DISCOVERY K9-80
Advanced Pet-Immune PIR Motion Detector

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
- 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).

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 expose to air drafts
- Do not install outdoors
- Prevent direct sunlight from reaching the detector
- Keep wiring away from electrical power cables

DE1271- DISCOVERY K9-80 Installation Instructions
Do not install behind partitions

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.

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

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).

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).

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.

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

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.
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.

**IMPORTANT! In pet-immune applications, the bracket should be used for horizontal alignment only. The detector should remain vertical (perpendicular to the floor).**

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.

**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**.

### 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.

#### 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 Limited (the “Manufacturer”) warrants this product only (the “Product”) to the original purchaser only (the “Purchaser”) against defective workmanship and materials under normal use of the Product for a period of twelve (12) months from the date of shipment by the Manufacturer. This Warranty is absolutely conditional upon the Product having been properly installed, maintained and operated under conditions of normal use in accordance with the Manufacturers recommended installation and operation instructions. Products which have become defective for any other reason, according to the Manufacturers discretion, such as improper installation, failure to follow recommended installation and operational instructions, neglect, willful damage, misuse or vandalism, accidental damage, alteration or tampering, or repair by anyone other than the manufacturer, are not covered by this Warranty. The Manufacturer does not represent that this Product may not be compromised and/or circumvented or that the Product will prevent any death and/or personal 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. The Product, properly installed and maintained, only reduces the risk of such events without warning and it is not a guarantee or insurance that such events will not occur.

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. The Manufacturer shall in no event be liable for any special, indirect, incidental, consequential or punitive damages or for loss, damage, or expense, including loss of use, profits, revenue, or good will, directly or indirectly arising from Purchaser’s use or inability to use the Product, or for loss or destruction of other property or from any other cause, even if Manufacturer has been advised of the possibility of such damage.

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, THE MANUFACTURER’S MAXIMUM LIABILITY (IF ANY) 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. When accepting the delivery of the Product, the Purchaser agrees to the said conditions of sale and warranty and he recognizes having been informed of.

Some jurisdictions do not allow the exclusion of incidental or consequential damages, so these limitations may not apply under certain circumstances.

The Manufacturer shall be under no liability whatsoever arising out of the corruption and/or malfunctioning of any telecommunication or electronic equipment or any programs.

The Manufacturer’s obligations under this Warranty are limited solely to repair and/or replace at the Manufacturer’s discretion any Product or part thereof that may prove defective. Any repair and/or replacement shall not extend the original Warranty period. The Manufacturer shall not be responsible for dismantling and/or reinstallation costs. To exercise this Warranty the Product must be returned to the Manufacturer freight pre-paid and insured. All freight and insurance costs are the responsibility of the Purchaser and are not included in this Warranty. 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. This Warranty is exclusive to the original Purchaser and is not assignable.

This Warranty is in addition to and does not affect your legal rights. Any provision in this warranty which is contrary to the Law in the state or country were the Product is supplied shall not apply.

Warning: The user must follow the Manufacturer’s installation and operational instructions including testing the Product and its whole system at least once a week and to take all necessary precautions for his/her safety and the protection of his/her property.

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