

HR95D Motion & Presence Sensor INSTALLATION INSTRUCTIONS

Active Infrared Motion & Presence Sensor for Automatic Door Control

We would like to extend our thanks to you for purchasing this sensor. We at Hotron Ireland Ltd. are committed to providing you quality products and excellent customer service. Before installing this sensor, please read the following instructions carefully:

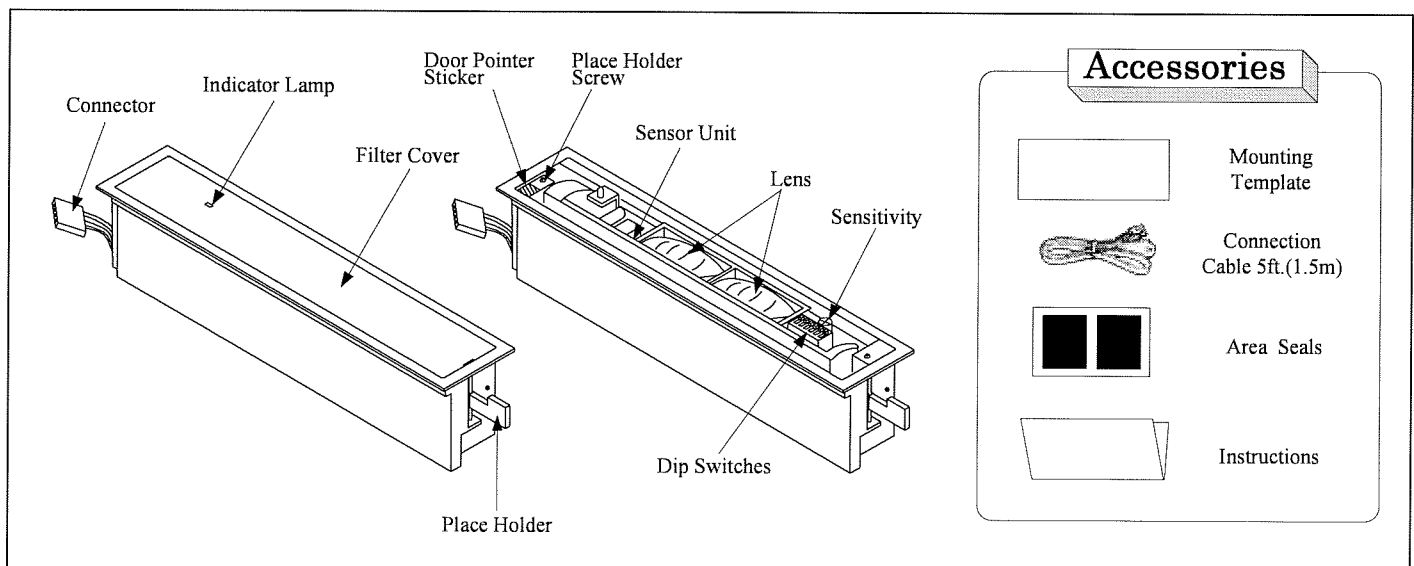
Section 1 General Description / Features

The HR95D is a microprocessor controlled active infrared motion and presence detector which serves two purposes. First, it is designed to activate any automatic door made today. Second, it provides presence detection close to the door on single slide and bi-parting sliding doors.

- Frequency became four channels from two conventional.
- A set up of Self Diagnostic can change now with a Dip Switch.
- Self Diagnostic means the sensor continuously Monitors it self.
- Detection area of the sensor is adjustable.
- Pattern depth and width are adjustable using mounting height, dip switches, pattern width and pattern angle adjustments.
- Snow Mode Switch ensures against false operation caused by snow, insects, etc.
- Microprocessor provides programmable Presence Timer (180, 60, 15, or 2 seconds).

