

# Technaxx<sup>®</sup> \* User Manual

## Reverse Parking Assistance with 4 sensors & LED display TX-109

**Suitable for most vehicles as assistance for reverse parking.**

**This system is designed to be an aid and should NOT replace the need to drive carefully.**

**Under no circumstances will the manufacturer or supplier accept any responsibility or can held liable for any direct or indirect, incidental or consequential damage, or for injuries resulting from installing or use of this system.**

The Declaration of Conformity for this device is under the Internet link: [www.technaxx.de/](http://www.technaxx.de/) (in bottom bar "Konformitätserklärung"). Before using the device the first time, please read the user manual carefully.

Service phone No. for technical support: 01805 012643 (14 cent/minute from German fixed-line and 42 cent/minute from mobile networks).

Free Email: [support@technaxx.de](mailto:support@technaxx.de)

Keep this user manual for future reference or product sharing carefully. Do the same with the original accessories for this product. In case of warranty, please contact the dealer or the store where you bought this product.

**Warranty 2 years**

***Enjoy your product \* Share your experience and opinion on one of the well-known internet portals such as Amazon or idealo.de***

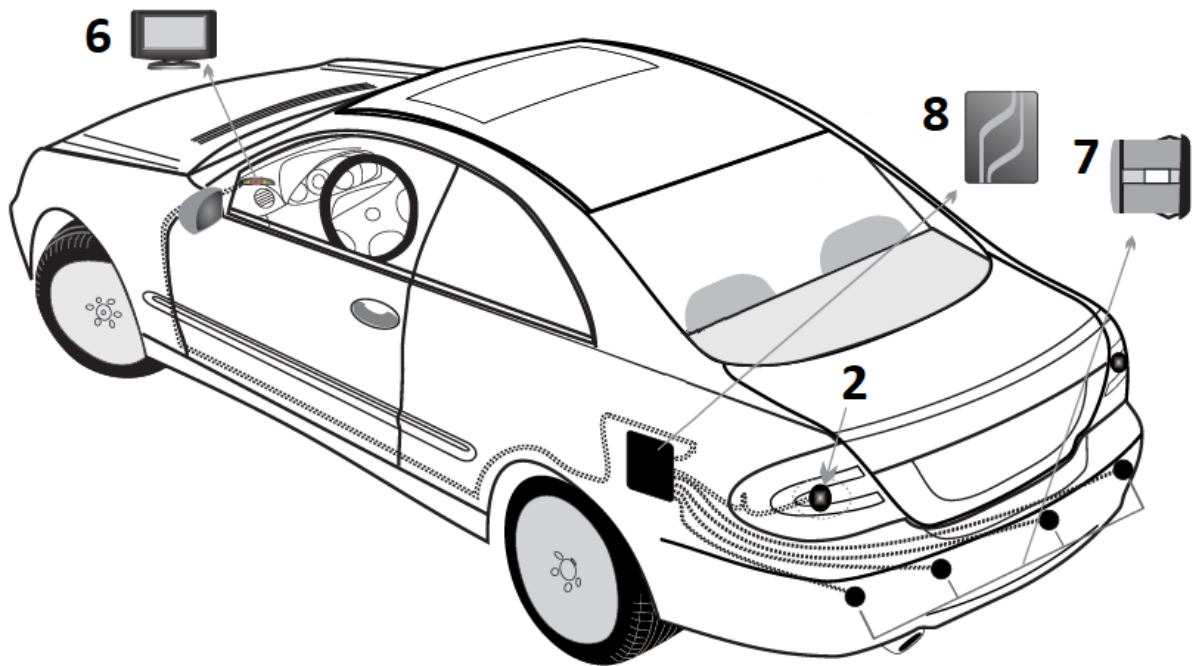
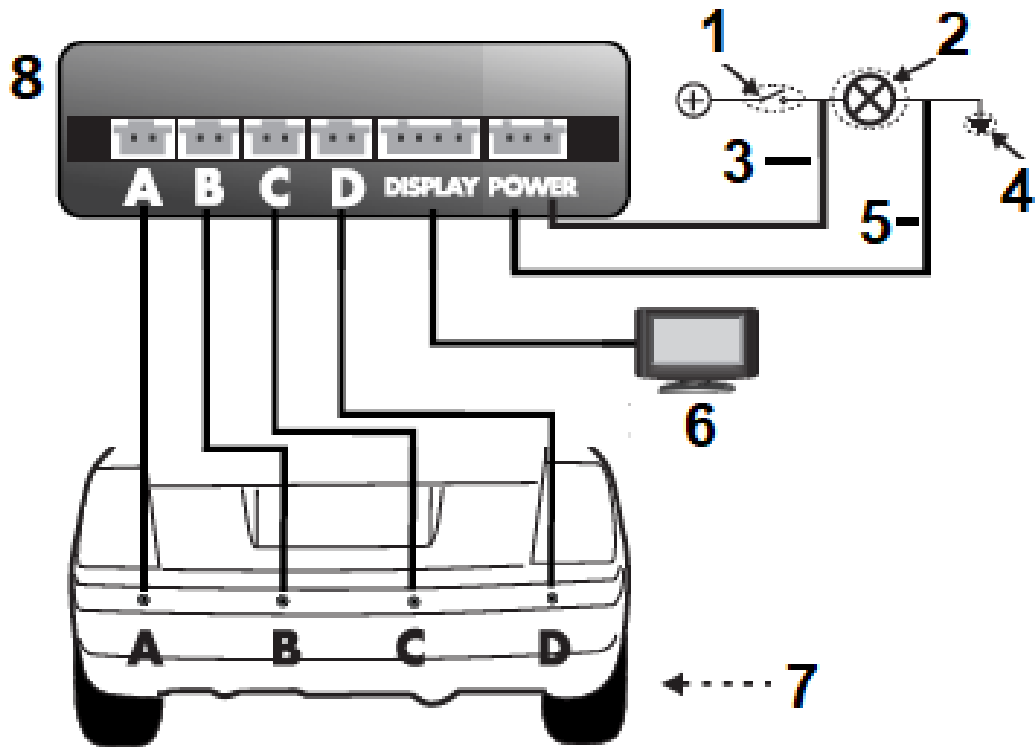
## Features

