

Vi-Motion

Digital PIR Detector with TMR™ Signal Processing



Installation Instructions

1. INTRODUCTION

The Vi-Motion is a microprocessor-controlled PIR detector, designed for easy installation, free of vertical adjustment. It features a combination of Fresnel and cylindrical lens elements with high-detection sensitivity beginning at 0.5 meter away from the detector up to a distance of 12 meters (40 ft).

The advanced **True Motion Recognition™** algorithm (patented) allows the Vi-Motion to distinguish between the true motion of an intruder and any other disturbances which cause false alarms. The detector has full temperature compensation.

A TST (Test) input permits switching the detector to the walk test mode remotely without removing the front cover. An on-board motion event jumper determines whether 1 or 2 consecutive motion events triggers an alarm.

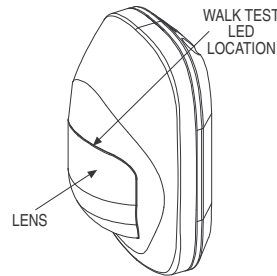


Figure 1. General View

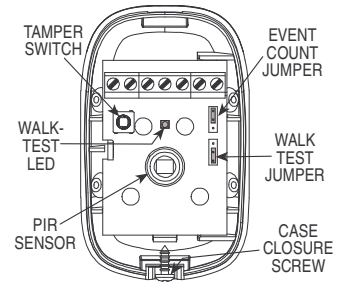


Figure 2. Inside View

2. SPECIFICATIONS

Input Voltage: 9 to 16 VDC.
Current Drain: Max. 9 mA @ 12 VDC.

OPTICAL (see Figure 3)

Lens Data

- No. of Fresnel elements:** 27
- No. of curtain elements:** 9 + 5
- Max. Coverage:** 12 x 12 m (40 x 40 ft) / 90°
- Total of 46 curtains, equivalent to 214 beams

ALARM and TAMPER

Alarm Output: Solid-state relay, N.C., up to 100 mA / 30 V, ~30 Ω internal resistance. Circuit opens for 2-3 seconds upon alarm.

Alarm Indication: LED lights for 2-3 seconds.

Event Counter: Selectable, 1 or 2 motion events.

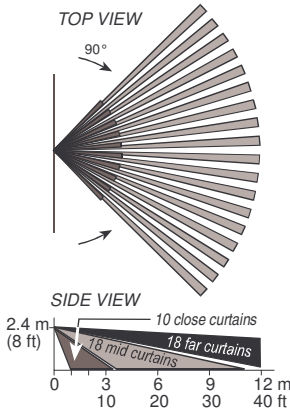


Figure 3. Coverage Pattern

Tamper Contacts: Normally closed, 50 mA resistive / 30 VDC.

MOUNTING

Surface or corner, at the height of 1.8 to 2.4 m (6 to 8 ft)

Note: Base allows single-sided corner mount at 45° to wall.

ACCESSORIES:

BR-1: Surface mounted swivel bracket, adjustable 30° down and 45° left/45° right.

BR-2: BR-1 with a corner adapter.

BR-3: BR-1 with a ceiling adapter.

ENVIRONMENTAL

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

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

RFI Protection: Greater than 20 V/m (20 MHz to 1000 MHz)

PHYSICAL

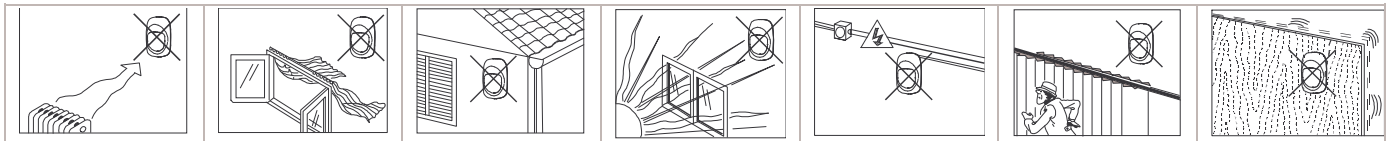
Size (H x W x D): 80 x 50 x 37 mm (3-1/8 x 1-15/16 x 1-7/16")

Weight: Approximately 77 g (2-3/4 oz)

PATENTS: U.S. Patents 5,693,943 • 6,211,522 • D445,709 (another patent pending)

