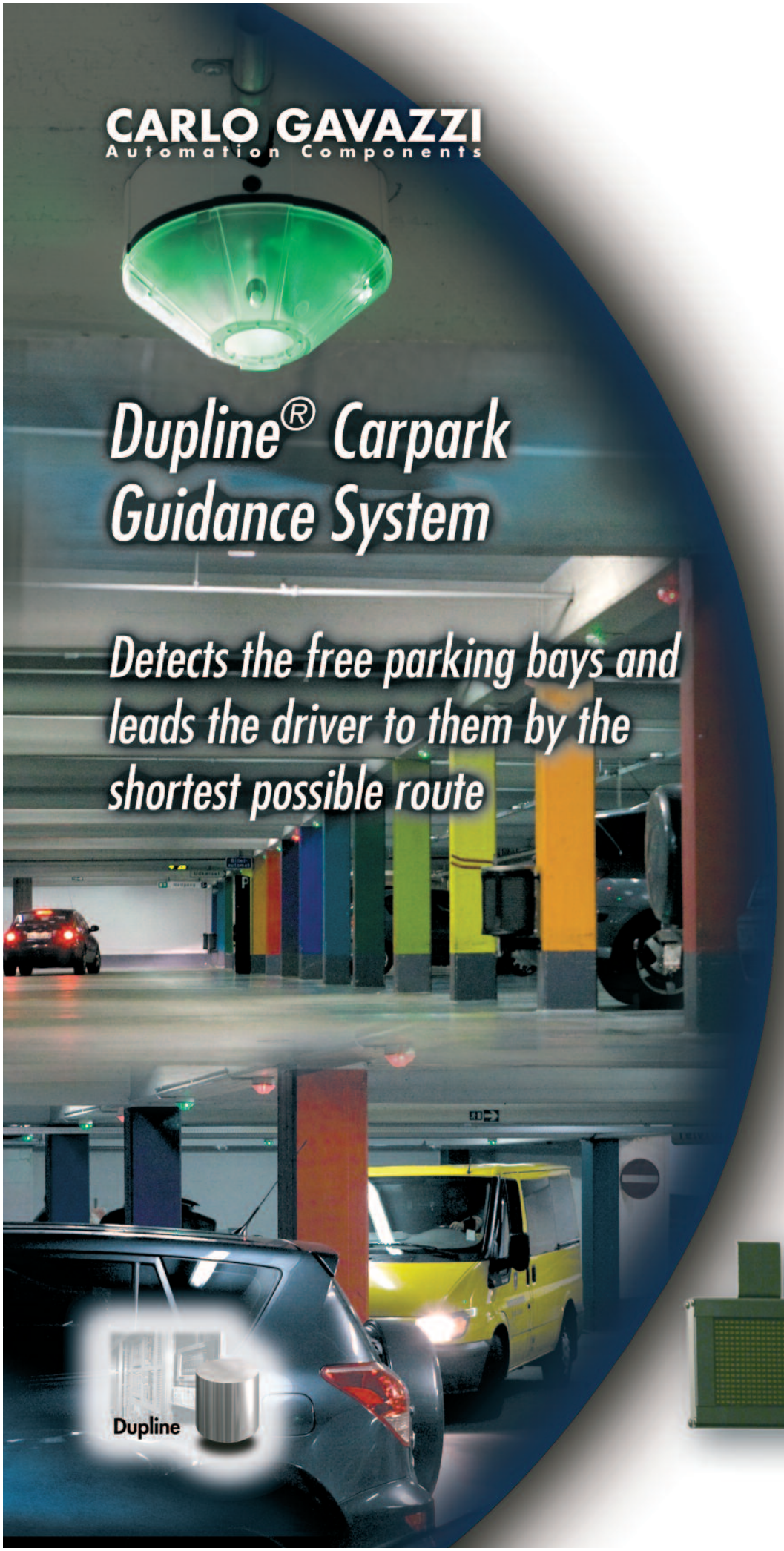
CARLO GAVAZZI
Automation Components

CARLO GAVAZZI

Dupline® Carpark Guidance System

Detects the free parking bays and leads the driver to them by the shortest possible route



