Dítec

PAS024AMR

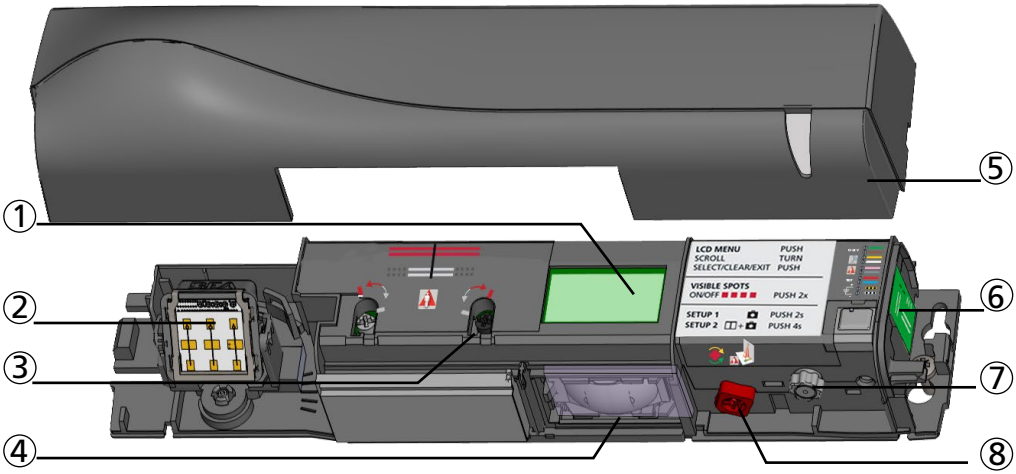
OPENING & SAFETY SENSOR FOR AUTOMATIC SLIDING DOORS IN EMERGENCY EXITS

(according to EN 16005 and DIN 18650)

User's Guide for software version 0600 and higher
(refer to tracking label on product)

ENGLISH

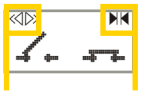
DESCRIPTION



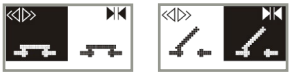
1. LCD
2. radar antenna
3. IR-curtain width adjustment
4. IR-lenses
5. cover
6. main connector
7. main adjustment knob
8. IR-curtain angle adjustment knob

HOW TO USE THE LCD?

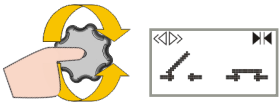
DISPLAY DURING NORMAL FUNCTIONING



Opening impulse Safety



Negative display = active output



To adjust contrast, push and turn the grey button simultaneously.

During normal function only.

FACTORY VALUE VS. SAVED VALUE



displayed value = factory value



displayed value = saved value

NAVIGATING IN MENUS



Push to enter the LCD-menu



Enter password if necessary

Not during the first minute after power-on of the sensor.



Select your language before entering the first LCD-menu.

During the first 30 seconds after power-on of the sensor or later in the diagnostics menu.



Scroll menu items



Select **Back** to return to previous menu or display.



Select **More** to go to next level:
- basic settings
- advanced settings
- diagnostics

CHANGING A VALUE



Scroll menu up-down





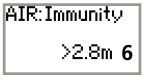
Push to select parameter



current value is displayed



Scroll values up-down



more values are displayed



Push to save new value



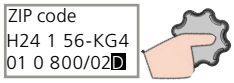
new value is displayed

CHANGING A ZIP CODE



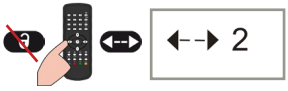
See application note on ZIP CODE

...



Validate the last digit in order to activate the new ZIP code:
- v = valid ZIP code, values will be changed accordingly
- x = invalid ZIP code, no values will be changed
- v/x = valid ZIP code, but from a different product. Only available values will be changed.

