

ADEMCO

INSTALLATION INSTRUCTIONS

No. 4275
PASSIVE INFRARED
MOTION DETECTOR/RPM

MARGIN LINES INDICATE PRINCIPAL CHANGES IN THIS ISSUE

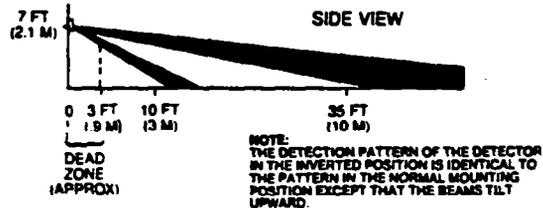
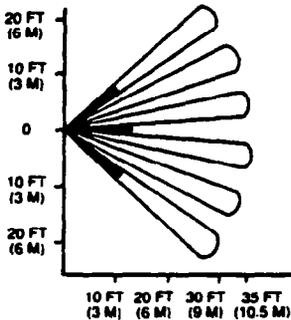
GENERAL INFORMATION

The ADEMCO No. 4275 Passive Infrared motion detector/Remote Point Module is designed for use only with the VECTOR series security systems. It is a versatile wall-mounted unit offering either wide-angle or long-range/curtain (narrow) area protection (2 separate easy-to-install mirrors are supplied). The detector senses sudden and slight changes in temperature

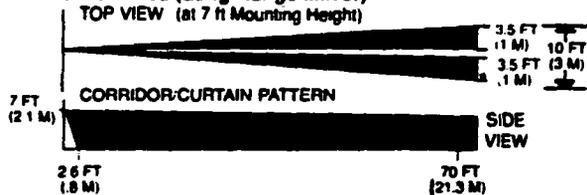
within the area of detection; thus, when an intruder crosses or enters any zone, the resulting change in infrared energy is detected and an alarm condition will exist. Best coverage will be obtained if mounting is selected such that the likely direction of intruder motion is across the pattern.

PROTECTION PATTERNS:

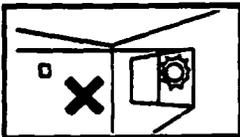
Detection Area (Wide Angle Mirror)



Detection Area (Long Range Mirror)



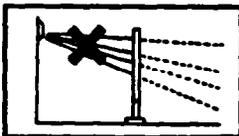
INSTALLATION HINTS



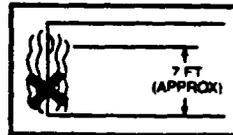
Do not install where the detector is exposed to direct sunlight or directly above strong sources of heat.



Avoid locating a unit in areas which contain objects likely to produce a rapid change in temperature, such as central heating, radiators or ducts (or heaters of any kind), air conditioners, open flame, etc.



Make sure the detection area does not have obstructions (curtains, screens, large pieces of furniture, plants, etc.) which may block the pattern of coverage.



Install the detector at a height of approximately 7 feet from floor. Do not mount on an unstable surface. **IMPORTANT:** Avoid running polling loop wiring close to telephone line and alarm sounder cabling.

INSTALLATION

A. Changing From Wide Angle to Long Range Coverage:

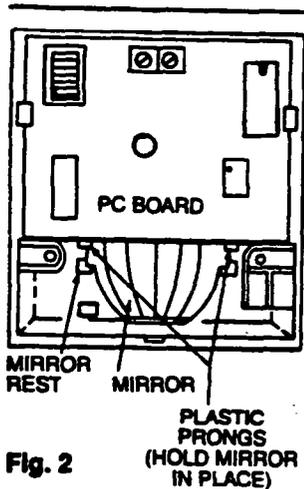
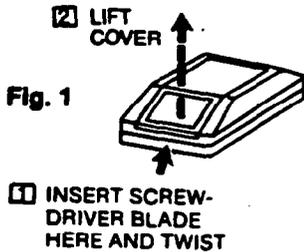


Fig. 2

NOTE: Mirror surface should be free of dirt, foreign matter and fingerprints. Use a clean dry soft cloth to wipe mirror surfaces, if required.

B. Normal Mounting:

1. Remove the front cover as shown in Figure 1.
2. Mount the wall plate to a firm vertical surface (flat wall or in corner). Position the plate so that field wiring is centered in the rectangular slot at the top of the plate (wall wiring hole no larger than 5/16" diameter). See Figure 3 and Detail A.
3. Feed wiring through top access hole of detector (past foam draft protector) but do not connect to terminal block yet.
4. Attach unit to wall plate by engaging all four hooks on the plate into slots on the rear of the base and by pressing downward (see Fig. 3). The wall plate hooks will puncture the label on the back of the base.

