

Installation Instructions for the DS934 ASIC-Based PIR Intrusion Detector

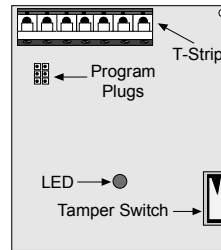
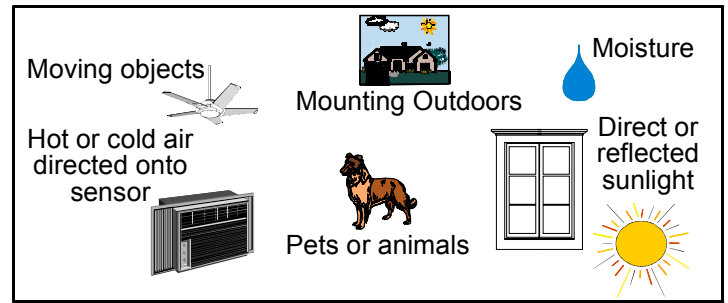
1.0 Specifications

- **Input Power:** 9.0 VDC to 15.0 VDC
 - **Current Draw:** 15 mA @ 12.0 VDC
 - **Standby Power:** There is no internal standby battery. Connect to DC power sources capable of supplying standby power if primary power fails. For each hour of standby time needed, 15 mAh are required. *For UL Listed Requirements, four hours (60 mAh) minimum are required.*

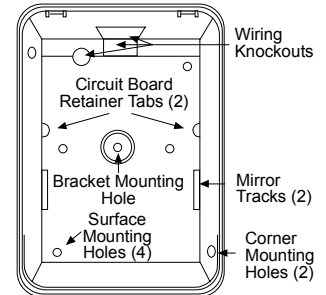
 - **Coverage:**
 - Broad (standard):** 35 ft. x 35 ft. (10.7 m x 10.7 m)
 - Barrier (optional):** 35 ft. x 10 ft. (10.7 m x 3.1 m)
 - Long Range (optional):** 70 ft. x 10 ft. (21.4 m x 3.1 m)
 - Pet (optional):** 35 ft. x 35 ft. (10.7 m x 10.7 m) with 70 ft. (21.4 m) long range
 - **Sensitivity:** Selectable for Standard or Intermediate.
 - **Alarm Relay:** Normally Closed reed relay with contacts rated at 28 VDC, 125 mA maximum for DC resistive loads.
 - **Tamper Switch:** Normally Closed (with cover in place) tamper switch. Contacts rated at 28 VDC, 125 mA maximum.
 - **Temperature:** The storage and operating temperature range is -40°F to +120°F (-40°C to +49°C). *For UL Certificated Installations, the temperature range is +32°F to +120°F (0°C to +49°C).*
 - **Options:** B335 Low Profile Swivel Mount Bracket, B338 Ceiling Mount Bracket, OMB93-3* Barrier Mirror, OMLR93-3* Long Range Mirror, OMP93-3* Pet Mirror.
**Shipped in packages of three.*
- NOTE:** Misalignment of the detector when using an optional mounting bracket may reduce range and increase dead zones.
- **Patents:** This device is covered under the following U.S. patent: #4,764,755.

2.0 Mounting

Avoid



Location of major items - Circuit Board



Rear enclosure and mounting holes



The mounting surface should be solid and vibration free.

- Select a location that is most likely to intercept an intruder moving across the coverage pattern. The recommended mounting height range is 6.5 ft. to 8.5 ft. (2 m to 2.6 m).
- Remove the cover. Insert a thin flathead screwdriver into the notch at the bottom of the cover and pry up.
- Remove the circuit board/mirror unit from the enclosure. Push the board/mirror unit toward the top of the enclosure until it clears its four retainer tabs, then lift it out.
- Open the knock-out wire entrance and route the wiring through.

3.1 Surface or Corner Mounting

- Open two holes for surface or corner mounting.
- Mark the location for the mounting screws. Use the enclosure as a template. Pre-start the mounting screws.
- Securely attach the detector.
- Replace the circuit board/mirror unit.
- Select the Vertical Angle.

