INSTALLATION INSTRUCTIONS
&
USER MANUAL

Front parking sensor
mod. EPS-DUAL FRONT

EPS-DUAL FRONT can be installed only on front bumper.

The sistem is strictly a driver assistance device, and should not be relied upon as a security device or a substitute for safe driving practices.
Use common sense when reversing, and always follow recommended safe driving guidelines.

INSTALLATION INSTRUCTIONS

1.0

a) The installation of the antenna sensor, constituted by an aluminium adhesive ribbon, must be performed to the inside of the bumper. It is **of some importance** that the zone of application on the inside surface of the bumper corresponds to the **higher part** as regards the ground **and the more protruding.** It is not advisable to install the antenna sensor too low unless you want to have a good protection of the front spoiler.

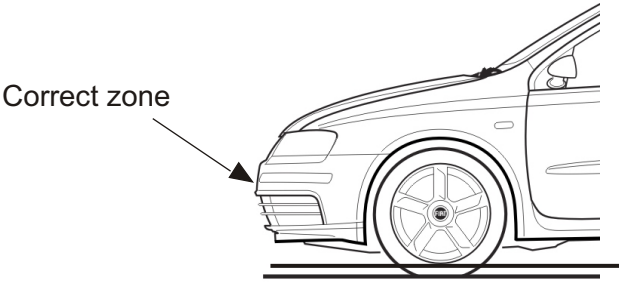


Fig. 1

b) Disassemble the bumper.

2. STARTING PROCEDURE

INSTALLATION

a) Locate a passage where, from the outside at the extremity of the bumper, it is possible to route the *RF cable* through the engine compartment to the driver's place behind the dashboard.

b) Through the individuated passages route the *RF cable* from the dashboard leaving the faston outside**.** (Fig. 2)

Fig. 2

3.0 MOUNTING THE *ANTENNA SENSOR*

Thoroughly clean with alcohol or nitro solvent (be carefull not to use antiadhesive detergent) the inner surface of the bumper of the zone previously identified (see Fig.1) on which will be applied the antenna sensor.
Starting from the zone where there is the *RF cable* , start applying the adhesive aluminum tape (antenna sensor) practicing a good pressure to make it well adhere to the inner surface of the bumper *.

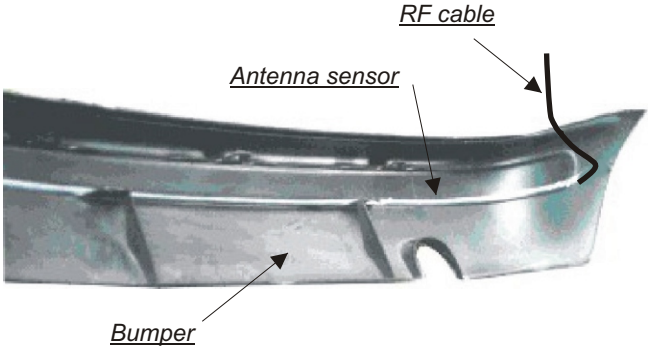


Fig. 3

When the *antenna sensor* has been attached, covering the whole of the bumper from left to right, you can cut off the excess length.Place a piece of the included *sticking material* at either ends of the *antenna sensor* to ensure a secure fixing onto the bumper surface. It is recommended (but not essential) to cover the antenna with a black anti-rust protection paint of the same type that is applied to the underneath of a car chassis or similar to protect from the elements (do not use silicon paste).

***NOTE:**

1) It is advisble to start and finish the application of the antenna sensor tape et about 15 cm from the both end of the bumper (Fig. 4).

2) The *sensor antenna* can not be applied on metal bumpers.

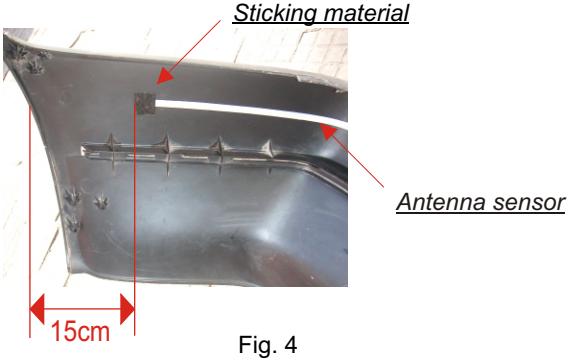


Fig. 4

Connect the fastoned *RF cable* to the *antenna sensor*. Apply a piece of sticking material on the connection and fix it on the bumper by a strong pressure (Fig. 5). If the ambient temperature is below 10 °C we recommend heating both the mastic and the sticking area on the bummper.

