

# DISC

## Ceiling Mount PIR Detector


**Visonic®**

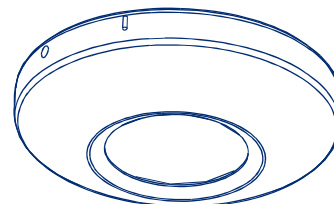
## Installation Instructions

### 1. INTRODUCTION

The DISC is the smallest 360° ceiling mounted passive infrared detector presently marketed.

The DISC provides a nearly conical pattern of maximum 10.5 m (36 ft) diameter, when installed on a 3.6 m (12ft) ceiling.

False alarms caused by environmental disturbances are virtually eliminated with alternate polarity pulse counter signal processing and a low-noise pyroelectric detector.



### 2. SPECIFICATIONS

#### OPTICAL

**Detection Pattern:** A virtually conical pattern of maximum 10.5 m (36 ft) diameter, when installed on a 3.6 m (12ft) ceiling.

#### COVERAGE PATTERNS

The DISC pattern is nearly conical (viewed from detector to the floor). See Figure 1.

The maximum mounting height is 3.6m (12 ft). The coverage pattern at floor level is as per the following table:

| Mounting Height | Pulse Count 1            | Pulse Count 2            |
|-----------------|--------------------------|--------------------------|
| 2.4m (8ft.)     | 7.3m diam. (24ft. diam.) | 6.4m diam. (21ft. diam.) |
| 3m (10ft.)      | 9m diam. (30ft. diam.)   | 7.3m diam. (24ft. diam.) |
| 3.6m (12ft.)    | 11m diam. (36ft. diam.)  | 9.1m diam. (30ft. diam.) |

#### ELECTRICAL

**Voltage:** 9 to 15.5VDC.

**Current:** 15mA at 12 VDC (21 mA max.).

**Relay Output:** Normally closed (fail-safe) contacts. 18 ohm resistor in series with contacts. Rating - 0.1A resistive/24VDC.

**Alarm Period:** 2-7 seconds

**Tamper Contacts:** Normally closed. Rating - 0.5A resistive/24VDC.

**LED:** Walk Test enabled or disabled with internal link.

**Detector:** Dual-element low-noise pyroelectric detector.

**Pulse Counter:** Two position selector, 1 or 2 pulses with alternate polarity signal processing.

#### MOUNTING

**Ceiling Mounting:** Maximum mounting height 3.6 m (12 ft)

#### ENVIRONMENTAL

**Operating Temperature:** -10°C to 49°C (14°F to 120°F).

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

**Compliance with Standards:** EN 50131-1 Grade 2, Class II

#### PHYSICAL

**Dimensions (diam. x H) :** 86 x 24 mm (3-3/8 x 15/16 in).

**Weight:** 64 grams (2 oz)

**Color:** White.

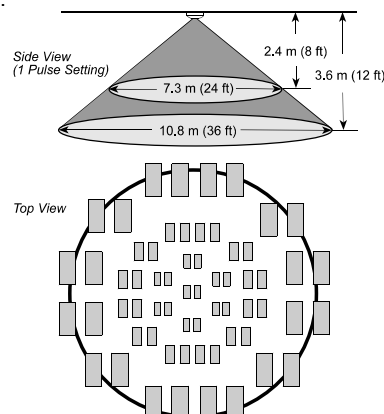


Figure 1 - DISC PIR Coverage Pattern

### 3. INSTALLATION

#### 3.1 Mounting

The DISC PIR is installed on the ceiling.

The maximum installation height is 3.6m (12 ft).

- A. Mount the unit so that the expected motion of an intruder is perpendicular to the detector and not into the detector.

Be sure to install the detector on a stable ceiling, to avoid vibrations.

**Note:** Passive infrared detectors are sensitive to changes in infrared energy caused by an object moving across the unit's field of view.

Detection of changes in infrared energy depends on the amount of infrared energy transmitted by the moving object, and the temperature difference between the object and the background. Because of this the PIR may fail to respond under certain temperature and background conditions, in which the temperature difference is too small.

- B. The DISC is extremely immune to air turbulence and RFI interference.

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However, to minimize possible false alarms, it is highly recommended that you avoid aiming the detector at heaters, sources of light, or windows subjected to direct sunlight. Avoid mounting the DISC in locations where air drafts could flow from the ceiling or from close walls. Also avoid running wiring close to high power electrical cables.