- 4 ultrasonic sensors (40kHz)
- Digital dashboard display mounted by 3M sticker
- Optical warning in 3 colours (green, yellow, red)
- Acoustically rising warning (signal continuous tone from 40cm)
- Measuring range 0.3m~2.0m in 0.1m steps
- Power supply DC 12V of sensors by connection to the reverse light
- Sensor protection class IP68 (dustproof & waterproof)
- Complete installation set
- Advanced active sensing technology enables you to safely and confidently park your vehicle day and night and in all weather conditions.

## Technical specifications

Ultrasonic frequency	40kHz
Alarm sound	> 80dB
Distance alarm tone	Rear sensors 0.3m~1.5m
Display distance	Rear sensors 0.3m~2.0m
Operating voltage	DC 12V / Range: DC 10V~16V
Operating power	6W maximum
Detection angle sensor	horizontal & vertical 90°±15°
Sensor protection class	IP68
Operating temperature	-40°C up to 80°C
Weight / Dimensions control box	48g / (L) 8.3 x (W) 5.35 x (H) 1.9cm
Weight / Dimensions LED display with sound	81g / (L) 7.55 x (W) 2.85 x (H) 1.2cm / cable length 4.94m
Weight / Dimensions one sensor	39g / (L) 19.5 x (inner Ø) 22mm (outer Ø) 25mm / cable length 2.50m
Power cable	Weight 14.5g / (L) 1.16m
Packing Contents	Reverse Parking Assistance TX-109, 4x Rear sensors, 1x LED display with sound, Power cable, Hole saw (22mm), 1x 3M sticker, User Manual

# Wiring diagram



1	Reverse Gear switch	5	MASS-black
2	Reverse Light	6	Display with sound
3	Supply of Reverse Light +12V Red	7	Sensors in Bumper
4	MASS	8	Control Box

