Intelligent Parking Management System
Features

Heavy duty, well finished IP54 cabinet in classical design
The cabinet of Controller and Barrier adopt 2mm precise machining cold-rolled plate and static electricity sprayed anti-UV surface which is non-scale and unfading, conformed to the IP54 dustproof and waterproof. Classical design also decorates your premises.

User-Friendly LCD/LED screen and Voice Prompt
The Controller can be equipped with LCD or LED screen on which detailed operation and system info. are simply and friendly shown. Voice Prompt gives a warm-hearted welcome and operation guide to parkers.

Unmanned Entry & Exit
Unmanned entry & exit helps you reduce labor cost. Hourly parkers themselves take a card from Entry Station, and insert paid card into Exit Station; While season parkers get access by self-service swiping their cards on Entry Station, or enter w/o stop if window shield tag is read by long range reader.

Season Parkers Leave by swiping card or long range RFID
Season parkers leave by self-service swiping their cards on Exit Station, or leave w/o stop if window shield tag is read by long range reader, this reduces your labor cost.

Pay-to-Park Parking Management System

PMS (Parking Management System) is a system for managing pay-to-park parking lots, for both hourly and season parkers. Composed of Entry Station, Exit Station, Barrier, MPS (Manual-pay-station), Loop Detector, software and other optional devices, DASHOU PMS makes your parking lots secure, intelligent and high-efficient, providing below typical different systems for different applications:

PM 810 Central Pay--- Card Dispensing & Central Pay System

PM 810 Central Pay is an advanced Parking Management System for managing pay-to-park facilities with high traffic flow, for both hourly and season parkers. Hourly parkers take card at entry, walk to central paypoint (instead of exit) to pay cash, and drive to exit to insert paid bard into Exit Station to leave. Season parkers get access and leave by self-service swiping their cards on Entry Station & Exit Station respectively, or enter and leave w/o stop if window shield tag is read by long range reader. It is ideal solution for parking lots of premises such as shopping center, exhibition, hospitals, airports etc.
Hourly Parkers Pay Cash At Central Paypoint
When leaving, hourly parkers walk to central point and give card to guard, and the guard swipe the card onto MPS and collect cash, and return the paid card to hourly parkers. The charging data will be displayed and stored in cash register.

Instantly Dispense Cards, high Capacity Card Box
It stably dispenses card within less than 2 second. High capacity card box which can contain Max. 200 cards makes it unnecessary to add cards frequently.

Intelligent Barrier
The digital barrier adopts 70w integrated decelerating torque motor and intelligent control unit. It integrates pressure wave resistance-rebound, loop detector / infrared triple anti-collision and anti-collision rubber pole to ensure the safety of vehicles.

Capture Driver’s face (optional)
When vehicle leaves at the exit, two face photo respectively taken by cameras (built-in entry and exit controller) will be shown together side by side on PC screen for comparison to ensure the safety of parking.

Unique Technology of Detecting Unpaid Vehicle
System automatically records cars coming or leaving without reading cards or without paying.

"One-card-one-vehicle"
With this function, other parkers can not use the same card to enter before the owner of this card leave parking lot. It ensures safety for season parkers’ vehicle and avoids loss of parking fee for owner of parking lot.

Customized Charging Standards
Six different categories of customized charging standards for option, each comprises many sub items such as free time, charging rates during different periods, charging fee during the night, batch charging and maximum amount.

Automatic Plate Number Recognition (optional)
With plate number recognition, parkers can enter or leave parking lots without stop. In addition, if the plate number captured by exit camera does not match the plate number captured by entry camera, the system will alarm.

Suitable for Various Installing Environment
Modularization configuration structure fits various installing environment, such as double lane, single lane, separated entry & exit, and integrated entry & exit, etc. It is also capable of prompt function with check-in and check-out simultaneously in single lane.

MPS, Entry/Exit Station and PC Work Separately
MPS (Manual-pay-station) and Entry/Exit Station separately work fine without connecting to a PC. The data stored in MPS and Entry/Exit Station will be automatically uploaded to a computer if connected.

Multi-type of Card
For season parkers, card type such as date-card, times-card, stored value card, cluster card (multiple-card for one-parking-space) can be set on software.

Idiot proof Software with Multi-function
The software provides the operators with idiot proof and user-friendly interface, and practical multi functions, such as managing season parkers and hourly parkers, real-time surveillance etc. It also supports network version.

“Photo Comparison” ensures double parking safety (optional)
When vehicle leaves at the exit, two photos respectively taken by CCTV cameras (installed at entry and exit) will be shown together side by side on PC screen for comparison to ensure the safety of parking.

