Ditec

PASAA2



ENGLISH

5934201 OCT 2023

Manufacturer's statement

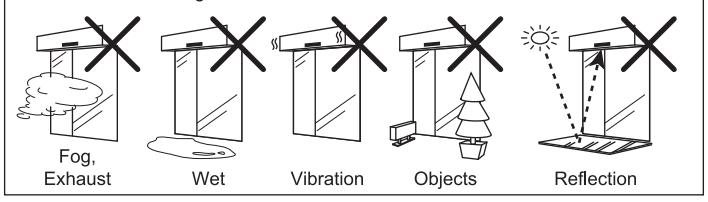
Read this operation manual carefully before use to ensure proper operation of this product.
Failure to read this operation manual may cause improper operation and may result in serious injury or death of a person.
The meanings of the symbols are as follows.

⚠ **WARNING**	Failure to follow the instructions that accompany this indication and improper handling may result in serious injury or death.
⚠ **CAUTION**	Failure to follow the instructions that accompany this indication and improper handling may result in injury and/or damage to property.
NOTE	Pay special attention to sections with this symbol.

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.

The following conditions are not suitable for sensor installation.



⚠ WARNING

Danger of electric shock

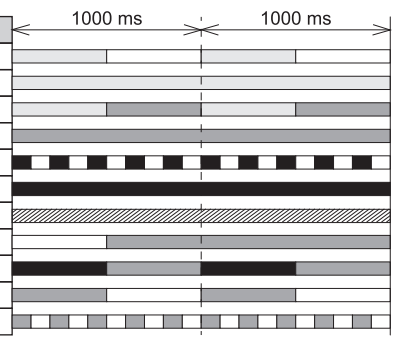
Do not wash, disassemble, rebuild or repair the sensor, otherwise it may cause electric shock or breakdown of the equipment.

Specifications

Model	: PASAA2	Activation output	: When 3rd, 4th or 5th row detects. Form A relay 50 V 0.3 A Max.
Cover color	: Black	Safety/Test output	: When 1st or 2nd row detects. Form A relay 50 V to 0.3 A Max.
Mounting height	: 2.0 to 3.5 m (6'7" to 11'6") (2.0 m(6'7") to 3.0 m (9'10") for EN16005 requirement)	Test input	: Opto coupler Voltage 5 to 30 VDC Current 6 mA Max. (30 VDC)
Detection area	: See **Detection area**	IP rate	: IP54
Detection method	: Active infrared reflection (*1)	ESPE	: Type 2
Depth angle adjustment	: 1st to 3rd rows : -6 to +6° 4th and 5th rows : +26 to +44°	Weight	: 320 g (11.2 oz)
Power supply (*2)	: 12 to 24 VAC ±10 % (50/60 Hz) 12 to 30 VDC ±10 %	Accessories	: 1 Operation manual 2 Mounting screws 1 Mounting template 1 Area adjustment tool 1 Cable 3 m (9'10") (*3)
Power consumption	: < 2.5 W (< 4 VA at AC)		
Operation indicator	: See **Operation indicator table**		
Output hold time	: Approx. 500 ms		
Response time	: < 300 ms		
Operating temperature	: -20 to +55°C (-4 to 131°F)		
Operating humidity	: < 80 % (non-condensing)		
Noise level	: < 70 dBA		

