TM-0052-2 5915822 AUG 2013 IP1965

Ditec PASAA2

ENTREMATIC

ENGLISH
ORIGINAL

TÜV SÜD Production monitored Safety tested

CE

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.

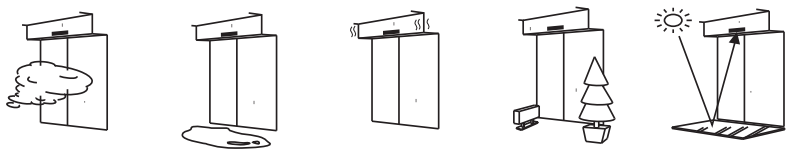
⚠ WARNING	Disregard of warning may cause the improper operation causing death or serious injury of a person.
⚠ CAUTION	Disregard of caution may cause the improper operation causing injury of a person or damage to objects.
NOTE	Special attention is required to the section of this symbol.
📖	It is required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

NOTE

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

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 or objects that emit light near the detection area.
-Highly reflecting floor or highly reflecting objects around the door.



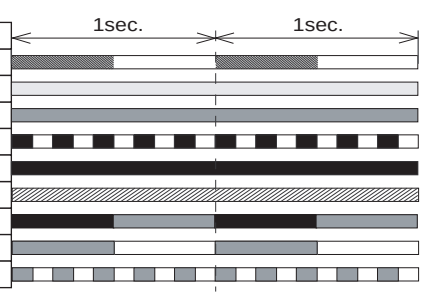
SPECIFICATION

Model	: PASAA2
Cover color	: Black
Mounting height	: 2.0 (6'6") to 3.0m (9'10")
Detection area	: See **DETECTION AREA**
Detection method	: Active infrared reflection (*1)
Depth angle adjustment	: 1st to 3rd rows / -6 to +6° 4th and 5th rows / +26 to +44°
Power supply (*2)	: 12 to 24VAC ±10% (50 / 60 Hz) 12 to 30VDC ±10%
Power consumption	: < 2.5W (< 4VA at AC)
Operation indicator	: See chart below
Test input	: Opto coupler Voltage / 5 to 30VDC Current / 6mA Max. (30VDC)
Activation output	: When 3rd, 4th or 5th row detects. Form A relay 50V 0.3A Max. (Resistance load)
Safety / Test output	: When 1st or 2nd row detects. Opto coupler (NPN) Voltage / 5 to 50VDC Current / 100mA Max. Dark current / 600nA Max. (Resistance load)
Noise level	: <70dBA
Output hold time	: Approx. 0.5 sec.
Response time	: <0.3 sec.
Operating temperature	: -20 to +55°C (-4 to 131°F)
Operating humidity	: <80%
IP rate	: IP54
Category	: 2 (EN ISO 13849-1 : 2008)
Performance level	: d (EN ISO 13849-1 : 2008)
Weight	: 320g (11.2oz)
Accessories	: 1 Operation manual 2 Mounting screws 1 Mounting template 1 Area adjustment tool 1 Cable 3m (9'10") (8 × 0.22mm² AWG24) (*3)

*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 2A.

