

## Parking Guidance System

# Fieldbuses

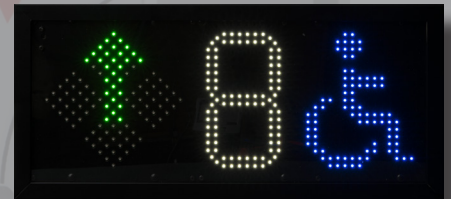
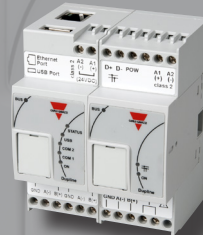
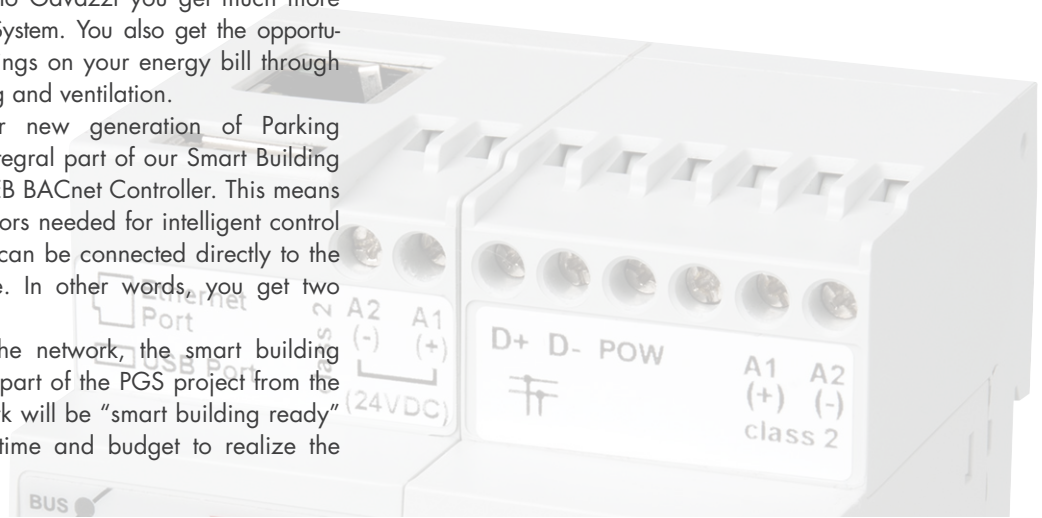
# Parking Guidance System

## Parking Guidance and Smart Building

With Carpark III from Carlo Gavazzi you get much more than a Parking Guidance System. You also get the opportunity to gain significant savings on your energy bill through intelligent control of lighting and ventilation.

We have developed our new generation of Parking Guidance System as an integral part of our Smart Building system based on the SBWEB BACnet Controller. This means that the sensors and actuators needed for intelligent control of lighting and ventilation can be connected directly to the PGS network infrastructure. In other words, you get two solutions in one system.

Due to the flexibility of the network, the smart building functions don't have to be part of the PGS project from the beginning. But your carpark will be "smart building ready" just waiting for the right time and budget to realize the energy savings.



## Why you should choose Carpark III

### State of the art Parking Guidance System

Carpark III has all the features you need:

- Ultrasonic 45° sensors with integrated LED indication to be mounted at the space entry
- High bright RGB LED's providing multiple colours option
- Displays with arrows clearly visible from a distance guiding the drivers to the vacant spaces
- Zone counting option for the roof top spaces
- Fast and easy installation and commissioning
- High accuracy, reliability and robustness
- Low maintenance cost
- Web server based PGS management software for real-time monitoring, alarms and analysis of historical data
- Easy integration with 3<sup>rd</sup> party software through Web Service API
- Completely scalable from small to very big installations
- A system based on years of experience with parking guidance and industrial communication networks

### Energy savings through demand based ventilation control

In many carparks the ventilation fans run 24/7. Significant energy savings can be achieved through automatic control of ventilation fans based on the measured CO levels.

### Energy savings through demand based lighting control

In order to save energy, lights can be automatically dimmed or switched off based on presence of people, lux values and daily schedules.

### Energy savings through active occupancy management

The active occupancy management function allows the floors of the carpark to be opened step by step as the need arises, thereby providing an energy saving on ventilation and lighting.