Mirror Information: The mirror is adjustable from +1° to -18° vertically by sliding the mirror forward or back and ±10° horizontally by rocking the mirror side to side. To change the mirror, just pull it out from its resting grooves.

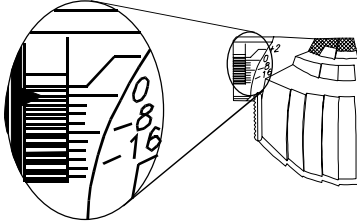
NOTE: Excessive handling of the mirror surfaces may lead to performance degradation.

- The following chart will help you set the correct Vertical Angle based on the mounting height, mirror type, and desired range.

Mounting Height	Broad		Barrier		Long Range	
	20(6)	35(10)	20(6)	35(10)	40(12)	70(20)
6.5(2)	-10°	-6°	-6°	-4°	-4°	-2°
7.5(2.3)	-12°	-8°	-8°	-6°	-4°	-2°
8.5(2.6)	-14°	-10°	-12°	-8°	-6°	-4°

Height and desired Range listed in feet (meters)

- The angle adjust markings are on the mirror. Slide the mirror forward or back until the angle hash marks are in-line with the markers on each side of the frame.



3.0 Wiring



Only apply power after all connections have been made and inspected.

- Connect wiring as shown.



NOTE: Do not coil excess wiring inside unit.

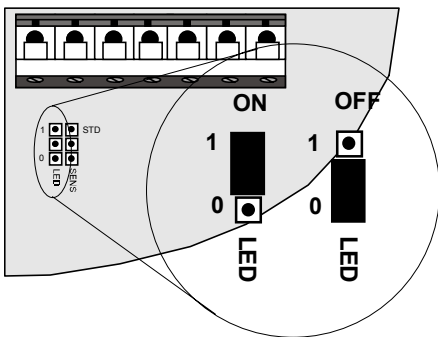
- Seal the Wire Entrance using the foam plug provided.

Terminal Descriptions

- **1 (-) & 2 (+):** Input Power. Use no smaller than #22 AWG (0.8 mm) wire pair.
- **3, 4:** Normally Closed reed relay contacts rated at 3 Watts, 125 mA, 28 VDC maximum for DC resistive loads and protected by a 4.7 ohm resistor in the common "C" leg of the relay. Do not use with capacitive or inductive loads.
- **5:** Spare
- **6 & 7:** Tamper Contact, rated 28 VDC, 125 mA.

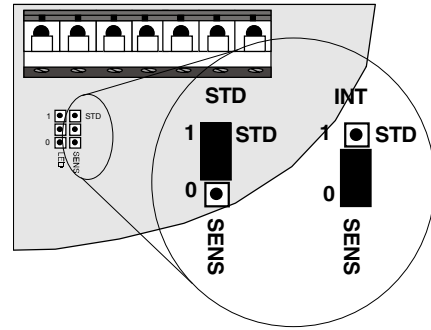
5.0 Configuring Detector

5.1 LED Operation Jumper



- **ON:** Allows the LED to operate when activated by alarm.
- **OFF:** The LED will not operate on alarm.

5.2 Sensitivity Mode



- **Standard Sensitivity:** Recommended setting for maximum false alarm immunity. Tolerates environment extremes on this setting. Not recommended for Long Range or Barrier type patterns. The detector is shipped in Standard Sensitivity mode.
- **Intermediate Sensitivity:** Recommended setting for any location where an intruder is expected to cover only a small portion of the protected area. Tolerates normal environments on this setting. This setting will improve your intruder catch performance.

6.0 Setup and Walk Testing

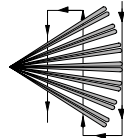


Before walk testing, the system should be fully wired, powered, and programmed.

- Configure LED Operation Jumper to LED ON.
- Replace the front cover.

NOTE: All testing must be performed with the front cover in place.

- Wait at least two minutes (with no motion in the coverage area) for the detector to setup.
- Walk test **across** the coverage pattern.
- The edge of the coverage is determined by activation of the LED.
- Walk test the unit from both directions to determine the boundaries.



Configure the LED to OFF when finished with walk tests.

