



OES/AM parking assistance systems

0390 – Park Master product platform

Vodafone
Power to you

Parking assistance systems provide effective aid during low-speed manoeuvres as they alert the driver to unseen obstacles behind or in front of the vehicle, preventing collisions with objects or persons and the consequential damage.

Vodafone Automotive's special focus on road safety issues has led to intense research and development activities in this field. The result is a significant enhancement of performance, reliability and design aesthetics.

The 0390 parking assistance systems come with small diameter (17mm) "flush mount" ultrasonic sensors, which can be installed from the inside of the bumper and adjusted to suit its thickness, so that they have a smart OE look, even if retrofitted. This is possible thanks to a unique design solution, for which Vodafone Automotive has filed a European Patent application. The sensors can be mounted on front or rear bumpers and painted to match the colour of the vehicle body.

Deriving directly from OEM/OES application experience, the compact and high performance central unit includes a number of additional features such as advanced human machine interface (HMI) capability: serial line available for future applications including connection to infotainment systems and HMI display devices.

Description

A parking assistance system that senses the presence of obstacles behind or in front of the vehicle during low-speed manoeuvres and warns the user with audible signals.



Key features

- The standard kit configuration consists of a control unit, a loudspeaker and two or four ultrasonic sensors, along with the necessary wiring harness.
- The front parking assistance system detects obstacles in front of the vehicle starting from 70cm; the rear parking assistance system detects obstacles behind the vehicle from 160cm.
- The frequency of the warning signals increases as the vehicle gets closer to the obstacle. When the obstacle is in the maximum alert zone (less than 30cm from the vehicle) the beeps turn into a constant tone.

Benefits

- OE-style solution with a flush mount look, but easy clip-on installation to maintain the same easy procedure.
- For perfect finish, dedicated installation tools (punch tool and drilling tool) are available.
- Advanced HMI capability.
- Additional functions including output for "mute" function (to reduce the volume of the radio when the system is active), and negative input for tow bar (to optimise performance for customers using the tow bar occasionally).
- More activation/deactivation possibilities for the front system; reverse light (with time-out), odometer, and push-button.
- A number of configuration parameters can be changed without using the programming tool (volume, sensitivity, sensor distance).

Standard kit components (aftermarket)

- Control unit.
- Four or two rear sensors.
- Universal wiring harness.
- User and installation manuals.

Additional vehicle-specific kit components

(Development on request for OES applications)

- Dedicated wiring harness.
- Dedicated user and installation manuals.
- On/off switch (front parking system).
- Sensor painting.

Operation

Front parking assistance

Detects obstacles in front of the vehicle within a range of 70cm down to 30cm and warns the user with audible signals. The frequency of the signal increases as the vehicle gets closer to the obstacle. When the obstacle is in the maximum alert zone (under 30cm from the vehicle) the beeps turn into a constant tone. The range is adjustable via serial line by external tester.

Audio warning is complemented by visual indications if the relevant output is interfaced with an in-vehicle graphic display.

Engaging the reverse gear enables detection. When in full reverse gear is off, the system will remain active for 3 seconds if no obstacle is detected. If the odometer is enabled, when the vehicle's speed is lower than 20 km/h, the system will disable itself automatically as this speed is exceeded. Manual activation/deactivation is possible by means of a push-button switch. An LED output is available to signal the system status.

Rear parking assistance

Detects obstacles behind the vehicle starting from 160cm and warns the user with audible signals.

The frequency of the signals increases as the vehicle gets closer to the obstacle. When the obstacle is in the maximum alert zone (under 30cm from the vehicle) the beeps turn into a constant tone. The range is adjustable via serial line by external tester.

Audio warning is complemented by visual indications if the relevant output is interfaced with an in-vehicle graphic display.

Detection is activated automatically when reverse gear is engaged. Manual deactivation is possible by means of a push-button switch. An LED output is available to signal the system status.

A negative input is provided to avoid false signalling in case of tow bar presence.



Product data

Nominal operating voltage (VDC):	12
Operating voltage range (VDC):	8 to 16
Control unit operating temperature (°C):	-40 to +85
Current consumption rate (mA):	<20
Sensor dimensions (mm):	
• Thickness	0.75
• Bumper drill hole	Ø 20
• Sensor	Max Ø 22
Weight (g):	
• Control unit	52
• Sensor	15

Homologations

ECE-R-10 equivalent to 2006/28/EC Automotive EMC Directive.

Standard compliance

ISO 17386 Second Edition (MALSO).

