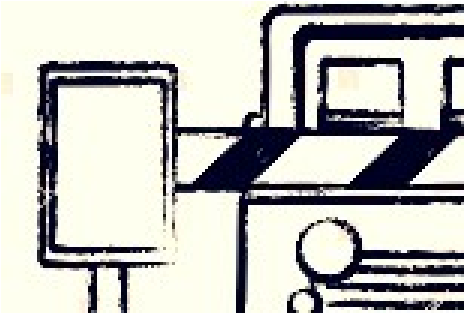
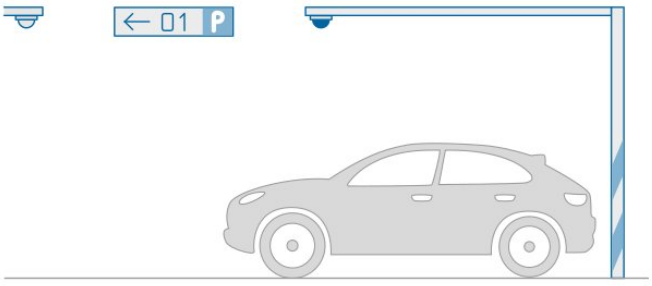
SmartPark
Payment
Guidance

Parking payment and guidance system
SmartPark





SmartPark
Payment

No matter how small, every parking problems asks for a professional solution. SmartPark offers a professional *and* economical solution.

SmartPark is especially designed to offer high functionality in a compact, practical and elegant design. SmartPark is ideal in a mixed parking environment where paying customers, visitors and season parkers need to be managed.

The system is extremely easy to use, requires minimal installation effort and utilises a minimum amount of moving parts, which means reduced and simplified maintenance requirements. SlimPark uses reliable, proven barcode technology. By using industry standards like a Microsoft operating system, an SQL database and standard Ethernet connectivity between the terminals, stable functionality is guaranteed.

Parking payment station **SmartPark**

Automatic Pay Stations for swift and convenient customer payment and parking revenue control.

The SmartPark Automatic Pay Station is the fastest and easiest way for customers to pay and exit. It eliminates long queues leading to improved customer satisfaction. The SmartPark Pay Station provides for 24-hour operation without the need for expensive cashiers. It is also highly versatile, allowing for the use of coins, notes or cards

Dimension:
1690mm x 646 mm x 710 mm

Housing:
Housing made of pressed steel, powder coated, with locking in three points and hidden hinges.

Equipment:
- 24" touch screen with 24“ monitor for commercial.
- Lockable, removable cashbox which holds up to 400 notes.
- Recycler module up to 200 notes
- Ingenico payment module with PIN and pay pass module
- Smart hopper with capacity of 1000 coins for payment and 800 coins for recycler
- IP Intercome
- QR code, voucher and barcode reader
- UPS Uninterruptible power supply
- Thermal printer for Invoice

Exit and entrance terminal

The SmartPark Entry and Exit Terminal is a highly flexible system that provides control at carpark entrances and exits. Its modular software and hardware are suitable for any sized facility, ranging from large multi-site facilities to small carpark units.
SmartPark covers all aspect of a modern car park requirement such as ticket dispensing, verification and card reading. Advanced barcode technology is employed to recognize various parking dockets ranging from long-term permits to hourly tickets.

Dimension:
1100mm x 450 mm x 170 mm

Housing:
Housing made of pressed steel, powder coated.

Equipment:

- Built-in loop detector
- Thermal barcode printer (entrance)
- Up to 3000 tickets (entrance)
- Barcode , voucher and QR code scaner
- 5” LCD Display
- RFIDreader for prepaid and postpaid cards
- IP Intercome

Automatic barrier

ALT324KF barriers are designed to professionally control every type of access: car parks, shopping centres, hotels, hospitals, exhibition centres, amusement parks, airports and railway stations, as well as all other types of small or large public facility.

