ELITE T

Swing Door
Door Mounting Sensor

5924381 2016.1

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 the warning symbol can cause improper operation which may cause death or serious injury.
⚠ CAUTION	Disregard of the caution symbol can cause improper operation which may cause injury of a person or damage the object.
NOTE	Special attention is required to the section of this symbol.

1. Set door speeds and verify proper operation of door manufacturer's equipment prior to applying 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 power to the sensor system to prevent damage to equipment.
4. When setting the sensor's area pattern, make sure there is no traffic around the installation site.
5. Do not attempt to rebuild or repair sensor heads or control unit. Contact an address in this manual for replacement products.
6. Only use the sensor as specified in the supplied instructions.
7. Walk test the installation to verify 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. Identify any switches/breakers that will place the door out of service when unsafe or improper operation is identified.

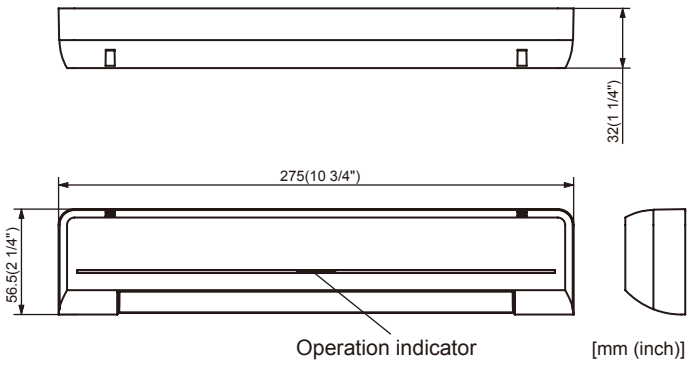
SPECIFICATIONS

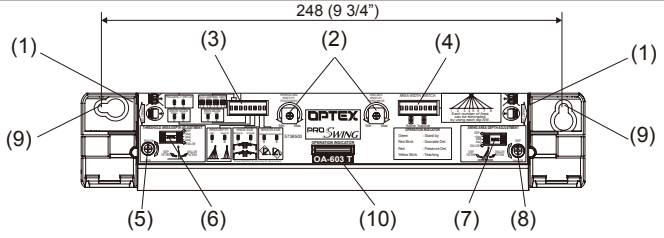
Model	: OA-603 T
Cover color type	: Black / Silver
Mounting height	: 2.0m (6'7") to 2.5m (8'2")
Detection area	: See the chart in **"ADJUSTMENTS"**
Detection method	: Active infrared reflection (Presence detection type)
Detection angle adjustments	: Threshold area ±5˚(Inside & outside)
	: Swing area ±5˚(Inside & Outside)
Operation indicator	: Green / Stand-by Blinking Red / Threshold area detection active Red / Swing area detection active Blinking Yellow / Learning
Current draw	: 120mA Max
Response time	: < 0.3sec.
Operating temperature	: -20˚C to +55˚C (-4˚F to +131˚F)
Weight	: 230g (8.2oz.)
Accessories	: 1 Sensor cable 0.2m(7") 9 Mounting screws 1 Operation manual 3 Mounting template

Insure proper setting of Mode switch #8 indicating approach side or swing side sensor.

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

OUTER DIMENSIONS AND PART NAMES



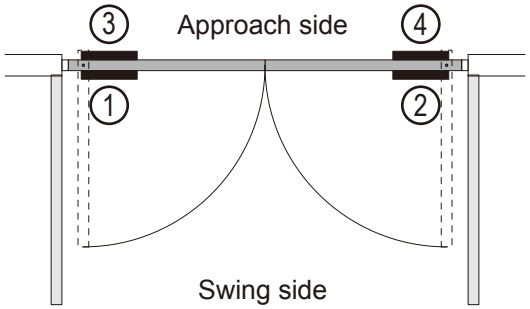


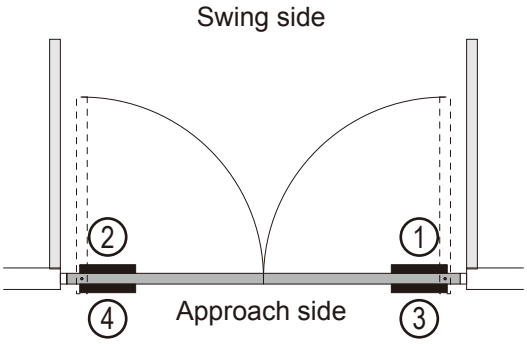
(1) Connector
(2) Sensitivity potentiometer
(3) Mode setting switches (Area depth adjustment, Auto learning timer, Frequency, Rain mode, Snow mode)
(4) Area Width Switch
(5) Threshold area angle screw
(6) Threshold area angle gauge
(7) Swing area angle gauge
(8) Swing area angle screw
(9) Mounting holes
(10) Operation indicator

INSTALLATION

Top view

Please start the "Dipswitch setting 1 to 4" by reference the right pictures.





