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BIRCHER

Smart Access
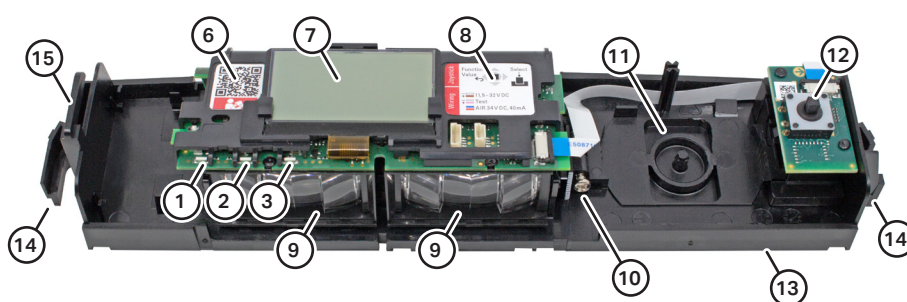
DualSense S

EN   Translation of the original instructions   English   466175 A

1   LED red (AIR)
2   LED green (system)
3   LED blue (without funktion)
4   AIR windows
5   Cover

1/2/3 LEDs (s. o.)

6   QR link web documentation
7   Display
8   Wiring label
9   AIR optics (4 lenses each)
10   AIR angle adjustment
11   Position not used
12   Joystick
13   Support plate
14   Mounting points
15   Cable strain relief

1   Description

1.1   Function

The detector is designed for installation above an automatic pedestrian door and for connection to the door controller. The detector registers people in the door's area of movement with an AIR (active infrared) field to stop door movement.

1.2   Scope of delivery

The package contains:

- Detector with cover
- 3-meter connection cable with plug connector
- Lens covers for AIR area limitation
- Installation material
- Drilling jig
- Declaration of conformity
- Operating instructions

1.3   Conformity

The version of the device we have introduced complies with the requirements of directives and standards in accordance with the attached declarations of conformity.

2   ⚠ Safety instructions

Read these operating instructions carefully before commissioning the device. Keep the instructions for future use or follow the QR link to the web documentation.

2.1   Intended use

Only use this product for the function specified in the description, see section → *1.1*. The manufacturer is only liable for products used as intended. Do not modify the device.

2.2   Notes on installation

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

The installer is responsible for installing the door system and this product in accordance with the regulations and standards.

2.3   General safety instructions

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 Installation positions

Note the following requirements:

- Surface must be stable, vibration-proof and grounded.
- Avoid proximity to fluorescent lights, fans, currents of warm air and ventilation systems.
- Protect the detector against extreme weather conditions such as driving rain.

3.2 Mounting

1. Remove the cover from the detector.
2. If necessary, prepare the following mechanical settings according to section → *3.5*: limit AIR field (cover lenses), pre-adjust AIR inclination angle.
3. Stick the drilling template on the mounting location, drill a cable hole.
4. Lay the connection cable. Ensure that the cable is routed so that it is free of electromagnetic interference. For example, avoid routing the cable parallel to the connecting cable of the door drive.
5. Screw the support plate of the detector to the mounting points.
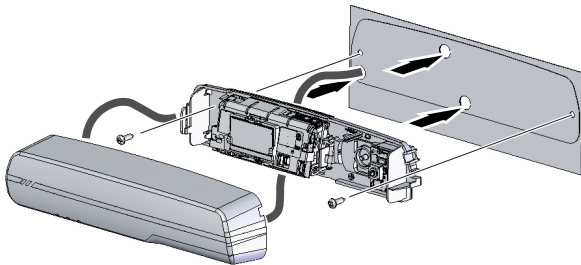
Mounting on the door profile

3.3 Electrical connection

1. Disconnect the power supply to the door controller.
2. Plug the connection cable into the detector.
3. Connect the cable to the door controller as shown below. The black/purple wire pair is only required for escape routes.
4. Switch on the power supply to the door controller.

Wiring label
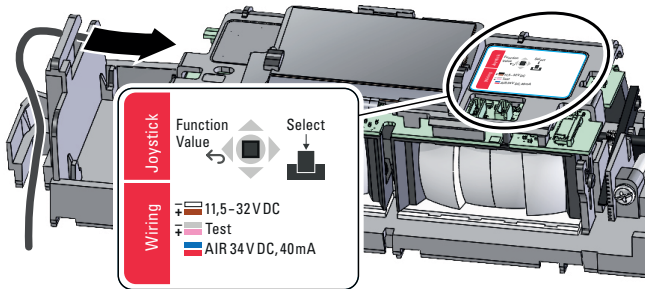
Performance level PLd, Cat. 2 (EN ISO 13849-1)

▸ Connect the test input to reach PLd.

