

**MANUFACTURER'S STATEMENT**

For ease of installation and proper operation read through this manual (especially **WARNING**, **CAUTION**, **NOTE**) prior to installing and adjusting the sensor system. Failure to read and follow the instructions in this manual may cause improper sensor operation resulting in serious injury or death. This sensor is a non-contact activating switch intended for mounting on the ceiling.  
Do not use the sensor for any other applications otherwise proper operation and safety cannot be guaranteed.

<b>WARNING</b>	Disregard of warning may cause the improper use causing death or serious injury of person.
<b>CAUTION</b>	Disregard of caution may cause the improper use causing injury of person or damage to object.
<b>NOTE</b>	Special attention for the setting and adjustment of section of this symbol is required.

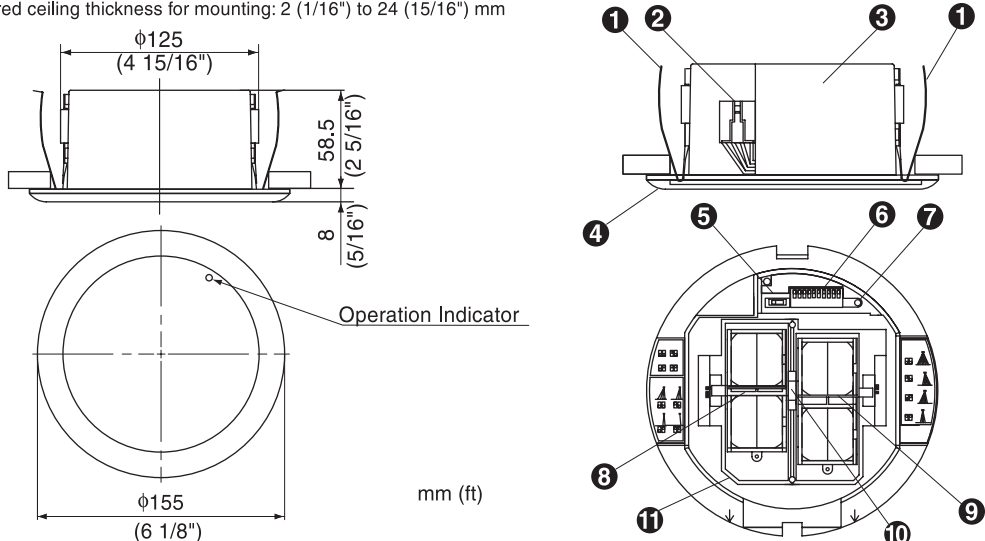
1. Set the door speed and verify proper operation of the door manufacturer's equipment prior to applying the power to the sensor system.
2. Do not install the sensor where it might be directly sprayed with rainwater.
3. Verify proper wiring prior to applying the power to the sensor system to prevent damage to equipment.
4. When setting the sensor's detection area, make sure there is no traffic around the installation site.
5. Do not attempt to disassemble, rebuild or repair sensor. Contact your installer or service engineer for replacement of sensor.
6. Only use the sensor as specified in the supplied instructions.
7. Walk-test the detection area to verify the operation is in compliance with all local laws, codes and standards of your country.
8. Upon completion of installation and adjustments, instruct the owner/operator on proper operation of the door and sensor system.
9. The use of switch as a safety auxiliary device is recommended for the threshold safety.

**SPECIFICATIONS**

Model	: OA-70C	Output	: "Form C" relay 50V 0.3A max. (resistance load)
Cover Color	: Silver/White	Relay Hold Time	: Approx. 0.5 sec.
Mounting Height	: 2.0(6'6 3/4") to 4.0(13'1 1/2")m	Response Time	: <0.3sec
Detection Area	: See the chart in Adjustment (ADJUSTMENT)	Operating Temperature	: -20°C to +55°C (-4° F to +131° F)
Detection Method	: Active Infrared Reflection	Weight	: 340g (12oz)
Detection Area Adjustments	: Depth -6° to 8° Width ±10°	Accessories	: 1 Mounting Template, 1 Cable 3m(9'10"), 1 Operation Manual
Power Supply	: 12(-5%) to 24V(+10%) AC 12(-5%) to 30V(+10%) DC	The specifications herein are subject to change without prior notice due to improvements.	
Power Consumption	: <4VA, <200mA(12VDC)		
Operation Indicator	: Green: Stand-by Red: Doorside area detect Orange: Other area detect		

