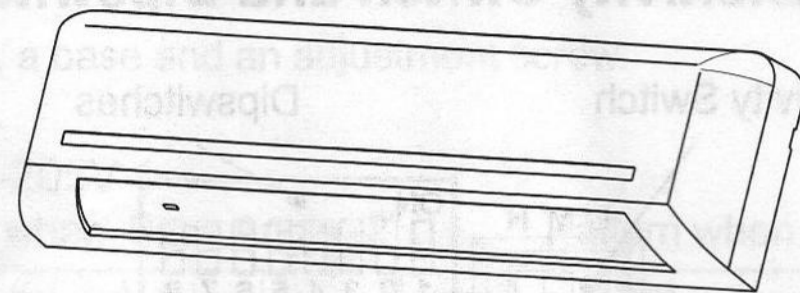


**OPTEX**  
**PROSAFE**  
**OA-1V OA-205V-1**  
**OA-2V OA-205V-2**  
**OA-2VF**

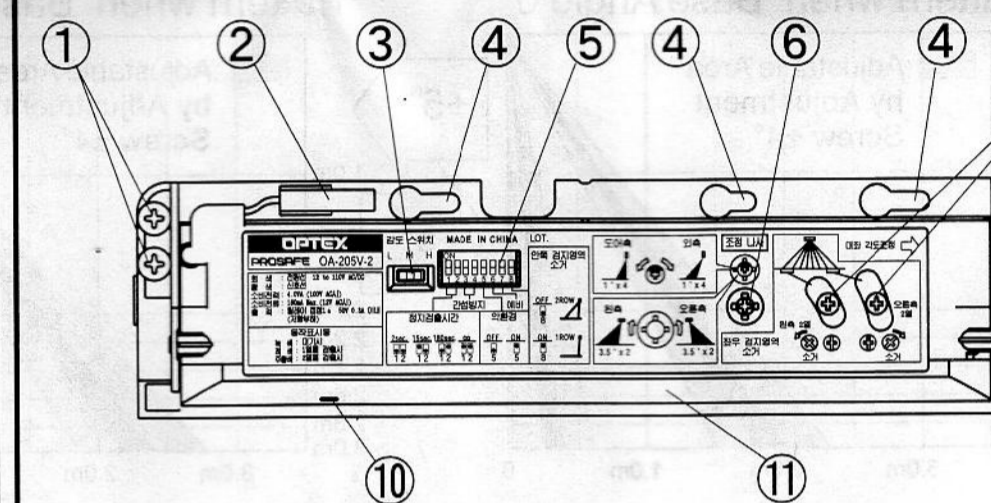
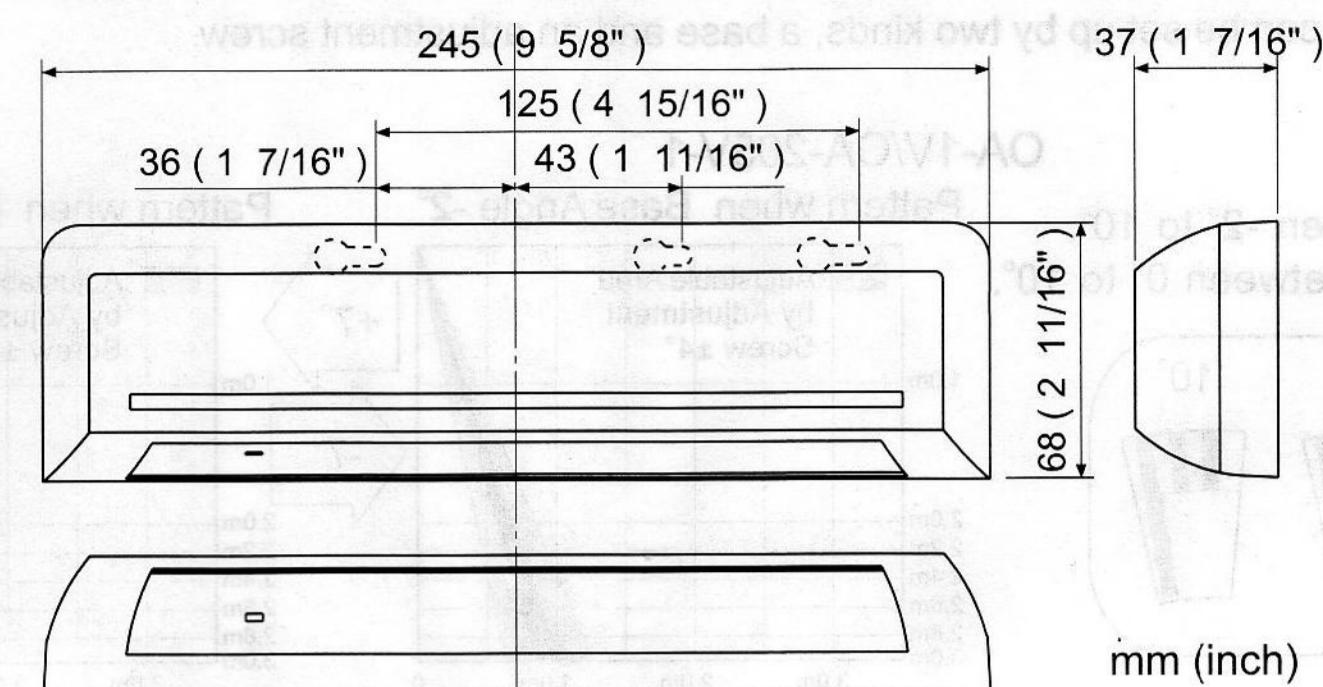


