



## **Building Automation**

**Solutions for  
Automatic Doors,  
Access Controls and Carparks**

# Doors & Access controls

## Solutions for



**Roller, Shutter, Folding and Speed doors**

**Sectional doors, Up-and-Over doors**

**Gates and barriers**

**Pedestrian doors**

**Access controls**

### **ABOUT CARLO GAVAZZI**

Carlo Gavazzi Automation is a multinational electronics group active in the design, manufacture and marketing of electronic equipment targeted at the global markets of industrial and building automation.

Our history is full of firsts and our products are installed in a huge number of applications all over the world. With more than 80 years of successful operation, our experience is unparalleled.

We have our headquarters in Europe and numerous offices around the world.

Our R&D competence centres and production sites are located in Denmark, Italy, Lithuania, Malta and the People's Republic of China.

We operate worldwide through 22 of our own sales companies and also selected representatives in more than 65 countries, from the United States in the West to the Pacific Rim in the East.

Our core competence in automation spans four product lines: Sensors, Switches, Controls and Fieldbuses.

Our wide array of products includes sensors, monitoring relays, timers, energy management system, solid state relays, safety devices and fieldbus systems.

We focus our expertise on offering state-of-the-art product solutions in selected market segments.

Our customers include original equipment manufacturers of packaging machines, plastic-injection moulding machines, food and beverage production machines, conveying and material handling equipment, door and entrance control systems, lifts and escalators, as well as heating, ventilation and airconditioning devices.



## DESIGNED TO MEET MARKET REQUIREMENTS

The market for automated doors is growing and becoming more specialised. The type of product that fits best with a particular application is determined by frequency of operation, speed of operation required, new versus existing construction, traffic flow and cost.

Automatic doors are a normal feature in many commercial buildings and infrastructures such as shopping centres and airports, as well as in industrial environments such as factories and also in residential buildings. Although they come in a variety of types, including sliding, swing, folding, up-and-over etc.; they all need to conform to the highest standards of safety.

In an industrial environment, which is the largest part of our business, automatic doors enable the set temperature in cold storage rooms to be maintained by fast opening and closing, leading to considerable energy efficiency and reduction of costs. Automated doors in commercial facilities are the preferred means of access for all users, not only people with disabilities, and are a significant aid to accessibility. Moreover, their use minimizes heat or air conditioning loss, maintaining a constant temperature and consequently saving money.

This brochure highlights the following market applications: industrial doors, garage doors, pedestrian doors, access controls, gates and barriers, intended for installation in areas where the main

purpose is to give safe access for goods and accompanied vehicles, in industrial and commercial premises and in residential garages.

Carlo Gavazzi has developed its expertise in the Industrial Door segment of the market and our products are designed and manufactured in full compliance with both North American and European standards. Our product families are certified to meet EN 13241-1, EN 12978, EN 12445, EN 12453 and UL 325 regulations for safety in the use of power operated doors such as industrial and garage doors and gates.

A further solution that Carlo Gavazzi can provide is the Parking Guidance System, by means of which more convenience for drivers is assured, along with considerable cost savings to the car park owner.

# Doors & Access controls

## Roller, Shutter, Folding and Speed doors



**Photoelectric sensors**

**PB10  
PE12  
PB18**

**Photoelectric sensors**

**PD70**

**Photoelectric sensors**

**MOFT  
S142**

**Photoelectric sensors**

**PM**

**Photoelectric sensors**

**PD86  
PD86HNP**



Automatic doors in an industrial environment need to conform to the highest standards of safety.

Carlo Gavazzi products are designed to meet the latest safety regulations for object and human presence detection.

Our sensors are typically installed in shutter, folding, speed and sectional doors.

We offer the compact, powerful, polarized, retro-reflective PM.. series and the newly developed PD86 series photoelectric sensors.

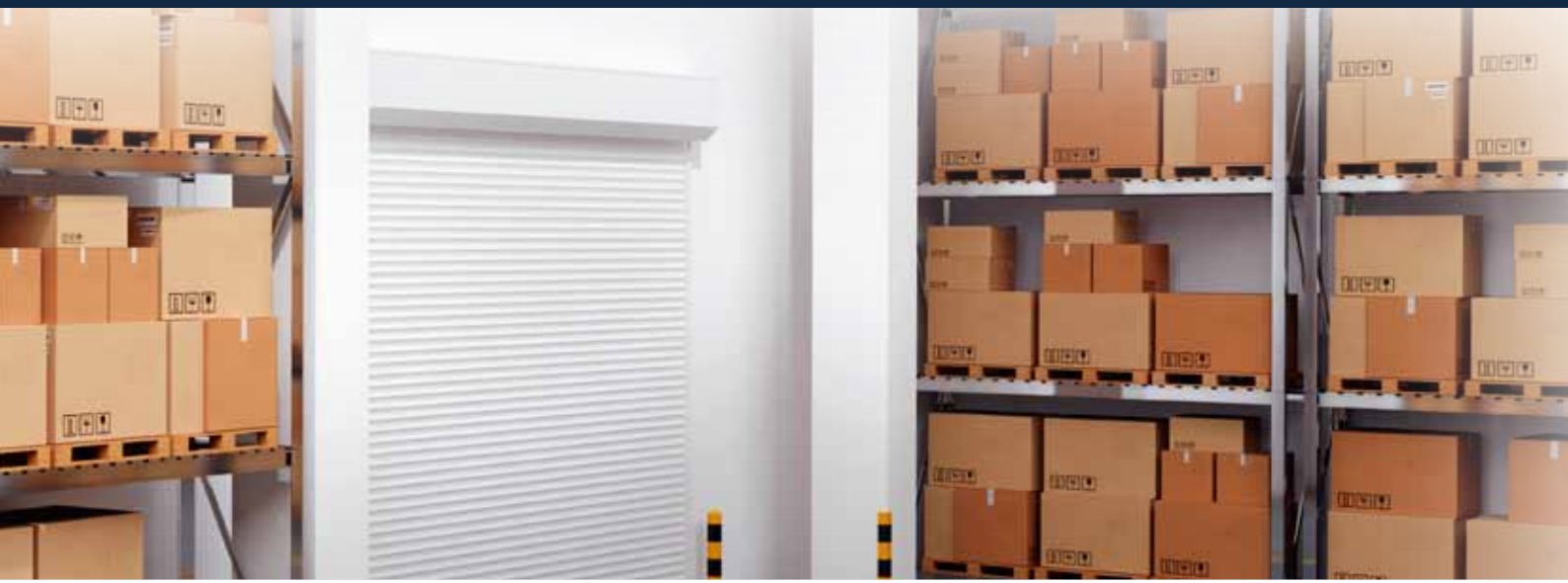
These sensors are equipped with a test input that allows the user to test the

