



AP+DRIVE

navigation system to free car place



AP+DRIVE

For the Manager, assisting the user in a simple and effective way to his parking place as well as the free parking, besides to qualify as an excellent service offered, is a good way to improve and make an efficient use of parking spaces in his own parking.

AP+DRIVE is a complete system that guides the user, when he's in the street looking for a parking, take him by the simplicity of a navigation system directly to free parking. This is done with the help of a network of panels (**AP+BRIGHT**) that placed on the road network outside and inside the parking, they will identify the areas and point out the places available through displays, traffic lights and arrows.

In this way the user is guided to the parking area where, thanks to the presence of a clear and detailed reporting of individual spaces (**AP+EYE_** green light) or him reserved (**AP+EYE_** blue light), can freely choose where to stop.

With the **AP+DRIVE** system, the time spent on search operations of the parking space is minimized and this has several advantages: the manager will obtain, in his own parking, noise reduction, a net decrease in exhaust gases emitted from cars, a better use of parking spaces and an optimization of the same employment. The environment, more comfortable and welcoming, will increase the prestige of the parking and will warrant significant return of customers satisfied and gratified by the simplicity and speed of the dedicated parking manoeuvres. Particular attention should be paid to the technical configuration of the system AP+DRIVE

Many other systems on the market, for each park place, install two hardware components: the sensor (located on the ceiling, usually in the middle of the park place) and the indicator light (located so that is clearly visible along the lane, at the head of the parking place).

The real difference lies in this simple and effective idea: Signal light and ultrasonic sensors into a single component located above the lane next to the parking space, control and report the status of employment of the same. With this feature the system, on each parking space, is reduced by 50% thereby reducing of materials used in the creation, of time and of installation costs.

It's possible to install AP+DRIVE in a working parking without loss collection.

It is not necessary to close areas, you can install and maintain the system even in the presence of cars.

AP+DRIVE

is a system essentially composed of 4 macro components joined but at the same time independents.

AP+BRIGHT

A wide and comprehensive range of information panels ranging from a system of addressing to the parking perfectly integrated with the road signs to parking areas, to the interior panels.

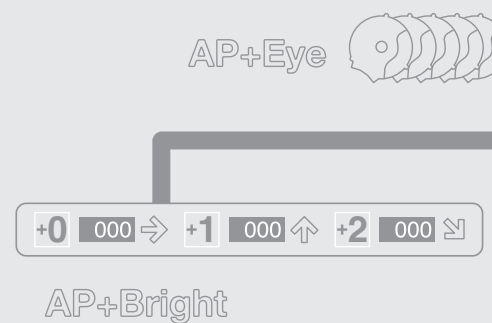
The range includes a number of customizations to make their parking unique and identifiable.

AP+MIND

It is the PC where the software that manage AP+DRIVE system resides.



AP+DRIVE
an efficient system with
a single component of
AP+EYE located above the lane



Parcheggi to manage faraway panels and interfacing with the systems of parking management

Display Manager to manage internal level panels and summary panels with the opportunity to integrate the magnetic mass detector counting system to include the cars in movement into the count.

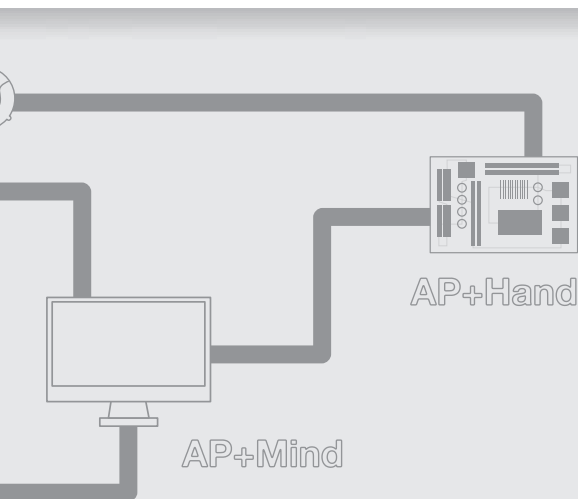
Ultrasound to control the parking's status of occupation through concentrators AP+HAND and detectors-signalers AP+EYE.