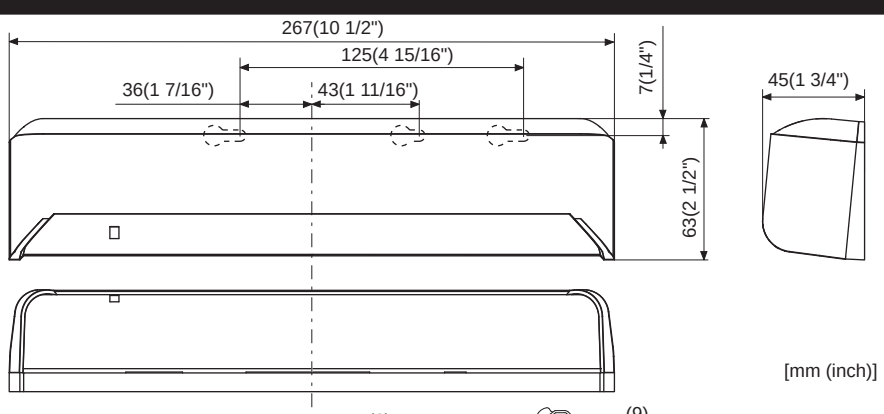
Operation indicator

Status	Operation indicator color
Stand-by (Setting mode)	Blinking Blue
Stand-by (Installation mode)	Yellow
Stand-by (Operation mode)	Green
1st row detection	Blinking Red
2nd row detection	Red
3rd, 4th or 5th row detection	Orange
Wrong dipswitch setting	Red & Green blinking
Signal saturation	Slow Green blinking
Sensor failure	Fast Green blinking

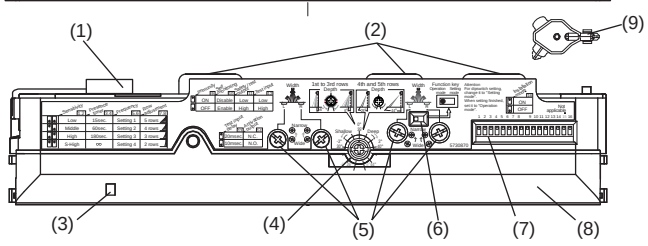


NOTE The specifications herein are subject to change without prior notice due to improvements.

OUTER DIMENSIONS AND PART NAMES



[mm (inch)]



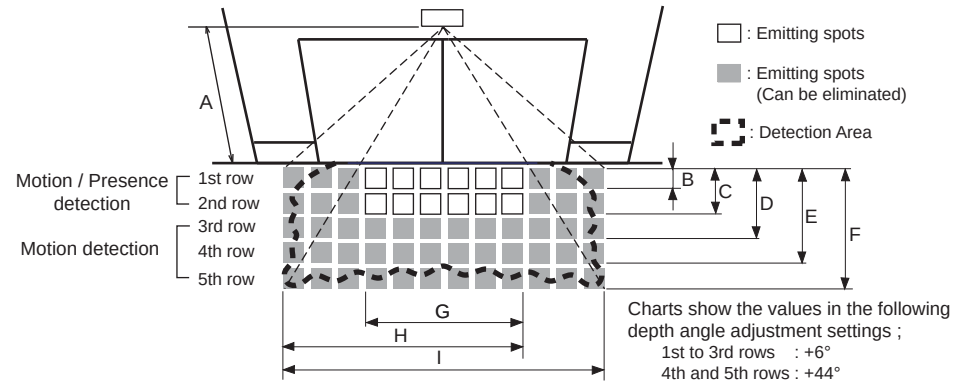
(1) Connector
(2) Mounting holes
(3) Operation indicator
(4) Depth angle adjustment screw
(5) Width adjustment screws
(6) Function key
(7) Dipswitches
(8) Detection window
(9) Area adjustment tool

COMPLIED STANDARDS

EN 16005:2012
EMC Directive 2004/108/EC
EN 61496-3:2001 clause 4. 3. 5 and 5. 4. 7. 3
EN 12978+A1:2009
EN ISO 13849-1:2008
Machinery Directive 2006/42/EC
EN ISO 13849-2:2008

Notified Body: TÜV SÜD Product Service GmbH, Daimlerstraße 40 60314 Frankfurt Germany

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 (6'6")	2.20 (7'2")	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")	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' 2")	3.15 (10' 4")	3.40 (11' 2")	3.79 (12' 5")
X	0.19 (8")	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 comply with EN 16005, make sure that the detection area is within the values in the chart below.

A	2.00 (6'6")	2.20 (7'2")
C	0.23 (9")	0.24 (10")
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

The values above are when the sensitivity is set to "Middle" and speed of detection object is 50mm / sec..

