

OA-FLEX T

5924580 NOV 2015

MANUFACTURER'S STATEMENT

Read this operation manual carefully before use to ensure proper operation of this product. Failure to read this operation manual may cause improper operation and may result in serious injury or death of a person. The meanings of the symbols are as follows.

	WARNING	Disregard of warning may cause the improper operation causing death or serious injury of a person.
	CAUTION	Disregard of caution may cause the improper operation causing injury of a person or damage to objects.
	NOTE	Special attention is required to the section of this symbol.
		It is required to check the operation manual if this symbol is shown on the product.

NOTE

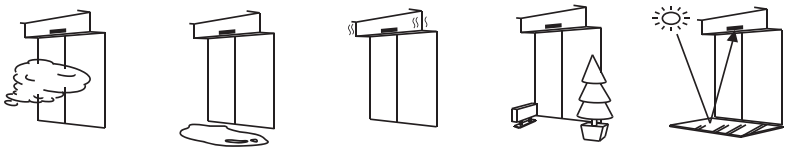
- This product is a non-contact switch intended for header mount or wall mount for use on an automatic sliding door. Do not use for any other applications.
- When setting the sensor's detection area, make sure that there is no traffic around the installation site.
- Before turning the power ON, check the wiring to prevent damage or malfunction of equipment connected to the product.
- Only use the product as specified in the operation manual provided.
- Be sure to install and adjust the sensor in accordance with the local laws and standards of the country in which the product is installed.
- Before leaving the installation site make sure that the product is operating properly and instruct the building owner/operator on proper operation of the door and the product.
- The product settings can only be changed by an installer or service engineer. When changed, the changed settings and the date shall be registered in the maintenance logbook accompanying the door.

	WARNING	Do not wash, disassemble, rebuild or repair the sensor, otherwise it may cause electric shock or breakdown of the equipment.
Danger of electric shock.		

NOTE

The following conditions are not suitable for sensor installation :

- Fog or exhaust emission around the door.
- Moving objects or objects that emit light near the detection field.
- Highly reflecting floor or highly reflecting objects around the door.
- Wet floor.
- Grating floor.



SPECIFICATIONS

Model	: OA-FLEX T	Operating temperature	: -31 to 131°F (-35 to +55°C)
Cover color	: Black	Operating humidity	: < 80%
Mounting height	: 6'7" (2.0m) to 9'10" (3.0m)	Noise level	: < 70dBA
Detection area	: See DETECTION AREA	Output hold time	: Approx. 0.5 sec.
Detection method	: Active infrared reflection(*1)	Response time	: < 0.3 sec.
Area angle adjustment	: Depth : -8° to +8° Width : ±7° (2 clicks with 3.5° every click-Left/Right)	IP rate	: IP54
Power supply (*2)	: 12 to 24VAC ±10% (50 / 60Hz) 12 to 30VDC ±10%	Weight	: 7.8oz (220g)
Power consumption	: < 2.0W (< 5VA at AC)	Accessories	: 1 Operation manual 2 Mounting screws 1 Mounting template 1 Area adjustment tool 1 Cable 9'10"(3m) (8 x 0.22mm ² AWG24) (*3)
Operation indicator	: See Operation indicator table		
Test input	: Opto coupler Voltage / 5 to 30VDC Current / 6mA Max. (30VDC)		
Activation output	: Form A relay 50V 0.3A Max. (Resistance load)		
Safety output	: Form A relay 50V 0.3A Max. (Resistance load)		

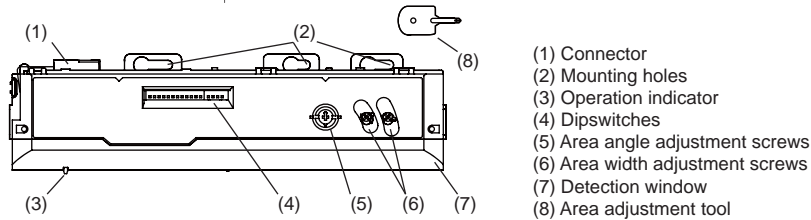
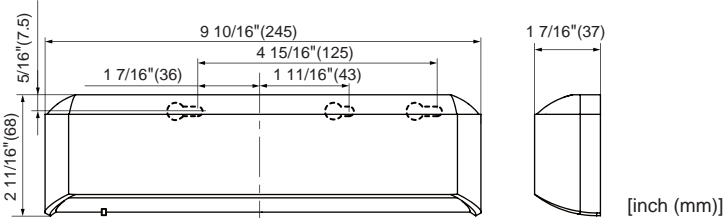
Operation indicator table

