

# DH94D

## Sliding Pedestrian Door Presence Sensor

## INSTALLATION INSTRUCTIONS

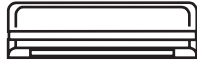
### Section 1

#### General Description

The DH94D is a floor reflection method (FRM) active infrared presence sensor designed to provide medium range safety detection for automatic sliding doors. The DH94D is the ideal solution for entrances with a shallow approach or for adding threshold protection to any sliding door.

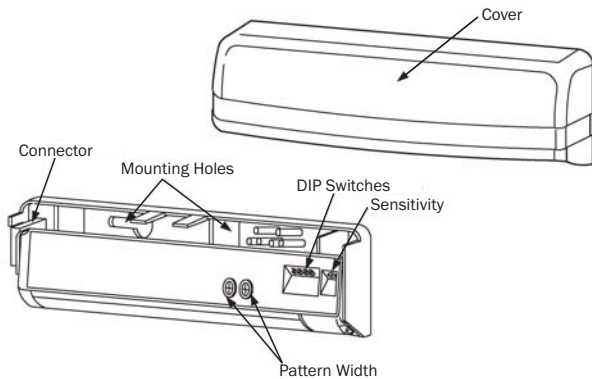


- Pattern depth adjustable from curtain-like 1 row up to 4 rows via dip switches.
- Pattern angle adjustable 0-5 degrees via mechanical rotation of the sensor housing.
- Pattern width adjustable via mechanical knobs.
- 4 frequency settings to avoid interference from other sensors in close proximity.
- Self-monitoring microprocessor controlled diagnostics includes automatic countermeasures against adverse conditions such as falling snow, rain, flying insects, strong sunlight and electrical noises.
- 4 presence timer settings: 2, 15, 60 and 180 seconds.



### Section 2

#### Parts Identification



#### Accessories



Mounting Template



Mounting Screws



Connection Cable  
5 ft. (1.5m)

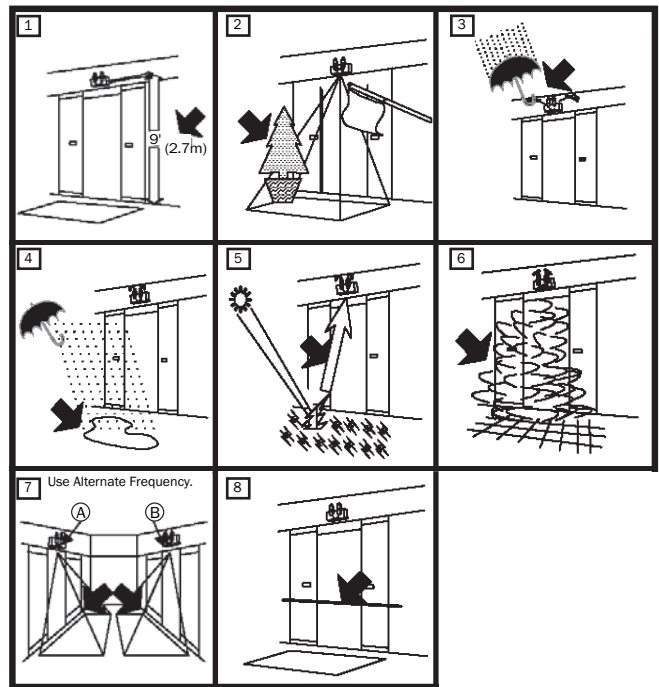


Instructions

### Section 3

#### Mounting Information

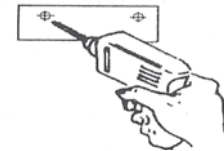
1. Do not mount higher than 10 ft. (3m).
2. Do not leave any objects which may move in the detection pattern.
3. Ensure rain or snow will not fall directly on unit.
4. Ensure snow or water can not accumulate on floor.
5. Ensure a minimum of reflected sunlight from the floor.
6. Avoid steamy environments.
7. Use different frequency settings for sensors in close proximity.
8. Use Infrared Safety Beams when required.



