

RAR-7001 Corner and front Radar Manual

Radar Sensor Technical Specification

- Configuration:

Dual radar sensors
- Install position

On the corner of car front bumper (no need to bore the hole).
From ground height: 50~60cm(+/-10cm).
(to make sure the angle of installation should be 90° angle or elevation angle with the ground.)
- Antenna

1T1R
- FOV:

(HFOV)144°
- Alert range

≤0.6m
- Simultaneously tracked objects

1 nearest object
- HMI(Human-Machine Interface)

Buzzer:Level 1 (Far distance) :
0.6m~0.4m buzz slowly
Level 2 (Close distance) :
<0.4m buzz continuously
- Peripheral Interfaces:

Stand alone and buzzer(LIN option)
- Power Consumption

200 mA @ 12 DC (maximum)
- Voltage Range

8V to 18V
- Operating Temperature

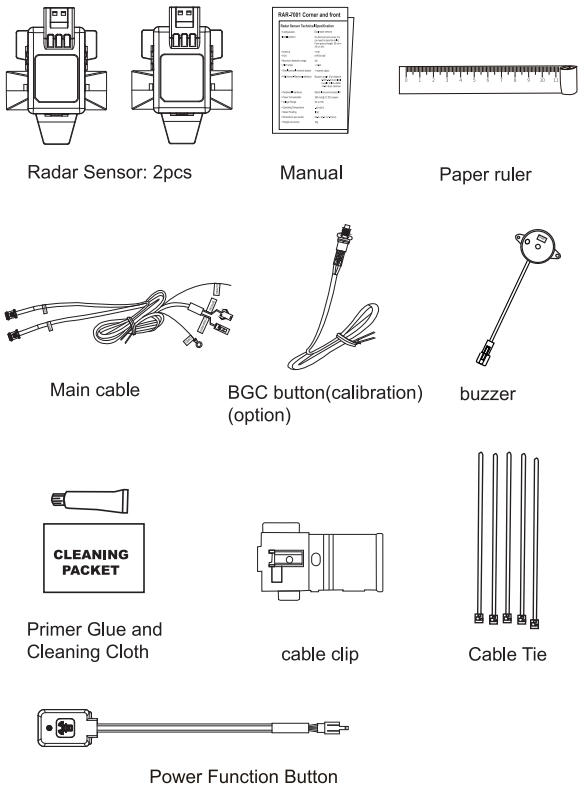
- 40~85°C
- Water Proofing

IPX7
- Dimensions per sensor

64.8 x 47.4 x 21.7(mm)
- Weight per sensor

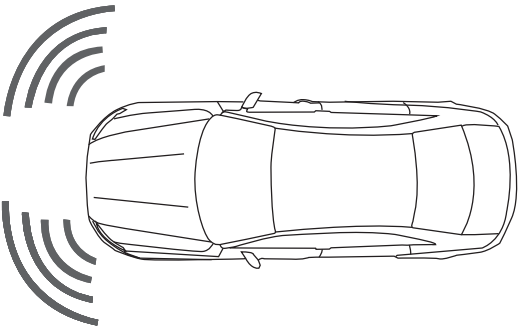
16g

Packing List



Alert Range

Through installing 2pcs of 79G radar sensors on the corner of car front bumper, the buzzer is beeping to remind the driver once any object get closed to the front bumper zone when the car is moving.



Application related:

1. Bumper properties, installation positions of the sensors, and surroundings including from various types of ground surfaces may affect the ability of the sensors to correctly detect obstacles. For example:
(a). If the vehicle was under an extreme heavy load, a ditch cover or large reflection on the ground might cause false alarm at a larger distance from the vehicle.

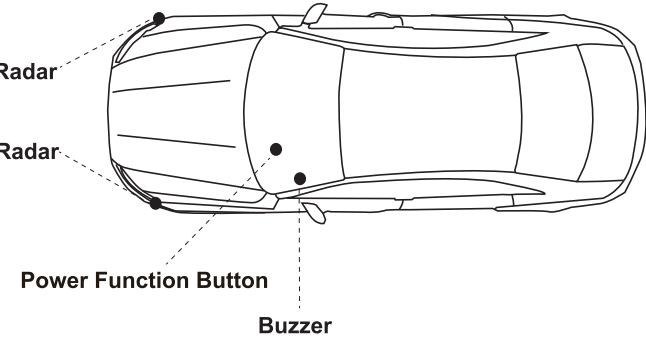
CAUTION:

The Corner and front Radar system is strictly a driver assistant device. It should not be considered as a safety device for any purpose. Manufacturers and distributors of the product do not guarantee or assume liability for collisions or damages that take place during vehicle driving.

