

Optex Prosafe OA-203 Motion/Presence Sensor

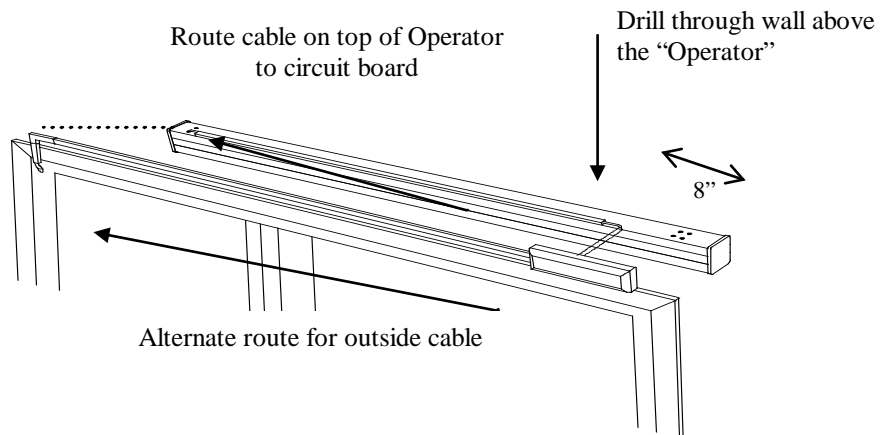
Installation and Operation Manual

Optex Prosafe OA-203
Motion/Presence Sensors

For use with
the **Maitre D'oor**
Residential Sliding Door Operator

OUTSIDE SENSOR MOUNTING

- Drill 1/4" hole in fixed door panel or frame (Alternate Routing)
- Insert rubber grommet
- Feed cable through hole to the circuit board



For Brick/Concrete

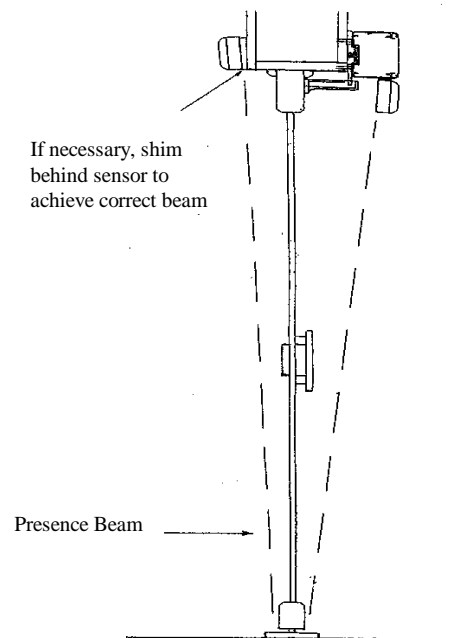
1. Drill as for drywall/wood construction, or to avoid drilling through masonry:
 - Drill a 1/4" - 5/16" hole through the far end of the fixed door panel's upper corner. (Alternate routing)
 - Insert rubber grommet (provided) into hole to avoid damage to cable.

For Drywall/Wood Construction

- 1 Place a mark just above the "Operators" top edge and approx. 8" in from the doorjamb
 - Drill a 1/4" - 5/16" hole from the inside, out.
 - Insert rubber grommet (provided) into hole to avoid damage to cable.