Sensor setting

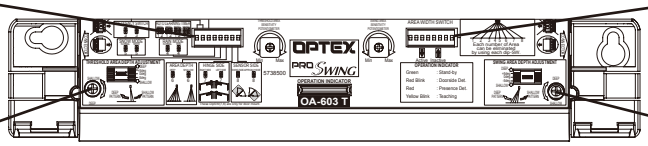
Please refer to the following for the setting of the Dipswitch.

MODE SETTING SW
(LEFT DIPSWITCH)

AREA WIDTH SW
(RIGHT DIPSWITCH)

Set +5degrees

Threshold area angle screw



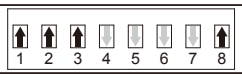
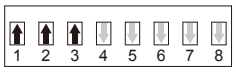
Set +5degrees

Swing area angle screw

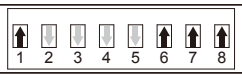
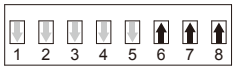
Adjust both angle screws (threshold and swing) CLOCKWISE to achieve **maximum angle for all door mount sensor.**
The screws will continue to turn even though maximum angle is reached as indicated by the angle gauges.

⚠ WARNING	Insure proper setting of mode switch #8 indicating approach side or swing side sensor.

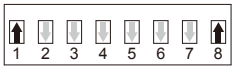
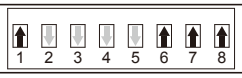
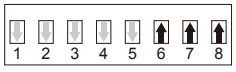
Dipswitch setting 1

MODE SETTING SW (LEFT DIPSWITCH)	AREA WIDTH SW (RIGHT DIPSWITCH)	DOOR SIZE
① 		36 inch
		42 inch
		48 inch

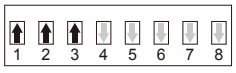
Dipswitch setting 2

MODE SETTING SW (LEFT DIPSWITCH)	AREA WIDTH SW (RIGHT DIPSWITCH)	DOOR SIZE
② 		36 inch
		42 inch
		48 inch

Dipswitch setting 3

MODE SETTING SW (LEFT DIPSWITCH)	AREA WIDTH SW (RIGHT DIPSWITCH)	DOOR SIZE
③ 		36 inch
		42 inch
		48 inch

Dipswitch setting 4

MODE SETTING SW (LEFT DIPSWITCH)	AREA WIDTH SW (RIGHT DIPSWITCH)	DOOR SIZE
④ 		36 inch
		42 inch
		48 inch

Step 1

1. Determine which side of door(swing or approach) Position sensor is to be installed. Align template to pivot edge of door accordingly. Affix template. Template height can be between 6'-7" to 8'-2" from floor to top of template.

NOTE When templates are aligned properly the 3/8" pass thru hole ("A" on template) will be aligned with each other on both sides of door.

2. On the side of the door where the Position sensor is to be installed, drill two 1/8"(3.2mm) holes for Position sensor mounting plate as indicated by template. (one side of door leaf only)

3. Drill four sensor mounting holes (two on each side of door leaf, 1/8" or 3.2mm) as indicated by templates.
4. Drill 3/8" holes for pass thru cable as indicated on templates.

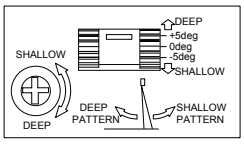
NOTE Hole "A" on approach side template should be perfectly in line with hole "A" on swing side template.

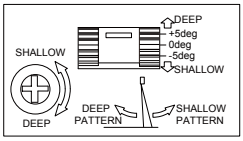
Step 2

1. On the side of the door where the Position sensor is to be installed take a OA-603 T sensor head and adjust the left and right dipswitch settings as indicated by the corresponding template. Verify threshold and swing angle adjustments are set to deep (+5 degrees).