Replace the bumper and pull the wiring inside the driving cabin in order not to leave excess cable outside.

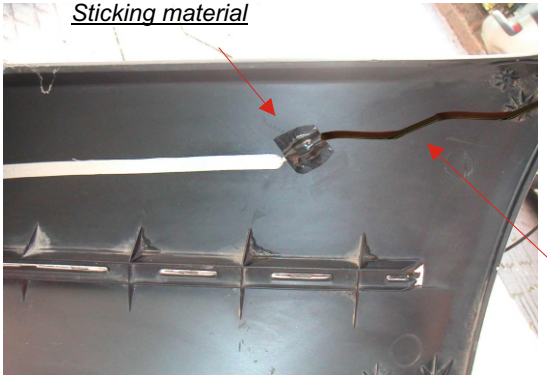


Fig. 5

4. ELECTRICAL CONNECTIONS

a) The central unit has to be fitted on the inside of the vehicle under the dash board in the more convenient place where the *RF Cable* has been routed.

b) Connect the black wires of the harness to the negative pole and the red to a 12 Volt subkey cthrough the ***push-button*** activation, (the system is so activated pressing the button).

c) Connect the twin wires black cable of the harness to speaker placed in any place where you can easily hear it.

d) Insert into the ECU all connectors in the proper position (see Fig. 6)

Some vehicles are equipped with a metal crash protection bar insert facing the inside of the bumper. When this metal surface is too close to the inner surface of the bumper where you have placed the *antenna sensor*, the distance signal can be reduced .
To adjust the distance signaling is sufficient to change the dip-switch positions (see schematic on page 15). Recall that the sensitivity No 1 is the lowest and the number 4 is the largest.

The sensitivity that we recommend for most cars is the No. 2.

We suggest to carry out tests to determine the detection range, pointing out that increasing the sensitivity where it is not necessary, can cause more false alerts.

5. MOUNTING THE SPEAKER

a**)** Mount the EPS-DUAL FRONT speaker using the included adhesive mount in a proper place in order to ensure a good perception of sound by the driver.
b) Connect the *buzzer cable* to the *buzzer* through its plug-in connector.

6. FINAL TESTING PROCEDURE

a) Turn on the key, press the push-button. In a fraction of secon the control unit performs a check of the functionality of the system and, if everything has been done correctly, the transducer emits an acoustic sound of "OK" (one note). Once you have this signal the system becomes operational.

Possible problems and their solutions
1. If the acoustic transducer does not emit any signal check all the connections.
2. If the transducer emits an audible warning signal consisting of 2 notes (one high and one low) repeated 3 times) check the connections of RF cable.

b) Starting from about 1 meter away from the center of the bumper, slowly approach both hands to simulate a parking maneuver. At a distance of about 30/40 cm will be heard the first intermittent signals and then a contnuous higher frequency sound at about 10-15 cm from the bumper.

WARNING: For a correct simulation be carefull to reset the system every time you approach.

c) If the system shows to work regularly it is possible to fix definitely the bumper.

Note: EPS-DUAL FRONT *starts to give the signaling* ***only*** *when the vehicle is being approached to the obstacle; a fixed object in front of the bumper, for instance the hauls hook and a bull bar or the sides walls of a car box, is not signaled and it is not bothered the normal operation of the device.*

USER MANUAL

1.OPERATING PRINCIPLE

EPS-DUAL FRONT is an innovative parking sensor that uses low energy electromagnetic waves and is able to detect the approach of any kind of obstacle .
The activation of the device is obteined by pressing the activation button and confirmed by a signal of “OK". Once activated, the EPS-DUAL FRONT generates around the bumper, on which is installed, a protection zone (Fig. 6).
When any obstacle present in the protection zone tends to approach the bumper you will hear a series of beeps.

WORKING EXAMPLE

A) As soon as the EPS-DUAL FRONT is activated the control functionality of the system is carried out in a fraction os second.
In case of anomalies the speaker emits an audible warning signal consisting of 2 notes (one high and one low) repeated 3 times. If this happens check the antenna connection to the ECU.
If the control is **OK** you hear a signal of two notes in rapid succession to confirm the proper functioning of the system. If installed on the front bumper the **OK** signal consists of a single note.

