

DISCOVERY K9-80

Advanced Pet-Immune PIR Motion Detector



Installation Instructions

1. FEATURES

- Uses TSI™ (Target Specific Imaging) technology for distinction between humans and pets
- Immunity to pets weighing up to 36 kg (80 lb)
- Integral swivel bracket for wall or ceiling installation
- Sealed chamber protects the optical system
- Programmable pulse counter (1, 2 or 3 pulses)
- Three-position vertical adjustment scale
- Low current consumption
- Temperature compensation
- Terminal for connecting an E.O.L. resistor
- TEST input to remotely enable/disable the walk-test LED (per new European standard)
- White light protection
- Elegantly styled, sturdy case
- Keyhole-shaped slot for easy removal of PCB

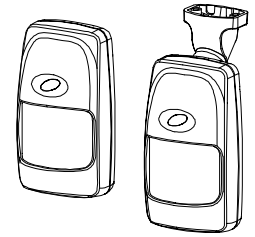


Figure 1. The DISCOVERY K9-80 Detector

2. SPECIFICATIONS

OPTICAL

Max. Coverage Range: 12 x 12 m (40 x 40 ft) / 90° - with 1 m (3 ft) dead zone under the unit.

Vertical Adjustment: 3-position adjustment scale: 1.8 m (6 ft), 2.1 m (7 ft) and 2.4 m (8 ft).

Pet Immunity: Immune to pets weighing up to 36 kg (80 lb).

Note: Pet immunity specifications have not been verified by UL.

ELECTRICAL

Input Voltage: 9 to 16 VDC

Current @ 12 VDC: 10 mA standby, 18 mA on alarm (LED ON)

Alarm Relay: Normally closed (fail-safe) contacts with 18-ohm resistor in series. Rating - 0.1 A resistive / 30 VDC.

Tamper Output: N.C. contacts, 50 mA resistive / 30 VDC.

Alarm Period: 2-3 seconds.

Pulse Counter: 3 position jumper - 1, 2 or 3 pulse operation (3 pulse operation automatically selected if jumper is not installed).

LED Control: Walk test enabled / disabled by internal link.

Detector Type: Dual element low-noise pyroelectric sensor.

MOUNTING

Height: Up to 2.4 m (8 ft)

Installation Options: Surface or corner (without bracket); surface or ceiling (with bracket).

Bracket Adjustment: 20° downward (only in non-pet immune applications), 20° left and right.

ENVIRONMENTAL

RFI Protection: >30 V/m up to 1000 MHz (not verified by UL).

Operating Temperatures: -10°C to 50°C (14°F to 122°F).

Storage Temperatures: -20°C to 60°C (-4°F to 140°F).

Compliance with Standards: This device complies with the European Council Directive EMC 89/336/EEC & 92/31/EEC, and bears the CE mark and certification.

PHYSICAL

Dimensions (H x W x D): 117 x 65 x 47 mm (4-5/8 x 2-9/16 x 1-7/8 in.).

Weight: 98 g (3.4 oz) without bracket, 113 g (4 oz) with bracket.

3. INSTALLATION

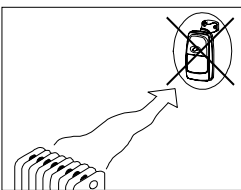
3.1 Installation Hints



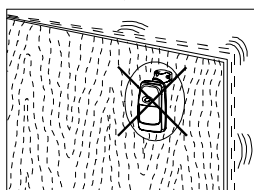
Important! The detector is immune to 36 kg (80 lb) animals moving on the floor or climbing on furniture as long as the activity takes place below 1 m (3 ft). Above the 1 m (3 ft) height limit, the detector is immune to 18 kg (40 lb) pets, but the pet immunity will decrease as the pet gets closer to the detector. It is therefore recommended to select a mounting location that minimizes potential close proximity of animals.