**SPECIFICATIONS**

Model : OA-1V / OA-2V / OA-2VF / OA-205V-1 / OA-205V-2  
 Cover color type : Silver / Black  
 Mounting Height : 2.0m (6'6") to 3.0m (9'10")  
 Detection Area : See "ADJUSTMENT - 1. Detection Area"  
 Detection Method : Active Infrared Reflection Method  
 Detection Angle : Base Angle: -2° to 10° for OA-1V/OA-205V-1  
 0° to 10° for OA-2V/2VF/OA-205V-2  
 Adjustments : Adjustment Screw Angle: ±4° adjustable by 1° every one click (Deep / Shallow)  
 Detection Width : Adjustment Screw Angle: ±7° adjustable by 3.5° every one click (Right / Left)  
 Adjustments :  
 Power Supply : 12 to 110V AC / DC (50/60Hz)  
 Current Draw : 160mA Max. (at 12V AC)  
 Power Consumption : 4.0VA Max. (at 100V AC)  
 Operation Indicator : Green / Stand-by  
 Red / 1st Row Detection Active  
 Orange / 2nd Row Detection Active  
 (OA-1V/OA-205V-1 has no 2nd Row.)  
 Output : "Form A" relay 50V 0.1A Max. (Resistance Load)  
 Relay Hold Time : 0.5 sec.  
 Response Time : < 0.3 sec.  
 Operating Temperature : -20°C to +55°C (-4°F to +131°F)  
 Weight : 230g (8.2oz)  
 Accessories : 1 Cable 3m (9'10"), 2 Mounting Screws  
 1 Operation Manual, 1 Mounting Template  
 1 Area Adjustment Tool, 1 Protection sheet

\*The specifications herein are subject to change without prior notice due to improvements.

**OUTER DIMENSIONS**



- 1 : Mounting Screws
- 2 : Connector
- 3 : Sensitivity Switch
- 4 : Mounting holes
- 5 : Dipswitches
- 6 : Area Adjustment Screw
- 7 : Width Adjustment Shutters
- 8 : Base Angle Scale
- 9 : Area Adjustment Tool
- 10: Operation Indicator
- 11: Detection Window

**MANUFACTURER'S STATEMENT**

5911961 2005.07

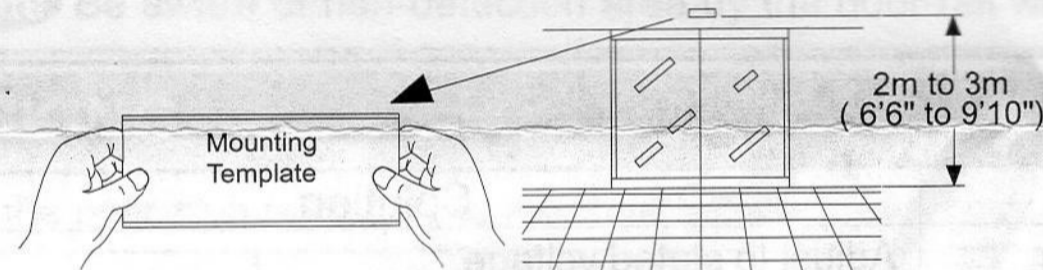
Read this Operation Manual carefully before use, to ensure proper operation of this Optex sensor. Failure to read this Operation Manual may cause improper sensor operation and may result in serious injury or death. This product is a non-contact activating switch intended for mounting on the header of an automatic door. Do not use it for any other applications; otherwise proper operation and safety cannot be guaranteed.