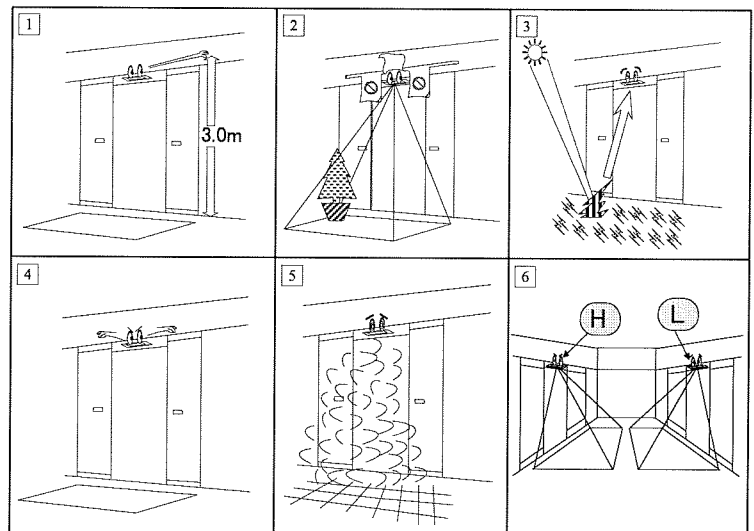


Section 2 Parts Identification

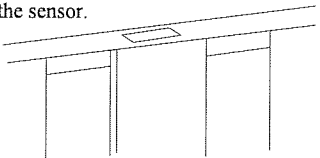
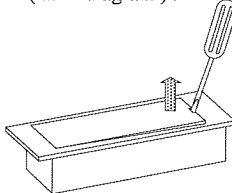
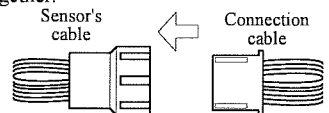
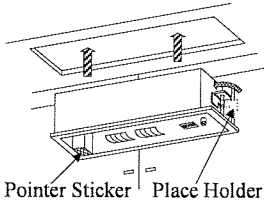
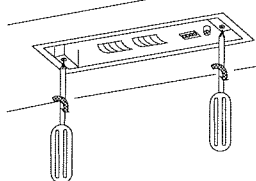
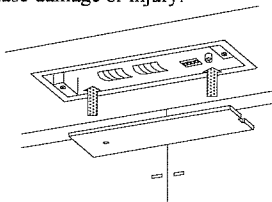
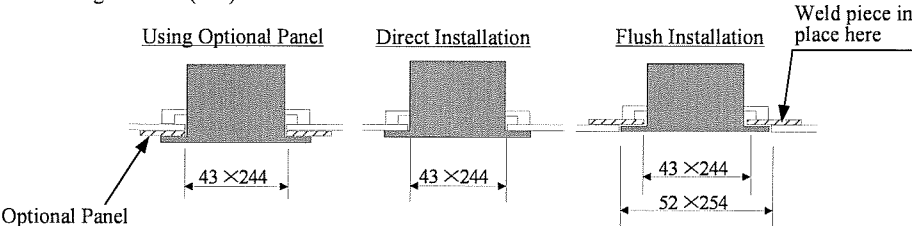


Section 3 Mounting Information

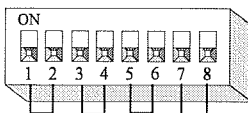
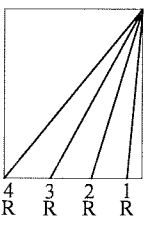
- 1 Do not mount higher than 10ft. (3m).
- 2 Do not leave any objects which may move in the detection pattern.
- 3 Do not mount in a place where reflection of sunlight will shine on unit.
- 4 Please ensure that the sensor is securely mounted.
- 5 Do not mount in a humid or steamy environment.
- 6 Do not mount five devices in proximity to each other.
When using from 2 to 4 devices in proximity, use alternate frequency settings as shown.
(Maximum 4 sensors)



Section 4 Mounting and Wiring

| | | |
|--|---|--|
| <p>1. Refer to Step 8. Mounting Methods and using the template provided cut out the required size for the sensor.</p>  | <p>2. Remove the Filter plate from the sensor Using a screwdriver (as in diagram).</p>  | <p>3. Connect wiring. Push amp connectors tightly together.</p>  <p>Red & Black = Power [Nonpole] Yellow = Normally Open [NO] Green = Normally Close [NC] White = Common</p> |
| <p>4. Please turn Place Holders inwards as shown. Place the sensor into the transom, ensure that the Door Pointer Sticker is pointing at the auto-door.</p>  <p>Door Pointer Sticker Place Holder</p> | <p>5. When the sensor is in the wall turn the Place Holders through 90 degrees using a Philips Head screwdriver. This will secure the sensor in place.</p>  | <p>6. Commission the sensor to suit the installation. Follow sections 5 & 6..</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>⇒ 5. Dip Switch Settings</p> <p>⇒ 7. Adjusting Detection Pattern</p> </div> |
| <p>7. Replace the Filter Cover on the sensor. Ensure that it is securely fastened. A loose Filter cover may fall and cause damage or injury.</p>  | <p>8. Mounting Methods (mm)</p>  <p>Optional Panel Using Optional Panel Direct Installation Flush Installation Weld piece in place here</p> <p>43 × 244 43 × 244 43 × 244 52 × 254</p> | |