3.4 Configuration

1. Press the joystick and follow the Quickstart menu shown in the display. See below the explanation for → *Navigation* and → *Parameters*.
2. If necessary, optimize other parameters.
3. If desired, protect the configuration with a password.
4. Complete the configuration.

Navigation

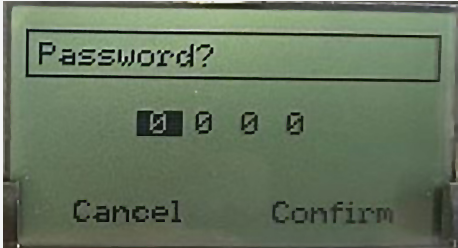|	Display
Joystick	Action
	Start configuration
	Menu view
	Select parameter group
	Select parameters
	Display value view of the parameter (exit configuration in menu item *Exit*)
	Werteansicht
	Select value
	Confirm value
	return to the menu view
	Value view
1 min motionless	Configuration automatically finished
3 min motionless	Configuration password protected (if password set)

Parameters

Menu: Parameter group

Parameters	Selection of a value

Quickstart

Select your menu language during initialization.	
AIR field	Carry out the mechanical settings as described in → *3.5* → *Safety-relevant function (AIR/active infrared)*.
AIR sensitivity	Select high from a mounting height of 3.0 m, medium from a mounting height of 2.6 m, normal from a mounting height of 2.2 m. The low and very low settings are suitable for special surface conditions. Ensure that the test specimen is always reliably detected.
AIR frequency	To avoid conflicts between neighboring detectors with overlapping infrared fields, select different signal patterns.

General

Language	Menu language
Default settings	Default settings are typical parameter combinations. Note: All parameters will be overwritten. Then check which parameters may need to be readjusted.
Reset	*Restart* restarts the detector. *Factory settings* deletes all manual settings, including password.
Password	Dialog for setting a password consisting of 4 digits. At 0000, the password protection is inactive (factory setting). For any other combination of digits, the password is requested when the configuration menu is started. 3 min after finishing the configuration the menu is locked again.

	If the password is lost, disconnect the detector from the power source. After reconnection, the configuration is open for 1 min to set a new password.

AIR

Sensitivity	See *AIR sensitivity* in the Quickstart menu
Presence	The selected time determines the time after which a stationary object is recognized as a normal environment.
Output AIR	The switching logic *active (NO)* closes, *passive (NC)* opens the contact when the safety-relevant function is triggered. The *slave (NO)* and *slave (NC)* settings are required for series circuits.
Break	The safety-relevant function can be switched off for 15 minutes for maintenance work. The red LED flashes during the break.
Frequency	See Quickstart menu

Info

Log, operating hours	Information for support requests in case of need, error codes, operating hours counter.
Config ID	Current configuration of the detector as a QR code for photographing.
AIR signal	Monitor of the 3 AIR channels to analyze the signal reception, absolute (top) and relative to the switching point (bottom).

|	
	The AIR signal monitor is displayed without a time limit (without TimeOut function, see → *Navigation*).
SW, HW	Software and hardware version.

Exit

|	
◁◉▷	Exit configuration

3.5 Mechanical settings

Safety-relevant function (AIR/active infrared)

The detector monitors the door's area of movement with an AIR field of 24 light cones. Four lenses bundle the field into segments A to D. The size of the field depends on the mounting height of the detector (drawing with example values for H = 220 cm).
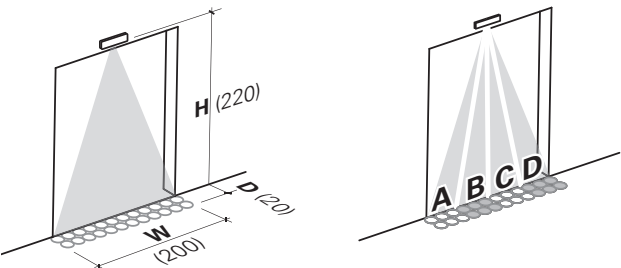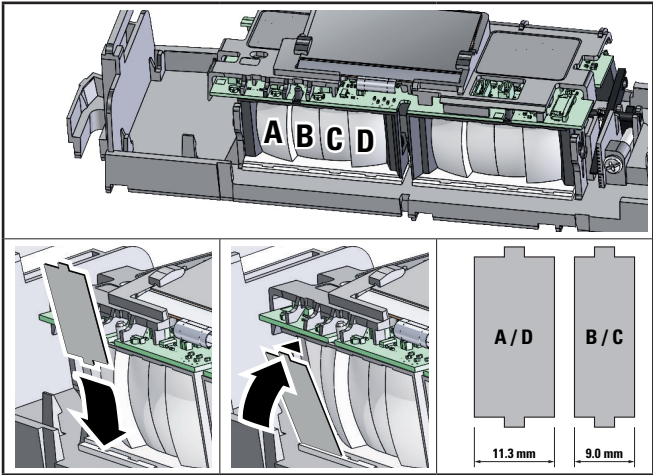