**Cautions:**

1. Follow the instructions (especially **Note**) in this Operation Manual when installing and adjusting the sensor.
2. When setting the sensor's area pattern, make sure there is no traffic around the installation site.
3. Before turning the power on, check the wiring to prevent damage or malfunction of equipment that is connected to the sensor.
4. Do not wash, disassemble, rebuild or repair the sensor by yourself; otherwise it may cause electric shock or breakdown of the sensor.
5. Only use the sensor as specified in the supplied instructions.
6. Be sure to install the sensor in accordance with the local laws and standards of your country.
7. Before leaving the jobsite, be sure that this sensor is operating properly and instruct the building owner/operator on proper operation of the door and this sensor.

**INSTALLATION**

**1**

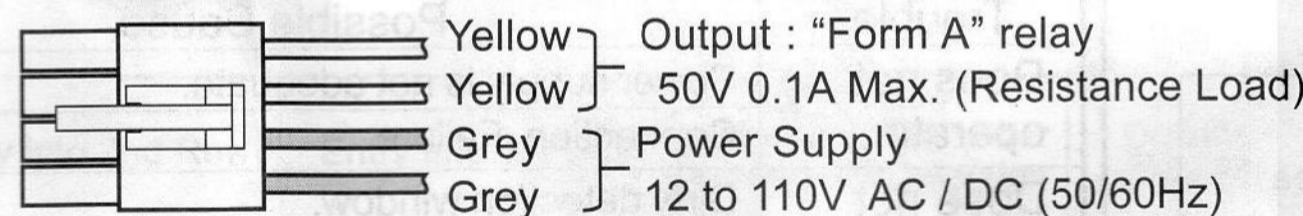


1. Affix the Mounting Template to the mounting surface.
2. Drill two mounting holes (ø 3.4mm or 1/8").
3. To carry through the wire to the header, drill a wiring hole (ø 8mm or 5/16").
4. After drilling the holes, remove the Mounting Template.

**Note** Be sure that the mounting height is within the value of those in "SPECIFICATIONS."

**2**

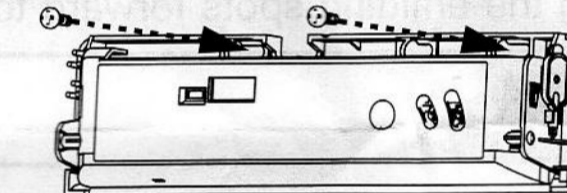
The cable is arranged to connect to the door controller properly as shown below.



**Note** Connect the cable when main power is turned off.  
**Note** When passing through the cable to the hole, make sure not to tear shield; otherwise it may cause electric shock or breakdown of sensor.

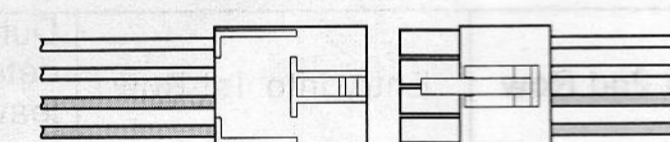
**3**

Remove the cover and attach the sensor with screws.



**4**

Plug the Connector for the sensor to that for the cable.