To minimize false alarms, refer to Figure 2 below:

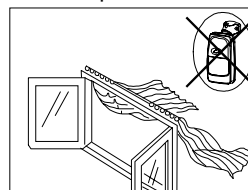
Do not aim at heat sources



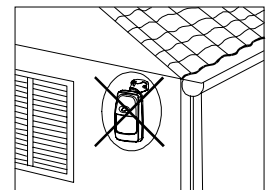
Mount on solid, stable surfaces



Do not expose to air drafts



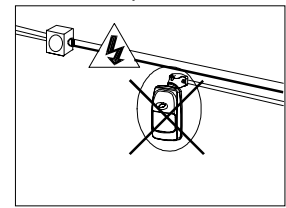
Do not install outdoors

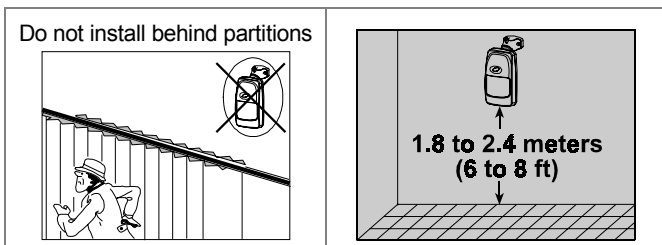


Prevent direct sunlight from reaching the detector



Keep wiring away from electrical power cables





The unit must be installed so that the expected motion of an intruder would be perpendicular to the zones of detection.

3.2 Mounting without Swivel Bracket

A. Remove the front cover as shown in Figure 3.

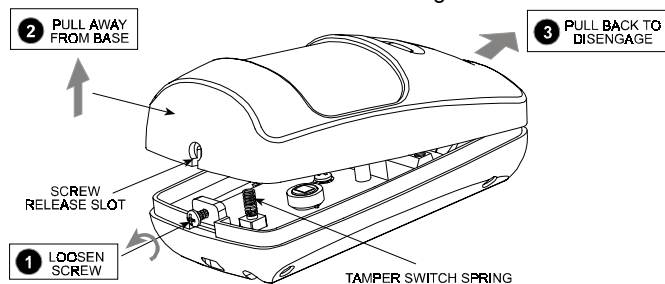


Figure 3. Cover Removal

B. Loosen the vertical adjustment screw, slide the PCB down and remove it via the "keyhole" (see Figure 4).

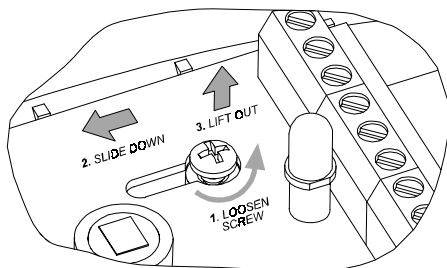


Figure 4. PCB Removal

C. Pull the PCB straight out and put it aside until required again.

D. Refer to Figure 5 and punch out the mounting knockouts at the rear wall of the base (for surface mounting) or mounting knockouts at the angled sides of the base (for corner mounting).

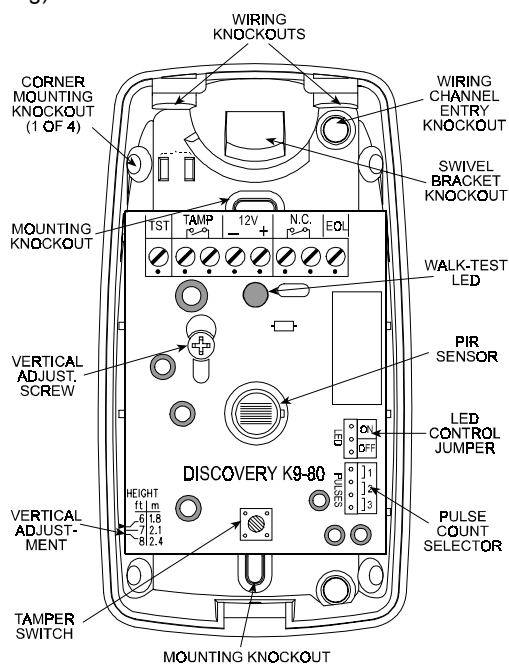


Figure 5. Inside View

- E. Punch out any one of the wiring knockouts shown in Figure 5.
- F. Hold the base against the wall at the selected installation location and mark the points for drilling.
- G. Drill the holes and insert the plastic anchors supplied (if necessary).
- H. Pass the wires through the wiring inlets into the base and attach the base to the wall using the screws supplied.
- I. Return the PCB to its place: align the "keyhole" with the head of the vertical adjustment screw, press the PCB against the base, slide the PCB up and temporarily tighten the screw.
- J. Proceed to wire the terminal block as instructed in Para. 3.4.

