

# DISC

## Ceiling Mount PIR Detector



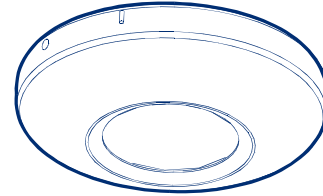
## Installation Instructions

### 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 (m)	Pulse Count 1	Pulse Count 2
2.4	7.3 m diam.	6 m diam.
3	9 m diam.	7.3 m diam.
3.6	10.8 m diam.	9 m 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).

#### PHYSICAL

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

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

**Color:** White.

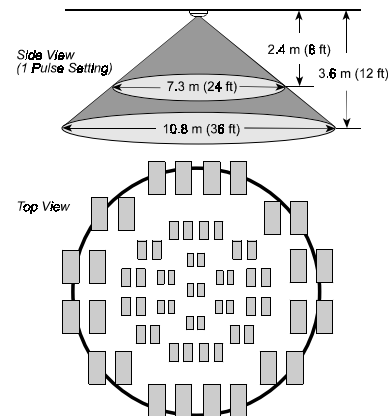


Figure 1 - DISC PIR Coverage Pattern

### 3. INSTALLATION

#### 3.1 Mounting

The DISC 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.

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.

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.

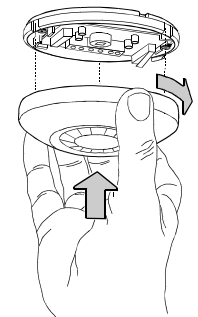


Figure 2 - Removing the Cover

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).

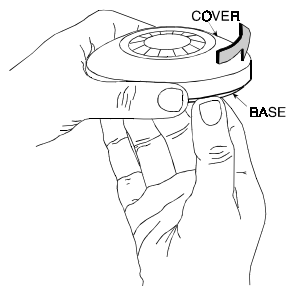


Figure 3 - Installing the Cover

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.

### 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.

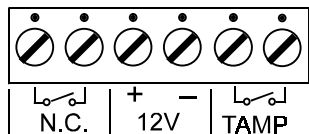


Figure 4 - Terminal Block Wiring

- 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).

### 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.

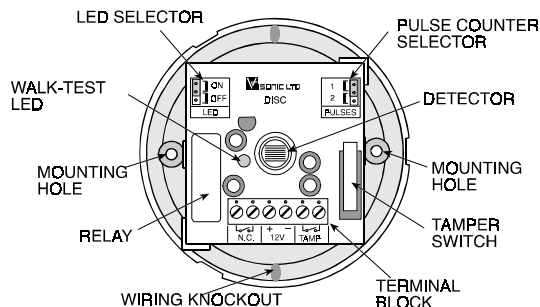


Figure 5 - Printed Circuit Board

### 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 Test

- 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 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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