Operation indicator table

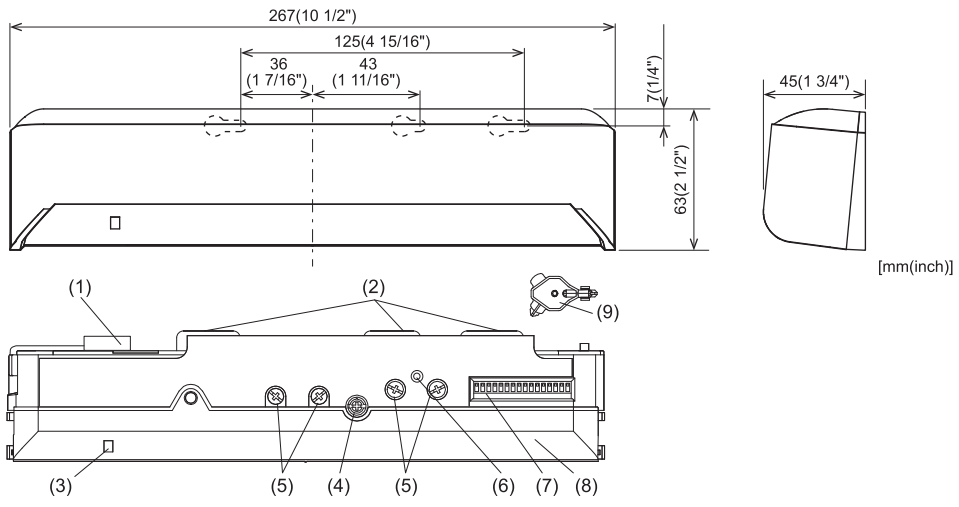
Status	Operation indicator color
Warm-up	Yellow blinking
Stand-by (Installation mode)	Yellow
Stand-by (Service mode)	Yellow & Green blinking
Stand-by (Operation mode)	Green
1st row detection	Red blinking
2nd row detection	Red
3rd, 4th, or 5th row detection	Orange
Communication test output	Turn off 500 ms (*4)
Setting error	Red & Green blinking
Signal saturation	Slow Green blinking
Sensitivity too low(or Sensor failure)	Fast Green blinking



NOTE

The specifications herein are subject to change without prior notice due to improvements.
*1 : The 1st and 2nd rows have 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 2 A.
*4 : LED will be turned off approx. 500 ms when the sensor test output signal works well.

Dimensions and part names



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

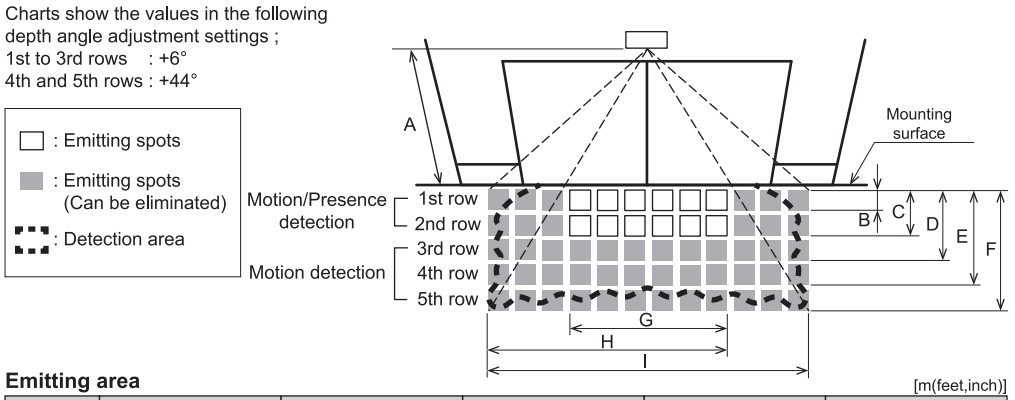
Reference standards and extract from EC declaration of conformity

DIN 18650-1:2010 Chapter 5.7.4 ESPE Chapter 5.8.2.4.3
EN 16005:2012/AC:2015 Chapter 4.6.8 and Annex C
EN 61000-6-2:2005/AC:2005
EN 61000-6-3:2007 +A1:2011/AC:2012
EN 61496-3:2001 clause 4. 3. 5 and 5. 4. 7. 3
EN 12978:2003 +A1:2009
EN ISO 13849-1:2015
EN ISO 13849-2:2012
EMC Directive 2014/30/EU
Machinery Directive 2006/42/EC

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Detection area

Charts show the values in the following depth angle adjustment settings ;
1st to 3rd rows : +6°
4th and 5th rows : +44°



Emitting area

[m(feet,inch)]