sensing functions in each door cycle.

As well as the retro-reflective sensors, Carlo Gavazzi provides the long range background suppression PD112 series and the new battery-powered emitter of the PD180 series.

For trouble-free opening of all types of industrial automatic doors, Carlo Gavazzi offers the digital, unidirectional, long range motion radar sensor, IRS series, operating in the K-band (24.125GHz).

The IRS sensor can be adapted to any application and can also be set up and controlled by infrared remote control.



**Photoelectric sensors**

**PD98**

It can be mounted at a height of up to 7 m (23') for detection of vehicles or people, entering or exiting.

In door applications, where speed is important and door movements are frequent, the spiral cable between the moving door and the controller is susceptible to wear and tear.

Our Wireless Safety System reduces difficult and costly repairs and avoids expensive downtime.

Moreover, this system uses 16 different channels in order to prevent cross-talk between adjacent doors.

**Industrial radar sensors**

**IRS**

The Wireless Safety System is very flexible and handles different safety edges such as: "Normally Closed" safety edges, "Normally Open" and 8,2 KoHm.

Our energy saving photoelectric sensors are mounted inside the rubber profile.

**Monitoring relays**

**DIB02/DPA51  
DPC01/MI/MP/  
DPB02**

**Wireless safety system**

**WSM  
WSS  
PB11**

**Loop detectors**

**LDP**



# Doors & Access controls

## Sectional doors and Up-and-Over doors



**Photoelectric sensors**

**PE12  
PB18**

**Photoelectric sensors**

**MPF**

**Photoelectric sensors**

**PC50**

**Photoelectric sensors**

**PM**

**Photoelectric sensors**

**PD98**

**Photoelectric sensors**

**PD86  
PD86HNP**

**Wireless safety system**

**WSM  
WSS  
PB11**

The Carlo Gavazzi Wireless Safety System is designed to eliminate the need for traditional spiral cables between the door controller and the door. This device utilizes a bidirectional radio communication with an operating frequency of 2.4 GHz, making it less susceptible to common radio interference. This system is compatible with a large variety of safety edges and can also be used with the Carlo Gavazzi low consumption photoelectric safety edge sensors. In door-in-door applications, the larger door has to remain shut when the pedestrian door is open. This safety function is monitored by the sub controller's door-in-door limit switch

input by means of our Wireless Safety System.

To prevent a door from closing when an object is present in the doorway, we offer a variety of sensors based on through-beam detection or polarized retro-reflective types. The PD98., PE12.. or PM., PD86.. sensors are typical examples of sensors designed specifically for automatic doors, taking into account the viewing angles and testing requirements of Europe and North America.

Our polarized retro-reflective sensors integrate the emitter and receiver in the same unit. The emitter generates a modulated light beam, which is retro reflected - rotated 90° - and sensed by

the receiver. The output changes status if an object interrupts the light reflected. To increase immunity from objects with highly reflective surfaces, the retro-reflective sensor can be equipped with polarization filters. The receiver cannot be activated by light waves reflected by a shiny surface.



# Gates and barriers



Photoelectric sensors	Photoelectric sensors	Photoelectric sensors	Monitoring relays	Photoelectric sensors	Wireless safety system	Inductive sensors	Loop detectors
PB10	MOFT S142	PD98	DIB02/DPA51 DPC01/MI/ MP/DPB02	PD180	WSM WSS PB11	ICB	LDP

When mounting photoelectric sensors on a large gate, it is necessary to bury the cable from the control panel to the sensor. With the Carlo Gavazzi PD180 through beam sensors, this operation can be avoided, as built-in batteries in the emitter are part of the sensor set. The compact and stylish PD98 series sensors provide a means for easy wall mounting without building the sensor into the wall. The sensing angle reduces light interference and malfunctions or disconnections are revealed. The heavy duty infrared IRPHS series sensor (in an aluminium housing) is suitable for protecting automatic opening systems. It can be used for security or as an opening consensus device, with a

range of up to 60m. One of the most used photoelectric sensors in large and heavy gates is the MOF+S142 system. Specifically designed for these applications this system offers compact size, durability and high detection range.

The WSM/WSS Wireless system for safety edges is also available for gates with a communication distance of 15 m. The main module can control up to 6 sub modules i.e. 12 safety edges. Separated outputs for opening and closing edges, as well as one alarm output for low battery indication.