Dimension:

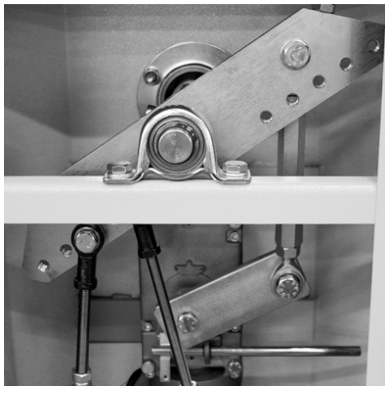
1188mm x 450 mm x 280 mm

Housing:

UV resistant epoxy powder coating, dark grey
(RAL 7016) and light grey (RAL 7047)

Equipment:

- Electromechanical barrier with double built-in flashing light for bar 3 m, 24 Vdc
- Maximum speed: up to 1 second
- Double built-in flashing light, two-coloured green/red
- Anti-UV rays epoxy power coating
- Robust gears and levers for reliable functioning over time
- Encoder for obstacle detection and immediate run inversion
- For intensive use, for private and public solutions
- Energy saving mode
- Universal box: bar can be installed both right or left
- Possibility to set different speed in opening and closing motion
- Integrated receiver
- With 24 Vdc control unit CT102 24



Accessories for payment system

ANPR camera

- The 2-megapixel CMOS full HD AI access ANPR camera with the features as high color restoration, low illuminance and build-in white light, can be used in parking and access control environment. It can detect the vehicles from the video(>99% capture rate without loop), recognize the plate in low speed less than 40kmh and structure the vehicle data with the embedded deep learning algorithm. Besides, with whitelist inside, this camera can control the barrier open by itself

➢ · 1/2.8 inch 2Megapixel Progressive scan CMOS · WDR, Day/Night(ICR), 3DNR,BLC, HLC · H.265& H.264 dual-stream encoding · Micro SD memory · Powerful 2.7-13.5mm motorized lens and white light, ideal for monitor ANPR distance 3-8m · IP67, and superior performance for outdoor applications · Embedded with LPR algorithm inside the camera · Vehicle data structuring: license plate recognition, vehicle size, vehicle color

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LED Display

Parking garage signs give directions and information to the drivers about free parking lots in garages. They are placed at the entrances of parking garages and at the entrances of every level of multi-level garages

SmartPark Guidance

SmartPark guidance system reduce search times by providing information on where capacity is available. To do this they use a combination of sensors in and around car parking facilities and information provision systems such as dynamic signage and the internet. Within parking facilities, overhead ultrasonic technology is used to determine individual space occupancy and availability. Sensors can provide accurate coverage of very high numbers of individual spaces.

LED display with variable message signs provide constantly updated statuses at key decision Making points: on-street; at garage entrances; and on each parking level. Multi-colored LEDs Integrated into the overhead sensors show whether individual spaces are free, occupied or reserved.

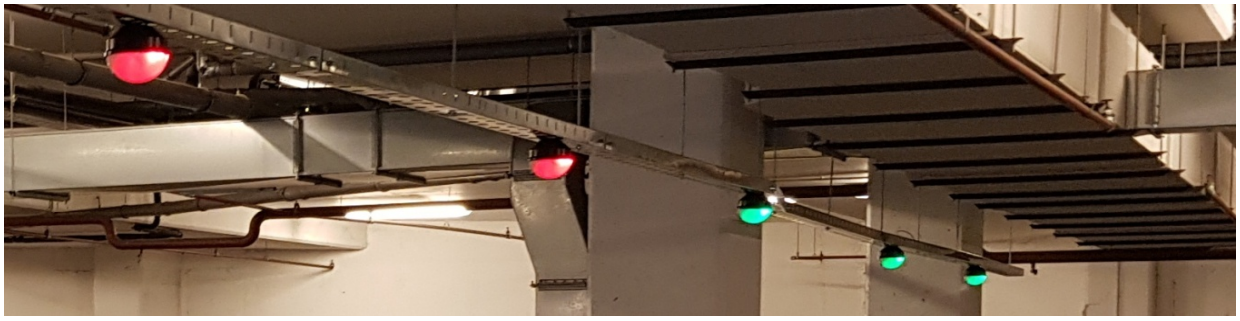
Ultrasonic sensor

Introduction:
SmartPark is an ultrasonic sensor designed to detect presence of a vehicle on the parking spot and therefore it is the most important part of the parking guidance system.

