Dolphin
Parking Sensors

PARKING SENSORS

Protecting Your Pride

Auto Express BEST BUY 2010

Auto Express BEST BUY 2008

OWNERS MANUAL

CONTENTS

Contents	2
Introduction	3
General Installation Guide	4
Installation of DAS 400/450/470 DPS 400/450/455/470 DMS 400/450/455/470	5
Installation of DPS 400F/450F DMS 400F/450F	6
Installation of DMS 600/650/655	7
Installation of DMS 600F/650F	8
Installation of DPPK1/2/3/4	9
Installation of DPS400D & DPS400M	10
Troubleshooting	11
Spare Parts & Accessories	13
Technical Specification	14
Warranty	15

Important – Please Read

Dolphin Parking Sensors™ is a trademark of Trading Direct Ltd

Please note these products are designed as an aid to help you in your reversing and parking manoeuvres and are not a substitute for using your mirrors. Please drive within the limitations of the road conditions and your ability at all times. Trading Direct Ltd assumes no responsibility for any damage or injury howsoever arising from the use of this product.

INTRODUCTION

Thank you for choosing our Dolphin Parking Sensors™ We hope this manual helps you successfully install these award winning parking sensors so they provide many years of assistance in your parking manoeuvres.

Parking Sensors detect obstacles to aid your parking and enable you to get into those tight spots without damaging your car. Using Ultrasonic technology they emit a cone of sound behind your car, which bounces off the obstruction and returns to the sensor. The time taken for these sound waves to bounce off and return from obstructions behind your car is how they calculate the distance to the obstacle behind you. Sometimes referred to as radar or sonar, this is the same principle used for navigation by Dolphins at sea.

This manual covers a range of different Dolphin Parking Sensor™ kits so please refer to the section relevant to the system you have purchased. In an effort to provide our customers with the best possible product our range is always under a cycle of continuous improvement and development and therefore product specification is subject to change without notice. Therefore sometimes these instructions may not correlate 100% to the product you have purchased, for which we apologise.

GENERAL INSTALLATION GUIDE

The Dolphin Parking Sensors are designed for 12v vehicles with polycarbonate bumpers. Results cannot be guaranteed when fitting to metal bumpers and will not work when fitted to bull bars or other enclosed steel frames. In this instance we suggest using brackets for mounting under the bumper, which can be supplied direct by us if required.

The sensors should be installed between 40-70cm off the ground and between 30-40cm apart. Where possible they should be fitted level and evenly across the bumper for best results and overall appearance but the sensors will still work if this is not possible.

If in doubt or you have a potential issue with a tow-bar or rear mounted spare wheel we advise powering up the sensors off the reversing light feed or suitable battery power (a 9v square PP3 type will suffice to power individual sensors) and holding a sensor where you are planning to mount it, to see that its not detecting the obstacle in question before drilling the bumper. This is also advisable if you are mounting them rather low or if the bumper is angled down to the ground where you plan to install them.

Before drilling the bumper, check that there is clearance behind to house the sensors, which will require approx 25mm of depth before you reach any steel bars or fixing brackets. It is not always necessary to remove the bumper covering to drill the sensors, but you may find this easier in the long run. If you are unsure where to fit the sensors please check with your local car dealership or have a look on their forecourt to see where the sensors have been fitted on similar models.

Once you have decided on the location for your sensors we would recommend applying some masking tape or similar adhesive on which to etch the exact location for the drill bit and double check your measurements. This tape will then also hold the drill bit and remaining paint work in place. The correct drill bit will be supplied with the Dolphin Parking Sensor™ kit supplied which in most instances will be 21mm in diameter. When drilling do not push hard and force the drill bit, leave it to do the hard work.