# Doors & Access controls

## Pedestrian doors



**Photoelectric sensors**

**PE12**

**Photoelectric sensors**

**PD112**

**Photoelectric sensors**

**PD70**

**Motion radar sensors**

**RAD**

**Combined motion and presence detectors**

**Guardian**

**Monitoring relays**

**DIB02/DPA51  
DPC01/MI/MP/  
DPB02**

It is mandatory to protect people standing in the doorway of a pedestrian door. For this purpose, Carlo Gavazzi offers the Guardian series, a motion and presence visual sensor which monitors people approaching the entrance, giving a signal to the door controller to open/close the door. These overhead sensors combine automation and safety in both curved and straight sliding door installations. Equipped with the latest digital video camera technology, this is the only device with Uni- and Bi-directional modes available in one single sensor. These sensors operate either with motion zone – detecting moving objects only – and a presence zone, detecting

both movement and presence. The Guardian series has been designed to ensure perfect door control and, at the same time, to watch over entrance and exit areas, safeguarding the people who use them. By means of the smart technology used, the Guardian series is able to ignore cross traffic and to self-adjust, according to changes in weather conditions and environment. The Guardian series is TÜV-certified according to DIN 18650-1 (prEN 16005), EN13241-1, EN12978, EN61508, ENISO13849-1:2008. It is also cURus approved according to UL325, CSA-C22.2 no.247. The PD70 sensor is a traditional through-beam sensor set with test

input, designed to fit into the narrow aluminium profiles of pedestrian doors and form a complete detecting package for doors in combination with our radar sensors, bi-directional RAD01 or uni-directional RAD02. Additionally, Carlo Gavazzi offers the PD112 series, which is a 'background suppression' sensor, which is typically positioned above the door, turning its detection field down to the floor. Black object detection is assured as far as 2m, while grey and white objects are detected up to 2.5m, a record distance that places the PD112 series among the longest range background suppression sensors designed for pedestrian doors in the world.



# Access controls



**Photoelectric sensors**

**PB10**

**Photoelectric sensors**

**PE12**

**Photoelectric sensors**

**PD30**

**Photoelectric sensors**

**PC50**

**Inductive sensors**

**ICB**

Access control systems are increasingly used to restrict and record unauthorized access. In optical turnstiles, photoelectric sensors detect people passing through.

In subways, security buildings and fairgrounds, access controls such as turnstiles are used in order to ensure

that only people with a valid ticket can pass through the entrance.

The access control systems include up to 15 sets of photoelectric sensors for the monitoring operation.

The sensors used are retro-reflective or through-beam with invisible infrared light, in order to avoid any damage

caused by vandals.

Carlo Gavazzi's PB10 and PE12 series sensors represent state-of-the-art technology in this field.

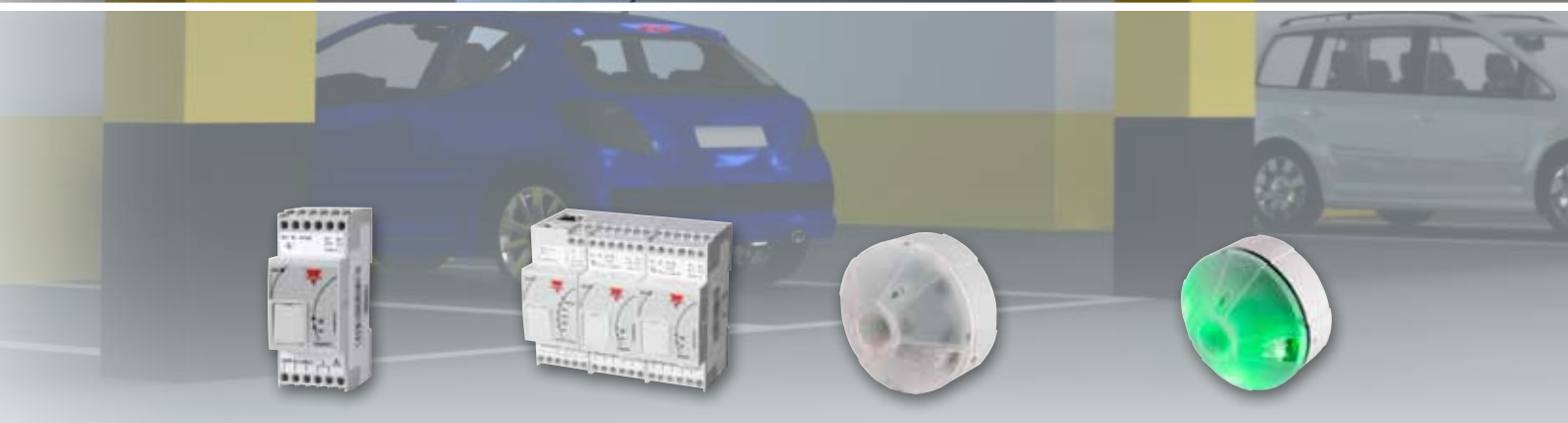
They are available in two main versions: the PE12 series (Ø12mm) with an innovative snap-in four-spring head for quick installation, and the PB10 series (Ø10mm) with a high environmental rating and a smooth cylindrical housing.



The long detecting range of the PD30 sensor also allows it to operate through dark glass, where its position can be hidden.

# Doors & Access controls

## Our expertise in Parking Guidance System



**Channel generator**

**GP32900003**

**Master zone counter**

**GPMZ-SET**

**Ultrasonic sensors**

**GP6220..  
GP6240..**

**LED indicator**

**GP6289..  
GP6265..**

The Parking Guidance System (PGS) is based on Carlo Gavazzi's expertise in sensing and communication technology within the industrial automation market. Our patented Dupline® 3-wire bus is a tried and tested network with more than 150.000 installations worldwide.

