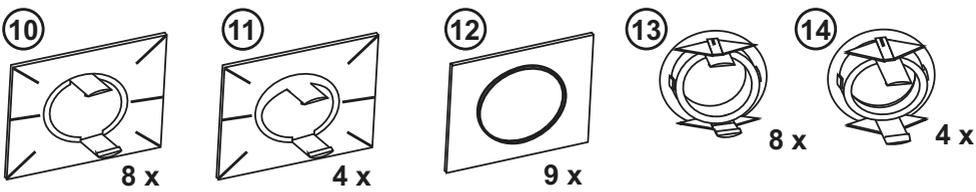
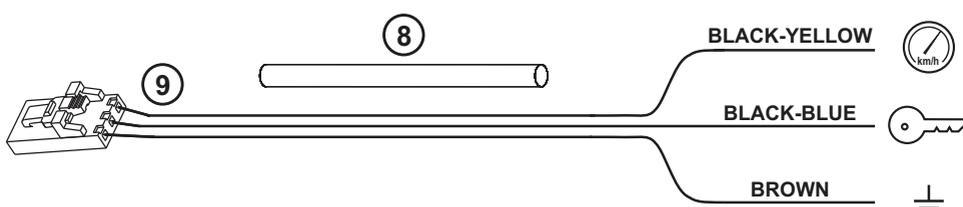
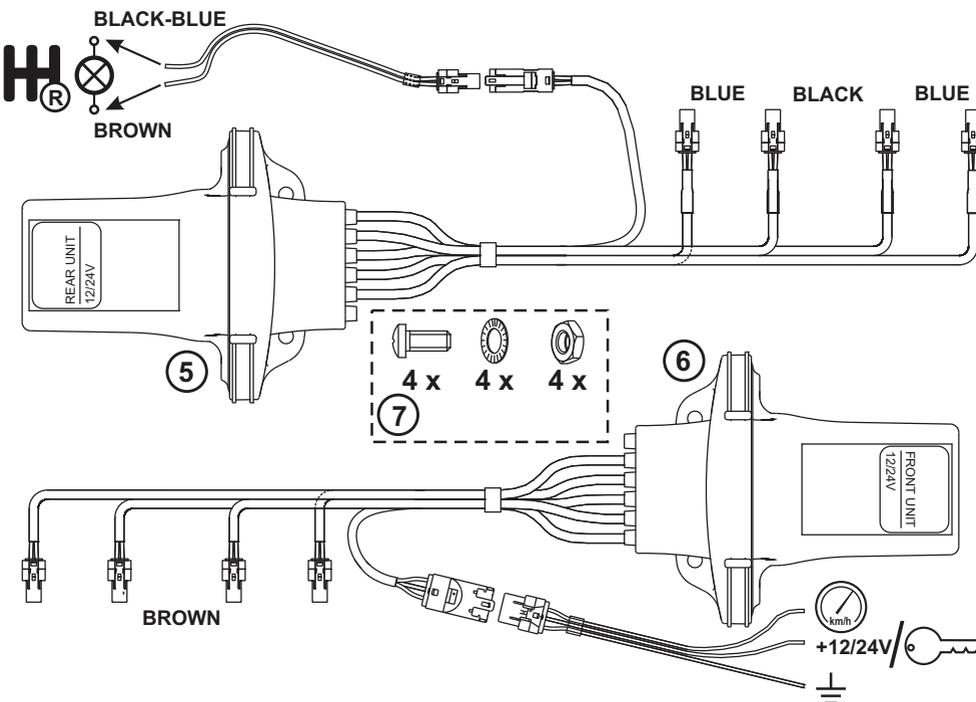
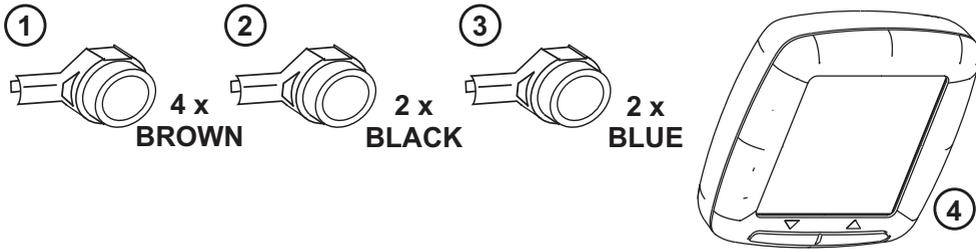


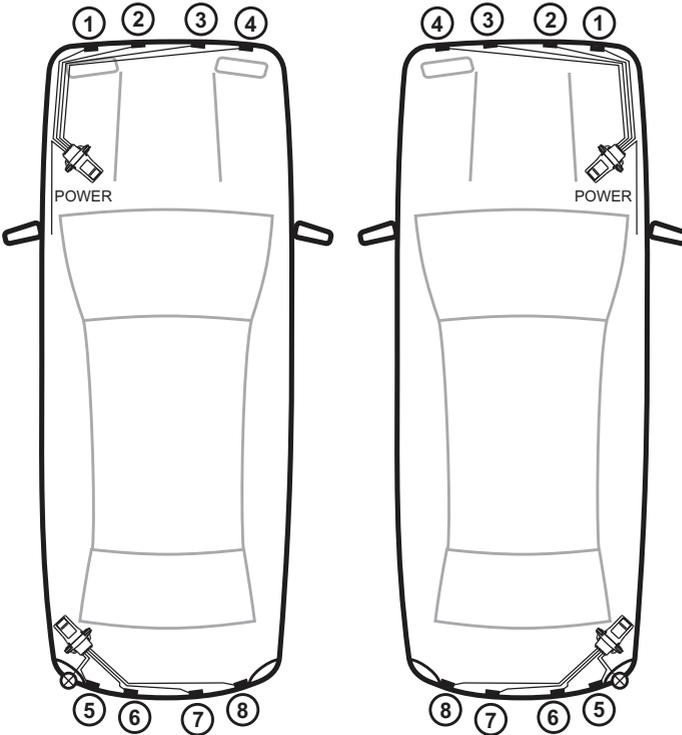
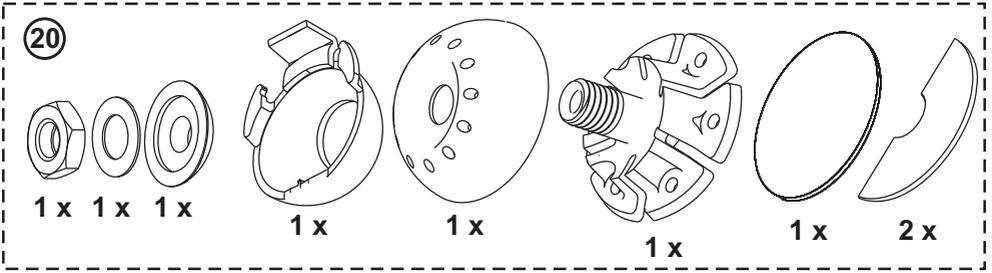
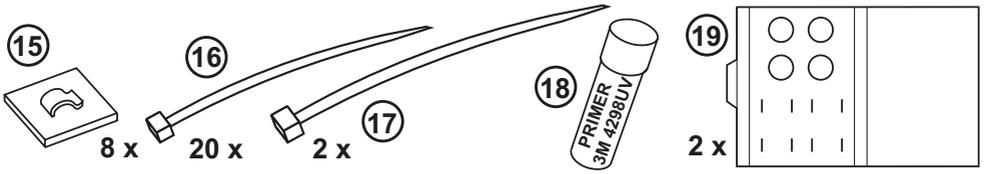


