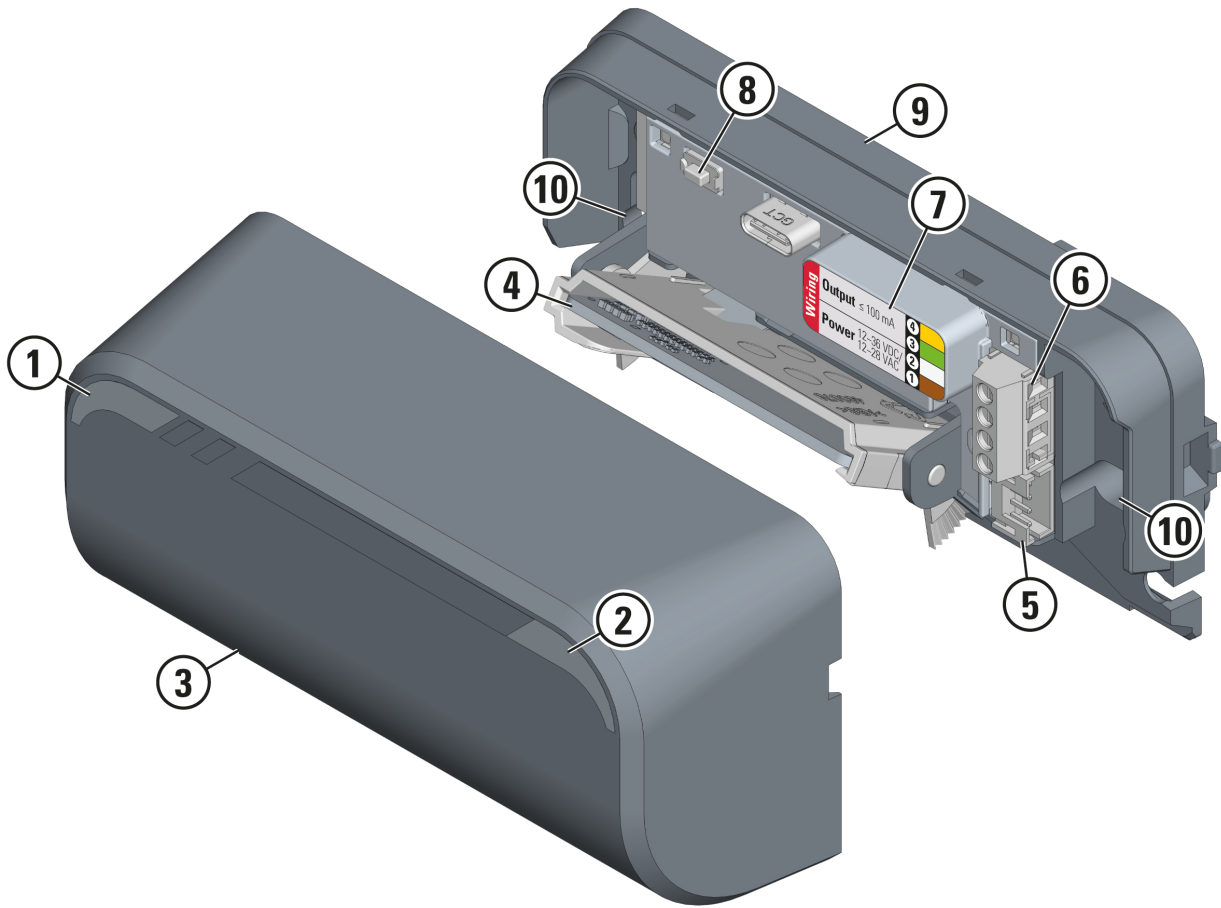


FutureSense

Detector for activating automatic doors

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1	Left LED	6	Connection terminals
2	Right LED	7	Connection label
3	Cover	8	Reset button
4	Radar module	9	Support plate
5	Connection slot	10	Mounting points

1 Description

1.1 Function

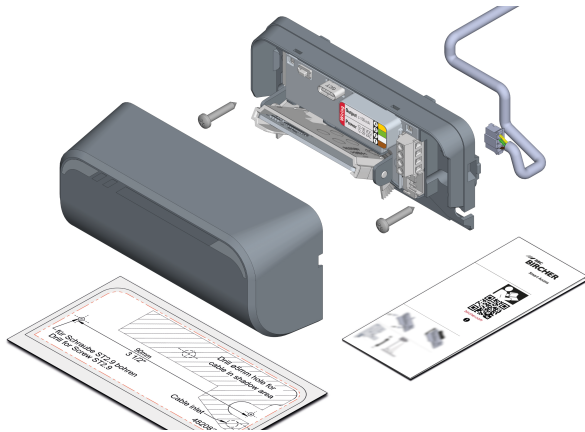
The sensor is designed for mounting above an automatic pedestrian door and for connection to the door controller.

