

GC 365 R / SF



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Symbols and illustrations

Warning notices

In these instructions, warnings are used to warn against material damage and injuries.

- ▶ Always read and observe these warning notices.
- ▶ Observe all measures marked with the warning symbol and warning word.

Abbreviations

FRW	Escape and rescue routes
AIR	Active infrared
HSK	Main closing edge










Product liability

In accordance with the liability of manufacturers for their products as defined in the German "Produkthaftungsgesetz" (Product Liability Act), the information contained in these instructions (product information and proper use, misuse, product performance, product maintenance, obligations to provide information and instructions) is to be observed. Failure to comply releases the manufacturer from his statutory liability.

1 Safety

1.1 Intended use

The combined detector GC 365 R / SF may only be used to activate and protect automatic sliding doors and curved sliding doors with GEZE drives. The minimum object size corresponds to the reference object CA in accordance with DIN 18650 or DIN EN 16005 both upright and lying down. The sensor can be used to secure automatic sliding doors against impact and trapping of the human body.

			
GC 365 R	 (in the direction of emergency exit)		
GC 365 SF			

1.2 Safety notices

- The mandatory installation, maintenance and repair work must be performed by properly trained personnel authorised by GEZE. Any attempts at repairs by unauthorised personnel cancel the factory guarantee.
- Only operate the device with safety extra-low voltage (SELV) with electrically protective separation.
- The country-specific laws and regulations are to be observed during safety-related tests.
- Make sure that the cover of the drive is fitted correctly and earthed.
- If unauthorised changes are made to the system, GEZE cannot be held liable in any way whatsoever for any resulting damage, and the approval for use on escape and rescue routes ceases.
- GEZE does not accept any warranty for combinations with third-party products.
- Only original GEZE parts may be used for repair and maintenance work.
- Observe the latest versions of directives, standards and country-specific regulations, in particular:
 - ASR A1.7 "Doors and gates"
 - DIN 18650 "Building hardware – Powered pedestrian doors"
 - DIN EN 16005 "Power operated pedestrian doorsets – Safety in use – Requirements and test methods"
 - Accident-prevention regulations, especially BGV A1 "General regulations" and BGV A2 "Electrical installations and equipment"
- The risk assessment and installation of the sensor and the door system in compliance with national and international regulations and door safety standards are the responsibility of the door manufacturer.
- Any uses of the device other than those described in this manual do not correspond to the intended use and cannot be guaranteed by the manufacturer.

1.3 Safety-conscious working

- Secure workplace against unauthorised entry.
- Watch the swivelling range of long system parts.
- Secure the cover/drive panels against falling.
- Attach safety stickers to glass leaves.
- Danger of injury with opened drive. Hair, clothing, cables, etc. can be drawn in by rotating parts.
- Danger of injury caused by unsecured crushing, impact, drawing-in or shearing spots.
- Danger of injury due to glass breakage.
- Danger of injury due to sharp edges in the drive.
- Danger of injury by freely moving parts during installation.

1.4 Environmentally conscious working

- When disposing of the sensor, separate the different materials and have them recycled.

2 Description

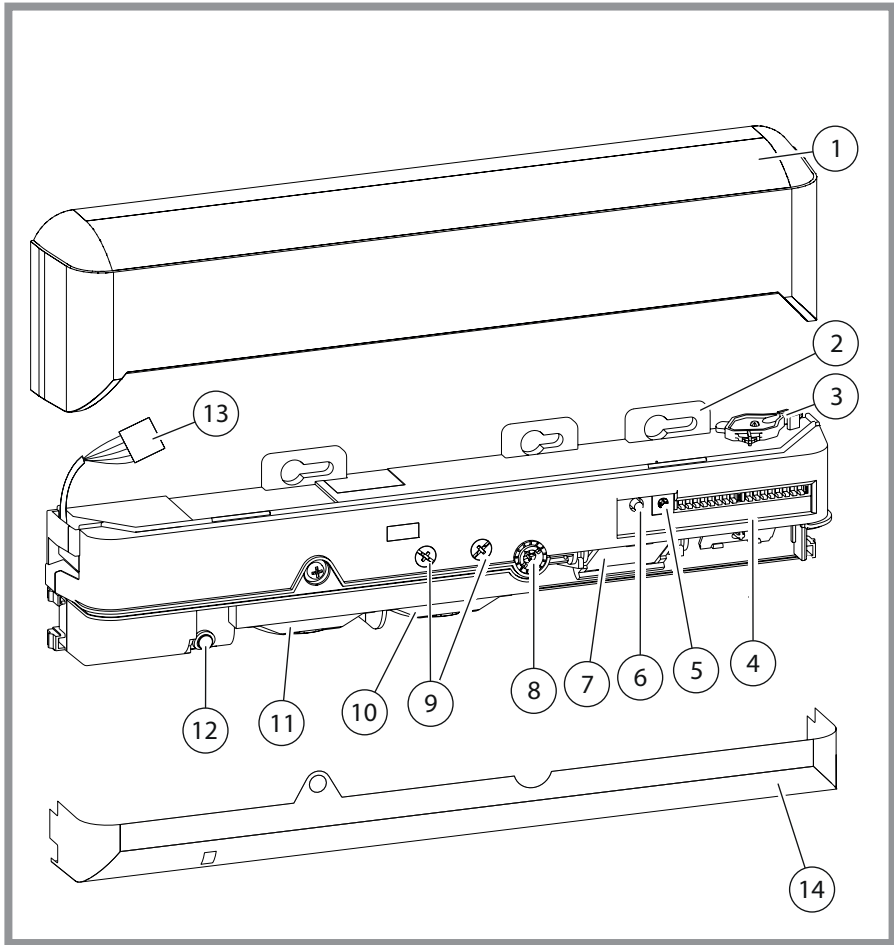
The combined detector GC 365 R / SF have a radar field for detecting movement and an infrared field for protection.

It is not possible for several systems to influence each other and result in a hazard. Unintentional stop signals are possible where detectors are mounted next to one another as their infrared measuring ranges overlap and each sensor could activate the other. This influence is kept to a minimum by different frequency settings.

ID no.

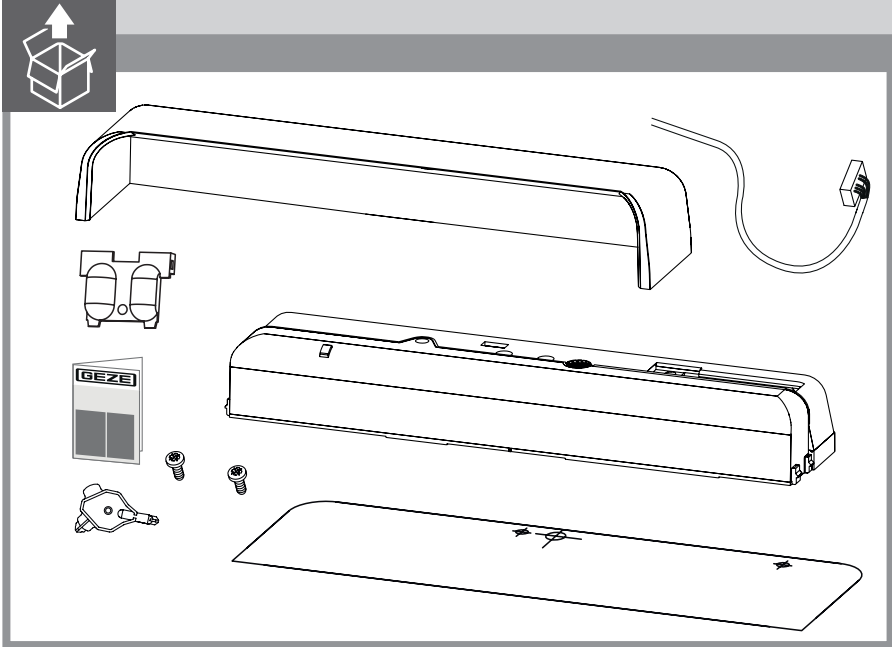
Variant	GC 365 R	GC 365 SF
Black	160283	160284

