ParkControl System

Controlled parking system, including the elements of ParkControl System

Complete payment parking system of automatic office buildings, camion park lots, malls, shopping centers. Can be integrated with hotel reception and personal access control systems. Ticketing machine is installed at the entrance, paying machine(s) inside and ticket checking machine at the exit. Public or private parking, single use barcode ticket or RFID proximity season ticket system are also available. Discount option, video surveillance, license plate recognition, occupance detector system and free parking space display is orderable.

Sample parking system plan including 2 two-way barriers

The controlled parking system is controlled with 2 barriers - which can be used as an entrance and an exit -, 2 entrance ticket dispensers controlling the barriers, 2 exit ticket readers and 1 payment automat. The system is connected to a parking server centre where a dispatcher can also be present.

Those using the controlled parking area receive a ticket at the entrance and pay the parking fee at the parking ticket automat – which is available on foot – before leaving, and then leave the parking area within the time limit specified.

Those having a season ticket or the entitled persons have an RFID card season ticket and the barriers are opened after showing the card at the two entrances.
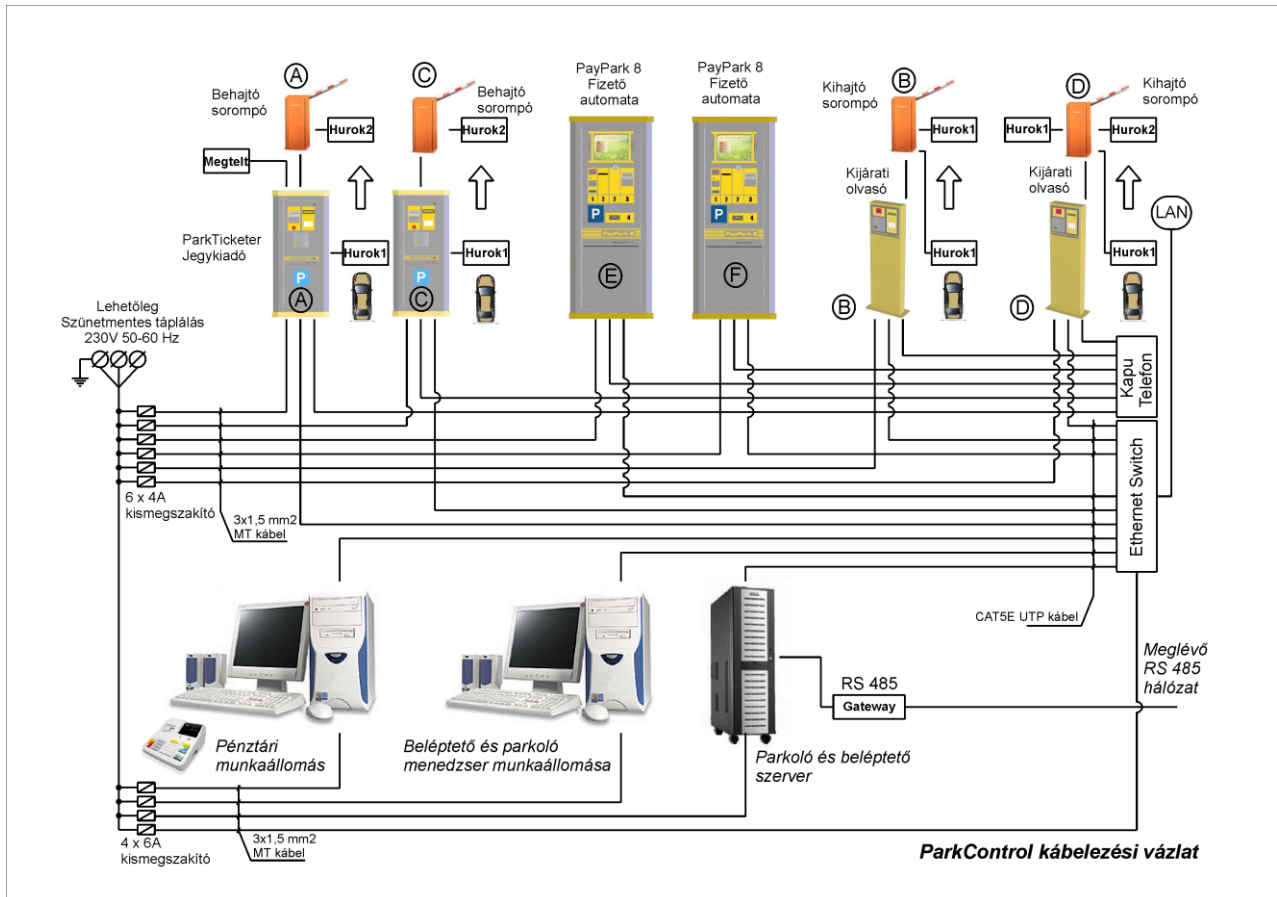
The entrance ticket dispensers and the exit ticket reader automats have a paper reader, an RFID card reader, an emergency telephone connected to the dispatcher centre. Here is the monitoring / supervising central computer installed which is