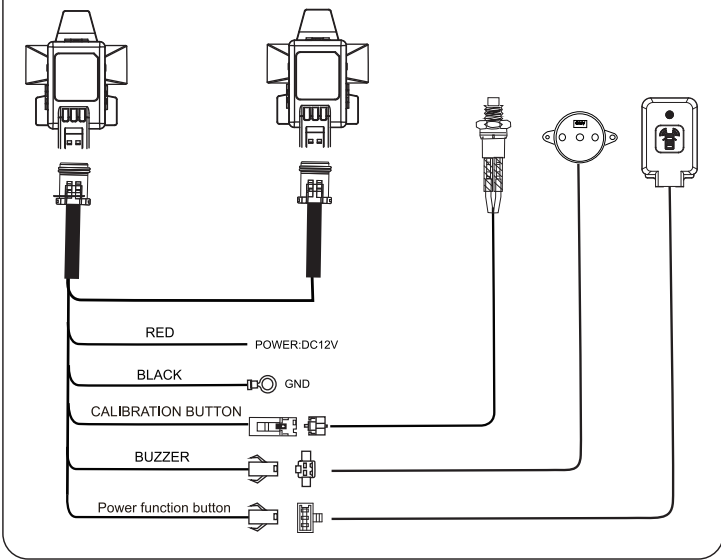
Attentions

The following use environments can cause Corner and front Radar detection instability:

- The things of small diameter, like pipe, wire...etc.
- The material can absorb the radar wave, like cotton, sweater...etc.
- Non-reflectional surface.
- Drives on grass road or rough road.
- Something sticks on sensor's surface.



The system of cable connection



Problem solving

	Problem	Root Cause	Solve
1	Buzzer no sound	Power is not turned on	Open the power
		Radar sensor damaged	Contact the original installation store
		Buzzer damaged	Contact the original installation store
		Buzzer wire end is damaged	Contact the original installation store
		Loosening of the Radar sensor end	Contact the original installation store
2	Detection Error	The bumper is covered with dirt	Cleaning bumper If it is still abnormal, contact the original installation store
3	Power function button abnormal	Button damaged	Contact the original installation store
		Button wire end is damaged	Contact the original installation store

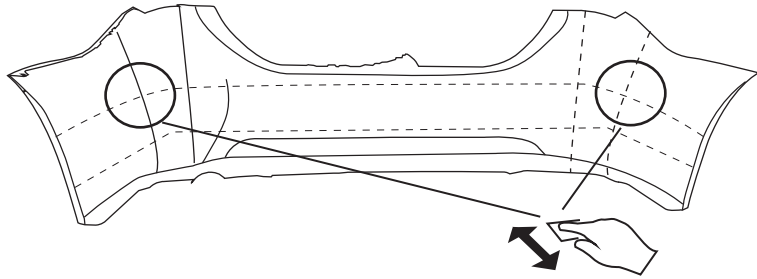
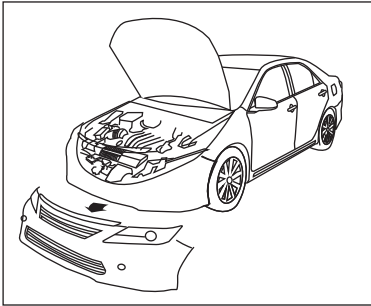


This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
—Reorient or relocate the receiving antenna.
—Increase the separation between the equipment and receiver.
—Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
—Consult the dealer or an experienced radio/TV technician for help
—Professional Installation is required
This device complies with radio frequency (RF) exposure limits adopted by the Federal Communications Commission for an uncontrolled environment. This device should be installed and operated with minimum distance 20cm between the radiator & your body.

Installation

Installation of Radar Sensor

1 Before attaching the sensors onto the bumper, please make sure the surface of bumper's inner is clean and smooth. Dented or scratched surface could degrade the radar performance.