Description:
Device detects vehicles under angle of 45° and can be installed directly on the ceiling or on cable canals. It is recommended to be used only in indoor garages. Every sensor has it`s own IP address enabling the system to gather data from each sensor individually.
Sensors communicate and receive commands by CAN bus protocol. LED light, with 3 different colors(red, green and blue) is integrated within the sensor. Green and blue color indicates when the spot is unoccupied, while red color indicates occupied spot. This type of sensor can work correctly only with SmartPark system.

Technical characteristics

Working voltage 36 V DC
Working current 15 mA
Consumption 0.54 W
Angle of detection 45°
Max distance for vehicle detection up to 3m
Type of communication CAN bus
Wiring of the sensors in line
Max number of sensors in one line 112
Working temperature -25° C to +60° C



Operating modes:

Automatic mode

-Device on standard parking spots

Device lights green for unoccupied parking spot. When spot becomes occupied, device signals to the server, which then changes the color of the light to the red. When parking spot is unoccupied again, device signals to the server, which changes color of the light to the green.

-Device on reserved parking spots

If there is need to reserve the parking spot, device blinks in green and red color intermittently, on the reserved parking spot. Once the parking spot becomes occupied, device signals to the server, and it changes color to the red. When parking spot becomes unoccupied, devices signals to the server that there has been a change, that the parking spot is unoccupied, and dependently on the previous server command, device lights green as unoccupied or intermittently blinking green and red indicating that the spot is reserved.

-Device on parking spots for disabled persons

Device lights blue for unoccupied parking spot. If the parking spot becomes occupied, device signals to the server, which then changes light color to the red. When parking spot becomes unoccupied, device signals to the server which then changes the light color to blue.

-Device on reserved parking spots for disabled persons

If there is a need for reserving parking spots for disabled persons, device blinks intermittently in blue and red color on the reserved parking spot. when parking spot becomes occupied, device signals to the server, which then changes the color of the light to the red. When the parking spot becomes unoccupied, device signals to the server that there has been a change, that the parking spot is unoccupied, and dependently on the previous server command, device lights blue as unoccupied or intermittently blinking blue and red indicating that the spot is reserved.

Manual mode

In manual mode, device signals to the server if the parking spot is occupied or not. When device signals to the server that the parking spot is unoccupied/occupied, server then makes the decision in which color the device will light(green, blue, red or blinking light). Unlike the automatic mode, where the device changes color of the light itself, in dependency of an in-advance predefined parameters by the server, in manual mode device does not make the decision about the color of the light by itself, but it waits for the server to provide that information.

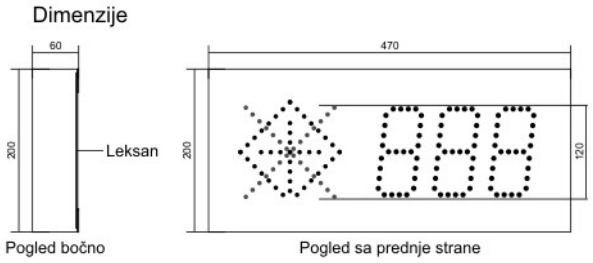
Zone controller

Device is designed to gather data from sensors and directly forwards them to the central server.
Maximum number of sensors one controller can serve is 112 pieces.
Server and controller communicate over IP protocol.