AP + HAND

It is the concentrator card and manages up to 64 AP + EYE through two RS485 serial lines and interacts with AP + MIND through a RS422 serial line or Ethernet network.

AP + EYE

It is the detector and the reporting of the status of parking space. Through 3 transmitters and an ultrasonic detector it detects and controls the shape of the occupation of a parking place. With 4 RGB LED high efficiency and visibility it indicates the status of employment of a parking place with the ability to identify different colors the reserved areas.



The components of AP+Drive is integrated and independent.

- The exterior panels can be used and integrated into the System Parking simply interfacing them directly or through the software "PARCHEGGI" to management systems SKIDATA, DESIGNA, ZEAG, AMANO, PARKEON, Scheidt & Bachmann.
- The interior and floor panels through the software "DISPLAY MANAGER" and the counting system with magnetic mass detector can show the status of employment of the individual areas.
- AP+EYE can perform its function even stand-alone without the connection management to ULTRASOUND software.

AP + MIND

It's the PC where are located the software running the system AP + DRIVE. Equipped with a network interface TCP-IP or RS232-RS422 converter.

ULTRASOUND

Management software system for tracking occupation of park place and it manages the AP+EYE connected to it.

- Access to the software through an identification procedure with passwords and levels determined by the administrator of the system.
- Setup screens regarding the parking structure: the sectors, the order of parking spaces and related information regarding the number of places available. Graphic mapping of different areas and sub areas that make up the parking.
- Screens status monitoring system for floors or areas, with status display free/busy every single parking place.
- The free naming of every single floor, sector, area, subarea, EYE+AP unit, AP+HAND, for quick and intuitive identification of the various equipment in relation to their physical location.
- A smart system that allows, after a black out, to start immediately (without the help of the PC) with the same configuration in act before the black out. - Diagnostics of the AP+EYE and AP+HAND Units.
- Storage of occupational states and possible generation of statistics related on the time and the percentage of stops on each parking space, sectors, areas, of the total parking by hour, day, week, month.
- Storage and extraction of all data relating to periods of employment of each parking space for further processing by other software.

Configuration and management of AP+EYE, for example ...

- Forcing the state
- Freely selectable display with 6 colors (green, blue, red, yellow, blue, pink)
- Choice of display type with a steady light or flashing
- Selecting the flash frequency
- Display Selection bilateral or single-sided
- Select by abnormal signaling by flashing

Configuration and management of AP + HAND

DISPLAY MANAGER

Management software of internal signs and obtain data from ULTRASOUND or interfaces connected to the magnetic mass detector.

PARCHEGGI

Management software for faraway and outdoor signs.

The signs can be connected via cable, Ethernet, radio, GSM, GPRS.

Obtain data from DISPLAY MANAGER and Management Systems SKIDATA, DESIGNA, ZEAG, AMANO, PARKEON, Scheidt & Bachmann.

AP+EYE

Detector composed by a serial of three ultrasonic transmitters and a single receiver.

Equipped with two series of tricolor led (RGB) arranged on both sides, it is able to visualizing on each side different color combination and flashing, configurable by the software ULTRASOUND.

The interior feeding is controlled by a dc-dc converter that is able to stabilize the feeds and to reduce consumption.

Connection is through a (removable) connector with a screw terminal. It is provided with one or two holes where it is possible to insert the appropriate cable clamp or a sheath PG9.

Address selection through DIP switch.

Fixing to the ceiling trough a metal stirrup (different versions are available)

Technical information:

Polycarbonate container IP 55.

Dark gray color.

Sizes: diameter 150 mm; thickness 65 mm.

3+1 ultrasonic transducer 40KHz.

Light signaling with various colors, fixed or flashing light.

Feeding: 13-28 Vcc.

Thermal fuse protective.

Minimum consumption 25mA at 24 VDC (LED single-side).

Serial input RS485.

Operating temperature:-20+55°C (10-90%RH).