NOTE **Each template location will have different dipswitch settings.**

2. Remove the template and attach the sensor head loosely to the door leaf with two of the nine supplied screws.
3. Align the Position sensor mounting plate with the appropriate mounting holes and securely fasten to the door leaf with two mounting screws.
4. Go back and tighten the screws securing the OA-603 T sensor head to the door.
5. On the opposite side of the door leaf, take a OA-603 T sensor head and set the left and right Dipswitch settings as indicated by the corresponding template. Verify threshold and swing angle adjustments are set to deep (+5 degrees).





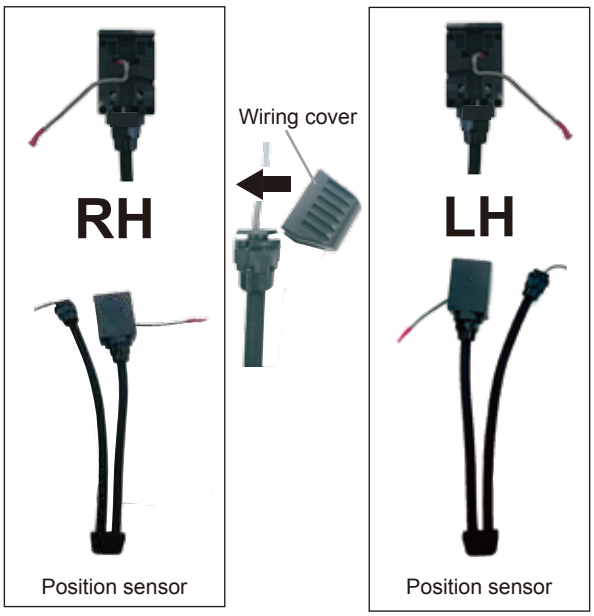
6. Remove the template and securely fasten the sensor head to the door using two mounting screws.
7. Repeat this process for each door leaf.

NOTE

These settings are optimal for most applications. However, operating conditions, environmental conditions and traffic flow may require changes to these settings.
For in depth explanations of adjustments and dipswitch settings refer to the adjustment section (page 1-5) of this manual.

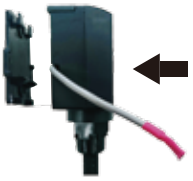
Step 3

1. To attach the Position sensor to the base plate, route the sensor connector wire and change the direction of the Wiring cover based on hinge location when facing the door. (LH or RH see pictures below)



2. To attach to base plate locate the Position sensor slightly high and to the side of the plate. Slide in horizontally and then down vertically.

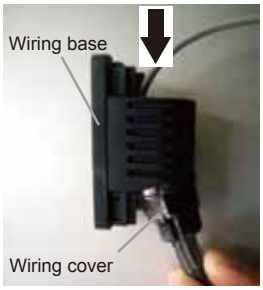
Push it from the upper part a little.



Slide it from the upper part downward.

Step 4

1. To properly locate the door jamb Wiring base, slide the Wiring cover on to the Wiring base and center it from top to bottom.
2. Hold Wiring base on jamb rotate door from closed to full open. Ensure no excessive stretching or binding of the loop occurs(may need to move base up or down to achieve.) Mark top of Wiring base to align mounting template later. (See **Pre-and Post-Installation Checklist**.)



Marking top of Wiring base

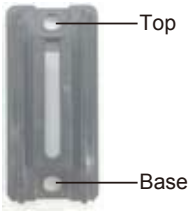
Step 5

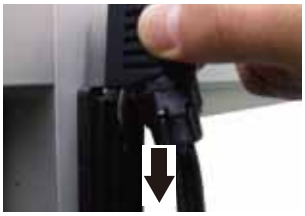
1. Align and affix top of template with mark achieved in step 4.
2. Drill two 1/8" (3.2mm) mounting holes. Drill 3/8" (10mm) hole if routing cable thru jamb for concealed wiring (3/8" hole not required for surface wiring applications).

Step 6

1. For concealed wiring feed the connector thru the Wiring base and then the 3/8" cable hole and into the header.
   For surface wiring (see examples of surface wiring below) do not route wire thru the Wiring base.
2. Properly position and securely fasten the Wiring base to the jamb (small screw located on side of Wiring base indicates bottom of base).
3. Feed the remainder of the cable thru the base and into the header then slide the Wiring cover onto the Wiring base from the top down.