VALUE CHECK WITH REMOTE CONTROL

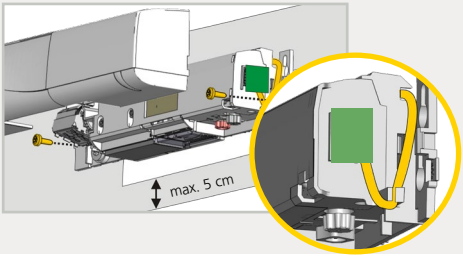


Pressing a parameter symbol on your remote control, displays the saved value directly on the LCD-screen. Do not unlock first.

PAS024AMR: INSTALLATION GUIDE

ENGLISH

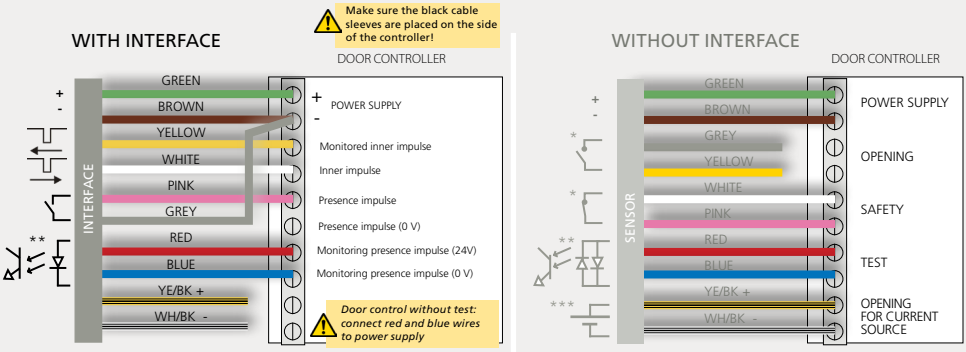
1 MOUNTING



IMPORTANT!
The radar output parameter has to be set to « current output « (factory value).

Mount the sensor securely.

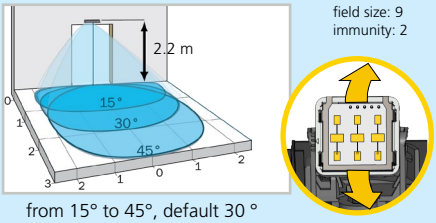
2 WIRING



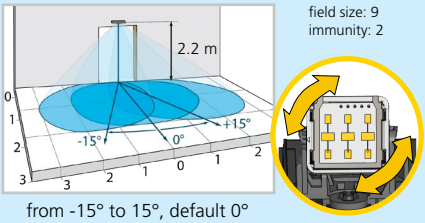
* Depending on OUTPUT CONFIGURATION settings
** For compliance with EN 16005 and DIN 18650, connection to door controller test output is required.
***Current source output for emergency exits

3 RADAR OPENING IMPULSE FIELD

ANGLE

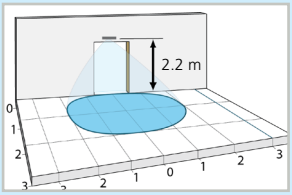


from 15° to 45°, default 30 °



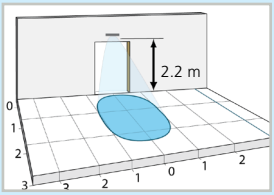
from -15° to 15°, default 0°

WIDTH



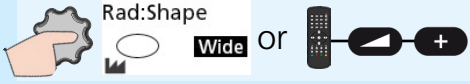
WIDE : 4 m x 2 m

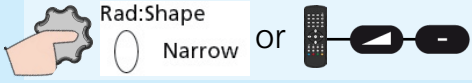
field size: 9
immunity: 2



NARROW : 2 m x 2.5 m

field size: 9
immunity: 2

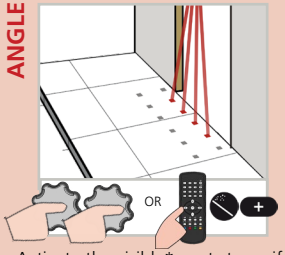




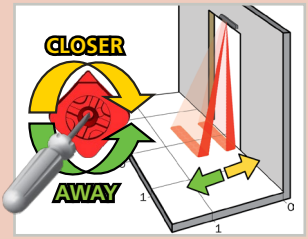
The size of the detection field varies according to the mounting height of the sensor.
In emergency exits the full door width must be covered.