A	2.00 (6'7")	2.20 (7'3")	2.50 (8'2")	2.70 (8'10")	3.00 (9'10")
B	0.13 (5")	0.14 (6")	0.16 (6")	0.18 (7")	0.20 (8")
C	0.38 (1'3")	0.42 (1'5")	0.48 (1'7")	0.52 (1'8")	0.58 (1'11")
D	0.74 (2'5")	0.82 (2'8")	0.93 (3'1")	1.00 (3'3")	1.10 (3'7")
E	1.23 (4')	1.35 (4'5")	1.54 (5'1")	1.66 (5'5")	1.85 (6'1")
F	1.74 (5'9")	1.90 (6'3")	2.17 (7'1")	2.34 (7'8")	2.60 (8'6")
G	1.06 (3'6")	1.33 (4'4")	1.51 (4'11")	1.63 (5'4")	1.81 (5'11")
H	1.86 (6'1")	2.05 (6'9")	2.32 (7'7")	2.51 (8'3")	2.79 (9'2")
I	2.52 (8'3")	2.78 (9'1")	3.15 (10'4")	3.40 (11'2")	3.79 (12'5")
X	0.19 (7")	0.21 (8")	0.24 (9")	0.26 (10")	0.28 (11")

"X" is the distance between the 1st row and the mounting surface.

Detection area

To meet EN16005 requirement, make sure that the detection area is within the values in the chart below.

[m(feet,inch)]

A	2.00 (6' 7")	2.20 (7' 3")
C	0.23 (9")	0.24 (9")
G	1.02 (3' 4")	1.10 (3' 7")
I(*)	2.41 (7' 11")	2.54 (8' 4")

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

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 2.20 m(7'3"), EN 16005 requirements are fulfilled only within the area width "I" of 2.54 m(8'4").

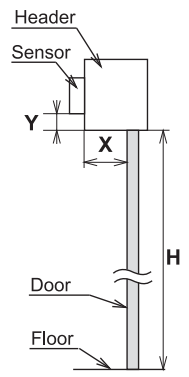
NOTE

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 50 mm/s or faster than 1500 mm/s.

Installation

1. Mounting

a. Place 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.)
b. Drill two mounting holes of ø3.4 mm (ø1/8").
c. To pass the cable through the header, drill a wiring hole of ø8 mm (ø5/16").
d. Remove the mounting template.
e. 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**)

[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")
0	No limit				
0.05 (2")	0.20 (8")	0.20 (8")	0.20 (8")	0.20 (8")	0
0.10 (4")	0.20 (8")	0.20 (8")	0.20 (8")	0.20 (8")	0
0.15 (6")	0.13 (5")	0.15 (6")	0.19 (7")	0.20 (8")	0
0.20 (8")	-	0.12 (5")	0.14 (6")	0.15 (6")	0
0.25 (10")	-	-	0.11 (4")	0.12 (5")	0
0.30 (12")	-	-	-	-	-

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

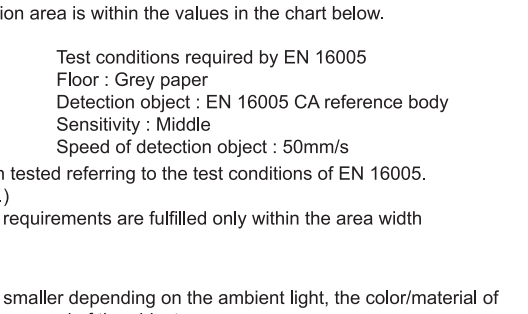
⚠ CAUTION **Risk of getting caught**

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.

2. Wiring

Wire the cable to the door controller.
* The following 2 cables are not used.
  9. Grey/Pink
  10. Red/Blue

** See DIP 8(Test input) comment in "**3. Dipswitch settings**".



1	12 to 24 VAC ±10 % / 12 to 30 VDC ±10 %
2	Form A relay 50 V 0.3 A Max.
3	Form A relay 50 V 0.3 A Max.
4	Opto coupler / Voltage: 5 to 30 VDC

⚠ WARNING

Danger of electric shock

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.

3. Turn ON the power

a. Plug the connector.
b. 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 s 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 s.

4. Mounting the housing cover

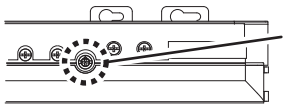
Place the housing cover.
If wiring is to be exposed, break the knockout.

⚠ WARNING **Danger of electric shock**

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.