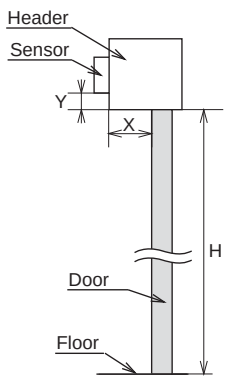
The values above are those of the detection area when tested referring to the test conditions of EN 16005.
(The emitting area is as shown in **Emitting area** above.)
*: When installed at higher than 2.35m(7'8"), EN 16005 requirements are fulfilled only within the area width "I" of 3m(9'10").

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.



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

Maximum mounting distance (Y)

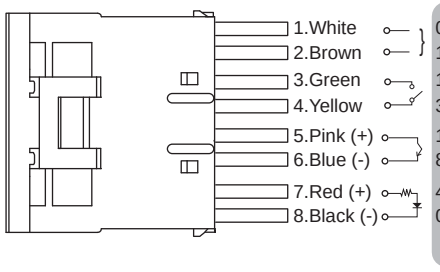
[m (feet,inch)]

X \ H	2.00 (6' 6")	2.30 (7' 6")	2.50 (8' 2")	2.80 (9' 2")	3.00 (9'10")
0	No limit				
0.05 (2")	0.20 (7")	0.20 (7")	0.20 (7")	0.20 (7")	0
0.10 (4")	0.20 (7")	0.20 (7")	0.20 (7")	0.20 (7")	0
0.15 (6")	0.13 (5")	0.15 (5")	0.19 (7")	0.20 (7")	0
0.20 (8")	-	0.12 (4")	0.14 (5")	0.15 (5")	0
0.25 (10")	-	-	0.11 (4")	0.12 (4")	0
0.30 (12")	-	-	-	-	-

⚠ 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

Wire the cable to the door controller as shown below.



Power supply
12 to 24VAC±10% /12 to 30VDC±10%

Activation output
Form A relay 50V 0.3A Max.

Safety / Test output
Opto coupler(NPN) / Voltage: 5 to 50VDC

Test input
Opto coupler / Voltage: 5 to 30VDC

⚠ 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

1.Plug the connector of the sensor.
2.Supply power to the sensor. Adjust the detection area and set the dipswitches. (See **ADJUSTMENTS**)

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**.

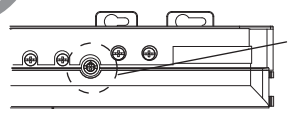
4

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

⚠ WARNING 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.

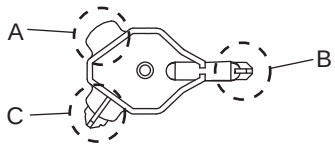
ADJUSTMENTS

1 Area depth angle adjustment



When adjusting the 1st row close to the door, follow **3-9 Installation mode** for the easier adjustment.

Area adjustment tool

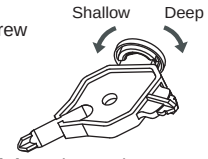


NOTE Make sure that the detection area does not overlap with the door / header, and there is no highly reflecting object near the detection area otherwise ghosting / signal saturation may occur.

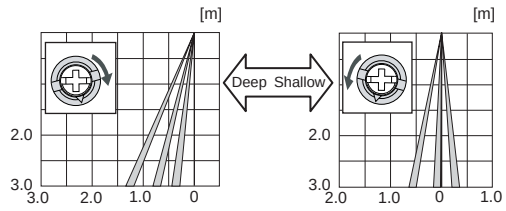
1-1.Independent adjustment

1st to 3rd rows

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

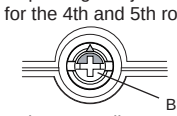


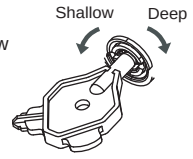
Use the area adjustment tool **(A)** as shown above to change the area depth angle for the 1st to 3rd rows.



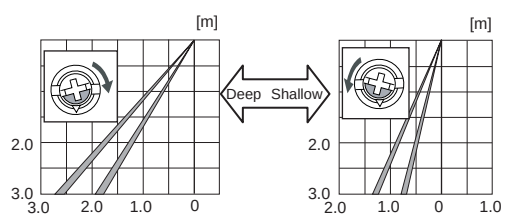
4th and 5th rows

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.