# INSTALLATION in 4 steps

## Pre-Installation

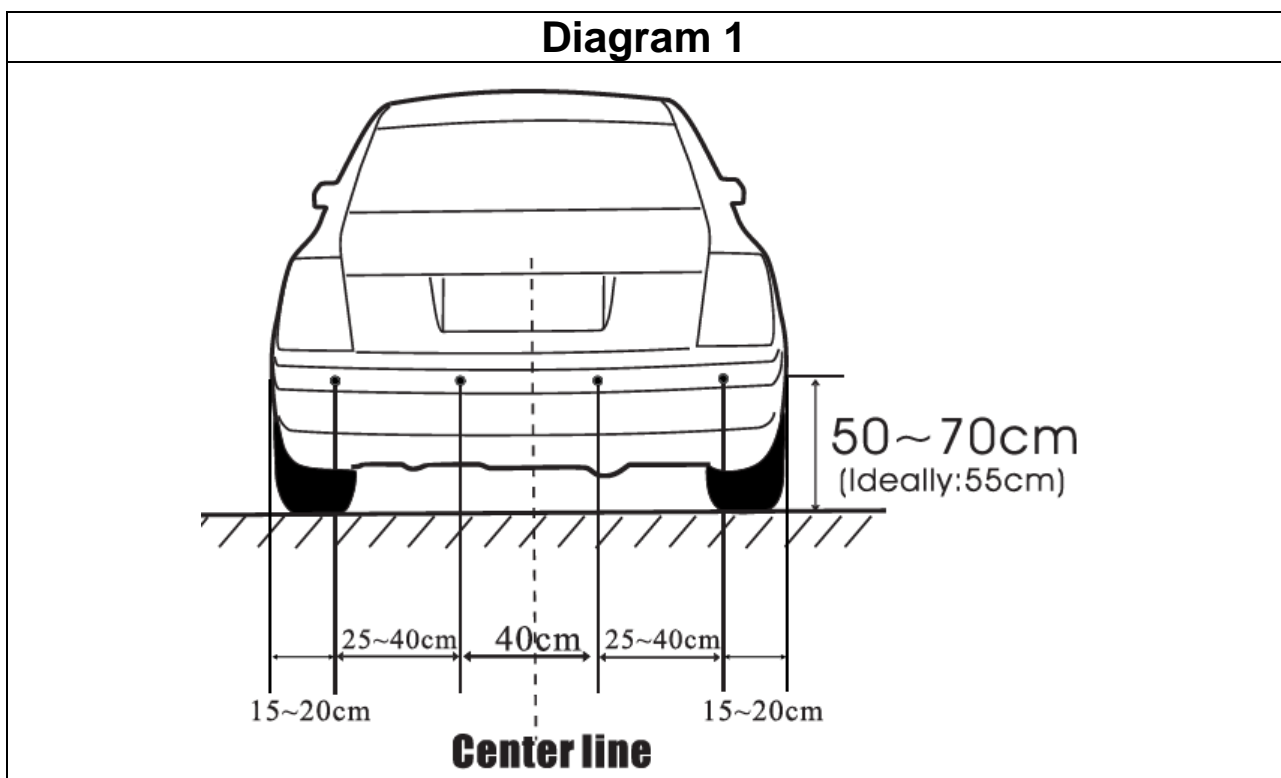
→ Before starting with mounting and removing cover off your car, check to make sure that the vehicle is safely parked and that ALL electrical components are switched OFF. Clean the bumper thoroughly and dry it with clean clothes. Ask a friend or a family member to assist you. This will make the installation much easier.

**READ THE INSTRUCTION FIRST, BEFORE INSTALLING THE SYSTEM, prepare the following listed equipment:**

Drill & Drill bits, Measuring tape, Pencil & Marker, Plier & Screw driver, Electrical tape, Multimeter voltage tester, Steel wire, Sandpaper.

### 1. Mark the position of the sensors

Measure and mark the vertical position (center line) according to diagram 1. Ensure that the position is above 50cm (ideally 55cm) from the ground surface. **NOTE: It must be directly vertical.**