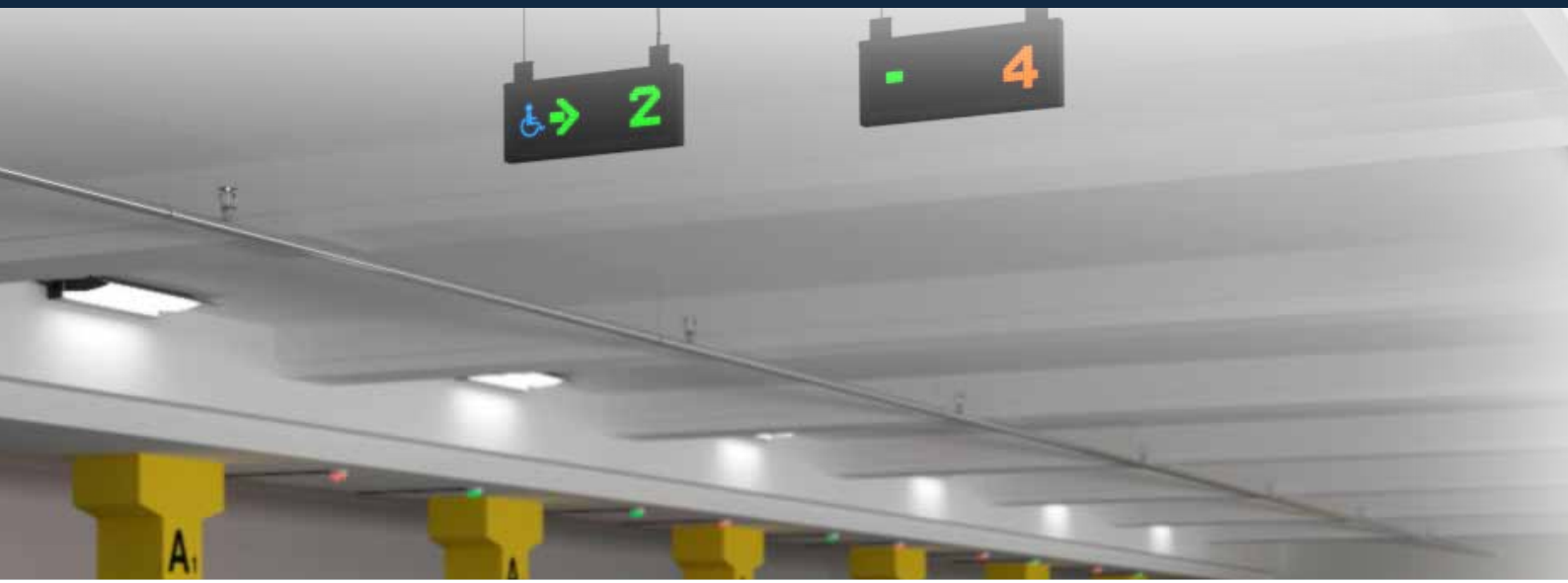
The PGS is completely scalable and can be used in any type and size of indoor carpark. In spite of its advanced functions, the system is surprisingly easy to install and configure, allowing the detection, counting and indication of vacant spaces. By means of dynamic green arrows, drivers are directed to the closest free parking bay, resulting in considerable time-

saving. Our Parking Guidance System not only provides drivers with more convenience and less stress, but by monitoring the whole situation of the parking area it increases efficiency in car flow, reducing energy costs. Cars can be directed to pre-selected areas of the carpark, while the system

ensures that lighting and ventilation systems are disabled in unoccupied zones.

Carlo Gavazzi's product range for carparks, as well as the controller, sensors, Led indicators and displays, also includes a series of easy to install 'loop detectors'.





**Carpark programmer**

**GP7380..**

**Carpark displays**

**GP676330..  
GP676301..**

**Carpark software**

**DUP-PGS-SW..**

Based on an inductive measurement principle, a coil of wire is buried in the ground, detecting cars driving over it. Typically it is installed in the ground in front of a security entry gate or to detect the occupancy of outdoor parking bays. In addition to the single space detection system, Carlo Gavazzi

also provides a zone count solution. Sensors detect the cars entering and leaving the zones, thereby allowing the master zone counter to keep track of the available spaces and showing them on parking zone displays. Combined single spot and count systems are possible and can provide

great advantages.

A specific web app has been developed so as to provide an easy remote access to the carpark occupancy data via smart phone and an improved carpark revenue and management via the booking system.



# Doors & Access controls

## Our product range

### Photoelectric sensors



#### PB10

- Dimensions: Ø10 x 42 mm
- Power supply: 10 to 30 VDC
- Output NPN or PNP, Normally Open or Normally Closed
- Emitter with Mute Input for testing the sensor
- 20 m sensing distance

#### MAIN FEATURES

- Light beam approved to Safety Category 2
- UL325, UL508, EN12445, EN12453, EN12978
- Coded sensors available for less crosstalk

### Photoelectric sensors



#### PB18

- Dimensions: Ø18 x 42 mm
- Power supply: 10 to 30 VDC
- Output NPN or PNP, Normally Open or Normally Closed
- Emitter with Mute Input for testing the sensor
- 15 m sensing distance

#### MAIN FEATURES

- Light beam approved to Safety Category 2
- UL325, UL508, EN12445, EN12453, EN12978
- Coded sensors available for less crosstalk

### Photoelectric sensors



#### PE12

- Dimensions: Ø12 x 29 mm
- Power supply: 10 to 30 VDC
- Output NPN or PNP, Normally Open or Normally Closed
- Emitter with Mute Input for testing the sensor
- 15 m sensing distance

#### MAIN FEATURES

- Light beam approved to Safety Category 2
- UL325, UL508, EN12445, EN12453, EN12978
- Coded sensors available for less crosstalk

### Photoelectric sensors



#### PD70

- Dimensions: 10 x 10,6 x 70 mm
- Power supply: 10 to 30 VDC
- Output NPN or PNP, Normally Open or Normally Closed
- Emitter with Mute Input for testing the sensor
- 12 m sensing distance

#### MAIN FEATURES

- Light beam approved to Safety Category 2
- UL325, UL508, EN12445, EN12453, EN12978
- Main Application Pedestrian Sliding Doors

### Photoelectric sensors



#### PD30

- Dimensions: 10,8 x 20 x 30 mm
- Power supply: 10 to 30 VDC
- Output NPN or PNP, Normally Open or Normally Closed
- Emitter with Mute Input for testing the sensor
- Through beam and Retro-reflective sensors