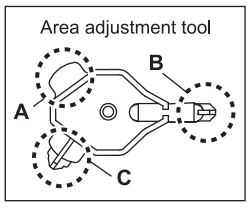
Adjustments

1. Area depth angle adjustment



Depth angle adjustment screw

When adjusting the 1st row close to the door, see **Table 1** dipswitch 16 for the easier adjustment.



NOTE

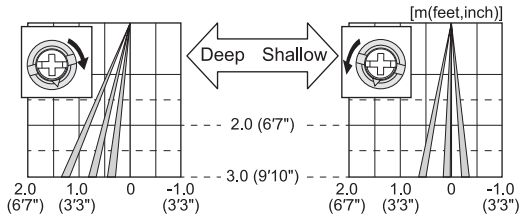
Make sure that the detection area does not overlap with the door/header, and there is no highly reflecting object near the detection area otherwise ghosting/signal saturation may occur.

a. Independent adjustment

1st to 3rd rows

Depth angle adjustment screw for the 1st to 3rd rows.

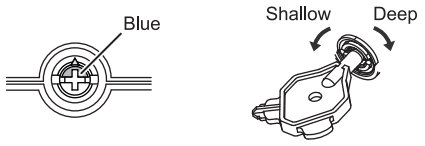


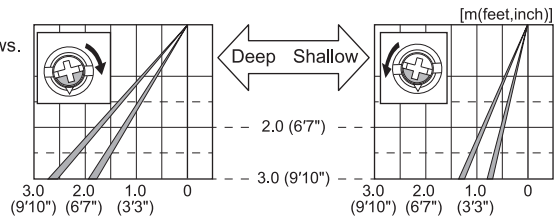


Use the area adjustment tool **(A)** as shown above to change the area depth angle for the 1st to 3rd rows.

4th and 5th rows

Depth angle adjustment screw for the 4th and 5th rows.





Use the area adjustment tool **(B)** as shown above to change the area depth angle for the 4th and 5th rows.

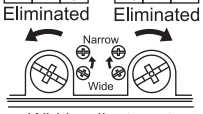
b. Simultaneous adjustment

For the simultaneous adjustment of the 1st to 5th rows, use the adjustment tool **(C)**.

2. Area width adjustment

1st to 3rd rows

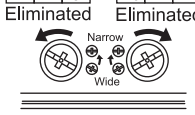
1 2 3 Eliminated — 10 11 12 Eliminated



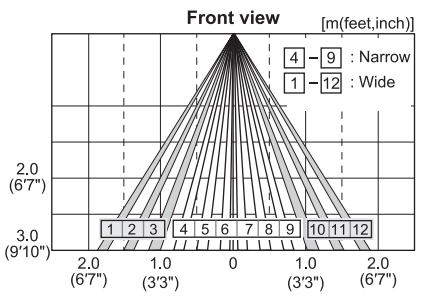
Width adjustment screws (Left)

4th and 5th rows

1 2 3 Eliminated — 10 11 12 Eliminated



Width adjustment screws (Right)



NOTE

When adjusting the width adjustment screws, make sure to turn until it clicks otherwise the proper operation may not be obtained.

1 2 3 cannot be eliminated separately, neither can 10 11 12 .

3. Dipswitch settings

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

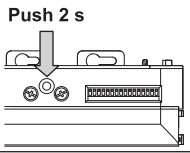


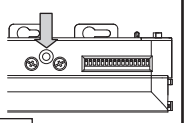
Table 1

Safety settings | Activation settings | Other settings | Factory default settings

