Active Infrared Motion & Presence Sensor for Automatic Door Control
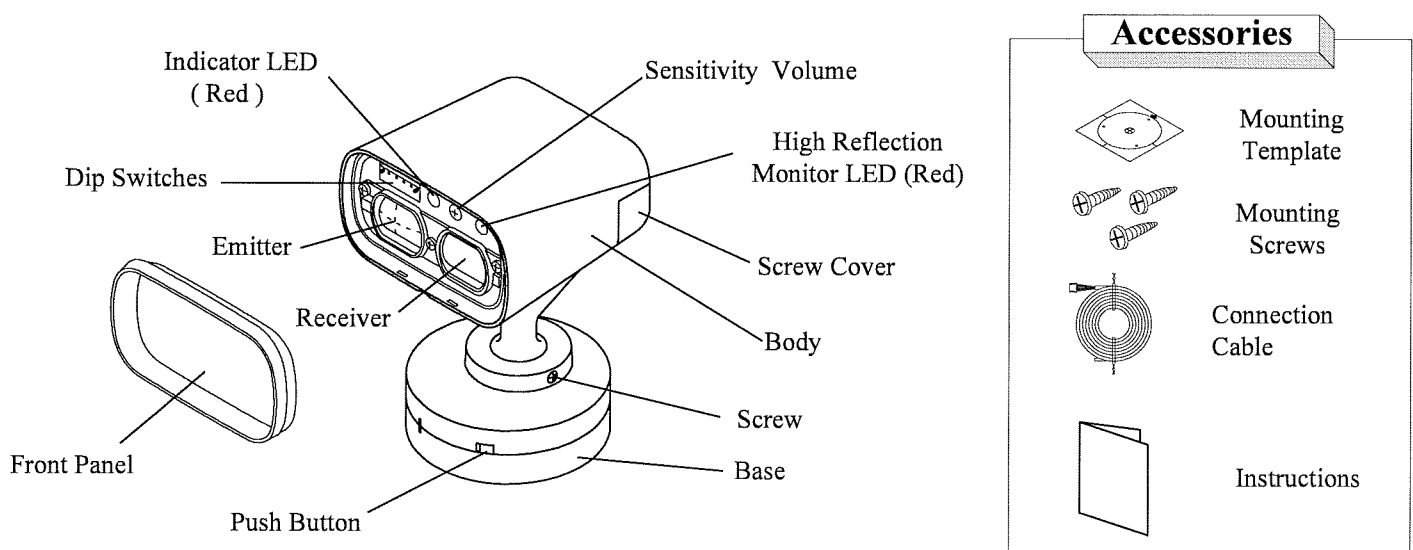
We would like to extend our thanks to you for purchasing this sensor. We at HOTRON Ireland Ltd. are committed to providing you quality products and excellent customer service. Before installing this sensor, please read the following instructions carefully:

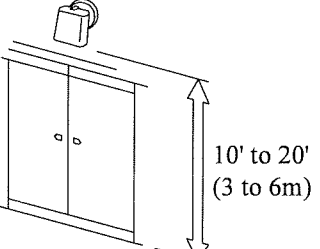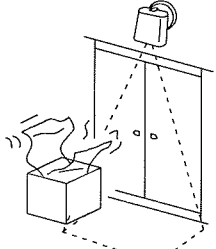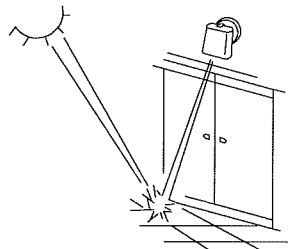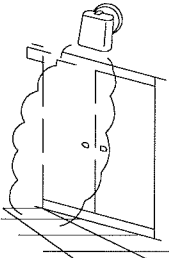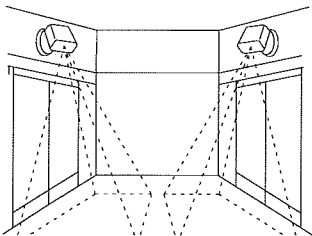## Section 1   General Description

The HR17-i is an active infrared motion and presence sensor designed for use on tall doors. It is designed to be mounted between 10'(3m) and 20'(6m) high. The HR17-i may be used as an activator, safety sensor or both.

