DISC-ET

Energy Saver Ceiling Mount PIR Detector

Visonic Ltd

Installation Instructions

1. INTRODUCTION

The DISC-ET is a ceiling mounted energy management PIR sensor for lighting control. Its main purpose is to save energy by switching lights on upon detection of movement within its coverage area. When movement in the area ceases, the lights remain on for a predetermined duration, and are then switched off automatically.

The detector is equipped with an adjustable operation timer, which causes the output relay to drop out at the end of a selected duration (provided that no further movement is detected by the PIR sensor).

The DISC-ET is physically and optically similar to the DISC, which is the smallest 360° ceiling mounted PIR presently marketed. When installed on a 3.6 m (12 ft) ceiling, the DISC-ET provides a nearly conical pattern, with a maximum diameter of 10.8 m (36 ft).

2. SPECIFICATIONS

2.1 Coverage Pattern

When viewed from detector to floor, the coverage pattern at floor level is approximately three times the mounting height (see Figure 1).

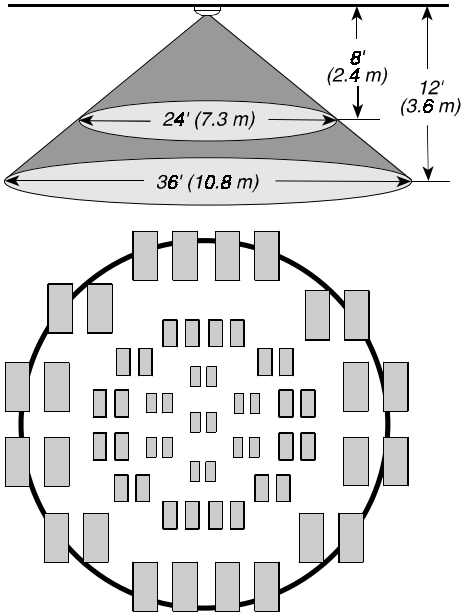

Figure 1. *Coverage Pattern*

2.2 Technical Data

OPTICAL

Detection Pattern: A virtually conical pattern of 36 ft (10.8 m) diameter, if installed at the height of 12 ft (3.6 m).

ELECTRICAL

Voltage: 9 - 16 VDC.

Current Drain: 6 mA max. (standby), 45 mA max. (relay energized) @ 12VDC.

Relay Output: Form C contacts (normally open, normally closed), rated 1A resistive/24 VDC.

Relay Operation Timer: Adjustable, 3 seconds to 12 minutes.

LED: Walk Test - (switchable).

Detector: Dual-element low-noise pyroelectric sensor.

MOUNTING

Ceiling Mounting; Maximum Height – 12 ft (3.6 m).

ENVIRONMENTAL

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

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

RFI Protection: Greater than 10 V/m to 1000 MHz.

PHYSICAL

Dimensions: 8.6 x 2.4 cm (3.4 x 0.95 in.).

Weight: 64 g (2 oz).

Color: White.

3. INSTALLATION

3.1 Selecting a Mounting Location

Select the mounting location so that the expected motion within the area will cross the beams of the coverage pattern. DISC-ET units can be mounted at the maximum height of 3.6 m (12 ft). **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 (of a different temperature than the background) moving across the unit's field of view.*

The DISC-ET is extremely immune to air turbulence and RF interference. However, to minimize undesired activations, it is highly recommended to avoid aiming the detection pattern at heaters, sources of bright light, or direct sunlight. Avoid mounting the DISC-ET in locations where air drafts could flow from the ceiling or from nearby walls. Also avoid running wiring close to high-power electrical cables.

3.2 Mounting

A. Hold the base with one hand as shown in Figure 2. Rotate the cover counterclockwise with the other hand, until it stops. Separate the cover from the base, and put it in a safe place, to avoid accidental damage.

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 can be removed easily.*

B. Mount the base, complete with the printed circuit board, in the selected location. Using the 2 mounting holes at the base, fasten the unit firmly to the mounting surface to avoid possible vibrations.

> ***Caution:*** *Do not drill through the mounting holes with the detector held in place, to avoid contaminating the unit with dust and drilled fragments.*

C. Once all wiring and adjustments are completed (Sections 3.3 and 3.4), line up the three tabs on the cover with the three slots in the base. Fit the cover over the base, and rotate the cover clockwise until it stops (Fig. 3).

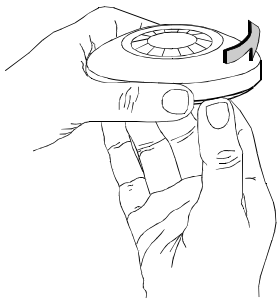

Figure 2. *Removing the Cover*

3.3 Wiring

Punch out the wiring knockout (see Fig. 4) and route the wires into the detector. Connect wires to the terminal block in the following order (see Fig. 5).

Note*: Field wiring should be made with copper conductors only.*

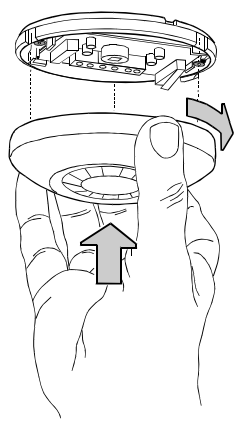

Figure 3. *Installing the Cover*

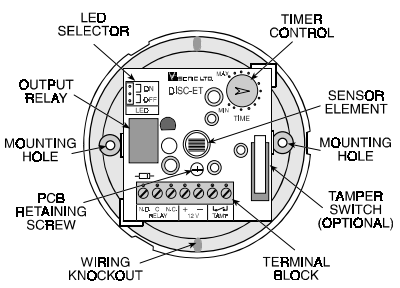

Figure 4. *Component Layout*

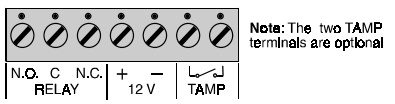

Figure 5. *Terminal Block*

A. Connect the **TAMP** N.C. terminals (optional) to a normally closed 24-hour protection zone of a control panel (if available).

B. Connect external load to be switched across the **C** and **N.O.** relay terminals, provided that the external lighting circuit stays within the 1A / 24V resistive load limits. If this rating is exceeded by the load, connect the relay output terminals to trigger an intermediate heavy duty relay or an energy controller unit such as the Visonic Ltd. ENER-300.

C. Connect the 12V (+) and (–) terminals to a 9 - 16 VDC source, taking care not to reverse the input voltage polarity.

D. Seal the wire entry hole with RTV to prevent insects or air drafts from entering the unit.

3.4 Setting the Operation Timer

The operation time is set by the potentiometer marked TIME. The adjustable timer (3 seconds to 12 minutes) is incorporated to energize the relay for the required operation period. The countdown restarts as the timer is reset by each detected movement. The relay therefore stays latched for a full countdown period following the last detected movement.

3.5 Final Testing

A. Apply 12VDC power and allow five minutes for the unit to stabilize before testing.

B. Remove the cover (see Fig. 2) and set the shortest operation time – the TIME control fully clockwise.

C. Set the LED selector to ON by installing the jumper supplied with the unit on the upper and middle pins of the LED SELECTOR (see Fig. 4).

D. Replace the cover (see Fig. 3).

E. Walk-test the entire coverage area by walking across the coverage-pattern segments while observing the LED. The LED will light up whenever you cross a detection segment. Keep still a few seconds after each activation, until the LED goes out and the unit restabilizes.

F. At the end of the test, you may disable the LED by setting the LED selector to OFF.

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