4 INFRARED SAFETY FIELD

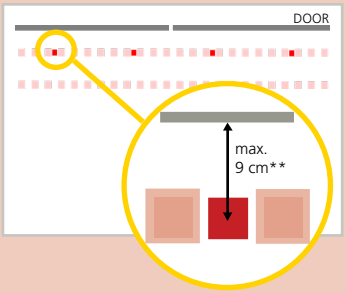
ANGLE



Activate the visible* spots to verify the position of the IR-curtain.

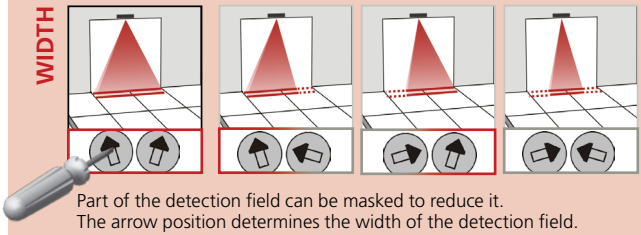


If necessary, adjust the IR-curtain angle (from -7° to 4°, default 0°).

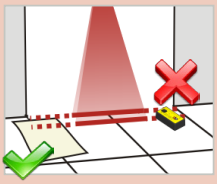


* Visibility depends on external conditions. When spots are not visible, use the Spotfinder to locate the curtains.
** The distance between the inner curtain of the inside door sensor and the inner curtain of the outside door sensor should always be smaller than 20 cm. The distance to the door leaf depends therefore on the thickness of the door leaf.

WIDTH



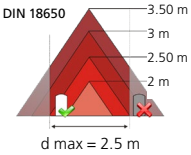
Part of the detection field can be masked to reduce it.
The arrow position determines the width of the detection field.

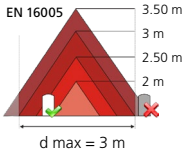


Always verify the actual detection field width with a piece of paper and not the Spotfinder, which detects the whole emitted field.

Additional adjustments are possible by LCD or remote control (see p. 5)

Mounting height	Detection width
2.00 m	2.00 m
2.20 m	2.20 m
2.50 m	2.50 m
3.00 m	d max
3.50 m	d max





The size of the detection field varies according to the mounting height and the settings of the sensor. The full door width must be covered.

5 SETTINGS



Choose one of the following presettings or adjust the sensor manually (see p.5):

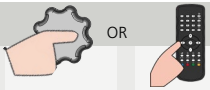
STANDARD: standard in- and outdoor installations — Presettings Standard — 1

CRITICAL ENVIRONMENT: critical installations due to surroundings or weather — Presettings Critical env. — 2

SHOPPING STREET: installations in narrow streets with pedestrian traffic — Presettings Shopping str. — 3

6 SETUP

STEP OUT OF THE INFRARED FIELD!



SETUP 1 (QUICK)
reference picture



SETUP 2 (ASSISTED)
test of full door cycle + reference picture



TEST THE GOOD FUNCTIONING OF THE INSTALLATION BEFORE LEAVING THE PREMISES!

OVERVIEW OF SETTINGS

BASIC



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More

	0	1	2	3	4	5	6	7	8	9	+	-
PRESETTINGS		standard	critical env.	shopping street		factory values for radar immunity, IR immunity, IR number and redirection increased immunities, 1 curtain increased immunities, redirection = motion and presence						
RAD: FIELDSIZE	small	>	>	>	>	>	>		>	large		
RAD: SHAPE								NO: normally open NC: normally closed			wide	narrow
RAD: OUTPUT		NO NC	NC NO	NC NC	NO NO	current NC	freq NC	Freq : freq. in no detection (100 Hz) current: current output			Inv.freq.: freq. in detection (2.5Hz)	Inv.freq.** NC
IR: IMMUNITY		↕ < 2.8 m low	normal	high	higher	highest	↕ ≥ 2.8 m normal	high	For conformity to EN 16005 or DIN 18650 at a mounting height of 2.8 m or more, use values 6 and 7.			
IR: FREQUENCY		A	B	Sensors mounted close to each other should have a different frequency.								