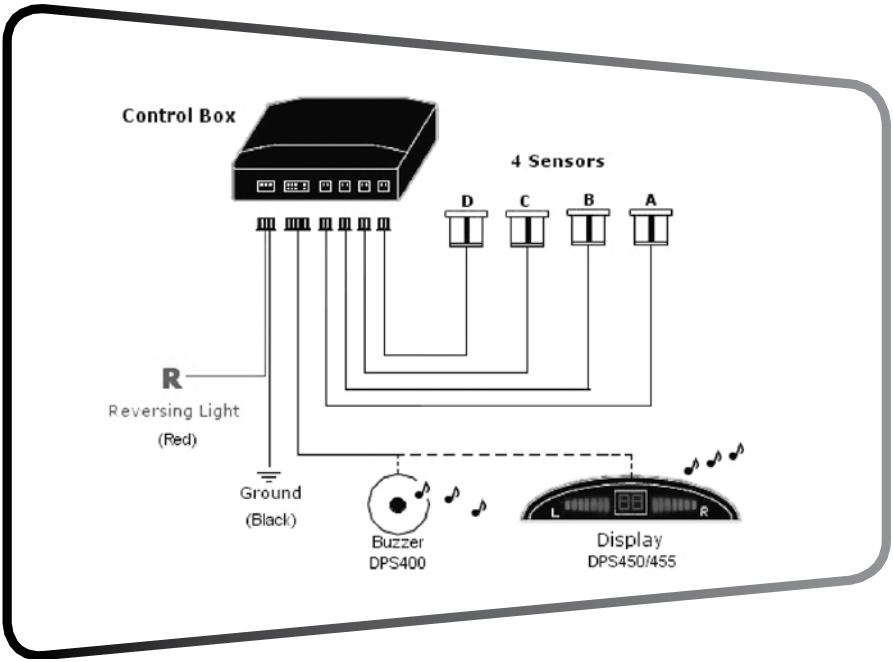
When you have drilled the holes pass the sensor cabling through and push the sensors into place. You may find two small holes or dots on the back of the sensors, and the sensor should be fitted with these dots aligned vertically. Foam padding is located on the sides of the sensors and this will adequately hold the sensors in place once fitted.

Generally, on the left hand side of the boot under the interior carpet lining, you will find a grommet with various cables passing through into the boot compartment. You should route the parking sensors to utilise this grommet and feed the sensor cabling into the boot compartment. Otherwise a small hole can be drilled into the side foot-well of the boot and secured using a rubber grommet or silicon sealant. Secure any excess cabling under the bumper with suitable retainers running spare cable back and forth in straight lines.

To power the system you will need to gain access to the back of the light cluster to identify the cables required. Please see the installation diagrams in the manual which refer to your particular model for the connections required. All connections should be made to the cables as close to the rear light cluster as reasonably possible. The circuitry of wires can be tested with a voltmeter or by skinning a bit of insulation off a cable to check it carries the correct voltage when required. Cables can then either be twisted onto this bare wire or connected using a suitable scotch lock connecter.

Most modern cars have Multiplexed or CANBUS wiring systems. Dolphin Parking Sensors™ can be fitted on such cars as you are just connecting in most cases for a 12v+ feed and Ground. Multiplexed wires carry coded information signals and should not be touched. In all cases we would advise against cutting any original wires on the vehicle.

INSTALLATION FOR 4 SENSORS
DAS400/450/470 DPS400/450/455/470
DMS400/450/455/470



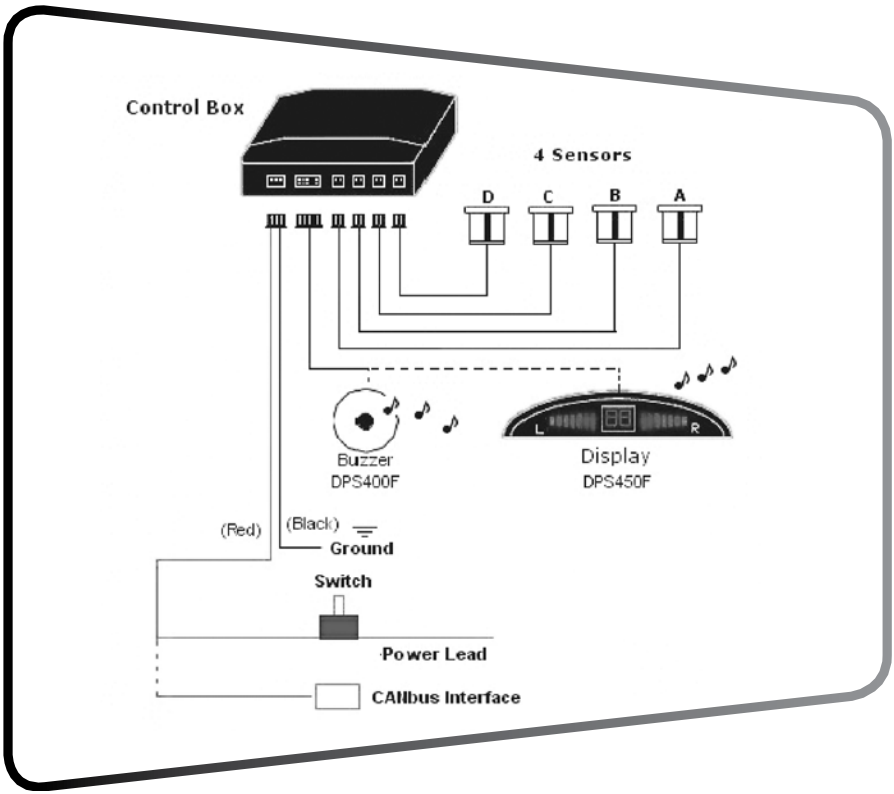
This diagram is for fitting 4 sensors at the rear of the car with the buzzer or display option.