#### MAIN FEATURES

- Light beam approved to Safety Category 2
- UL325, UL508, EN12445, EN12453, EN12978
- Visible polarized light or Infra red versions
- Used for Entrance systems

### Photoelectric sensors



#### PC50

- Dimensions: 17 x 50 x 50 mm
- Power supply: 10 to 30 VDC
- Output NPN or PNP, Normally Open or Normally Closed
- Emitter with Mute Input for testing the sensor
- Through beam and Retro-reflective sensors

#### MAIN FEATURES

- Light beam approved to Safety Category 2
- UL325, UL508, EN12445, EN12453, EN12978
- Visible polarized light or Infra red versions

# Our product range

## Photoelectric sensors



### PM

- Dimensions: 17 x 50 x 50 mm
- Power supply: 24 VAC/DC
- Relay output SPST
- Emitter with Mute Input for testing the sensor
- Through beam and Polarized Retro-reflective sensors

#### MAIN FEATURES

- Light beam approved to Safety Category 2
- UL325, UL508, EN12445, EN12453, EN12978
- Visible polarized light or Infrared versions

## Photoelectric sensors



### PD86 / PD86HNP

- Dimensions: 39 x 46 x 86 mm
- Power supply: 12 to 24 VAC/DC
- Relay output SPST
- Emitter with Mute Input for testing the sensor
- Polarized Retro-reflective sensors
- ZAMAK5 metal housing cover (PD86HNP)

#### MAIN FEATURES

- Light beam approved to Safety Category 2
- UL325, UL508, EN12445, EN12453, EN12978
- Visible polarized light, 3 detection directions

## Photoelectric sensors



### PD98

- Dimensions: 37 x 56 x 98 mm
- Power supply: 12 to 24 VAC/DC
- Relay output SPDT
- Emitter with Mute Input for testing the sensor
- 30 m Sensing Distance

#### MAIN FEATURES

- Light beam approved to Safety Category 2
- UL325, UL508, EN12445, EN12453, EN12978
- Visible polarized light or Infrared versions

## Photoelectric sensors



### MPF Series

- Sensor Ø12 x 20 mm System 57 x 70 x 86 mm
- Power supply: 12 to 24 VAC/DC
- Relay output SPST
- Emitter with Mute Input for testing the sensor
- 15 m Sensing Distance

#### MAIN FEATURES

- Light beam approved to Safety Category 2
- UL325, UL508, EN12445, EN12453, EN12978
- Up to 3 multiplexed channels

## Photoelectric sensors



### S142 A, B or C.. + MOFTR

- Sensor Ø10 x 42 mm System 35 x 79 x 80 mm
- Power supply: 24 VAC/DC, 115 VAC or 230 VAC
- Relay output SPDT
- Emitter with Mute Input for testing the sensor
- Up to 50 m Sensing Distance

#### MAIN FEATURES

- Light beam approved to Safety Category 2
- UL508, EN12445, EN12453, EN12978
- Up to 3 multiplexed channels

## Photoelectric sensors



### PD112

- Dimensions: 25 x 45 x 112 mm
- Power supply receiver: 10 to 30 VDC
- NPN and PNP NO or NC output
- Emitter with Mute Input for testing sensor function
- 2,5 m sensing distance

#### MAIN FEATURES

- Light beam approved to Safety Category 2
- UL325, UL508, EN12445, EN12453, EN12978
- Long detection range on black objects

# Doors & Access controls

## Our product range

### Photoelectric sensors



#### PD180

- Dimensions: 49 x 51 x 180 mm
- Power supply receiver: 12 to 24 VAC/DC Emitter Battery supply
- Relay output SPST
- Emitter with Mute Input for testing sensor function
- 30 m sensing distance

#### MAIN FEATURES

- Light beam approved to Safety Category 2
- UL325, UL508, EN12445, EN12453, EN12978
- Input for prolonging battery lifetime

### Wireless safety system



#### WSM.. WSS.. PB11

- Main: 75 x 125 x 35 mm - Sub: 45 x 214 x 22 mm
- Power supply Main: 12 to 24 VAC/DC Sub: Battery supply
- SPST output for safety edge and low battery
- Emitter with Mute Input for testing the sensor
- 10 m wireless distance, 15 m for the gate version

#### MAIN FEATURES

- Light beam approved to Safety Category 2
- UL508, EN12445, EN12453, EN12978, FCC, IC
- Replacing wired safety solutions for doors and gates

### Industrial radar sensor



#### IRS Series

- Dimensions: 92 x 188 x 188 mm
- Power supply: 12 to 24 VAC/DC
- 2 x Relay output SPST 1 A @30 VAC/DC
- Control, pushbuttons or remote control
- 2,5 to 7 m mounting height

#### MAIN FEATURES

- Uni or Bi-direction detection
- Person or vehicle differentiation
- Approvals: FCC, R&TTE, cURus
- IP65

### Motion radar sensor



#### RAD01 / RAD02

- Dimensions: 80 x 35 x 118 mm
- Power supply: 12 to 24 VAC/DC
- Relay output SPST 1 A @30 VAC/DC
- Control, pushbuttons or remote control
- 4 m mounting height

#### MAIN FEATURES

- Uni "01" or Bi-direction "02" detection versions
- Approvals: FCC, R&TTE, cURus
- IP54

### Vision sensor for straight or curved sliding doors



#### GUARDIAN1 / GUARDIAN2

- Dimensions: 58 x 77 x 210 mm
- Power supply: 12 to 24 VAC/DC
- 2 x Relay output SPST 1 A @30 VAC/DC (motion or presence)
- Easy modifying the motion zone
- 1,8 to 3 m mounting height

#### MAIN FEATURES

- Motion and presence sensor in one unit
- Guardian 2 can be adapted to curved sliding doors
- Vision based detection
- CE, UL325 and TÜV approved