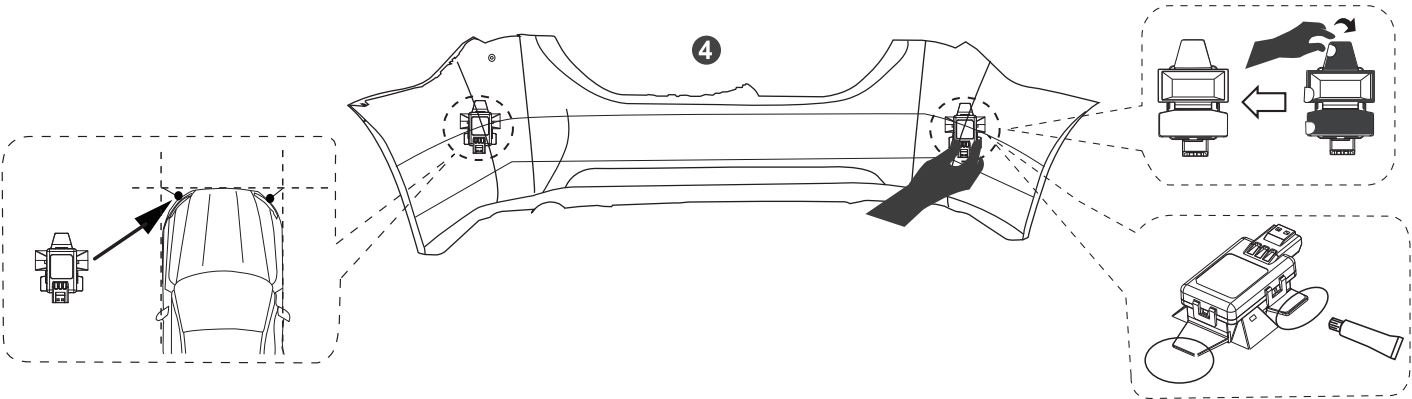
- To keep the outside of bumper cleaning at all the time, especially the position of the radar sensors. In order to make the radar function be normal, please avoid the situation to be happened, for example: dirt, clay, snow, stickers(including transparent stickers), or others items covering the radars.
- If the bumper was impacted, please check the sensor positions, the shape of bumper and stability. Once there is any visible offset from original installation position, it should be calibration performed.
- If the bumper was re-painted, the installation calibration should be performed.
- The radar sensors should be installed at the same height level as the targets to be detected.

2 Mounting horizontal position should be 50~70cm(+/-10cm) height from ground (depending on car type).

3 Mounting Vertical position must be between 50~60cm(+/-10cm) height from ground (depending on car type).

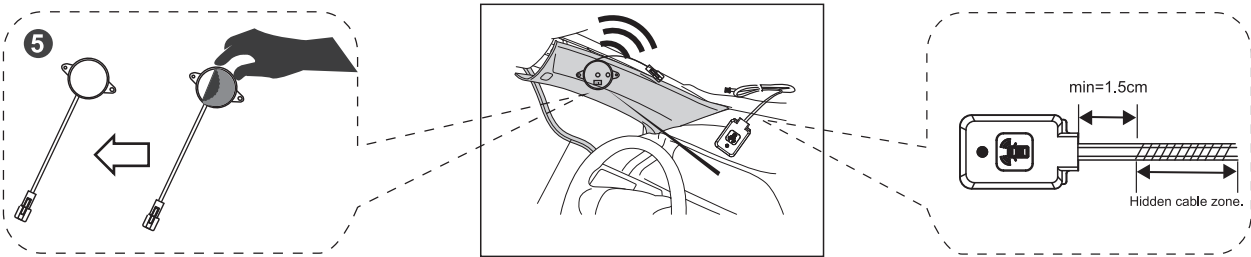
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4 The suitable installation position of 2 sensors on the front bumper.



Step1 : To attach the sensor and bumper seamlessly.
Step2 : to glue the "K-520 Primer Adhesion promoter" as figure shown to strengthen the attachment.