2.1 Dimensions and overview



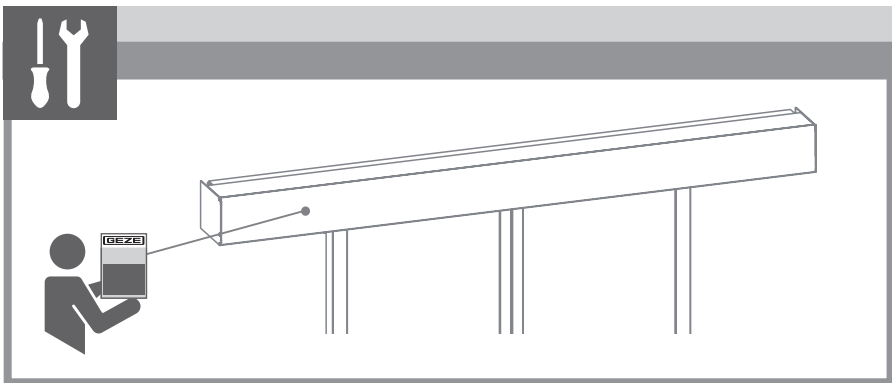
- | | | | |
|---|-------------------------------------|----|----------------------------------|
| 1 | Cover | 8 | Adjustment screw for depth angle |
| 2 | Suspension | 9 | Width adjustment screws |
| 3 | Adjustment tool | 10 | AIR transmitter |
| 4 | DIP switch | 11 | AIR receiver |
| 5 | Potentiometer for radar sensitivity | 12 | LED display |
| 6 | Function switch | 13 | Connecting plug |
| 7 | Radar module | 14 | Detection window |

2.2 Supplied by GEZE



3 Work to be done before installation

3.1 Installing the drive



► Make sure that the cover of the drive is fitted correctly and earthed.

3.2 Safety sensor system

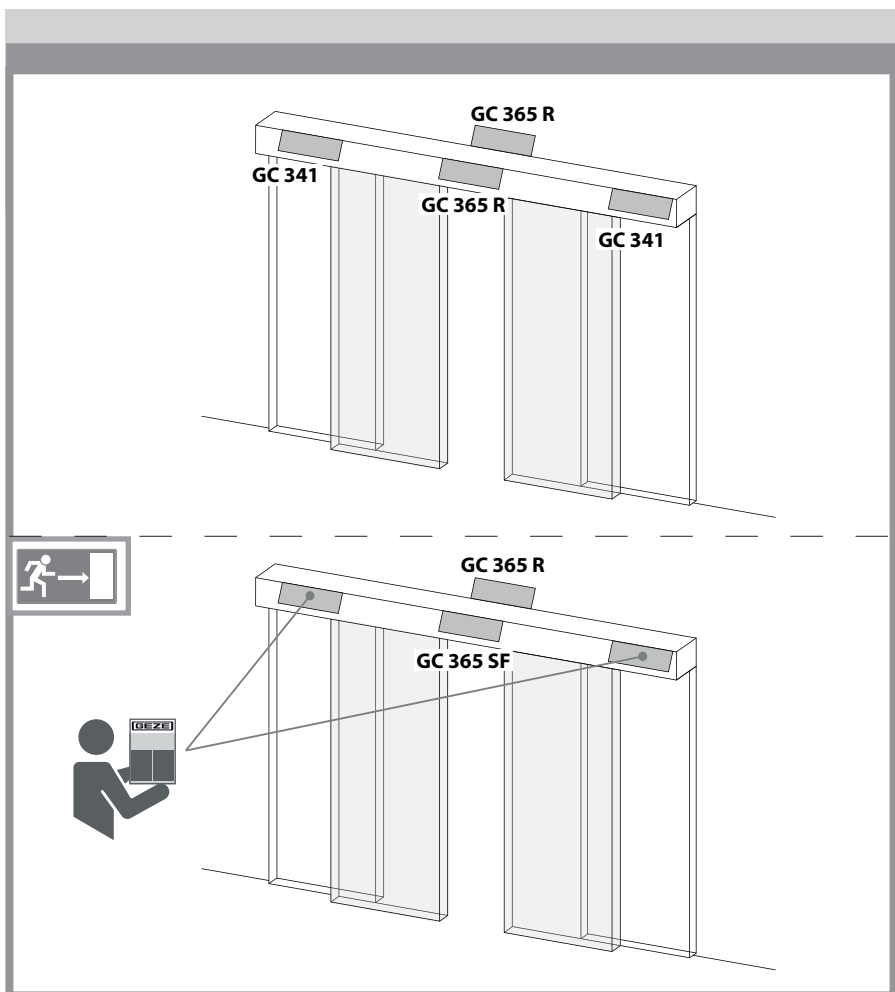
One combined detector per passage direction is installed on automatic sliding doors. The safety sensor GC 341 may be required in addition for larger opening widths.

- ▶ See installation instructions GC 341.



For escape and rescue routes:

- Use protective door leaf if necessary. Heed standards.

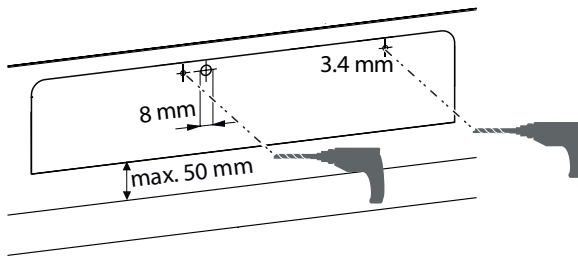
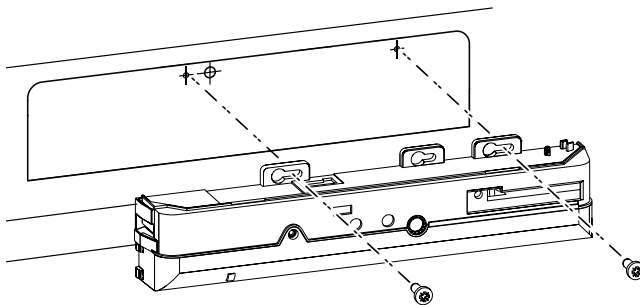


