

Before installing, connecting and turning on the device carefully read the user's manual and store it in a safe place for future reference.

Furthermore, we strongly recommend that the installation of this parking system is performed by an expert service centre. Unprofessional connection or incorrect installation may damage the vehicle or cause irreparable damage to the vehicle's electronics, or the vehicle's body.

**This parking sensor** informs the user about the distance from an obstacle and its position through an audio signal and a visual display so as to ensure the safety of persons and things when reversing or parking. The system will be automatically activated when reverse is shifted into gear. The sensors work on the principle of ultrasound detection of sharp edges and have been designed to match the design of the bumper bar on your vehicle.

## **Important notices**

- This device is designed as an assistant to the user and should not be considered infallible.
- Always drive your vehicle carefully, use your common sense and knowledge.
- In the interest of your own safety or the safety of others, always drive your vehicle slowly.
- Always stop your vehicle if the sound signal informs you that you are at a risky distance. It is necessary to take momentum into consideration.
- Regularly inspect that the sensors are in working order and ensure that they are always clean.
- When it is raining, snowing or during glaze frost, the sensors may temporarily lose approximately 20% of their sensitivity due to water condensation. Therefore, drive with increased caution until the excess water evaporates.
- Performance may also be affected by ultrasound or electrical undulation, e.g. DC/AC switch or 24/12V switch.
- The sensors should not be installed too tightly or too loosely.
- Do not locate the control module near a source of interference such as an exhaust or cables.

## **Included contents**

After unpacking the device ensure that the package includes the following:

- 1 control module
- 4 ultrasound sensors
- 1 display
- 1 power cable
- 1 drill bit
- 1 accessory set
- 1 user's manual

## **Features:**

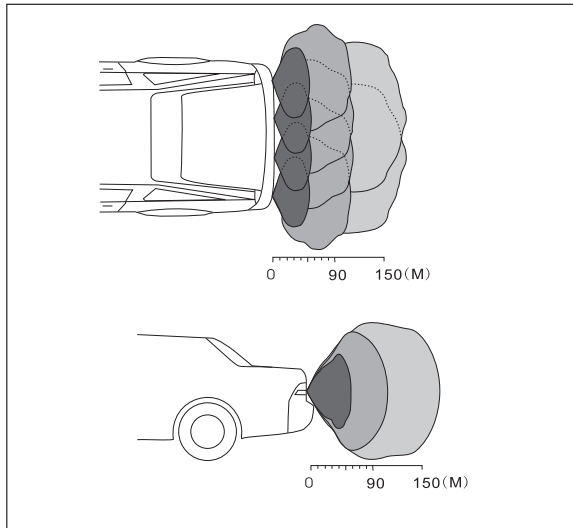
- Automatic activation on shifting into reverse
- Legible display showing the direction and distance from the obstacle
- Built in buzzer for immediate notification
- Simple installation, maintenance-free
- It is not powered from the car battery when the vehicle is parked and the engine is turned off.
- The model is approved in accordance with the electromagnetic compatibility directives of the European Union.

## Operation

The parking sensor sends ultrasound waves, which bounce off the obstacle, which causes a visual-acoustic signal. The exact distance from the obstacle makes parking easier in confined places. The amount of ultrasound waves was specially selected to limit the disruption or damage to people and animals.

## Signal

Distance from the obstacle	Distance category	Display	Sound signal	Display
> 1.5 m	Safe distance	--	None	None
150 – 110 cm	Safe distance	1.5-1.1	Beep ..... Beep..... Beep .....	Green
100 – 50 cm	Caution distance	1.0-0.5	Beep ... Beep ... Beep ... Beep ...	Yellow
40 – 0 cm	Risk distance	0.4-0.0	Beeeeeeeeeeeeeeep	Red



## Installation

**Note:** Prior to installation, check that your vehicle is turned off and not activated.

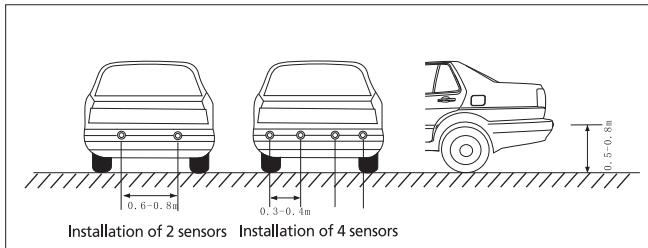
Before connecting, check the installation location on the rear bumper bar for any obstacles preventing the installation (drilling of the installation hole) of the sensor.

For an optimal installation of the sensor a 25 mm deep free part of the bumper bar is needed. Some bumper bars are equipped with an external cover, strip or metal coating, which will need to be drilled though in order to install the sensor.