3.3 Mounting with Swivel Bracket

A. Remove the front cover as shown in Figure 3.

B. Remove the PCB (see Figure 4) and put it temporarily aside.

C. Punch out the large knockout in the round bulge at the top part of the base (see Figure 6)

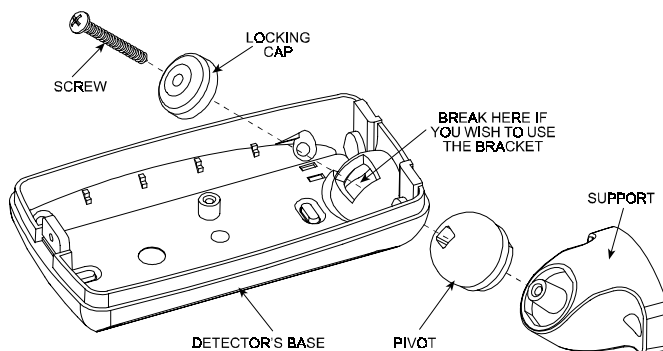


Figure 6. Attaching the Bracket

D. Assemble the bracket as shown in Figure 6.

E. Rotate the bracket to the desired position (see Figure 7) but do not yet tighten the screw fully.

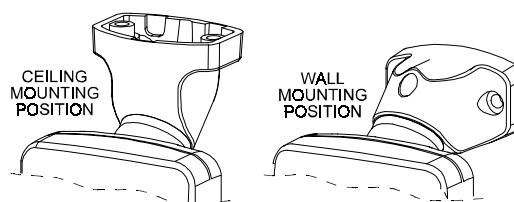


Figure 7. Wall and Ceiling Positions of Bracket

F. Break the selected wiring knockouts in the bracket (Figure 8).

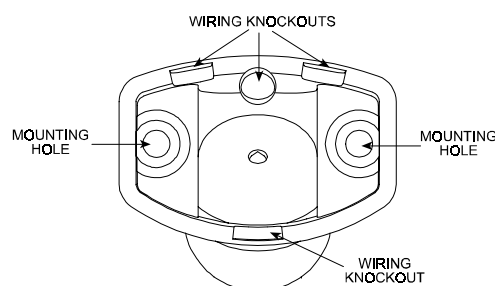


Figure 8. Bracket Base as Viewed from the Rear

G. Press the bracket against the mounting surface and mark the points for drilling. Drill out the holes and insert plastic dowels.

H. Route the cable through the bracket and into the detector as shown in Figure 9.

I. Attach the bracket to the mounting surface using the two screws supplied.

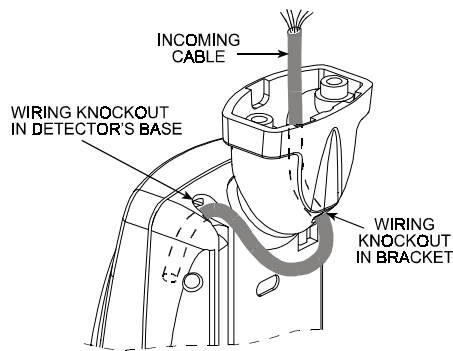


Figure 9. Routing the Cable

J. Swivel the detector horizontally to face the desired direction, but **do not tilt it** if this is a pet immune application. However, if pets are not present it is advisable to tilt the detector as much as 20° down. Figure 10 shows the tilt/swivel possibilities.

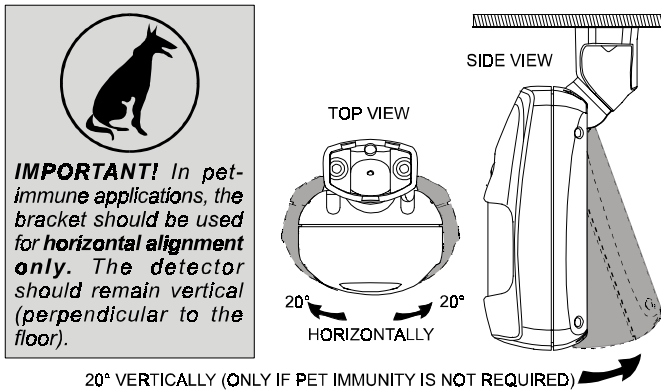


Figure 10. Tilt/Swivel Limits

K. Having pointed the detector as desired, tighten the bracket screw strongly, to prevent any further change of position.
Note: Improper use of bracket may reduce the forward range and affect the dead zone areas.