### Section 4

#### Mounting and Wiring

1. Using the mounting template provided, drill mounting and wire holes.



2. Remove cover using a screwdriver or coin.

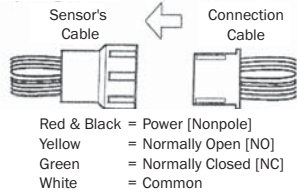


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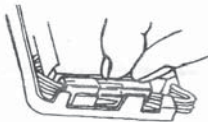
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4. Connect wiring. Push amp connectors tightly together.



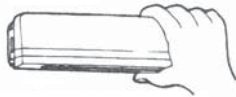
5. Place connector in holder.



6. Set desired sensor parameters as noted in Sections 5 & 7.

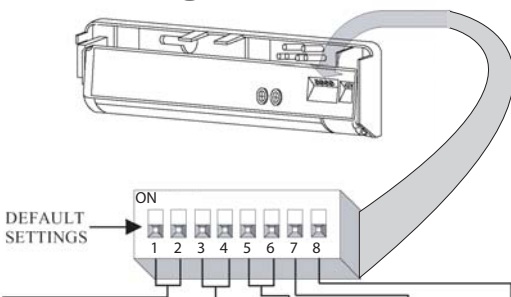
- ⇒ 5. DIP Switch Settings  
 ⇒ 7. Adjusting Detection Pattern

7. Place cover on sensor and clean the sensor.



NOTE: For maximum pattern depth and width, mount the DH94D as high as possible and use the maximum pattern angle (5°).

### Section 5 Dip Switch Settings



① Presence Timer	② Pattern Depth (Rows)	③ Frequency	④ Monitor Mode	⑤ Self Diagnostic
2 Secs <input type="checkbox"/>	4 R <input type="checkbox"/>	H <input type="checkbox"/>	Snow <input type="checkbox"/>	ON <input type="checkbox"/>
15 Secs <input type="checkbox"/>	3 R <input type="checkbox"/>	MH <input type="checkbox"/>	Normal <input type="checkbox"/>	OFF <input type="checkbox"/>
60 Secs <input type="checkbox"/>	2 R <input type="checkbox"/>	ML <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
180 Secs <input type="checkbox"/>	1 R <input type="checkbox"/>	L <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1 2	3 4	5 6	7	8

- ① **Presence Timer:** Delay is adjustable using dip switches 1 & 2. The DH94D will detect a stationary object only for the time period set by the Presence Timer. The timer will reset and begin if any movement is detected.

- ② **Pattern Depth (Rows):** To adjust the pattern depth, set switch 3 & 4 as shown.
- ③ **Frequency:** When more than two sensors are used in close proximity to each other, to prevent interference use alternate frequency settings. (H + MH + ML + L = Maximum 4 sensors).
- ④ **Monitor Mode:** A snow mode is available using switch 1. Snow Mode should only be used in environments with heavy snowfall or other extreme conditions.
- ⑤ **“ON”:** When power is first supplied to the sensor, the DH94D performs self-diagnostics.

### Section 6 Power

#### BEFORE APPLYING POWER, READ AND FOLLOW THESE INSTRUCTIONS:

When power is applied, the sensor will read and store the environmental optical parameters. This is necessary for Presence Detection to work properly.

1. CLEAR THE AREA OF ANY UNNECESSARY OBJECTS.
2. Apply POWER.
3. Vacate the Detection Pattern immediately. While the sensor sees ANY moving objects in its DETECTION PATTERN, it will not proceed to the following step.
4. DO NOT enter DETECTION PATTERN for 10 seconds (Presence Detection Setting).
5. TEST the presence feature, especially near the door.

