

The BX-80N Guidebook

CONTENTS

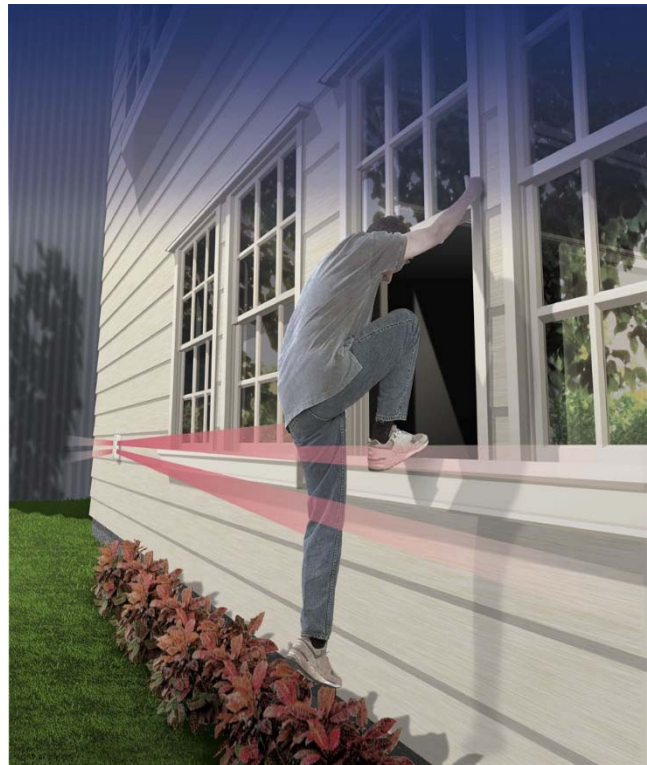
1. Product concept	P2-4
2. Features / Detection area	P5-8
3. Installation hints	P9-15

1. Product Concept

■ Early warning boundary protection

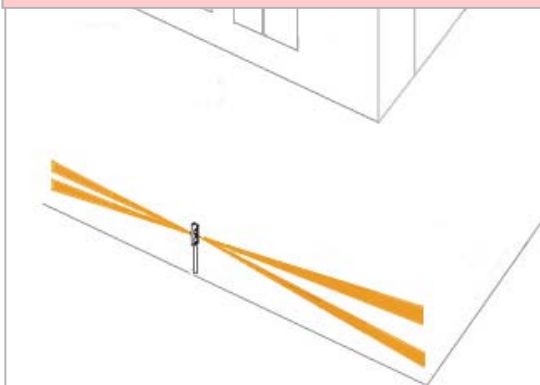
BX-80N is an advanced PIR detector which is designed to protect the immediate perimeter of the building. It is developed for the purpose of “early warning” i.e. before an intruder breaks into the premises.

This product can only be used for the boundary of a building.



(NOTE)

