/// BBC **BIRCHER**

Smart Access

EasyLoop S

Vehicle detection sensor for presence detection on automatic barrier systems

108 mm (4.2 in)

74 mm (2.9 in)

M16

16 mm 0.6 in   18 mm 0.7 in

1   Description

1.1   Function

The sensor detects vehicles using radar technology. The device is designed for connection to the controller of automatic barrier systems.

The sensor can be used for:

- Presence detection for supplementary protection (type D in accordance with EN 12453) of a force-limited barrier arm
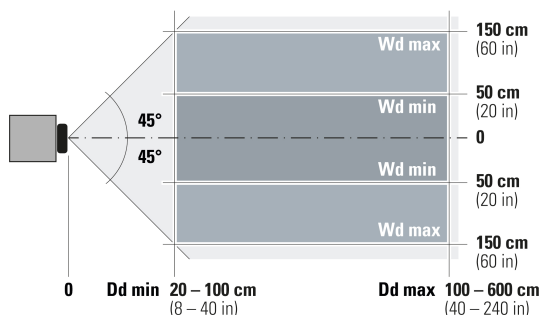
Aligning the radar field with the road:

- 90° for presence detection

1.2   Radar zone dimensions

Side view

Top view

| Wd | detection width, configurable via mobile app |
| Dd | detection distance, configurable via mobile app, default 300 cm (118 in) |

1.3   Scope of delivery

1 sensor, 1 connection cable 10 pin × 1.2 m (4 ft), mounting material, instructions

Package dimensions: 140 × 85 × 60 mm

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 following purpose:

Vehicle detection sensor for presence detection on automatic barrier systems

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.
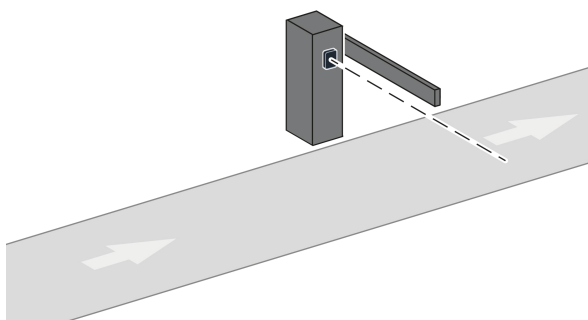
General safety instructions

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.

The cables must be protected against mechanical damage.

3   Installation

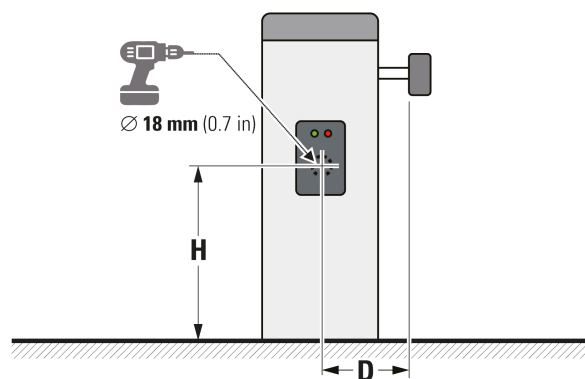## 3.1   Mounting position

Alignment to the road

Protection sensor 90°:

- Presence detector for protection in the area of movement of the barrier arm
- Alignment crosswise to the road, parallel to the barrier arm
- Mounting on barrier housing

Mounting dimensions

A

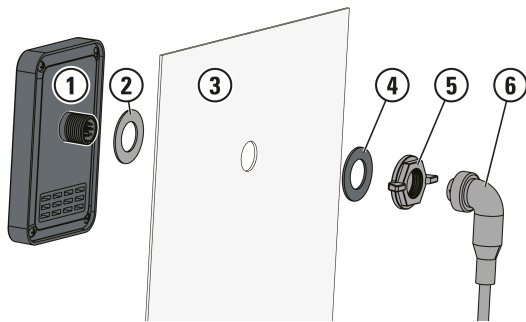| H | Mounting height of sensor above road level: |
	65 – 75 cm (26 – 30 in) for small vehicles
	75 – 80 cm (30 – 32 in) for small vehicles in case of speed bumps or for trucks with chassis height > 70 cm (28 in)
	Use of 2 sensors recommended for trucks with chassis height > 100 cm (40 in)
D	Distance between the sensor and the barrier arm:
	20 – 30 cm (8 – 12 in)

> ## ⓘ ATTENTION
> - Avoid sources of interference (e.g. metal fences, walls, cameras) in the radar field.
> - The effectiveness of the sensor may decrease in slushy or extreme weather (e.g. heavy rain or snowfall).

3.2 Mounting the sensor

1) At the intended position, drill a hole, ⌀ 18 mm (0.7 in), see section 3.1 "Mounting position".

2) Attach the sensor using the indicated mounting material.

1	Sensor
2	Rubber seal
3	Barrier housing or post
4	Washer
5	M16 wing nut (5/8 in)
6	Connection plug

3.3 Electrical connection

► Connect the sensor to the barrier controller.