For the 400 audio only buzzer models, this is plugged into the socket marked DISP. This is a loud buzzer and on most cars, certainly hatchbacks and estates, this can be mounted in the boot compartment and easily be heard at the front of the car.

If you have the 450 or a 455 display system the buzzer is built into the back of the display and is not a separate item. The display is on a 6m cable, the 450 display is designed to be mounted on the dashboard. The 455 display is both inverted and reflected so it can be read backwards through your reversing mirror and is designed to be mounted to the roof in the rear of the vehicle.

The 470 Wireless display also incorporates a buzzer. This comes with a cigar lighter plug on the end for quick and easy installation. If you wish this plug can be cut off and the lead 'hardwired' to the fuse box or an appropriate ignition switched power feed. The display will then always be live ready to receive a signal but will only come on when reverse gear is selected and a signal is received from the brain box in the boot. We only recommend hardwiring the display once the rest of the kit is fully installed and tested as working.

INSTALLATION OF FRONT SENSOR ONLY KIT DPS400F/450F DMS400F/450F

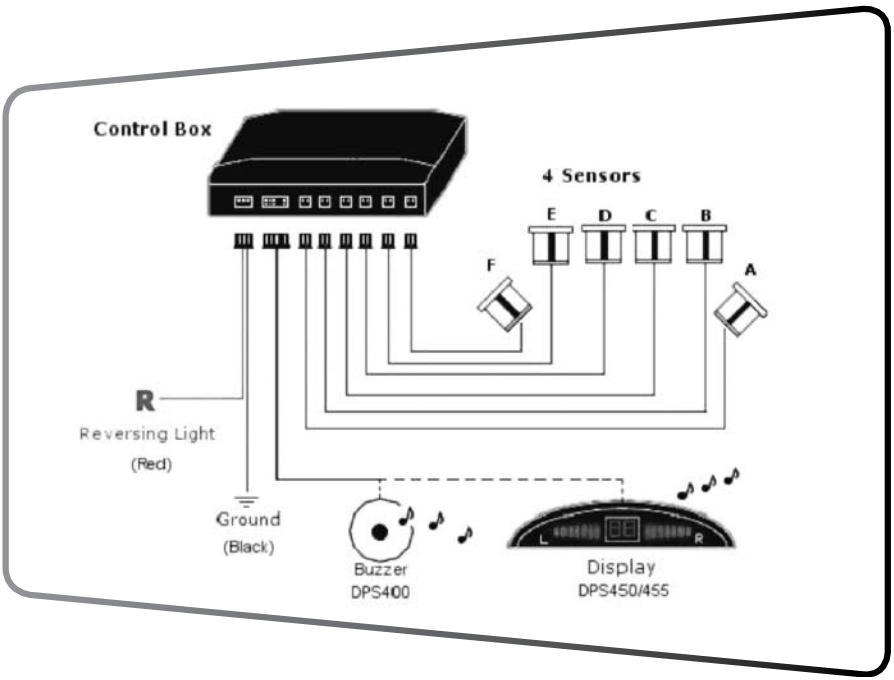


The 400F/450F is supplied with longer 6m sensors to fit around the engine bay. The sensor cabling should be run down the opposite side of the engine bay to where the battery is situated to avoid electrical interference. The Brain box should be mounted underneath the dashboard but away from the fuse box and anything else likely to cause electrical interference.