### Inductive proximity sensors



#### ICB12 / ICB18 / ICB30

- M12, M18 and M30 Nickel-brass housing in short or long barrel lengths
- Standard and double distance sensing ranges
- Output functions: NO or NC, NPN or PNP
- Two meter oil resistant PVC cable or M12 plug version
- Protection: reverse polarity, short circuit, transients

#### MAIN FEATURES

- High precision and programmable outputs thanks to the microprocessor technology
- Eco-friendly potting material made from recycled corn by-product
- Laser engraved information on the front cap, permanently legible

# Our product range

## Loop detectors



### LDP1 / LDP2

- Dimensions: 35 x 80 x 63 mm, 11 pin circular plug
- Power Supply: 24 VAC/VDC, 115 VAC, 230 VAC
- Two relay outputs: car presence and pulse output for car leaving/entering
- Single Loop or Dual Loop
- Direction logic – only LDP2

#### MAIN FEATURES

- Automatic calibration with quick and easy setup of sensitivity
- Manual sensitivity for compensations of variations
- Selectable frequency to prevent cross-talk

## Magnetic sensors



### SPA1 Series

- Type: rectangular plastic housing
- Power supply: 24 VDC
- Nominal operating point: 12 mm
- One low power NC contact as a signal contact
- One high power NC contact to drive hard loads

#### MAIN FEATURES

- PVC cable with connector for easy and fast installation
- Relay output
- Long life contacts

## 1-phase DIN-rail power supplies



### SPD

- Output power from 5 W to 240 W
- Input 110/240 VAC single phase and DC
- Short circuit, overload and overvoltage protection
- PFC >100 W
- UL 1310 Class 2 output up to 90 W
- cULus, TUV and CCC approved

#### MAIN FEATURES

- Power supply OK output
- Parallel connection feature
- Spring, screw terminals or detachable connectors

## Metal enclosed power supplies



### SPPC

- Output power from 25 W to 800 W
- Input 110/240 VAC single phase
- Short circuit, overload and overvoltage protection
- PFC function available >75 W
- UL and CE approved

#### MAIN FEATURES

- Adjustable output +/- 10%
- Compact dimensions
- Wide operating temperature range up to 70°C

## Low profile DIN-rail power supplies



### SPM

- Output power from 7.5 W to 100 W
- Input 110 / 240 V single phase and DC 120 to 370 V
- Short circuit, overload protection
- From -25 to +60°C operation w/out derating
- cULus, TUV and CCC approved

#### MAIN FEATURES

- UL 1310 Class 2 output < 91 W
- Adjustable output +/- 10%
- Low voltage LED indication

## Industrial relays



### RMI ...

- 2 or 4 poles
- Max load: 5 A (4 poles) 10 A (2 poles) / 250 VAC
- DC coils: 6 ÷ 110 VDC
- AC coils: 6 ÷ 230 VAC
- Degree of protection IP40

#### MAIN FEATURES

- High switching power
- Long life (minimum 100.000 electrical ops.)
- Standard with LED, Push with arm and Flag

# Doors & Access controls

## Our product range

### Ultrasonic sensor



#### GP62xxxxx724

- Ultrasonic sensor for detection of cars
- Option for built-in 2-colour LED indication (red/green, red/blue)
- Option for built-in bus-controlled 3-colour LED indication (red/green/amber, red/green/blue, red/blue/amber)
- Option to use external LED indicator (2-colour or 3-colour)
- Power and communication via Dupline® 3-wire bus
- Protected against dust and moisture
- cUL approved

#### MAIN FEATURES

- Fast and easy wiring through push-wire connectors
- Built-in temperature compensation
- Extremely high detection accuracy

### 2-colour LED indicator



#### GP6289000x724

- External LED indicator for ultrasonic sensor
- 2-colour LED indication (red/green, red/blue)
- Controlled directly from carpark sensor G62402224724 output
- Low power consumption
- Protected against dust and moisture
- cUL approved

#### MAIN FEATURES

- Fast and easy wiring through push-wire connectors
- Easy mounting on ceiling or cable tray
- Clear and bright indication for the drivers

### Bus-controlled 3-colour LED indicator



#### GP6265230x724

- External 3-colour LED indication (red/green/amber, red/green/blue, red/blue/amber)
- Power and control of colour via Dupline® 3-wire bus
- LED colour can be controlled from PC software or controller
- Protected against dust and moisture
- cUL approved

#### MAIN FEATURES

- Possibility to indicate space status (e.g. booked, time exceeded etc.)
- Possibility to install external indicators in one long bus-line along the lane
- Clear and bright indication for the drivers

### Dupline® master module



#### GP34960005700

- Driver of power and communication for one bus segment with up to 120 sensors
- Powered from 28 VDC
- Modbus-RTU communication over RS485 / TCP with server running software
- DIN-rail mounting
- cUL approved

#### MAIN FEATURES

- Required to create a bus segment
- High current drive capability
- Free topology wiring of the bus

### Carpark monitor



#### GP34829091724

- Programmable device for monitoring of several spaces
- Controls carpark displays via RS485 connection
- Slave mode for local segment monitoring, master mode for area monitoring
- DIN-rail mounting
- cUL approved

#### MAIN FEATURES

- Easy programming via handheld tool
- Up to 480 slave units in one system
- Possibility to enter offset value for display

### Carpark software



#### DUP-PGS-SWxxxx

- Monitors all spaces in the PGS continuously
- Graphical overview of the status of the spaces
- Bar graphs and trend curves for occupancy rates in the different areas
- Logging of all parking incidents to provide possibility for historical analyzes
- Monitoring and logging of alarms like "exceeded parking time", "area almost full" etc.