Flexible Management of Parking Spaces (optional)
LED screen displays parking space for either temporary cars or registered cars, and free parking space can be transferred to other cars, all this can be done by parking management software.

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**System Configuration**

- **Entry**
  - Entry Station, loop detector, Barrier
- **Exit**
  - Exit Station with card eater, loop detector, Barrier
- **Management Center**
  - MPS (Manual-pay-station), Software, PC
- **Optional Devices**
  - Photo Comparison, Driver Face Capture, Voice Prompt, Intercom, Parking Space Display, Parking Fee Display, Middle Distance Card Reader, Long Distance Card Reader, Red & Green Lights, Automatic License Plate Recognition, Heating System etc.

**Components Description**

**Barrier Gate**
As one part of parking management system, barrier gate stops unauthorized parkers entering your premises, or giving access to authorized parkers.

**Power Supply**
- AC 220V±10%, 50/60HZ, Max. 0.5A
- AC 110V±10%, 50/60HZ, Max. 3.0A

**Motor (AC)**
- 70W controlled decelerating torque motor

**Controller**
- Intel 80C51 MCU, 40 MHz, controlled silicon motor control

**Spring**
- Multi-spring balance

**Loop detector input**
- Pulse width 100>ms

**Infrared detector input**
- Pulse width 100>ms

**Up & Down input**
- Pulse width 102>ms

**Traffic light output**
- Relay output, max. current 1A

**Loop detector Syn. output**
- Relay HD output, AC 220V/0.5A, DC 12V/1A

**Wireless sensor (optional)**
- 2 button remote transmitter, distance >20m

**RS 485 interface**
- Communication with RS 485 interface, CAN interface, compatible with Peli CAN2.0B

**Card size**
- 85mm (W) × 54mm (L)

**Card thickness**
- 0.8 – 1.5mm

**Card Box capacity**
- 200 pcs.

**Card dispensing time**
- <1s

**Card reader Interface**
- 2 nos. Wiegand26 interface

**Card Reader type**
- EM-ID, Mifare-IC, passive/active long range optional

**Reading and verifying time**
- <1s

**Reading range**
- EM-ID 10cm
- Mifare-IC 5cm
- Passive long range 3-12m
- Active long range 3-15m

**LCD Display**
- 7 inch TFT resolution 480×800 (F style) / LCD Resolution 240×64 (A/C style)

**Intelligent Control Unit**
- 40MHz Intel 80C51 Microprocessor
- SRAM with holding circuit of losing electricity
- With Real time Calendar Clock
- Multi Rs232 interface
- Multi 0-5V On-Off input
- Multi Relay output
- DC-DC Electrical isolator CAN interface, compatible with Fw CAN2.0B
- Lightning protection circuit

**Dimension (C style)**
- 400mm (L) × 419mm (W) × 1250mm (H)

**Dimension (F style)**
- 410mm (L) × 412mm (W) × 1155mm (H)

**Dimension (A style)**
- 350mm (L) × 419mm (W) × 1260mm (H)

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**Entry Station**

It dispenses hourly parkers cards to gain access to the parking lots. While season parkers get access by self-service swiping their cards close to the reader built-in Entry Station, or enter w/o stop if window shield tag is read by external long range reader. Typically Entry Station is coupled with Barrier Gate, Loop Detector, and optional devices, depending on the site requirements.

**Specification**

**Power Supply**
- AC 220V±10%, 50/60HZ, Max. 1.5A
- AC 110V±10%, 50/60HZ, Max. 3.0A

**Operating temperature**
- -10°C~55°C (w/o heater)
- -40°C~55°C (with heater)

**Humidity**
- 10%~95%

**Card size**
- 85mm (W) × 54mm (L)

**Card thickness**
- 0.8 – 1.5mm

**Card Box capacity**
- 200 pcs.

**Card dispensing time**
- <1s

**Card reader Interface**
- 2 nos. Wiegand26 interface

**Card Reader type**
- EM-ID, Mifare-IC, passive/active long range optional

**Reading and verifying time**
- <1s

**Reading range**
- EM-ID 10cm
- Mifare-IC 5cm
- Passive long range 3-12m
- Active long range 3-15m

**LED Display**
- Resolution 64×16, active size 256mm×64mm (A/C style)

**Intelligent Control Unit**
- 40MHz Intel 80C51 Microprocessor
- SRAM with holding circuit of losing electricity
- With Real time Calendar Clock
- Multi Rs232 interface
- Multi 0-5V On-Off input
- Multi Relay output
- DC-DC Electrical isolator CAN interface, compatible with Fw CAN2.0B
- Lightning protection circuit