# **KIT Parking Sensor 818WH**

## **INSTALLATION AND USE MANUAL**

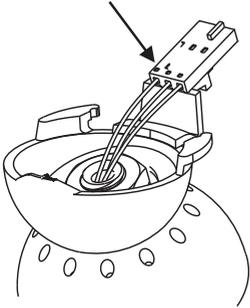
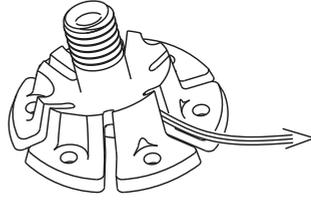
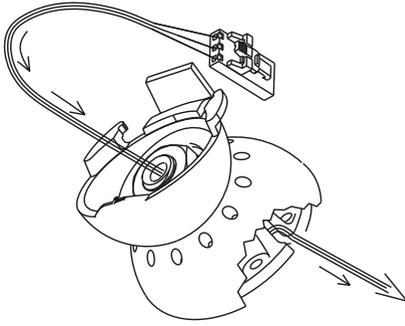




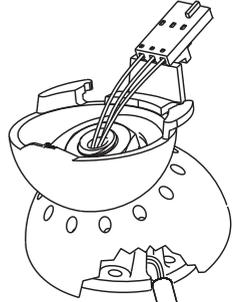


Sensor 1: front with shortest cable.  
 Sensor 4: front with longest cable.

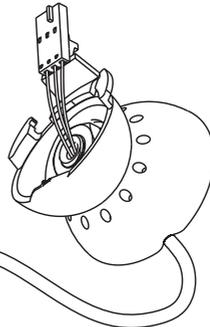
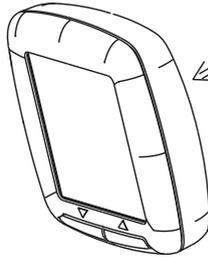
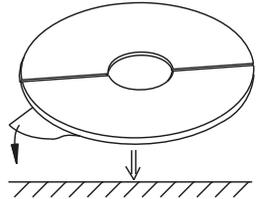
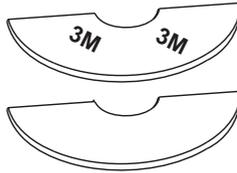
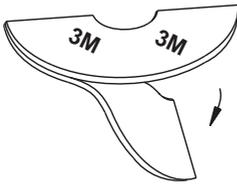
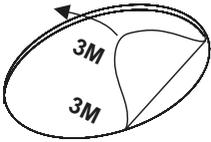
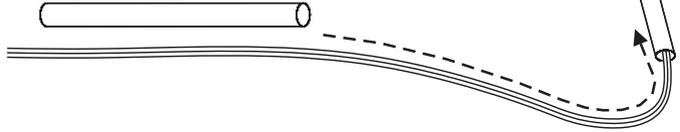
Sensor 5: rear with shortest cable.  
 Sensor 8: rear with longest cable.

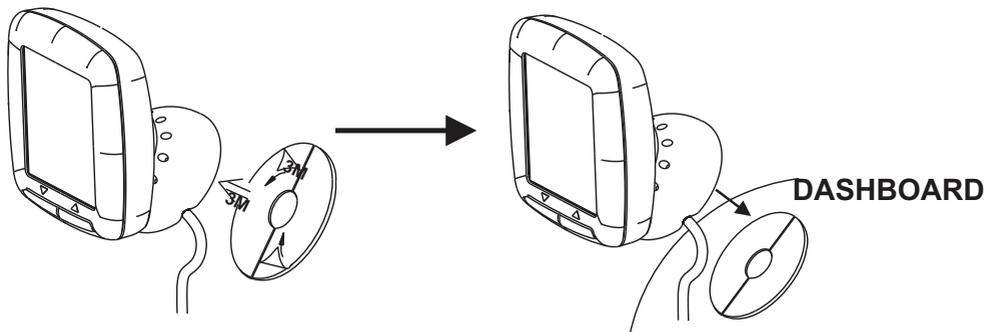
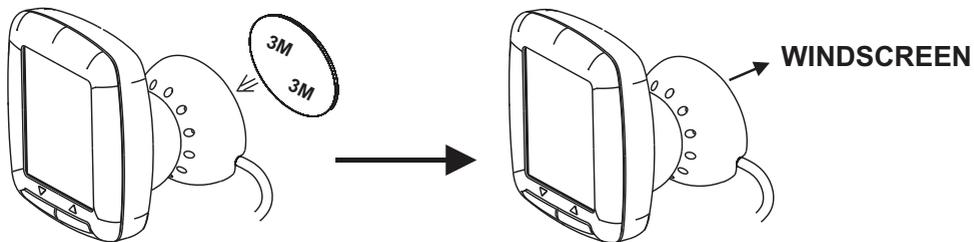