B) When approaching an obstacle the system activates the acoustic signal at a distance between the bumper and obstacle (measured in the central area of the bumper) of about 30/ 40 cm with 2 types of sounds:

1) **an increase in sequence of "BIP" (alert)** when the obstacle comes close to the bumper at a distance between 15 and 40 cm measured on the middle of bumper**.**

2) **continuous sound at a more acute frequency (risk of contact)** when an obstacle is very close to the bumper (10-15 cm).

Note:

- *The device should be activated only during parking maneuvers.*

- *The distances will vary depending on the size of the obstacle and correspond to the central zone of the bumper; on the lateral edges the distances is less (see Figure 6)*

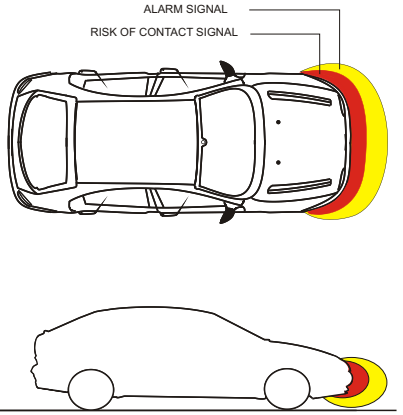
- *The alert occurs only when the vehicle is approaching an obstacle, a fixed object in front of the bumper is only detected after the first movement of approach.*

WARNING

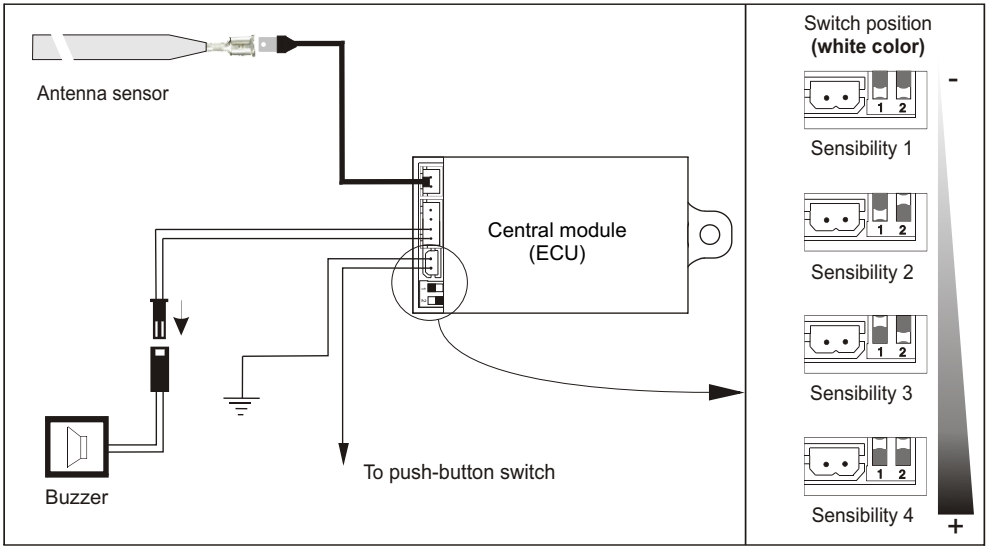
1. In presence of rain or high moisture weather, the system reduces his sensibility automatically in order to eliminate a part of false alarms that could be given by movement of water on the bumper.

2. As soon as the system is activated an acknowledgement of the surrounding of the bumper is made.
Consequently **it is very important**, during testing operation, not to switch on the system while you are very close to the central unit and antenna sensor in order not to have false information on the working capability of the system.

During the test you must also take into consideration the fact that, after the first approach to the bumper, any subsequent APPROACH without first reset the system , can give false interpretations of the functionality of the sensor due to special characteristics of the EPS-DUAL FRONT software specifically done to reduce false signaling in the rainy conditions.



(Fig. 6)



Block schematic

TECHNICAL CHARACTERISTICS

- Operating range from 9,5 to 18V
- Max current absorption 70 mA
- Operating temperature from -20 to +90 °C
- Averange distance to begin detection 70-80 cm

Push button

Buzzer cable

Buzzer

Cavo RF

Power cable

Antenna sensor

Central module
(ECU)

Sticking material

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