3.4 Wiring

The terminal block wiring shown in Figure 11 is self explanatory.

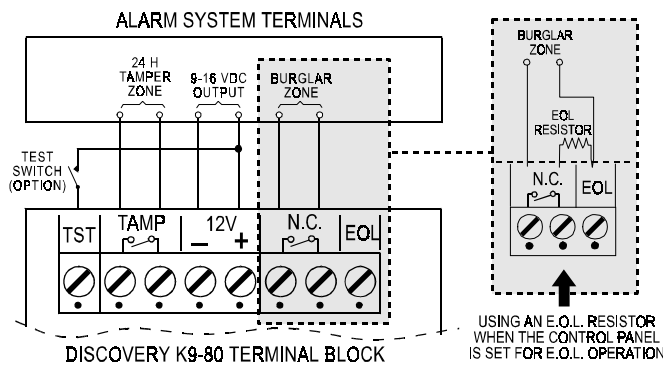


Figure 11. Terminal Block Wiring

Note: The E.O.L. terminal is simply a connection point for an E.O.L. resistor, if the circuit requires one.

For UL or ULC certified installation, the unit must be connected to a listed Control Unit that provides a minimum of 4 hours of standby power.

3.5 Setting the Pulse Counter

The location of the pulse count selector is indicated in Figure 5. Refer to Figure 12 below and mount the jumper as desired. For proper operation, the pulse count jumper must be installed across two pins at all times. It should never hang on one pin, or be completely removed. The factory default setting is **2 pulses**.

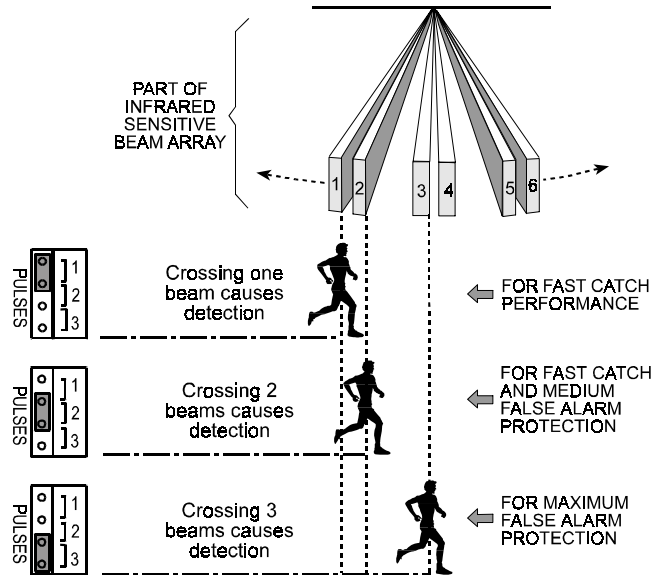


Figure 12. Pulse Counter Setting Options

3.6 Vertical Adjustment

A. Pet-Immune Applications

To maintain maximum coverage range and pet immunity, the vertical adjustment scale must be adjusted in accordance with the actual mounting height (refer to Figure 13). Loosen the vertical adjustment screw and slide the printed circuit board up or down until the pointer shows the actual mounting height on the scale. When done, re-tighten the screw well.

Set the scale like this if the detector is mounted 1.8 m (6 ft) above the floor.

Set the scale like this if the detector is mounted 2.1 m (7 ft) above the floor.

Set the scale like this if the detector is mounted 2.4 m (8 ft) above the floor.

Figure 13. Vertical Adjustment

B. Pet-Free Locations

To obtain the best coverage possible where no pets are present, mount the detector with the integral bracket at any desired height between 1.8 m (6 ft) and 2.4 m (8 ft). Then set the vertical adjustment scale to the **2.4 m (8 ft)** position and tilt the detector 20° down.

3.7 Setting the LED Control Jumper

ON Position Setting the jumper as shown will enable the LED, allowing you to walk test the detector.