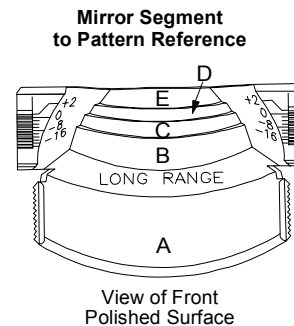
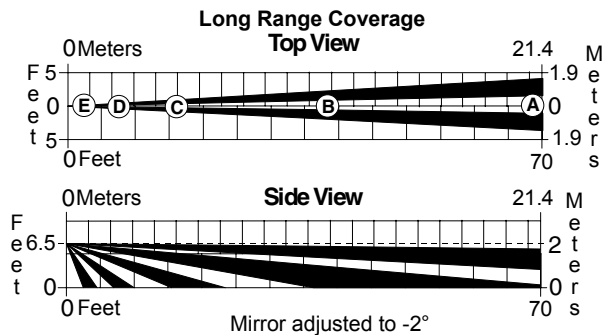
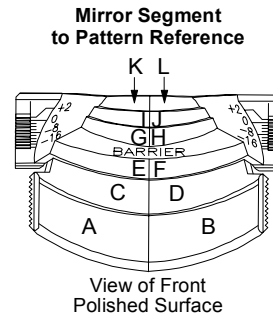
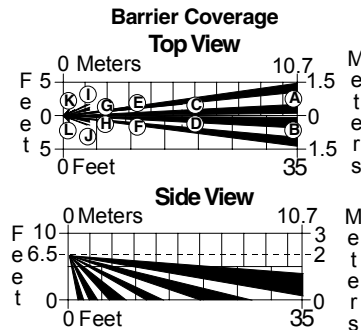
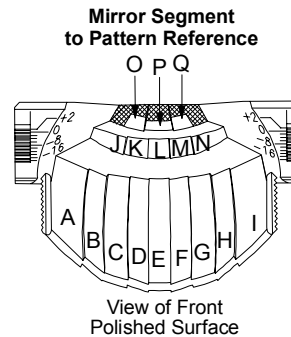
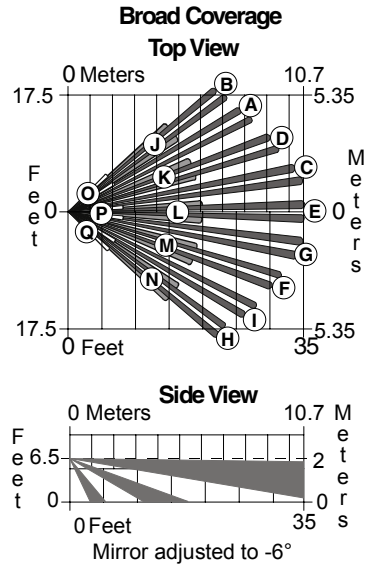
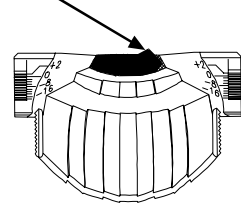
7.0 Maintenance

At least once a year, the range and coverage should be checked in accordance with the Walk Testing section. To ensure continual daily operation, the end user should be instructed to daily walk through the outer edge of the coverage pattern and observe the LED operation (if used). This assures an alarm output prior to arming.

8.0 Coverage Patterns

- Refer to the mirror module and pattern drawings for masking information.
- Before masking, be sure the chosen mirror surface is the correct one. When removing masking, remember, many adhesives will either destroy the mirror's surface or leave residue behind to reduce coverage performance.
- This product is factory assembled with the look down zones (O, P, and Q) masked out. If you wish to use these zones, simply remove the masking tape from the lens.

To Remove Mask, peel back tab



9.0 Instructions for Installations Containing Pets

The Pet Avoidance Mirror is intended to provide protection in installations where pets are allowed to move about freely.

- Adjust the Vertical Angle to 0° when using the Pet Avoidance Mirror.
- Because the unit will be installed lower than normal, be sure to position the unit so that it has a clear line-of-sight across the room.
- To provide an accurate safety margin, install the unit no lower than twice the height of the pet, and never lower than 3 ft. (1 m).
- Make sure the field of view is free of all furniture or other objects which the pet could climb or jump, resulting in an unwanted alarm.