4 Installation

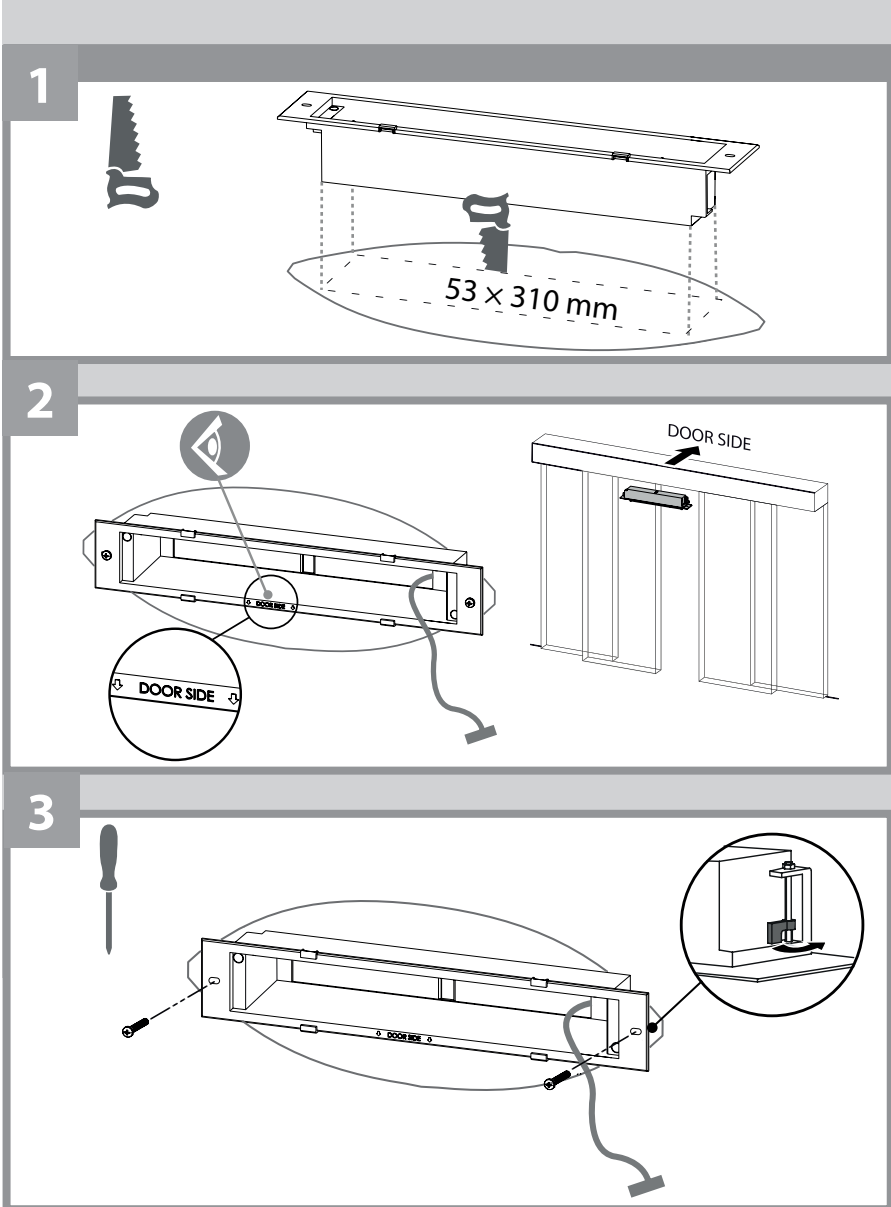
4.1 Installation without accessories

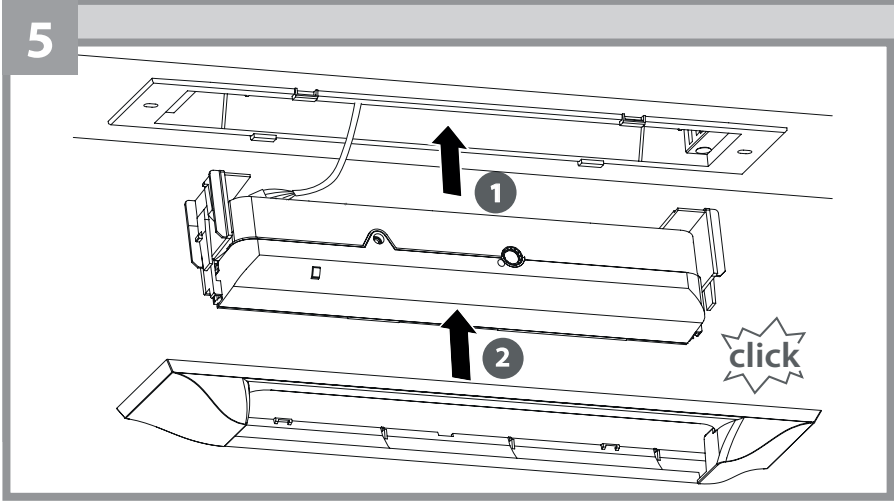
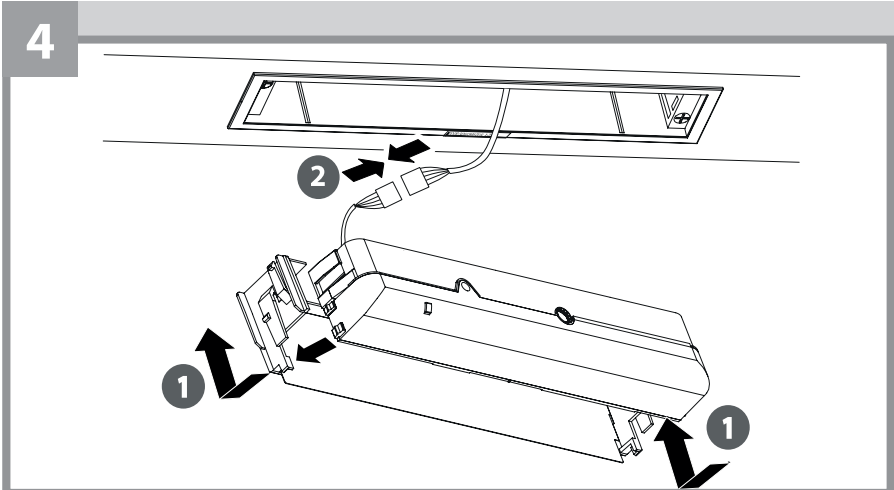


- ▶ Avoid extreme vibrations.
- ▶ Do not cover the sensor.
- ▶ Keep away from fluorescent lamps.
- ▶ Keep away from moving objects.
- ▶ Avoid highly reflective objects in the infrared range.
- ▶ Keep a distance of at least 200 mm away from lights, signs or hot air curtains.
- ▶ When using the installation bracket, make sure that the AIR viewing field is not covered by the drive or the reveal.