5 To install buzzer on car A-pillar and power function button on dash board.



6 To connect 12V/GND power to car power system.

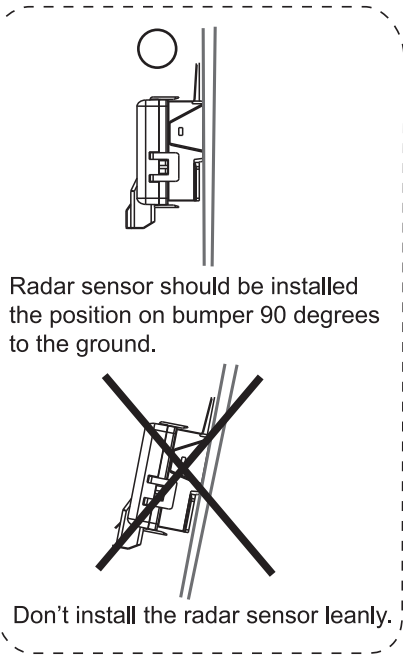
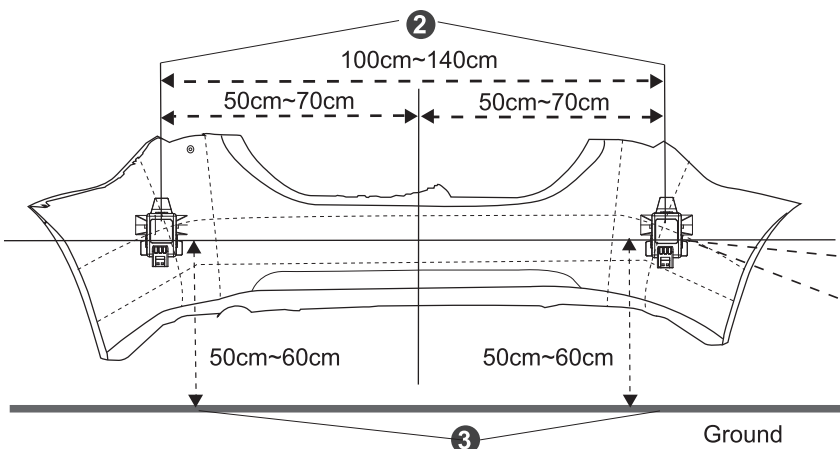
7 To do sensors BGC calibration at first installation. (please refer to BGC Calibration step)

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The installation spec and tolerance

Item	Spec
Sensor to sensor distance	100~140cm
Installation tolerance	+/- 10cm

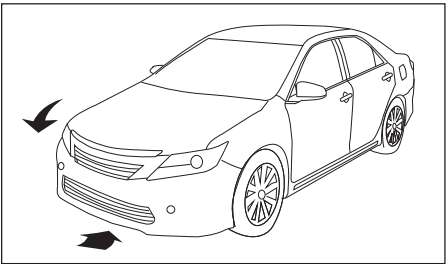
Note: The ground clutter caused by various car bumper and difference field is possible, so the realistic installation height and angle tuning depend on the real case.



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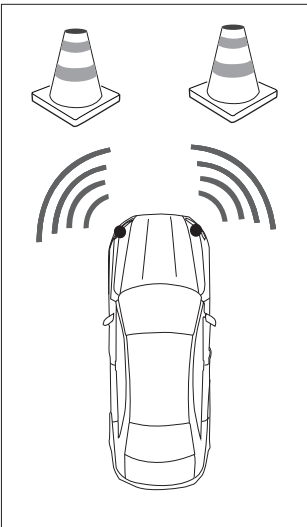
BGC Calibration step (after installation)

Step 1:Finishing the installation and make sure the front bumper is fixed completely. (Refer to Picture1)



(Picture1)

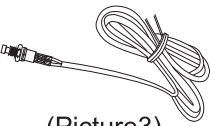
Step 2:To check the power is on and moving objects are >1m away from sensors. (Refer to Picture2)



(Picture2)

Step 3: To press BGC button more than 3secs to trigger the BGC Continuous beeps!!! (Refer to Picture3)

Step 4: To release BGC button
Before BGC: hear 3secs rapid beeps!
After BGC: 2secs continuous beeps!
Note: the 3secs and 2secs are variable parameters.



(Picture3)

Step 5: To check if the sensor function is normal or not.

Step 6: After finishing calibration process, please remove the BGC button cable.

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