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ADVANCED

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More

factory value

⚠ excludes conformity of the door system according to EN 16005 / DIN 18650. IR Immunity on values 4 or 5 is incompatible with IR presence time on value 0

not allowed when the sensor is used in emergency exits

RAD: IMMUNITY		low		>	>	>	>	>	>	high
RAD: DIRECTION	radar off	bi	uni	uni PRM	uni AWAY	bi shop	uni shop	PRM shop	PRM: for persons with reduced mobility AWAY: unidirectional motion away from sensor shop: automatic adaptation of field size (small shops)	
RAD: HOLDTIME	0.5 s	1 s	2 s	3 s	4 s	5 s	6 s	7 s	8 s	9 s
IR: WIDTH										
+										
IR: NUMBER	service mode	1	2	service mode = no IR detection during 15 minutes (maintenance). This value excludes conformity of the door system to EN 16005 and DIN 18650.						
IR: PRESENCE TIME	motion	15 s	30 s	1 min	2 min	5 min	10 min	20 min	60 min	infinite
IR: OUTPUT		NO NC	NC NO	NC NC	NO NO	current NC	freq NC	NO: normally open NC: normally closed		
REDIRECTION	motion	motion **or** presence	motion **and** presence	opening output is active in case of: 0 motion detection 1 motion **or** presence detection 2 motion **and** presence detection						
SMART DAISY CHAIN*	off	1/2	2/2	1/3	2/3	3/3	**1/2**: 1st sensor in chain of 2; **2/2**: 2nd sensor in chain of 2 **1/3**: 1st in chain of 3; **2/3**: 2nd in chain of 3; **3/3**: 3rd in chain of 3			
FACTORY RESET									full reset	partial reset	partial: outputs are not reset
DOOR BELL*	off	0.05 s	0.10 s	0.25 s	0.50 s	0.75 s	1 s	1.5 s	2 s	5 s	Only accessible when the sensor is used without interface.

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DIAGNOSTICS

⚠ When using the SMART DAISY CHAIN function, only plug the interface on the last sensor of the chain (2nd or 3rd).

* Setting in combination with an accessory (see p. 1). For more information see user's guide of accessory.
**Setting accessible via LCD only

ZIP CODE — *all parameter settings in zipped format (see application note on ZIP CODE)*
ID # — *unique ID-number*
ERROR LOG — *last 10 errors + day indication*
IR: SPOTVIEW — *view of spot(s) that trigger detection*
IR: C1 ENERG — *signal amplitude received on curtain 1*
IR: C2 ENERG — *signal amplitude received on curtain 2*

- POWERSUPPLY — *supply voltage at power connector*
- OPERATINGTIME — *power duration since first startup*
- RESET LOG — *delete all saved errors*
- PASSWORD — *LCD and remotre control password (0000= no password)*
- LANGUAGE — *language of LCD-menu*
- ADMIN — *enter code to access admin mode*