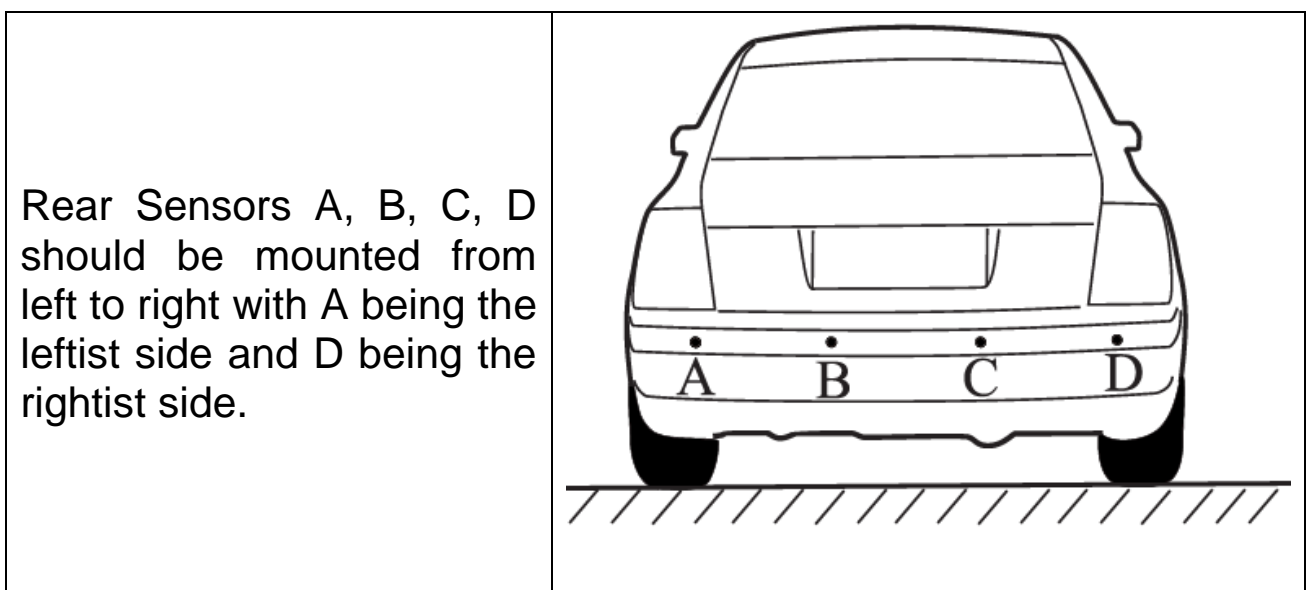
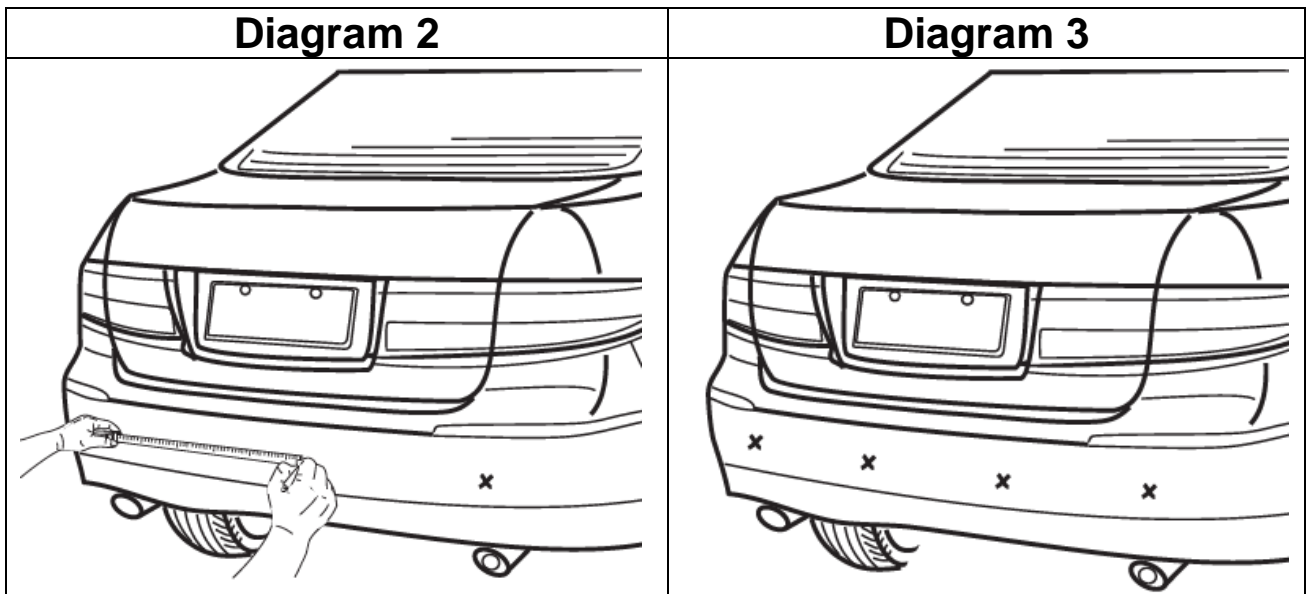


## Diagram 2 & 3

Measure and mark the horizontal position according to diagram 2. The outer most left and most right sensor should ideally be 15m–20cm away from the edge of the bumper. Locate the Center Line and mark the position of the remaining sensors and according to or to the near approximation of diagram 3.