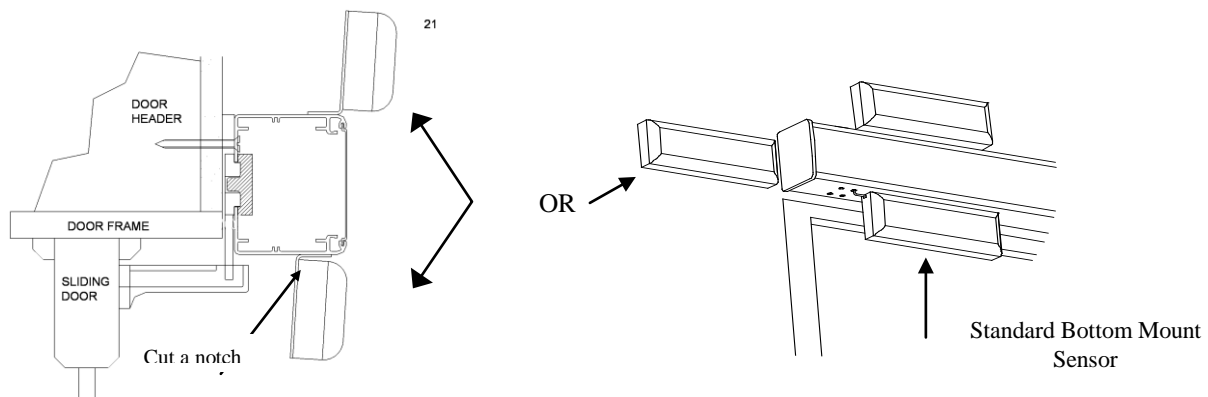
2. Mount sensor to a flat surface above the door with the screws provided.
 - Mount directly to surface. A mounting bracket is not typically used for the outside sensor.
 - Align with inside sensor and as low as possible.
 - Shimming may be required if mounted to a slanted surface. Sensor beams must be aimed properly as described in the "Adjust Motion/Presence Sensors" section.
3. Feed cable through your pre-drilled hole above the "Operator"
4. Route cable across the top of the "Operator" to the unused top-mounting hole. (If Operator is under mounted, cable can be routed above and/or behind operator, taking care not to interfere with the driver).
5. Insert the rubber grommet provided into the mounting hole and feed cable through hole to the circuit board, inside the "Operator". (Coat cable with oil to ease feeding through hole)
 - Cable can be secured to the top of the "Operator" or, use-wiring duct (optional) to conceal the cable.
6. Connect cable to sensor.

See page 5 for connecting the sensor wires to the circuit board.



INSIDE SENSOR MOUNTING

1. Cable is factory installed for a bottom mount. If selecting a top or side mount, see below.
2. Attach sensor to the mounting bracket with the screws provided.
3. Position edge of mounting bracket adjacent to the grommet and protruding cable wires on the bottom of the “Operator”.
 - A strip of mounting tape is attached to the mounting bracket.
 - Sensor face should be flush and parallel with the “Operator’s” face.
 - If a long door bracket has been used, it may need to be cut back to avoid interference with the sensor.
4. Connect cable to sensor.
 - A small notch will need to be cut into the upper corner of the sensor to bring the cable out.



TOP OR SIDE SENSOR MOUNTING

These mountings will allow for additional headroom if needed.

- Cable will need to be rerouted.
- Examine routing of the factory- installed cable.
- For Top Mount, reroute cable in the upper channel of the “Operator”.
 - Position sensor out past the “Operator’s” face to allow sensor beams to reach the threshold.
 - There is a breakout notch on the top of the sensor cover for the cable.
- For Side Mount, re-route in the same channel, bringing the cable end out the side and back of the “Operator”.
 - Position sensor to the side and as close to the door /Operator as possible (see above).

Note: Coat cable with a drop of household oil to ease removal and rerouting through holes.

Extra cable length is coiled behind the Circuit Board.

Adjusting the sensor beams is done after the “Operator if fully installed
Detailed instructions for adjusting the beams start on page 4 of this manual

PLEASE READ THE OPTEX SENSOR INSTRUCTIONS CAREFULLY!
IMPROPER SET-UP WILL AFFECT THE SAFETY OF YOUR DOOR AND OPERATOR

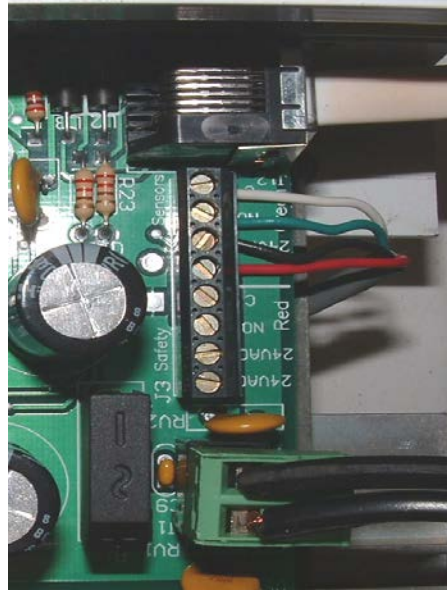
Wiring Sensors to Circuit Board

The inside sensor cable has been factory wired for a bottom mount. If changing the mounting, see the instructions on Page 12 and reconnect wires to the circuit board as shown below.

