



# i-one/i-two



## SPECIFICATIONS

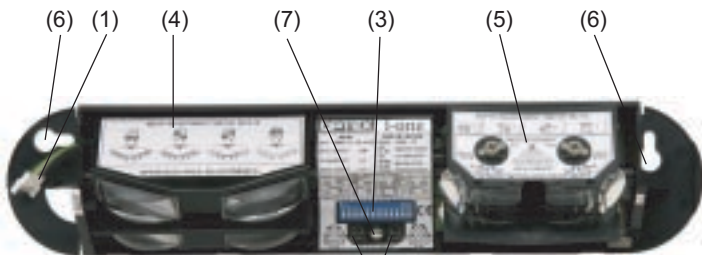
Model	: i-one/i-two	Power Input	: 12 - 24V AC 12 - 30V DC
Mounting Height	: 2.1m - 3.0 m	Current Draw	: 250mA Max. (AC/DC)
Detection Area	: See the chart in "ADJUSTMENT"	Output Contact	: "Form C" Relay 50V 0.3A Max. (Resistance Load)
Detection Method	: Active Infrared Reflection (Presence Detection Type)	Relay Hold Time	: 0.5 - 2 sec.
Detection Angle		Response Time	: < 0.3 sec.
Adjustments	: Approach Area $\pm 15^\circ$ (Inside & Outside) Presence/Motion Area $\pm 5^\circ$ (Inside & Outside)	Operating Temperature	: -20°C - +55 °C
Operation Indicator	: Green: Standby Blinking Red: 1st Row Presence Detection Red: 2nd Row Presence Detection Orange : 3rd & 4th Row Motion Detection Blinking Orange: 5th Row Approach Detection	Weight	: 400g
		Accessories	: 3m Cable 2 Mounting Screws Adjusting Hole Cap Operation Manual Mounting Template

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

## OUTER DIMENSIONS

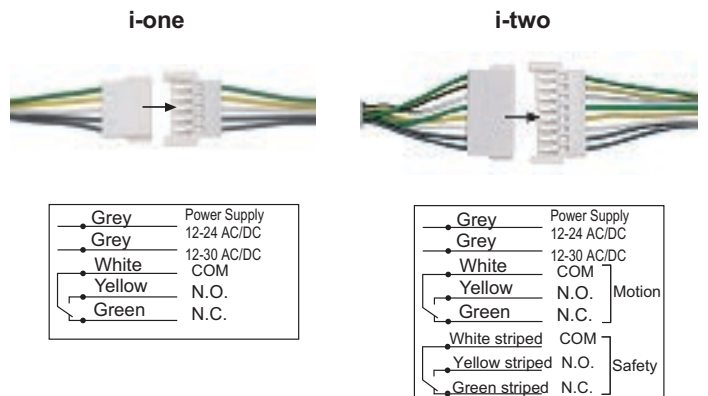


## Name of Parts



- (1) Connector
- (2) Sensitivity Potentiometers
- (3) Dipswitches (Area Adjustment, Presence Timer, Frequency, Rain Mode, Snow Mode, Directional Mode)
- (4) Approach Detection Unit
- (5) Presence/Motion Detection Unit
- (6) Mounting Holes
- (7) Operation Indicator

## Wiring



**1** Be sure to install the sensor where it will not be directly sprayed with rainwater.

1. Affix the Mounting Template to the mounting surface.
2. Drill two mounting holes (Ø 3.2 mm).
3. To carry the cable through the header, drill (A) Ø 6 mm).
4. After drilling the holes, remove the Mounting Template.



**2** Remove the cover and pass the cable through (B), then put the cable into (A).



\*When you face difficulty in threading the cable through (B), break off the cable knockout (as shown in the picture).



**3** Attach the sensor with screws.



**4** Plug the connector for the sensor to that for the cable.



**5** Apply power to the sensor. Then adjust each detection area (See ADJUSTMENT).

Warning: Make sure you connect the cable correctly to the Control Unit of the door **before** turning the power on.