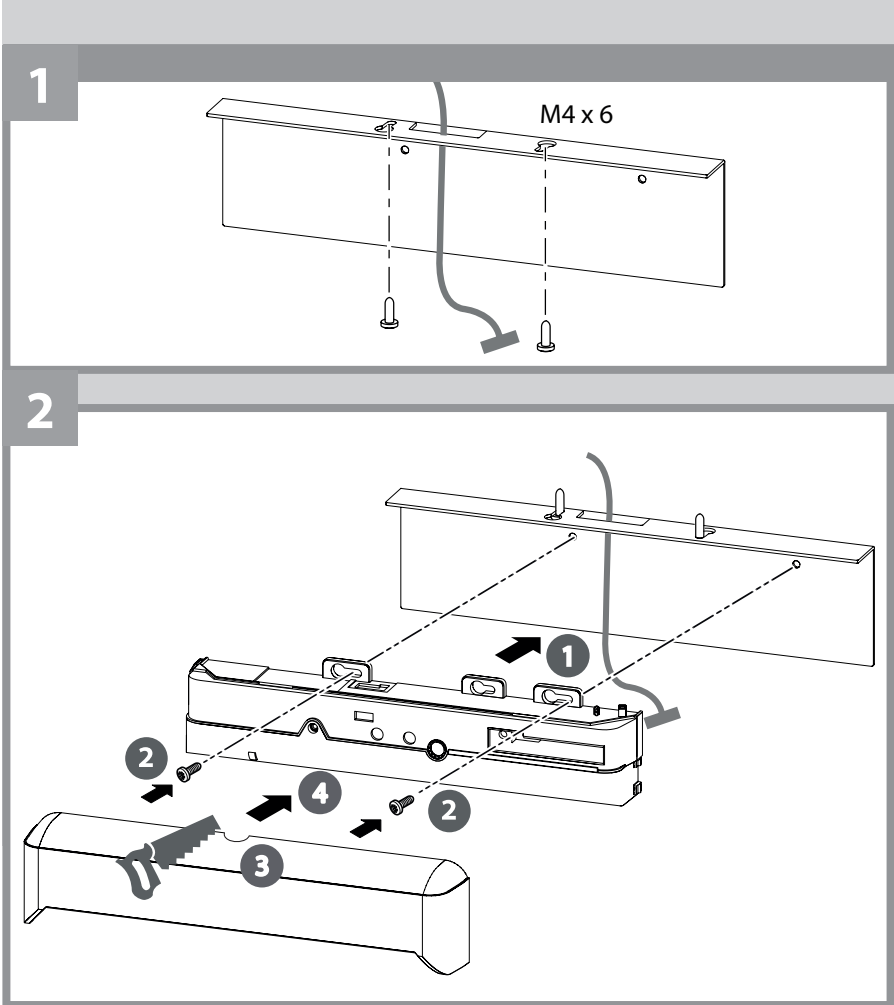
1**2**

4.2 Installation with ceiling installation kit

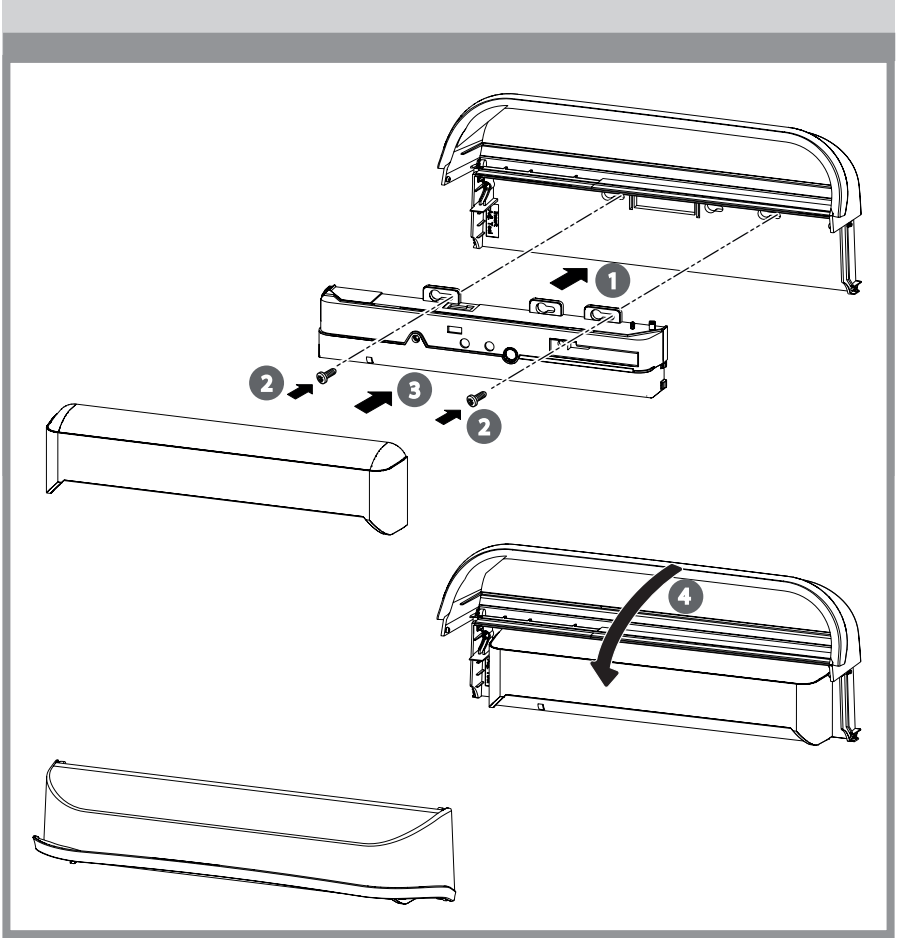




4.3 Installation with mounting bracket

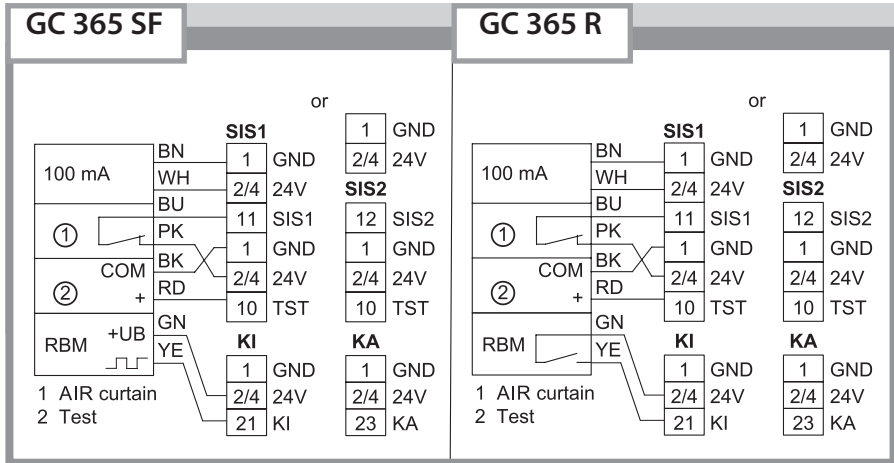


4.4 Installation with weather hood

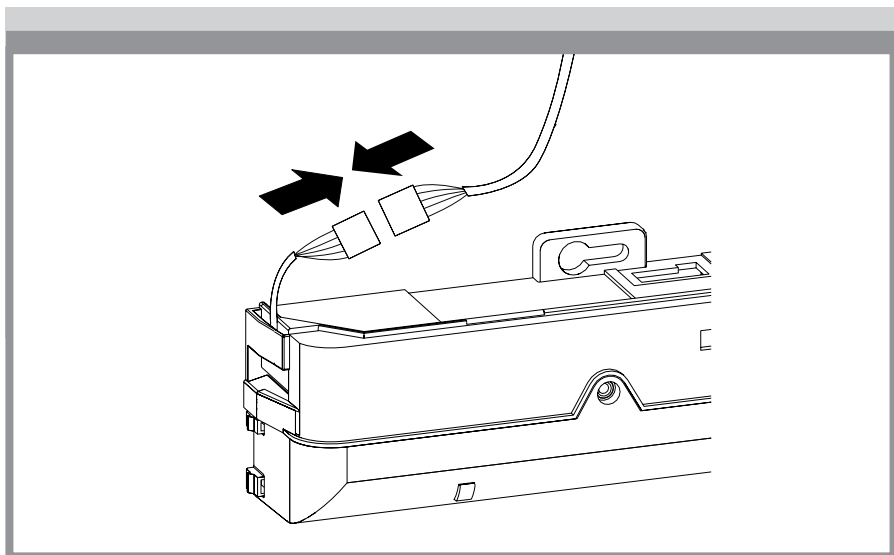


4.5 Cabling

- ▶ Connect the cable to the door control.
- ▶ Heed wiring diagrams for the sliding door drives.