used for querying the traffic data and for managing the parking entrance system. Tax documentation or an invoice on the parking fee can be requested at the supervisory office.

System architecture (see the drawing attached)

There is one **ParkTicketer 8** type ticket dispenser automat at each entrance. Each automat is fitted with an RFID (proximity) card reader, a ticket requesting button, a ticket printer, an LCD display, an emergency telephone and a barrier-controlling electronic system. The automats are connected to an RS 485 network because of the long distances.

ParkControl kábelezési vázlat

To print out the tickets, a thermal printer of high-level responsibility without a carbon ribbon is built-in which is able to issue 4,000 tickets without re-filling (7,000 tickets with a 200 mm roll). The device receives the signals of two or three inductive loops which control the crossing.

A free / no entry traffic lights (semaphore) and a numeric display to indicate the number of free parking places are fitted in front of both entrances. (optional accessories)

The ParkTicketer8 ticket dispensers and the ParkGate8 ticket readers are fitted with vehicle detectors containing 3 inductive loops to detect safe crossing: The first sensor assures that tickets can only be requested from the cars and the exit barrier can only be opened from the cars. The second sensor prevents the barrier from closing onto the car and the third sensor indicates the crossing and controls the closing of the barrier. Ground floor and underground parking also available.

One or more **AutoPay80** payment machines can be placed at a certain parking place depending on the traffic volume. These are situated on areas easily available on foot. An interactive LCD touch screen, a laser omnidirectional ticket reader, a proximity card reader, a coin checker accepting all the valid types of Hungarian coins, a banknote reader accepting all the valid types of Hungarian banknotes and a payment receipt printer are built into all these automats. The automats are also connected to a common RS 485 network. In the event of heavy traffic, more controlled parking automats can be installed.

Such automats can only be opened by using a safety lock and an RFID key card at the same time. Filling-up and emptying the automat takes place under password protection and with vouchers and all events are logged.

A **ParkGate 8** exit ticket reader gate controller is installed on each side of the exit in front of the two barriers which is fitted with an RFID (proximity) card reader, a laser omnidirectional ticket reader, an LCD display, an emergency telephone and a barrier-controlling electronic system. The device receives the signals of two or three inductive loops which control the crossing.

A large numeric sign is fitted on the entrance side in front of each barrier. The number of the current free parking places is indicated on the sign. If it is zero, the clients cannot receive tickets. If a client requests a ticket, the inscription "Parking area is full" appears on the LCD display. (Option)

The exit ticket readers and barriers are fitted with a vehicle detector containing 3 inductive loops to detect safe crossing: The barrier can only be opened with a paid ticket from the car. (Establishing an emergency parking place on the architectural plans is practical so that cars can stand aside for the time of making up for the payment.)