Status	Operation indicator color	Indicator Pattern
Set-up	Yellow Blinking	[Blinking Yellow]
Stand-by (Installation mode)	Yellow	[Solid Yellow]
Stand-by (Operation mode)	Green	[Solid Green]
BLUEZONE (1st row) detection (*4)	Blue	[Solid Blue]
2nd row detection	Red Blinking	[Blinking Red]
3rd row detection	Red	[Solid Red]
4th-6th row detection	Orange	[Solid Orange]
Signal saturation	Slow Green Blinking	[Blinking Green]
Sensor failure	Fast Green Blinking	[Blinking Green]

NOTE

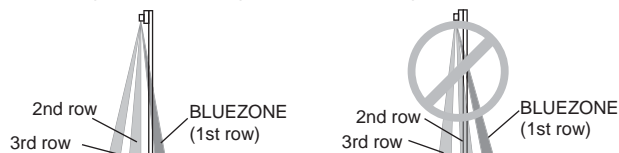
- The specifications herein are subject to change without prior notice due to improvements.
- *1 : BLUEZONE (1st row), 2nd and 3rd rows have a presence detection function.
 - *2 : When using this sensor, the sensor has to be connected to a door system which has the SELV circuit.
 - *3 : Overcurrent protection with less than 2A. *4 : See **BLUEZONE AREA**

OUTER DIMENSIONS AND PART NAMES

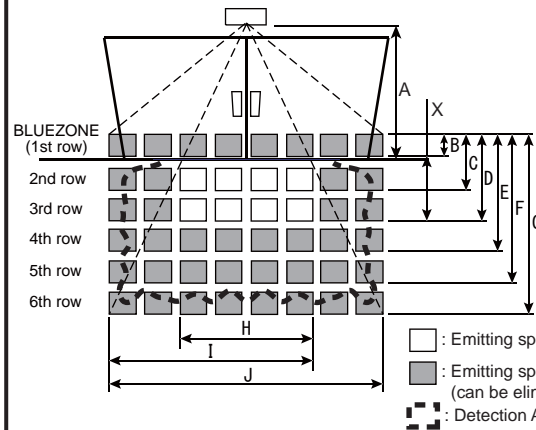


BLUEZONE AREA

When dipswitch 15 is set to "ON", the BLUEZONE area, that provides extra safety over the threshold, is activated. In case the BLUEZONE function is not required, set dipswitch 15 to "OFF". Do not set the 2nd row overlapping the threshold regardless of the setting of dipswitch 15.



DETECTION AREA



Emitting area		[feet,inch (m)]			
A	6'7" (2.00)	7'7" (2.30)	8'2" (2.50)	9'10" (3.00)	
B	5" (0.13)	6" (0.16)	7" (0.17)	8" (0.21)	
C	1'3" (0.38)	1'6" (0.46)	1'8" (0.50)	1'12" (0.60)	
D	2'4" (0.71)	2'10" (0.86)	3'1" (0.94)	3'8" (1.13)	
E	2'9" (0.84)	3'4" (1.01)	3'7" (1.09)	4'4" (1.31)	
F	4'5" (1.34)	5'4" (1.62)	5'9" (1.76)	6'11" (2.11)	
G	5'9" (1.75)	6'11" (2.11)	7'6" (2.29)	9" (2.75)	
H	3' (0.92)	3'8" (1.11)	3'11" (1.20)	4'9" (1.45)	
I	4'11" (1.49)	5'11" (1.80)	6'5" (1.95)	7'8" (2.34)	
J	6'9" (2.06)	8'2" (2.48)	8'10" (2.69)	10'7" (3.23)	

Charts show the values in the following area angle adjustment settings ; Depth : 0° Width : 0°

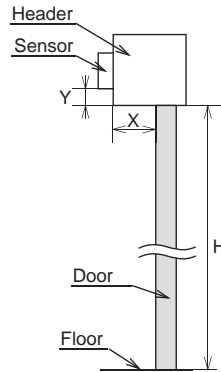
NOTE

The actual detection area may become smaller depending on the ambient light, the color / material of the object or the floor as well as the entry speed of the object. The sensor may not be activated when the entering speed of the object or a person is slower than 50mm / sec. or faster than 1500mm / sec.