The outside sensor cable has not been installed. Ample length has been supplied to accommodate the different mounting options and a pigtail is attached to the outside sensor connection on the circuit board for ease of connection.

Plan and route the cable.

1. Cut cables to length; always leave some extra length.
 - This can be coiled and concealed behind the circuit board or in the sensor housing.
2. Strip off approx. 1" of outer cable.
3. Strip off approx. 1/4 – 5/16" of wire insulation
4. Connect to circuit board as shown.



Inside sensor to Green
←
Outside sensor to Red
←
Color-coded wires:
White to C
Green to NO
Black to 24VAC
Red to 24VAC

CAUTION:

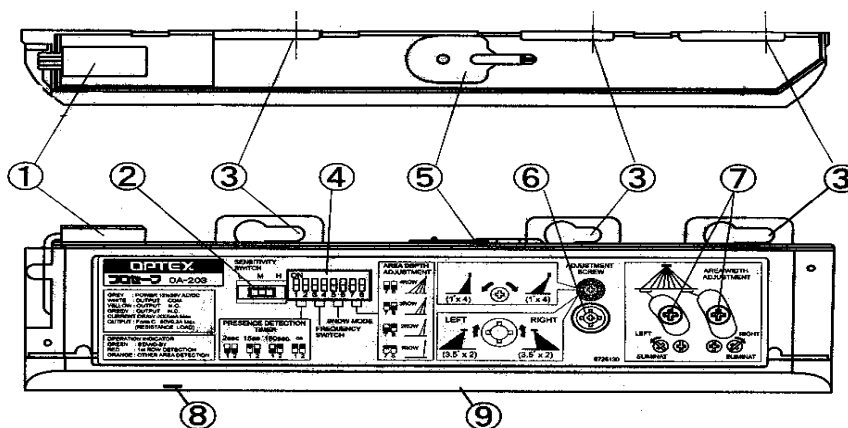
Operator must be unplugged before connecting sensor wires. Wires must be connected as shown (color coded). Do not mismatch or allow wires to touch. This will short out the circuit board.

Adjust Motion/Presence Sensors

Proper Set-Up Of Motions/Presence Sensor Beams And Settings Must Be Performed Before Using The Maitre D'oor To Assure Safe Door Operation. Please Follow These Instructions Carefully.

Optex Prosafe OA-203 Motion/Presence Sensor **ADDENDUM** to Specifications for use with The Maitre D'oor Residential Sliding Door Operator

This addendum is to be used in conjunction with the Optex Prosafe OA-203C Specifications included with your sensor. The Optex Prosafe OA-203 sensor is a commercial door sensor. This addendum addresses and clarifies the sensor features and set-up when used with the Maitre D'oor **Residential Sliding Door Operator**.



- | | |
|--------------------------|-------------------------------|
| 1 : Connector | 6 : Area Adjustment Screw |
| 2 : Sensitivity Switch | 7 : Width Adjustment Shutters |
| 3 : Mounting holes | 8 : Operation Indicator |
| 4 : Dipswitches | 9 : Detection Window |
| 5 : Area Adjustment Tool | |

Area adjusting tool is provided (top of sensor, inside cover) for ease of adjustments. A screwdriver or small coin may be used if lost.

Step 1: Check to assure sensor is properly connected. Follow door operator instructions for wire connections.

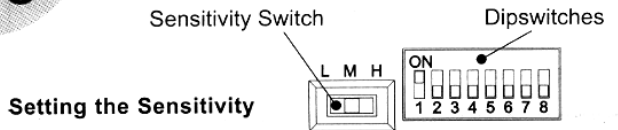
When adjusting the sensors it is best to turn off the “Operator” by pressing the “Power” button on the main keypad.