Wiring

	1	red	9 – 24 V DC	+
	2	black	GND	-
	3	blue	Output 1	NO
	4	green		
	5	brown	Output 2	NC
	6	violet		

Voltage connection

Note the polarity during the connection process.
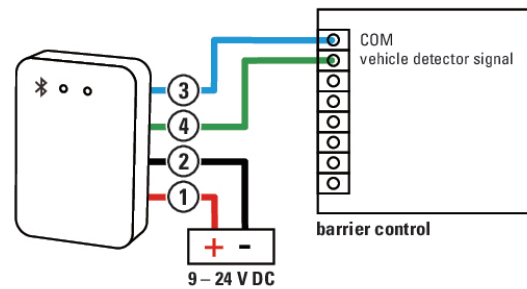
1 red: + positive
2 black: - negative

> ## ⓘ ATTENTION
> ► Ensure a stable voltage source 9 – 24 V DC .
> ► A special 12 V/1 A power supply unit is ideal.
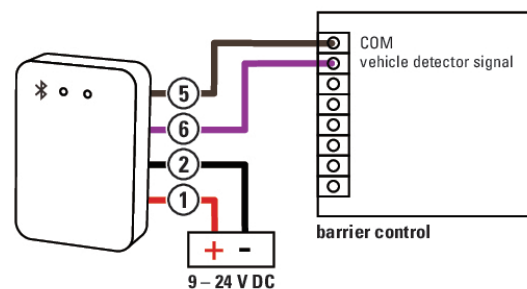
Connection for activation function

Output 1: NO (**normally open**)

3 blue
4 green

Connection for presence detection

Output 2: NC (**normally closed**)

5 brown
6 violet

4 Settings

4.1 Installing the app

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

The sensor is configured using the smartphone app (free of charge). The app requires access to the following services of the smartphone:
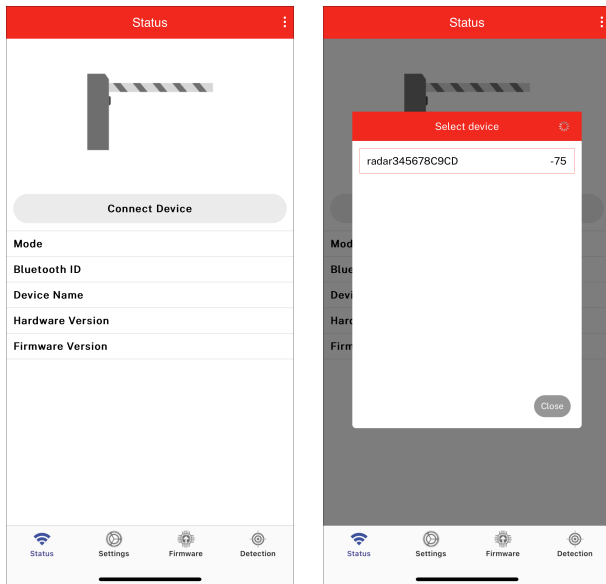
- Location services
- Bluetooth® connection
- Camera function

4.2 Configure sensor

Connect device

Menu: **Status**

- ► In the app, press the **Connect device** button.
- ► Select the desired sensor from the list of displayed Bluetooth® IDs.

Set password

- ► Prevent unauthorized access to the sensor configuration by using a suitable password. The password is "88888888" in the factory setting. Replace the password with other digits (0 – 9). Keep the password safe.

> ⓘ **NOTE**
>
> **Lost password**
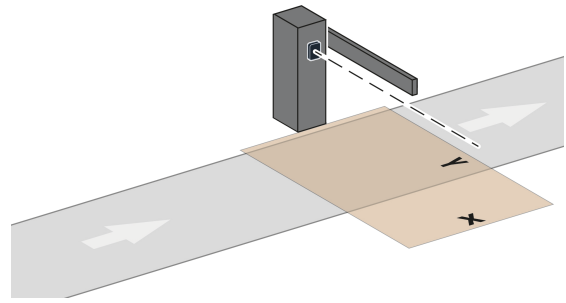>
> If you have forgotten your password:
>
> - ► Select the **Forgot password** option and contact the manufacturer to get the master password.

4.3 Configure presence detection

Configure settings

Menu: **Settings**

- ► Select road side and design of the barrier.
- ► Set the dimensions of the detection zone:

X	Detection zone width
Y	Detection zone length
	50 cm (20 in) shorter than the length of the barrier arm

- ► Clear the detection zone. Bring the barrier arm into an upright position.
- ► Send the settings to the sensor. This begins the teach-in process.