1. Do not use BX-80N for perimeter region of a property like photobeams.



2. Do not use BX-80N when intruder may pass by (i.e. entrance of a building). Use VX for such application.

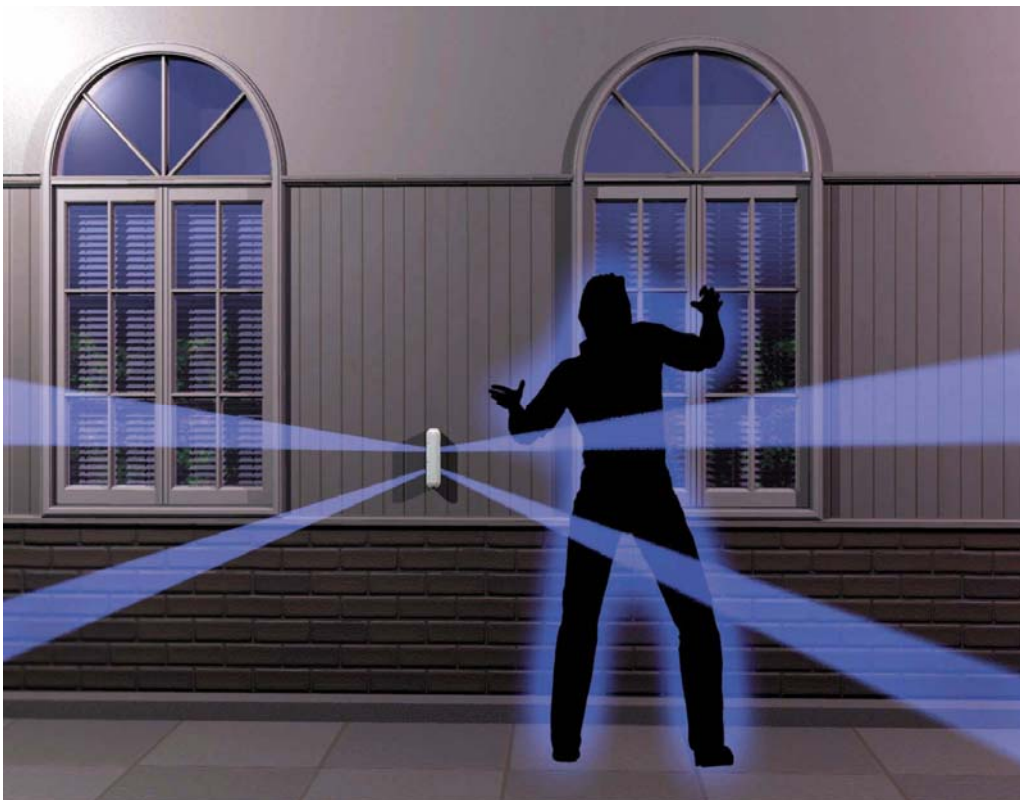


■ Unique and reliable detection area

The BX-80N creates a unique multi-layered, horizontal barrier and just one BX-80N unit can protect a long area, because it is installed in the center of the detection area and protects both sides.

It provides four detection areas (upper and lower areas for both sides) and generates an alarm condition only when both upper and lower detection areas are blocked simultaneously.

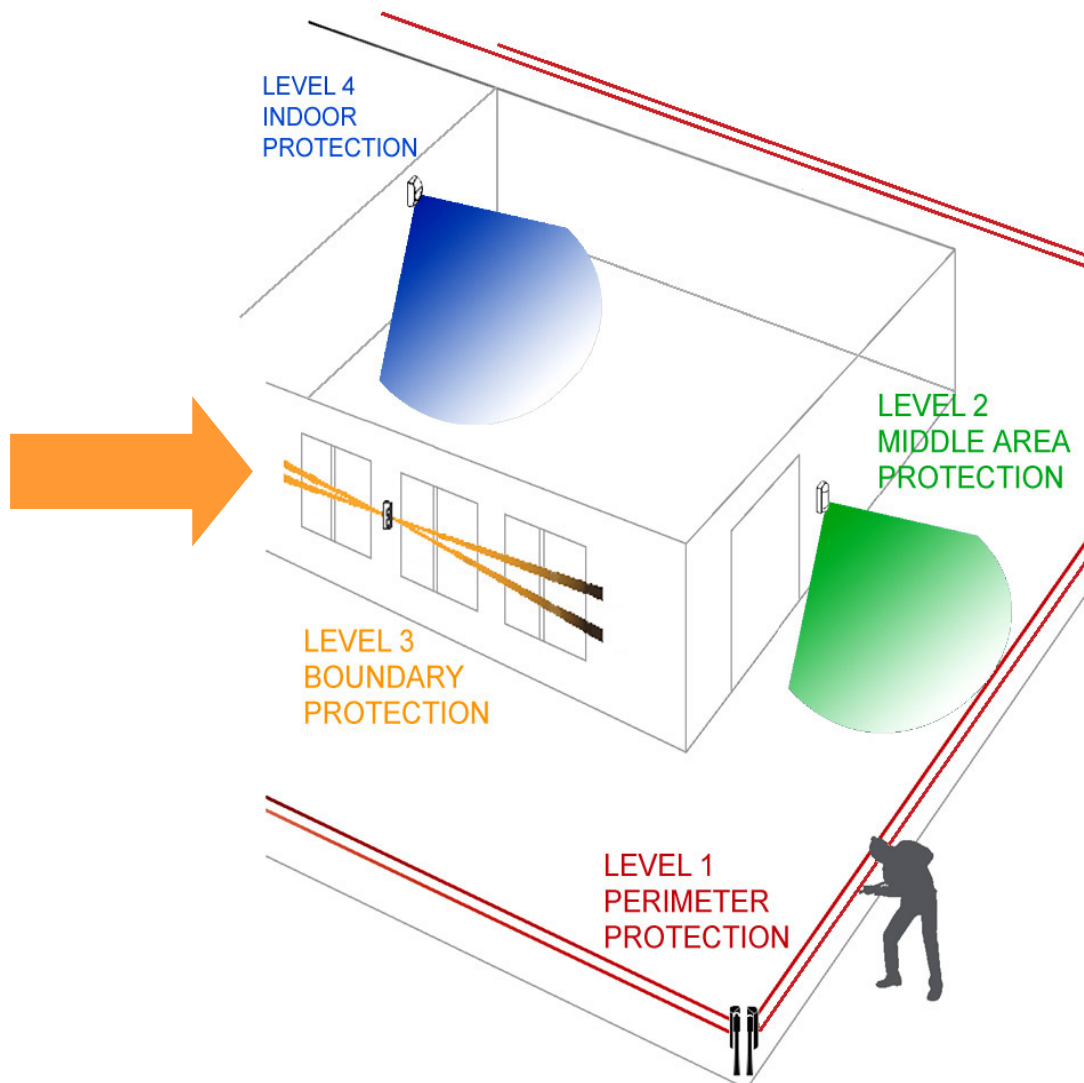
The BX-80N provides highly accurate detection even under severe environmental conditions.