#### MAIN FEATURES

- Clear real-time overview for the parking operators
- Provides various tools for analyzes of historical data for optimized carpark performance
- Booking feature with easy selection of the relevant spaces
- The Web app allows smart phones to check space availability



# Our product range

Count module	Channel generator	Master zone counter
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## GP32950030700

- Controller in the Dupline® zone counting system
- Micro Linux PC with Ethernet port and Web-server
- Manages up to 3840 parking spaces in multiple zones
- Each zone can have multiple entry and exit points
- Easy configuration, monitoring and count adjustment via web-server
- cUL approved

### MAIN FEATURES

- Mixed systems with zone counting and single space detection possible
- Option to detect the split between disabled and standard spaces occupancy
- Requires 2 pcs GP32900003700 for external bus connection



## GP32900003700

- Channel generator for the Dupline® 3-wire bus in zone count systems
- 24 VDC Power Supply
- Connect up to 120 count sensors via Dupline® L1 3-wire bus
- cUL approved

### MAIN FEATURES

- Provides power supply and communication line for the carpark sensors and monitors



## GPMZC-SET

- Complete set of cabinet modules required for zone counting
- cUL approved

### MAIN FEATURES

- Dupline® ultrasonic sensors, loop detectors or photoelectric sensors can be used
- Mixed systems with zone counting and single space detection possible

Carpark programmer	Carpark displays	Carpark displays
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## GP73800080

- Handheld programmer for sensors and Carpark Monitors
- Used to enter device addresses and operation modes
- Can be used as test unit to monitor status of spaces
- Used to trigger global calibration of sensors
- Battery powered

### MAIN FEATURES

- Easy to use
- Programmer and test unit in one device
- Possibility to simulate sensors



## GP6763xxxx

- Display the number of available car spaces
- Various types available with different number of digits and with alphanumeric indication
- Indoor and outdoor version available
- 24 VDC DC-powered

### MAIN FEATURES

- Clear indication with long distance visibility
- Aesthetic appearance
- Different operation modes selectable via DIP-switches



## GP6763xxxx

- Display the number of available car spaces
- Detect and display the difference between standard and disabled parking spaces
- Various types available with different number of digits and with alphanumeric indication
- Indoor and outdoor version available
- 24 VDC DC-powered

### MAIN FEATURES

- Clear indication with long distance visibility
- Aesthetic appearance
- Different operation modes selectable via DIP-switches

# Doors & Access controls

## Our product range

### Monitoring relays



#### DPA51

- Dimensions: 81 x 17,5 x 67,2 mm DIN-rail housing
- Phase sequence and loss relay
- 3 phase AC (own power supply); regenerated voltage
- Power supply from 208 to 480 VAC (+/- 15%)
- UL, CSA and CCC approved

#### MAIN FEATURES

- Compressors protection from reverse running and phase loss
- 17.5 mm width: the smallest in the market
- Plug and play: no settings needed

### Monitoring relays



#### DPB02 / PPB02

- 22,5 DIN (DPB02) or 35 mm Plug in (PPB02)
- Phase sequence and loss relay
- 3 phase asymmetry control
- Adjustable delay
- UL, CSA and CCC approved

#### MAIN FEATURES

- Motors protection from reverse running and wrong voltage symmetry
- Enhances motor lifetime
- No power supply needed, measure is made on supply voltage

### Monitoring relays



#### DPC01 / PPC01

- Dimensions: 45 mm DIN (DPC) or 35,5 Plug in (PPC)
- Phase sequence and loss relay
- 3 phase overvoltage, undervoltage and phase asymmetry
- 2 SPDT relay outputs or 1 DPDT
- Up to 400 Hz can be measured

#### MAIN FEATURES

- Complete motor and machinery protection
- Individual adjustment of each value setting
- German Lloyd approved for watertight driving doors on ships

### Monitoring relays



#### DIB02 / PIB02

- Dimensions: 22,5 mm for DIN (DIB) or 35,5 for Plug in (PIB)
- Overcurrent or undercurrent detection
- DC current measurement by means of external Shunt
- Power supply: 115/230 VAC, 24/48 VAC, 24 VDC, 48 VDC
- Adjustable time delay

#### MAIN FEATURES

- Motors protection from Overload
- DC or AC current measurement
- three phase overcurrent measurement with MP3 CT

### Monitoring relays



#### DTA01 / PTA01

- Dimensions: 22.5 mm DIN or 35.5 mm Plug in
- For different PTC models
- from 75°C to 140°C
- Power supply: 230 VAC, 115 VAC, 24 VAC, 24 VDC.
- Short circuit and PTC open detection

#### MAIN FEATURES

- Motor overtemperature protection
- Also available with remote reset
- Plug and play: no settings needed

### Timers



#### DMB51

- Dimensions: 81x17,5x67,2 mm DIN-rail housing
- Delay on operate function (DAA), multifunction (DMB)
- Combined AC and DC power supply
- Repeatability : <0.2%
- UL, CSA, RINA approved

#### MAIN FEATURES

- Delay on operate/release-, interval (manual/automatic start);
- Double interval; symmetrical recycler (ON or OFF first)
- Timing range from 0.1s to 100h

## OUR SALES NETWORK IN EUROPE

### AUSTRIA

Carlo Gavazzi GmbH  
Ketzergasse 374,  
A-1230 Wien  
Tel: +43 1 888 4112  
Fax: +43 1 889 10 53  
office@carlogavazzi.at

### BELGIUM

Carlo Gavazzi NV/SA  
Mechelsesteenweg 311,  
B-1800 Vilvoorde  
Tel: +32 2 257 4120  
Fax: +32 2 257 41 25  
sales@carlogavazzi.be

### DENMARK

Carlo Gavazzi Handel A/S  
Over Hadstenvej 40,  
DK-8370 Hadsten  
Tel: +45 89 60 6100  
Fax: +45 86 98 15 30  
handel@gavazzi.dk

### FINLAND

Carlo Gavazzi OY AB  
Petaksentie 2-4,  
FI-00630 Helsinki  
Tel: +358 9 756 2000  
Fax: +358 9 756 20010  
myynti@gavazzi.fi