To activate the door, a radar field detects the movement of people.

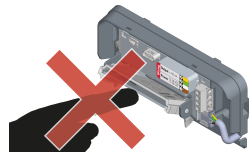
Detection: The sensor determines the position, direction and speed of all detected movements. With this movement data, the sensor calculates whether and when a person will reach the door.

1.2 Scope of delivery

Standard package contents



- Sensor with cover
- Connection cable with plug-in connection
- Mounting materials
- Drilling template
- QuickStart guide



ATTENTION

Do not touch the radar module.

2 Safety instructions

Read the operating instructions carefully before commissioning the device. Keep the instructions for future use.

Intended use

The manufacturer is only liable for products used as intended. Only use this product for the function specified:

Detector for activating automatic doors

Personnel qualification

Only trained and qualified personnel may install and commission the device.

The installer is responsible for installing the device and the connected system in accordance with the regulations and standards.

General safety instructions

It is the responsibility of the equipment installer to carry out a risk assessment and to install the system, in compliance with applicable regulations and safety standards.

If installation according to EN 61558 is required, the detector may only be operated using safety extra-low voltages (SELV) with safe electrical isolation.

The cables must be protected against mechanical damage.

3 Installation

3.1 Mounting position

Requirements for the environment:

- The sensor requires an unobstructed field of view to detect objects.
- Avoid proximity to fluorescent lamps.
- Shield the sensor against extreme weather conditions, e.g. with a rain cover, canopy or installation under the door lintel.

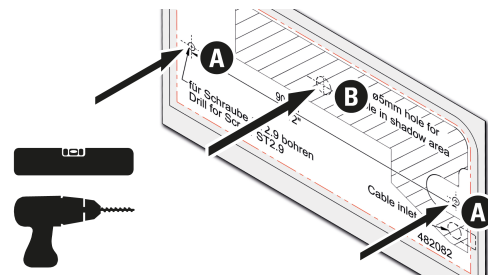
3.2 Mounting preparation

- 1) Disconnect the power supply to the door controller.
- 2) Specify the mounting position.
- 3) Lay the connection cable. Ensure that the cable is routed so that it is free of electromagnetic interference. Avoid e.g. parallel routing of the cables for the sensor and door drive.
- 4) Remove the cover from the sensor.
- 5) Prepare the sensor for the installation situation according to section 4.2:
 - Set the radar inclination angle according to the table.

3.3 Mounting

The sensor is attached to or above the door frame as standard.

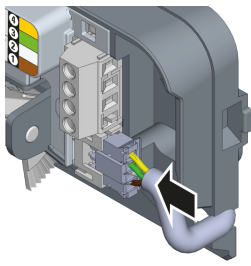
- 1) Glue the drilling template onto the intended location.



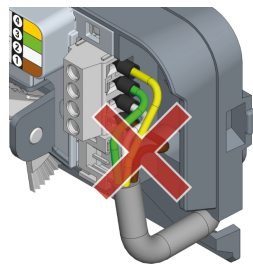
- 2) Make two core holes $\varnothing$ 2.0 to 2.5 mm in the door frame at mounting points A. Alternatively, place dowels above the frame.
- 3) Drill a hole for cables $\varnothing \geq 5$ mm within the hatching. Alternatively, surface-mounted cabling above the sensor is possible.

- 4) If you are using the supplied connection cable, plug the plug connector into the plug connection on the sensor. Electrical connection is carried out as described in section 3.4.

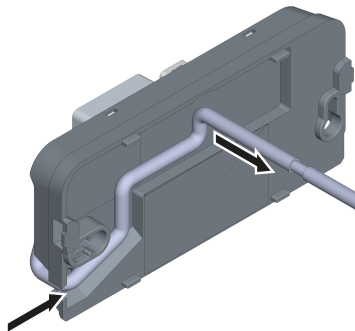
a) Supplied cable:



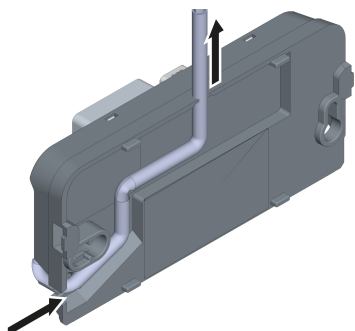
b) Cable provided by the customer:



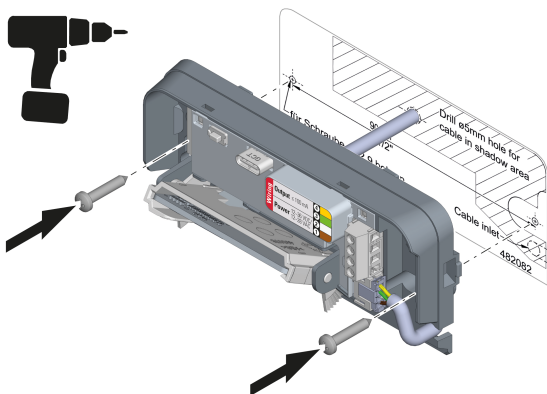
- 5) Lay the connection cable over the back of the support plate.



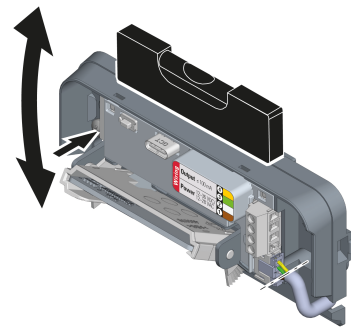
If surface-mounted cabling is required, insert cable cutouts at the prepared positions on the support plate and cover.



- 6) Screw the support plate of the sensor to the mounting points.



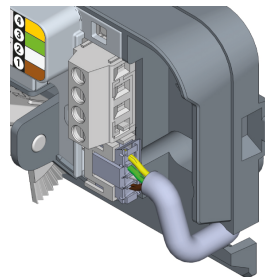
- 7) Tightening the left screw adjusts the sensor horizontally.



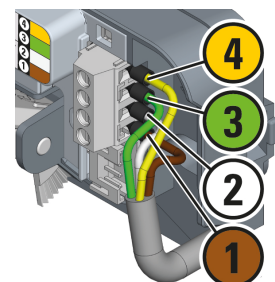
3.4 Electrical connection

- Connect the sensor to the door controller.

a) Supplied cable:



b) Cable provided by the customer:



Assign the cable terminals on the door controller as follows.

Assign the cable terminals on the sensor as follows. The wire colors may deviate.

4/3	4	3	2	1
2/1	4	3	2	1
	Radar output $\leq 36 \text{ V DC}/28 \text{ V AC}$ $\leq 100 \text{ mA}$			
	Supply voltage $12 - 36 \text{ V DC}/12 - 28 \text{ V AC}$ $\leq 60 \text{ mA}$			

- Switch on the power supply to the door controller.

4 Settings

4.1 Software configuration

4.1.1 Installing the app



- 1) Scan the QR code.
- 2) Install the configuration app on your mobile end device.

4.1.2 Configuring the sensor

Configure the sensor using the app. The app searches for Bluetooth® connections to sensors and provides a configuration interface.

Connecting the app to the sensor

- 1) Start the app.
- 2) Select the sensor to be configured from the list. An unconfigured sensor has the name **New sensor**.

- 3) Is the status display of the desired sensor flashing blue? Confirm your selection or reject it to choose another sensor from the list.
- 4) If the sensor is set to factory settings, enter a descriptive name and password. Otherwise, log on with the sensor password.

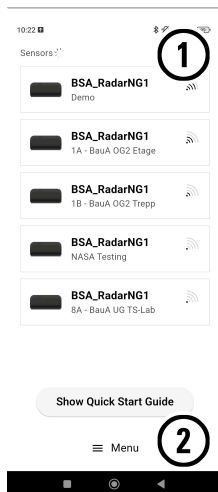


NOTE

Forgotten the password?

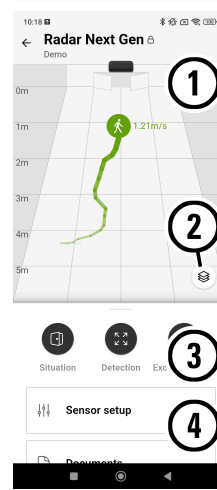
If you have lost the password, proceed as follows:

- 1) Remove the cover from the sensor.
- 2) Restore the sensor to its factory settings, see [4.1.3](#).
- 3) Reconfigure the sensor. Commission the sensor again.



Sensor list

- 1 List of sensors found (sorted in descending order by signal strength), selecting a sensor opens the **configuration interface**
- 2 Menu for sensor-independent functions, e.g.:
 - Language selection
 - Option to contact technical support
 - User feedback
 - Instructions
 - Log messages



Configuration interface

- 1 Display and interpretation of detections
- 2 Display settings
- 3 Situation parameters:
 - Door dimensions, sensor position
 - Detection zones
 - Exclusion zones
- 4 Device-related settings:
 - Sensor settings (name, password, firmware version, output logic, restart, factory reset)
 - Operating instructions, product documentation
 - Device messages

Switch output logic

If activation causes the door to close:

- Open the **sensor settings** below the buttons for situation parameters. Switch the **output logic (NO/NC)**.