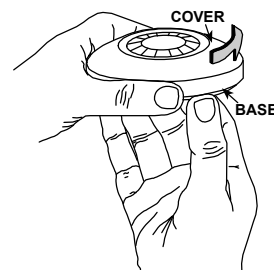


Figure 2 - Removing the Cover

- C. Hold the unit base as shown in Figure 2. Rotate the cover counter clockwise until it stops. Separate the cover from the base.

**Note:** If the cover does not separate easily from the base, insert a 1/8" screwdriver between a tab (on the cover) and a slot (on the base). Lower the screwdriver handle until the base separates from the cover and removes easily.

- D. Mount the base (equipped with the printed circuit board) in the location selected for optimum coverage. Using the two mounting holes at the back of the base fasten the unit firmly to the mounting surface to avoid possible vibrations. (Figure 3).

Line up the 3 tabs on the cover with the 3 slots on the base. Fit the cover over the base. Rotate the cover clockwise until it stops.



Figure 3 – Installing the Cover

### 3.3 Wiring

Route the wires into the detector via the wiring knockout. See Figure 5.

Connect wires to the terminal block in the following order. Refer to Figure 4.

- Connect **Tamper N.C.** terminals to a normally closed 24-hour separate alarm circuit of the control panel. Tamper contact will open when cover is removed
- Connect **Relay N.C.** terminals to a normally closed burglar protection zone of the control panel. Relay contacts will open when motion is detected, or during power loss. The relay contacts are rated at 100 mA, 24 VDC maximum (resistive load only). An 18 ohm resistor is internally connected in series with the relay contacts.
- Connect the **12VDC (+) and (-)** terminals to a 9 to 15.5 Volt DC power source and check for correct polarity. The UL listed control unit or power source should have a back-up battery that is capable of supplying power for at least four hours of operation, during power failure. Current drain of each sensor is approximately 15mA at 12VDC (21mA maximum).

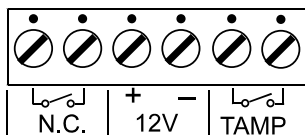


Figure 4 – Terminal Block Wiring

### 3.4 Setting the Pulse Counter

The DISC is equipped with a selectable alternate polarity pulse counter which can be set to count two consecutive pulses with opposite polarity, before activating the alarm relay. Pulse count signal processing requires that the moving person will cross both elements of the dual detector before the alarm relay is activated.

This provides maximum protection against false alarms caused by environmental disturbances.

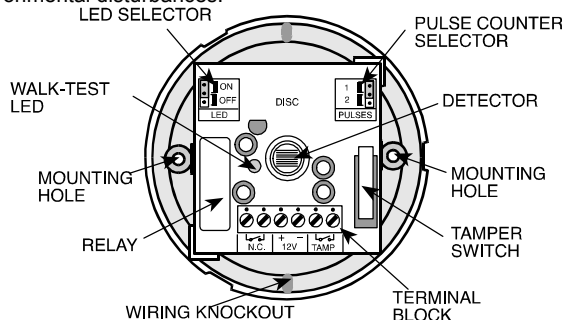


Figure 5 – Printed Circuit Board

#### 2 pulse setting

The two pulse logic may be selected only when the DISC is installed in temperature controlled locations.

#### 1 pulse setting

This setting actually disables the pulse counter. It should be used when maximum detecting sensitivity or fast "catch" performance are of highest importance, such as in high security installations.

### 3.5 Walk Testing

- Apply 12 VDC power and allow five minutes for the unit to warm up and stabilize before testing.
- Set the pulse counter per Para. 3.4 above.
- Walk-test the range and coverage area by crossing the pattern from different directions while observing the LED. The LED lights up whenever the unit detects motion. Allow 10 seconds between each test for the unit to stabilize. Repeat the test while entering the pattern from different directions, and at various locations and distances from the detector. This test should be performed up to the far end of the coverage range.
- After testing, the LED can be disabled to prevent unauthorized persons from tracing the coverage pattern. To disable the LED, set the jumper marked "LED" to the OFF position.

**Note:** The coverage area should be checked by an alarm technician at least once a year. To assure proper continuous functioning, the user should be instructed to perform a walk test 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 GOODWILL, 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 or limitation 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 Manufacturers 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 where 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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#### 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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