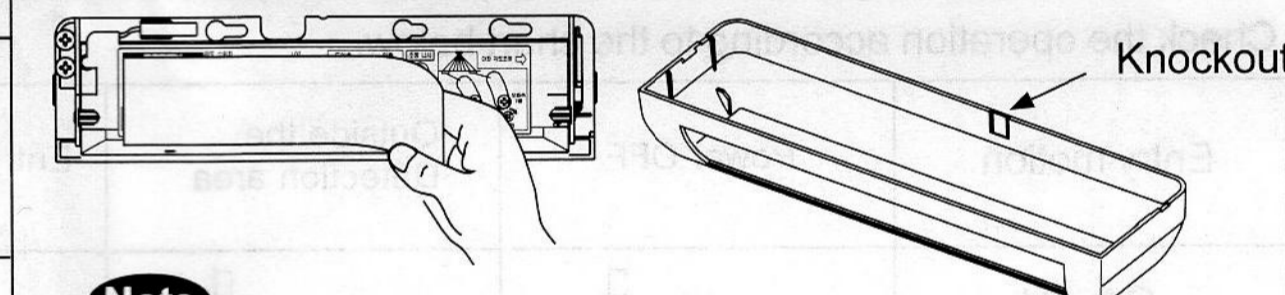


**5**

Supply power to the sensor. Adjust the detection area and set the various Switches. (See "ADJUSTMENT.")  
**Note** Make sure that you connect the cable correctly to the Control Unit of the door before turning the power on.

**6**

1. Stick a protection sheet on the sensor.
2. Put back the cover on the sensor.
3. If wiring is to be exposed, break the Knockout.



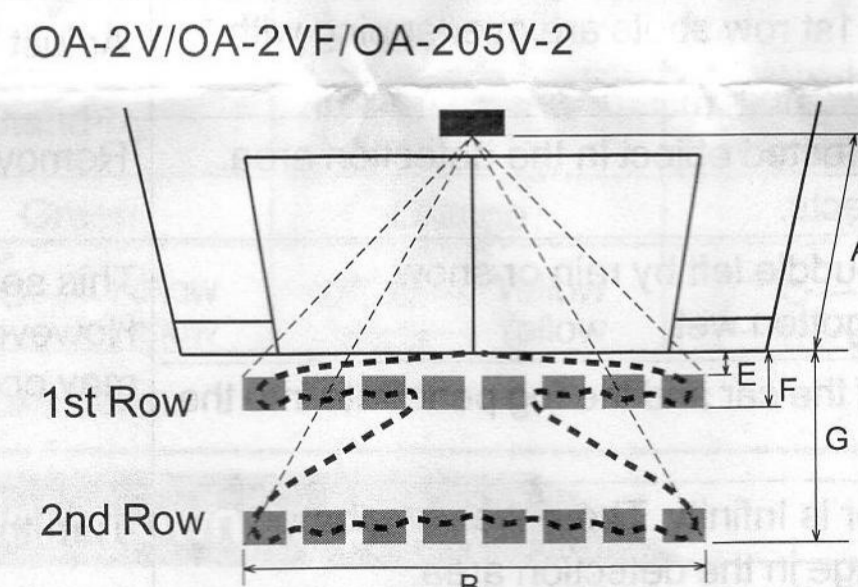
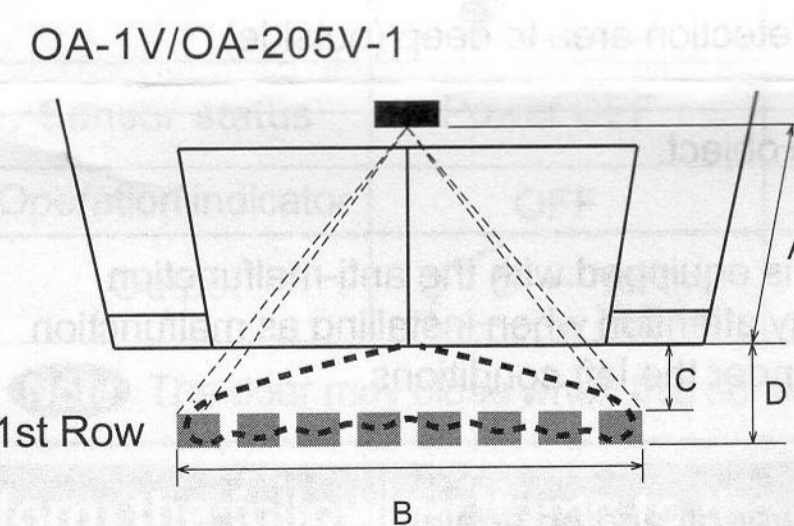
**Note** Do not use the sensor without the cover. Install the sensor indoors, or use the rain-cover (Optional), when using the Knockout, otherwise it may cause electric shock or breakdown of sensor.

**ADJUSTMENT**

**1**

**Detection Area**

Area arrangement changes with models. Please adjust after taking into consideration.