If the AIR field is too wide for the installation situation, the width can be adjusted segment by segment.
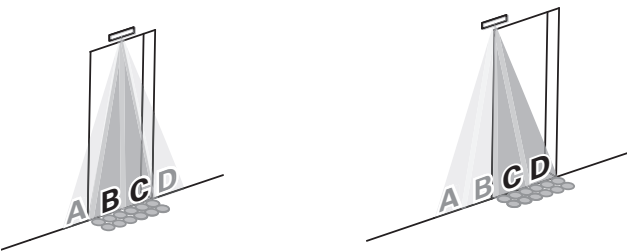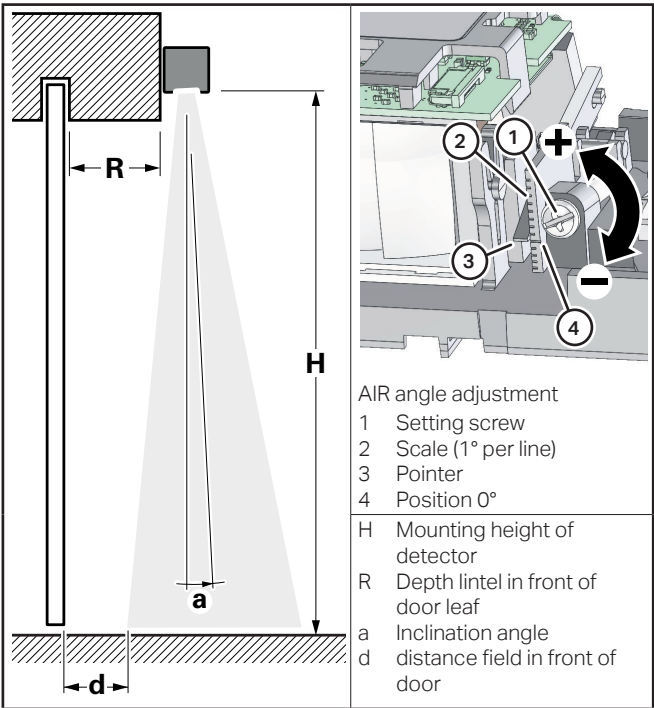

Example:
narrow door

Example:
Primary closing edge left

▸ To adjust the field width, cover lenses A to D as required. Use the enclosed plastic plates and the slots in front of the lenses for this purpose.

The inclination angle of the AIR field is continuously adjustable from -5 to +7°.

▸ Adjust the inclination angle so that the AIR field on the floor is 5 to 8 cm from the door.

▸ Test the setting with a standard-compliant test specimen. The AIR field must detect the test specimen in the area of movement of the door. The AIR field must not cover the door.


AIR angle adjustment
1 Setting screw
2 Scale (1° per line)
3 Pointer
4 Position 0°

H	Mounting height of detector
R	Depth lintel in front of door leaf
a	Inclination angle
d	distance field in front of door

Guide values for the inclination angle a:

(mm)	Depth R						
Height H	0	50	100	150	200	250	300
1800	6°	5°	3°	1°	0°	-2°	-3°
2000	6°	5°	3°	2°	0°	-1°	-3°
2200	6°	4°	3°	2°	0°	-1°	-2°
2400	6°	4°	3°	2°	1°	0°	-2°
2600	5°	4°	3°	2°	1°	0°	-1°
2800	5°	4°	3°	2°	1°	0°	-1°
3000	5°	4°	3°	2°	1°	0°	-1°
3200	5°	4°	3°	2°	1°	1°	0°
3400	5°	4°	3°	2°	2°	1°	0°
3600	5°	4°	3°	2°	2°	1°	0°
3800	5°	4°	3°	2°	2°	1°	0°
4000	5°	4°	3°	2°	2°	1°	0°

3.6 Initialisation

1. Remove all objects from the door area that do not form part of the usual door system environment. Make sure that there are no people in the door area.
2. Restart the detector. Quickly leave the security area of the door. The detector now detects the normal environment in the safety area.
3. Wait until the LEDs stop flashing (approx. 30 s.).
4. Note: Continued flashing signals indicate an error. Check the connections and the free door area, restart the initialisation.
5. Test the door system and, if necessary, modify the mechanical settings according to section → *3.5* and the software configuration according to section → *3.4*.

⚠ Die Sicherheitsfunktion des Sensors muss hinreichend empfindlich zur Personenerkennung eingestellt sein.

Observe the behavior of the door and the display of the signal monitor in the menu under Info → *AIR-Signal*.