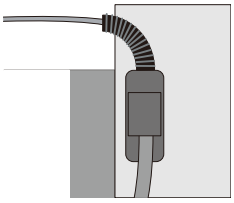
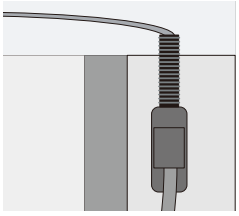
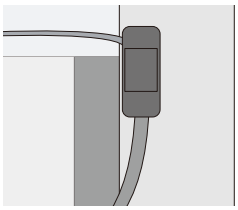




NOTE Pinching caution

Examples of surface wiring. Supplied flexible wire shroud is cut to fit on site.

Step 7

1. Temporarily position the Wiring cover on the center of the base vertically.

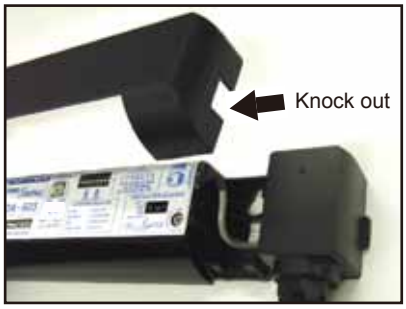

Step 8

1. Open and close the door leaf to determine the best location for the Wiring cover on the base plate.
   On applications where the loop is mounted on the swing side, make sure the loop does not touch the door panel throughout the door travel.
2. Once the ideal position is determined, turn the screw in the back of the cover clockwise to secure the cover in place.



Step 9

1. Remove knockouts for OA-603 T sensor cover on loop side only!
2. Connect the cable from Position sensor to the OA-603 T.
3. Connect and pass thru cable to both OA-603 T sensor heads.





Step 10

Complete wiring of OC-904C T and perform initial setup. Refer to OC-904C T instruction manual and Wiring matrix for wiring details.
Refer to ELITE manual (page 1-6) for initial setup details. Once complete return to step 11.

Step 11

Place the cover on the top then fit it on.

How to remove the cover

Insert the flathead screw driver and push it down as shown in the picture.

Hold the top and remove the cover.

NOTE **If desired, sensor covers can be left off until initial setup and final adjustments are performed.**

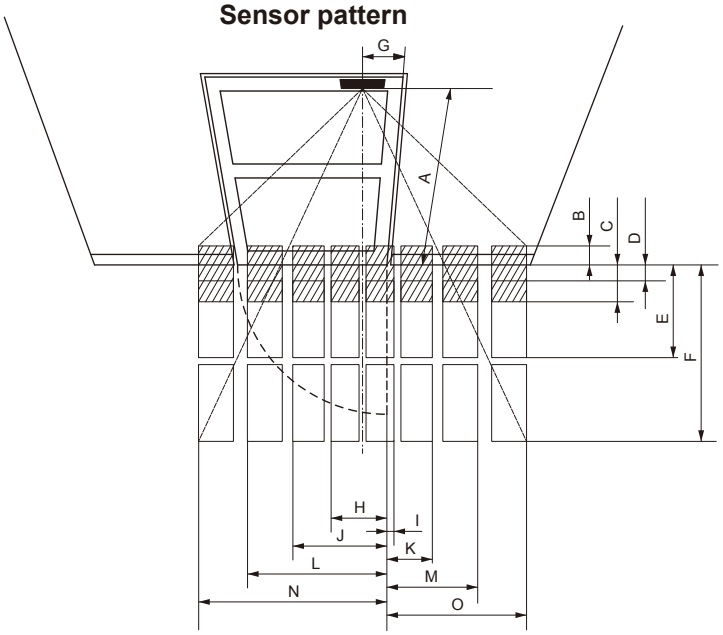
ADJUSTMENTS

The sensor pattern shown is when the swing & threshold area depth adjustments are set to 5 degrees. When the sensor system performs an initial setup to its operating environment detection areas may vary slightly from this chart.

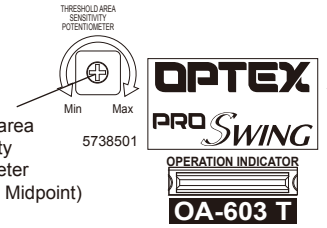
[mm (feet)]

A	2000 (6'7")	2300 (7'6")
B	186 (7")	214 (8")
C	360 (1'2")	414 (1'4")
D	152 (6")	175 (7")
E	840 (2'9")	966 (3'2")
F	1650 (5'5")	1898 (6'2")
G	252 (10")	
H	593 (1'11")	645 (2'1")
I	89 (3")	141 (6")
J	911 (3')	1010 (3'4")
K	407 (1'4")	506 (1'8")
L	1275 (4'2")	1428 (4'8")
M	770 (2'6")	924 (3')
N	1684 (5'6")	1900 (6'3")
O	1180 (3'10")	1395 (4'7")