1. Remove front cover by inserting a screwdriver blade in the groove between cover and base at the locations shown in Fig. 1, rotating blade to override snap fit, and then lifting cover off.
2. Spread either or both plastic prongs holding the wide angle (35 ft) mirror and remove the mirror.
3. Insert one side of the narrow angle (70 ft) mirror under a prong and snap the other side under the other prong. Make sure that the mirror sides are squarely in their corner rests and are held securely under the prongs.

NOTE 1: The PIR is locked to the wall plate by a spring tab that engages a square opening in the housing base (see Fig. 3). The PIR can only be removed by cover removal, depression of the

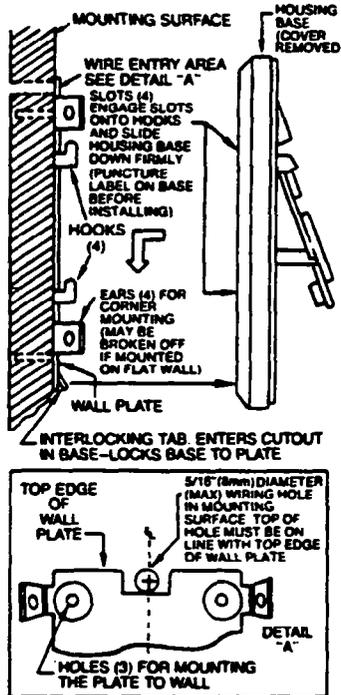


Fig. 3

tab from the inside with a small-blade screwdriver and then sliding the PIR upward.

NOTE 2: If the PIR is to be mounted on a flat wall without its mounting plate, install a #4 screw into the wall at the planned center (side-to-side) of the PIR, 1 inch below the planned top of the PIR. Leave 1/4" clearance between the screw head and the wall. Hook the PIR on the wall screw, puncturing the label, and insert two screws into the mounting areas on both sides of the mirror.

C. Inverted Mounting:

If small pets have access to the area protected by the detector, this section pertains:

The detector may be installed approximately 3 ft to 3-1/2 ft from the floor, provided furniture or other objects do not obscure the pattern of protection.

The detector and wall plate must be mounted inverted (the PIR window at the top) with the wall plate tilted forward (downward). Two self-adhesive rubber spacers have been provided to aid in lifting the wall plate.

It must be noted that although this procedure adjusts the PIR zones so that small animals will not be detected, a crawling intruder will ALSO go undetected.

1. The spacers are to be used with the wall plate only when the wide angle mirror is in use:

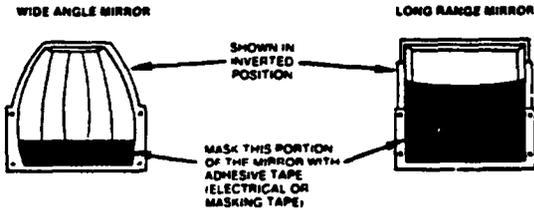
Mounting flat on a wall:

Assemble the two spacers, one above the other, and affix the combination to the rear of the plate, directly in line with the single mounting hole located at the end of the plate opposite to the wire entry access cutout.

Corner Mounting:

Affix one of the spacers to the rear surface of each of the two corner mount tabs on the wall plate on the end opposite to the wire entry access cutout.

2. Follow "Normal Mounting" steps 2, 3 and 4 described previously, but orient the wall plate so that the wire entry access cutout in the wall plate is positioned at the bottom.
3. When the detector is mounted in an inverted position, that portion of the detector mirror which normally provides a downward beam of protection will now provide a beam that points upward. This will apply to both mirrors (long range and wide angle). If possible, install the detectors so that this now upward-pointing beam is not directed at ceiling areas that include heating or air conditioning ducts and vents or lighting fixtures. If these IR sources cannot be avoided, the upward-pointing segments of each mirror should be masked to avoid the possibility of false alarms, as indicated in the diagrams herein.
 - a. Remove the mirror from the detector, referring to the previous page for information on mirror removal.
 - b. Mask the appropriate portion of each mirror as shown in the diagrams below. Electrical tape or masking tape may be used. Be sure to cover only the area shown.
 - c. Replace the mirror, making sure it is securely in position before installing the cover.