**6** 1. Slide the cover from right to left onto the sensor.



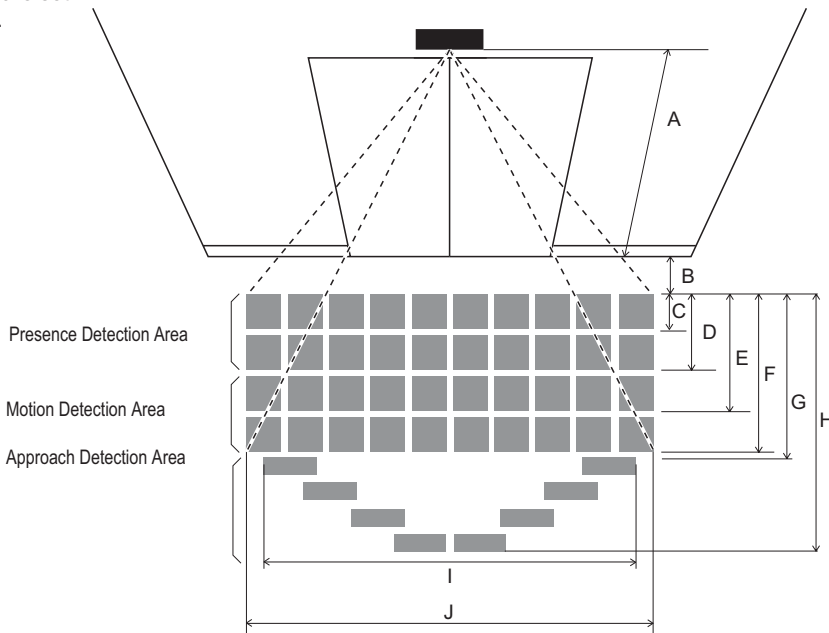
2. Press the cover firmly to the sensor to attach.  
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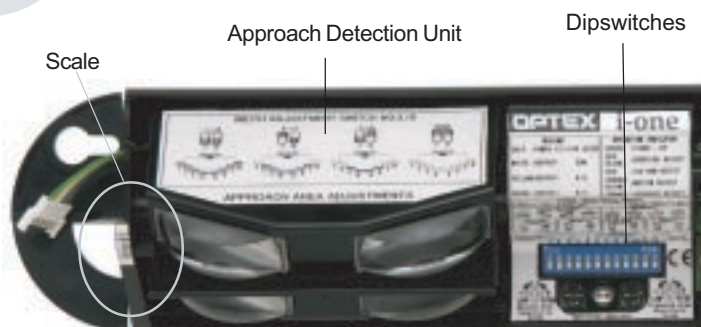
Be sure to walk-test all of the detection areas.  
When the Approach Angle and the Presence/Motion Angle are set to 0°, each detection area will be placed as shown on the right.

## Detection Areas

	[m]		
A	2.20	2.50	3.00
B	0.10	0.11	0.14
C	0.25	0.28	0.24
D	0.60	0.68	0.82
E	1.00	1.13	1.36
F	1.45	1.65	1.98
G	1.50	1.71	2.05
H	2.60	2.96	3.55
I	4.50	5.11	6.14
J	4.90	5.57	6.68

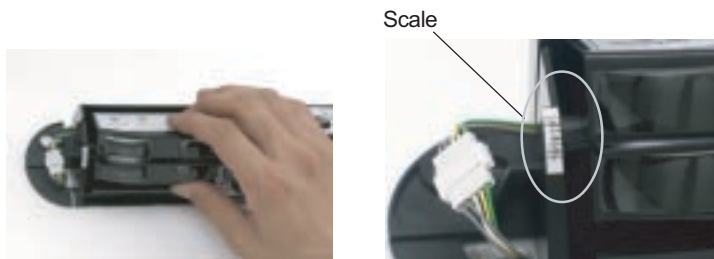


## 1 Adjusting the Approach Detection Area

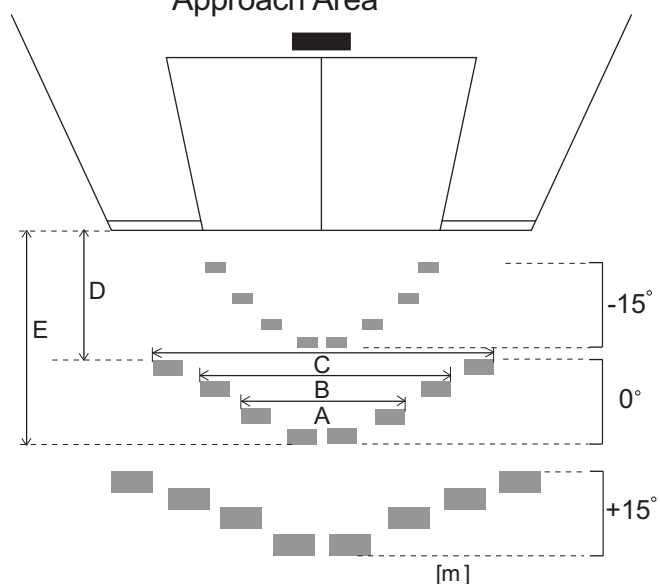


### 1-1 Adjusting the Area Depth

Adjust the depth of the Approach Detection Area according to the traffic flow of the installed door.