Sensor pattern



1. Adjusting the Sensitivity

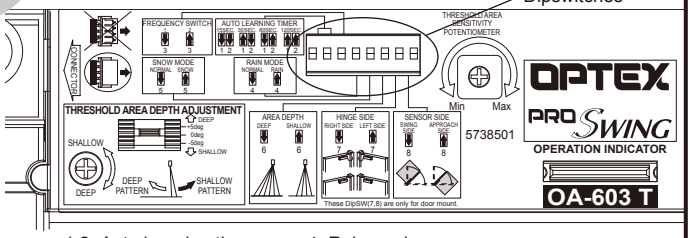


Threshold area sensitivity potentiometer (Factory setting : Midpoint)

5738501

Swing area sensitivity potentiometer (Factory setting : Midpoint)

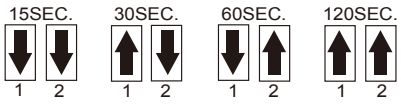
2. Mode Dipswitch settings(Left bank)



1,2: Auto learning timer
3: Frequency
4: Rain mode
5: Snow mode

2-1 Setting the Auto learning timer

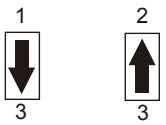
(1) Select the Auto learning time.
(2) Turn the power ON.
(3) Wait for 15 seconds to complete the initial setting.
(Factory setting : 30sec)
(4) If the initial setting is complete, LED flashing Yellow then solid Green.



NOTE **Testing the set up can be done with the 15sec setting. Once adjustments are complete set timer to at least 30sec.**

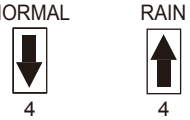
2-2 Setting the Frequency function (Interference prevention)

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



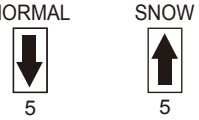
2-3 Setting the Rain mode

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



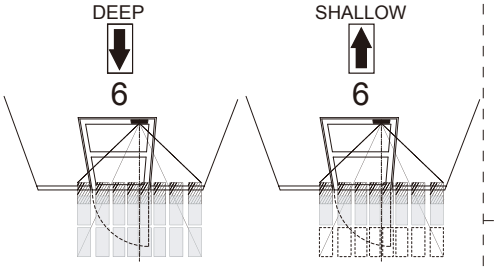
2-4 Setting the Snow mode

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



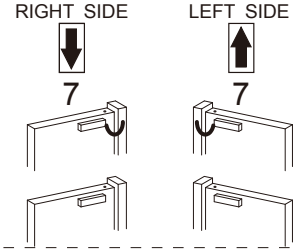
2-5 Setting the Area depth

Change this switch to SHALLOW if false detections occur from cross traffic / side traffic / or close by objects. In SHALLOW mode the shallow pattern is applied only during the closed position.



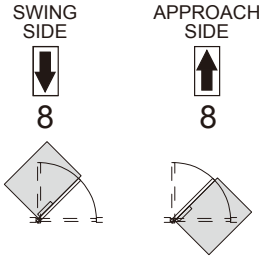
2-6 Setting the Hinge side

When facing the OA-603 T sensor head, if the hinge is to the right of the sensor set Dipswitch to "RIGHT SIDE". If hinge is to the left of the sensor set the dipswitch to "LEFT SIDE".



2-7 Setting the Sensor side

If you install the OA-603 T sensor head on swing side, choose "SWING SIDE", if non-swing side,choose "APPROACH SIDE".



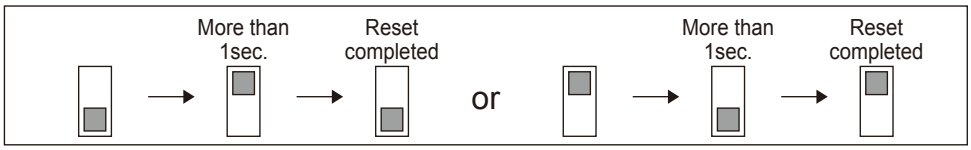
⚠ CAUTION **Sensor system does not operate when these Dipswitches are set the same on both sides of door.**

Auto learning function

This sensor has the function to fit floor condition changes **automatically**.
Therefore, even if objects are put in the detection area, sensor will learn the changes gradually and set back to normal operations automatically after several detections.