■ : Emitting Spots  
 □ : Detection Area

■ : Emitting Spots  
 □ : Detection Area

OA-2VF does not have 1st Row Spots during stand-by. Refer to "4-Setting of Dipswitches" in detail.

Provided Detection Row type	1st	2nd
Presence Detection	○	×
Motion Detection	○	○

After adjustment, turn the power off and on again, be sure to walk-test all of detection areas.

\*The values of the chart below is of the Emitting Spots, but not of the Detection Area.

The actual Detection Area may become smaller depending on the ambient light and the colour / material of object and the floor as well as the entry speed of object.

Base Angle: 0°, Adjustment Screw Angle: 0° [m]

A	2.00	2.20	2.50	2.70	3.00
B	2.10	2.30	2.60	2.80	3.10
C	0.73	0.80	0.91	0.98	1.09
D	0.85	0.93	1.06	1.14	1.27
E	0.16	0.18	0.20	0.22	0.25
F	0.27	0.29	0.33	0.36	0.40
G	1.34	1.47	1.68	1.81	2.01

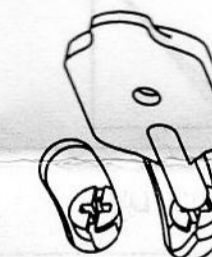
Base Angle: 10°, Adjustment Screw Angle: 0° [m]

A	2.00	2.20	2.50	2.70	3.00
B	2.40	2.64	3.00	3.24	3.60
C	1.25	1.38	1.56	1.69	1.88
D	1.41	1.55	1.76	1.90	2.12
E	0.51	0.56	0.64	0.69	0.77
F	0.65	0.72	0.81	0.88	0.98
G	2.05	2.26	2.56	2.77	3.08

**2**

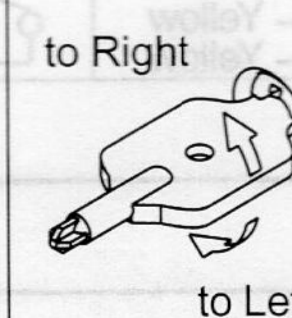
**Adjusting the Pattern Width**

Setting the Width adjustment shutters

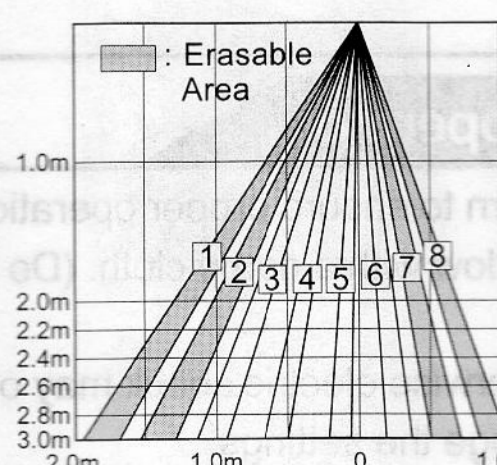


Opens All Areas	Eliminate 1 2	Eliminate 7 8	Eliminate 1 2 7 8

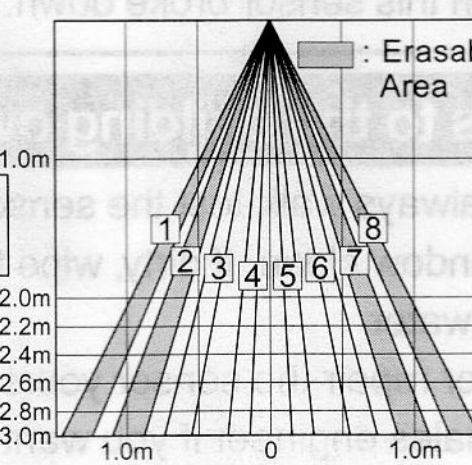
Adjusting the Width Angle Left or Right : between 0° to 7° (3.5° per click)