4.1.3 Reset functions

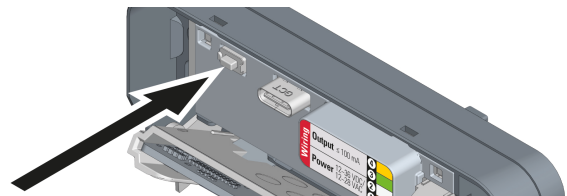
The app reset functions (see [4.1.2](#)) can also be triggered manually on the device.

Restart sensor:

- Briefly press the reset button.

Restore factory settings:

- Press the reset button until the status LEDs alternately flash white and magenta. As soon as the factory settings are restored, the status LEDs alternately flash white.



Setting the situation parameters

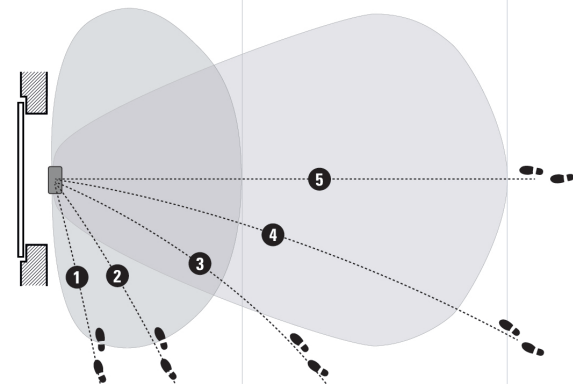
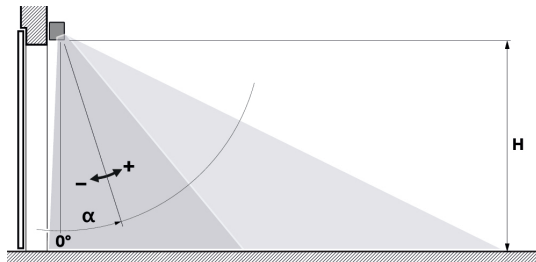
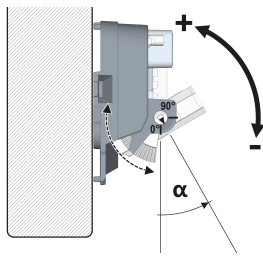
Go through the displayed situation parameters and set the appropriate values.

- 1) Door dimensions, sensor position: Measure the door situation. The sensor interprets its detections based on the specified values.
- 2) Door type: Select the applicable door type. For swing doors, indicate whether the sensor is installed on the hinge side. This information is used to hide door movements on the hinge side in the radar field.
- 3) If you still want to detect door movements on the hinge side, you can teach-in the door movements as a fault.
- 4) If necessary, limit the activation distance at which a detection should trigger the door to open.
- 5) Exclusion zones: To prevent activations caused by moving or reflective elements in the room, define exclusion zones as needed.
- 6) Test the settings. The configuration interface displays detections and their interpretation. You can set this display as required.

4.2 Mechanical settings

Setting the radar inclination angle

The inclination angle of the radar module can be adjusted in 5° increments.



Mounting height	Inclination angle	
	min. α	max. α
H (m)		
2.00	30°	75°
2.25	30°	70°
2.50	30°	65°
2.75	30°	60°
3.00	30°	55°
3.25	25°	50°
3.50	25°	45°
3.75	20°	40°
4.00	20°	35°
Factory setting 30°		

Set a suitable inclination angle α :

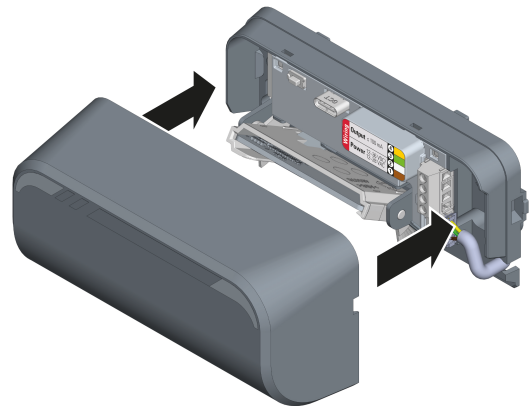
- For mounting height **H** of the sensor, determine the appropriate angle **min. α** in the table. The angle **min. α** is suitable for all room situations.