**NOTE:** Try to locate a flat surface for the mounting of the sensors.

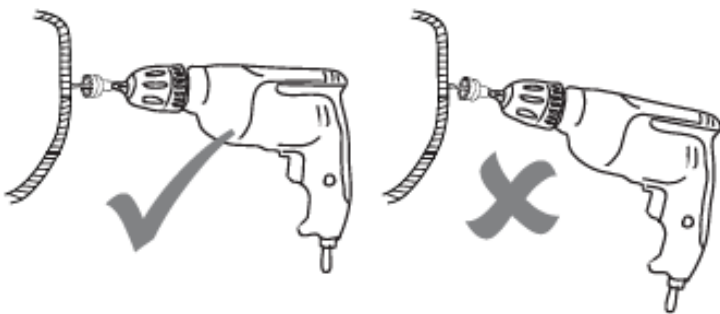
Once it is completed it should appear similar to diagram 1.



## 2. Preparing to drill

→ First always check areas behind the bumper to see if it is clear to drill. Attach the small drill bit and push lightly to make a small dent in the bumper in the premarked area and drill all the way through the bumper. This prework will make it easier afterwards to drill the hole in the bumper without slipping while drilling to prevent scratches to the bumper.

→→ Now attach the custom high performance drill bit supplied in Package Contents. During the drilling process, hold the drill in a steady-fixed-parallel ground position, like shown below:



→→→ Lightly sand the newly drilled hole in your bumper with sandpaper to get a smooth finish around the edge.

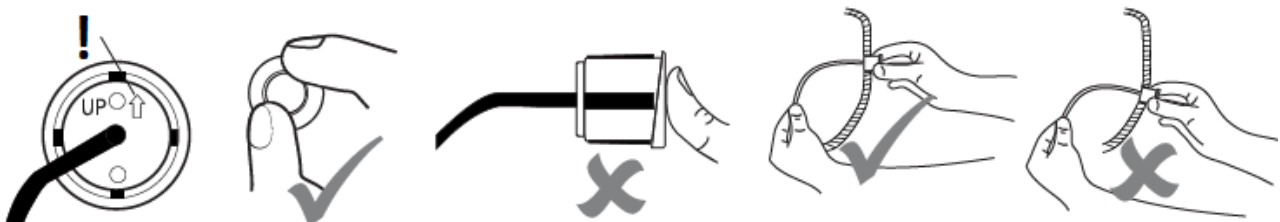
→→→→ Repeat this steps for the following 3 sensor holes.

## 3. Mounting the 4 sensors

→ Insert the sensors cable into its hole, until the sensor is touching the bumper. **NOTE:** Ensure that the arrow mark (up) behind the sensor points upwards. Push the edge of the sensor into the hole.

**Do NOT push the centre area of the sensor!**

The final position of the sensor in the hole should be as shown here:



→→ Mark the sensor plug of each sensor or the end of the cable with the letters A, B, C, D so it is easier to attach them in the right order to the Control Box.

→→→ Using a steel wire, tied the sensors cables to one end and guide the other end through into the opening at the underside of the vehicle until you can see it protrude inside the trunk compartment. Gently pull on the protruding end until the cables are inside.

**NOTE:** Take care and gently pull the cables into the inside of the trunk compartment. Do NOT use force! Avoid placing underneath sensor cables near high heat source area such as muffler, exhaust etc.

#### 4. Wiring

→ Turn on the ignition so the car is under power (differs by the model and the age of your car). **DO NOT start the engine.**

→→ Make your handbrake on. Then shift the gear to reverse.