### Seamless integration with any building management system through BACnet

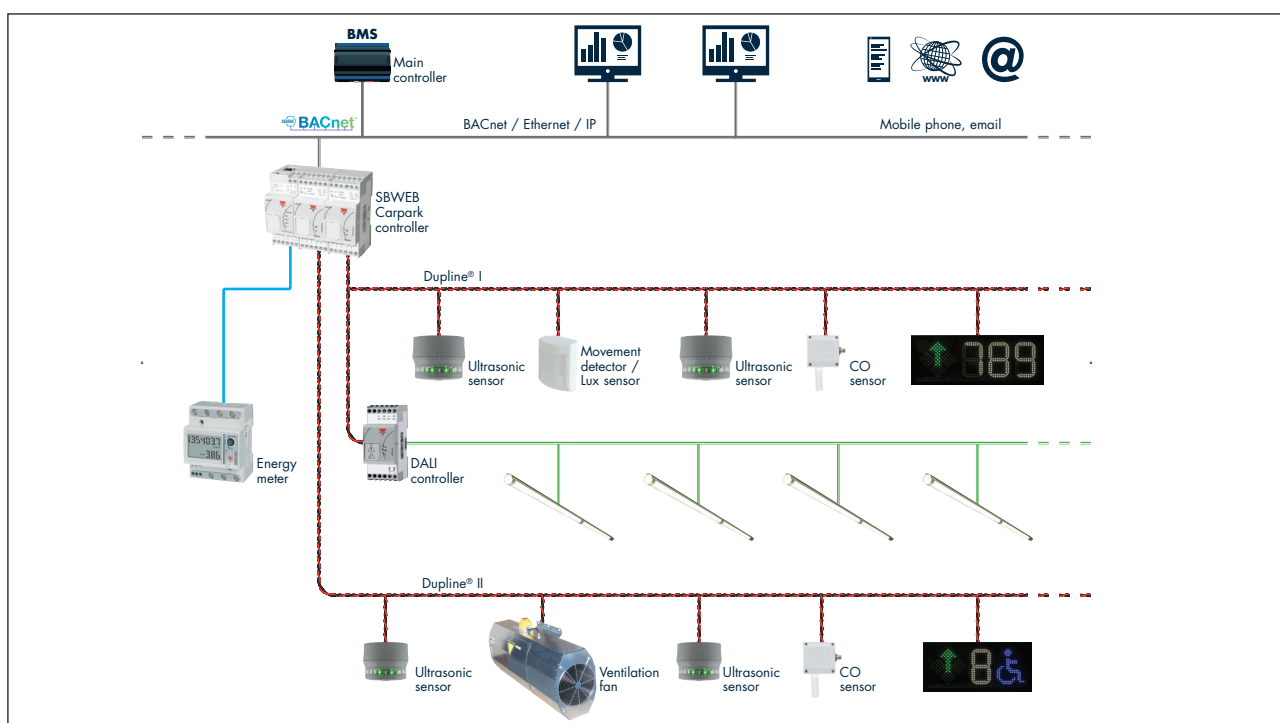
## A flexible solution with many options

**A Carpark III system** is comprised by a number of segments with ultrasonic sensors and displays. Each segment is driven by a Master Generator, which typically manages a lane or area with up to 60-70 spaces. The SBWEB Controller links all the segments together and performs the intelligent functions like reading the status of the sensors and updating the displays and LED indicators accordingly.

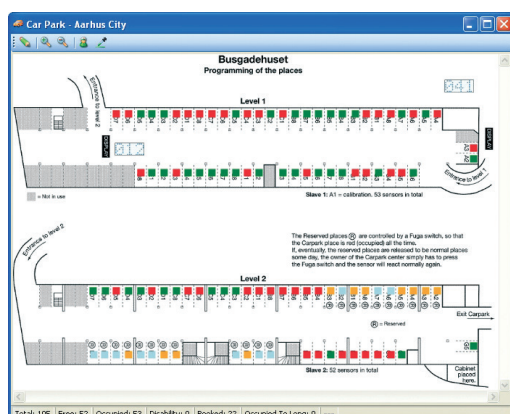
**The unique feature of Carpark III** is the possibility to also use the PGS network infrastructure for smart building functions that reduce the energy consumption in the carpark. Components like movement detectors and sensors for measuring CO, CO<sub>2</sub>, Lux, temperature and humidity are connected to the same bus as the carpark sensors. Ventilation fan speed is controlled via analog outputs and dimming of lights is controlled via DALI, the standard bus for lighting actuators. The SBWEB Control-

ler provides all the intelligent functions required for saving energy on ventilation and lighting and for logging of the actual energy consumption measured by the connected energy meters.

**Seamless integration with any building management system** is easily achieved through the BACnet/IP communication capability of SBWEB. Every Carpark III data point is made available as a BACnet object.



## Carpark management through built-in web server



The SBWEB provides a graphical user interface and management tool via the built-in web server. The web server automatically adapts the screen layout to the connected device, whether it is a PC, smart phone, iPad or tablet PC. Features include monitoring of real-time carpark status on graphical background images with virtual LED indicators and direction signs, bar graphs with occupancy infor-

mation for the various levels and alarm monitoring and notification. The web server also allows manual or scheduled booking of groups of spaces with specific LED colour. Based on the logged parking events, historical reports and trend curves for e.g. occupancy rates and bay rotation rates can be retrieved from the web server.

The built-in Web API allows 3<sup>rd</sup> party software to read data like occupancy rates and real-time space status and to perform booking of spaces.

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