◆ The detection pattern is made up of 4 rows, each of which has 6 detection spots. This provides a very dense detection area of 24 detection spots.
◆ This sensor is designed to be installed at extremely high installation heights (10' to 20').
◆ The sensor is microprocessor controlled, providing programmable Presence Timer **(2sec's or 1 or 10 minutes or Infinity)**.
◆ The front panel is a ONE TOUCH design allowing for easy opening and closing without the use of a screwdriver.
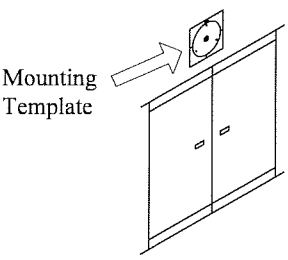
Section 2   Parts Identification

Section 3   Mounting Information

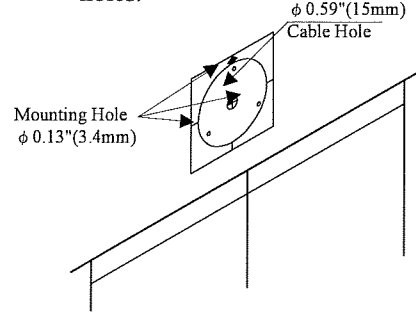|		
1 Only mount between 10'(3m) and 20' (6m). Dip Switch 9 must be set for appropriate height for proper operation. 10' to 20' (3 to 6m)	**2** Do not leave any objects which may move in the detection pattern.	**3** Do not mount in an area where reflection of sunlight will shine on unit.
4 Do not mount in humid or steamy environments.	**5** When using more than two units in proximity, use alternate frequency settings as shown (dip switch selectable freq. H, MH, ML, or L).	**6** The enclosure is rated IP55, however, we suggest mounting under an awning or soffet when possible.

Section 4   Mounting and Wiring

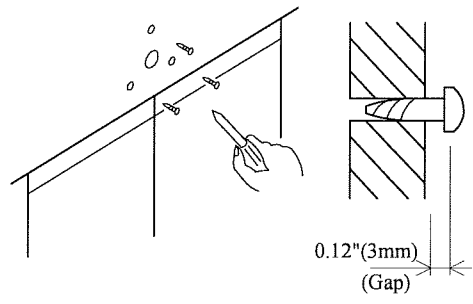**1** Paste the Mounting Template on the mounting position.

Mounting Template

CAUTION: Mount HR17-i to a medium which has little or no vibration .

2 Drill mounting and wire holes.

φ 0.59"(15mm) Cable Hole

Mounting Hole φ 0.13"(3.4mm)
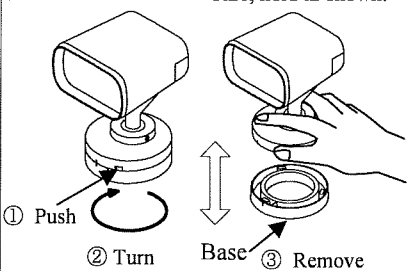
3 Remove the mounting template and insert the mounting screws in the holes as shown:

0.12"(3mm) (Gap)

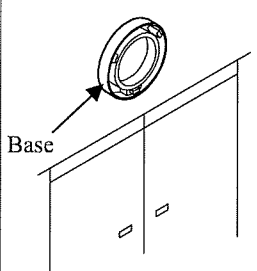**4** Remove the base from the HR17-i. When removing the base, hold as shown:
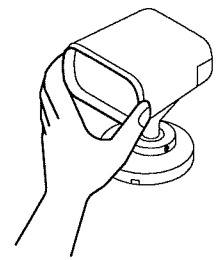
① Push
② Turn   Base ③ Remove

5 Install the base on the mounting screws.

Base

Wiring Breakout

Cut Breakout carefully when necessary.

cut

When install the base on the mounting position where rain or snow will fall directly , cut Breakout.
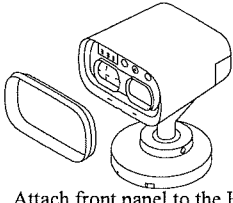
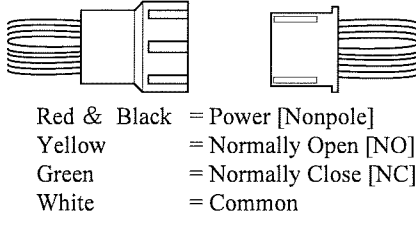**6** Remove the front panel from the HR17-i.