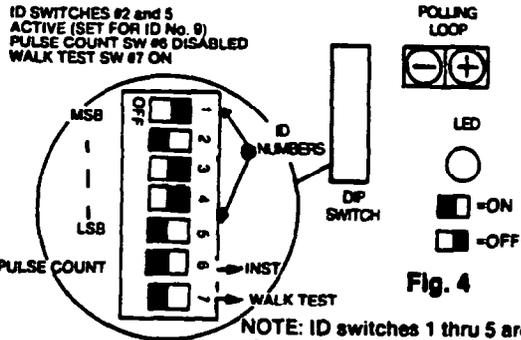


WIRING CONNECTIONS

Bring both polling loop wires through the wire access hole near the terminal block and connect to screw terminals (see Fig. 4). **OBSERVE POLARITY!**

Pulse Count Option:

Each detector includes Pulse Count circuitry that provides stability in adverse environments to minimize false alarms. This circuitry is active when the switch #6 on the circuit board is set to the PULSE COUNT position (see Fig. 4). The detector will then normally signal an alarm within 3 to 4 steps, since the processing logic requires more complex motion than just a momentary event. **IMPORTANT:** If the switch on the No. 4275 is programmed for pulse count, then the corresponding address in the VECTOR control must NOT be programmed for pulse count.



For long-range applications where the detector is used to protect narrow corridors, or where single protective zones are directed through doorways or room openings, the pulse count option must be disabled (as shown in Fig. 4) to provide an instant alarm response.

SELECTING AN ID NUMBER

Make all identification number selections by arranging the switches on the circuit board. The ID number is equal to the sum of the switch values in the "ON" position. Each switch has a different value and should be set according to the following table:

SWITCH NUMBER:	1	2	3	4	5	ID No.
SWITCH VALUE:	16	8	4	2	1	
<input type="checkbox"/> OFF	<input type="checkbox"/> ON	= 1				
<input type="checkbox"/> OFF	<input type="checkbox"/> OFF	<input type="checkbox"/> OFF	<input type="checkbox"/> ON	<input type="checkbox"/> OFF	<input type="checkbox"/> OFF	= 2
<input type="checkbox"/> OFF	<input type="checkbox"/> OFF	<input type="checkbox"/> ON	<input type="checkbox"/> OFF	<input type="checkbox"/> OFF	<input type="checkbox"/> OFF	= 3
<input type="checkbox"/> OFF	<input type="checkbox"/> OFF	<input type="checkbox"/> ON	<input type="checkbox"/> ON	<input type="checkbox"/> OFF	<input type="checkbox"/> OFF	= 4
<input type="checkbox"/> OFF	<input type="checkbox"/> OFF	<input type="checkbox"/> ON	<input type="checkbox"/> ON	<input type="checkbox"/> ON	<input type="checkbox"/> OFF	= 5
<input type="checkbox"/> OFF	<input type="checkbox"/> OFF	<input type="checkbox"/> ON	<input type="checkbox"/> ON	<input type="checkbox"/> ON	<input type="checkbox"/> ON	= 6
<input type="checkbox"/> OFF	<input type="checkbox"/> ON	<input type="checkbox"/> OFF	<input type="checkbox"/> OFF	<input type="checkbox"/> OFF	<input type="checkbox"/> OFF	= 7
<input type="checkbox"/> OFF	<input type="checkbox"/> ON	<input type="checkbox"/> OFF	<input type="checkbox"/> OFF	<input type="checkbox"/> ON	<input type="checkbox"/> OFF	= 8
<input type="checkbox"/> OFF	<input type="checkbox"/> ON	<input type="checkbox"/> ON	<input type="checkbox"/> OFF	<input type="checkbox"/> ON	<input type="checkbox"/> OFF	= 9
<input type="checkbox"/> OFF	<input type="checkbox"/> ON	<input type="checkbox"/> ON	<input type="checkbox"/> ON	<input type="checkbox"/> OFF	<input type="checkbox"/> OFF	= 10
<input type="checkbox"/> OFF	<input type="checkbox"/> ON	<input type="checkbox"/> ON	<input type="checkbox"/> ON	<input type="checkbox"/> ON	<input type="checkbox"/> OFF	= 11
<input type="checkbox"/> OFF	<input type="checkbox"/> ON	<input type="checkbox"/> ON	<input type="checkbox"/> ON	<input type="checkbox"/> ON	<input type="checkbox"/> OFF	= 12
<input type="checkbox"/> OFF	<input type="checkbox"/> ON	= 13				
<input type="checkbox"/> ON	<input type="checkbox"/> OFF	= 14				
<input type="checkbox"/> ON	<input type="checkbox"/> OFF	<input type="checkbox"/> OFF	<input type="checkbox"/> OFF	<input type="checkbox"/> ON	<input type="checkbox"/> OFF	= 15
<input type="checkbox"/> ON	<input type="checkbox"/> OFF	<input type="checkbox"/> OFF	<input type="checkbox"/> ON	<input type="checkbox"/> OFF	<input type="checkbox"/> OFF	= 16
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<input type="checkbox"/> ON	<input type="checkbox"/> OFF	<input type="checkbox"/> ON	<input type="checkbox"/> ON	<input type="checkbox"/> ON	<input type="checkbox"/> ON	= 20
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<input type="checkbox"/> ON	<input type="checkbox"/> OFF	= 26				
<input type="checkbox"/> ON	= 27					
<input type="checkbox"/> ON	<input type="checkbox"/> ON	<input type="checkbox"/> ON	<input type="checkbox"/> ON	<input type="checkbox"/> OFF	<input type="checkbox"/> OFF	= 28
<input type="checkbox"/> ON	= 29					
<input type="checkbox"/> ON	<input type="checkbox"/> OFF	= 30				
<input type="checkbox"/> ON	= 31					