Dispatcher centre

The **ParkServer 8** type central computer - connected to the RS485 network of the parking system - with a Pentium4 PC system on which the **Park Control 8** software runs, is placed in the despatch centre of the parking system.

The centre of the emergency telephones can also be found here.

To reduce the costs of human labour, it is practical to place an invoice issuing workstation here. The **Cassa Control 8** program is running on the invoice-issuing workstation.

Any kinds of graphic elements, photos and texts can be printed on the tickets according to the client's demand.
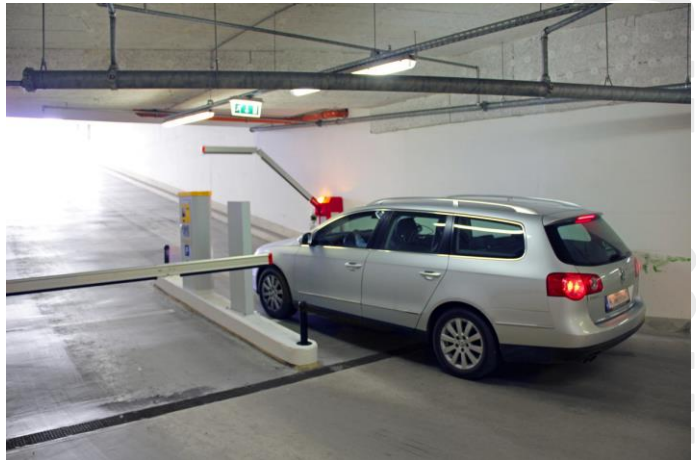
The operation of the system

The entrance barrier opens and the driver parks the car after showing the card or pressing the button "I request a parking ticket". The barrier does not open in the following events:

- the card is not entitled to enter the area
- the parking area is full

When paying, the paying guest shows its ticket to the reader of the payment automat. The automat calculates and displays the parking fee to be paid. The paying guest pays and receives the change – if available – and gets the payment receipt and then leaves the area.

The exit barrier opens after showing the card or the ticket.

The car of the paying guest has to leave the area at the exit barrier within T time after the payment; otherwise the paying guest has to pay at the payment automat again.

Options

DiscountSpot discount system – Version 1: with sticker

Paying guests can get a single amount or a percentage discount if the shop or office visited offers it and is willing to certify it by sticking a self-adhesive discount sticker on the parking ticket or to register it on the computer network. The discount is indicated by the payment automat and it is validated by reading in the sticker on the parking ticket or by calculating it with the discount rate registered on the guest registration number on the network.
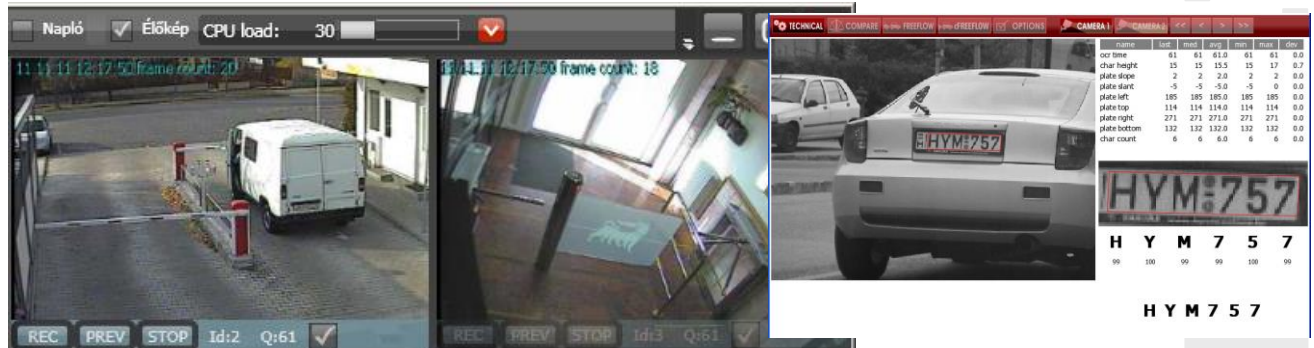
DiscountSpot discount system – Version 2: without sticker