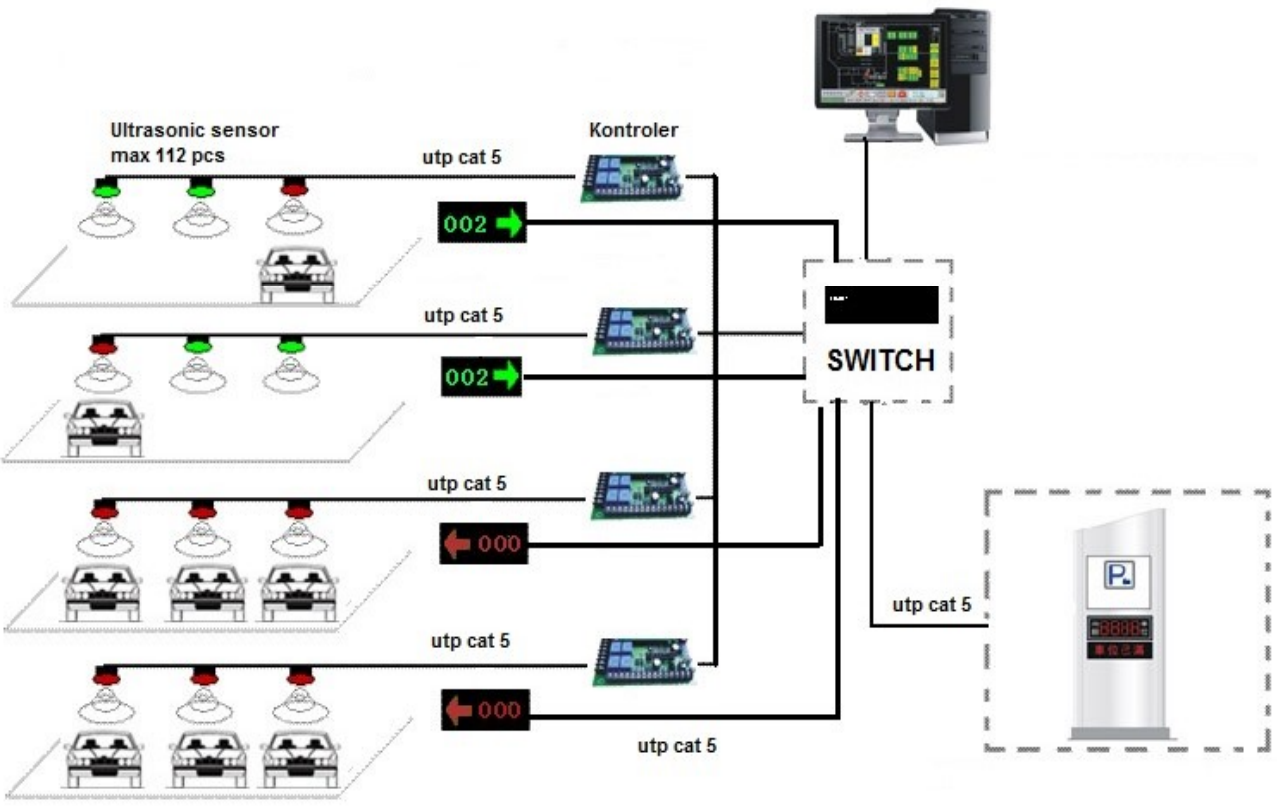
Technical characteristics
Working voltage: 12 V DC
Working current : 600 mA
Relay contacts nominal current: 5A
Relay contacts nominal voltage: 250 V AC
Protection: IP 44
Type of input: dry contacts, active low
Working temperature: -25° C to +60° C

LED display
Device is designed to show number of unoccupied parking spots by levels or by parking zones.
Display gets a real time information from server about the number of unoccupied parking spots.

Technical characteristics
Working voltage: 220 V AC
Protection: IP 44
Type of communication: Ethernet
Working temperature: -25° C to +60° C



Connecting:


Ultrasonic sensor
max 112 pcs
Kontroler
utp cat 5
002
utp cat 5
002
utp cat 5
000
utp cat 5
000
SWITCH
utp cat 5
utp cat 5