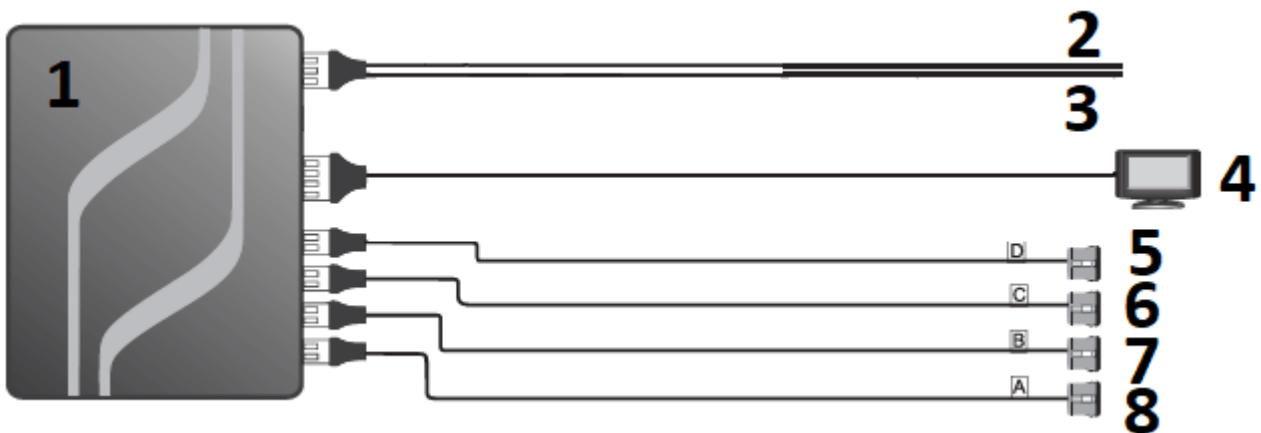
→→→ Remove the rear light. Using the electrical tester/multi-meter to locate the correct power wire for the Reverse Light power line (this will be the cable of the white reverse light). Mark the correct wire with positive and negative.

**NOTE:** You need to find the reverse light power line!

→→→→ Shift the gear back to “Parking” for automatic and remove the vehicle’s key. Car holders with gearshift just remove the vehicle’s key.

## Wire Connection

→ Follow the connection diagram of the control box.



1	Control Box	5	Sensor D
2	- Black to Ground	6	Sensor C
3	+ Red to Reverse light	7	Sensor B
4	Display with sound	8	Sensor A

→ Attach the black cable of the power cable to the car's ground (negative) or the negative of the reverse light.

→→ Attach the red cable of the power cable to the positive cable of the reverse light. If necessary remove the wire isolation before connecting.

→→→ To attach the power cable to the positive and negative cables of your car we suggest cable connector for each wire. After connecting, wrap connection with electrical tape to prevent a short-circuit.

**NOTE:** Check for correct wire before cutting and wiring.

## Control Box Connection

→ Plug the power cable into the Control Box slot which is red.

→→ Plug the display cable into Control Box slot which is blue.

After testing the sensors, place and fix steadily the Control Box in your car's trunk, depending where you connect the power cable to the reverse light.

**NOTE:** Power cable, sensor cables and display cable must be laid to the position of the Control Box.



## Sensor testing

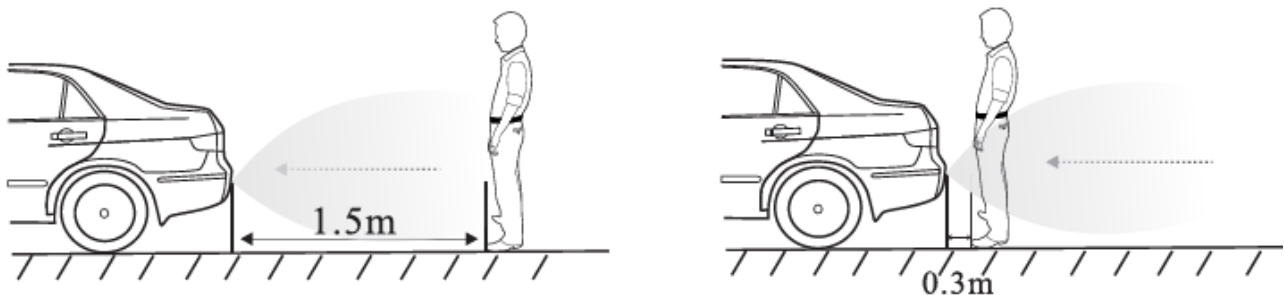
→ Turn on the ignition so the car is under power (differs by the model and the age of your car). **DO NOT start the engine.**

→→ Make your handbrake on. Then shift the gear to reverse.

→→→ Place the display for testing in the trunk.

→→→→ ONLY plug in sensor A cable into the Control Box slot A.