Teach-in
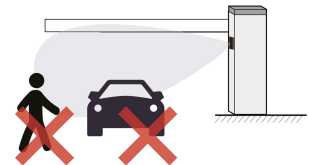
Straight arm

Duration: 2 – 3 seconds

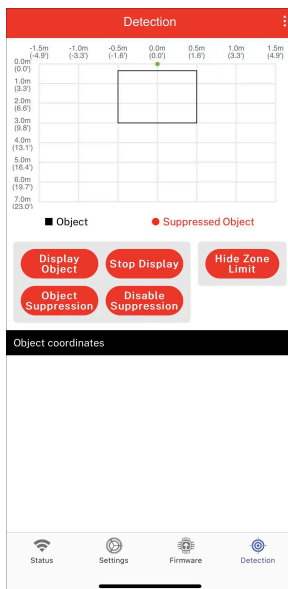- ► Keep the detection zone free of traffic.

Detection

After completing teach-in, select **View objects** to visualize detection.

Do not perform any other actions (except **Stop display**).

When objects are detected, press the **Stop display** button and then **Object suppression** before proceeding to normal operation.

5 Operation

5.1 Status display

Operation mode	LED display		Operating status
Standard	red	on	standby
	green	on	detection
Teach-in	red	on	in progress
	green	flashing fast	complete
Area check	red	flashing	firmware update
	green	flashing	power supply unstable

5.2 Troubleshooting

Fault

Possible cause	►	Possible measure

System failed, power indicator (red LED) off

| Power supply failed | ► | Provide a stable power source. |
| Wrong connection voltage | ► | A 9 – 24 V DC power source is required, preferably 12 V/1 A. |

Sensor not shown in app

Smartphone too far away	►	Reduce the distance to max. 1 m.
Sensor already connected to another device		Multiple connection is not possible.
	►	Disconnect the redundant device.

Correctly displayed detection (green LED), barrier function incorrect

Incorrect configuration of barrier controller.	►	Correct the configuration according to the instructions of the barrier controller.
Incorrect connection to barrier controller.	►	Correct the connection according to section **"Electrical connection"**.
Reverse switching logic	►	Change the switching logic NO/NC according to section **"Electrical connection"**.

Correctly displayed detection (green LED), power indicator (red LED) illuminated

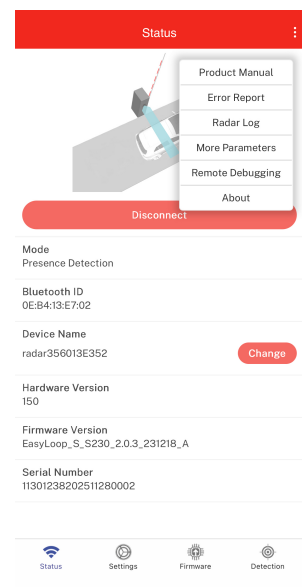| Background interference | ► | Repeat the teach-in process. |
| Detection zone too short | ► | Increase the detection depth. |

5.3 Troubleshooting

For troubleshooting, you will find further options and information in the menu at the top right, e.g.:
– Error report
– Event log
– Remote debugging

If necessary, contact:
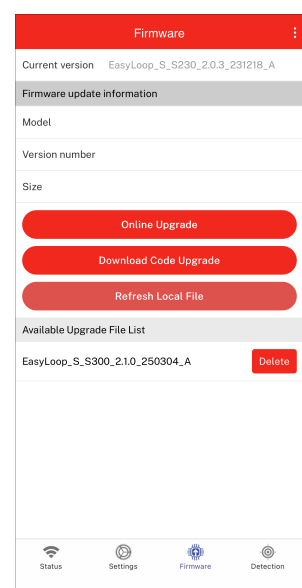Bircher Technical support

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

5.4 Update firmware

To update the firmware, select the **Firmware** button below, download the latest firmware version, and perform the online installation.

If necessary, you can get help from:
Bircher Technical Support

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

5.5 Maintenance

Ongoing

► To avoid operational interference, keep the sensor surface clean from debris (e.g., caused by water, snow, dust).

► In case of environmental changes: if objects (e.g., guide columns, traffic cones) are added to the detection area, repeat the teach-in process.

Every six months

► Test the functionality of the system.

► Ensure that the cables are undamaged.

6 Technical data

Functional data

Function	Safety (presence detection)
Technology	Radar 79 GHz
Detection field (L × W)	6 m × 3 m (20 ft × 10 ft)
Detection depth (adjustable)	Lower limit: 20 – 100 cm (8 – 40 in) Upper limit: 100 – 600 cm (40 – 240 in)
Detection width (adjustable)	Per side: 50 – 150 cm (20 – 60 in)
Configuration	Via smartphone app
Interface	Bluetooth®/RS485

Mechanical data

Housing material	PC, PBT, GF20, ABS
Dimensions (L × W × D)	108 × 74 × 18 mm (4.25 × 2.9 × 0.7 in)
Weight	131 g (4.7 oz)
Protection class	IP66

Electrical data

Operating voltage	9 – 24 V DC (preferably 12 V/1 A)
Power consumption	< 2.5 W
Output	2 relays NO, NC
Response time	100 ms
Connection cable	10-pin
Cable length	1.2 m (3.9 ft)

Ambient conditions

Operating temperature	Min. –40 °C, max. 85 °C (min. –40 F, max. 185 F)

Disposal information

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

Notice on conformity

CE   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

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