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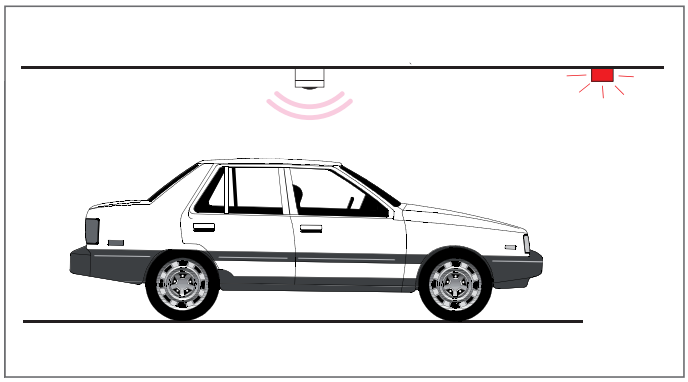
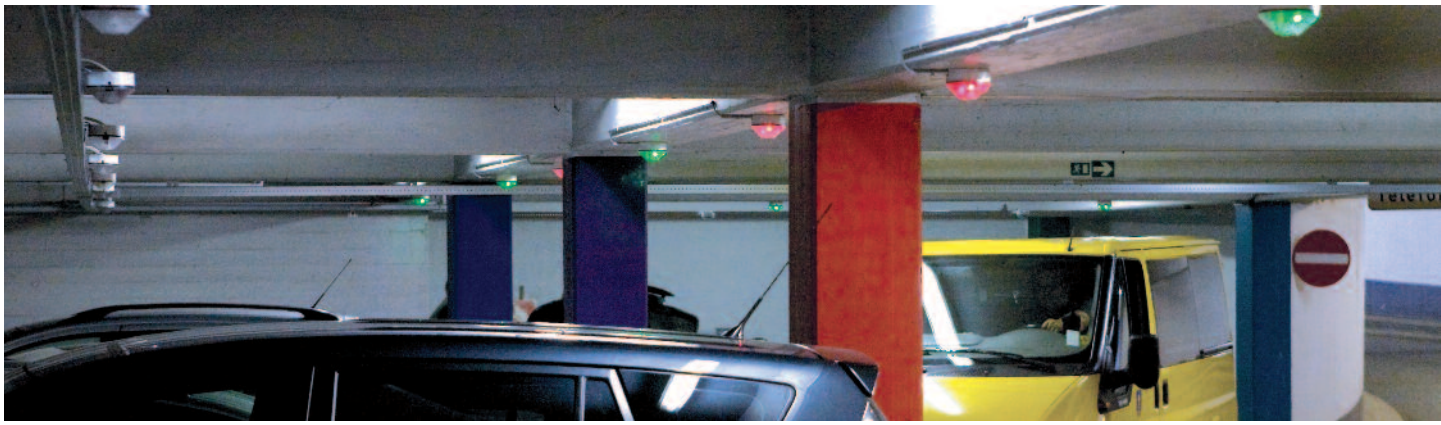
Car Detection with Ultrasonic Sensor

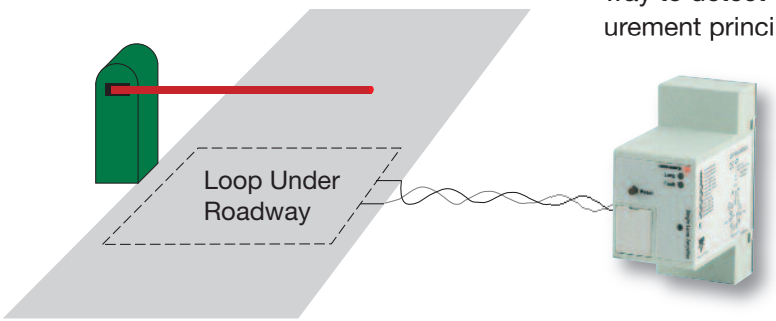
The ultrasonic sensor for car detection is a key component in the guidance system. At regular intervals, the sensor emits an ultrasonic pulse and measures the time delay until the echo pulse is received. If the echo time deviates from the floor echo time measured during calibration, the sensor will assume a car is present. Multiple sensors can be calibrated simultaneously by issuing a calibration command via the network. The sensor is available with built-in LED indication for occupied/free parking bay, but in many cases it is a better solution in terms of visibility to use a slave LED indicator mounted externally along the carpark driveway. The sensor is equipped with a Dupline® 3-wire bus interface for power supply and communication.