**CORRECT POSITION**

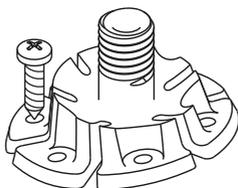


8





### ALTERNATIVE MOUNTING



### TECHNICAL SPECIFICATIONS

Supply voltage	9 to 30 Vdc
Current consumption - system ON	100mA max.
Service temperature range	-20°C to +70°C
Ultrasonic frequency	40Khz
Control units and display communication frequency	434Mhz
Software version (indicated on control unit and display)	SW06

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**1.0 - INTRODUCTORY NOTE**

Dear customer,

Before installing, identify your kit and refer to it for the correct instructions.

The Caution and Warning signs in this manual provide important notices for installing and using this product.

Be sure to follow them in order to ensure a safe and reliable use:



**For the user.**

This sign highlights useful information or indications regarding the use of the parking system.



**For the installer.**

This sign indicates various operating modes according to connections and programming of the system or it simply provides useful indications for the installation.

# USER MANUAL

## 2.0 - SYSTEM OPERATION



Remember to always look around the vehicle while parking.  
Small obstacles or objects with low reflectance might not be detected.



The parking system is only designed as a parking aid, it should not be considered to replace care and attentiveness while manoeuvring.



Rear sensors, when deactivated via the push-button on the display unit, will stay deactivated even when the system is reactivated (reverse gear engaged).

To reactivate them press the push-button.

Front sensors will operate according to connections and settings.

## 2.1 - DETECTION ZONES



Detection zones are indicated as "F" (front) and "R" (rear).  
Detection zones closest to the obstacle are indicated as "FC" (front) and "RC" (rear) and displayed as "STOP".

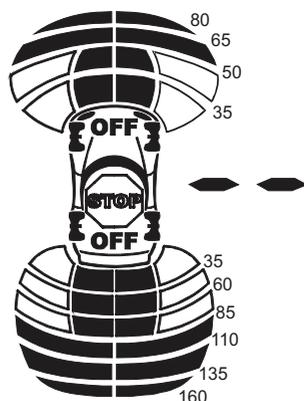
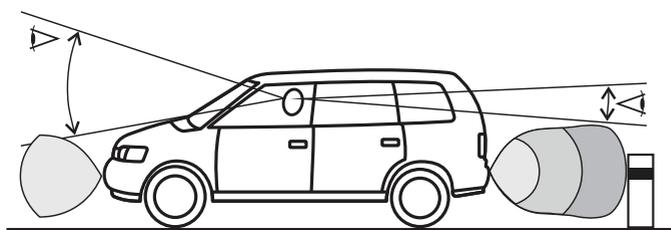
The STOP zone is the minimum distance detected between an obstacle and the sensor and the warning tone is solid.



Detection range and buzzer volume can be adjusted (see "setting of parameters") according to the customer needs and the vehicle on which the system is installed. The stage-by-stage sound alert will vary according to the distance and the detection zone (front or rear).



For the overall functionality of the system, check the programming of all the sensors, front and rear.



ZONE	DISTANCE
RC	35 cm
R1	60 cm
R2	85 cm
R3	110 cm
R4	135 cm
R5	160 cm

ZONE	DISTANCE
FC	35 cm
F1	50 cm
F2	65 cm
F3	80 cm

**CENTRAL SENSORS:** black zones.

**LATERAL SENSORS:** black contoured zones.

**CLOSEST DETECTION ZONE:** the STOP sign and the 2 symbols next to the vehicle icon turn ON. The distance indication turns OFF.

## **2.2 - REAR SENSORS**

The rear sensors are activated when reverse gear is engaged; an audible warning tone and the downward arrow icon that lights up on the display will indicate the sensors are active.

Obstacles are signaled by different audible tones and the lighting up of the relative detection zones and distance on the display.

The faster the beeping, the closer the obstacle; a continuous tone indicates the obstacle is extremely close to the bumper.

To deactivate the sensors (when reverse gear is engaged), simply press the button on the right hand side of the display; the "OFF" sign will light up on the bottom part of the displayed vehicle and the downward arrow will turn off to indicate the sensors are deactivated.

To reactivate them, simply press the same button.



Engagement of the reverse gear activates the rear sensors but also the front sensors if they are programmed to work on a "time-activation" basis.

## **2.3 - AUTOMATIC ACTIVATION OF FRONT SENSORS (odometer signal)**

Front sensors are activated whenever ignition is turned ON and are automatically deactivated when speed exceeds approx. 15 km/h.



On some vehicles, when speed exceeds 10 km/h, the icon may not be displayed even though the system is active.

The sensors can still be deactivated via the push-button.

In case of need (vehicles in queue), press the button with the upward arrow to deactivate the sensors. The "OFF" sign will light up on the displayed vehicle.

## **2.4 - TIME-ACTIVATED FRONT SENSORS (odometer not connected)**



To time-activate the sensors, a parameter must be modified (see chapter "setting of parameters").

When the setting is modified, the OFF sign will not be displayed when the left hand side button is pressed because the sensors will automatically activate when ignition is turned ON again.

The front sensors are activated by turning ignition ON; an upward arrow icon will light up on the display to confirm activation.

Operation is related directly to the setting of the parameters.

To deactivate the sensors, simply press the display left-hand side button; the upward arrow icon on the display will turn off.

By modifying front sensors time setting (function 13, preset time delay "0"), they will operate as follows:

- If, within the preset time, no obstacle is detected in front of the vehicle, the sensors will automatically deactivate.
- If, within the preset time, the obstacle is still detected, the sensors will remain active as long as the obstacle is detected and will deactivate 3" after detecting the last obstacle.
- If, after the front sensors have automatically deactivated, they need to be reenabled, simply press the left push-button.  
The sensors will automatically deactivate 3" after detecting the last obstacle.