A rocker switch is supplied for you to manually turn the front sensors on as and when you need them. This should be connected to an ignition switched feed, that is a power source that is live when the car is on, such as the car stereo system. Alternatively you may like to visit your local car dealerships' parts department to get a blank switch that matches the design of the others on your dashboard.

Optionally if you have a modern CANBus wired car you may have additionally purchased (or can purchase, see Spares & Accessories) a CANBus interface that will take a speed reading for the cars engine management system and automatically bring the sensors on whenever your speed is below approximately 6mph.

INSTALLATION OF 6 SENSOR REAR KIT
DMS 600/650/655



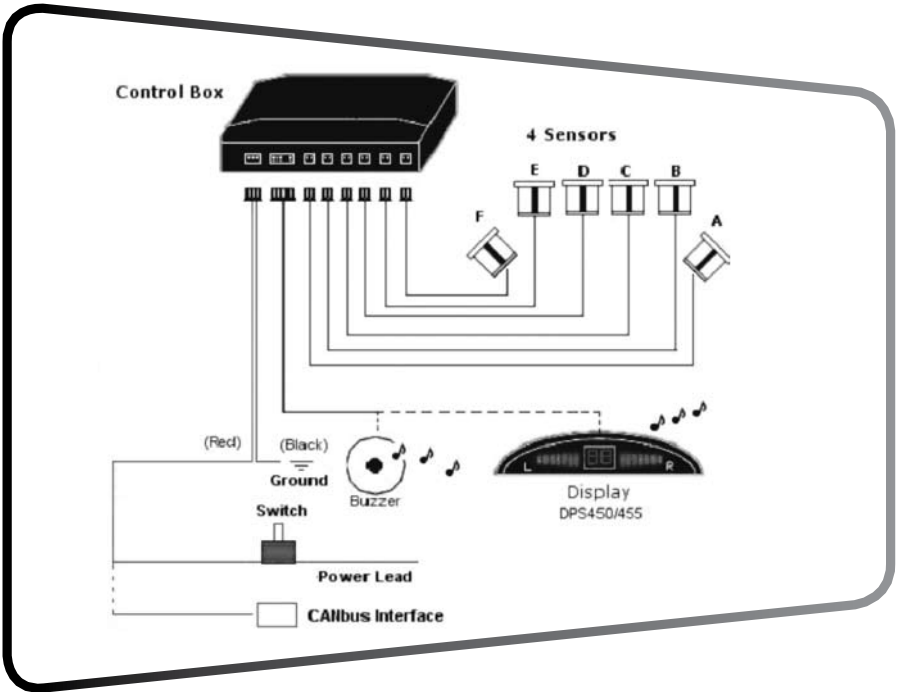
This diagram is for fitting 6 Micro sensors at the rear of the car with either a buzzer (DMS600), dashboard display (DMS650) or rear roof display (DMS655).

The Micro sensors have a slight angle moulded into them and should be fitted to face slightly up. The outer sensors A and F are less sensitive and are designed to be mounted on the sides of the bumper to cover the covers with the middle sensors B – E covering the rear.

For the 600 audio only buzzer models, this is plugged into the socket marked DISP. This is a loud buzzer and on most cars, certainly hatchbacks and estates, this can be mounted in the boot compartment and easily be heard at the front of the car.

If you have the 650 or a 655 display system the buzzer is built into the back of the display and is not a separate item. The display is on a 6m cable, the 650 display is designed to be mounted on the dashboard. The 655 display is both inverted and reflected so it can be read backwards through your reversing mirror and is designed to be mounted to the roof in the rear of the vehicle. Sensors A,B,C are relative to one side of the display and D,E,F the other side to indicate which side is closest to an object with a digital countdown in 10cm units in the middle of the display.

INSTALLATION OF 6 SENSOR FRONT KIT DMS 600F/650F



This diagram is for fitting 6 Micro sensors at the front of the car with either a buzzer, 600F, or dashboard display, 650F.