Car Detection with Loop Detector

The loop detector provides an inexpensive and reliable way to detect vehicles. It is based on an inductive measurement principle, using a coil of wire buried in the driveway and connected to the loop detector. The change in inductance when a vehicle is present will be measured as a change in frequency. The output relay operates when the loop is activated and releases again when the loop returns to non-activated condition. The loop detector is typically used to detect cars arriving in front of a gate, or to detect occupancy of outdoor parking bays. To use the loop detector in the carpark guidance system, it must be connected to the bus via an external Dupline input module.



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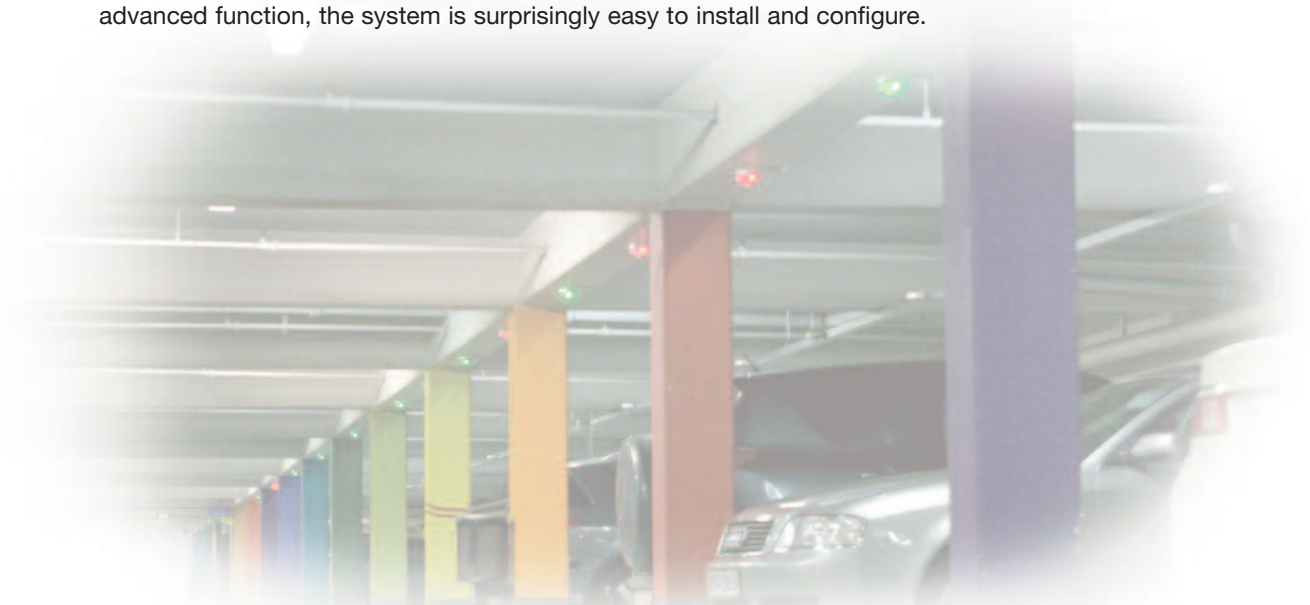
The Dupline® Carpark System Guides You to the Right Spot

This new innovative system saves time and reduces stress for drivers by leading them to free parking bays by the shortest possible route. Networked Ultrasonic sensors monitor parking bay occupancy, and intelligent displays show the number of free places in the pointing direction, thereby preventing drivers from entering driveways or areas with no free places. The system is completely scalable and can be used within any type and size of indoor parking lot. In spite of the advanced function, the system is surprisingly easy to install and configure.



Saving Time and Reducing Stress for the Drivers

The users of busy Carparks will experience an improved parking service, resulting in a higher perceived value. Precious time is saved, the level of comfort is increased, and furthermore, the stress and emotion created by the search and "fight" for free places is avoided.

Increased Productivity

The Carpark facility can be utilized more efficiently. Parking bays can be announced free and sold faster, because availability is detected immediately when the car leaves the parking bay.

Reduced Operating Cost

With the Dupline® Carpark Guidance system, driving can be reduced by 20 %, whereby the amount of exhaust gases decreases correspondingly.
The reduced need for ventilation provides direct savings in energy costs.

Clear Indication of Free Places

The Dupline parking system is characterized by a very clear indication of the free places. The parking bay indicators and the guidance displays are based on high-bright LEDs making them visible from a distance, and the guidance displays are featuring "moving arrows" attracting the attention of the drivers.

