

5.2 Optical Module Masking

Peel-off masks are provided with the unit for each segment of the optical module to allow for customized coverage, or to block out areas of objects that may cause thermal disturbances. The mask is self-adhesive and pre-cut in the shape of the optical module.

The location of the zone to be masked depends on the position of the detector. Therefore, determine the mirror surface to be masked before removing the mirror from the detector.

To block out a particular zone or group of zones, peel off a section of the mask that corresponds to the appropriate zone, and stick it on the mirror segment. Before attempting any masking, be sure the chosen mirror surface is the correct one.

NOTICE!
When attempting to remove any masking, many adhesives will either destroy the mirror surface or leave enough residue behind to reduce coverage performance.

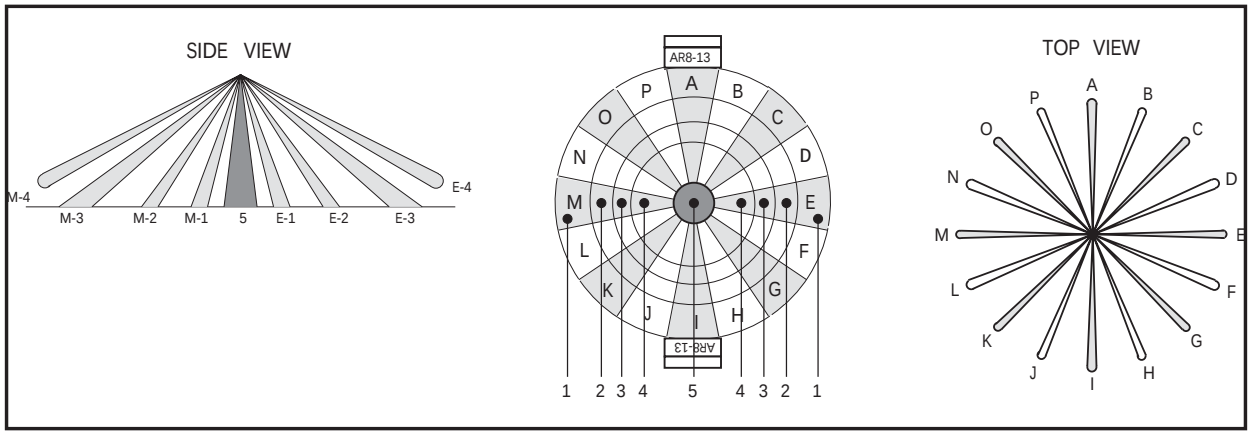


Figure 8.1: Masking

When replacing the mirror, make sure it is facing the same direction as before it was removed.

6 LED Operation

The detector uses a tri-color LED to indicate the various alarm and supervision trouble conditions that may exist. See chart below.

LED	CAUSE
Steady red	Unit alarm
Tri-color	Microwave activation
Steady green	PIR activation
Flashing red	Warm-up period after power-up (2 min)
Flashing red (4 pulse sequence)	Replace unit

If the detector experiences a Microwave or PIR self-test failure, it is in need of replacement.

NOTICE!
During walk testing, the LED will light for the first technology (microwave or PIR) and then light red to indicate a detector alarm. The LED will not indicate activation of the second technology by lighting its color.

7 Feature Selection

7.1 LED On/Off Pins

The ON position allows operation of the tri-color LED. If LED indication is not desired after setup and walk tests are completed, place in the OFF position. The OFF position does not prevent the LED from indicating supervision trouble conditions.