TROUBLESHOOTING

PROBLEM	PROBABLE CAUSE	REMEDY
Intermittent Alarm	Rapid temperature change. Check for electric or gas heaters, open flames, electric arcs, etc.	Locate source and reposition detector.
	Drafts causing drapes, light fixtures, display material to move.	Eliminate source of motion.
PIR does not appear to be operating	DC voltage supplied to detector is inadequate, intermittent, or polarity reversed.	Assure that proper polarity and adequate voltage is supplied and that wiring is intact (no opens or shorts) and connection secure. Check for presence of 8-11V PP at terminals of unit. If too low, polling loop run to control may be excessive for the wire gauge used. Increase wire gauge or add No. 4197 Polling Loop Extender module to location in the loop where voltage boost is necessary and connect it to a power source. Alternatively, the detector can be tested using a 9-volt D.C. source (such as a 9-volt battery or a 9-volt power supply).
LED Inoperative	SW #7 not set to walk test.	Set SW #7 to right, W/T position
	LED malfunction. Check for broken/shorted leads.	Return unit for service.
Detection Area Changes	Repositioned furniture or equipment in the protected area.	Caution customer about layout changes. Reposition detector.
	Mounting surface is unstable. A few degrees of vertical shift can change range substantially.	Mount on secure surface.
Trouble Code	Improper ID address code	Set switches #s. 1-5 to proper code.

TEST PROCEDURES

Important: Two minute warm-up is required after applying power. Testing should be conducted with the protected area cleared of all people. Disarm the protective system's control during the test procedure to prevent reporting of unwanted alarms.

Walk-Test: Place PULSE COUNT SW #6 to instant response, right, position. Place WALK-TEST SWITCH #7 to walk test, right, position as shown in Fig. 4. Replace front cover and walk through protective zones, observing that the detector's LED lights whenever motion is detected.

The LED will only be active and should only be used during walk test procedures. When walk test is completed, the walk test switch #7 must be set to the OFF, left, position.

- NOTES:**
- In the instant response mode, the LED stays lit for approximately 1 to 2 seconds after detecting motion. In the event that switch #6 is placed in the PULSE COUNT, left, position, the LED will illuminate for up to approximately 4 seconds when the detector verifies intrusion.
 - Make certain to test the unit in the mode it will be used. For example, if pulse count is to be used, then the PIR should be walk tested with switch 6 set to Pulse Count, left, position.

The absolute range of all Passive IR units is subject to variation because of different types of clothing, backgrounds and ambient temperature. For this reason, ensure that the most likely intruder routes are well within the PIR's protective zones and that walk-testing is carried out along these routes.

SPECIFICATIONS

Detection Method:	Passive Infrared.
Coverage:	35 ft (10.6m) x 45 ft (13.7m), 84° (wide angle mirror). 70 ft (21.3m) x 10 ft (3m) (long range/curtain mirror).
Detection Zones:	9 zones (6 long, 3 short) (wide angle mirror). 1 zone, 7 tiers (long range/curtain mirror).
Pulse Count:	Alternate polarity (installer option).
Walk Rate:	0.5 - 5 ft/sec.
Mounting Height:	7 ft nominal (2.1m), wall mounting.
Indicator:	Red LED. (Switch selectable).

