OPTEX

ENGLISH

CE

TÜV NORD — TÜV NORD CERT GmbH — Type Tested

OA-PRESENCE TN

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.
📖		It is required to check the operation manual if this symbol is shown on the product.

NOTE
1. 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.
2. When setting the sensor's detection area, make sure that there is no traffic around the installation site.
3. Before turning the power ON, check the wiring to prevent damage or malfunction of equipment connected to the product.
4. Only use the product as specified in the operation manual provided.
5. 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.
6. 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.
7. 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
-Wet floor
-Vibrating header or mounting surface
-Moving objects, steel plate, emergency lights or illumination in the detection area or in vicinity
-Highly reflecting floor or highly reflecting objects around the door

SPECIFICATIONS

Model	: OA-PRESENCE TN	Operating humidity	: < 80%
Cover color	: Silver / Black	Noise level	: < 70dBA
Mounting height	: 2.0 (6'7") to 3.5m (11'6")	Output hold time	: < 0.5sec.
Detection area	: See **DETECTION AREA**	Response time	: < 0.3sec.
Detection method	: Active infrared reflection	IP rate	: IP54
Depth angle adjustment	: -6 to +6°	Category	: 2 (EN ISO13849-1:2015)
Power supply (*1)	: 12 to 24VAC ±10% (50 / 60Hz) 12 to 30VDC ±10%	Performance level	: d (EN ISO13849-1:2015)
		ESPE	: Type 2
Power consumption	: < 1W (< 2 VA at AC)	Weight	: 250g (8.8oz)
Operation indicator	: See **Operation indicator table**	Accessories	: 1 Operation manual
Safety input	: Opto coupler		2 Mounting screws
	Voltage 5 to 30VDC		1 Mounting template
	Current 6mA Max. (30VDC)		1 Area adjustment tool
Safety output	: Opto coupler (NPN)		1 Cable 3m (9'10")
	Voltage 5 to 50VDC		(8×0.22mm² AWG24) (*2)
	Current 100mA Max.		
	Dark current 600nA Max.		
	(Resistance load)		
Operating temperature	: –20 to +55°C (–4 to 131°F)		

Operation indicator table

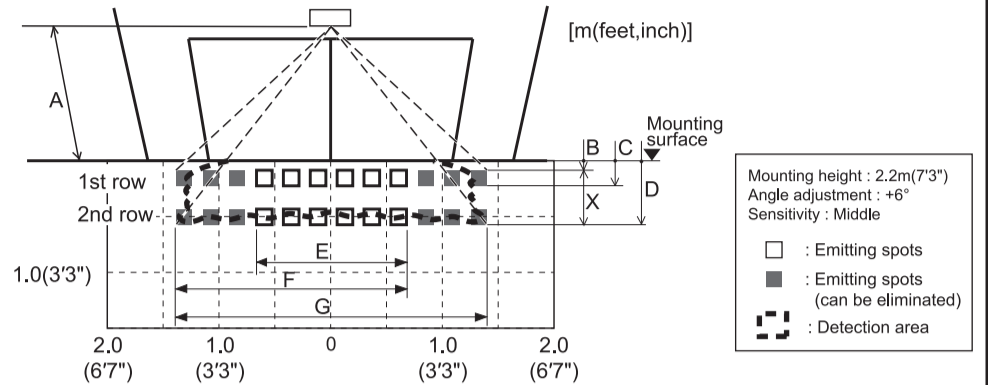| Status	Operation indicator color	1sec.	1sec.
Stand-by (Installation mode)	Yellow		
Stand-by (Operation mode)	Green		
1st row detection	Red blinking		
2nd row detection	Red		
Setting error	Red & Green blinking		
Signal saturation	Slow Green blinking		
Sensor failure	Fast Green blinking		

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

*1 : The sensor has to be connected to a door system which has a SELV circuit.
*2 : Overcurrent protection with less than 2A.

OUTER DIMENSIONS AND PART NAMES

[mm (inch)]

267(10 1/2")
125(4 15/16")
36(1 7/16")
43(1 11/16")
7.5(5/16")
38(1 1/2")
61(2 3/8")

(1) Connector
(2) Mounting holes
(3) Operation indicator
(4) Width adjustment screws
(5) Depth angle adjustment screw
(6) Function switch
(7) Dipswitches
(8) Detection window
(9) Area adjustment tool

DETECTION AREA

[m(feet,inch)]

1st row
2nd row
1.0(3'3")

2.0 (6'7")   1.0 (3'3")   0   1.0 (3'3")   2.0 (6'7")

Mounting surface

Mounting height : 2.2m(7'3")
Angle adjustment : +6°
Sensitivity : Middle

□ : Emitting spots
■ : Emitting spots (can be eliminated)
⬚ : Detection area

Emitting area
The chart shows the values at depth angle +6°   [m(feet,inch)]