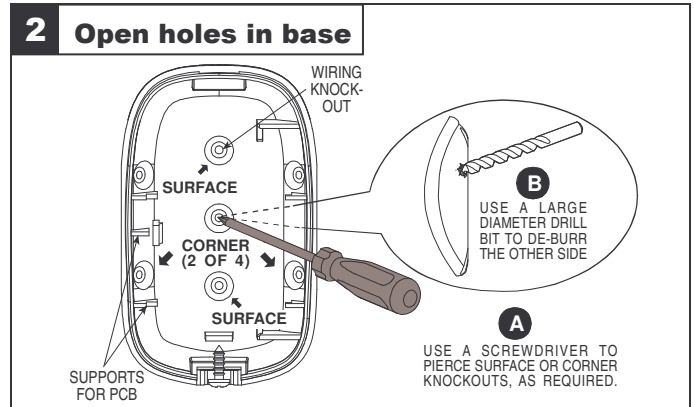
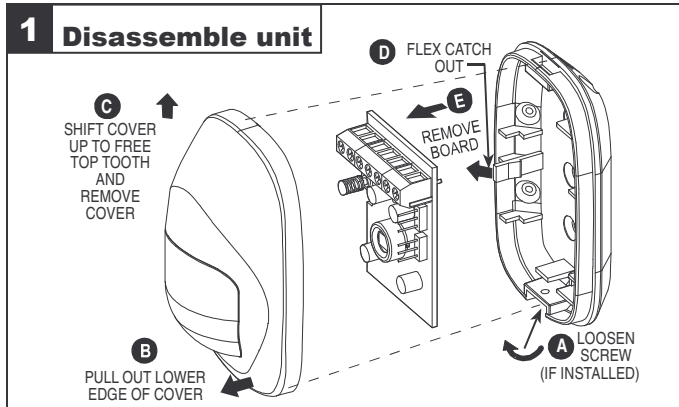
3. INSTALLATION

3.1 General Guidelines



Note: Clean the detector using a damp cloth. Do not use alcohol to clean the detector as this may damage the plastic casing.

3.2 Illustrated Installation Procedure



3 Mount base

1.8 - 2.4 m (6 - 8 ft) above ground

- MARK DRILLING POINTS AND DRILL IN WALL
- ROUTE WIRES INTO BASE VIA THE REAR CHANNEL
- INSERT DOWELS & ATTACH BASE TO WALL WITH TWO SCREWS
- PUT P.C. BOARD BACK IN PLACE

4 Set jumpers as needed

A EVENT COUNT
 1 EVENT - FAST RESPONSE
 2 EVENTS - HIGHEST FALSE ALARM PROTECTION

B WALK TEST REMOTE CONTROLLED VIA TST INPUT:
 TST Input grounded: walk test active
 TST Input "floating" or "+12V": walk test disabled

5 Wire up the terminal block

6 Walk-test the coverage area

- RE-MOUNT COVER AND TIGHTEN SCREW.
- WALK ACROSS FAR END OF COVERAGE PATTERN IN BOTH DIRECTIONS. THE LED SHOULD LIGHT FOR 2-3 SECONDS EACH TIME YOUR MOTION IS DETECTED.
- IMPORTANT!** INSTRUCT THE USER TO WALK TEST AT LEAST ONCE A WEEK TO ASSURE PROPER FUNCTION OF EACH DETECTOR.

4. SPECIAL COMMENTS

4.1 Product Limitations

Although this detector is a highly reliable device, it does not guarantee complete protection against intrusion. Even the most sophisticated detectors can sometimes be defeated or may fail to warn because:

- The detector will not function if the DC power supplied to it is incorrect or improperly connected.
- A PIR detector does not provide full volumetric coverage. It can only detect motion that disturbs the sensitive beams spread within the protected area.
- Motion is not detected if it takes place behind closed doors, walls, glass partitions, windows and shutters.
- The detection ability of the PIR detector may be reduced by malicious masking or by spraying various materials on the lens or by mechanical tampering with the optical system.
- The PIR detector's performance depends on the temperature difference between the environment and the human body. If this difference is too small, the PIR performance may decrease.
- Even the most reliable electrical devices, including this detector, may go wrong due to an unexpected failure of a component part.

The above list includes the most common reasons for failure to detect intrusion, but it is by no means comprehensive. It is therefore recommended that the detector and the entire alarm system be checked weekly, to ensure proper performance.

An alarm system should not be regarded as a substitute for insurance. Home and property owners or renters should be prudent enough to continue insuring their lives and property, even though they are protected by an alarm system.

4.2 Compliance with Standards

This device 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 residential installations. 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 and television reception. However, there is no guarantee that interference will not occur in a particular installation. If this device does cause such interference, which can be verified by turning the device off and on, the user is encouraged to eliminate the interference by one or more of the following measures:

- Re-orient or re-locate the receiving antenna.
- Increase the distance between the device and the receiver.
- Connect the device to an outlet on a circuit different from the one which supplies power to the receiver.
- Consult the dealer or an experienced radio/TV technician.

WARNING! Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

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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W.E.E.E. Product Recycling Declaration

For information regarding the recycling of this product you must contact the company from which you originally purchased it. If you are discarding this product and not returning it for repair then you must ensure that it is returned as identified by your supplier. This product is not to be thrown away with everyday waste.

Directive 2002/96/EC Waste Electrical and Electronic Equipment.

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