How to initiate a setup

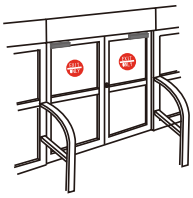
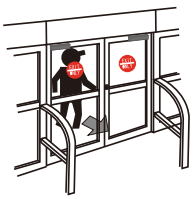
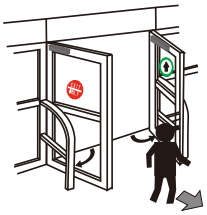
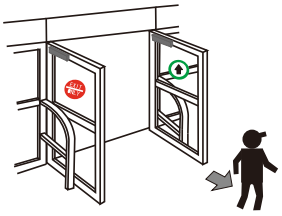
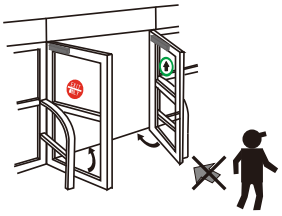
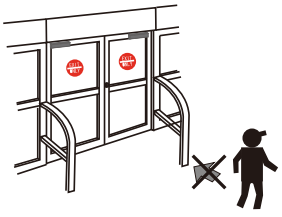
When changing sensor settings,put any OA-603 T DipSwitch to ON / OFF for more than 1 second.



CHECKING

Setup process

This sequence must occur when power is applied for the first time or when initiating setup.

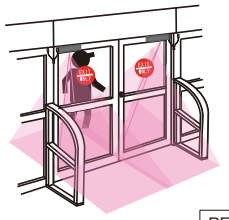
Door status	Sensor status	Operation indicator		OC-904C T Operation indicator
		Swing side	Approach side	
	Initial setup door closed	Yellow Blinking ↓ Solid Yellow	Yellow Blinking	Blinking Green ↓ Solid Green
 Do not enter the detection area, untill indicator turn to solid Yellow.	Waiting for next learning (Door closed)	Solid Yellow	Solid Yellow	Solid Green
	Activate door to learn opening cycle	Blinking Yellow	Solid Orange	Solid Red
	Learning full opened cycle	Blinking Yellow	Solid Orange ↓ Blinking Red ↓ Blinking Yellow	Solid Red
	Learning closing cycle	Blinking Yellow	Blinking Yellow	Solid Orange
	Setup complete approximately 3sec. after full closed	Solid Green (See **NOTE**)	Solid Green (See **NOTE**)	Solid Green

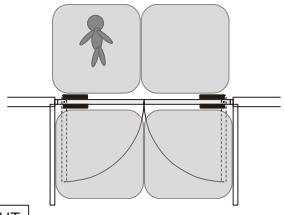
NOTE **At full closed if setup does not complete in less than 5 seconds initiate setup again.**

Operation check

Before leaving the site, check five items in the right table.

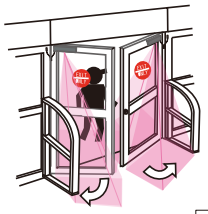
Entering to approach side at full closed position.

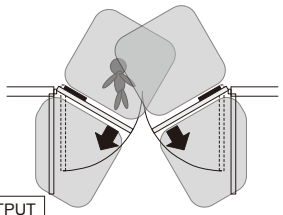




RELAY OUTPUT
ACTIVATE : ON
SAFETY : OFF
STALL : OFF

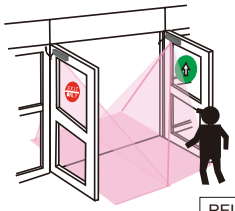
Doors open.

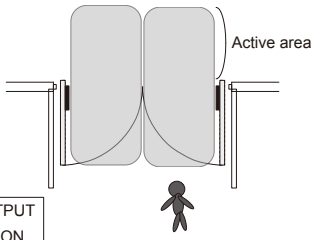




RELAY OUTPUT
ACTIVATE : ON
SAFETY : OFF
STALL : OFF

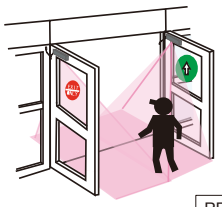
Entering to the door at full open position.

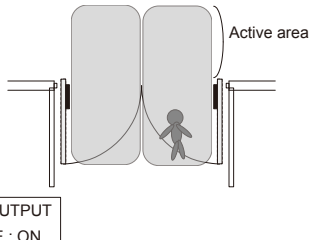




RELAY OUTPUT
ACTIVATE : ON
SAFETY : OFF
STALL : OFF

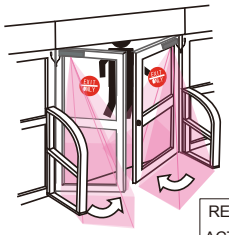
Doors stay opened.