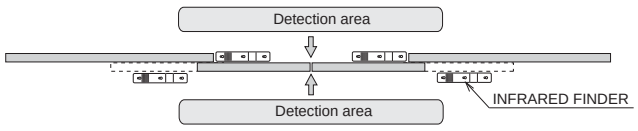


1-2.Simultaneous adjustment

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

REFERENCE Area depth adjustment with INFRARED FINDER (Separately available)

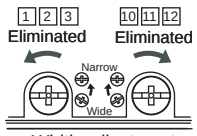
1. Turn the depth angle adjustment screw to the right (Deep) to place the detection area most away from the door.
2. Set INFRARED FINDER sensitivity to "H" (High) and place it on the floor as shown below.



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).

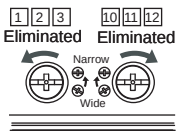
2 Area width adjustment

1st to 3rd rows

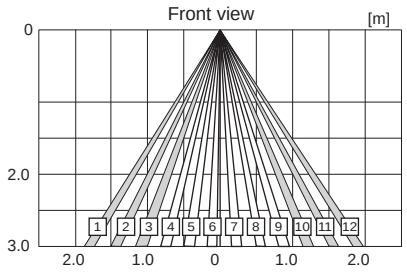


Width adjustment screws (Left)

4th and 5th rows



Width adjustment screws (Right)



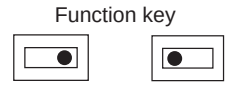
NOTE
When adjusting the width adjustment screws, make sure to turn until it clicks otherwise the proper operation may not be obtained.
1 2 3 cannot be eliminated separately, neither can 10 11 12.

3 Dipswitch settings

Follow these steps to change the settings of dipswitches.

1. Change the function key from the "Operation mode" to the "Setting mode". During the "Setting mode", the operation indicator is blinking Blue (only when stand-by status) and the door remains open.
2. Change the dipswitch settings.
3. When the setting is finished, change the function key back to the "Operation mode".

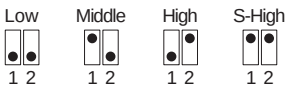
Function key



NOTE When the above procedures (1-3) are not followed, an error (Red & Green blinking) occurs. Make sure to use the sensor only in the" Operation mode". The sensor does not operate properly in the "Setting mode".

3-1.Setting the sensitivity

Refer to the chart below for the suitable sensitivity to your installation environment.



Floor condition	Mounting height [m (feet,inch)]				
	2.0 (6' 6")	2.2 (7' 2")	2.5 (8' 2")	3.0 (9' 10")	For example
Low reflection	Middle	Middle	High	S-High	-Carpet -Dark color floor
Middle reflection	Low	Middle	Middle	S-High	-Concrete
High reflection	Low	Low	Middle	High	-Tile -Marble

NOTE Special attention to the setting is required when the door is used often by the elderly or children. Please adjust the sensitivity and the presence detection timer according to your risk assessment.

3-2.Setting the presence detection timer

The 1st and 2nd rows have the presence detection function.
To comply with EN 16005, set the timer to " 30sec." or more.

NOTE To enable the presence detection, do not enter the detection area for 10 seconds after setting the timer.

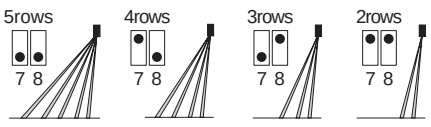
3-3.Setting the frequency

When using more than two sensors close to each other, set the different frequency for each sensor by dipswitches 5 and 6.

3-4.Setting the row adjustment

Set the depth rows with dipswitches 7 and 8.

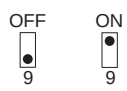
NOTE When "2rows" are selected, the activation output is disabled.



3-5.Setting the immunity

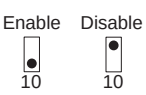
Set dipswitch 9 to ON when the sensor operates by itself (Ghosting).

NOTE When dipswitch 9 is set to ON ,the actual detection area may become smaller.