Section 5 Dip Switch Settings

| | | | | |
|--|---|---|--|--|
|  | | | | |
| <p>① Presence Timer</p> <p>2sec</p> <p>15sec</p> <p>60sec</p> <p>180sec</p> <p>No. 1 2</p> | <p>② Pattern Depth (Rows)</p> <p>4R</p> <p>3R</p> <p>2R</p> <p>1R</p> <p>4 R 3 R 2 R 1 R</p>  <p>No. 3 4</p> | <p>③ Frequency</p> <p>H</p> <p>MH</p> <p>ML</p> <p>L</p> <p>No. 5 6</p> | <p>④ Monitor Mode</p> <p>Snow</p> <p>Normal</p> <p>No. 7</p> | <p>⑤ Self Diagnostic</p> <p>ON</p> <p>OFF</p> <p>No. 8</p> |

① **Presence Timer** : Delay is adjustable using dip switches 1 and 2. The HR95D 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 switches 3 and 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)
 The frequency correlation with the conventional 2 wave (H/L) model is as follows.

| 2 Wave H/L | HR95D |
|------------|-------|
| H | H |
| L | MH |
| - | ML |
| - | L |

④ **Monitor Mode** : A Snow Mode is available using switch 7. Snow Mode should only be used in environments with heavy snowfall or other extreme conditions.

⑤ **Self Diagnostic**: "ON"=When power is first supplied to HR95D the sensor automatically performs a Self Diagnosis.(See Section 9)

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.

When carrying out the following work, **TURN OFF THE POWER:**

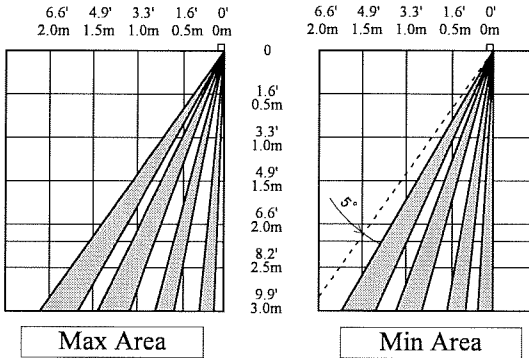
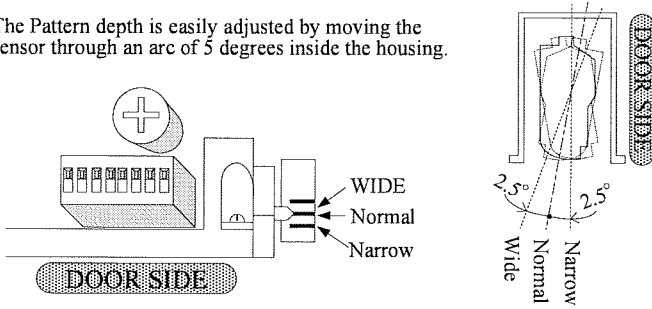
1. When the floor condition change (woolen/rubber).
2. Adjusting pattern or sensitivity.

Section 7 Adjusting Detection Pattern

Adjust the detection pattern according to the following diagrams:

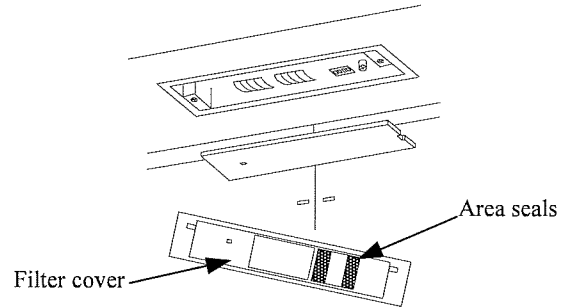
1. Pattern Angle Adjustment.

The Pattern depth is easily adjusted by moving the sensor through an arc of 5 degrees inside the housing.

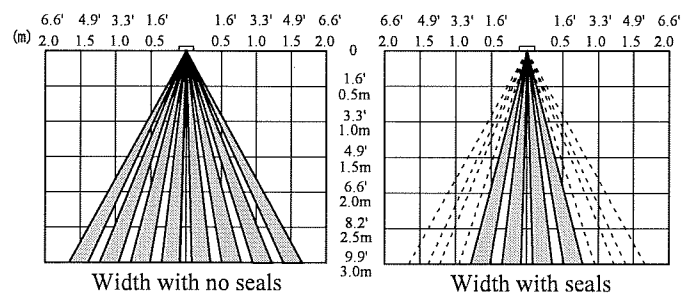


2. Pattern Width Adjustment

The detection area can be changed by applying the adhesive Area seals to the filter cover as shown below



Ensure that the Area Seals are placed in the correct positions on the Filter Cover. Mistakes will lower the sensitivity of the sensor.



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

Section 8 Verification of Operation

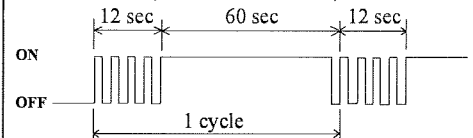
1. After mounting, setting parameters and applying power, walk test unit to verify detection pattern.
2. If the door does not operate properly, recheck the dip switch settings and pattern adjustments.
3. After rechecking, if there is still a problem, adjust the sensitivity.