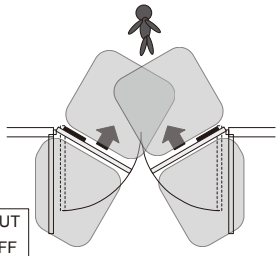




RELAY OUTPUT
ACTIVATE : ON
SAFETY : OFF
STALL : OFF

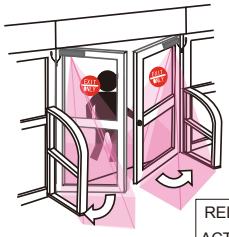
Entering to approach side during closing cycle.

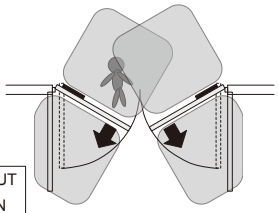




RELAY OUTPUT
ACTIVATE : OFF
SAFETY : OFF
STALL : OFF

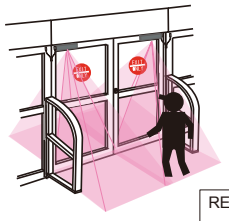
Doors start re-opening.

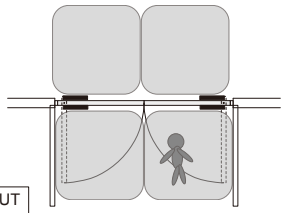




RELAY OUTPUT
ACTIVATE : ON
SAFETY : OFF
STALL : OFF

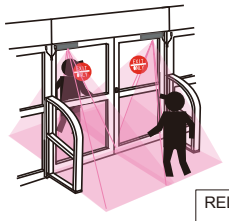
Entering to swing side at full closed position.

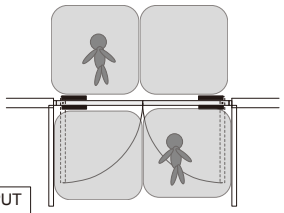




RELAY OUTPUT
ACTIVATE : OFF
SAFETY : ON
STALL : ON

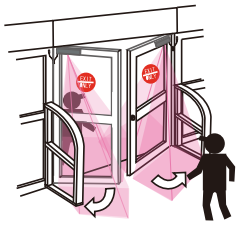
Doors do not open.

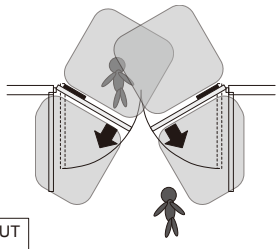




RELAY OUTPUT
ACTIVATE : ON
SAFETY : ON
STALL : ON

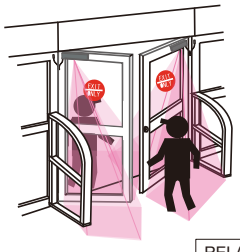
Entering to swing side during opening cycle.

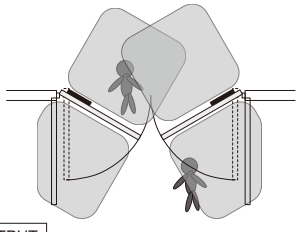




RELAY OUTPUT
ACTIVATE : ON
SAFETY : OFF
STALL : OFF

Doors stall.



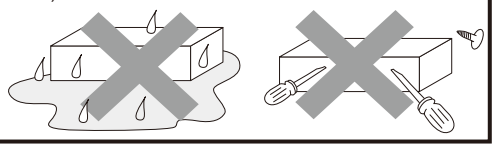


RELAY OUTPUT
ACTIVATE : ON
SAFETY : ON
STALL : ON

NOTE **Once the door reverses, swing side door will be active again.**

INFORM BUILDING OWNER/OPERATOR OF THE FOLLOWING ITEMS

1. When turning the power ON, stay clear of detection area for a minimum of 10 seconds then walk test detection area 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.