A	2.00 (6'7")	2.20 (7'3")	2.50 (8'2")	2.70 (8'10")	3.00 (9'10")	3.50 (11'6")
B	0.23 (9")	0.25 (10")	0.28 (11")	0.31 (1')	0.34 (1'1")	0.39 (1'3")
C	0.35 (1'2")	0.39 (1'3")	0.44 (1'5")	0.48(1'7")	0.53 (1'9")	0.61 (2')
D	0.59 (1'11")	0.65 (2'2")	0.74 (2'5")	0.80 (2'7")	0.89 (2'11")	1.03(3'5")
E	1.21 (3'12")	1.33 (4'4")	1.51(4'11")	1.63 (5'4")	1.81 (5'11")	2.11 (6'11")
F	1.86 (6'1")	2.05 (6'9")	2.32 (7'7")	2.51 (8'3")	2.79 (9'2")	3.25 (10'8")
G	2.52(8'3")	2.78 (9'1")	3.15 (10'4")	3.40 (11'2")	3.79 (12'5")	4.42 (14'6")

Detection area
To comply with EN 16005, make sure that the detection area is within the values of the chart below.

A	2.00 (6'7")	2.20 (7'3")	3.00 (9'10")
X	0.23 (9")	0.25 (10")	0.34 (1'1")
E	1.02 (3'4")	1.12 (3'8")	1.53 (5')
G*	2.41 (7'11")	2.65 (8'8")	3.60 (11'10")

Test conditions required by EN 16005
Floor :Grey paper
Detection object : EN 16005 CA reference body
Sensitivity : Middle
Speed of detection object : 50mm / sec.

The values above are those of the **Detection area** when tested referring to the test conditions of EN 16005.
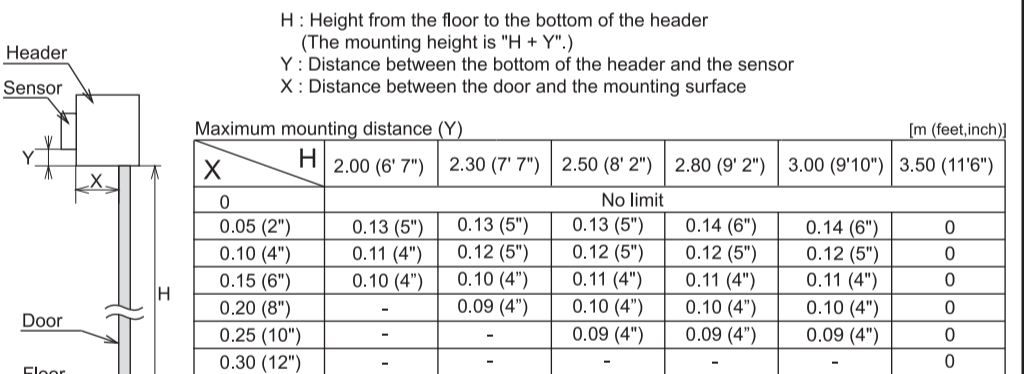(The emitting area is as shown in **Emitting area** above.)
*: When installed at higher than 3.0m(9'10"), EN 16005 requirements are fulfilled only within the area width "G" of 3.6m(11'10").

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.
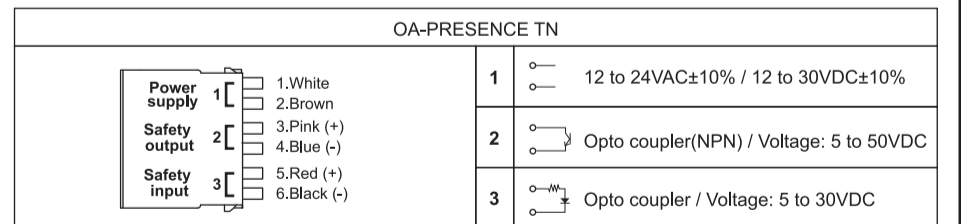
INSTALLATION

1
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.)
2. Drill two mounting holes of ø3.4mm (ø1/8").
3. To pass the cable through the header, drill a wiring hole of ø8mm (ø5/16").
4. Remove the mounting template.
5. Remove the housing cover. Fix the sensor to the mounting surface with the two mounting screws.