Stand in **~2m** distance from **sensor A** (the sensor should NOT beep and the display should show two minus signs “– –“ in RED). Then move slowly towards your car. In **~1.5m** distance from your car, the beeping sound starts and the display should show the corresponding distance as you move closer and closer. You can do it by yourself, but it is easier to ask a friend or family member to help you.



### → Unplug sensor A

If the display is not powered on and showing either two minus signs “– –“ in RED on the display then, check your wiring with the reverse light again. If the display is neither beeping nor showing the distance when you went closer to sensor A then plug sensor A for testing in the slot of one of the other three sensors.

### →→ Unplug sensor A and try connecting sensor B

If everything is working continue with the other sensors.

→→→→ ONLY plug in sensor B cable into the Control Box slot B. Stand 2m away from the sensor B and move slowly towards it. The display should show the corresponding distance as you move closer and closer to it.

→→→→→ Repeat this process for all remaining sensors, one at a time. Once you are satisfied that everything is working, plug all sensors to their corresponding slot in the Control Box. Do a final check to ensure that everything is correctly plug into its right position.

→→→→→ Shift the gear back to “Parking” for automatic vehicles and remove the vehicle’s key. Car holders with gearshift just remove the vehicle’s key.

## Finish the installation

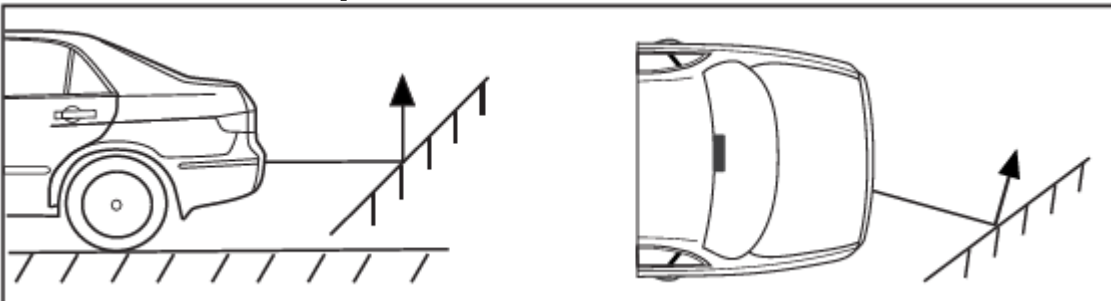
→ Fix the Control Box to its final position. Ideally it should be in a dry, clean and protected area. We suggest to place and fix steadily the Control Box in the trunk of your vehicle, depending on the side you connected the power cable with the reverse light.

→→ Fix the Display to its final desired position. We suggest mounting it with the 3M sticker to the car’s dashboard. Find a good position for you to read the display clearly. Hide all cables and wiring for a clean installation.

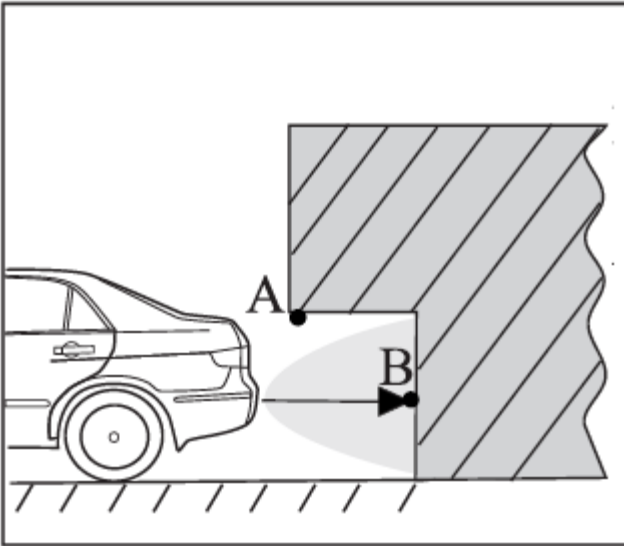
## SPECIAL NOTE

- Check the conditions behind your car before (!) reversing.
- In some special cases, the display may not be the same as the real condition due to the sensor position, obstacle shape, reflection condition and so on.