The Micro sensors have a slight angle moulded into them and should be fitted to face slightly up. The outer sensors A and F are less sensitive and are designed to be mounted on the sides of the bumper to cover the covers with the middle sensors B – E covering the rear.

The 600F/650F is supplied with longer 6m sensors to fit around the engine bay. The sensor cabling should be run down the opposite side of the engine bay to where the battery is situated to avoid electrical interference. The Brain box should be mounted underneath the dashboard but away from the fuse box and anything else likely to cause electrical interference.

A rocker switch is supplied for you to manually turn the front sensors on as and when you need them. This should be connected to an ignition switched feed, that is a power source that is live when the car is on, such as the car stereo system. Alternatively you may like to visit your local car dealerships' parts department to get a blank switch that matches the design of the others on your dashboard.

Optionally if you have a modern CANBus wired car you may have additionally purchased (or can purchase, see Spares & Accessories) a CANBus interface that will take a speed reading for the cars engine management system and automatically bring the sensors on whenever your speed is below approximately 6mph.

INSTALLATION OF DPPK1/2/3/4

These kits are combination packages to give you a range of options for front and rear sensors. For the installation of these packages please see the pages which are relevant to the kits that make up your DPPK system as follows.

DPPK1

Rear: DPS400

Front: DPS400F

DPPK2

Rear: DPS450

Front DPS400F

DPPK3

Rear: DPS455

Front DPS400F

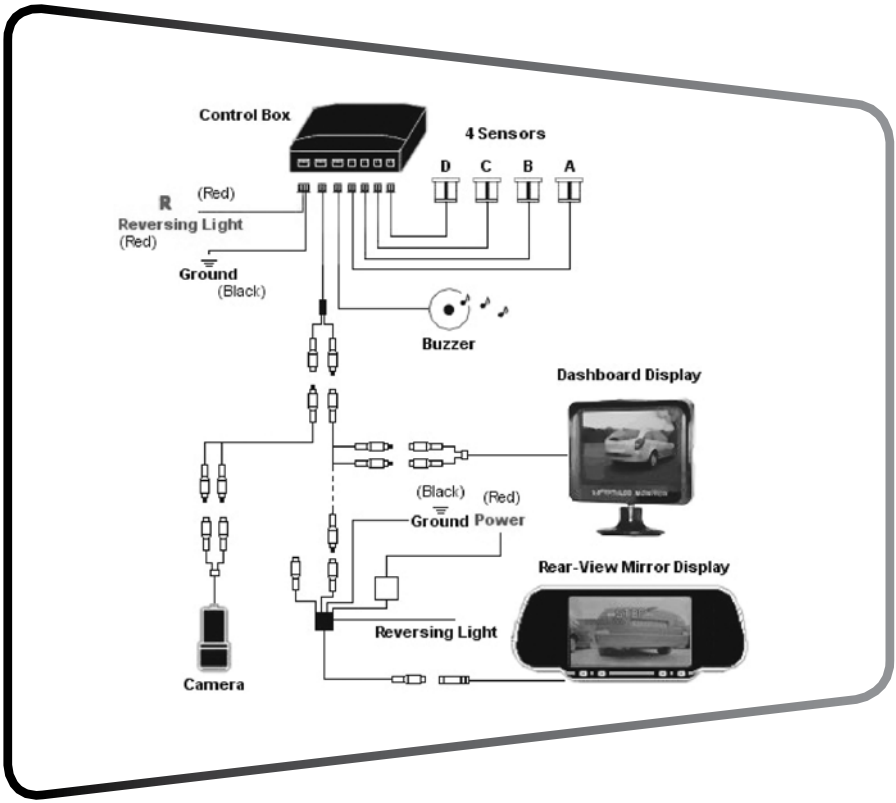
DPPK4

Rear: DPS455

Front DPS450F

If you have also purchased a relay or CANBus module for the front sensors please refer to the separate instructions supplied with the parts for their installation.