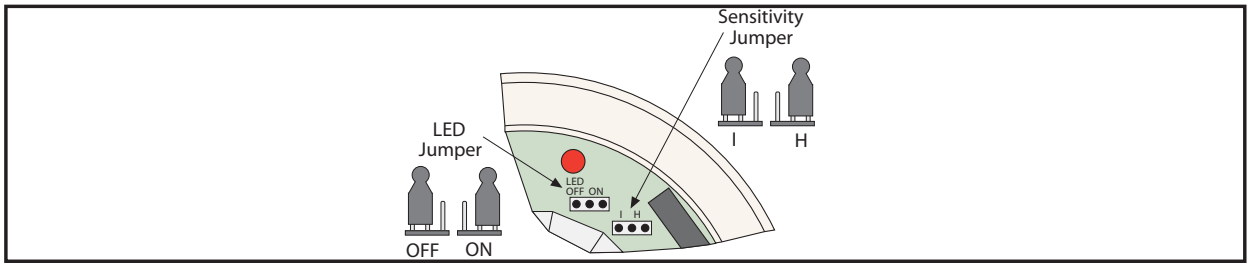


Figure 6.1: Selecting features

7.2 PIR Sensitivity Selection Pins

For selection, place the plug across the pins marked I for Intermediate mode or H for High mode.

- Intermediate Sensitivity (I): Tolerates environment extremes on this setting, but requires the largest amount of intruder motion to achieve an alarm.
- High Sensitivity (H): The recommended setting for most installations. Use in locations where an intruder is expected to cover only a small portion of the protected area. Tolerates normal environments on this setting. The detector is shipped in High Sensitivity mode.

7.3 Microwave Adjustment

NOTICE!
It is important to wait 1 minute after removing/replacing the cover so the microwave portion of the detector can settle, and to wait at least 5 seconds between the following walk testing procedures.

1. The tri-color LED should be off before walk testing.
2. Walk test across the pattern at the intended coverage's farthest end. Start walking from outside the intended protection area and observe the tri-color LED. The edge of the microwave pattern is determined by the first tri-color, microwave activation of the LED (or the first red activation if the green PIR LED activates first).

3. If adequate range can not be reached, increase the Microwave Range Adjust slightly. Continue walk testing (waiting 1 minute after removing/ replacing the cover) and adjusting the range until the farthest edge of desired coverage has been accurately placed.
4. Walk test the unit from all directions to determine all the detection pattern boundaries.

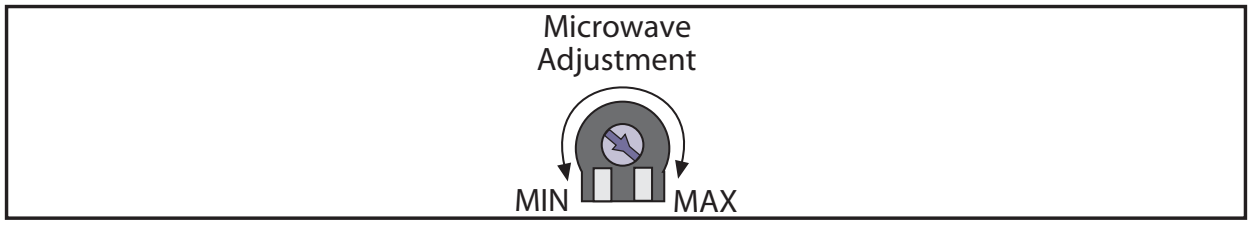


Figure 6.2: Adjusting microwave range

NOTICE!
Do not adjust the microwave range higher than required. Doing so may cause the detector to catch movement outside of the intended coverage pattern.

8 Supervision Features

The supervision features function as follows:

- PIR/Microwave: The complete circuit operation of these subsystems is checked approximately every 6 hours. If the PIR or microwave subsystem fails, the red LED will flash 4 times per cycle and the unit should be replaced.
- Default: The detector will default to PIR technology protection if the microwave subsystem fails.

9 Other Information

9.1 Anti-Vandal Screws for EN50131 Applications

After the cover has been installed and twisted into place, the entire assembly can be secured together using the supplied anti-vandal screws. The anit-vandal screws are required for EN50131 applications. Refer to the Top View of Enclosure in *Figure 2.2* for the location of the screw holes.

9.2 Maintenance

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

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

WPP

© 2015 Bosch Security Systems, Inc. 130 Perinton Parkway Fairport, NY 14450