This will allow power to the sensor to adjust the beams without activating the door. Use the Power/Operation Indicator light (#8 above) to check pattern detection when adjusting.

- Green indicates standby (ready).
- Orange indicates motion detection
- Red indicates presence/motion detection.

After making any adjustments, stay clear of the pattern for 10 seconds to allow the sensor to adjust to the new setting. The sensor light will turn green (standby/ready) when complete.

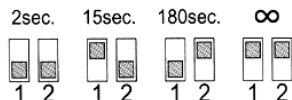
3 Setting of Sensitivity Switch and Dipswitches



Setting the Sensitivity

Normally set to "M."
 "H" increases the sensitivity and "L" lowers the sensitivity.

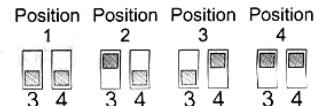
Setting the Presence timer



- 1st Row and 2nd Row from door provide the presence detection.
 (1) Select the presence detection time.
 (2) Turn the power off and on again. Otherwise it may leave door open for the duration of the presence time set.
 (3) After making sure that the door closes, wait for 10 seconds before entering the detection area to set the Presence timer.

Setting the Frequency Function (Interference Prevention)

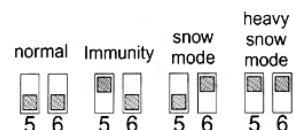
Four different frequencies can be set by adjusting the Dipswitch 3 and 4.



Note When two or more sensors are installed close to each other, it is possible that they interfere. When that happens, change the Frequency.

Setting the Snow mode

Set the Dipswitch 5 and 6 to snow mode, if the sensor is used in a region with snow or a lot of insects.



Step 2: Set Sensitivity Switch

To start, set sensitivity switch as follows:

- Set to High (H) if sensor is mounted 8' or higher above the floor.
- Set to Medium (M) for all other.

This switch may need to be adjusted after setting the beams.

Step 3: Presence Timer Mode Setting For initial set-up only, set to 2 seconds.

This timer refers to how long an object can stay in the presence detection area before the sensor will re-learn the detection pattern. That is, the sensor will learn that the object placed there is a normal part of the detection area, and the door will then close. **After adjusting, you must power on/off and stay out of detection area for 10 seconds for the new setting to take effect.** This setting must be changed after set-up is complete as detailed in **Step 11**.

Step 4: Frequency

If two sensors have overlapping zones, make sure the frequency switches are in different positions.

If the sensor seems to be activating unintentionally due to changes in ambient light (sunlight, car lights, fluorescent lights), try changing the frequency to a different setting.

Note: There is a very low possibility that the sensor will be affected by ambient light sources.

Step 5: Set Snow Mode

This is another sensitivity setting.

- For inside sensor, set switches to inner mode.
- For outside sensor, set switches to normal mode.

The sensor should normally ignore light rain, snow, bugs, etc. but can be adjusted if these are causing unintentional door activation. Adjusting these settings may also help reduce sensitivity enough to ignore minor movement of curtains or plants nearby.

If you live in an area of heavy snowfall, you may need to adjust the setting during the winter.

These settings are also used in fine-tuning the sensor. See page 22, Fine Tuning and Troubleshooting.