Addressing (1-64) of every single units through DIP switch.

Link through cable 4x1mm (example LI-YCY screened and in twisted pairs).

AP+HAND

It is the concentrator of control which can support up to 64 AP+EYE: it feeds and controls the communication towards AP+EYE and AP+MIND.

It consists in a plastic container IP 56 in which are lodged:

- Terminal linkage+ fuses.
- Feeder switching 230V-24Vcc (150VA).
- CPU of control and communication.

CPU has the task of activating, synchronizing and configuring the various detectors. If the request comes from the PC, it is able to give back information on each single sensor, allowing the activation and deactivation, the calibration, the reconfiguration and the monitoring of each AP+EYE.

Technical information:

To be placed into a closet, electrical panel or a special plastic container type GEWISS (IP56) color light gray (optional).

Size: 300x400x130 mm.

Feeding: 230Vca (120W max with 64 turned sensors red-green).

Maximum consumption: 500mA (230Vca).

2 serial inputs RS485 isolated to communicate with AP+EYE.

1 serial inputs RS422 (4 wires) isolated to communicate with AP+MIND.

Operating temperature: -20+55°C (10-90% RH).

Addressing (1-32) single units through DIP switch.

Link to AP+EYE through cable type LI-YCY 4x1mm screened and in twisted pairs

Link to AP+MIND through cable type LI-YCY 4x0.5mm screened and in twisted pairs.



AP+DRIVE's benefit

new navigation system to free car place

Only one component AP+EYE is located over the lane.

Visual signaling and ultrasonic detectors located in a single component, which is placed over the lane near the parking space, it check and report the parking's status of occupation.

Complete installation and maintenance of the system AP+DRIVE also when parking is open.

The particular position and the functional characters of AP+DRIVE allow the installation and the maintenance even when there are parked cars.

Reduction of installation's times and costs.

The simple system and the position of AP+EYE reduce the plant on parking spaces of the 50%, resulting in a decrease of times and costs.

The light signaling RGB is independent and on both sides.

Red, green, blue, yellow, light blue and purple are the possible colors on both sides of AP+EYE. Turned off, fixed or flashing are the lighting modes, it is possible to select them in an independent way on both sides.

Software intended for the integration of the counting with magnetic mass detector.

Cars in movement can be counted and integrated in the counting system thanks to some magnetic mass detector. Displays shown values that consider not only the number of parked cars, but also the number of cars in movement in the area.

Management of the outsides faraway signs.

Outside signs, of any typology, to indicate the parking area can be managed with a direct connection or through Wireless systems (Net, radio, GSM, GPRS).

Interfaced with the best parking management systems.

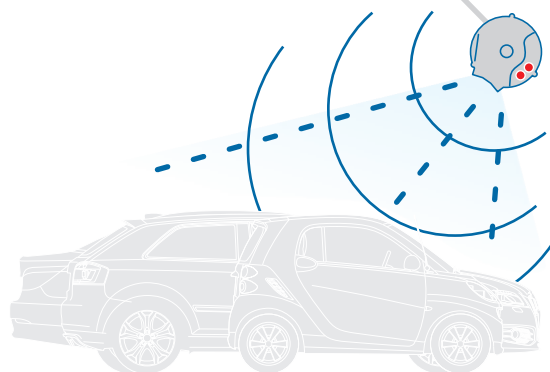
Management systems like SKIDATA, DESIGNA, ZEAG, AMANO, PARKEON, Scheidt & Bachmann communicate with the software of management signs to transmit the status of occupation.

The efficiency and the ethics of AP+DRIVE for energy conservation.

The production, the components, the wiring's structure and the management system of the plant offer the highest efficiency. AP+EYE only 0,9W of consumption with LED double-side. Guide the cars in an effective and efficient mode is a service and an energy conservation.

Detects the vehicle and reports in any light conditions.

Strong light, reflexes or low illumination don't affect on detection and signaling's function of AP+EYE.



ITALIAN
Patent Pending
MI 2009A001625
del 24-09-2009

EUROPEAN
Patent Pending
EP 2302410A1
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