INSTALLATION

1

- Affix the mounting template at the desired mounting position. (When setting the detection area close to the door, mount the sensor according to the chart below.)
- Drill two mounting holes of $\phi 1/8"$ ($\phi 3.4\text{mm}$).
- To pass the cable through the header, drill a wiring hole of $\phi 3/8"$ ($\phi 10\text{mm}$).
- Remove the mounting template.
- Remove the housing cover. Fix the sensor to the mounting surface with the two mounting screws.



H : Height from the floor to the bottom of the header
(The mounting height is "H + Y".)
Y : Distance between the bottom of the header and the sensor
X : Distance between the door and the mounting surface

Maximum mounting distance (Y)		[feet,inch (m)]			
X \ H	H	6'7" (2.00)	7'7" (2.30)	8'2" (2.50)	9'10" (3.0)
0	0	No limit			
2" (0.05)	8" (0.20)	8" (0.20)	8" (0.20)	8" (0.20)	0
4" (0.10)	8" (0.20)	8" (0.20)	8" (0.20)	8" (0.20)	0
6" (0.15)	5" (0.13)	6" (0.15)	7" (0.19)	7" (0.19)	0
8" (0.20)	-	5" (0.12)	6" (0.14)	6" (0.14)	0
10" (0.25)	-	-	4" (0.11)	4" (0.11)	0
12" (0.30)	-	-	-	-	0

NOTE Make sure not to mount the sensor lower than the bottom of header.

	CAUTION	Make sure to affix the mounting template as described in the above chart , otherwise it can be dangerous since there may be no detection area around the threshold. Install the sensor as low as possible on the header.
Risk of getting caught.		

2

Power supply 1	1. Grey 2. Grey	12 to 24VAC±10% / 12 to 30VDC±10%
Activation output 2	3. White 4. Yellow	Form A relay 50V 0.3A Max.
Safety output 3	5. White stripe 6. Yellow stripe	Form A relay 50V 0.3A Max.
Test input 4	7. Red (+) 8. Black (-)	Opto coupler / Voltage: 5 to 30VDC

	WARNING	Before starting the procedure, make sure that the power is turned OFF. When passing the cable through the hole, do not tear the shield. otherwise it may cause electric shock or breakdown of the sensor.
Danger of electric shock.		

3

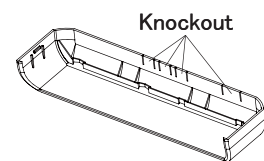
- Plug the connector.
- Supply power to the sensor. Adjust the detection area and set the dipswitches. (See **ADJUSTMENTS 3. Dipswitch settings**)

NOTE

Make sure to connect the cable correctly to the door controller before turning the power ON. When turning the power ON or after adjusting the settings, do not enter the detection area for more than 10 seconds in order to enable the presence detection. Do not touch the dipswitches before turning the power ON, otherwise an error occurs. When changing the settings of dipswitch, see **ADJUSTMENTS 3. Dipswitch settings**

4

- Place the housing cover. If wiring is to be exposed, break the knockout.



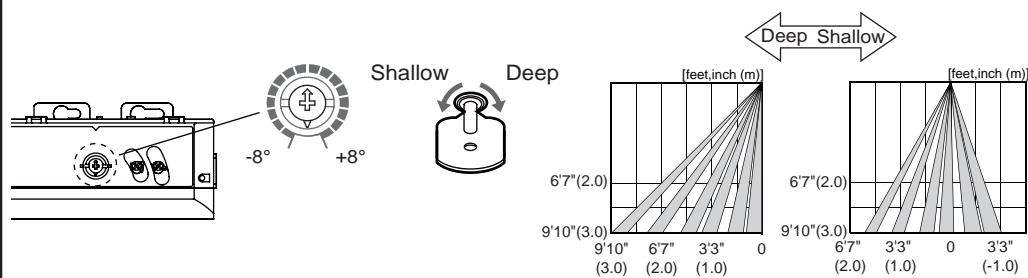
	WARNING	Do not use the sensor without the cover. When using the cable knockout, install the sensor indoors or use the rain-cover (Separately available) otherwise electric shock or breakdown of the sensor may occur.
Danger of electric shock.		