## 3.0 - TROUBLESHOOTING GUIDE

### 3.1 - LOW POWER SUPPLY SIGNAL

If, when the system is turned on, the battery level is too low to guarantee the accuracy of the system, after a few seconds, the following icons will be displayed: vehicle, front sensors arrow icon and 4 front detection zones closest to the bumper.

The arrow and the detection zone icons will flash for about 8/10 seconds.

This will inform the driver that ALL sensors are deactivated and that he will have to carry out reversing and parking manoeuvres without the help of the sensors.

When nominal tension is restored, the rear sensors will start working normally.

To activate the front sensors, cut and restore supply to the front control unit (turn ignition off and on).

### 3.2 - FRONT SENSORS ANOMALY INDICATION

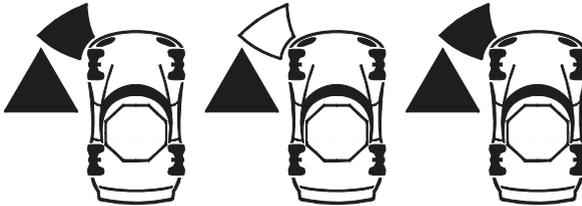
If one of the sensors turns out to be inoperative or disconnected, a few seconds after the control unit is turned on, the following icons will be displayed: vehicle, front sensors arrow and inoperative sensor (or sensors).

If parameter 13 has not been modified and is set to "0", the front sensors arrow and detection zones will flash as long as the control unit remains active.

If, on the other hand, parameter 13 has been modified, the front sensors arrow and detection zones will flash for about 8/10 seconds.

All other sensors will operate normally.

If one of the rear sensors turns out to be inoperative when reverse gear is engaged, the front sensors arrow and inoperative sensor (or sensors) icon will flash as long as reverse gear is engaged (and 8/10 seconds after reverse is disengaged).

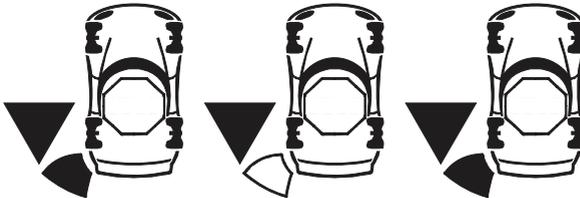


Front sensor 1  
inoperative;  
sensor icon  
flashes.

### 3.3 - REAR SENSORS ANOMALY INDICATION

If one of the sensors turns out to be inoperative or disconnected, a few seconds after reverse gear is engaged, the following icons will be displayed: vehicle, rear sensor arrow and inoperative sensor (or sensors).

The arrow and the icon relative to the inoperative sensor will flash as long as reverse is engaged; all other sensors will work normally.



Rear sensor 5  
inoperative;  
sensor icon  
flashes.

### 3.4 - OTHERS

POSSIBLE CAUSE	SOLUTION
Ice on sensors	Clean the sensors
Sensors mounted too low	Use the angle brackets (11 or 14) to tilt axe of sensors upwards
Back part of sensors in contact with frame	Create a separation between sensor and vehicle (at least 2mm)
Sensors detect external spare wheel	Modify setting of parameter 11

In areas with high RF disturbances, the antenna icon will light up on the display and a ticking sound will be heard.



If the disturbance affects the rear control unit, it will deactivate within a few seconds (the downward arrow icon will turn off).

If the disturbance affects the front control unit, it will deactivate within a few seconds (the upward arrow icon will turn off) but the continuous "STOP ZONE" alert will sound. Press the display left-hand button to stop the beeping and deactivate the sensors.

### 4.0 - SETTING SPEED AUDIBLE ALERT



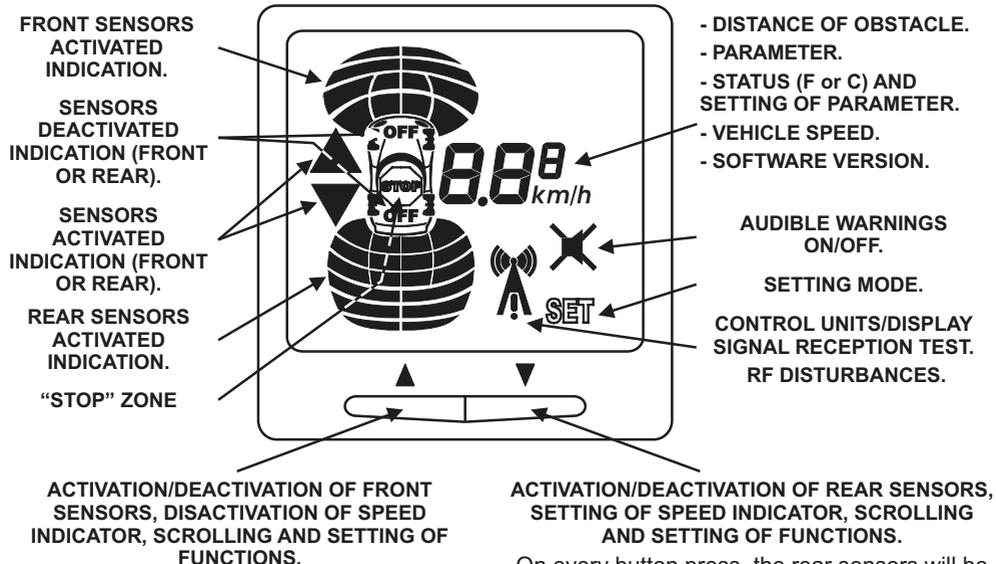
This procedure can only be done if the relative cable of the display wiring is connected to the vehicle odometric signal; check with your installer.