7 Set the desired parameters using dip switches and sensitivity adjustment provided.

"Refer to Section 7."

Attach front panel to the HR17-i

8 Connect wiring. Push amp connectors tightly together.

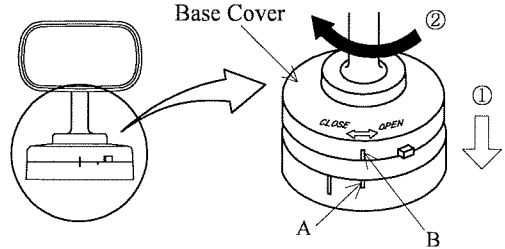Sensor's cable   Connection cable

Red & Black = Power [Nonpole]
Yellow   = Normally Open [NO]
Green   = Normally Close [NC]
White   = Common

9 Attach the HR17-i to the base.
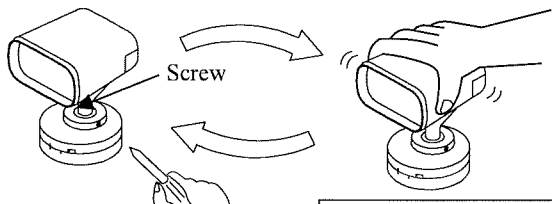① Set "B" slot mark to "A".
② Turn the base cover clockwise.

Base Cover

CLOSE OPEN

A   B

10 Adjust pattern left / right.
① Loosen lock screw   ② Adjust the left or right pattern
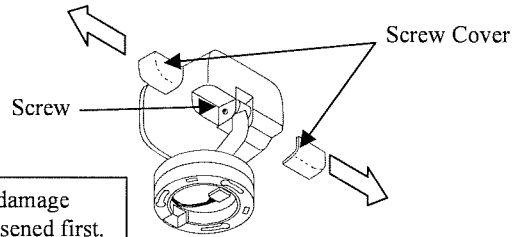
Screw

③ Re-tighten the screw

CAUTION : When adjusting pattern left/right damage may result if lock screw is not loosened first.

11 Adjusting the tip angle. Remove the screw covers from the HR17-i and loosen the screw. Make necessary adjustments, retighten screw and replace screw covers.

Screw Cover

Screw

Section 5   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.
⑤ TEST the presence feature, especially near the door.

Before performing any of the following operations, ensure that power is OFF.

1. When replacing or cleaning mats in doorway.
2. When adjusting height and/or sensitivity settings.
3. When adjusting detection area.

Section 6   Adjusting the Detection Pattern

Adjust the detection pattern according to the following diagrams:

Frontal View Detection Pattern / Side View Detection Pattern / Range of detection area
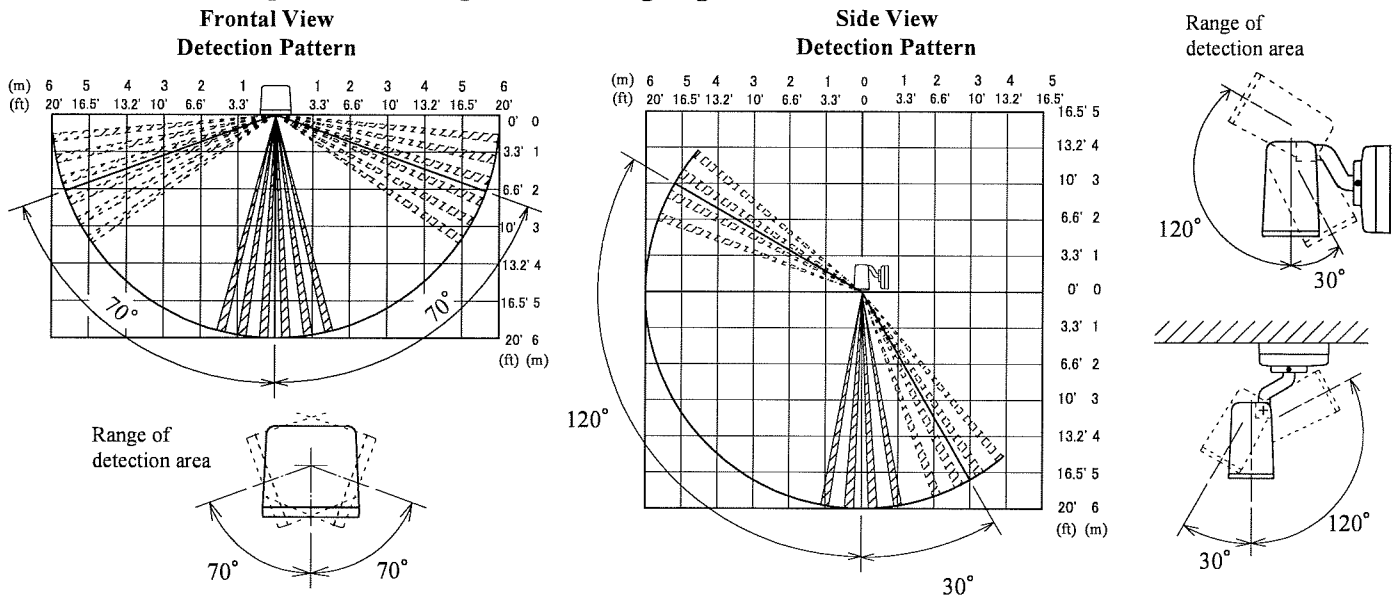
The diagrams show the detection pattern sizes when the sensor is mounted at **4m**. To adjust the pattern size, set the dip switches to the positions shown below.