Correct installation depends on two factors:

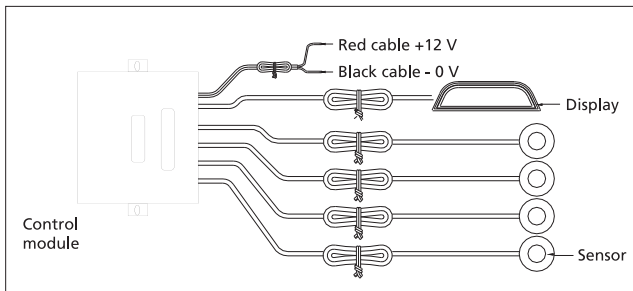
- position: height above the ground and the distance from the centre of the bumper bar (do not install directly above the exhaust pipe).
- angle: exact signals require the sensors to be mounted at the correct angle.

1. The installation location must be as far back as possible and without obstacles.
2. Sensors must be installed at a height as per the picture below; the optimal height is 50 – 80 cm.



3. For the installation select a vertical and even surface (do not install on an uneven surface).
- A) Install 4 sensors.
  4. Using a marker or pencil mark out a point 10 – 15 cm from the outer edge of your car. The ideal distance is 12 cm on both sides. You can mark these points as A and D.
  5. Measure the distance between both the marked out points and divide this value by 3, which will give you "I".
  6. From point "A" mark out two more points – "A + I = B" and "A + 2I = C".
- B) Install 2 sensors – proceed according to the above mentioned picture. Calculate the centre of the rear bumper bar and from the centre mark out points to the left and right in a range from 0.3 to 0.4 m. This distance must be the same on both sides.
7. Mark out small holes and then using the supplied drill bit, drill the openings.
8. Insert the sensors into the openings. Make sure they are correctly located when inserting them.
9. Locate the control module in the boot (trunk). It must be located in a dry place. The control module must not come into contact with water or any other liquid.
10. Locate the display as required.
11. Connect the red cable to the power supply of the reverse light and connect the black cable to the grounding of the vehicle.
12. Connect the display to the control module.
13. Shift into reverse gear, the decimal point will light up on the display, which indicates that the system is in detection mode. If not, you need to check:
  - a) If a sound is made at the moment of connection, check that the cable is correctly connected, that the voltage is 10.5V or higher, and that the display is correctly connected.
  - b) If a "beep" sound is made, disconnect the power and shift to neutral gear. Wait a few moments and again shift into reverse gear. If the problem persists contact an authorised service centre.

### Wiring diagram



## Checking the installation

To check that you have the correct settings, it is necessary for your vehicle to be located on an even surface without any obstacles, with a free space of at least 3 metres in front and behind the vehicle. With the handbrake activated and the engine turned off, shift into reverse and turn the key in the ignition so that the reverse indicator light turns on without the vehicle being started.

The system will react to your movement in front of and behind the vehicle at various distances and so it will be possible to check the distance from the sensors and your position (right, left).

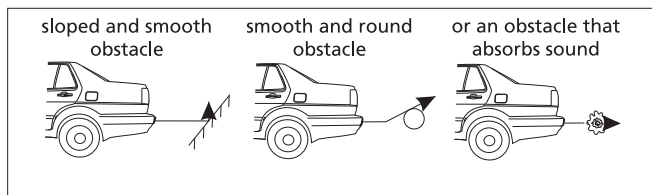
**Note: It is not possible to display the position (right, left) on models without a display.**

If the caution or risk distance signals continue, the sensors have been installed too low or at an incorrect angle. Connect one sensor, to identify the error, and then turn the sensor by a maximum of 180 ° and check again.

Once this check has been successfully performed, you can firmly attach the sensors and secure the cables using the supplied tape.

The following situations may lead to the incorrect function of the sensor or an obstacle may not be detected:

- the obstacle forms a complex or has an irregular shape
- the obstacle is very smooth and reflects the waves (glass or a mirror), especially if it is practically parallel to the vehicle.



## Technical specifications

Power source:	10.5 V – 12 V = (12 V nominal)
Power input:	20 mA – 200 mA
Operating temperature:	- 30°C – 80°C
Detection of an obstacle:	0.2 – 1.5 m
Frequency:	40 kHz

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## INSTRUCTIONS AND INFORMATION REGARDING THE DISPOSAL OF USED PACKAGING MATERIALS

Dispose of used packaging material at a site designated for waste in your municipality.

### DISPOSAL OF USED ELECTRICAL AND ELECTRONIC EQUIPMENT



This symbol on products or original documents means that used electric or electronic products must not be added to ordinary municipal waste. For proper disposal, renewal and recycling hand over these products to determined collection points. Or as an alternative in some European Union states or other European countries you may return your products to the local retailer when buying an equivalent new product. Correct disposal of this product helps save valuable natural resources and prevents damage to the environment caused by improper waste disposal. Ask your local authorities or collection facility for more details. In accordance with national regulations penalties may be imposed for the incorrect disposal of this type of waste.

#### For business entities in European Union states

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#### Disposal in other countries outside the European Union

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