6. Place the cover on the detector. Use the guide groove between the two AIR lenses for this purpose.
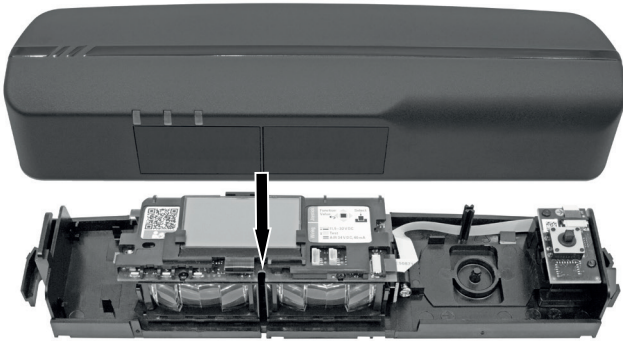
4 Operation and maintenance

4.1 Regular work

▶ At least once a year, remove dust from the inside the AIR windows.
▶ At least once a year, test the safety-relevant function of the door system.

4.2 LED signals

LED		Bedeutung
● red		– new object in AIR field
● ● ● ● red flashing		– AIR start – AIR signal too strong/weak – AIR break, 15 minutes
● ● ● ● red and green flashing alternately		– detector restart (6 seconds)
●●●●●● red and green flashing at the same time		– power supply faulty – detector defective

4.3 Faults

Door fault		
⊗⊗⊗⊗⊗⊗ LED signal		
Possible cause	▶	Remediation options

Door does not close		
● LED red		
AIR detects door movement	▶	Mechanical settings: Increase the inclination angle of the radar field (away from the door).
Moving objects in the AIR field	▶	Remove plants, signs, flags from the radar field.
AIR interference due to vibration of the detector	▶	Fix the mounting point of the detector.
AIR interference by fluorescent lights	▶	Use a different kind of lighting.
AIR interference due to puddles of water or snowfall	▶	Decrease the AIR sensitivity (configuration). ⚠ Caution! Safety-relevant function may be impaired.
AIR interference due to further detector	▶	AIR configuration: Select another frequency.
AIR interference due to door drive or other electromagnetic influences	▶	Optimize the cable routing according to → 3.2 (step 4) and/or reduce the AIR sensitivity (configuration). ⚠ Caution! Safety-relevant function may be impaired.

Door does not move

⊃⊂⊃⊂ LEDs off	
Safety-relevant function is configured incorrectly	▸ AIR configuration: Switch the output between *active* and *passive*.

● ● ● ● LED red flashing	
Display: Message A2002 AIR signal too weak	▸ Clean the AIR light windows and restart the detector (configuration/general/reset).
	▸ Mechanical settings: Readjust the angle of the AIR field. Check the effect on the signal strength in the signal monitor (configuration info: AIR sign).
	▸ Cover light-absorbing floors in the AIR field with a light-colored surface. Check the effect on the signal strength (configuration info: AIR sign).
Display: Message A2003 AIR signal too strong	▸ Mechanical settings: Readjust the angle of the AIR field. Check the effect on the signal strength in the signal monitor (configuration info: AIR sign).
	▸ Cover reflective floors in the AIR field with a matt surface. Check the effect on the signal strength (configuration info: AIR sign).

●●●●●● LED red and green flashing at the same time	
Display: Message A2004…A2007 Supply voltage too low	▸ Ensure that the supply voltage is sufficient. If the supply voltage is guaranteed according to the technical data, replace the detector
Display: Message E … Detector defective	▸ Replace the detector.

4.4 Spare parts

Only use original spare parts from the manufacturer. Make sure that you do not technically modify the product by repairing it.

4.5 Dismantling, disposal

The product contains electrical or electronic components. In case of disassembly, observe the disposal regulations applicable locally.

5 Technical data

Housing material	ABS / PA
Housing color	black, silver, white
Dimensions (L × W × D)	252 × 61 × 51 mm
Weight	250 g
Performance level	PLd, Cat. 2 (EN ISO 13849-1),
test signal from door controller required	11.5…32 V DC
Supply voltage	11.5…32 V DC
Operating current	max. 120 mA at 24 V
Inrush current	max. 240 mA
Test input, high level	5…32 V DC, max. 4 mA
Response time to test signal	< 10 ms
Outputs (infrared/radar)	Solid state relay, max. 34 V DC / 24 V AC, max. 40 mA
Mounting height	min. 1.8 m, EN 16005 up to 3.0 m, max. 4.0 m
Ambient temperature	min. −20 °C, max. +60 °C
Protection class	IP54 (EN 60529)
Air humidity	Max. 95 % relative, non-condensing

6 Contact

If you have any questions about the detector, please contact us: support@bircher.com, Phone +41 52 687 1366

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