■ Enhancement of protection capabilities

When a general-purpose mechanical security system is installed, detectors are usually located inside a building. In order to increase the effectiveness of such a security system, Optex recommends not only securing the inside of the building but also adding protection to the outside areas.

By adding BX-80N, it detects intruders before entry. This invisible barrier offers the first line of defense to a property's boundary.

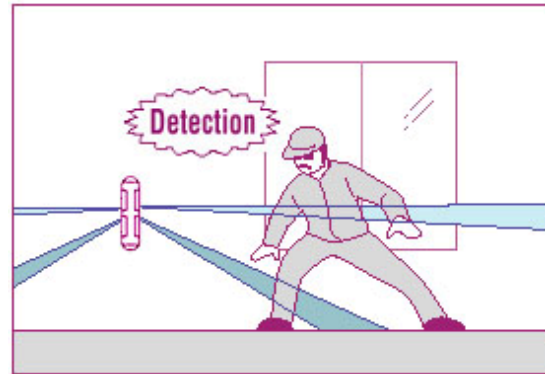


2. Features - to reduce false alarms in severe outdoor environmental conditions -

■ Two double-layered detection patterns

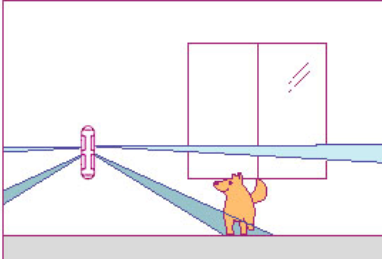
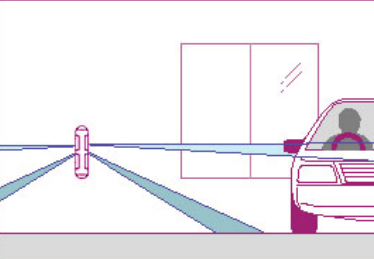
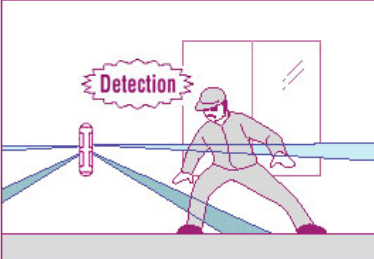
Both upper and lower detection areas have to be activated to generate an alarm condition.

This reduces false alarms, particularly those caused by temperature changes, light reflection and small animals.