- ▶ Connect the sensor to the power supply.

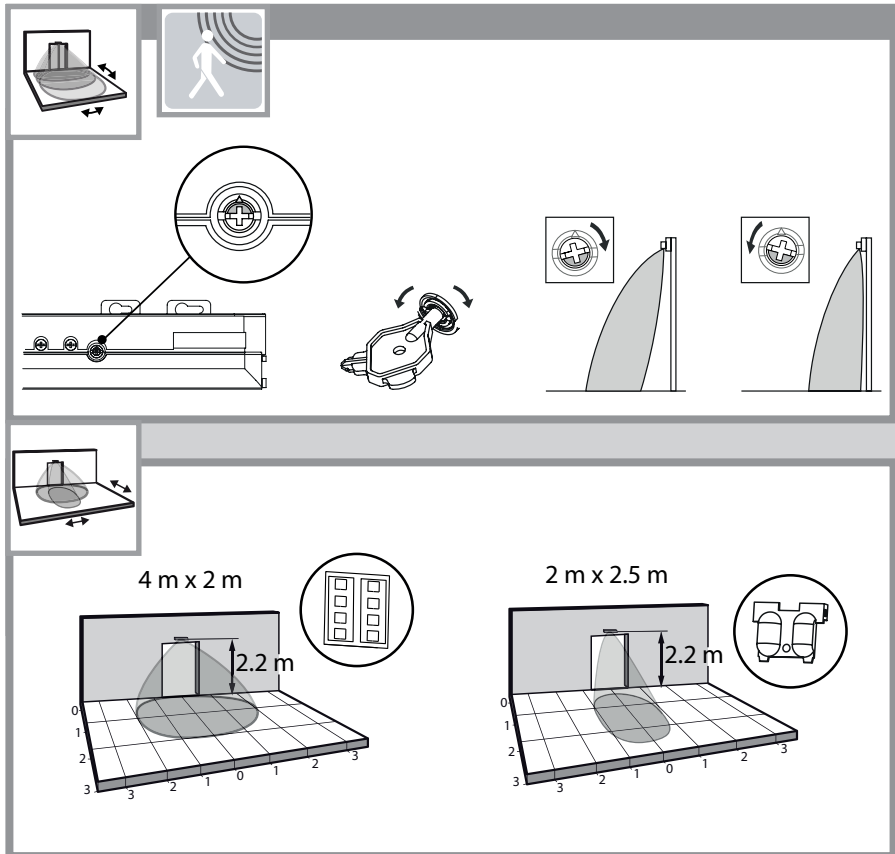


5 Commissioning

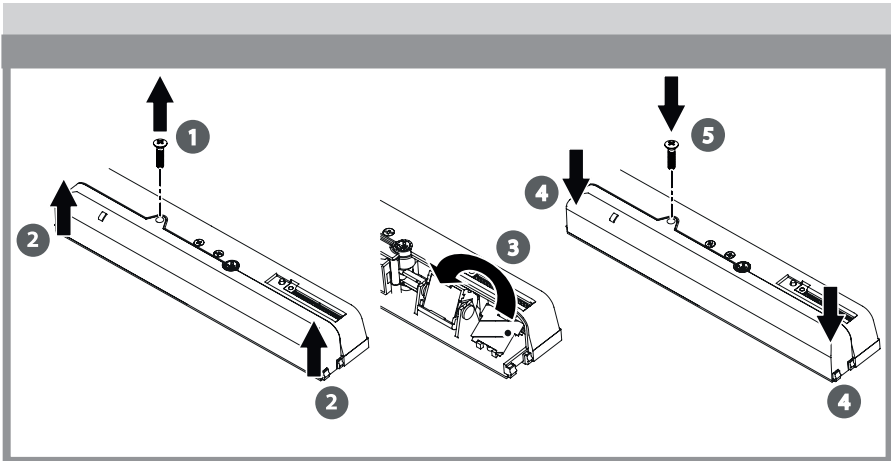
5.1 Adjusting the radar sensor



- ▶ Adjust the detection area and sensitivity of the radar sensor as per AutSchR:
 - Detection area = opening width x 1.5 m
 - Movement speed from 10 cm/s must be detected.
 - In the case of doors on escape and rescue routes, the whole door width must be covered.



Replacing radar lenses (narrow and wide)

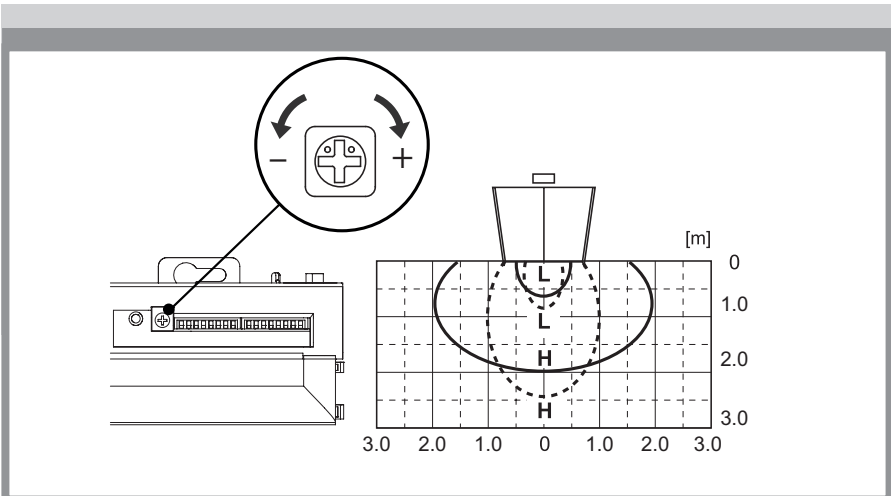


Adjusting radar sensitivity

- ▶ Adjust the radar detection range using the potentiometer.
- ▶ Then press the function switch for 2 s.

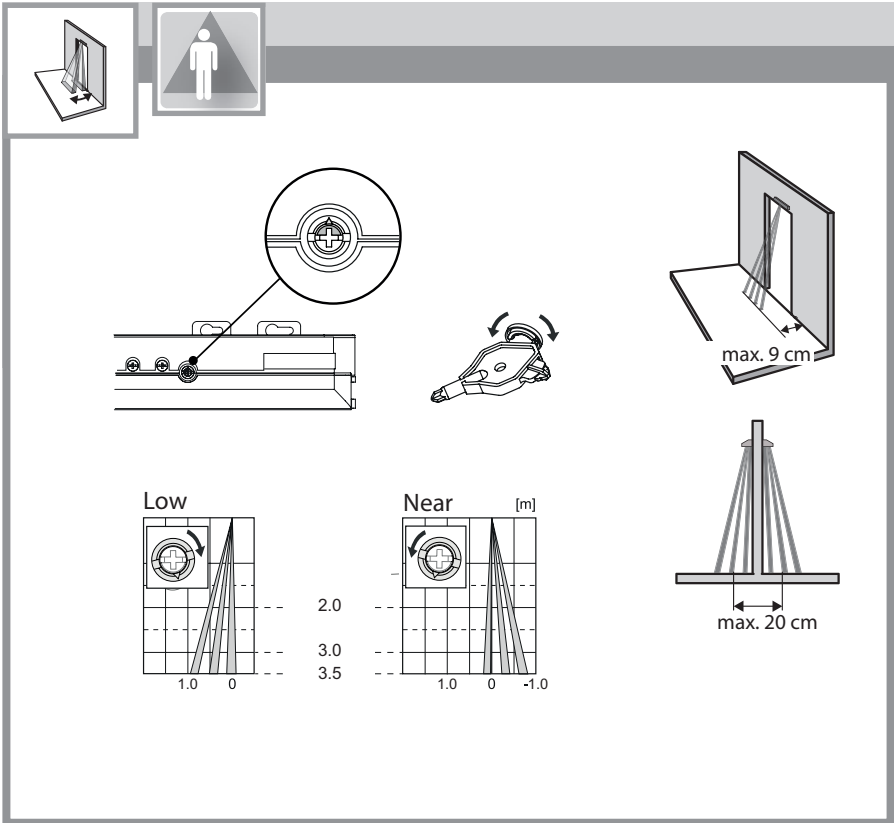
Installation height: 2.2 m _____ Wide range

