# OEM/OES parking assistance systems

0170 – 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.

This flexible product platform is designed for OEM/OES applications and is based upon one control unit able to manage both rear and front ultrasonic sensors. The sensors are defined as "active": The integrated electronics are able to obtain information about obstacles 2.5 times more accurately compared to the previous sensor generation. The system can be easily set up for optimal performance on every vehicle model thanks to the individual sensor configuration.

## 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 typical kit configurations consist of one control unit and four (rear or front only) or eight (front and rear) ultrasonic sensors, along with loudspeakers with the necessary vehicle-specific wiring harness and fitting hardware.
- The system detects obstacles in front of the vehicle starting from 70cm and/or behind the vehicle starting from 160cm.
- The frequency of the warning 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.

## Benefits

- Harmonious integration with the vehicle's bumper(s) thanks to small sensors, designed for simple clip-on mounting, and available in neutral (black), primered or painted options to match the colour of the vehicle body.
- Active sensors with integrated electronics, which ensure enhanced accuracy in detection and allow for individual configuration, so that the system can be easily set up for optimal performance on every vehicle model.
- CAN bus interface reads parameters such as the speed, the engagement of reverse gear and the presence of tow bars, from the vehicle's internal communication network.
- Full technical support from a team of experienced professionals for the development of make/model-specific kits (e.g. with dedicated wiring, fitting hardware, installation guidelines) and for the evaluation of the best performing setup parameters, that can be factory programmed in the control unit's EEPROM (quick and error-proof installation, no need to tune the equipment).
- Already tested and approved by major vehicle manufacturers.

## Kit components

- Control unit with make/model-specific factory setup.
- Four or eight active sensors.
- Loudspeakers.
- Push-button with integrated LED (for manual activation and deactivation of detection).
- Make/model-specific wiring harness.
- Make/model-specific user and installation manuals.

## Operation

### Front parking assistance

Detects obstacles in front of the vehicle from 70cm 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.

Detection is enabled when the vehicle's speed is lower than 20 km/h and disables itself automatically as this speed is exceeded (data provided by integrated odometer or vehicle's CAN bus). Manual activation/deactivation is possible by means of a push-button switch.

### Rear parking assistance

Detects obstacles behind the vehicle 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.

Detection is activated automatically when reverse gear is engaged. Manual deactivation is possible by means of a push-button switch.


## Product data

| | |
|---|---|
| Nominal operating voltage (VDC): | 12 |
| Operating voltage range (VDC): | 9 to16 |
| Control unit operating temperature (°C): | -40 to +85 |
| Current consumption rate (mA): | <50 |
| • When sending constant alert tone | <220 |
| Control unit dimensions (mm): | 86.5 x 75.6 x 25 |
| Sensor case dimensions (mm): | 47.5 x 15.3 x 18.5 |
| • External diameter | 23.6 |
| Weight (g): | |
| • Control unit | 80 |
| • Sensor | 15 |

## Homologations

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

## Standard compliance

ISO 17386 Second Edition (MALSO).