TROUBLESHOOTING

E1 	ORANGE LED flashes 1 x.	The sensor signals an internal fault.	1 Replace sensor.
E2 	ORANGE LED flashes 2 x.	The power supply is too low or too high.	1 Check power supply (in the diagnostics menu of the LCD). 2 Check wiring.
E3 	ORANGE LED flashes 3 x.	The previous sensor in the daisy chain is faulty	1 Replace previous sensor in the chain
		The SDC setting does not match with the real product position	1 Lock the SDC position setting
E4 	ORANGE LED flashes 4 x.	The sensor receives not enough IR-energy.	1 Decrease the angle of the IR-curtains. 2 Increase the IR-immunity filter (values ≥ 2.8 m). 3 Deactivate 1 curtain.
E5 	ORANGE LED flashes 5 x.	The sensor receives too much IR-energy.	1 Slightly increase the angle of the IR-curtains.
		The sensor is disturbed by external elements.	1 Eliminate the cause of disturbance (lamps, rain cover, door controller housing properly grounded).
E6 	ORANGE LED flashes 6 x.	Faulty radar sensor output	1 Replace sensor.
E7 	ORANGE LED flashes 7 x.	The internal test of the radar is disturbed.	1 Launch a radar calibration (cover on) :  1 Check the size of the radar opening field by an approaching walking test. 1 If orange LED flashes again or you cannot set up a sufficiently large opening field, replace sensor
E8 	ORANGE LED flashes 8 x.	IR power emitter is faulty.	1 Replace sensor.
E9 	ORANGE LED flashes 9 x.	Internal reference of the radar is faulty.	1 Replace sensor.
	ORANGE LED is on.	The sensor encounters a memory problem.	1 Cut and restore power supply. 2 If orange LED lights up again, replace sensor.
	RED LED flashes quickly after an assisted setup.	The sensor sees the door during the assisted setup.	1 Move the IR-curtains away from the door. 2 Install the sensor as close to the door as possible. If needed, use a bracket accessory. 3 Launch a new assisted setup.
	RED LED lights up sporadically.	The sensor vibrates.	1 Check if the sensor is fastened firmly. 2 Check position of cable and cover.
		The sensor sees the door.	1 Launch an assisted setup and adjust the IR angle.
		The sensor is disturbed by external conditions.	1 Increase the IR-immunity filter to value 3. 2 Select presetting 2 or 3.
	GREEN LED flashes quickly during a motion detection	Environment has influenced the internal test of the radar.	1 Launch a radar calibration (cover on) :  2 Check the size of the radar opening field by an approaching walking test.
	GREEN LED lights up sporadically.	The sensor is disturbed by rain and/or leaves.	1 Select presetting 2 or 3. 2 Increase radar-immunity filter.
		Ghosting created by door movement.	1 Change radar field angle.
		The sensor vibrates.	1 Check if the sensor and door cover is fastened firmly. 2 Check position of cable and cover.
		The sensor sees the door or other moving objects.	1 Remove the objects if possible. 2 Change radar field size or angle.
	The LED and the LCD-display are off.		1 Check wiring.
	The reaction of the door does not correspond to the LED-signal.		1 Check output configuration setting. 2 Check wiring.
	The LCD or remote control does not react.	The sensor is protected by a password.	1 Enter the right password. If you forgot the code, cut and restore the power supply to access the sensor without entering a password during 1 minute.

LED-SIGNAL

Motion detection

Presence detection

LED flashes

LED flashes x times

LED flashes red-green

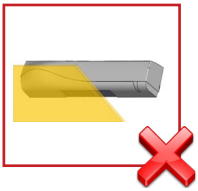
LED flashes quickly

LED is off

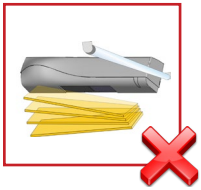
INSTALLATION



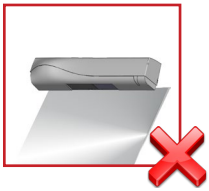
The sensor should be fixed firmly to avoid extreme vibrations.



Do not cover the sensor.

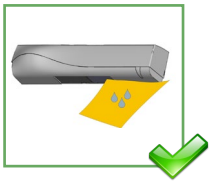


Avoid moving objects and light sources in the detection field.

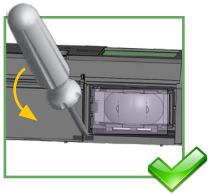


Avoid highly reflective objects in the infrared field.

MAINTENANCE



It is recommended to clean the optical parts at least once a year or more if required due to environmental conditions.

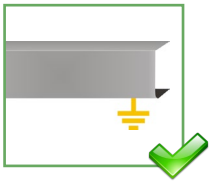


For complete cleaning, remove both windows by inserting a screwdriver into the notches located between the two windows.