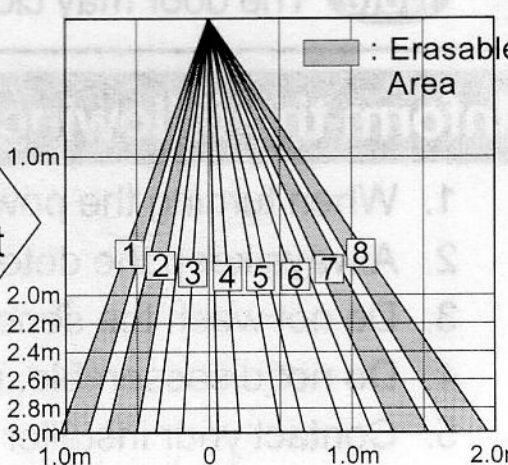
Pattern when changed 7° to Left



Pattern when Standard



Pattern when changed 7° to Right



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

### 3

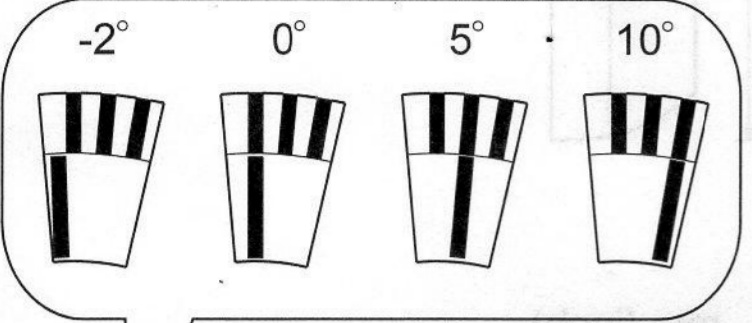
## Adjusting the Pattern Depth

Depth angle can be set up by two kinds, a base and an adjustment screw.

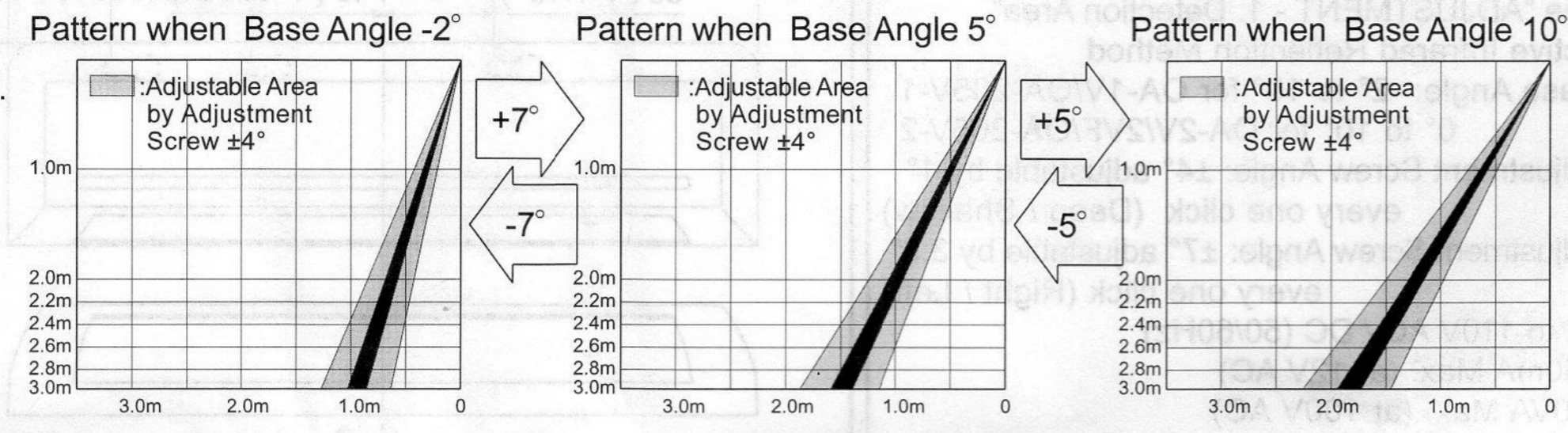
#### 1. Setting the Base Angle.

OA-1V/OA-205V-1: between -2° to 10°.