**OUTER DIMENSIONS**

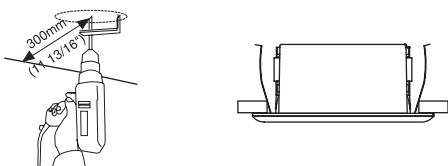
Required ceiling thickness for mounting: 2 (1/16") to 24 (15/16") mm



- 1 Mounting Clips
- 2 Connector
- 3 Sensor
- 4 Cover
- 5 Mounting Height Switch
- 6 Dipswitches
- 7 Operation Indicator
- 8 1 and 2 Row Adjustment
- 9 3 and 4 Row Adjustment
- 10 4-Row Simultaneous Adjustment
- 11 Width Adjustment

**INSTALLATION**

1. Required ceiling thickness: 2 (1/16") to 24 (15/16") mm  
 1. Affix the Mounting Template to the sensor mounting position.  
 2. Drill a mounting hole (Recommended Diameter: 130mm (5 1/8"))  
 3. Remove the Mounting Template.

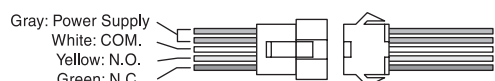


**NOTE** Recommended mounting distance from door surface: 300mm(11 13/16")

**WARNING:** Danger of being caught by the door

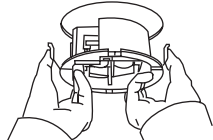
**NOTE** Make sure that the detection window faces the floor surface. When it faces the wall or the ceiling, the sensor may not operate properly.

2. Remove the cover from the sensor. Plug the connector of the cable to the connector of the sensor.



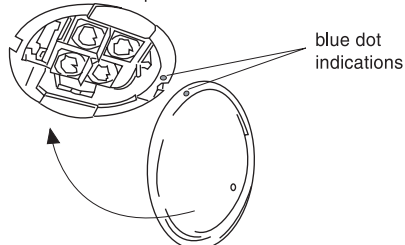
**NOTE** Make sure to plug the connectors with each other firmly, the loose connection may result in imperfect contact and unstable operation of the sensor.

3. 1. Hold the sensor, keeping the mark of "Door", an indication on the sensor surface, exactly towards the door.  
 2. Press the mounting clips against the sensor to place the sensor into the mounting hole.