## Approach Area

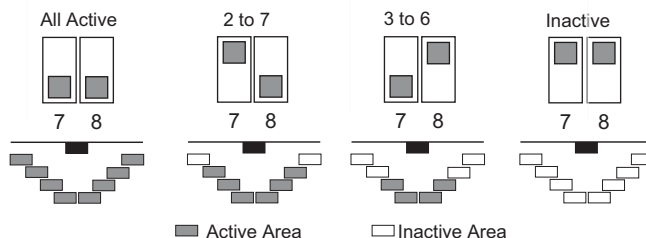


	-15°	0°	+15°
A	1.90	2.20	2.53
B	2.92	3.40	3.91
C	3.87	4.50	5.18
D	0.79	1.50	2.42
E	1.52	2.60	4.27

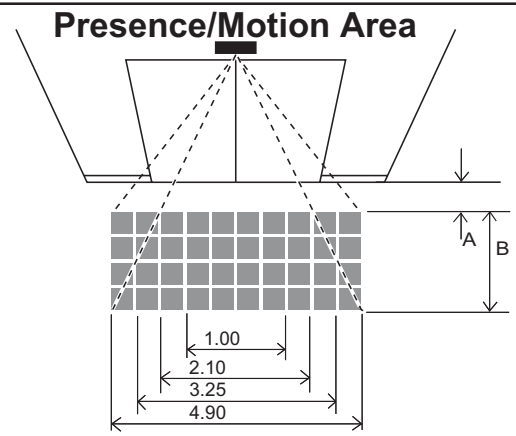
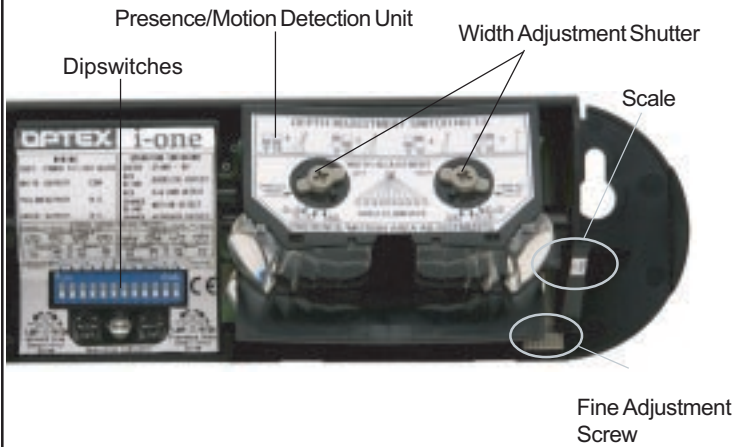
\*Mounting Height = 2.2m

### 1-2 Approach Detection Area Width Adjustment

The width of the Approach Detection Area can be adjusted by changing the Dipswitches as shown on the right.



## 2 Adjusting the Presence/Motion Detection Area



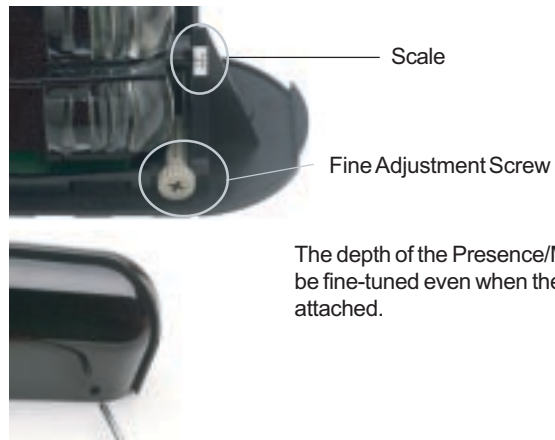
	-5 °	0 °	+5 °
A	-0.80	0.10	0.30
B	1.48	1.50	1.55