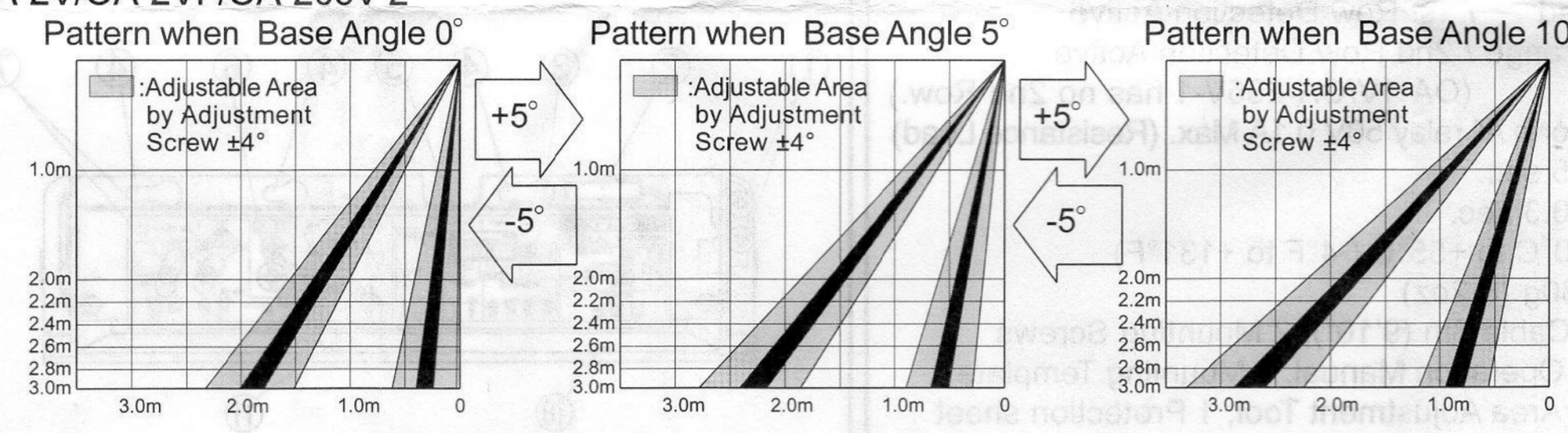
OA-2V/2VF/OA-205V-2: between 0° to 10°.



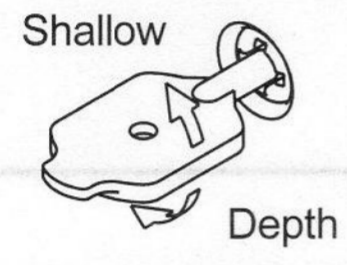
#### OA-1V/OA-205V-1



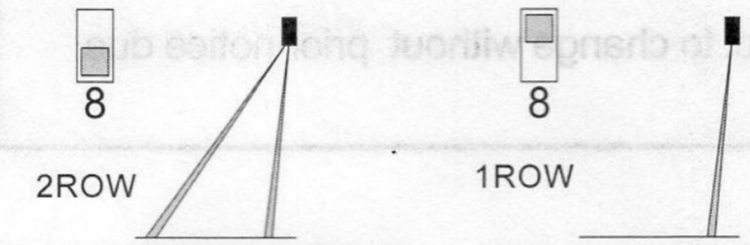
#### OA-2V/OA-2VF/OA-205V-2



#### 2. Setting the Depth Angle between -4° to 4° (1° per click) by Adjustment Screw.



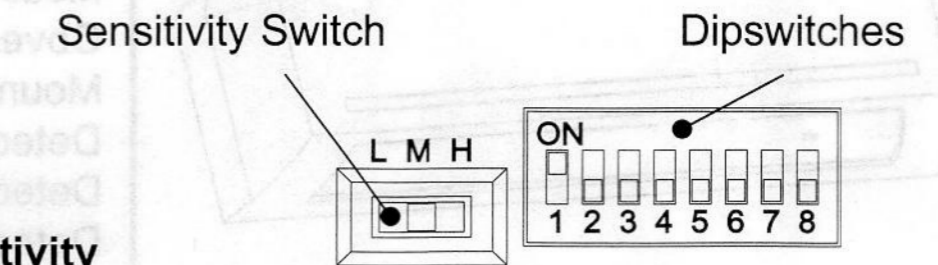
#### 3. Setting the Row with the Dipswitch 8 (for only OA-2V/OA-205V-2).



**Note** Be aware of non-detection area by the door-rail when moving the emitting spots forward too much for deeper approach.