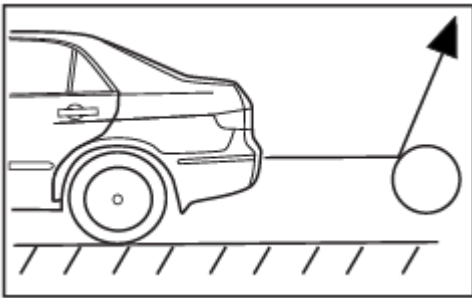
### Here some examples:



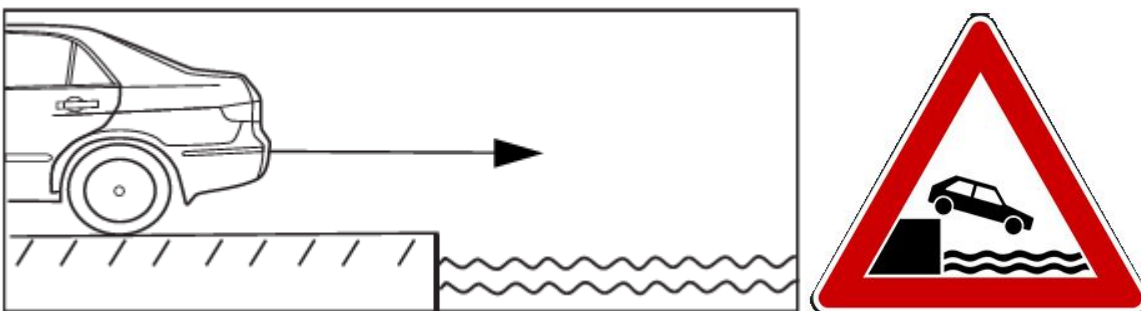
In case of small angle of incidence to the obstacle, such as Glass or other smooth plane, the obstacle may not be detected as the signals are reflected away.



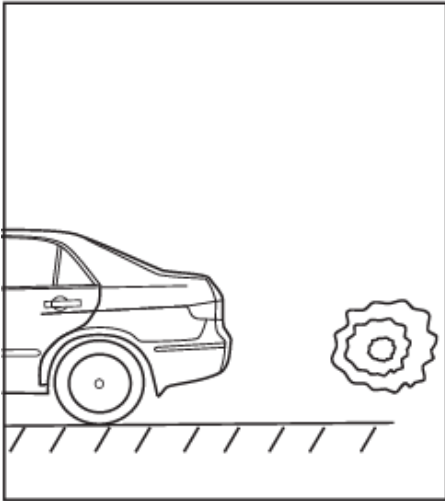
B will be detected sooner or later, but A may not be detected at all.



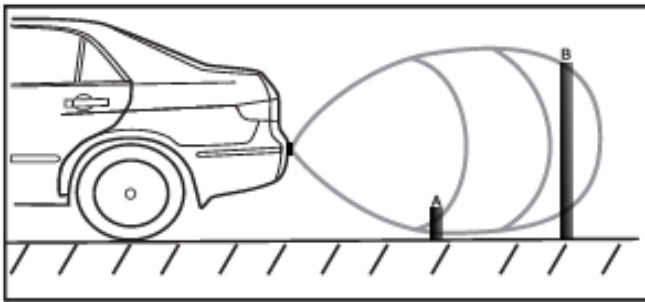
Spherical objects have a small and uneven surface area, due to the curvature of spherical object the signal reflected away, maybe.



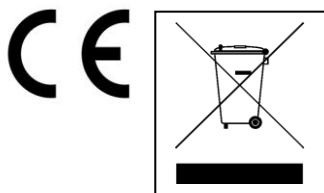
Cliff or Water edges where there are no objects directly behind, will not be detected. Take extra caution in such situation. [Take care of warning signs as shown as example.]



Foam or sponge-like objects will absorb the signals and detection may become difficult.



Obstacle A is of low high. Therefore during reversing, obstacle A will be detected initially, until obstacle A enters the sensor blind zone. Once obstacle A is in the blind zone, obstacle B will be detected. So you must be aware although obstacle A is no longer detected, it is still there!



**Hints for Environment Protection:** Packages materials are raw materials and can be recycled. Do not disposal old devices or batteries into the domestic waste. **Cleaning:** Protect the device from contamination and pollution (use a clean drapery). Avoid using rough, coarse-grained materials or solvents/aggressive cleaner. Wipe the cleaned device accurately. **Distributor:** Technaxx Deutschland GmbH & Co.KG, Kruppstr. 105, 60388 Frankfurt a.M., Germany