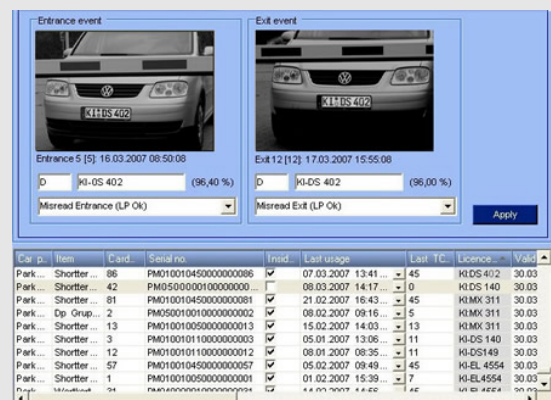


PM ABACUS

LPR Licence Plate Recognition System

The integrated licence plate recognition system LPR enables the automatic recognition of vehicle licence plates in PM ABACUS: These are automatically read by the LPR at the entrance and alphanumerically processed via image processing technology. The created image, the read licence plate and the ticket data are saved in the system. Optionally, the licence plate recognised at the exit can be compared to the licence plate which was recognised at the entrance.

- High level of recognition even during unfavourable light conditions
- Recognition of licence plates at angles of up to 60°
- Combined recognition unit, which includes a camera, lighting and Ethernet connection
- Energy-saving infrared lighting
- Full integration in the PM ABACUS system
- Recognition unit communication with the system server via Ethernet



Standard Functions

Status information

- The current status of all the vehicles in the car park can be determined at any time.

Creating replacement tickets

- If a customer loses a short term parker ticket, the exact entrance time or the last payment can be determined via the licence plate and a corresponding replacement ticket can be issued.

Blacklist

- A vehicle whose licence plate is registered on a blacklist can be refused entrance and exit.

Whitelist

- In order to protect cards against misuse, a customer's cards are allocated to certain vehicles, i.e. utilisation of a card is only possible together with the respective vehicle.

Licence plate printed on the short term parker ticket

- The recognised licence plate is printed on the short term parker ticket. The licence plate can also be printed on a receipt issued at an automatic pay station.

Reports

- The car park operator is provided with numerous reports:
 - Entries in the whitelist
 - Entries in the blacklist
 - Arising conflicts
 - Individual types of conflict during a certain time period
 - Status list of all the vehicles in the car park

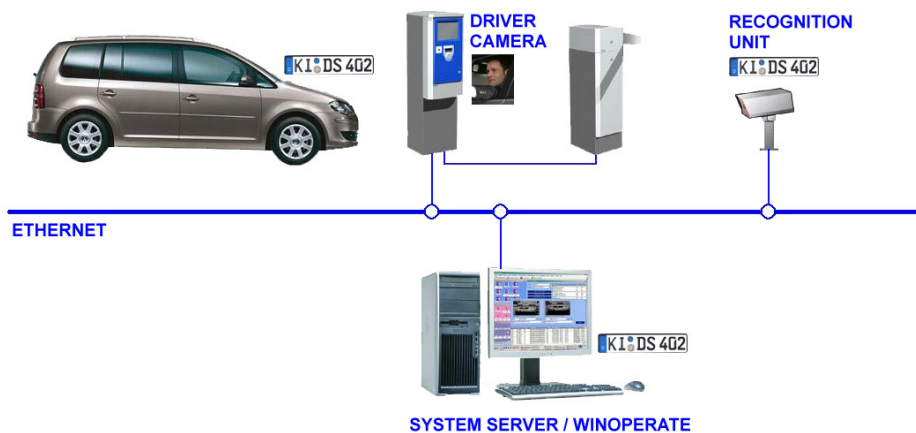


Figure with options

Optional Functions

Theft protection and swindle recognition

- The licence plate recognised at the car park exit is compared to the licence plate which was recognised at the entrance. The operator is notified if a conflict arises. If necessary, the vehicle has to remain at the exit until the conflict has been resolved or the problem is entered into the database as an unsolved conflict and the vehicle is allowed to exit the car park.

VIP list

- The VIP function allows the allocation of customers' cards to their vehicles. If a licence plate is recognised, the card's validity information is determined and checked. The barrier opens automatically after a successful check.

Greylist

- After recognition of a licence plate in the greylist, the operator is notified via a silent alarm and, if necessary, can take further steps.

Driver camera

- The optional driver camera enables precise allocation of the driver to the recognised licence plate.

Overview camera

- Together with the licence plate it is possible to save further images of the vehicle, which, if necessary, can be retrieved. Depending on the resolution of the overview camera and the lighting being used, existing damages can be detected prior to entering the car park.

Reports

- Reports can be extended via optional functions:
 - Entries in the VIP list
 - Entries in the greylist

Recognition Unit

- The recognition unit is a compact lane solution. It contains a camera, lens, infrared lighting, processor with recognition software and Ethernet connection.

Technical Data

Operating conditions

- Max. lane width: 3.5m
- Max. angle of the optical camera line to the lane: 60°
- Max. elevation angle: 60°
- Suitable for indoors and outdoors
- Operating temperature: -10° to 45° C
- Relative humidity: 10 to 80%

Camera

- Progressive scan, 640x480
- Black/White

Lighting

- Panel with infrared LEDs, impulse lighting
- Service life: approx. 5 years

Connections

- Voltage supply 230V, 50Hz
- Ethernet connection

Power consumption

- approx. 100W

Dimensions

- approx. 600x230x200mm (LxWxH)

Options

- Recognition unit WL (wide lane), for lane widths of up to 5.5m

contact