Paying guests can get a single amount or a percentage discount if it is offered by the shop or office visited. The parking ticket of the guest is read in with a barcode reader placed at the checkout of the shop and a discount is provided in the software installed on the computer. The data are registered centrally through the computer network. The discount can be seen on the computers of other shops as well as on the computer of the parking payment checkout. The precondition of the discount system is the continuous online network connection between the system elements and the payment locations.

Video monitoring system - license plate recognition

All the elements of the parking system can be equipped with a video monitoring option and the dispatcher can monitor and record the movements without making any stir.

Frequent guest programme

If the paying guest intends to use the parking area regularly, he or she can buy a frequent guest card and he/she will be allowed to enter the parking area without a ticket and he/she pays the fee by showing the card at the automat and leaves the area by using the card. Such guests can get an invoice from the payment automat automatically as his/her invoice details are in the system. The software is able to handle the different kinds of tariffs: global tariff is valid but the guests having a season ticket can be organized into groups and a percentage discount can be provided to each group.

Parking season ticket system

The season ticket card is similar to the frequent guest card with the difference that it is paid by the guest in advance, the paid amount appears on his/her account in the parking automat system and the fee to be paid at each parking will be deducted from his/her account. The parking season ticket system can also be configured in a reserved parking place system. In this case, there is no message "Parking area full" to the occupant.

Individual vehicle detection at the parking place

A vehicle detecting device can be placed at each parking places and a traffic lights indicating the free places can be installed at the entrance of each parking area. These lights can be seen well from longer distances and make it easier to look for free places.