■ Size-judging function

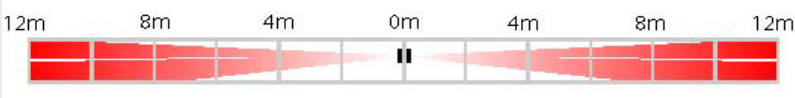

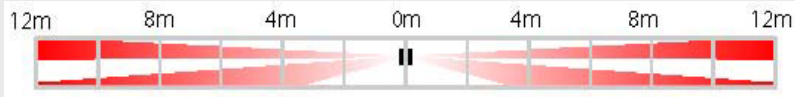
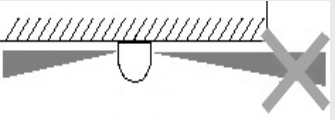

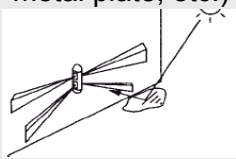
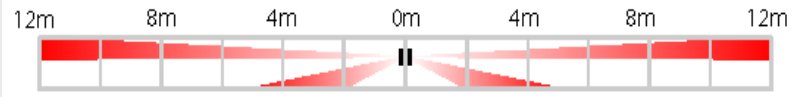
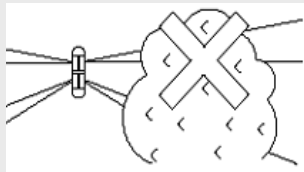
The size judging function virtually eliminates false alarms due to small animals.

No detection	No detection	Detection
		
<p>When only the lower zone detects a moving object, the unit is not activated.</p>	<p>When only the upper zone detects a moving objects, the unit is not activated.</p>	<p>When both the upper and lower zones detect a moving object, the unit is activated.</p>

■ Adjustable detection length for appropriate detection area

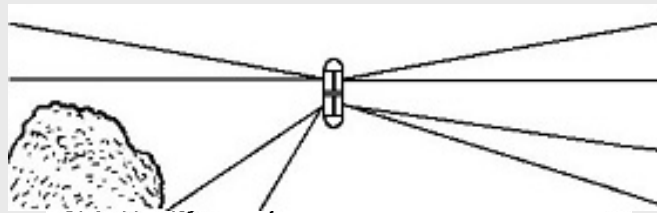
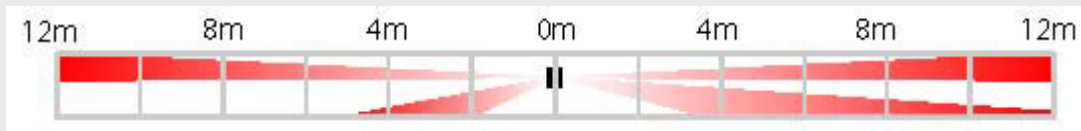
The appropriate detection area has to be set for each installation site to prevent false alarms.

The lower detection areas of the BX-80N is four-step variable. By setting the appropriate detection area, the BX-80N drastically reduces false alarms as it generates an alarm only when both upper and lower detection areas are blocked simultaneously.

Detection area pattern A	Example
<p>12m (detection area)</p> 	<p>No obstacle in detection area</p> 
<p>8m (detection area)</p> 	<p>Detects the shorter range [16m (8m single side)]</p> 
<p>5m (detection area)</p> 	<p>There are reflective objects (i.e. puddle, pool, metal plate, etc.)</p> 
<p>2m (detection area)</p> 	<p>There are moving objects (i.e. tree, bushes, etc.)</p> 

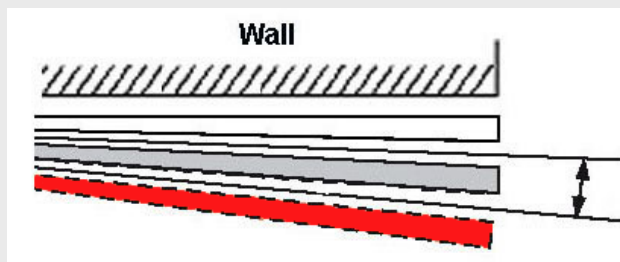
Detection area pattern B

Both the lower detection areas of BX-80N operate individually. By setting appropriate detection areas for each application, the BX-80N expands its capabilities.