### FRANCE

Carlo Gavazzi Sarl  
Zac de Paris Nord II, 69, rue de la Belle Etoile,  
F-95956 Roissy CDG Cedex  
Tel: +33 1 49 38 98 60  
Fax: +33 1 48 63 27 43  
french.team@carlogavazzi.fr

### GERMANY

Carlo Gavazzi GmbH  
Pfnorstr. 10-14  
D-64293 Darmstadt  
Tel: +49 6151 81000  
Fax: +49 6151 81 00 40  
info@gavazzi.de

### GREAT BRITAIN

Carlo Gavazzi UK Ltd  
4.4 Frimley Business Park,  
Frimley, Camberley, Surrey GU16 7SG  
Tel: +44 1 276 854 110  
Fax: +44 1 276 682 140  
sales@carlogavazzi.co.uk

### ITALY

Carlo Gavazzi SpA  
Via Milano 13,  
I-20020 Lainate  
Tel: +39 02 931 761  
Fax: +39 02 931 763 01  
info@gavazziacbu.it

### NETHERLANDS

Carlo Gavazzi BV  
Wijkermeerweg 23,  
NL-1948 NT Beverwijk  
Tel: +31 251 22 9345  
Fax: +31 251 22 60 55  
info@carlogavazzi.nl

### NORWAY

Carlo Gavazzi AS  
Melkeveien 13,  
N-3919 Porsgrunn  
Tel: +47 35 93 0800  
Fax: +47 35 93 08 01  
post@gavazzi.no

### PORTUGAL

Carlo Gavazzi Lda  
Rua dos Jerónimos 38-B,  
P-1400-212 Lisboa  
Tel: +351 21 361 7060  
Fax: +351 21 362 13 73  
carlogavazzi@carlogavazzi.pt

### SPAIN

Carlo Gavazzi SA  
Avda. Iparraguirre, 80-82,  
E-48940 Leioa (Bizkaia)  
Tel: +34 94 480 4037  
Fax: +34 94 431 6081  
gavazzi@gavazzi.es

### SWEDEN

Carlo Gavazzi AB  
V:a Kyrkogatan 1,  
S-652 24 Karlstad  
Tel: +46 54 85 1125  
Fax: +46 54 85 11 77  
info@carlogavazzi.se

### SWITZERLAND

Carlo Gavazzi AG  
Verkauf Schweiz/Vente Suisse  
Sumpfstrasse 3,  
CH-6312 Steinhausen  
Tel: +41 41 747 4535  
Fax: +41 41 740 45 40  
info@carlogavazzi.ch

## OUR SALES NETWORK IN THE AMERICAS

### USA

Carlo Gavazzi Inc.  
750 Hastings Lane,  
Buffalo Grove, IL 60089, USA  
Tel: +1 847 465 6100  
Fax: +1 847 465 7373  
sales@carlogavazzi.com

### CANADA

Carlo Gavazzi Inc.  
2660 Meadowvale Boulevard,  
Mississauga, ON L5N 6M6, Canada  
Tel: +1 905 542 0979  
Fax: +1 905 542 22 48  
gavazzi@carlogavazzi.com

### MEXICO

Carlo Gavazzi Mexico S.A. de C.V.  
Calle La Montaña no. 28, Fracc. Los Pastores  
Nauclan de Juárez, EDOMEX CP 53340  
Tel & Fax: +52.55.5373.7042  
mexicosales@carlogavazzi.com

### BRAZIL

Carlo Gavazzi Automação Ltda.Av.  
Francisco Matarazzo, 1752  
Conj 2108 - Barra Funda - São Paulo/SP  
Tel: +55 11 3052 0832  
Fax: +55 11 3057 1753  
info@carlogavazzi.com.br

## OUR SALES NETWORK IN ASIA AND PACIFIC

### SINGAPORE

Carlo Gavazzi Automation Singapore Pte. Ltd.  
61 Tai Seng Avenue  
#05-06 UE Print Media Hub  
Singapore 534167  
Tel: +65 67 466 990  
Fax: +65 67 461 980  
info@carlogavazzi.com.sg

### MALAYSIA

Carlo Gavazzi Automation (M) SDN. BHD.  
D12-06-G, Block D12,  
Pusat Perdagangan Dana 1,  
Jalan PJU 1A/46, 47301 Petaling Jaya,  
Selangor, Malaysia.  
Tel: +60 3 7842 7299  
Fax: +60 3 7842 7399  
sales@gavazzi-asia.com

### CHINA

Carlo Gavazzi Automation  
(China) Co. Ltd.  
Unit 2308, 23/F.,  
News Building, Block 1, 1002  
Middle Shennan Zhong Road,  
Shenzhen, China  
Tel: +86 755 83699500  
Fax: +86 755 83699300  
sales@carlogavazzi.cn

### HONG KONG

Carlo Gavazzi Automation  
Hong Kong Ltd.  
Unit 3 12/F Crown Industrial Bldg.,  
106 How Ming St., Kwun Tong,  
Kowloon, Hong Kong  
Tel: +852 23041228  
Fax: +852 23443689

## OUR COMPETENCE CENTRES AND PRODUCTION SITES

### DENMARK

Carlo Gavazzi Industri A/S  
Hadsten

### MALTA

Carlo Gavazzi Ltd  
Zejtun

### ITALY

Carlo Gavazzi Controls SpA  
Belluno

### LITHUANIA

Uab Carlo Gavazzi Industri Kaunas  
Kaunas

### CHINA

Carlo Gavazzi Automation (Kunshan) Co., Ltd.  
Kunshan

## HEADQUARTERS

Carlo Gavazzi Automation SpA  
Via Milano, 13  
I-20020 - Lainate (MI) - ITALY  
Tel: +39 02 931 761  
info@gavazziautomation.com



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