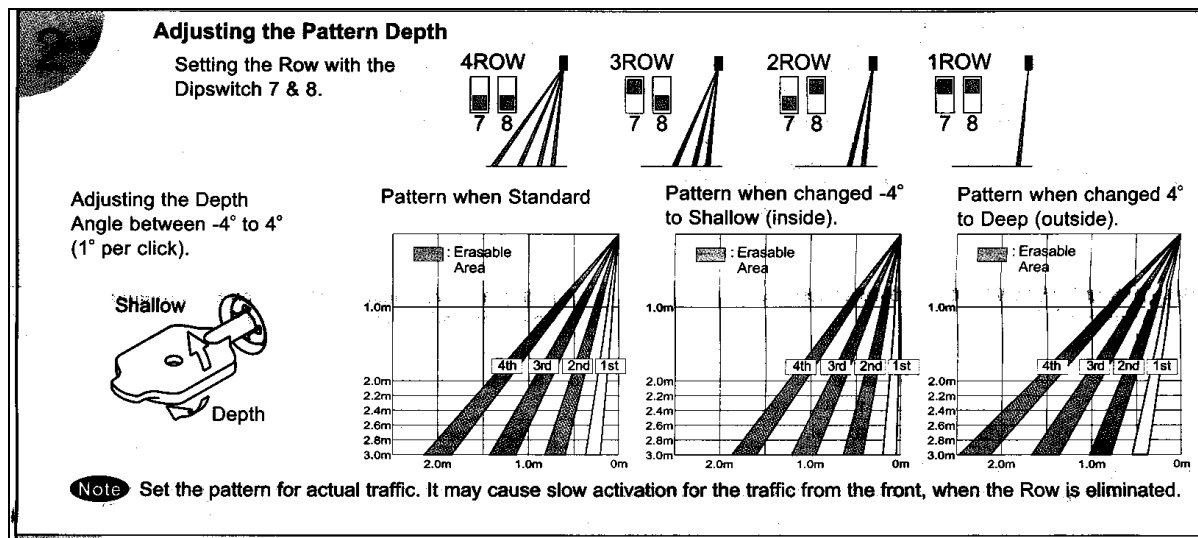
If changing this setting after your initial set-up, remember to **Confirm Detection Area** as described on Page 21 to assure coverage

as shown in Figures C, D and E.

Step 6: Adjustment of Area Depth

The first beam (Presence Detection) is the Threshold Beam. **“This beam must be as close to the door as possible without detecting the door or door handle. This is your threshold protection (Fig. E)”**

For the initial set-up: Set switches for 1 Row. (Switch 7 & 8 to the “On” (up) position). This will set just one row of beams (threshold), the area closest to the door. **In Step 10 you will add additional rows of beams.**



Step 7: Check and Adjust the Beam

Turn on “Power” at the operator’s main keypad and cycle the door by pushing the “Door” button on the Main Keypad.

If the door cycles continuously, one of the sensors is seeing the door or handle. (The Power/Operation Indicator light on the sensor will change to RED). Make sure you check both the inside and outside sensors.

- The Eye can be tilted up and down or left and right, shifting the detection pattern closer to, or away from the door, using the Area Adjustment Screw (Eye). Adjust only one notch at a time, wait for the Power/Operation Indicator light to turn green.
- **This beam must be as close to the door as possible** without picking up the door or handle, and must reach the floor to protect small children and pets.
- Cycle the door again. Repeat until door remains closed after cycling.
 - Shimming the outside sensor may be required to achieve this.

Step 8: Confirm Detection Area

- This 1st row of beams must also protect the “Pinch Point” (door meeting seal).
- Check detection by watching the Power/Operation Indicator light. Red indicates presence/motion detection.

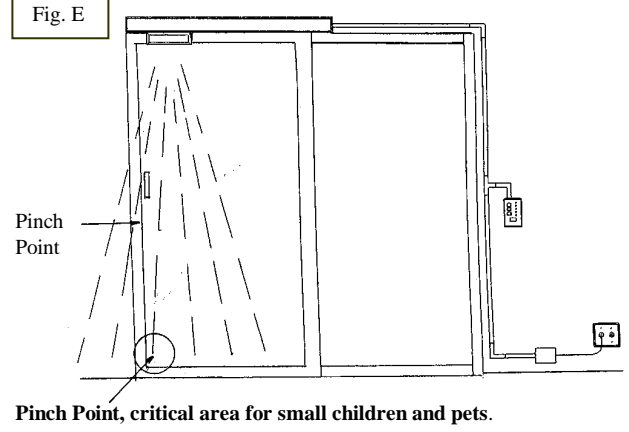
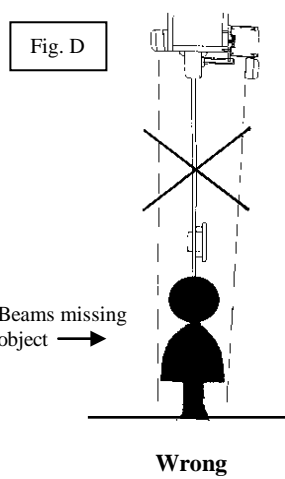
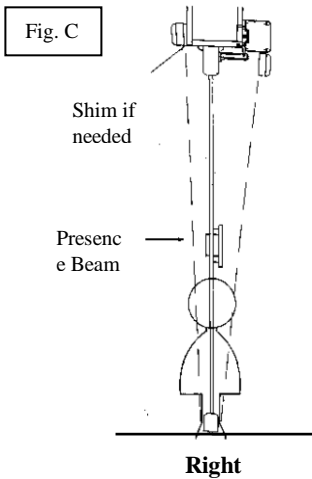
Using a standard 8-1/2" x 11" piece of white paper, find the detection area by sliding the paper (at floor level) toward the door at the pinch point (Fig E). The indicator will turn red when you are in this detection area.