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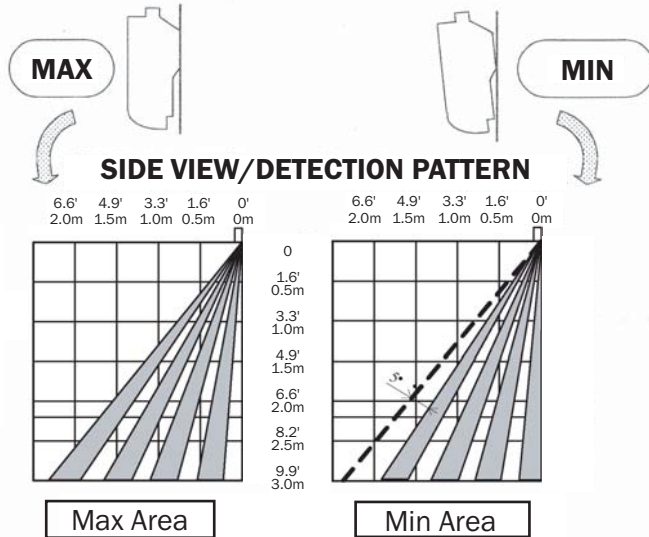
## INSTALLATION INSTRUCTIONS

### Section 7

#### Adjusting Detection Pattern

Adjust the detection pattern according to the following diagrams:

##### 1. Pattern Angle Adjustment.

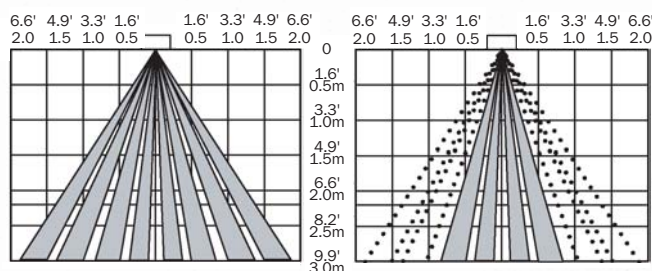


- The body of the sensor can be rotated from 0° to 5° (3 steps).

##### 2. Pattern Width Adjustment.

Mask Adjustments for single and/or double doors.

#### PATTERN WIDTH ADJUSTMENT



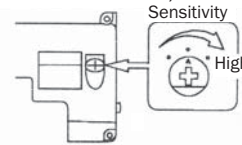
**Detection pattern will vary according to objects, material, color and speed.**

### Section 8

#### Verification of Operation

1. After mounting, setting parameters and applying power, walk test unit to verify detection pattern.
2. If the door does not operate properly, recheck the dip switch settings and pattern adjustments.
3. After rechecking, if there is still a problem, adjust the sensitivity.

- Adjust high (clockwise) to increase sensitivity.
- Adjust low (counter-clockwise) to decrease sensitivity.



#### \*\*\*\*\*EXTREMELY IMPORTANT\*\*\*\*\*

*After final set-up, test unit(s) completely to ensure that proper coverage has been achieved (width, depth and location of the pattern must be tested).*

After the installation and operational check of the system:

1. Place the proper labels on the door per ANSI/BHMA A156.10 or any other applicable standard.
2. Instruct the owner of the door system operation and how to test it. This should be checked on a daily basis.
3. Instruct the owner on what to do if the door or any of its components become damaged.
4. Strongly recommend to the owner that the complete entry be inspected twice a year as part of the service agreement.

### Section 9

#### Troubleshooting

**PROBLEM 1:** Door does not open.

**CAUSE 1:** Sensor Connector  
**SOLUTION 1:** Tighten connector or reconnect

**CAUSE 2:** Power Supply  
**SOLUTION 2:** Check that the power supply is properly connected

**PROBLEM 2:** Door operates intermittently.

**CAUSE 1:** Sensor is very dusty or covered in water drops, etc.

**SOLUTION 1:** Clean the sensor (do not use thinner or alcohol to clean sensor)

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PROBLEM 2: Door operates intermittently.