ADJUSTMENTS

1 Area angle adjustment

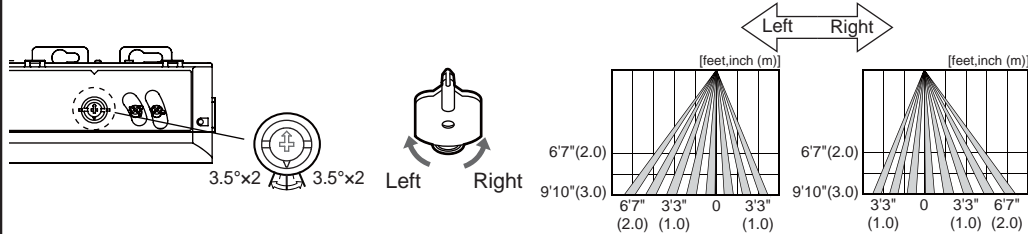
1-1. Area depth angle adjustment

When adjusting the 2nd row close to the door, see dipswitch 16 in **Dipswitch settings table** for the easier adjustment.



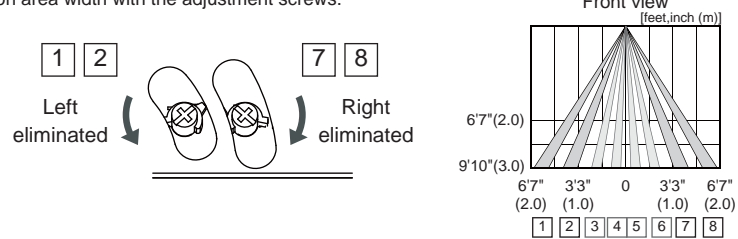
1-2. Area width angle adjustment

The angle of the detection area can both be moved 7° either left or right in 2 steps.



2 Area width adjustment

Adjust the detection area width with the adjustment screws.



NOTE When setting the detection area width, make sure to turn the adjustment screws until it clicks. ①② cannot be eliminated separately, neither can ⑦⑧

3 Dipswitch settings

Dipswitch settings table

Dipswitch	Function	Setting				Comment
		Low	High			
Dipswitch 1	Sensitivity	1	1			Set the sensitivity according to the mounting height.
Dipswitch 2	Presence timer	30sec.	60sec.	180sec.	600sec.	The presence timer is applied to BLUEZONE(1st row), 2nd row and 3rd row. The presence timer can be selected from 4 settings.
Dipswitch 3		2 3	2 3	2 3	2 3	
Dipswitch 4	Frequency	A	B	C	D	When using more than one sensor close to each other, set the frequency different for each sensor.
Dipswitch 5		4 5	4 5	4 5	4 5	
Dipswitch 6	Row adjustment	6rows	5rows	4rows	3rows	Set the depth rows with dipswitches 6 and 7.
Dipswitch 7		6 7	6 7	6 7	6 7	
Dipswitch 8	Immunity	OFF	ON			Set dipswitch 8 to "ON" when the sensor operates by itself (Ghosting).
Dipswitch 9	Activation output	N.O.	N.C.			Dipswitch 9 is for the Activation output to door controller.
Dipswitch 10	Safety output	N.O.	N.C.			Dipswitch 10 is for the Safety output (to door controller).
Dipswitch 11	Safety input	High	Low			Dipswitch 11 is for the Safety input (from door controller).
Dipswitch 12	Presence area	1st to 3rd row	All areas			Set dipswitch 12 to "ON" when the presence timer is applied to all areas.
Dipswitch 13						N/A
Dipswitch 14	Simultaneous output	OFF	ON			When Dipswitch 14 is set to "ON", both Activation & Safety output will operate simultaneously regardless of detection area. But only Safety output will respond back with Safety output when it receives Safety input.
Dipswitch 15	BLUEZONE (1st row)	OFF	ON			When dipswitch 15 is set to "ON", the BLUEZONE (1st row) is active and looks through the threshold.
Dipswitch 16	Installation mode	OFF	ON			Set dipswitch 16 to "ON" to adjust the 2nd row. During the installation mode only the 2nd row remains active and the operation indicator shows yellow. After setting the row switch dipswitch 16 "OFF".

CHECKING

Check the operation according to the chart below.