Figures C, D and E, below, illustrate where your beams should be to assure safe operation. Adjust both the **EYE and Sensitivity Switch** (if necessary) until this pattern is met, confirming the detection area with each adjustment. The High Sensitivity Settings will make the void spaces between beams more sensitive by radiating out, but may also pick up adjacent door movement (door or handle). Use the most sensitive setting for your particular door while making sure the beam is as close to the door as possible.

CHECKING

Check the operation according to the chart below.

Entry motion	Power OFF	Outside the Detection area	Entry into 3rd or 4th Row	Entry into 2nd Row	Entry into 1st Row	Outside the Detection area
(image)						
Sensor status	Power OFF	Stand-by	Motion Detection Active	Motion or Presence Detection Active		Stand-by
Operation indicator	OFF	Green	Orange		Red	Green

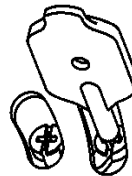
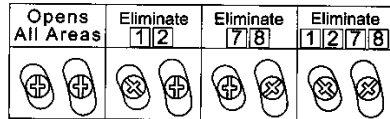


Step 9: Adjust Area Width

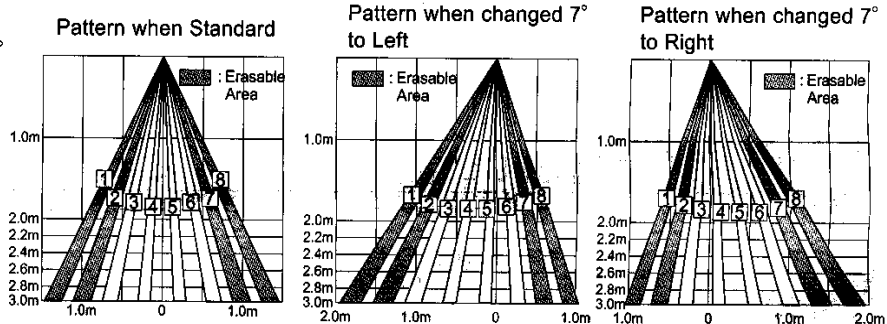
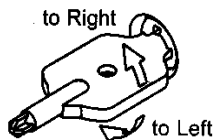
- Use the Area Width Adjusting Levers to eliminate side area beams as shown below. Reduce only if necessary.
- The detection pattern can also be shifted left or right by tilting the eye using the Area Adjustment Screw. (Use this to adjust beams away from a plant or curtain etc. that is a permanent object near the door and would cause unintentional door activation because of movement.)
- Adjust one notch at a time. **After each adjustment, recheck beams, especially at the "Pinch Point".**

1 Adjusting the Pattern Width

Setting the Width adjustment shutters



Adjusting the Width Angle
Left or Right : between 0° to 7°
(3.5° per click)

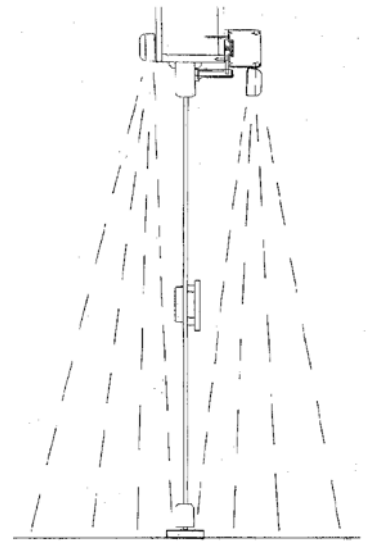


Note Setting the pattern for exact door opening may give a slow response to side approaching traffic.