TROUBLE SHOOTING

Symptom		Possible cause	Possible countermeasures
Cannot initiate setup Moving Dipswitch on OA-603 T does not result in OA-603 T LED fast flash Yellow.	OC-904C T no LED indication	Improper power supply	Correct power problem
		Bad connection on Orange and Brown wires of OC-904C T	Repair bad connection
	OC-904C T LED double Orange flashing & no LED indication on OA-603 T	Bad connection at OC-904C T	Reseat 4 pin connector from Position sensor to OC-904C T
		Bad connection from Position sensor to OA-603 T sensor head	Reseat 4 pin connector from Position sensor to OA- 603 T sensor head
		Bad connection with 7" pass thru cable	Reseat connection of 7" cable to both OA-603 T sensor heads
		Bad 7" cable	Replace as necessary
	OC-904C T LED double Orange flashing & erratic LED on OA-603 T sensors	Switches 7 & 8 of left dipswitches on OA-603 T sensors set wrong	Correct dipswitch settings see page 1-2
Will not complete initial setup		OC-904C T dipswitches set wrong	Verify proper settings (**Page 1-2**)
		Poor or improper connection of Yellow wires from OC-904C T to door control	Verify good and proper connection (see **OC-904C T install manual**)
		Improper voltage on Red & Black wire of OC-904C T	Ensure positive voltage on Red wire at hold open and 0 voltage at closed position
Intermittent recycle (Ghosting) or intermittent stalling		After initial setup door ghosts several times on first activation	Happens on 15% of installations If stops after first activation, system is OK
		OA-603 T sensor head not mounted flush on door	Head may be resting on top of loop mounting bracket Reposition head flush on panel
		Improper threshold or swing area angle adjustment	Set threshold and swing area angles at +5 degrees (Deep)
		Improper voltage on Red & Black wire of OC-904C T	Ensure positive voltage on Red wire at hold open and 0 voltage at closed position
		Stalling caused by traffic just outside of swing path or objects near guide rails	Set switch 6 on left bank dipswitch of OA-603 T ON / UP (Shallow) Note: moving the dipswitch will initiate a setup
		Area width dipswitches set wrong (Right bank dipswitches on OA-603 T)	Verify proper settings (**Page 1-2**)
		Inconsistent data from Position sensor	Position the Position sensor so loop center coupler does not rest on door at any point of door travel
No activation and / or no reactivation on closing cycle		OC-904C T Yellow wires poor or improper connection to door control or ON / OFF / hold switch	Verify proper connection and output of Yellow wires.
		OC-904C T dipswitches set improperly	Verify proper settings.(see **OC-904C T install manual**)
		On Knowing Act applications poor or improper connection of Purple wire from OC-904C T to activation device	Verify good and proper connection (see **OC-904C T install manual**)
No safety on swing side at full closed	OA -603 T sensor detects (Solid or flashing Red LED) but door opens anyway	Poor or improper connection of Blue wires from OC-904C T to door control	Verify good and proper connection of Blue wires.
		OC-904C T dipswitches set improperly	Verify proper settings.(see **OC-904C T install manual**)
	OA-603 T no detection (Solid Green LED)	Area width dipswitches set wrong (Right bank dipswitches on OA-603 T)	Verify proper settings (**Page 1-2**)
No stall on swing side while door is opening	OA -603 T sensor detects (Solid or flashing Red LED) but door does not slow or stop	Poor or improper connection of Green wires from OC-904C T to door control	Verify good and proper connection of Green wires.
		OC-904C T dipswitches set improperly	Verify proper settings.(see **OC-904C T install manual**)
	OA-603 T no detection (Solid Green LED)	Area width dipswitches set wrong (Right bank dipswitches on OA-603 T)	Verify proper settings (**Page 1-2**)
Door remains open		OC-904C T dipswitches set improperly	Verify proper settings.(see **OC-904C T install manual**)
		On Knowing Act applications poor or improper connection of Purple wire from OC-904C T to activation device	Verify good and proper connection (see **OC-904C T install manual**)
		Improper wiring of door equipment ON / OFF/ hold switch	Verify proper wiring of ON /OFF / hold switch

Warning indication (OA-603 T Sensor head)

Mode	Self monitoring function	Life cycle notification	Signal saturation	Communication error	Setting error
Operation indicator	Fast Green Blinking	Twice Green Blinking	Slow Green Blinking	Twice Orange Blinking	Fast Orange Blinking
Explanation	The sensor is reaching the end of its life 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. OA-603 T threshold angle may be set to less than +5 degrees deep. Refer to "**ADJUSTMENTS**".	The sensor cable is connected, but unstable communication. A sensor cable may be disconnected or OA-603 T mode switches 7 & 8 may be set wrong. Refer to "**ADJUSTMENTS**"	When all the area width switches are inactive. Refer to "**ADJUSTMENTS**".

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.

Manufacturer

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