	Entry	Power off	Outside of detection area	Entry to 4th to 6th row	Entry to 3rd row	Entry to 2nd row	Entry to BLUEZONE (*)
Image							
Operation indicator	None	Green	Orange	Red	Red Blinking	Blue	
Activation output	9 ↓ N.O.	OFF	OFF	ON	OFF		
	9 ↑ N.C.	OFF	ON	OFF	ON		
	9 ↓ N.O.	14 ↓ OFF	OFF	ON	ON		
	9 ↑ N.C.	14 ↑ ON	OFF	ON	OFF		
Safety output	10 ↓ High	14 ↓ OFF	OFF	OFF	ON		
	10 ↑ Low	14 ↓ OFF	OFF	ON	OFF		
	10 ↓ High	14 ↑ ON	OFF	OFF	ON		
	10 ↑ Low	14 ↑ ON	OFF	ON	OFF		

NOTE *: When dipswitch 15 is set to "ON".

INFORM BUILDING OWNER / OPERATOR OF THE FOLLOWING ITEMS

WARNING

- Always keep the detection window clean. If dirty, wipe the window with a damp cloth. (Do not use any cleaner / solvent.)
- Do not wash the sensor with water.
- Do not disassemble, rebuild or repair the sensor yourself, otherwise electric shock may occur.
- When the operation indicator blinks Green, contact your installer or service engineer.
- Always contact your installer or service engineer when changing the settings.
- Do not paint the detection window.

NOTE 1. When turning the power ON, always walk-test the detection area to ensure the proper operation.
2. Do not place any objects that move or emit light in the detection area. (e.g. Plant, illumination, etc.)

TROUBLESHOOTING

Door operation	Operation indicator	Possible cause	Possible countermeasures
Door does not open when a person enters the detection area.	None	Wrong power supply voltage.	Set to the stated voltage.
	Unstable	Wrong wiring or connection failure.	Check the wires and connector.
		Wrong detection area positioning.	Check ADJUSTMENTS 1, 2 .
Door opens when no one is in the detection area. (Ghosting)	Proper	Sensitivity is too low.	Set the sensitivity higher.
		Short presence timer.	Set the presence timer longer.
		Dirty detection window.	Wipe the detection window with a damp cloth. Do not use any cleaner or solvent.
		Wrong wiring or connection failure.	Check the wires and connector.
	Unstable	Objects that move or emit light in the detection area.	Remove the objects.
Door remains open	Proper	The detection area overlaps with that of another sensor.	Check ADJUSTMENTS 3 dipswitch 4,5.
		Waterdrops on the detection window.	Use the rain-cover. (Separately available) Wipe the detection window with a damp cloth. Do not use any cleaner or solvent. Install in a place keeping the waterdrops off.
	Fast Green Blinking	The detection area overlaps with the door/header.	Adjust the detection area to "Deep" (Outside).
		Sensitivity is too high.	Set the sensitivity lower.
	Slow Green Blinking	Others	Set dipswitch 8 to "ON".
		Wrong setting of dipswitches.	Check ADJUSTMENTS 3 dipswitch 9,10,11.
Proper operation	Yellow	Sudden change in the detection area.	Check ADJUSTMENTS 3 dipswitch 1 to 3. If the problem still persists, hard-reset the sensor. (Turn the power OFF and ON again.)
	Slow Green Blinking	Wrong wiring or connection failure.	Check the wires and connector.
Proper operation	Yellow	Sensitivity is too low.	Set the sensitivity higher.
		Dirty detection window.	Wipe the detection window with a damp cloth. Do not use any cleaner or solvent.
	Slow Green Blinking	Sensor failure.	Contact your installer or service engineer.
Proper operation	Yellow	Signal saturation. (2nd and/or 3rd row)	Remove highly reflecting objects from the detection area. Lower the sensitivity. Change the area depth angle.
		The detection area overlaps with the door/header.	Adjust the detection area to "Deep" (Outside).
Proper operation	Yellow	Installation mode is set to "ON".	Set dipswitch 16 to "OFF".
		Signal saturation. (4th, 5th, 6th row and/or BLUEZONE)	Remove highly reflecting objects from the detection area. Lower the sensitivity. Change the area depth angle.

FCC WARNING(For USA)

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

-NOTICE-

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

-NOTICE-

- The antennas cannot be exchanged.
- To comply with FCC RF exposure compliance requirements, a separation distance of at least 20cm must be maintained between the antenna of this device and all persons.

IC(For CANADA)

Operation is subject to the following two conditions:

- this device may not cause interference, and
- this device must accept any interference received, including interference that may cause undesired operation of the device.

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