Detection area pattern C

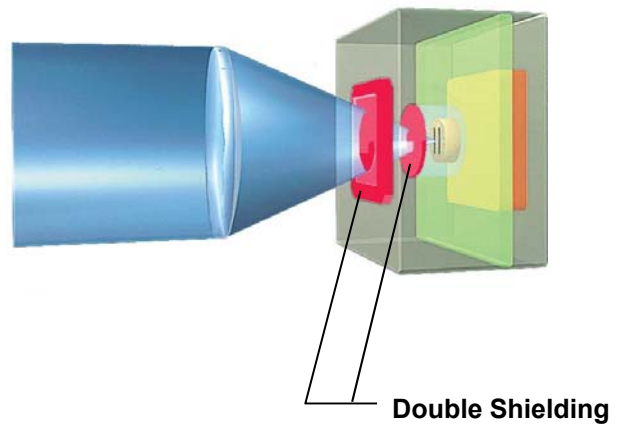
The angle of all detection areas can be adjusted horizontally by 0 to 3 degrees. If there are objects such as bay windows, troughs and so on that are obstructing the detection area, please make concessions by adjusting its angle to attain the appropriate area.



The angle of all detection areas are adjustable horizontally 0 or 3 degrees.

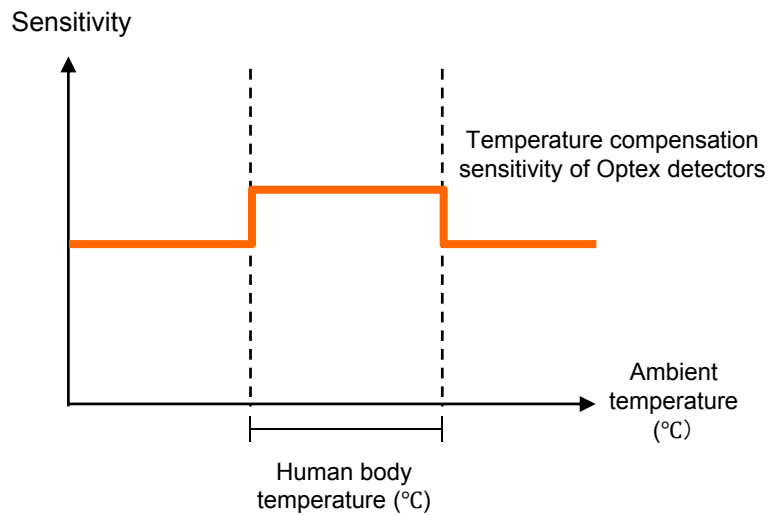
■ **Double conductive shielding**

Patented Double Conductive Shielding Technology utilizes a special conductive filter to cover the element window, allowing infrared energy to pass through, while blocking and grounding out unwanted light and RFI sources. This helps reduce false alarms caused by car headlights and more particularly reflected sunlight.



■ **Advanced temperature compensation**

The BX-80N uses advanced temperature compensation to automatically increase the detector's sensitivity under high temperature conditions, especially where the background temperature ranges from 35 –37 degree C, close to that of the human body.



■ **Audible alarm – area check mode -**

Built-in buzzer sounds an alarm while an alarm is occurring. This buzzer can also be used to annunciate detection during area check mode.

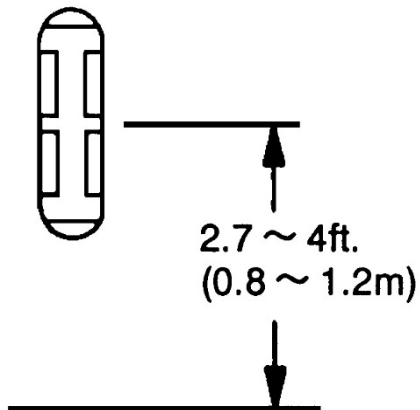
3. Installation hints

Please check each item below.

Please see the back pages for supplement information.

Before installation	Page	Yes
1. Did you install the BX-80N at a suitable height?	10	
2. Did you install the BX-80N in the immediate perimeter of the building?	10	
3. Did you install the BX-80N to the surface of a wall accurately?	11	
4. Did you install the BX-80N parallel to the ground?	11	
5. Did you set the appropriate detection range?	12	
6. Did you install the BX-80N so that the unit does not receive too much direct light (i.e. sun light, car head-light, etc.) ?	13	
7. Did you install the BX-80N by preventing the lower detection area from aiming toward reflective objects (i.e. puddle, pool, metal plate, etc.)?	13	
8. Did you install the BX-80N by preventing obstacles from blocking the detection area (i.e. bay window, trough, etc.)?	14	
9. Did you install the BX-80N by preventing moving objects within detection area (i.e. swaying tree, bushes, etc.)	15	

1. Installation height



Installation height is 0.8 – 1.2m.