Improved Information Level

By use of PC software it is possible to graphically monitor the real-time status of the entire parking system from one or several central locations.

Furthermore, all parking events are recorded, thus enabling a powerful statistical analysis of the parking system performance.

Easy Handling

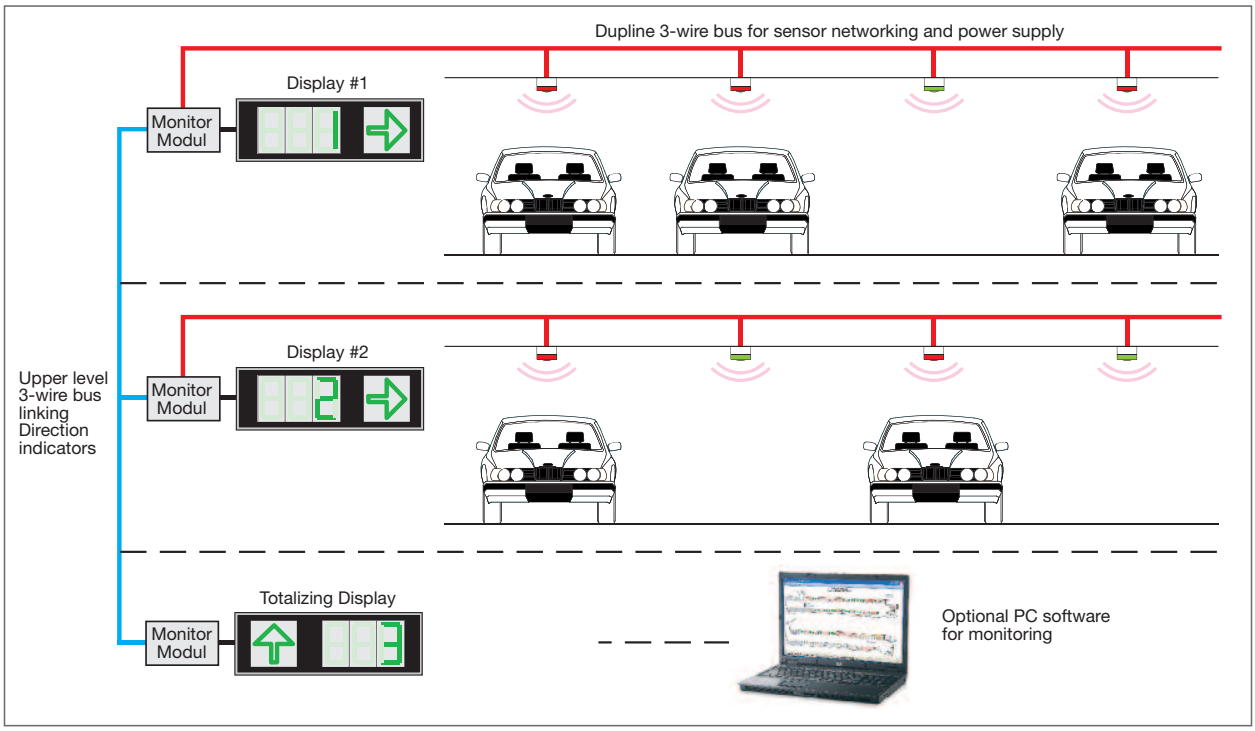
Easy design, planning, installation and commissioning are inherent features of the Dupline® bus. In fact, the entire carpark can be programmed and installed without the use of a PC. Addressing, testing and calibration of sensors are performed with simple handheld tools.

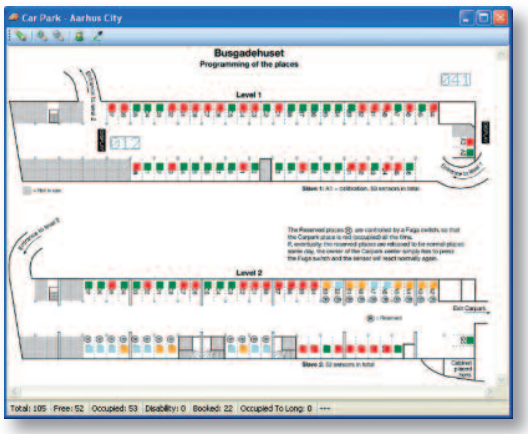
Robust and Reliable System

The products are based on Carlo Gavazzi's years of experience with sensing and communication technology within the industrial sector. The patented Dupline 3-wire bus is a proven network with more than 150.000 installations worldwide.