INSTALLATION OF SYSTEM WITH REVERSING CAMERA & MONITOR DPS400M / DPS400D



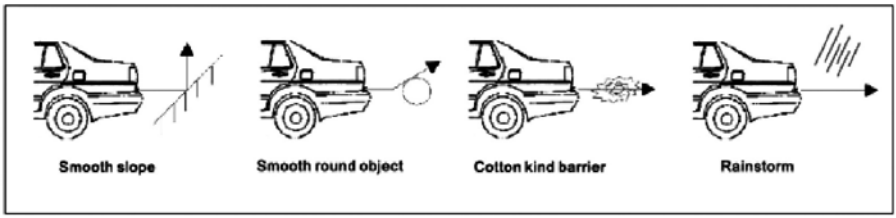
The above diagram shows the DPS400M rear-view mirror display option but this is also available with a dashboard mounted display option, DPS400D. A digital distance read-out the same as shown of the display models DPS450/650/850 is also overlaid on top of the picture of what is behind you.

The monitor needs to be powered from the interior light feed or other power source from the front of the car and can be connected to a reversing light feed to trigger. The Dashboard Monitor can be powered from the wiring of the control box or it can be powered independently. The buzzer is separate on this system and can be mounted in the rear of the vehicle. This is a loud buzzer and on most cars, certainly hatchbacks and estates, this can be mounted in the boot compartment and easily be heard at the front of the car.

Please note the camera is a different size to the sensors and separate drill piece is supplied for the camera. Make sure you drill the holes for the sensors with the correct sized drill piece.

TROUBLESHOOTING

FAULT – Detection range is not as expected
Some surfaces are more absorbent and less reflective than others and you will get a better signal off cars and walls than bushes and railings where the detection range may just kick in at a closer distance. If testing the sensors by walking towards them your clothes will absorb some sound waves and better results can be achieved by holding a couple of large books or folders under each arm face-on to the sensors.



FAULT – Constant tone alerts when parking sensors are activated.
This could be due to one of the sensors having developed and fault or kink in the cable causing a short circuit of the signal. To test this activate the sensors so the fault is present and then unplug each sensor one at a time from the brain box. If the fault disappears with one of the sensors unplugged then the sensor is faulty, please contact us for a replacement.

FAULT – Unit appears dead.
Check the power source is sending a live feed. Check and try an alternative source for the ground/earth connection. If these appear OK then it could simply be a faulty buzzer or possibly the brain box, if which case contact us for a replacement.

FAULT – Rear sensors work OK but no signal from front sensors (or vice versa).
Check brain box is wired correctly as follows. Red: Ignition, Black: Ground, Yellow: Reversing Light, Blue: Brake Light. Check that the parking sensor cables do not run close to the car battery which generates an electrical field which could be 'drowning' out the signal. Swap one or more rear sensors (ABCD) with front sensors (EFGH) in the brain box. If the front sensors now work but the rear ones do not, then there is a fault with those terminals on the brain box, contact us for a replacement.

FAULT – Constant slow bi—bi—bi received from sensors.
They are probably fitted too low or angled too low to the ground. Fit the supplied angled wedges to lift the sensor heads up slightly.

FAULT – Parking sensors work fine when the engine is off, but not when the engine is on.
This is usually the sign of interference on CANbus wired cars, usually with such things as bulb failure warning systems. You will need to fit a relay, see Spare Parts & Accessories.

FAULT – Parking sensors are working but I am getting an occasional bleep for a second at fairly constant time intervals.
Parking sensors are probably getting a build up of static electricity, which disperses and causes a bleep for a second. The usual cause for this is spare sensor cabling being bundled up into a ball generating an electro-static build-up.

FAULT – The front parking sensors appear to occasionally come on when I am driving.
If you have a front and rear parking sensor system (DPS600/800 range) the front parking sensors are designed to come on and stay on for a period of 20 seconds after touching the foot brake. In this time period it is possible to get alerts if the density of the road surface under the car should change, if you should come across a man-hole cover in the road for instance, or if there are puddles forming in heavy rain or you are driving in snow and ice. This operation is quite normal.

FAULT – DAS470/DPS470 Wireless System Seems Dead.
To diagnose the potential issue first power up the display. If this is working properly you should get a beep and a flash of lights on the display to confirm its active, it will then go silent until a signal is received. If you do not get this then check its powered correctly if 'hardwired' or that power is coming from your cigar lighter socket, on some vehicles you need to start the engine to energise the cigar lighter socket.