Header
Sensor
Door
Floor

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)   [m (feet,inch)]

X \ H	2.00 (6' 7")	2.30 (7' 7")	2.50 (8' 2")	2.80 (9' 2")	3.00 (9'10")	3.50 (11'6")
0	No limit					0
0.05 (2")	0.13 (5")	0.13 (5")	0.13 (5")	0.14 (6")	0.14 (6")	0
0.10 (4")	0.11 (4")	0.12 (5")	0.12 (5")	0.12 (5")	0.12 (5")	0
0.15 (6")	0.10 (4")	0.10 (4")	0.11 (4")	0.11 (4")	0.11 (4")	0
0.20 (8")	-	0.09 (4")	0.10 (4")	0.10 (4")	0.10 (4")	0
0.25 (10")	-	-	0.09 (4")	0.09 (4")	0.09 (4")	0
0.30 (12")	-	-	-	-	-	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

OA-PRESENCE TN

Power supply	1	1.White 2.Brown	1	12 to 24VAC±10% / 12 to 30VDC±10%
Safety output	2	3.Pink (+) 4.Blue (-)	2	Opto coupler(NPN) / Voltage: 5 to 50VDC
Safety input	3	5.Red (+) 6.Black (-)	3	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
1. Plug the connector.
2. 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.
After changing the dipswitch settings, make sure to push the function switch for 2 seconds.

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 depth angle adjustment

Depth angle adjustment screw
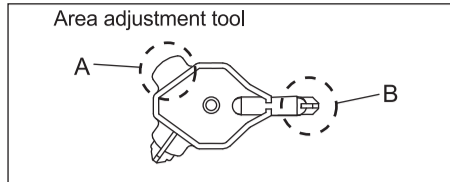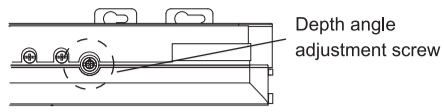
When adjusting the 1st row close to the door,
see **Table 2** dipswitch16 for the easier adjustment.

Area adjustment tool

A

B

NOTE Make sure that the detection area does not overlap with the door/header, and there is no highly reflecting object near the detection area otherwise ghosting/signal saturation may occur.

Depth angle adjustment screw for the area

Shallow   Deep

Red

Use the area adjustment tool **(A)** as shown above to change the area depth angle.
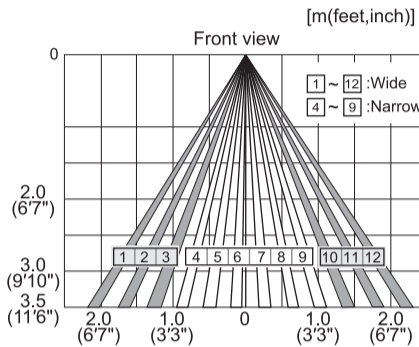For the easier adjustment, see **REFERENCE**.

[m(feet,inch)]

Deep Shallow

2.0(6'7")

3.0(9'10")

3.5(11'6")

1.0   0
(3'3")

1.0   0   -1.0
(3'3")   (-3'3")
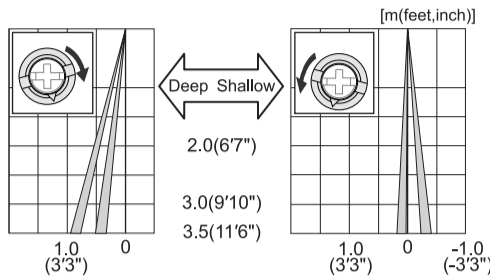
2 Area width adjustment

To adjust the detection area width, use the adjustment screws as shown in the picture below.

| 1 | 2 | 3 | | 10 | 11 | 12 |
Eliminated   Eliminated

Narrow

Wide

Width adjustment screws
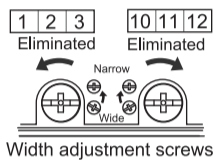
Please adjust by using the tool **(B)**

NOTE
When setting the detection area width, make sure to turn the adjustment screws until it clicks.
| 1 | 2 | 3 | cannot be eliminated separately, neither can | 10 | 11 | 12 |

[m(feet,inch)]

Front view

| 1 ~ 12 :Wide |
| 4 ~ 9 :Narrow |

0

2.0
(6'7")

3.0
(9'10")

3.5
(11'6")

2.0   1.0   0   1.0   2.0
(6'7") (3'3")   (3'3") (6'7")

1 2 3 4 5 6 7 8 9 10 11 12

3 Dipswitch settings

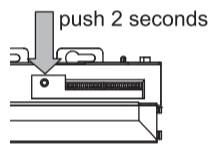After changing the dipswitch settings, make sure to push the function switch for 2 seconds.