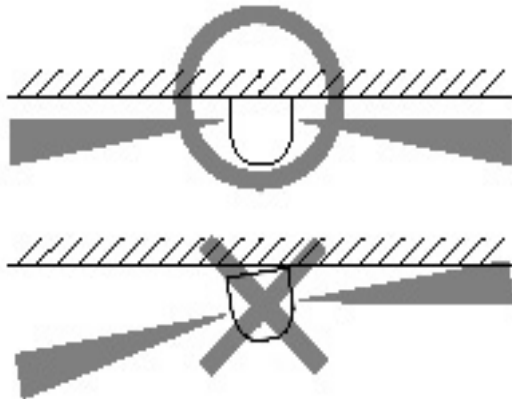
2. Install the BX-80N in the immediate perimeter(boundary) of the building



BX-80N is designed to be wall-mounted centrally on a building, covering the building perimeter. Be sure to install the BX-80N to the immediate perimeter of the building.

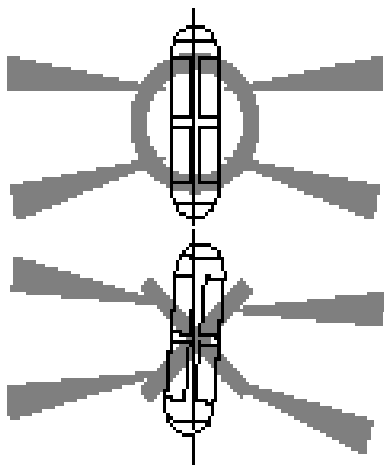
NOTE: Do not use BX-80N for perimeter protection like photobeams.

3. Install the BX-80N to the surface of a wall



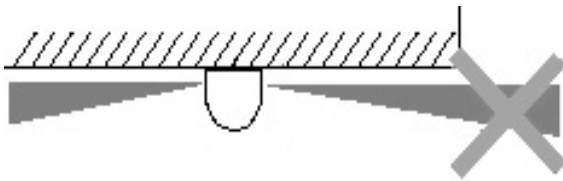
For proper activation, installation on the surface has to be accurate otherwise detection figures will not be parallel to the installation surface.

4. Install the BX-80N parallel to the ground



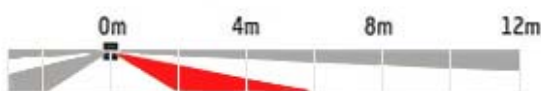
Install detector upright, with upper detection areas parallel to the ground. If detector is installed at an angle towards the ground, operational reliability of the detector may be decreased.

5. Set the appropriate detection range

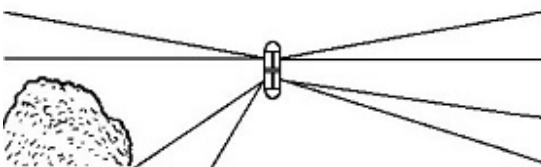


BX-80N creates a narrow 24m long detection area.

If the protection area is shorter than 24m, the lower detection area has to be adjusted to allow for the ideal detection area otherwise the BX-80N will detect object outside of protection area.



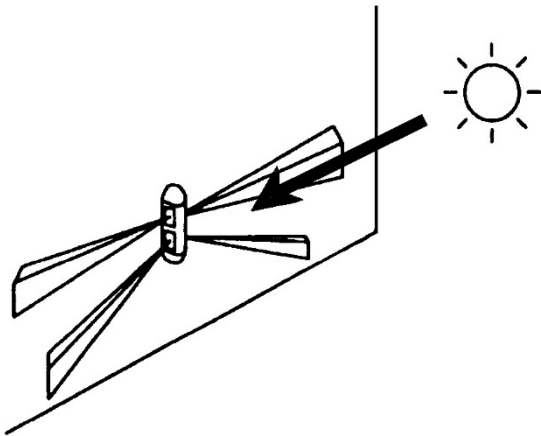
For this application, please refer to “detection area pattern A & B” of page 6 & 7.



Both the lower detection areas of the BX-80N operate individually. Thus the unit allows for an appropriate detection area to be set for each application.

If the left and right detection areas of protection differ, the lower detection area has to be adjusted otherwise the BX-80N detects the objects outside of protection area.