Dip Switches / Door / 1500mm / 2000mm / 1000mm / 1500mm

Section 7   Dip Switch Settings

Dip Switch

No.10 Do not Operate

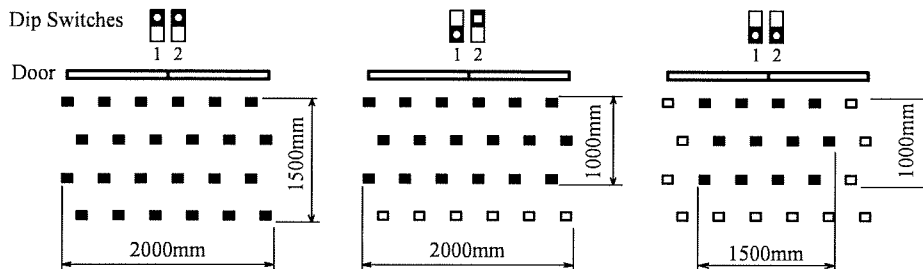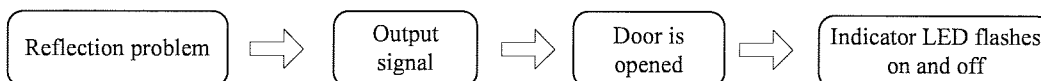| ① Pattern Size	② Presence Timer	③ Frequency	④ Monitor Mode	⑤ Self Diagnostic	⑥ Mounting Height
6C/4R 1 2	2 sec 3 4	H 5 6	Normal 7	OFF 8	3 to 4.5m (10 to 15ft) 9
6C/3R 1 2	1 min 3 4	MH 5 6			
4C/3R 1 2	10 min 3 4	ML 5 6	Snow	ON	Under 6m (20ft)
	∞ 3 4	L 5 6			

①**Pattern Size :** To adjust the detection area size, set dip switch 1 & 2. The HR17-i 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**Presence Timer :** Delay is adjustable using dip switch 3 & 4.

③**Frequency :** When two sensors are used in close proximity to each other, switch frequency settings to prevent interference (switch 5 & 6).

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 :** Refer to Section 8.

⑥**Mounting Height :** Set the Mount Height switch according to the installed height of the sensor.

Section 8   Self Diagnostic Mode

HR17-i employs a Self Diagnostic Mode in which the sensor checks itself for abnormalities. If the unit should stop seeing reflected light for some reason, the relay will be active and the Indicator LED will flash on and off indicating failure.