push 2 seconds

Table 2

|	Function	Setting				Comment
Dipswitch 1 / Dipswitch 2	Sensitivity	Low 1 2 2.0 to 3.0m	Middle 1 2 2.0 to 3.0m	High 1 2 2.5 to 3.2m	S-High 1 2 3.0 to 3.5m	Set the sensitivity according to the mounting height. Values below dipswitches are reference only. Adjust the sensitivity according to your risk assessment.
Dipswitch 3 / Dipswitch 4	Presence timer	30sec. 3 4	60sec. 3 4	180sec. 3 4	600sec. 3 4	To enable the presence detection, do not enter the detection area for 10 seconds after setting the timer.
Dipswitch 5 / Dipswitch 6	Frequency	Setting1 5 6	Setting2 5 6	Setting3 5 6	Setting4 5 6	When using more than one sensor close to each other, set the frequency different for each sensor.
Dipswitch 7	Safety output (to door controller)	High 7	Low 7			The delay time between Safety input and Safety output is 10msec..
Dipswitch 8	Safety input (from door controller)	High 8	Low 8			
Dipswitch 14	Self monitoring	Enable 14	Disable 14			When the door remains open and the operation indicator shows Fast/Slow Green Blinking, refer to **TROUBLESHOOTING**. If the door still remains open, set dipswitch 14 to "Disable". To comply with EN 16005, set dipswitch 14 to "Enable".
Dipswitch 16	Installation mode	OFF 16	ON 16			Set dipswitch 16 to "ON" to adjust the 1st row. During the installation mode only the 1st row remains active and the operation indicator shows yellow. After setting the row set dipswitch 16 "OFF".

CHECKING

Check the operation in the operation mode according to the chart below.

Entry		Power OFF	Outside of detection area	Entry into 2nd row	Entry into 1st row
Status		-	Stand-by	Motion / Presence detection active	
Operation indicator		None	Green	Red	Red Blinking
Safety output 7	High	OFF	ON	OFF	
	Low	OFF	OFF	ON	

REFERENCE

Area depth adjustment with INFRARED FINDER (Separately available)

1. Turn the depth angle adjustment screw to the right (Deep) to place the detection area most away from the door.
2. Set INFRARED FINDER sensitivity to "H" (High) and place it on the floor as shown below.

Detection area

Detection area
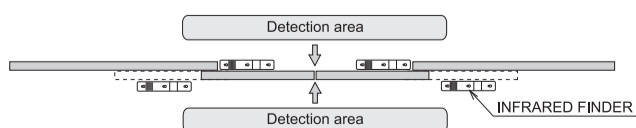
INFRARED FINDER

3. Turn the depth angle adjustment screw to the left (Shallow) until the emitting area is placed at the position where INFRARED FINDER is in the low detection status (Slow Red Blinking).

INFORM BUILDING OWNER / OPERATOR OF THE FOLLOWING ITEMS

⚠ WARNING
1. Always keep the detection window clean. If dirty, wipe the window with a damp cloth. Do not use any cleaner / solvent.
2. Do not wash the sensor with water.
3. Do not disassemble, rebuild or repair the sensor yourself, otherwise an electric shock may occur.
4. When the operation indicator blinks green, contact your installer or service engineer.
5. Always contact your installer or service engineer when changing the settings.
6. 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.
		Wrong wiring or connection failure.	Check the wires and connector.
	Unstable	Wrong detection area positioning.	Check **ADJUSTMENTS 1, 2**.
		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.
	Proper	Wrong wiring or connection failure.	Check the wires and connector.
Door opens when no one is in the detection area. (Ghosting)	Unstable	Objects that move or emit light in the detection area.	Remove the objects.
		The detection area overlaps with that of another sensor.	Check **Table 2** dipswitch 5, 6.(*)
		Waterdrops on the detection window.	Use the rain-cover. (Separately available) Or wipe the detection window with a damp cloth. Do not use any cleaner or solvent. Or install in a place keeping the waterdrops off.
		The detection area overlaps with the door/header.	Adjust the detection area to "Deep" (Outside).
		Sensitivity is too high.	Set the sensitivity lower.(*)
	Proper	Wrong setting of dipswitches.	Check **Table 2** dipswitch 7, 8.(*)
Door remains open	Proper	Sudden change in the detection area.	Check **Table 2** dipswitch 1 to 4.(*) If the problem still persists, hard-reset the sensor.(Turn the power OFF and ON again)
		Wrong wiring or connection failure.	Check the wires and connector.
	Yellow	Installation mode is set to "ON".	Set dipswitch 16 to "OFF".(*)
	Fast Green Blinking	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.
		Sensor failure.	Contact your installer or service engineer.
	Slow Green Blinking	Signal saturation.	Remove highly reflecting objects from the detection area. Or lower the sensitivity.(*) Or change the area depth angle.
		The detection area overlaps with the door/header.	Adjust the detection area to "Deep" (Outside).
	Red & Green Blinking	Setting error.	After changing the dipswitch settings, make sure to push the function switch for 2 seconds.

*After changing the dipswitch settings, make sure to push the function switch for 2 seconds.