Stand-Alone Solution

One segment of the Dupline 3-wire bus can link together and supply power for 123 sensors. Each segment can have several Monitor modules, which are intelligent devices programmed to monitor a certain range of sensor addresses and calculate the number of free parking bays within that segment. The Monitor module is connected to a slave display for indication of direction and number of free parking bays. The Monitor modules can be linked together via an upper level Dupline 3-wire bus, thereby enabling Master Monitor modules to add together and display the number of free parking bays from several segments. The system operates as a stand-alone solution not depending on a PC. However, it is possible to connect a PC for monitoring and booking purposes.





PC Software for Monitoring and Control

With the PC software it is possible to monitor and control the parking system from one or several central locations. Features include monitoring of real-time status based on graphical images and key figures for the various floors and areas, monitoring of alarms, and the possibility to book places in the parking system. In order to provide useful statistical information, all parking events are stored in a database. Based on this it is possible to obtain historical reports e.g. for occupancy rates, place rotation frequencies, place popularity rates and alarms.

GP62202201

- Ultrasonic Sensor for detection of cars
- Networking and power supply via Dupline 3-wire bus
- Wide measuring range (0.3 to 4 m)
- Self-calibration can be performed at the individual sensor or globally (all at once)
- Emission of ultrasonic pulses is synchronized between sensors to avoid echo faults
- Available with LED light indication or with output for external LED indicator
- Available with red/green LED light or red/blue for parking bays for disabled

GP6220....

- LED occupancy indicator with red/ green or red/blue lights
- Operates as external indicator for ultrasonic sensor type GP62x022xx
- Makes the occupancy lights visible from carpark driveways
- Powered from GP62x022xx

GP34829091

- Intelligent monitor module
- Networking to Ultrasonic Sensors via Dupline 3-wire bus
- Configured by the user to monitor a certain range of sensor addresses
- Option to connect slave displays type GP6763... to show the actual number and direction of free parking bays
- Option to network monitor modules to enable master monitor modules to summarize and display the number of free parking bays within a certain area.
- Power Supply: 24 VDC

GP67630116

- 3 digit green LED display with green arrow for showing the number of free places
- If no parking bays are available, the arrow will turn red and the digits will become red crosses
- Operating as slave display for the Direction Indicator via serial RS485 link
- Available in both indoor and outdoor versions
- With the use of dipswitches on the back of the display, it is possible to select different functions of the display e.g. running arrow up, down, left or right, steady red cross etc.
- Built into robust aluminum enclosure
- Dimensions: 145 x 430 x 60 mm
- Power Supply: 24 VDC

GP6763xxxx

- Different types of display that covers:
  - 1 arrow or red cross
  - 1 arrow + 2 digits
  - 1 arrow + 2 digit + handicap sign
  - 1 arrow + handicap sign
  - 8 characters + handicap sign
  - 8 characters
  - 9 characters
- Avaiable in both indoor and outdoor versions
- Operating as slave display for the Carpark monitor via serial RS485 link
- Built into robust aluminum enclosure
- Power Supply: 24 VDC

LDP....

- Loop detector for detection of cars
- Detects signal from wire loop buried in the floor or driveway
- Reliable detection not influenced by the alternating seasons, weather etc.
- Automatic calibration with quick and easy setup of sensivity
- Manual fine tuning for ignoring irrelevant objects like bicycles, trolleys etc.
- Two relay outputs: Car presence and pulse output for car leaving/ entering (configurable)
- Power Supply: 24 VAC/VDC, 115 VAC, 230 VAC

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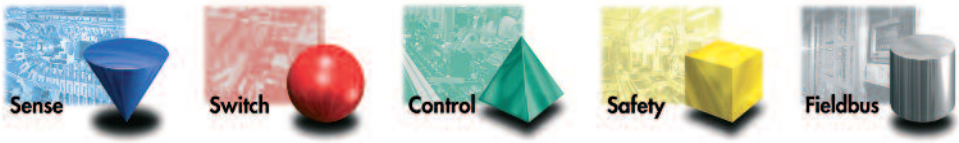

BRO CARPARK REV.10 - 08.09

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