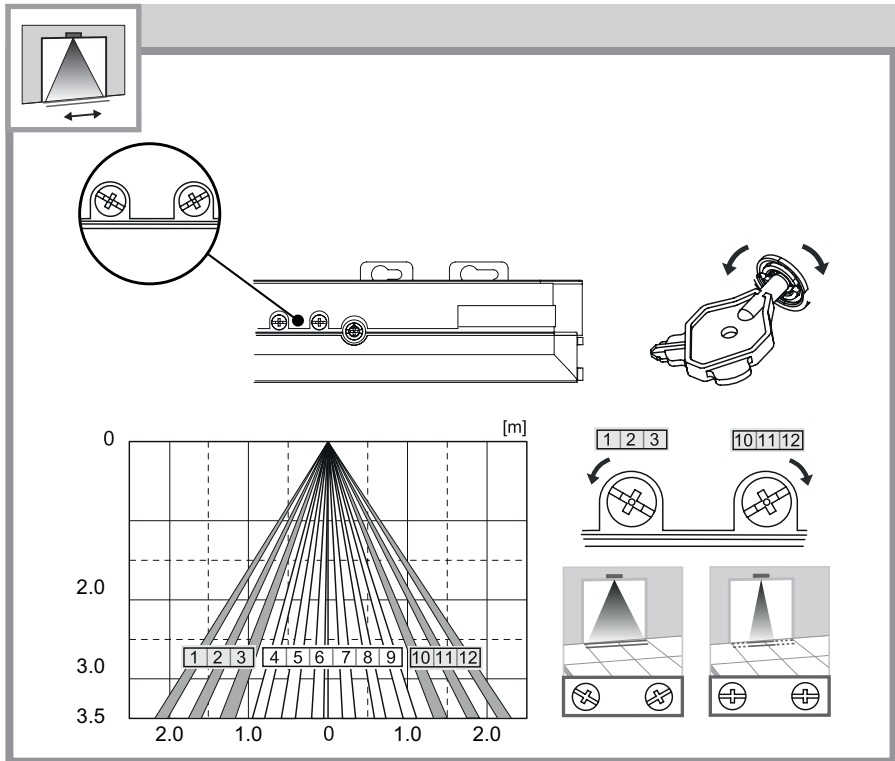
Vertical adjustment: + 35° - - - - - Narrow range



5.2 Adjusting the protection area with spot finder

i The position of the AIR curtain in relation to the door can be checked using a spot finder.





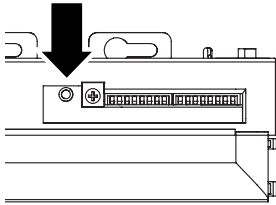
- Make sure that the whole width of the door is covered.
- Test the width of the required area using a piece of paper (DIN A4), since the spot finder detects over the whole emission area.
- Ensure that the width adjustment screw audibly latches into place.

Sensor adjustment

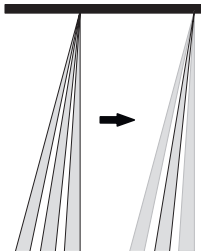
Installation height	Detection width
2.00 m	2.41 m
2.20 m	2.65 m
2.50 m	3.00 m
3.00 m	3.60 m
3.50 m	3.60 m

5.3 Adjusting the protection area without spot finder

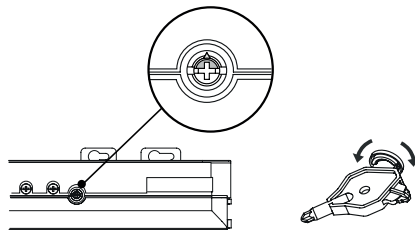
- ▶ Press the function switch for 5 s to activate service mode.



The LED display starts to flash yellow/green. The max. AIR time is automatically set to 2 s.



- ▶ Move out of the AIR field.
- ▶ Reduce the angle of the AIR field until the LED display flashes red quickly when it detects the moving door leaf.



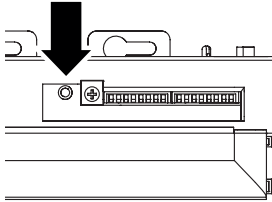
- ▶ Increase the angle of the AIR field by 2°. The distance between the AIR field and the door leaf is set up.







- ▶ Press the function switch for 2 s to deactivate service mode. If no entry is made, the service mode is deactivated automatically after 15 min.

5.4 DIP switch settings

- ▶ Only change the switch settings when the power supply is on.
- ▶ After changing the DIP switches, press the function switch for 2 s (until the LED goes out). The teach-in process starts automatically.
- ▶ Move out of the detection area.
- ▶ Before ending the installation, test the correct sensor installation.
















Legend for table:

	AIR settings
	Radar settings
	Other settings
	Default settings

GC 365 R

No.		Function	Setting				Comment
1	AIR: Filter	Low <input type="checkbox"/> 1 <input type="checkbox"/> 2 2.0 - 3.0 m	Medium <input type="checkbox"/> 1 <input type="checkbox"/> 2 2.0 - 3.0 m	High <input type="checkbox"/> 1 <input type="checkbox"/> 2 2.5 - 3.2 m	S-high <input type="checkbox"/> 1 <input type="checkbox"/> 2 3.0 - 3.5 m	Adjust the AIR: Filter depending on installation height, characteristics of the floor, setting and function test. The values in the table are for reference only.	
3	Max. AIR time	30 s <input type="checkbox"/> 3 <input type="checkbox"/> 4	60 s <input type="checkbox"/> 3 <input type="checkbox"/> 4	600 s <input type="checkbox"/> 3 <input type="checkbox"/> 4	2 s (movement)* <input type="checkbox"/> 3 <input type="checkbox"/> 4	Set the timer to 30 s or more. Do not enter the detection area for more than 10 s in order to enable the presence detection. *Not DIN EN 16005/DIN 18650 conform	
5	AIR: Frequency	Freq. A <input type="checkbox"/> 5 <input type="checkbox"/> 6	Freq. B <input type="checkbox"/> 5 <input type="checkbox"/> 6	Freq. C <input type="checkbox"/> 5 <input type="checkbox"/> 6	Freq. D <input type="checkbox"/> 5 <input type="checkbox"/> 6	Set different frequencies for adjacent or opposite sensors.	
7	AIR: Output	N.C. <input type="checkbox"/> 7	N.O. <input type="checkbox"/> 7			The delay time between the test input and the AIR: Output is 10 ms.	
8	Test input (from the door control)	High with 24 V <input type="checkbox"/> 8	Low with GND <input type="checkbox"/> 8			Test input must be activated (position "ON") for conformity with DIN 18650/DIN EN 16005. If the test input is not used with 24 V, switch DIP switch 8 to "high".	
9	RAD: Direction	Bi <input type="checkbox"/> 9	Uni <input type="checkbox"/> 9			If DIP switch 9 is set to "Uni", the door can close more quickly through this setting when a person moves away from the door.	
10	Advance Cross Traffic	OFF <input type="checkbox"/> 10	ON <input type="checkbox"/> 10			Activate in case of frequent cross traffic. The RAD: Output is only active when the radar and AIR are triggered. Depending on the position of the radar potentiometer, the door reacts to a new activation either via (A) radar and AIR or (B) radar or AIR.	