Input Voltage: 8-11V peak to peak at polling loop terminals.

Current Drain: Less than 1 mA (LED inactive), 6 mA approx (LED active)

Standby Capability: Power source should be capable of at least 4 hours of battery standby.

Operating Temperature: 32°F - 122°F (0°C - 50°C).

Operating Humidity: Up to 95% RH (max.) , non-condensing.

Dimensions: 3"W x 3-11/16"H x 1-1/2"D (76mm x 94mm x 38mm).

Net Weight: 3.3 oz (93.5 grams).

MAINTAINING PROPER OPERATION

In order to maintain the detector in proper working condition, it is important that the following be observed by the user.

1. Power should be provided at all times. Loss of power to the unit will result in the unit's failure to operate. The unit's DC source should have standby power available for at least 4 hrs of operation during emergencies.
2. Units should never be re-aimed or relocated without the advice or assistance of the alarm service company.
3. The physical surroundings of the protected area should not be changed. If furniture or stock is moved, or air conditioning or additional heating is installed, the system may have to be readjusted by the alarm service company.
4. Walk tests should be conducted frequently (at least weekly) to confirm continued proper coverage by each detector.

WARNING

THE LIMITATIONS OF THIS PASSIVE INFRARED MOTION DETECTOR

While the Intrusion Detector is a highly reliable intrusion detection device, it does not offer guaranteed protection against burglary. Any Intrusion Detection device is subject to compromise or failure to warn for a variety of reasons:

- Passive Infrared Motion Detectors can only detect intrusion within the designed ranges as diagrammed in this installation manual.
- Passive Infrared Motion Detectors do not provide volumetric area protection. They do create multiple beams of protection, and intrusion can only be detected in unobstructed areas covered by those beams.
- Passive Infrared Detectors cannot detect motion or intrusion that takes place behind walls, ceilings, floors, closed doors, glass partitions, glass doors, or windows.
- Mechanical tampering, masking, painting or spraying of any material on the mirrors, windows or any part of the optical system can reduce the detection ability of the Passive Infrared Motion Detector.
- Passive Infrared Detectors sense changes in temperature; however, as the ambient temperature of the protected area approaches the temperature range of 90° to 105°F (32° to 40° C), the detection performance can decrease.

- This Passive Infrared Detector will not operate without appropriate DC power connected to it, or if the DC power is improperly connected (i.e., reversed polarity connections).

- Passive Infrared Detectors, like other electrical devices, are subject to component failure. Even though this equipment is designed to last as long as 10 years, the electronic components could fail at any time.

We have cited some of the most common reasons that a Passive Infrared Motion Detector can fail to catch intrusion. However, this does not imply that these are the only reasons, and therefore it is recommended that weekly testing of this type of unit, in conjunction with weekly testing of the entire alarm system, be performed to ensure that the detectors are working properly.

Installing an alarm system may make one eligible for lower insurance rates, but an alarm system is not a substitute for insurance. Homeowners, property owners and renters should continue to insure their lives and property.

We continue to develop new and improved protection devices. Users of alarm systems owe it to themselves and their loved ones to learn about these developments.

TO THE INSTALLER

Regular maintenance and inspection (at least annually) by the installer and frequent testing by the user are vital to continuous satisfactory operation of any alarm system. The installer should assume the responsibility of developing and offering a regular maintenance program to the user as well as acquainting the user with the proper operation and limitations of the alarm system and its component parts. Recommendations must be included for a specific program of frequent testing (at least weekly) to insure the system's proper operation at all times.

LIMITED WARRANTY

Seller warrants its products to be in conformance with its own plans and specifications and to be free from defects in materials and workmanship under normal use and service for 18 months from the date stamp control on the product or for products not having an Ademco date stamp, for 12 months from date of original purchase unless the installation instructions or catalog sets forth a shorter period, in which case the shorter period shall apply. Seller's obligation shall be limited to repairing or replacing, at its option, free of charge for materials or labor, any part which is proved not in compliance with Seller's specifications or proves defective in materials or workmanship under normal use and service. Seller shall have no obligation under this Limited Warranty if the product is altered or improperly repaired or serviced by anyone other than Ademco factory service. For warranty service, return product transportation prepaid, to Ademco Factory Service, 165 Eileen Way, Syosset, New York 11791.

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