Reflection problem ⟹ Output signal ⟹ Door is opened ⟹ Indicator LED flashes on and off

Section 9 Troubleshooting

Problems	Cause	Solution
Door will not open	Sensor Connector	Tighten connector or reconnect.
	Power Supply	Check that power supply is properly connected and 24V to 12V
Door opens intermittently	Sensor is very dusty or covered in water drops,etc.	Clean sensor (do not use thinner or alcohol to clean sensor)
	Sensitivity too low	Turn up sensitivity.
	Monitor area is in wrong position	Adjust the direction of the front panel
Door opens and closes by itself for no apparent reason.	Sensitivity too high	Turn down sensitivity.
	Another sensor is too close by.	Change the frequency of the sensor. (See Section 7 Dip Switch Settings.)
	There is a cloth mat in the monitored area.	Turn the power off then on again and allow it 10 seconds to reset itself.
	The condition of the monitored area is varying. (dusty / dirty, snow, etc.)	The condition of the monitored area can change due to heavy dust or dirt, heavy snow or footprints being left in fresh snow. This may cause the door to open. Set the Presence Timer to a short time. See Section 7 Dip Switch Settings.

Section 10 Technical Data

Model	HR17-i Motion & Presence Sensor - High Mount
Detection Method	Active Infrared Detection
Max. Installed Height	10ft.(3m) to 20ft.(6m)
Pattern Adjustments	Pattern width (wide or narrow) Pattern depth (4 or 3 rows) Angle Adjustment, Sensitivity and Frequency
Power Supply	12 to 24V AC or DC +/-10% Red & Black wires (Nonpole)
Power Consumption	AC24V-2.8VA AC12V-2.5VA DC24V-75mA DC12V-150mA
Output Contact	Form C Relay : DC30V 2A (Resistor Load) Yellow Wire : Normally Open Green Wire : Normally Close White Wire : Common
Output Holding Time	Approx. 0.5 seconds
Presence Time	Limits of ∞, 10 and 1 minutes, 2 seconds
LED Indication	Indicator LED (Red) : Monitoring = ON, Detection = OFF Function Self Diagnostic = Flash ON and OFF High Refrection Monitor LED (Red) Normal = OFF High Reflection = ON
Protection	IP55 (IEC60529)
Temperature Range	-4° F to 131° F (-20℃ to 55℃)
Weight	Approx. 3/4 lb. (380g)
Accessories	Cable , Installation Instructions Mounting Template , Mounting Screws (3pcs.)

Section11 Dimensions

120°
ϕ3.35"(85mm)
4.49"(114mm)
4.25"(108mm)
2.56"(65mm)
5.71"(145mm)
1.65"(42mm)
3.94"(100mm)

" = inches
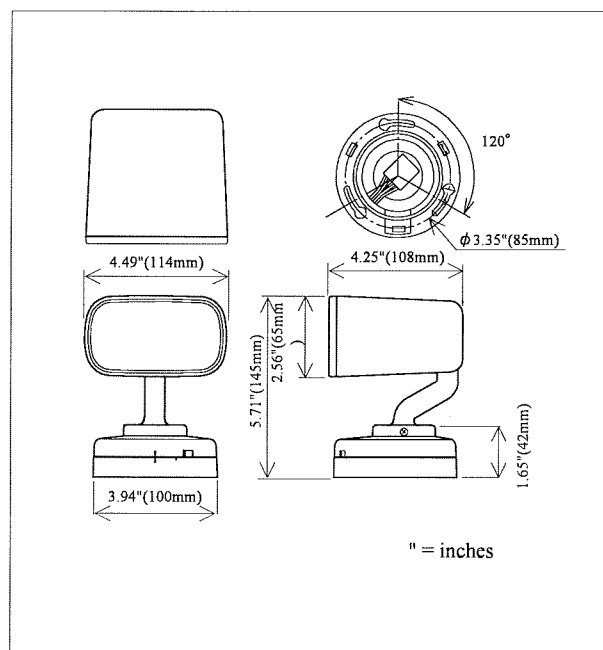
Section 12 Verification of Operation

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.
   (Turn potentiometer clockwise to increase sensitivity or counter-clockwise to decrease sensitivity.)

***** EXTREMELY IMPORTANT *****

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

After the installation and operational check of the system:
1. Place warning label on the door (as per ANSI A156.10 or A156.19 guidelines). This will advise the person entering the swing side zone that the door will move.
2. Instruct the owner of 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 13 Warranty

HOTRON Ireland Ltd. guarantees this product to be free from manufacturing defects for 1 year from date of installation. Unless HOTRON Ireland Ltd. is notified of the date of installation, the warranty will be in effect for 1 year from the date of shipment from our factory. If, during the first 1 year, 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 1 year, 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 service.**

The HR17-i is manufactured in Japan by : HOTRON CO.,LTD.   MP3361-C | 05.03

HR17-i-Ver2.1