CAUSE 2: Sensitivity too low  
SOLUTION 2: Turn up sensitivity

CAUSE 3: Detection pattern in the wrong position  
SOLUTION 3: Alter the detection pattern by changing sensor angle, dip switch settings and/or pattern width adjustments

PROBLEM 3: Door operates by itself

CAUSE 1: Sensitivity too high  
SOLUTION 1: Turn down sensitivity

CAUSE 2: Another sensor is too close by  
SOLUTION 2: Change the frequency to each sensor

CAUSE 3: Sensor detects the door movement  
SOLUTION 3: If the indicator LED is an Orange color, adjust the pattern depth angle away from the door

CAUSE 4: There is a cloth mat in the detection pattern

SOLUTION 4: Turn the sensor power off and then on again, and allow it 10 seconds

CAUSE 5: Detection pattern too far in front of the door, detecting people passing by

SOLUTION 5: Adjust the detection pattern - move it closer to the door

CAUSE 6: The condition of the monitored area is varying (i.e., dusty, dirty, snow)

SOLUTION 6: The condition of the detection zone can change due to heavy dust or dirty, heavy snow or footprints being left in fresh snow. This will cause the door to open sometimes. Set the Presence Timer to a short time. (See Section 5)

### Section 10

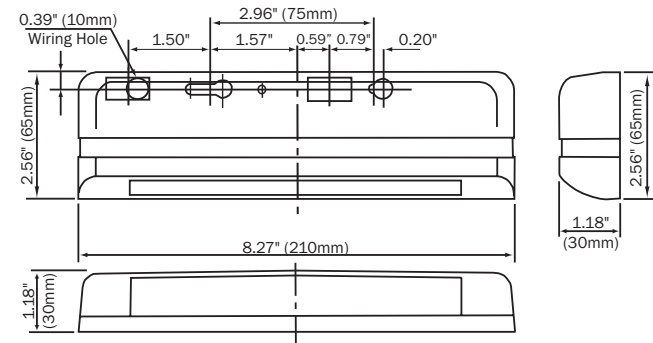
#### Technical Data

Model..... DH94D Presence Detector  
Detection Method..... Floor Reflection Method (FRM)  
Active Infrared  
Max. Installed Height..... 10 ft. (3m)  
Pattern Adjustments..... Pattern Width (wide or narrow)  
Pattern Depth (1 to 4 rows)  
Angle Adjustment 0° to 5° in 3 steps  
Sensitivity  
Power Supply..... 12 to 24 V AC or DC ± 10%  
Red & Black wires (nonpole)

Power Consumption..... AC24V-2VA, AC12V-1.5VA  
DC24V-55mA, DC12V-85mA  
Output Contact..... Form C Relay: DC50V 0.1A  
(Resistor Load)  
Yellow Wire = Normally Open  
Green Wire = Normally Closed  
White Wire = Common  
Output Holding Time..... Approx. 0.5 seconds  
Presence Timer..... Limits of 2, 15, 60 and 180 seconds  
LED Indication..... RED = Detecting  
GREEN = Standby  
ORANGE = Abnormal  
Temperature Range..... -4° F to 140° F  
(-20° C to 60° C)  
Weight..... 0.43 lbs. (0.195kg)  
Color..... Black  
Accessories..... Cable: 5 ft. (1.5m)  
Mounting Template  
Installation Instructions

### Section 11

#### External Dimensions



### Section 12

#### Warranty

MS SEDCO guarantees this product to be free from manufacturing defects for 3 years from date of installation. Unless MS SEDCO is notified of the date of installation, the warranty will be in effect for 3 years from the date of shipment from our factory. If, during the first 3 years, this device fails to operate and has not been tampered with or abused, the unit can be returned prepaid to factory and it will be repaired free of charge. After 3 years, the unit will be repaired for a nominal service charge. **This limited warranty is in lieu of all other warranties expressed or implied, including any implied warranty of merchantability, and no representative or person is authorized to assume for MS SEDCO any other liability in connection with the sale of our products. All warranties are limited to the duration of this written warranty. In no event shall MS SEDCO be liable for any special, incidental, consequential or other damages arising from any claimed breach of warranty as to its products or services.**