No.	Function	Setting	Comment
11	RAD: Filter	OFF  11 ON  11	Set to "ON" if the door operates by itself (ghosting). The detection range is reduced when RAD: Filter is activated.
12	RAD: Output	N.O.  12 N.C.  12	The relay can be switched between N.O. and N.C.
13	Output linking	AIR: Output  13 RAD: Output  13 AIR: Output + RAD: Output  13	If DIP switch 13 is set to "AIR: Output + RAD: Output", the door opens with the radar and in addition if a person enters the AIR field.
14	Sensor Self Monitoring	ON  14 OFF  14	Testing must be activated (position "ON") for conformity with DIN 18650/DIN EN 16005.
15	Lookback	OFF  15 ON  15	If DIP switch 15 is set to "ON", the lookback range (1 st row) is activated and looks through the threshold.
16	Installation mode	OFF  16 ON  16	Set DIP switch 16 to "ON" to set the 2 nd row. After the row has been set, set DIP switch 16 to "OFF". In installation mode, only the 2 nd row remains active and the LED display lights up yellow.

GC 365 SF



For the GC 365 SF, the table for the GC 365 R is valid with the following exceptions:

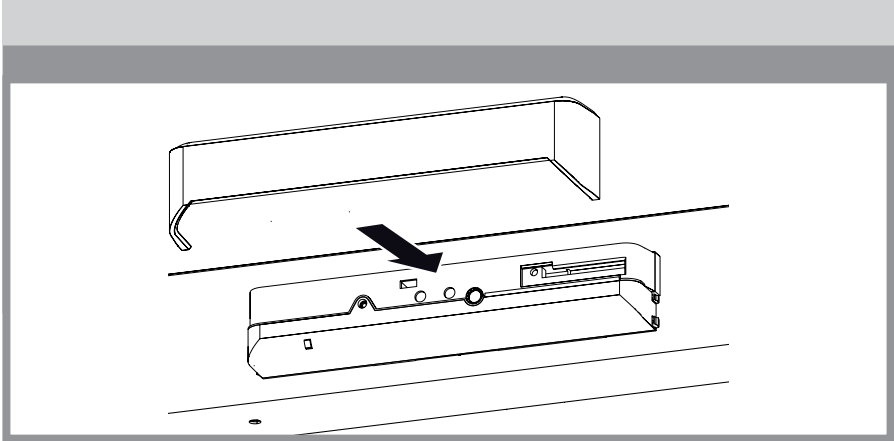
No.	Function	Setting		Comment
5	AIR: Frequency	Relay Freq. A 5 Freq. B 5 Freq. C 5 Freq. D 5		Check the RAD: Output (DIP switches 12, 13) before the frequency is set. Each of the methods only has 2 frequency settings. If more than one sensor is used in proximity to others, set the frequency different for each sensor.
		FRW 		
6	Output linking	AIR: Output 6 AIR: Output + RAD: Output 6		If DIP switch 6 is set to "AIR: Output + RAD: Output", the door opens with the radar and in addition if a person enters the AIR field.
12	RAD: Output	Relay N.O. 12 13 N.C. 12 13		For escape route doors, set the RAD: Output to "Frequency", for other GEZE doors to "N.O.". Follow the instructions for the drive.
		FRW Voltage 12 13 Frequency 12 13		
13				



6 Last installation steps



- ▶ Before completing the installation, check the sensor for correct function.

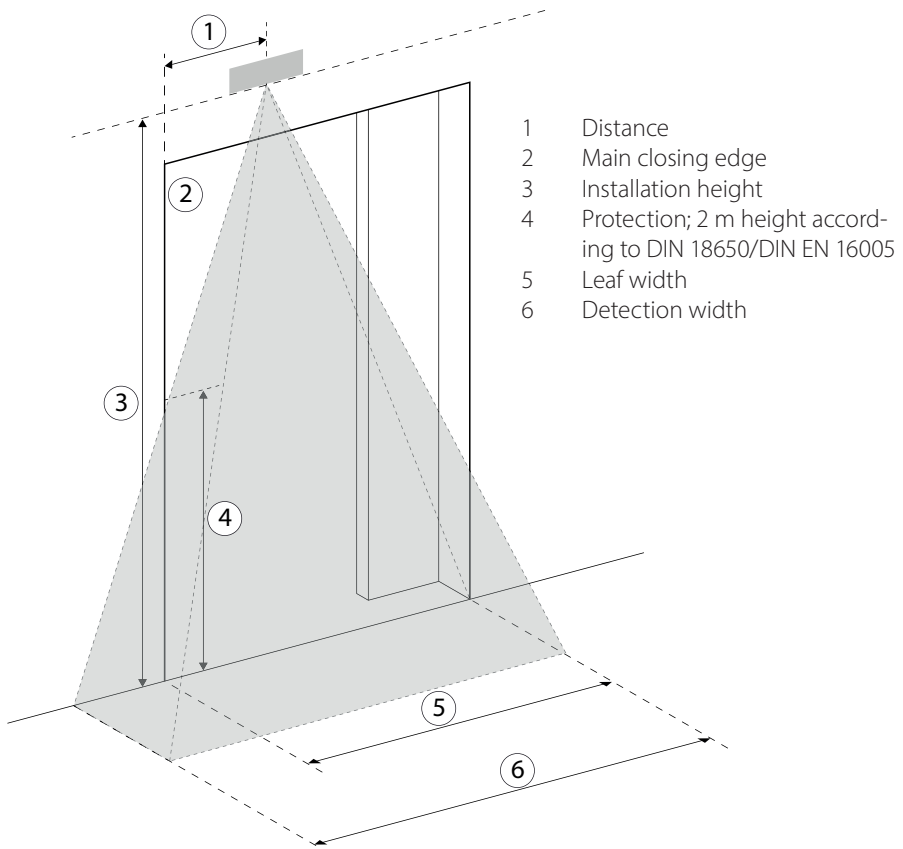


7 Further installation situations

7.1 Single leaf installation

Installation height (in mm)	Distance between detector and main closing edge (in mm)	Max. leaf width* (in mm)	Detection width DIN 18650/DIN EN 16005 (in mm)
2000	0	1205	2410
2200	120	1445	2650
2500	300	1800	3000
3000	600	2400	3600
3500	900	2700	3600

* When only one combined detector is used. Otherwise the safety sensor GC 341 is required for further protection.