**Dimension (C style)**
- 400mm (L) × 419mm (W) × 1250mm (H)

**Dimension (F style)**
- 410mm (L) × 412mm (W) × 1155mm (H)

**Dimension (A style)**
- 350mm (L) × 419mm (W) × 1260mm (H)
Exit Station

Hourly parkers insert paid card into this Exit Station to leave, while season parkers leave by self-service swiping their cards close to the reader built-in Exit Station, or leave w/o stop if window shield tag is read by external long range reader. Typically Exit Station is coupled with Exit Barriers, Loop Detectors, and optional devices, depending on Specification:

**Power Supply:**
- AC 220V/10%, 50/60HZ, Max. 1.5A
- AC 110V/10%, 50/60HZ, Max. 3.0A

**Operating temperature:**
- -10°C~55°C (w/o heater)
- -40°C~55°C (with heater)

**Humidity:**
- 15%~95%

**Card size:**
- 88mm (W) × 54mm (L)

**Card reader Interface:**
- 2 nos. Wiegand26 interface

**Card Reader type:**
- EM-ID, Mifare-IC, passive/active long range optional

**Reading range:**
- EM-ID: 10cm
- Mifare-IC: 5cm
- Passive long range: 3-12m
- Active long range: 3-15m

**Intelligent Control Unit:**
- 40MHz Intel 80C51 Microprocessor
- SRAM with holding circuit of losing electricity
- 4 nos. Rs232 interface
- 1 nos. Rs485 interface
- 1 interface for keypad
- 3 Relay output
- CAN interface, compatible with Pelco CAN2.0B

**Power Supply:**
- AC 220V±10%, 50/60HZ, Max. 0.5A
- AC 110V±10%, 50/60HZ, Max. 1.0A

**Operating temperature:**
- -25°C~60°C

**Humidity:**
- 10%~95%

Loop Detector

Connecting to a ground induction coil with two relays output, loop detector is to detect existence of vehicles.

**Specification**

**Power Supply:**
- AC 220V / DC 12V, 20mA
- AC 110V / DC 12V

**Frequency:**
- 25-50KHz

**Sensitivity:**
- Three levels sensitivity adjustable by manual

**Environment Compensation:**
- Automatic Drift Compensation technology avoids wrong detection caused by environmental temperature change.

**Ground induction coil:**
- 80μH—300μH

**Storage temperature:**
- -40°C~85°C

**Operating temperature:**
- -20°C~55°C

**Humidity:**
- 10%~95%

MPS (Manual-Pay-Station)

When leaving, hourly parkers walk to the Manual-pay-station which is located in central place instead of the exit, and gives the card to the guard, the guard swipe the card onto the MPS, then he pays cash and the guard returns back the card to him, within given time he drives to the exit and inserts the card into unmanned Exit Station. The charging data will be displayed and stored in cash register.

**Specification**

**Power Supply:**
- AC 220V/10%, 50/60HZ, Max. 0.5A
- AC 110V/10%, 50/60HZ, Max. 1.0A

**Operating temperature:**
- -25°C~60°C

**Humidity:**
- 10%~95%

**Card reader Interface:**
- EM-ID or Mifare-IC

**LCD Display (Optional):**
- 7 inch TFT resolution 480×800 / LCD Resolution 240×64

**Intelligent Control Unit:**
- 40MHz Intel 80C51 Microprocessor

**Power Supply:**
- AC 220V±10%, 50/60HZ, Max. 1.5A
- AC 110V±10%, 50/60HZ, Max. 3.0A

**Operating temperature:**
- -10°C~55°C (w/o heater)
- -40°C~55°C (with heater)

**Humidity:**
- 15%~95%

Optional

Photo Comparison, Driver Face Capture, Voice Prompt, Intercom, Parking Space Display, Parking Fee Display, Middle Distance Card Reader, Long Distance Card Reader, Red & Green Lights, Automatic License Plate Recognition, Heating System etc.
Parking Management System Software & PC

The Windows-based PMS software provides the operators with idiot proof and user-friendly graphic interface, using it is extremely simple, even without training. Operator will be able to run the system quickly. It provides multi functions, such as managing registered parkers and occasional parkers, setting charging standard, real-time surveillance, parking space display, managing events, managing report, registering card etc.

Parking Management System Diagram

APS=Automatic Pay Station

 Self-service pay machine

Get receipt

Entry Station

Exit Station

Barrier

Charging Card Reader

RS232

UTP CAT5E

Manual Pay Station