- Turn ignition "ON".
- Enter in programming mode (see chap. 13.0 and 14.0), select parameter 14, select value 2 and set it by keeping one of the two display buttons pressed for about 3 sec.; by activating this function the display and the speed value will light up every time speed exceeds 15 km/h.
- Turn ignition key "OFF" then "ON" and increase speed.
- Look at the speed displayed; when the required threshold is reached to set the speed audible alert, press the right-hand display button.
- A series of audible signals will then sound every time the vehicle exceeds the registered speed .
- To deactivate this function press the left-hand display button when speed exceeds 15 km/h; an audible signal will confirm deactivation.
- To reactivate this function and set a new threshold, press the right-hand side button (even if the speed is higher than the one actually set, the system will register this last value).

## 5.0 - DISPLAY



The following icons will be displayed according to operations.



On every button press, the front sensors will be activated/deactivated.

The upward arrow icon will be displayed when

On every button press, the rear sensors will be activated/deactivated.

The downward arrow will be displayed when the sensors are activated.

## 6.0 - WARRANTY CONDITIONS

This product is guaranteed to be free from defects in workmanship for a period of 24 months from the date of installation reported on this warranty, in compliance with the 1999/44/CE Warranty Directive (L. D. N° 24 of the 02/02/2002).

Please fill-in entirely the guarantee certificate and **DO NOT REMOVE** the guarantee label from the device. Warranty will become void if labels are missing or torn, if the installation certificate is not fully compiled or if the enclosed sale document is missing.

The warranty is valid exclusively at authorized Gemini Technologies centers.

The manufacturer declines any responsibility for eventual malfunctions of the parking sensors or any damage to the vehicle electrical system due to improper installation, use or tampering.

The parking system is strictly a parking assist device, it should not be considered to be a safety device for any purpose.

## 7.0 - WASTE ELECTRICAL AND ELECTRONIC EQUIPMENT (WEEE) DIRECTIVE

The present device does not fall within the scope of Directive 2002/96/EC on Waste Electrical and Electronic Equipment (WEEE) as specified in art. 2.1 of L.D. no. 151 of 25/07/2005.

# INSTALLER MANUAL

## 8.0 - FITTING OF SENSORS



To install the sensors on a metal bumper, you must use appropriate adapters (not supplied).

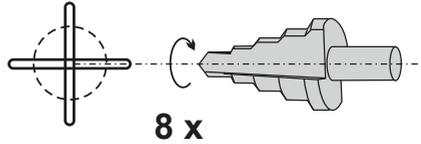
Choose the suitable type of plastic bracket and mark the center of the holes to drill. For brackets "10" drill 18mm diameter holes, for brackets "11" 22mm and for brackets "13" and "14" 24mm diameter.

Sensors and plastic brackets can be painted to match the color of your bumpers.

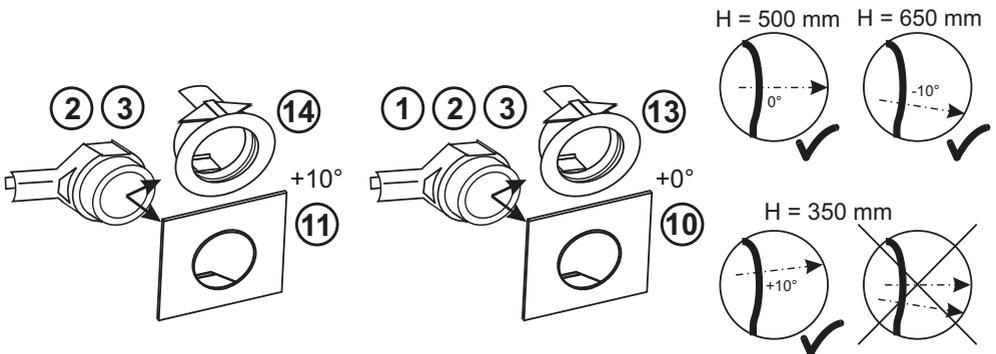
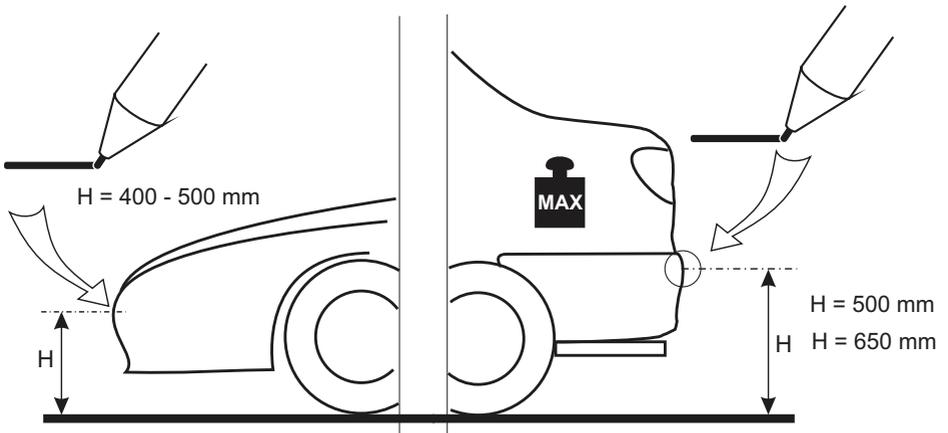
① ② ③ + ⑩ → Ø 18