\*Mounting Height = 2.2m

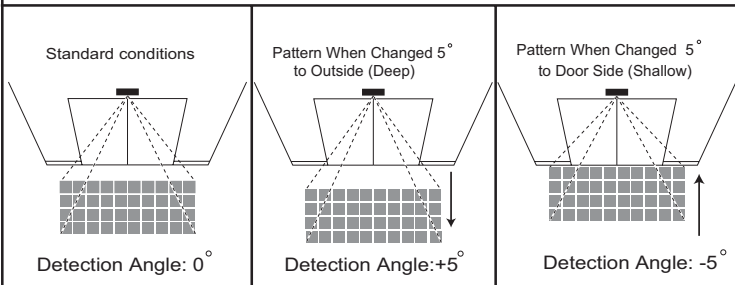
### 2-1 Adjusting the Pattern Depth

Adjust the depth of the Presence/Motion Detection Area by turning the Fine Adjustment Screw with a screwdriver. The detection area of Presence/Motion Detection Unit can be shifted closer to the door.

Warning: Make sure the detection area **does not** overlap with the door, otherwise ghosting may occur.



The depth of the Presence/Motion pattern can be fine-tuned even when the cover is attached.



When you finish installing, insert the Adjustment Hole Cap (to prevent tampering).

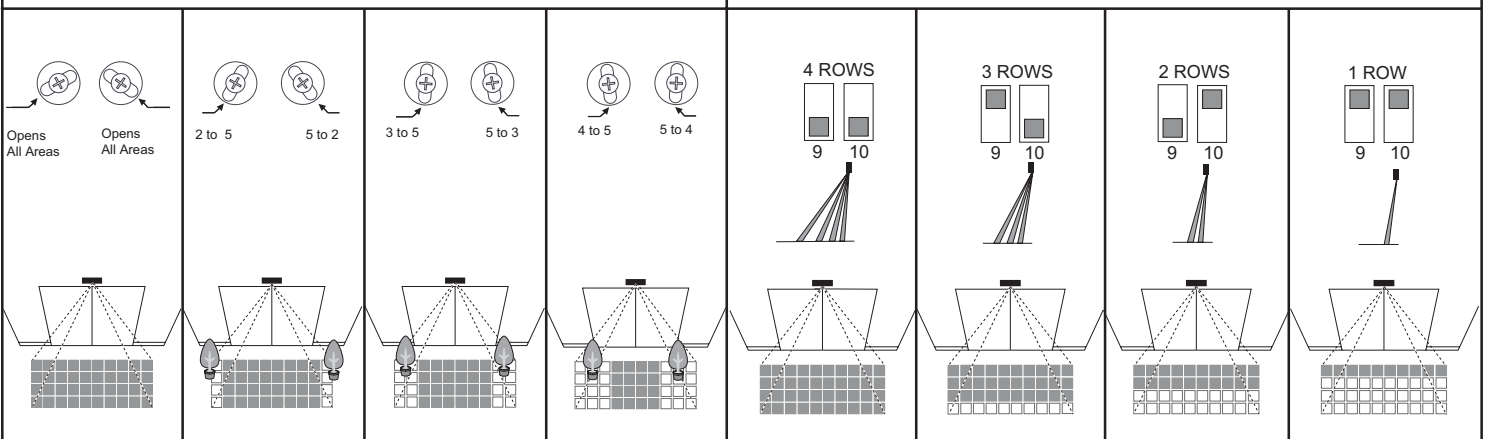
Adjustment Hole Cap

### 2-2 Adjusting the Pattern Width

Each side can be adjusted independently, allowing for asymmetrical setting. Refer to the sticker between Width Adjustment Shutters.

### 2-3 Adjusting the Rows

Rows can be eliminated to adjust pattern depth.



# 3 Dipswitch Settings



- Dipswitches
- 1, 2: Presence Timer
  - 3, 4: Frequency
  - 5: Rain Mode
  - 6: Snow Mode
  - 7, 8: Approach Detection Area Adjustment
  - 9, 10: Presence/Motion Detection Area Adjustment
  - 11 : Directional Mode
  - 12 : Not Used (Future Development)

Approach Sensitivity Potentiometer  
(Factory setting: Midpoint)

Presence/Motion Sensitivity Potentiometer  
(Factory setting: Midpoint)

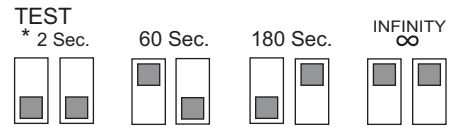
## 3-1 Setting the sensitivity

Both the Approach Sensitivity Potentiometer and the Presence/Motion Sensitivity Potentiometer are factory-set at the midpoint. Turning them clockwise increases the sensitivity and turning counterclockwise lowers the sensitivity.