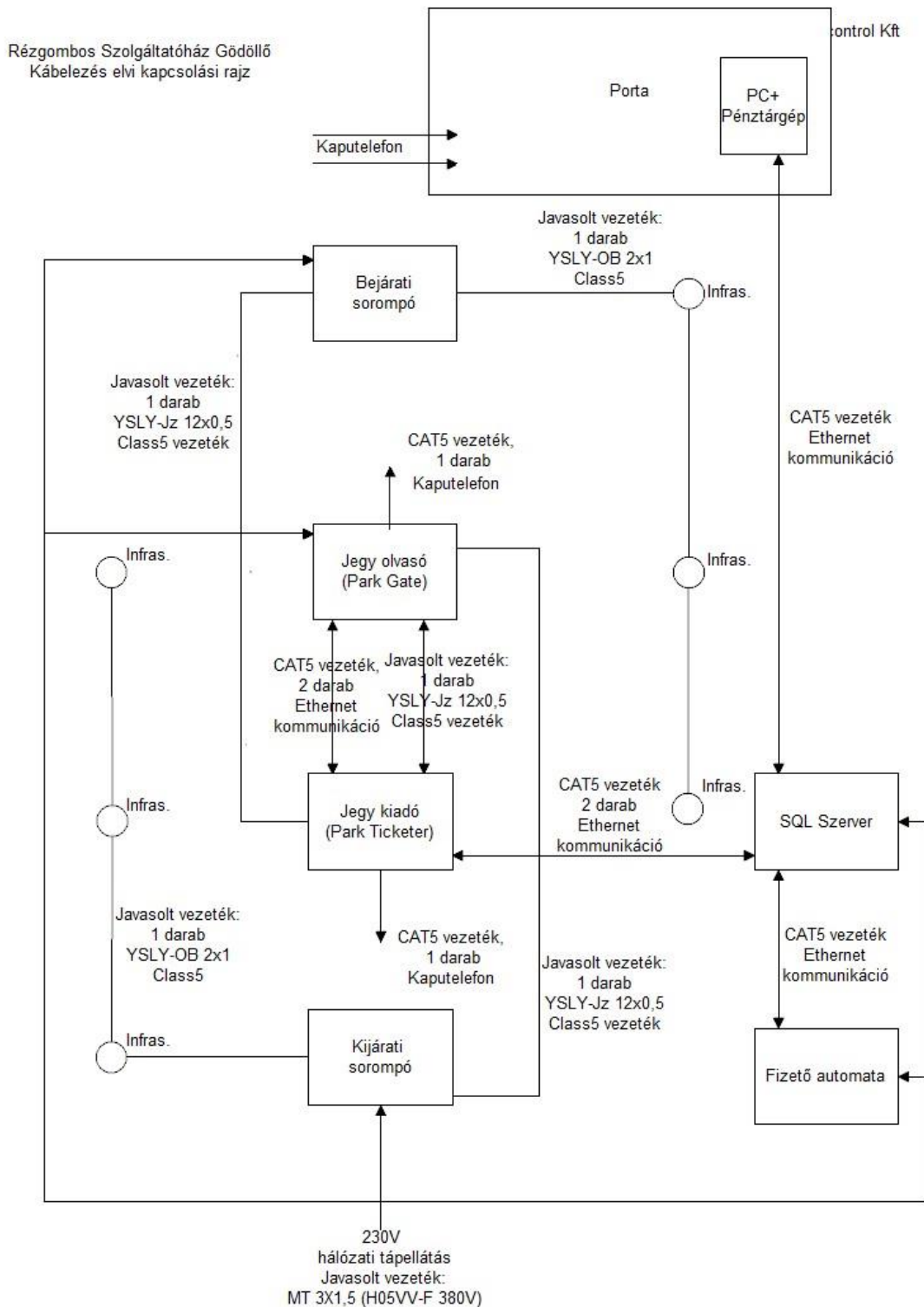## Parking map with a free/occupied sign

A large LCD monitor can be placed at each entrance on which the map of the parking area can be seen, indicating the current free and occupied places. This option can only be realized together with the individual vehicle detecting option.

Safety technology

The ParkControl system is able to receive the signals of a fire alarm, a CO-indicator and a Sprinkler fire extinguishing system built in the facility with the aid of the RealTime process periphery and it is able to generate interference signals. According to the specified algorithm, it is able to make the emergency exits free by opening the barriers immediately after the appearance of the signals and it displays and logs the events.

PROCONTROL ELECTRONICS LTD
www.procontrol.hu

Wiring plan

Rézgombos Szolgáltatóház Gödöllő
Kábelezés elvi kapcsolási rajz

...control Kft

Porta

PC+
Pénztárgép

Kaputelefon

Bejárati
sorompó

Javasolt vezeték:
1 darab
YSLY-OB 2x1
Class5

Infras.

CAT5 vezeték
Ethernet
kommunikáció

Javasolt vezeték:
1 darab
YSLY-Jz 12x0,5
Class5 vezeték

CAT5 vezeték,
1 darab
Kaputelefon

Infras.

Jegy olvasó
(Park Gate)

Infras.

CAT5 vezeték,
2 darab
Ethernet
kommunikáció

Javasolt vezeték:
1 darab
YSLY-Jz 12x0,5
Class5 vezeték

Infras.

CAT5 vezeték
2 darab
Ethernet
kommunikáció

Infras.

SQL Szerver

Jegy kiadó
(Park Ticketer)

Javasolt vezeték:
1 darab
YSLY-OB 2x1
Class5

CAT5 vezeték,
1 darab
Kaputelefon

Javasolt vezeték:
1 darab
YSLY-Jz 12x0,5
Class5 vezeték

CAT5 vezeték
Ethernet
kommunikáció

Infras.

Kijárati
sorompó

Fizető automata

230V
hálózati tápellátás
Javasolt vezeték:
MT 3X1,5 (H05VV-F 380V)