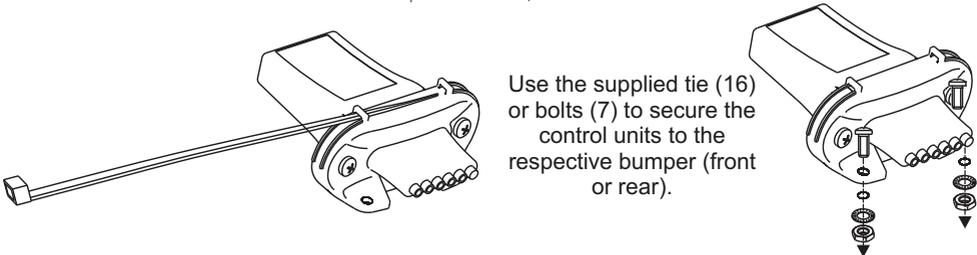
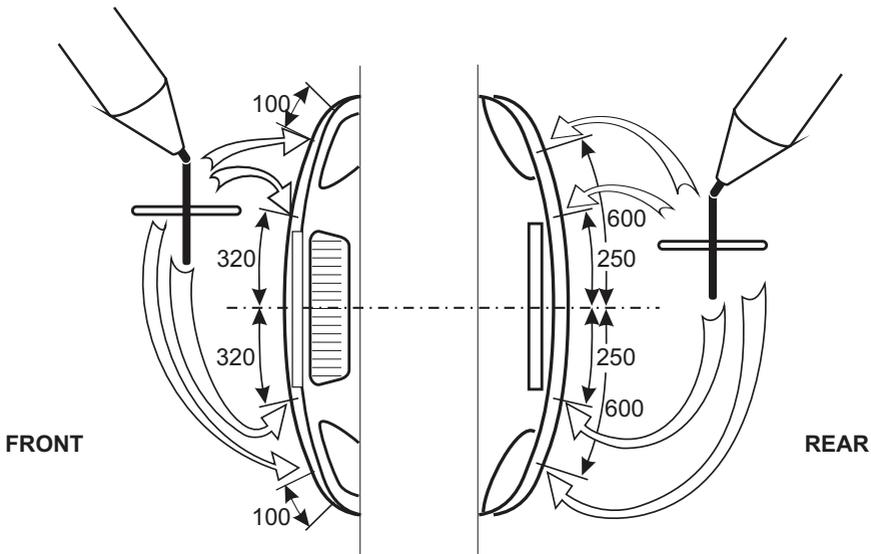
② ③ + ⑪ → Ø 22

① ② ③ + ⑬ ⑭ → Ø 24

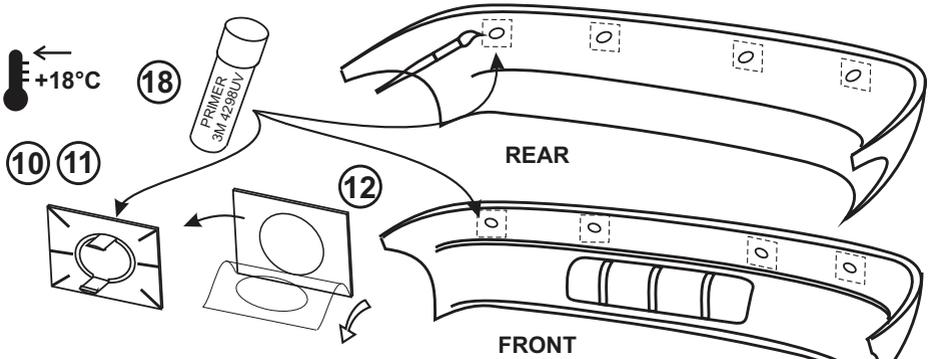


Before drilling, inspect behind the bumper to check for any possible obstruction such as iron struts and, in any case, be careful to avoid damaging parts behind the bumper.



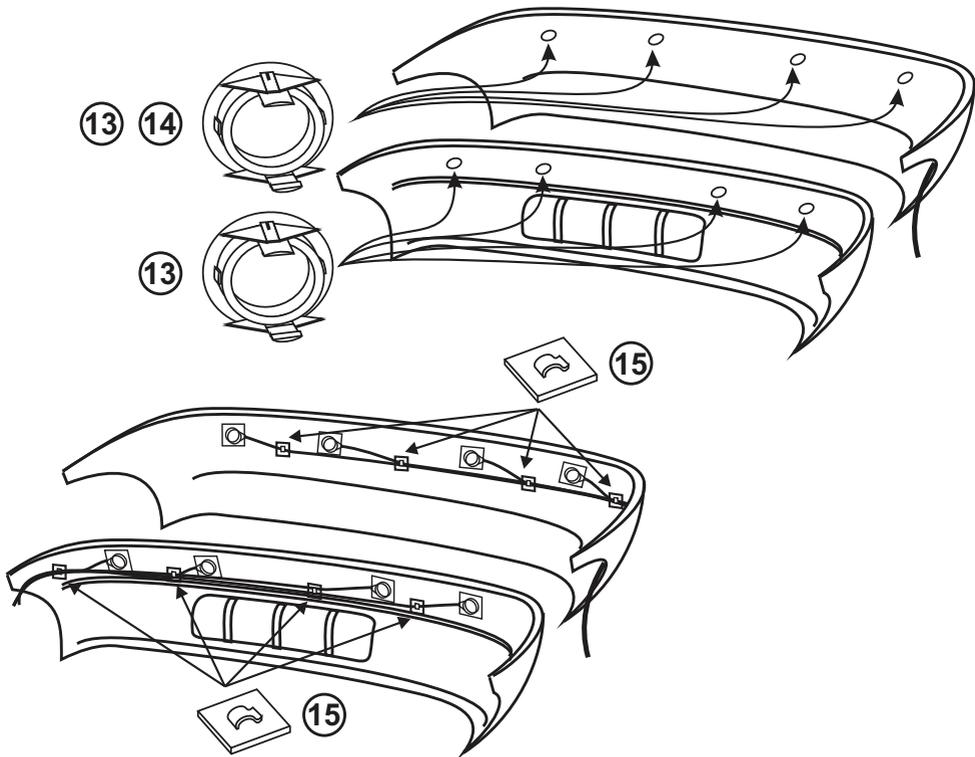


**!** Clean thoroughly the plastic brackets (10 or 11) and around the holes, apply "PRIMER" (18), let dry for at least 1 minute and then proceed as follows.



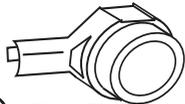
Remove the protective film from the adhesive (12) and apply to bracket (10 or 11) or snap the bracket in the hole from the outer part of the bumper as indicated in the next page.  
Position the plastic brackets so that the connector of the sensor comes out horizontally.

Snap the bracket (13 or 14) in the hole from the outer part of the bumper.  
 Position the plastic brackets so that the connector of the sensor comes out horizontally.