Step 10: Add Additional Rows of Beams (See Step 6 drawing)

The Optex OA-203 Prosafe allows for setting up to four (4) layers of beams. **For maximum protection, use as many rows as your application allows.** The space requirements around the location of the door may necessitate the use of fewer layers than recommended

- Set the sensors to four (4) layers, and then reduce one layer at a time, checking the pattern with each change. The Power/Operation indicator will change to Orange in the three (3) outer layers of beams and Red at the first layer of beams (threshold). Only reduce what is absolutely necessary.
- Single Layer - For set-up only
- Two Layers - Only recommended if the door will be used by people who are familiar with its operation. Not recommended on a door that will be used by children or slower moving older adults.
- Three Layers - Minimum recommended setting for most applications.
- Four Layers - Best setting for most applications.



Step 11: Reset Timer

Once all patterns are set properly, re-set the timer to a higher setting. **IMPORTANT:** After changing this setting you must power off/on and stay out of the detection area for 10 seconds before the setting takes effect.

2 sec. For set-up only.

Not recommended for normal use. Sensor will only maintain the door in the open position when people in the detection area are **actively moving.**

15 sec.

Recommended only when people familiar with its operation will use the door. **Not recommended on a door that will be used by children , slower moving adults or handicapped.**

180 sec. Standard Setting.

This setting will be best in most applications.

∞ Safest Setting.

Recommended for use if the door will have a lot of users that are unfamiliar with the door. Also **best used if young children and slow moving adults & handicapped will be using the door. The sensor will not re-learn the surroundings and will hold open the door until objects/person moves out of the detection range.**

Step 12:

After all settings have been checked, unplug the Maitre D'oor operator from the wall outlet. Plug back in and stay out of sensor detection area for 30 seconds to allow the sensors to memorize the final pattern.

Remember to recheck your beams after making any adjustments. Use directions and illustrations in Step 8 to “Confirm Detection Area”.

Fine Tuning and Troubleshooting Sensors

Sometimes detection can be difficult due to: environmental light, colors of the object, contrasting floor material/color or glare. This might influence the speed of detection.

You can fine-tune the sensors by using the Sensitivity Switch, the Snow Mode Setting and the Frequency Setting. These settings may help eliminate borderline situations that are activating the door. You may need to experiment a little with these settings to get the proper coverage for your surroundings.

If detection is overly sensitive and your door is activating on its own:

Cause: If you have an area mat in front of the door, the color contrast of the mat and floor may be activating the door.
(Ex: black mat on a white floor)

Solution: Try using a different mat with less contrasting color to the floor.

Cause: Sensor is seeing **slight** movement from door treatments, side curtains, or nearby plants.

Solution: Detection pattern can be partially reduced on either side using the Area Width Adjustments (Fig.6-3).

Or:

Try adjusting the Snow Mode setting (Fig. 6-8). The switch settings (from left to right) will reduce sensitivity gradually. This may reduce sensitivity enough to ignore minor movement.

Make changes one at a time to see how each item changes the pattern.

After any adjustment, re-check the detection pattern making sure you cover the pinch point and floor area adequately as described in Step 8 (Confirm Detection Area), then Repeat Step 10.

- | |
|---|
| <ol style="list-style-type: none">1. When turning the power on, always walk-test the sensor pattern to ensure proper operation.2. Always keep the detection window clean. If dirty, wipe the window with a damp cloth. (Do not use any cleaner or solvent.)3. Do not wash the sensor with water.4. Do not disassemble, rebuild or repair the sensor yourself; otherwise electric shock may occur.5. Contact your installer or the sales engineer if you want to change the settings.6. Do not place an object that moves or emits light in the detection area. (Ex. Plant, illumination, etc.)7. Do not paint the Detection Window. |
|---|