## 3-2 Setting the Presence Timer

First two rows from the door provide the presence detection.

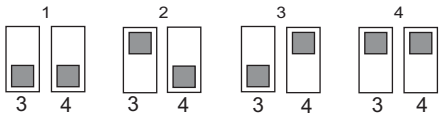
- (1) Select the presence detection time.
- (2) Turn the power on.
- (3) Do not enter the detection area for 10 seconds.



\*Use "2 sec." only for testing. Normal Presence Timer is 60 sec. or longer

## 3-3 Setting the Frequency Function (Interference Prevention)

Four different frequencies can be set by adjusting Dipswitches 3 and 4. When two or more sensors are mounted close to each other, they may interfere. When that happens, change Frequency.



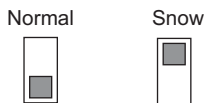
## 3-4 Setting the Rain Mode

Set this switch to Rain if the sensor is used in a region with a lot of rain.



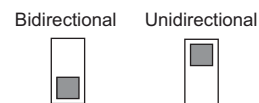
## 3-5 Setting the Snow Mode

Set this switch to Snow if the sensor is used in a region with snow or a lot of insects.



## 3-6 Setting the Directional Mode

Setting the Unidirectional allows the door to close more quickly for departing traffic.



# 4 Checking

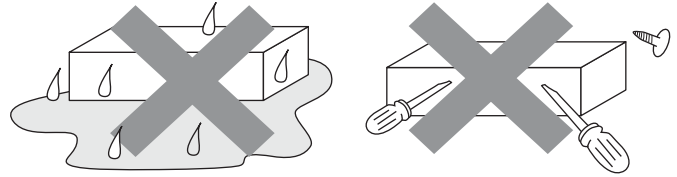
Check the entry motion according to the following flow chart.

Entry Motion	Outside the Detection Area	Entry into the Approach Detection Area	Entry into the Motion Detection Area	Entry into the Presence Detection Area	Entry into the 2nd row of Presence Detection Area	Entry into the 1st row of Presence Detection Area	Outside the Detection Area
Image							
Sensor Status	Standby	Approach detection Active	Motion detection Active	Presence detection Active	Presence detection Active	Presence detection Active	Standby
Operation Indicator	Green	Blinking Orange	Orange	Red	Blinking Red	Blinking Red	Green

\*Note: The response time may differ according to the color of the objects and the color/material of the floor.

# 5 Maintenance

Keep the detection window clean.  
If dirty, dip cloth in neutral detergent and wipe the window lightly.  
Do not use any organic solvent (thinner, benzene, etc.)



## TROUBLESHOOTING

Problem	Possible Cause	Solution	Reference
Does not operate	Power Input is not adequate	Adjust to the stated voltage	SPECIFICATIONS
	Connection failure	Check the wiring and the connector	WIRING
Does not operate consistently	Dirty detection window	Clean the detection window	ADJUSTMENT 5
Operates by itself (Ghosting)	There is a moving object in the detection area. (ex. Plant, Poster etc.)	Remove the object	ADJUSTMENT 1,2
	There was an abrupt condition change in the detection area.	Check the installation conditions	ADJUSTMENT 1,2
	Another sensor's detection area is overlapping	Change the frequency setting	ADJUSTMENT 3
	Waterdrops on detection window	Keep the detection window free from waterdrops	INSTALLATION 1
	Vibration of the header	Secure the header	
	The Presence/Motion Detection Area overlaps with the door.	Adjust sensor angle away from the door	ADJUSTMENT 2-1

## Output Contact

Entry motion	Outside the Detection Area	Entry into the Approach Detection Area	Entry into the Motion Detection Area	Entry into the 2nd row of Presence Detection Area	Entry into the 1st row of Presence Detection Area	Outside the Detection Area
Image						
i-one	Output contact	Yellow Green White			Yellow Green White	
	Motion output contact	Yellow Green White	Yellow Green White			Yellow Green White
i-two	Safety output contact	Yellow striped Green striped White striped			Yellow striped Green striped White striped	

## Warning Indication

Mode	Selfmonitoring Function ("i-two" only)	Life cycle Notification	Signal Saturation
Operation Indicator	Fast Green Blinking 	Twice Green Blinking 	Slow Green Blinking 
Explanation	The sensor is reaching the end of its cycle.	The relay is reaching the end of its life cycle.	Either the mounting position is too low or the detection area includes the wall or another object. Refer to "ADJUSTMENT"

If the trouble still persists after checking and remedying as described above, contact your local sales representative.



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