- To achieve early detection on paths 4 or 5, increase the inclination angle to **max. α** as required. Lateral movements (paths 1 and 2) are detected later at larger inclination angles. A large inclination angle is suitable for doors at the end of narrow hallways. The radar field cannot be passed under with angle settings up to **max. α** .
- Test the selected setting using the illustrated paths 1 to 5.

5 Operation

5.1 Commissioning

- 1) Place the cover on the sensor.



- 2) Wait until the LEDs stop flashing. Note: Continuous flashing signals indicate a fault, see section **Faults**.
- 3) Test the door system and, if necessary, modify the **Settings**.

5.2 Status display

LED display lit up		Operating status
	No	No detection
	White	Movement detected, no door activation
	Green	Movement detected and door activated
	Magenta	Warning message
	Only left: blue	Sensor connected to app via Bluetooth®, right LED continues to indicate sensor status
LED display flashing on both sides		Operating status
	White	Operating voltage switched on, sensor starting
	Red	Error

LED display flashes alternately	Operating status	
	White, magenta	Restoring factory settings
	White	Factory settings active, no password set
	Blue	Sensor ready for Bluetooth connection, waiting for confirmation in app

5.3 Faults

Possible error sources

- Incorrect configuration
- Unfavorable inclination angle of the radar module
- Incorrect power supply
- Incorrectly connected signal output
- Ambient interference
- Device fault

Diagnosis

- 1) Test the door behavior.
 - Approach the door from different directions.
 - Walk past the door at different distances.
- 2) Observe what is shown in the app and the status display, see .
- 3) Check the configuration, see 4.1.
- 4) Check the inclination angle of the radar module, see 4.2.
- 5) Check the electrical connections on the sensor and door controller, see .
- 6) Check the mounting position, see .
- 7) Check whether the firmware is up to date, see 4.1.2

Fault patterns

		LED signal
Door fault pattern	Possible cause	Possible remedies
		
System standstill.	No supply voltage.	Correct the electrical connection.
		
System standstill.	Sensor fault.	a) Restart the sensor via the app or the reset button. b) Update the firmware. c) Activate the factory settings and repeat the sensor configuration. d) Replace the sensor.

Door continuously alternates between opening and closing.		Lights up green when door closes
Radar field detects door movement.	App, parameters under Situation : Check the set door type. If applicable, start teaching-in the door movement faults under Detection	

Door open, closes when someone nears.		Lights up green when door closes (White on detection)
Switching logic configured backwards	App, device-related settings: Set the Switching logic NO/NC (Normally Open/Normally Closed) to another value.	

Door does not open when someone nears from the side.		No signal
Radar field passed under.	Adjust the radar field further downward. Manually decrease the inclination angle for the radar module.	

Door does not open when someone nears.		Lights up white when the person is detected
Activation distance set too small.	App, Detection parameter: Increase the activation distance.	

		
Door does not open in the required moment.		Lights up white on detection, green on activation
Parameters set incorrectly or imprecisely.	App, Situation and Detection parameters: Optimize the door dimensions, sensor position and activation distance.	

6 Technical data

Technology	FMCW radar 57 – 64 GHz
Configuration interface	App (Android OS, iOS)
Mounting height	2.00 to 3.50 m optimal, max. 4.00 m
Diameter (W × L) of the radar field floor projection at a mounting height of 2.30 m	approx. 5.00 × 3.00 m at an inclination angle of 30°, approx. 4.00 × 6.00 m at an inclination angle of 70°

Mechanical data

Housing material	ABS
Housing color	black, silver, white
Dimensions (L × W × D)	105 × 49 × 35 mm
Weight	55 g
Protection class	IP54 (EN 60529)

Electrical data

Supply voltage	min. 12 V DC, max. 36 V DC/ min. 12 V AC, max. 28 V AC (50 Hz/60 Hz)
Operating current	max. 60 mA at 24 V DC
Inrush current	max. 1 A (max. 10 ms)
Radar output	Solid state relay, max. 100 mA, max. 36 V DC/28 V AC
Connection type (standard)	3 m cable with plug connector

Ambient conditions

Ambient temperature	min. -20°C, max. +60°C
Relative humidity	max. 95%, non-condensing

Disposal information



The product contains electrical or electronic components. Do not dispose of the product with household waste.

Notice on conformity



BBC Bircher AG declares that this product conforms with the following guidelines and directives of the EU:

RED 2014/53/EU RoHS 2011/65/EU

Follow the QR code or link below for the detailed declaration of conformity.

Technical documentation



You will find all documents on the manufacturer website

www.bircher.com

7 Contact

If you have any questions about the device, please contact us:

✉ service@bircher.com ☎ +41 52 687 1366

BBC Bircher Smart Access

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