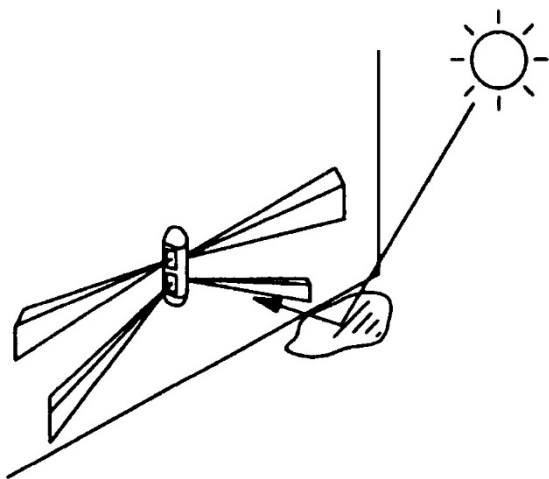
6. Avoid direct light



BX-80N includes Double Conductive Shielding to prevent false alarms caused by light disturbances.

It is recommended that you avoid too much light being directed or reflected into the BX-80's field of view as the light (such as strong sunlight) causes an unstable condition within the sensor's view.

7. Avoid reflective objects within detection area

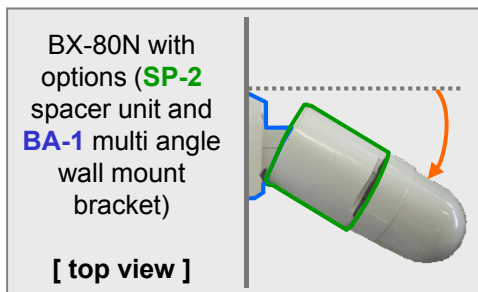
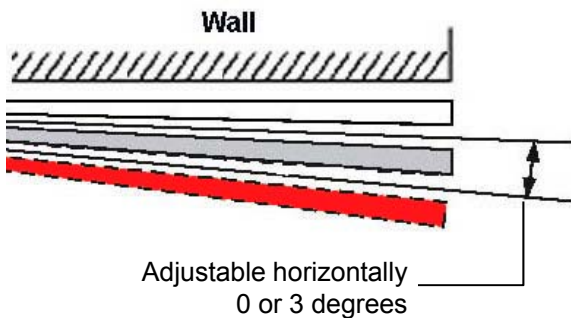


Avoid aiming the lower detection area toward reflective objects (puddle, pool, metal plate, etc.).

If the reflective objects are unavoidable, please refer to "detection area pattern A and B" of page 6 & 7.

8. Avoid obstacles which block detection area

The BX-80N should not be installed in area's where obstacles in the detection area are likely to affect the proper performance of the unit. If the use of the BX-80N is unavoidable in such circumstances, the appropriate detection area should be set by following either of these 2 methods:



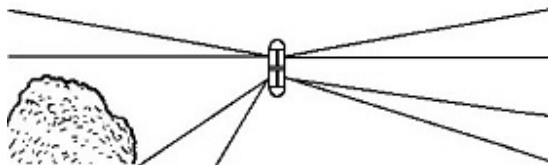
1. Avoid obstacles (i.e. bay window, trough, etc.)

The angle of the detection area can be adjusted horizontally to 3 degrees.

Please adjust the detection angle to avoid obstacles from being included in the detection area. (please refer to “detection area pattern C” of page 7.)

If obstacle objects are unavoidable, we recommend to use options.

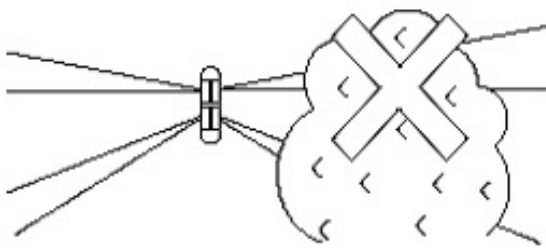
2. Avoid obstacles (i.e. tables, flowerbeds, etc.)



The angle of the lower detection area can be adjusted in four steps. Please set appropriate detection area to suit the installation site.

(please refer to “detection area pattern A and B” of page 6 & 7.)

9. Avoid moving objects within detection area



Avoid pointing detector towards moving objects (i.e. swaying tree, bushes, flag, etc.).

If moving objects are unavoidable, please refer to “detection area pattern A & B” of of page 6 & 7.