No.	Function	Setting				Comment
1 2	Sensitivity (Floor condition)	Low 1 2 2.0 to 2.2 m (High refrection)	Middle 1 2 2.0 to 2.5 m	High 1 2 2.5 to 3.0 m	S-High 1 2 2.5 to 3.0 m (Low refrection)	Set the sensitivity according to the mounting height. Values below dipswitches are reference only. Adjust the sensitivity according to your risk assessment.
3 4	Presence timer	30 s 3 4	60 s 3 4	600 s 3 4	2 s (Motion) 3 4	The 1st and 2nd rows have the presence detection function. To enable the presence detection, do not enter the detection area for 10 s after setting the timer.
5 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.
7	Safety/Test output (to door controller)	N.C. 7	N.O. 7			The delay time between test input and safety/test output is 10 ms. If not use the test input, dipswitch 8 set to "OFF(High)".
8	Test input (from door controller)	OFF (High) 8	ON (Low) 8			
9 10	Row adjustment	5 rows 9 10	4 rows 9 10	3 rows 9 10	2 rows 9 10	Set the depth rows with dipswitches 9 and 10. When "2 rows" are selected, the Activation output is disabled.
11	Immunity	OFF 11	ON 11			Set dipswitch 11 to "ON" when the sensor operates by itself (Ghosting). When dipswitch 11 is set to "ON" the actual detection area may occur smaller.
12	Activation output	N.O. 12	N.C. 12			Dipswitch 12 is for the Activation output to door controller.
13	Simultaneous output	OFF 13	ON 13			When dipswitch 13 is set to "ON", both activation & safety/test output will operate simultaneously regardless of detection area. But only safety/test output will respond back with safety/test output when it receives test input.
14	Self monitoring	ON 14	OFF 14			When the door remains open and the operation indicator shows fast Green blinking, refer to **Troubleshooting**. If the door still remains open, set dipswitch 14 to "OFF".
15	Direction	Bi 15	Uni 15			When dipswitch 15 is set to "Uni", this setting enables the door to close faster when a person walks away from the door. Uni-directional function is disabled in case the detection at 1st and/or 2nd row continues for more than 5 s.
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 to "OFF".

Service mode

- During the "Service mode", only the 1st row remains transmitting and the operation indicator shows Yellow & Green blinking.
- After installation, be sure to turn to the "Operation mode".
- The sensor automatically returns to "Operation mode" after 15 min from the transition.



To "Service mode"	Keep pushing function switch for 5 s until the operation indicator starts to blink after off.
To "Operation mode"	Keep pushing function switch until the operation indicator goes off.

Checking

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

Entry					Power OFF	Outside of detection area	Entry into 3rd to 5th row	Entry into 2nd row	Entry into 1st row
Status					-	Stand-by	Motion detection	Motion/Presence detection	
Operation indicator					None	Green	Orange	Red	Red blinking
Activation output	12	N.O.	13	OFF					
		N.C.							
	12	N.O.		ON					
		N.C.							
Safety/Test output *	7	N.C.	13	OFF					
		N.O.							
	7	N.C.		ON					
		N.O.							

*** : During warm-up, safety/test output is constantly active.**

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

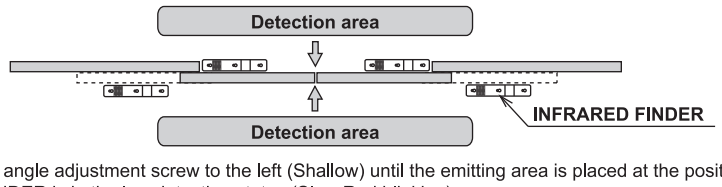
Door operation	Operation indicator	Possible cause	Possible countermeasures
Door does not open when a person enters the detection area.	None	Wrong power supply voltage.	Set to the stated voltage.
		Wrong wiring or connection failure.	Check the wires and connector.
	Unstable	Wrong detection area positioning.	Check **Adjustments 1, 2, 3**. (*)
		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 1** dipswtich 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. (*)
		Others	Set dipswitch 11 to "ON". (*)
	Proper	Wrong setting of dipswitches.	Check **Table 1** dipswtich 7, 8, 12. (*)
Door remains open.	Proper	Sudden change in the detection area.	Check **Table 1** dipswtich 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.
		Sensitivity too low or sensor failure.	Contact your installer or service engineer.
	Red & Green Blinking	Setting error.	After changing the dipswitch settings, make sure to push the function switch for 2 s.
Proper operation.	Slow Green Blinking	Signal saturation. (3rd, 4th or 5th row)	Remove highly reflecting objects from the detection area. Or lower the sensitivity. (*) Or change the area depth angle.
	Yellow & Green blinking	Service mode is enabled.	Switch to the operation mode that keep pushing function switch until the operation indicator goes off.

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

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.



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).

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