3-6.Setting the self monitoring

When the door remains open and the LED indicator shows fast or slow green blinking, please refer to the **TROUBLESHOOTING**.
If the door still remains open, set dipswitch 10 to "Disable".

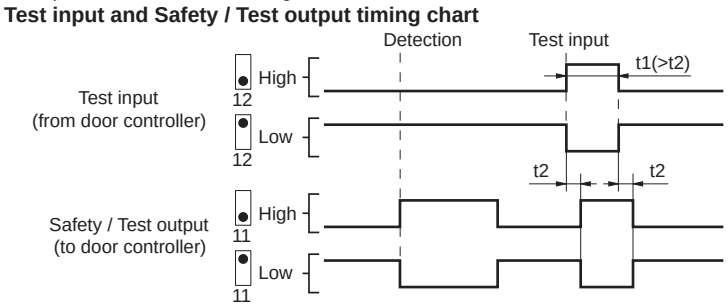


NOTE To comply with EN 16005 dipswitch 10 must be set to "Enable".

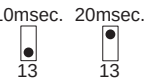
3-7.Setting the test input, safety / test output and test input delay time

Set dipswitches 11 to 13 according to the door controller.

Test input and Safety / Test output timing chart



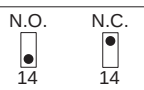
(*)Test input delay time (=t2)



*: The test input delay time is the time period between the test input and safety / test output.

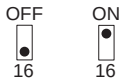
3-8.Setting the activation output

Set dipswitch 14 to "N.O." (Normally Open) or "N.C." (Normally Closed) .



3-9.Installation mode

Set dipswitch 16 to ON when adjusting the 1st row close to the door.
When the setting is finished, set to OFF.
During the installation mode, only the 1st row remains, and the operation indicator glows Yellow.



NOTE If the function key is set back to the "Operation mode" while the installation mode is still ON, an error occurs.

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	Outside of detection area
Status		-	Stand-by	Motion detection active	Motion / Presence detection active		Stand-by
Operation indicator		None	Green	Orange	Red	Blinking Red	Green
Activation output	14 ● N.O.						
	14 ● N.C.						
Safety / Test output	11 ● High	OFF	ON		OFF		ON
	11 ● Low	OFF	OFF		ON		OFF

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 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 detection timer	Set the presence detection timer longer.(*)
		Dirty detection window	Wipe the detection window with a damp cloth. (Do not use any cleaner or solvent.)
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 **ADJUSTMENTS 3-3**.(*)
		Waterdrops on the detection window	Use the rain-cover (Separately available). Or install in a place keeping the waterdrops off.
		Detection area overlaps with door / header.	Adjust the detection area to "Deep" (Outside).
		Sensitivity is too high.	Set the sensitivity lower.(*)
		Others	Set the immunity to ON.(*)
Door remains open	Proper	Sudden change in the detection area.	Check **ADJUSTMENTS 3-1 & 3-2**.(*) 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.
		Wrong setting of dipswitches.	Check **ADJUSTMENTS 3-6 ,3-7 & 3-8**.(*)
	Yellow	Installation mode is set to ON.	Set installation mode to OFF.(*)
	Blinking Blue	Wrong setting of function key	Set to the"Operation mode".
	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 (1st or 2nd row)	Remove highly reflecting objects from the detection area. Or lower the sensitivity.(*) Or change the area depth angle for 1st to 3rd rows.
		The detection area overlaps with the door / header.	Adjust the detection area to "Deep" (Outside).
	Red & Green blinking	Wrong setting of dipswitch	1. Set the function key to the "Setting mode". 2. Change the dipswitch 16 setting (ON➔OFF or OFF➔ON➔OFF). 3. Set the function key back to "Operation mode".
Door remains closed.	Proper	Wrong wiring or connection failure	Check the wires and connector.
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.

* Before changing these settings, set the function key to the "Setting mode". When finished, set back to the "Operation mode".

Entrematic Group AB
Lodjursgatan, 10
SE-261 22 Landskrona - SWEDEN
www.ditecentrematic.com