### 4

## Setting of Sensitivity Switch and Dipswitches

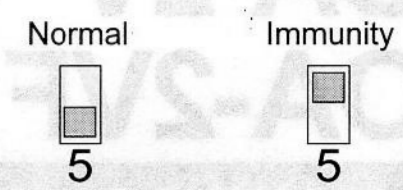


#### Setting the Sensitivity

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

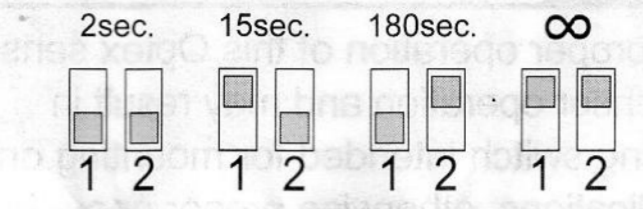
#### Setting the immunity mode

Set the Dipswitch5 if the sensor is used in a region with snow or a lot of insects.



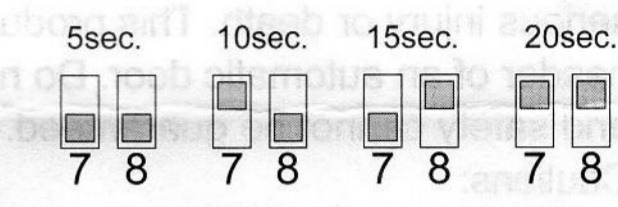
#### Setting the Presence timer

1st Row from door provide the presence detection.  
(1) Select the presence timer. (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 1st Row detectable timer (For only OA-2VF)

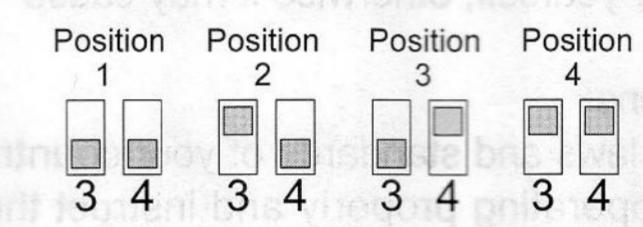
Select the 1st Row detection time by adjusting the Dipswitch 7 and 8.



OA-2VF does not have 1st Row spots during stand-by. Immediately after 2nd Row spots detects, 1st Row spots appear till the 1st Row detection time set up. When entry into 1st Row spots or 2nd Row spots within 1st Row detection time, even if setting time passes, 1st Row spots continue existing. After leaving area, and passing 1st Row detection time, 1st ROW spots are lost again.

#### 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.

## CHECKING

Check the operation according to the chart below.

Entry motion	Power OFF	Outside the Detection area	Entry into 2nd Row	Entry into 1st Row	During 1st Row detectable time ,after leaving the Detection area	Outside the Detection area
OA-1V OA-205V-1 (image)						
OA-2V OA-205V-2 (image)						
OA-2VF (image)						
Sensor status	Power OFF	Stand-by	Motion Detection Active	Motion or Presence Detection Active	1st Row detectable Stand-by	Stand-by
Operation indicator	OFF	Green	Orange	Red	Green	Green
Output						

**Note** The door may close when this sensor broke down.

## TROUBLESHOOTING

Trouble	Possible Cause	Solution
Does not operate	Power supply is not adequate.	Adjust to stated voltage.
	Connection Failure.	Check the wiring and the connector.
Does not operate consistently	Dirty detection window.	Wipe the detection window with a damp cloth. (Do not use any cleaner or solvent.)
	Sensitivity is Low.	Set the Sensitivity Switch "H."
	There is an object that moves or emits light in the detection area. (Ex. Plant, illumination, etc.)	Remove the object.
	Vibration of the header.	Secure the header. Or set the Sensitivity Switch "L."
Operates by itself (Ghosting)	Sensitivity is high.	Set the Sensitivity Switch "L."
	Waterdrops on detection window.	Install in a place keeping the waterdrops off. OR use a rain-cover (Optional).
	Detection area has interfered the area of another sensor.	Set the different frequency position each other.
	The detection 1st row spots are overlapping with the door / header.	Adjust the detection area to deep (outside).
	There is an reflected object in the detection area. Solar light reflects.	Remove the object.
	There was a puddle left by rain or snow. The floor has gotten wet.	This sensor is equipped with the anti-malfunction. However, pay attention when installing as malfunction may occur under the left conditions.
Door stay open or closed	The exhaust of the car and the fog penetrate into the detection area.	
Door stay open or closed	Presence timer is Infinity. There was an abrupt condition change in the detection area.	Turn the power off and on again.

Contact your installer or the sales engineer if:  
- you need to change the settings or replace the sensor.  
- the trouble still persists after checking and remedying as described above.

### Inform the following items to the building owner/operator

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.



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