OFF Position: Setting the jumper as shown will disable the walk-test LED.

Note: The TST terminal may be used while the LED jumper is set to OFF for remote control of the walk-test LED without removing the detector's front cover:

- Applying +12 VDC to the TST terminal through an external switch will enable the LED,
- Disconnecting the +12 VDC from the TST terminal will disable the LED.

IMPORTANT! After walk testing, disable the LED to prevent unauthorized people from tracing the detector's coverage pattern.

4. WALK TESTING

- A. Set the pulse count jumper, set the vertical angle and enable the LED as instructed in Para. 3.5, 3.6, 3.7, respectively.
- B. Remount the cover and fasten the case closure screw.
- C. Walk across the detector's field of view at various distances from the detector, and verify proper detection throughout the detector's coverage area (the red LED will illuminate for several seconds each time your motion is detected).
- D. In pet immune applications, continue the test by sending the house pet into the protected area. Make sure it does not trigger the detector by moving across the protected area and by climbing on furniture within that area.

Note: even when the LED is disabled, you may use the control panel's visual and audible indicators to verify proper function of the detector.

Attention! To assure proper function of the detector, the range and coverage area should be checked at least twice a year. Furthermore, the user should be instructed to perform a walk test at the far end of the coverage pattern to assure an alarm signal prior to each time the alarm system is armed.

WARRANTY

Visonic Ltd. and/or its subsidiaries and its affiliates ("the Manufacturer") warrants its products hereinafter referred to as "the Product" or "Products" to be in conformance with its own plans and specifications and to be free of defects in materials and workmanship under normal use and service for a period of twelve months from the date of shipment by the Manufacturer. The Manufacturer's obligations shall be limited within the warranty period, at its option, to repair or replace the product or any part thereof. The Manufacturer shall not be responsible for dismantling and/or reinstallation charges. To exercise the warranty the product must be returned to the Manufacturer freight prepaid and insured.

This warranty does not apply in the following cases: improper installation, misuse, failure to follow installation and operating instructions, alteration, abuse, accident or tampering, and repair by anyone other than the Manufacturer.

This warranty is exclusive and expressly in lieu of all other warranties, obligations or liabilities, whether written, oral, express or implied, including any warranty of merchantability or fitness for a particular purpose, or otherwise. In no case shall the Manufacturer be liable to anyone for any consequential or incidental damages for breach of this warranty or any other warranties whatsoever, as aforesaid.

This warranty shall not be modified, varied or extended, and the Manufacturer does not authorize any person to act on its behalf in the modification, variation or extension of this warranty. This warranty shall apply to the Product only. All products, accessories or attachments of others used in conjunction with the Product, including batteries, shall be covered solely by their own warranty, if any. The Manufacturer shall not be liable for any damage or loss whatsoever, whether directly, indirectly, incidentally, consequentially or otherwise, caused by the malfunction of the Product due to products, accessories, or attachments of others, including batteries, used in conjunction with the Products.

The Manufacturer does not represent that its Product may not be compromised and/or circumvented, or that the Product will prevent any death, personal and/or bodily injury and/or damage to property resulting from burglary, robbery, fire or otherwise, or that the Product will in all cases provide adequate warning or protection. User understands that a properly installed and maintained alarm may only reduce the risk of events such as burglary, robbery, and fire without warning, but it is not insurance or a guarantee that such will not occur or that there will be no death, personal damage and/or damage to property as a result.

The Manufacturer shall have no liability for any death, personal and/or bodily injury and/or damage to property or other loss whether direct, indirect, incidental, consequential or otherwise, based on a claim that the Product failed to function. However, if the Manufacturer is held liable, whether directly or indirectly, for any loss or damage arising under this limited warranty or otherwise, regardless of cause or origin, the Manufacturer's maximum liability shall not in any case exceed the purchase price of the Product, which shall be fixed as liquidated damages and not as a penalty, and shall be the complete and exclusive remedy against the Manufacturer.

Warning: The user should follow the installation and operation instructions and among other things test the Product and the whole system at least once a week. For various reasons, including, but not limited to, changes in environmental conditions, electric or electronic disruptions and tampering, the Product may not perform as expected. The user is advised to take all necessary precautions for his/her safety and the protection of his/her property.

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