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

Section 9 Self Diagnostic

Infra-red beams are received on the Receiver side of the HR95D, then the following occurs. For 12 seconds the relay starts chattering ON/OFF (4 times in 12 sec's) then the relay remains in the ON condition for 60 seconds then the cycle repeats itself. At the same time the Indicator Lamp will switch continuously between RED and GREEN. The door will remain in an Open position throughout.

Relay Output Timing Chart
(When no refraction)



***** 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. & BS 7036.
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.

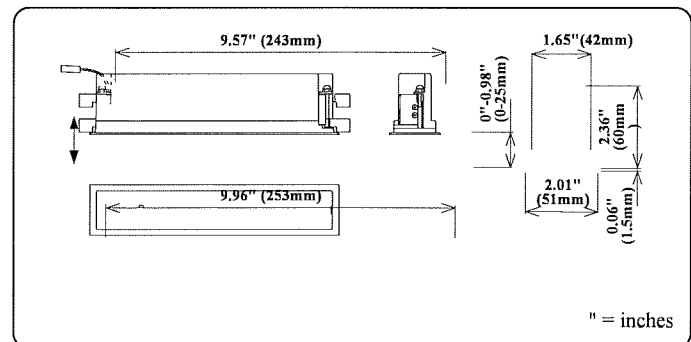
Section 10 Troubleshooting

| Problems | Cause | Solution |
|------------------------------|---|---|
| Door does no operate | Sensor Connector | Tighten connector or reconnect |
| | Power Supply | Check that the power supply is properly connected. |
| Door operates intermittently | Sensor is very dusty or covered in water drops, etc. | Clean the sensor (do not use thinner or alcohol to clean sensor) |
| | Sensitivity too low | Turn up sensitivity |
| | Detection pattern in the wrong position | Alter the detection pattern by changing sensor angle, dip switch settings and/or pattern width adjustments |
| Door operates by itself | Sensitivity too high | Turn down Sensitivity. |
| | Another sensor is too close by | Change the frequency to each sensor. |
| | Sensor detects the door movement | If the indicator LED is an Orange color, adjust the pattern depth angle away from the door |
| | There is a cloth mat in the monitored area. | Turn the sensor power off and then on again, and allow it 10 seconds. |
| | Detection pattern too far in front of the door, detecting people passing by | Adjust the detection pattern - move it closer to the door |
| | The condition of the monitored area is varying. ·Dusty / Dirty ·Snow | The condition of the monitored area 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 times. See Section 5. |

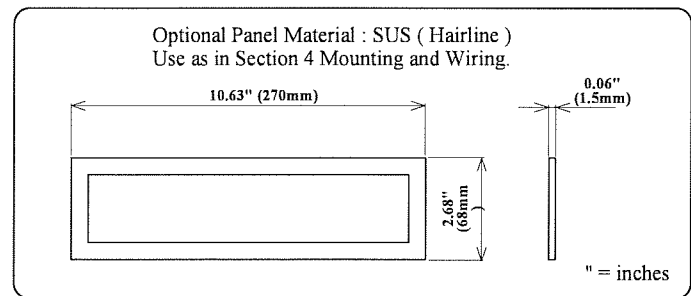
Section 11 Technical Data

| | |
|--------------------------|---|
| Model | HR95D Motion & Presence Sensor |
| Detection Method | Active Infrared Detection |
| Maximum Installed Height | 10ft. (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 24V 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 Close White Wire : Common |
| Output Holding Time | Approx. 0.5 seconds |
| Presence Timer | Limits of 180, 60, 15 and 2 seconds |
| LED Indication | RED-Detecting , GREEN-Standby , ORANGE-Hunting Door Switch between RED and GREEN-Abnormal |
| Temperature Range | -4°F to 140°F (-20°C to 60°C) |
| Weight | 0.664bs. , (0.3kg) |
| Accessories | Cable : 5ft (1.5m) , Mounting Template , Installation Instructions, Area Seals |

Section 12 External Dimensions



Section 13 Option



Section 14 Warranty

Hotron Ireland Ltd. guarantees its products to be free from manufacturing defects for 3 years from date of installation. Unless Hotron Ireland Ltd. 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, our motion detector or support device fails to operate and has not been tampered with or abused, the unit can be returned prepaid to the 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 warrantability of merchantability, and no representative or person is authorized to assume for Hotron Ireland any other liability in connection with the sale of our products. All warranties are limited to the duration of this written limited warranty. In no event shall Hotron Ireland be liable for any special, incidental, consequential or other damages arising from any claimed breach of warranty as to its products or services.**

The HR95D is manufactured in Japan by : HOTRON CO.,LTD.



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