If the display is working then check the brain box is correctly wired for power and its not situated near a battery or fusebox or something else that could be blocking the wireless signal. Some cars and other vehicles have a cigar socket in the boot that could be used to test the display closer to the brain to see if it's a signal/distance issue. This can happen on campervans/motorhomes or long wheelbase vans with bulkheads. If you have identified a faulty part please contact us for replacement.

FAULT – DPS/DMS 450/455/470 – Display works but there is no sound. There is a small on/off switch on the top of the display, this may have been caught and knocked into the off position.

SPARE PARTS

Spare Sensors - £14.99
Please specify colour and length when ordering.

Spare Wedges - £4.99
Please specify colour required when ordering.

Spare Audio Buzzer - £9.99
Please specify model required when ordering.

Spare Display - £14.99
Please specify model required when ordering.

Spare DPS400/450/455/470 Rear Brain Box - £14.99
Please specify model required when ordering.

Spare DPS600/650 or DPS800/850/860 Front & Rear Brain Box - £19.99
Please specify model required when ordering.

ACCESSORIES

Automatic Gear Box Relay - £14.99

Some automatic gearboxes require you to pass reverse when moving from Parked to Drive for example which can cause the parking sensors to give a momentary bleep. This relay delays the power going to the parking sensors for a second to stop this happening.

Bulb Failure Warning Relay - £9.99

Some cars have a bulb failure warning system which pulses the lights to test they are working. In a few models this can be a strong signal which causes the sensors to give false alerts. If your parking sensors work in first stage ignition but not when the engine is running in particular then this relay solves the problem.

Front Parking Sensor Switch - £14.99

When fitting front sensors most people would operate them manually with a switch which our dedicated front kits come with. However this device will automatically power the front sensors to come on after you come out of reverse gear for 30 seconds. Designed for use with DPS400F and DPS450F kits.

CANBUS Interface Module for Speed Pulse Reading - £49.99

Compatible with most modern cars (please contact us to check your model), this interface will pick up a speed signal enabling the front sensors to be automatically switch on when your driving below approx 6mph. This system is designed for the DPS400F & DPS450F kits particularly when used as part of the DPPK combined front and rear kits. Can also be used with the DPS600/650 and DPS800/850/860 models.

24V / 12V Converter - £14.99

This enables you to fit our 12v parking sensor kits on 24v powered vehicles. Compatible with DPS400/450/455/470 and the DPS400F/450F kits.

TECHNICAL SPECIFICATION

Voltage	12V DC
Power	3.6W
Frequency	40KHz
Working Temperature	-20ºC to 70ºC
Detecting Distance	0.3m – 2.0m (see table below)
Detecting Angle	H›60 V›60
Frequency	315MHz / 433MHz
Size of Processor	96mm x 68mm x 26mm
Size of Ultrasonic Recess Sensors	25mm x 22mm
Diameter Size For Drilling - Standard	21mm (Drill Bit Supplied)
Diameter Size for Drilling - Micro	18mm (Drill Bit Supplied)
Length of Rear Sensors Cabling	2.5m
Length of Front Sensors Cabling	6m
Size of Buzzer	59mm x 40mm x 17mm
Length of Cabling for Buzzer	2m
Size of DPS650/850 Display	100mm x 20mm x 26mm
Length of Cabling for Display	6m
CMOS Camera Angle	120º

Stage	Distance	Awareness	Alarm
1	200 - 160cm	Safe Mode	No
2	150 - 100cm	Awareness Mode	Bi---Bi---Bi
3	90 - 50cm	Alarm Mode	Bi--Bi--Bi
4	40 - 30cm	Danger Mode	Bi-Bi-Bi
5	30 – 0 cm	Stop	Bi------

WARRANTY

Trading Direct Ltd gives a lifetime warranty to the original purchaser that the system will perform substantially in accordance with the accompanying written materials for the duration of ownership of the car it's fitted to. This is a parts only warranty on a repair or replacement basis of like for like. The Dolphin parking sensor kits are designed for Do-It-Yourself DIY installation and we cannot be held responsible for any 3rd party installation or re-installation costs howsoever arising.

The Dolphin Parking Sensors™ are compatible with all cars of the European market and their installation cannot cancel or modify the guarantee conditions of the car.

If your unit fails to perform as specified in these instructions then please contact us via the details below so we can diagnose your particular issue and send out the required replacement parts:

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Manual Version 1.4