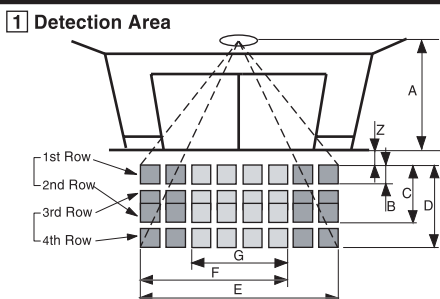


4. Set the detection area and various dipswitches, then supply the power to the sensor.

5. Click the cover on the sensor while placing the blue dot indications on top of each other.



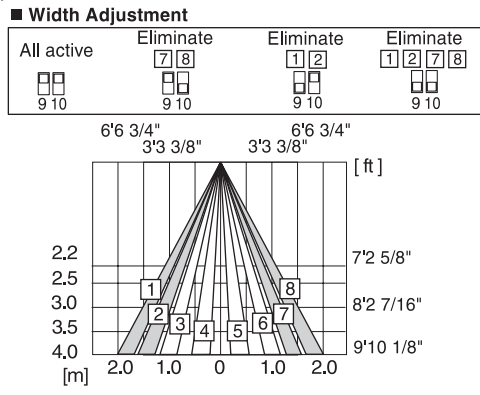
**ADJUSTMENT (Turn on the power)**



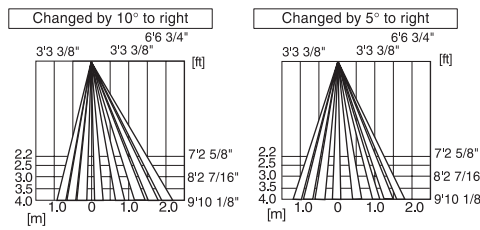
Area Dimensions		[mm / inch]				
Depth	Mounting height A	2200 7'2 5/8"	2500 8'2 7/16"	3000 9'10 1/8"	3500 11'5 13/16"	4000 13'1 1/2"
	B	390 1'11 3/8"	440 1'5 5/16"	530 1'8 7/8"	620 2'0 7/16"	710 2'3 15/16"
	C	770 2'6 5/16"	860 2'9 7/8"	1030 3'4 9/16"	1200 3'11 1/4"	1380 4'6 5/16"
	D	960 3'1 13/16"	1090 3'6 15/16"	1310 4'3 9/16"	1530 5'0 1/4"	1750 5'8 7/8"
	E	2200 7'2 5/8"	2520 8'3 3/16"	3030 9'11 5/16"	3540 11'7 3/8"	4040 13'3 1/6"
Width	F	1780 5'10 1/16"	2030 6'7 15/16"	2440 8'0 1/16"	2850 9'4 3/16"	3250 10'7 15/16"
	G	1320 4'3 15/16"	1500 4'11 1/16"	1800 5'10 7/8"	2100 6'10 11/16"	2400 7'10 1/8"
	Z	160 6 5/16"	100 3 15/16"	60 2 3/8"	10 3/8"	-20 -13/16"

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

**1) Detection Area Width**

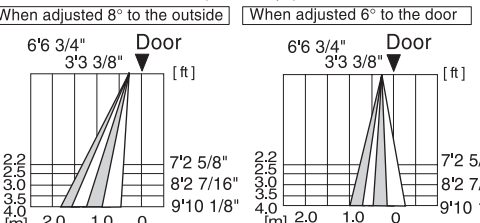


- Angle Adjustment**  
 Adjustable Angle with 1: 10° to the left and right (5° x 2steps)



**2) Detection Area Depth**

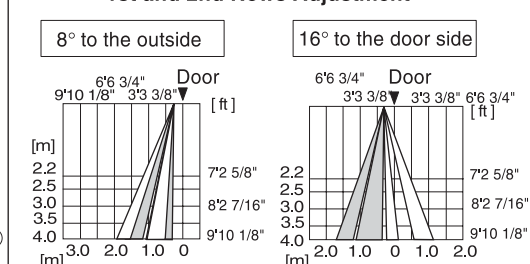
- 4 row Simultaneous Adjustment**  
 Adjustable angle with 8: 8° (2° x 4 steps) to the outside  
 6° (2° x 3 steps) to the door side



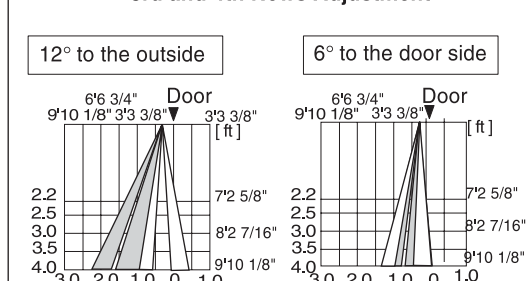
**2) Row Independent Adjustment**

- When a required depth is still not materialized, adjust 1st and 2nd Rows, 3rd and 4th Rows as follows separately.  
 1) Remove 10.  
 2) Adjust 8 and 9 respectively.  
 Adjustable angle:  
 1st and 2nd Rows: 8° to the outside (2° x 4 steps), 16° to the door side (2° x 8 steps)  
 3rd and 4th Rows: 12° to the outside (2° x 6 steps), 6° to the door side (2° x 3 steps)

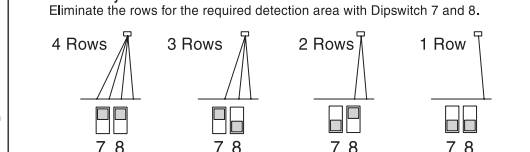
**1st and 2nd Rows Adjustment**



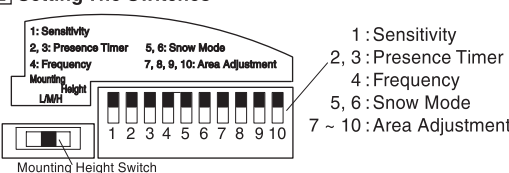
**3rd and 4th Rows Adjustment**



**Row Adjustment**

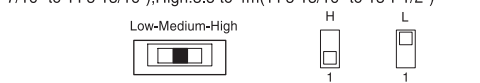


**2) Setting The Switches**



**1) Mounting Height Switch and Sensitivity**

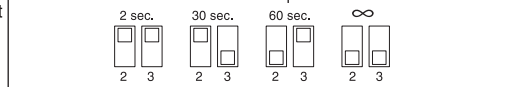
Select the Mounting Height Switch according to the actual mounting height. Low: 2 to 2.5m(6'6 3/4 to 8'2 7/16"), Medium: 2.5 to 3.5m(8'2 7/16 to 11'5 13/16"), High: 3.5 to 4m(11'5 13/16 to 13'1 1/2")