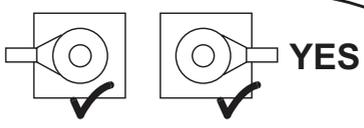
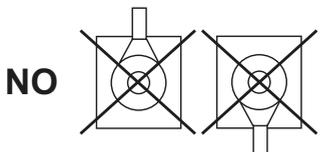
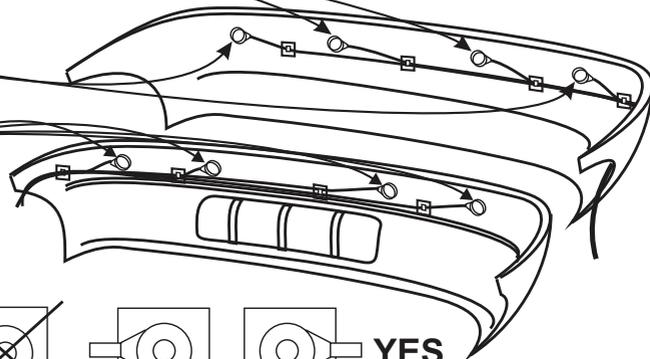
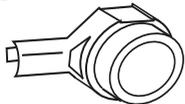
Install the BROWN sensors in the front bumper.  
 Install the BLUE sensors on the outer edges of the rear bumper  
 and the BLACK sensors on the center of the rear bumper..

② BLACK

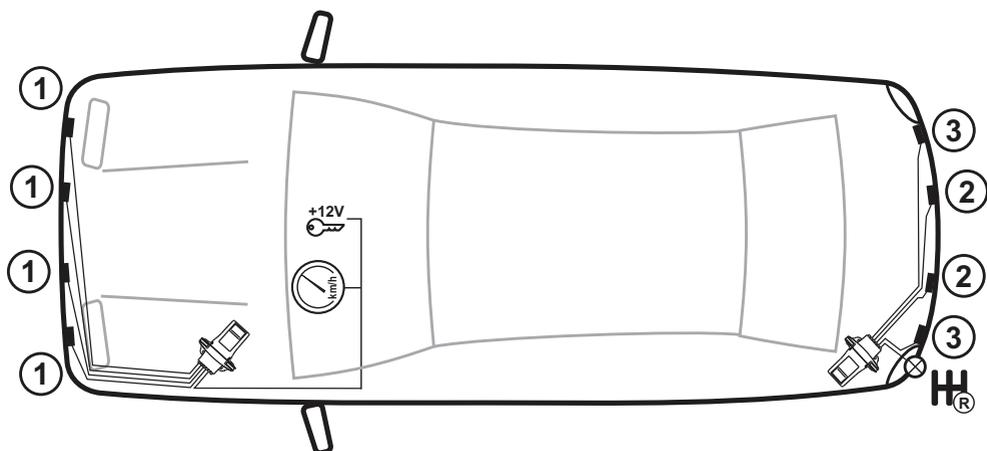


③ BLUE

① BROWN



## 9.0 - CONNECTIONS



Check wireless communication signal and length of the cables before proceeding with the final positioning of the accessories.

- Install the front control unit (6) in the front bumper away from heat sources.
- Connect the front sensors (1) and route the power supply cable inside the engine compartment or the vehicle cabin.
- Install the rear control unit (5) in the rear bumper away from heat sources.
- Connect the rear sensors (2 and 3) and route the power supply cable inside the vehicle luggage compartment.
- Mount the display unit (4) inside the vehicle cabin, in a dry place, away from eventual water infiltrations and heat sources where it can be easily seen during parking and reversing manoeuvres.
- Connect the BLACK-BLUE wire of the front control unit (6) to positive or to vehicle ignition.



If the power supply wire of the front control unit is connected to a permanent positive, before you start making the connection, read the instructions for pairing the control units with the display.

- Connect the front control unit (6) BROWN wire to the vehicle metal chassis (ground).
- (Optional) connect the BLACK-YELLOW wire of the front control unit (6) or of the display (4) to the odometer signal (see "setting of parameters" to program the control unit or the display and to adjust pulses).
- Connect the rear control unit (5) BLACK-BLUE wire to the positive pole of reversing light.
- Connect the rear control unit (5) BROWN wire to the vehicle metal frame (ground).
- Connect the display (4) BLACK-BLUE wire to vehicle ignition.
- Connect the display (4) BROWN wire to the vehicle metal frame (ground).
- Plug the 3-pin connector into the display.

## 10.0 - PAIRING CONTROL UNITS WITH DISPLAY



When pairing, make sure reverse gear is disengaged and no similar control units are activated in the surroundings.



Once the front control unit is powered, you will have 1 minute to pair it to the display. If more than 1 minute has elapsed, you must start the pairing procedure all over again (disconnect and reconnect the front control unit).

- Supply the display only.
- Supply the front control unit.
- Press and keep pressed for about 2 seconds the two buttons on the display.



If "E1" shows up on the display it means that there are other activated control units in the surroundings; move the vehicle or turn off the other control units.

- The front control unit has been successfully paired when the letters "LE" and the upward arrow light up on the display.
- Engage reverse gear and wait until the downward arrow lights up; this will confirm pairing of rear control unit.
- The pairing procedure is completed; parameters can eventually be modified according to needs.

## 11.0 - LEARNING ODOMETER PULSES (optional, only with display wire)



This procedure is useful when you do not know the number of odometer pulses and the display cable must be connected to the odometer.

This procedure must be used if the customer wants the speed alert feature.

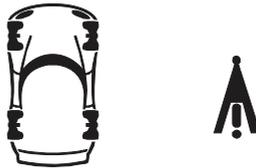
- Turn ignition "ON".
- Enter in programming mode (see chap. 13.0), select parameter 14, select value 3 and record .
- Turn ignition "OFF".
- Turn ignition "ON"; the speed displayed will be 50 km/h.
- Increase vehicle speed until it reaches the displayed speed. Press the left-hand button.
- If both speeds are identical, press the right-hand side button.
- The display will turn off until the vehicle reaches 15 km/h.
- The system automatically registers the number of odometer pulses per meter.
- If the reading is incorrect or the odometer signal is lost, "E3" will be displayed to indicate that the operation was unsuccessful. Turn ignition "OFF" then back "ON" and repeat the entire procedure.