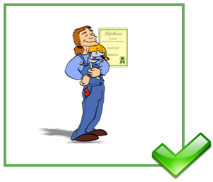


Do not use aggressive products to clean the optical parts.

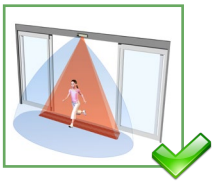
SAFETY



The door control unit and the door cover profile must be correctly earthed.



Only trained and qualified personnel may install and setup the sensor.



Always test the good functioning of the installation before leaving the premises.



The warranty is invalid if unauthorized repairs are made or attempted by unauthorized personnel.

- The sensor cannot be used for purposes other than its intended use.
- The manufacturer of the door system incorporating the sensor is responsible for compliance of the system to applicable national and international regulations and safety standards.
- The installer must read, understand and follow the instructions given in this manual. Improper installation can result in improper sensor operation.
- The manufacturer of the sensor cannot be held responsible for injury or damage resulting from incorrect use, installation or inappropriate adjustment of the sensor.

TECHNICAL SPECIFICATIONS

Supply voltage*:	12 V - 30 V DC +/-10%
Power consumption:	< 2.5 W
Mounting height:	2 m to 3.5 m
Temperature range:	-25°C to +55°C; 0-95% relative humidity, non condensing
Degree of protection:	IP54 (IEC/EN 60529)
Noise:	< 70 dB





Detection mode:	Motion Min. detection speed: 5 cm/s	Presence Typical response time: < 200 ms (max. 500 ms)
Technology:	Microwave doppler radar Transmitter frequency: 24.150 GHz Transmitter radiated power: < 20 dBm EIRP Transmitter power density: < 5 mW/cm^2	Active infrared with background analysis Spot: 5 cm x 5 cm (typ) Number of spots: max. 24 per curtain Number of curtains: 2
Output* PAS024AMR: (sensor + interface)	Open-collector transistor Max. sink current: 20 mA	Solid-state-relay Max. contact current: 100 mA Max. contact voltage: 42 V DC/ 30 V AC Holdtime: 0.3 to 1 s
Output* PAS024AMR: (sensor only)	Solid-state-relay (potential and polarity free) Max. contact current: 100 mA Max. contact voltage: 42 V DC/ 30 V AC - in switching mode: NO/NC - in frequency mode: pulsed signal in no detection (f = 100 Hz +/- 10%) - in inverted frequency mode: pulsed signal in detection (f = 2.5 Hz) Galvanically isolated current source No detection: current source ON Open circuit voltage: 6.5 V Output voltage available at 10 mA: 3 V min. Typical load: up to 3 optocouplers in series Detection: current source OFF Open-circuit residual voltage: < 500 mV	Solid-state-relay (potential and polarity free) Max. contact current: 100 mA Max. contact voltage: 42 V DC/ 30 V AC Holdtime: 0.3 to 1 s
Test input*:		Sensitivity: Low: < 1 V; High: > 10 V (max. 30 V) Response time on test request: typical: < 5 ms.
Safety Standards:	EN ISO 13849-1 PL «d» CAT. 2 EN 16005 (emergency exits) DIN 18650-1 (emergency exits) AutSchR (only applicable for radar output in frequency mode and current source output)	EN ISO 13849-1 PL «c» CAT. 2 (under the condition that the door control system monitors the sensor at least once per door cycle) EN 16005 (protective devices) DIN 18650-1 (protective devices) EN 12978

Specifications are subject to changes without prior notice.
All values measured in specific conditions and with a temperature of 25°C

* External electrical sources must be within specified voltages, max 15W and ensure double insulation from primary voltages.

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ASSA ABLOY Entrance Systems AB hereby declares that this product is in conformity with the European directives 2014/53/EU (RED), 2006/42/EC (Machinery) and 2011/65/EU (ROHS).

This product should be disposed of separately from unsorted municipal waste.