After setting the Mounting Height Switch, the sensitivity can be adjusted depending on installation environment (floor conditions, exposure to rain or snow, etc.).  
 When operation is unstable due to the high sensitivity, adjust the sensitivity by setting the Dipswitch 1 to "L".  
 If the sensitivity adjustment with Dipswitch is unsatisfactory, make the position of the "Mounting Height Switch" one level lower.

**2) Presence Detection Timer**

- Presence detection applies to the 1st and 2nd Row. The Same Presence Timer is set for both rows.  
 1. Set Presence Timer with Dipswitch 2 & 3 as shown below.  
 2. Supply the power and leave the detection area. (Make sure there is no moving object.)  
 3. Wait for 10 seconds to enable the presence detection.



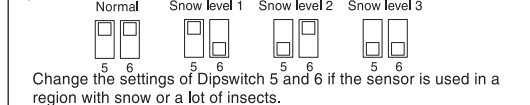
**WARNING:** Danger of being caught by the door  
 Presence detection will become effective only after 10 seconds following the supply of power.

**3) Frequency (Interference Prevention)**

When two or more sensors are installed nearby, set each frequency differently by Dipswitch 4 since they may interfere each other.



**4) Snow Mode**



Change the settings of Dipswitch 5 and 6 if the sensor is used in a region with snow or a lot of insects.  
**NOTE** When the door remains opened after adjustment hard-reset the sensor.

**3) Checking**

Check the operation according to the flow chart shown below.

Entry motion (image)	Stand-by	Motion and presence detection active	Presence detection active	Stand-by
Operation Indicator	Green	Orange	Red	Green
Output	Yellow Green White	Yellow Green White	Yellow Green White	Yellow Green White

**WARNING:** Danger of being caught by the door  
 Make sure to use a beam switch as a safety auxiliary device together. Even if the detection area is set to the closest to the door, it is still dangerous since there may be no detection area around the door.

**NOTE** When detection fails

Even if an object enters the detection area, the detection can occasionally fail because the intensity of the reflected near-infrared rays varies depending on the object's (person's) entry speed, material and colour of the cloth as well as the material and color of the floor, or the ambient conditions.

**INFORM BUILDING OWNER/OPERATOR OF THE FOLLOWING ITEMS**

1. When turning on the power, always walk-test the detection area to ensure proper operation.
2. Always keep the detection window clean. If dirty, wipe the detection window with a damp cloth. (Do not use any cleaner or solvent.) Never paint the detection window.
3. Do not wash the sensor with water.
4. Do not disassemble, rebuild or repair the sensor yourself otherwise electric shock may occur.
5. Always contact your installer or service engineer when changing the settings.
6. Do not place an object that moves or emits light in the detection area. (e.g. plant, illumination, etc.)

**TROUBLESHOOTING**

Trouble	Possible Cause	Solution
Does not operate	Power supply is not adequate. Connection failure.	Adjust to the stated voltage. Check the wiring and connector.
Does not operate consistently	Dirty detection window Sensitivity is insufficient.	Wipe the detection window lightly with a piece of cloth dampened by neutral detergent and wipe again with a piece of cloth dampened by water. Set Dipswitch 1 (sensitivity) to "H."
Operates by itself (Ghosting)	Sensitivity is too high. The detection area overlaps with that of another sensor. The 1st Row spots overlaps with the door. Existences of the smoke or exhaust emission in the detection area. Wet floor conditions in the detection area. Vibration of the sensor mounting surface. Swaying objects or a heating radiator in the detection area. Highly reflecting floor or the presence of highly reflecting objects in the detection area or nearby.	Set Dipswitch 1 to "L". Set the different frequency for each sensor. Adjust the detection area away from the door. Remedy the installation site conditions.
Door stays open	Presence detection is active due to a change in the detection area.	Set Presence Timer again. ⇒ Follow [2] Setting The Switches, 2) Presence Detection Timer. If the problem still persists, hard-reset the sensor. (Turn the power OFF and ON again).

Contact your installer or the service engineer if the trouble still persists after checking and remedying as described above.

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