## 12.0 - TESTING



To test wireless reception, control units **MUST** be connected one at a time.

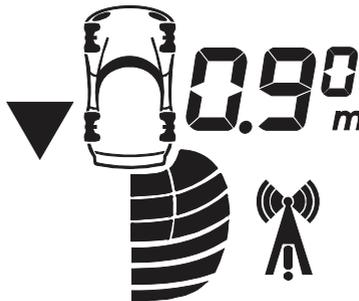
- Turn ignition key "ON".
- Press and keep pressed one of the two buttons on the display (4) until the system enters in programming mode; select parameter "14".
- Press and keep pressed one of the two buttons on the display (4) until the system enters in parameter setup.
- Select value "1" and turn ignition key "OFF".
- Turn ignition key "ON"; the vehicle and antenna (without the reception symbols) icons will light up on the display.



- Supply one of the two control units (in this example the rear one).
- The vehicle icon, the arrow indicating the activated control unit (rear) and the antenna with the reception symbol will be displayed.



- If necessary test the sensors; depending on the detection zone, the display will show the relative zones and distance from the obstacle.



- Cut the supply to the control unit being tested and, if necessary, supply the other unit and test.
- Once testing is completed, restore setting of parameter "14".

## 13.0 - PROGRAMMING



Only expert users should modify these settings to avoid malfunctions of the parking system.

- Disengage reverse gear and supply the display (turn on the vehicle).
- Press and keep pressed for more than 2 seconds one of the two buttons on the display; the previous programming mode will be displayed.

**0 1<sup>F</sup>** F: Factory, standard adjustment, "Factory parameters".

**0 1<sup>C</sup>** C: Custom, user-chosen adjustment, "Custom Parameters".

Press the left button to go to the next parameter. Press the right button to go back to the previous parameter.

**02<sup>F</sup>**

**15<sup>F</sup>**

When the parameter you want to modify is displayed, press one of the buttons and keep it pressed until the display starts to blink; at this point you can modify the parameter.

**80<sup>F</sup>**

Press the left button to increase the value of the parameter (the letter "C" will be displayed when parameter has been modified).

Press the right button to decrease the value of the parameter (the letter "C" will be displayed when parameter has been modified).

**90<sup>C</sup>**

**70<sup>C</sup>**

Press one of the two buttons on the control unit and keep it pressed for at least 2 seconds to register the value.

The display will stop blinking and the selected parameter will be displayed.

**0 1<sup>C</sup>**

Cut supply to the display (turn off the vehicle) to exit the programming mode.



To reset factory settings (F), press the two buttons on the display and keep them pressed for more than 2 seconds.

## 14.0 - SETTING OF PARAMETERS

Nr.	PARAMETER	RANGE	SETTINGS
01	Volume of buzzer	0, 1, 2 (Ref.1)	2
02	Detection range of front central sensors	50 - 95 cm	80
03	Detection range - Rear central sensors	120 - 180 cm (Ref.2)	160
04	Detection range - Corner sensors	50 - 95 cm	60
05	STOP zone - Front sensors	35 - 50 cm	35
06	STOP zone - Rear sensors	35 - 70 cm	35
07	Audible warning for front obstacles	0, 1 (Ref.3)	0
08	Mounting of front control unit	0, 1 (Ref.4)	0
09	Mounting of rear control unit	0, 1 (Ref.5)	0
10	Display colour	1, 2, 3, 4, 5 (Ref.6)	3
11	Suppression of spare wheel indication	0, 1, 2, 3 (Ref.7)	0
12	Number of speed signal pulses	1.0 - 25.0	3.0
13	Delay of front sensors deactivation	0 or from 10 to 60 sec. (Ref.8)	0
14	Service display (testing)	0, 1, 2, 3, 4 (Ref.9)	0
15	Connection of odometer wire	0,1 (Ref.10)	0

**Ref.1:** 0 = deactivated; 1= low; 2 = high.

**Ref.2:** the display having only 2 numbers, the range will be indicated as 20 and 80 instead of 120 and 180.

**Ref.3:** 0 = continuous detection of obstacles (only if vehicle or obstacle is moving), 1= continuous detection of obstacles (even if vehicle or obstacle is not moving).

**Ref.4:** 0 = standard detection (sensors position 1-2-3-4), 1= inverted detection (sensor position 4-3-2-1).

**Ref.5:** 0 = standard detection (sensor position 5-6-7-8), 1 = inverted detection (sensor position 8-7-6-5).

**Ref.6:** 1= red, 2 = green, 3 = blue, 4 = amber, 5 = white.



If a protruding part behind the vehicle (tow hitch, external spare wheel, etc.) creates false obstacle indications, gradually increase the value of parameter 11 until the right setting is reached. .

**Ref.7:** increase value (from 0 to 3) until the system no longer detects the external spare wheel or the tow hitch.

**Ref.8:** by setting 0 the system can only be deactivated via the display left-hand side button; automatic deactivation occurs when speed exceeds 10 km/h (operation via the odometric pulse). By setting a different value, the sensors are deactivated according to the set time delay and if there are no obstacles in front of vehicle).

**Ref.9:** 0 = deactivated, 1 = wireless communication test, 2 = speed indication and activation of "speed audible alert", 3 = self-learning of speed pulses, 4 = software version indication (small number on display).

**Ref.10:** 0 = connection of display cable, 1 = connection of front unit cable.



**Aftermarket Vehicle Solutions Limited**

7 Dudley Court , Jessop Close, Clacton-on-Sea, Essex, CO15 4LY

TEL: +44 (0) 1255 434353

Email: [sales@avsgemini.com](mailto:sales@avsgemini.com) | Web: [www.avsgemini.com](http://www.avsgemini.com)

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