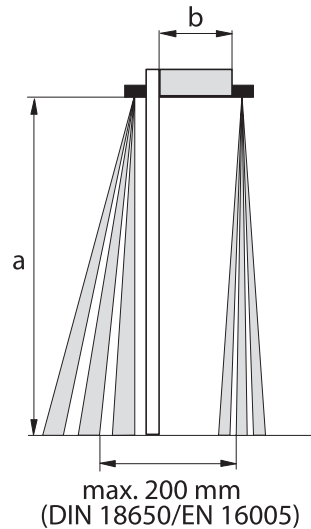
7.2 Lintel installation

According to DIN 18650/DIN EN 16005, the distance between the inner light curtains must not exceed 200 mm.



In the case of other dimensions, please contact the sales department first.

Installation height a (in mm)	Max. reveal depth b (in mm)
2000	320
2200	340
2500	360
3000	410
3500	460



8 Maintenance



- ▶ The visual parts must be cleaned at least once a year.
- ▶ Do not use aggressive cleaning agents or chemicals.

9 Fault messages and troubleshooting

9.1 Fault messages

Effect	LED display	Cause	Elimination
Correct operation	Flashes green slowly.	Signal saturation (lookback)	<ul style="list-style-type: none"> ▶ Remove strongly reflecting objects from the detection area. ▶ Reduce AIR: Filter. ▶ Reduce the area depth angle for the AIR area.
	Flashes yellow and green.	Service mode is enabled.	▶ Change to operating mode. To do this, press the function switch until the LED display goes out.
The door does not open when a person enters the detection area.	None	Wrong supply voltage	▶ Set to nominal voltage.
		Wrong cabling or connection fault	▶ Check cables and connectors.
	Unsteady	Wrong detection area positioning	▶ Check adaptations 1, 2 and 3.
		Sensitivity too low	▶ Set higher Radar sensitivity.
		Short presence timer	▶ Increase presence timer.
	Soiled detection window	▶ Wipe the detection window using a damp cloth. Do not use cleaning agents or solvents.	
Correct	Wrong cabling or connection fault	▶ Check cables and connectors.	




Effect	LED display	Cause	Elimination
Door opens even though there is no-one in the detection area (ghost effect).	Un-steady	Moving or light-emitting objects in the detection area	▶ Remove the objects.
		The detection area overlaps with that of another sensor.	▶ Check DIP switches 5 and 6.
		Drop of water on the detection window	▶ Use rain cover (available separately). ▶ Wipe the detection window using a damp cloth. Do not use cleaning agents or solvents. ▶ Install in a dry place.
		Detection area overlaps with door/head plate	▶ Adjust detection area to "Low" (outside). ▶ Set DIP switch 11 to "ON".
		Sensitivity too high	▶ Set lower AIR: Filter.
		It is raining or snowing.	▶ Set DIP switch 9 to "Uni"/ DIP switch 11 to "ON".
		Other	▶ Set DIP switch 11 to "ON".
Correct	Wrong DIP switch setting	▶ Check DIP switches 7, 8 and 12.	

Effect	LED display	Cause	Elimination
Door remains open.	Correct	Detection area suddenly changed	<ul style="list-style-type: none"> ▶ Check DIP switches 1 to 4. ▶ If the problem persists, reset the sensor completely (switch the power off and on again).
		Wrong cabling or connection fault	<ul style="list-style-type: none"> ▶ Check cables and connectors.
	Yellow	Installation mode is set to "ON".	<ul style="list-style-type: none"> ▶ Set DIP switch 16 to "OFF".
Flashes green quickly.		Sensitivity too low	<ul style="list-style-type: none"> ▶ Set higher sensitivity.
		Soiled detection window	<ul style="list-style-type: none"> ▶ Wipe the detection window using a damp cloth. Do not use cleaning agents or solvents.
		Sensor fault	<ul style="list-style-type: none"> ▶ Contact an installer or service engineer.
Flashes green slowly.		Signal saturation (2 nd or 3 rd row)	<ul style="list-style-type: none"> ▶ Remove highly reflective objects from detection area ▶ Lower AIR: Filter. ▶ Change range depth angle for the AIR range.
		Detection area overlaps with door/head plate	<ul style="list-style-type: none"> ▶ Adjust detection area to "Low" (outside).
Flashes red and green slowly.		Unconfirmed setting	<ul style="list-style-type: none"> ▶ Confirm changes to DIP switches and/or potentiometer settings by pressing the function switch for 2 s (until the LED goes out).

9.2 LED-display table

Status	LED display colour	← 1000 ms	→ 1000 ms
Set-up	Flashes yellow		
Stand-by (installation mode)	Yellow		
Stand-by (service mode)	Flashes yellow and green		
Stand-by (operating mode)	Green		
Lookback (1st row) detection	Blue		
2nd row detection	Flashes red		
3rd row detection	Red		
Radar detection	Orange		
Communication test output	Turn off 500 ms		
Confirm changes	Flashes red and green		
Signal saturation	Flashes green slowly		
Sensor failure/AIR: Filter too low	Flashes green quickly		

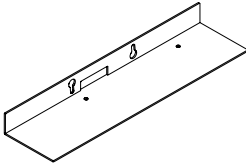
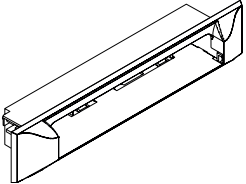
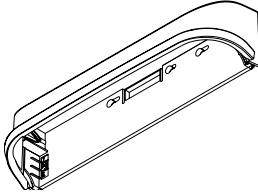

10 Technical data

Power supply:	12 – 24 V AC \pm 10% (50/60 Hz) 12 – 30 V DC \pm 10% (protected against reverse polarity)	
Power consumption:	< 2.5 W (< 4 VA with AC)	
Installation height:	2.0 – 3.5 m	
Noise level:	< 70 dBA	
Temperature range:	GC 365 R: -20 – +55 °C GC 365 SF: -35 – +55 °C < 80% (non-condensing)	
Protection rating:	IP54 according to EN 60529	
Applicable directives:	RED 2014/53/EU, MD 2006/42/EC, RoHS 2 2011/65/EU Category and Performance Level: – AIR-range: Cat. 2, PL d (frequency, relay and voltage output) – Radar range: Cat. 2, PL d (frequency and voltage output, only GC 365 SF) ESPE: Type 2	
Detection mode:	Movement  Min. detection speed: 5 cm/s	Presence  Typical response time: < 300 ms
Technology:	Radar Doppler effect Transmission frequency: 24.200 GHz Transmission power: < 20 dBm	Active infrared reflection
Depth angle adjustment:	Radar area: +25 – +45°	AIR-area: -6 – +6°
Output (GC 365 R):	Relay: 50 V 0.3 A max.	Relay: 50 V 0.3 A max.
Output (GC 365 SF):	Frequency: 100 Hz \pm 10%	Relay: 50 V 0.3 A max.
Test input:		Opto-coupler (protected against reverse polarity) Voltage: 5 – 30 V DC Current: 6 mA max. (30 V DC)
TÜV type-tested:	 EC type approval certificate number 44 205 13099213	



Only for EU countries: In compliance with the European Directive 2012/19/EU concerning waste electrical and electronic equipment (WEEE)

11 Accessories/spare parts

		Material no.
Ceiling bracket		160286
Ceiling adapter		160288
Weather hood		160287
Spot finder		112321
Retrofit Adaptor	GC 362/GC 363 to GC 365	204529
	GC 365 8 pole to 10 pole	204530

Germany

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