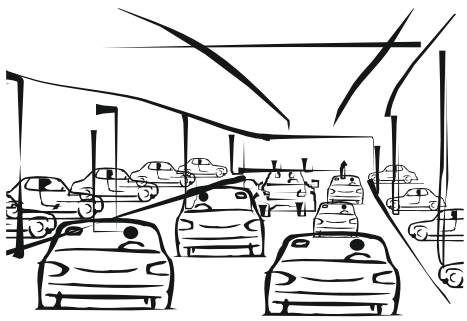
SOLUS™

Solus Parking Guidance System

Current Situation of the Parking lot

Parking your car in busy hours of any public place is a proven pain and with ever increasing number of vehicles in a developing economy this pain is still worsening, though the large scale parking lots are also growing they can accommodate many vehicles, still many problems exists due to multiple floors, followed by Zones, distributed parking spaces and absence of parking guidance to the vehicles drivers.



- In a Large & Busy parking lot, drivers cannot quickly find an available but hidden space due to many cars, which results traffic congestion and NO Parking in-spite having many slots available.
- Manual Process Lowers the service efficiency inside parking spaces.
- Several People are employed to ease the congestion, which increases the operating costs.
- Many Static directional signs increase the operating costs without the realization of efficient parking guidance with Real time availability update.
- Traffic congestion leads to noise and emissions hence effect to health and environment.

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What is Solus Parking Guidance System ?

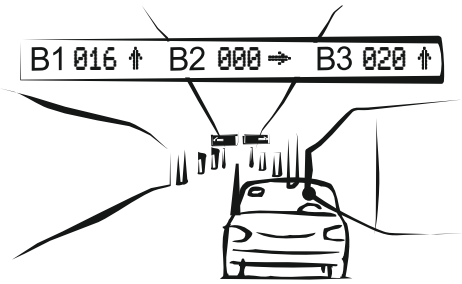
Solus parking guidance system can effectively solve the problems of traditional parking-lot. It uses ultrasonic detector to test the parking status of each parking space, guidance screen and parking lights to guide customers driving to the vacant parking spaces. It can reduce traffic congestion while quickening the vehicle turnover, which will help to raise the parking usage and income.
Research shows that with a guidance system in place,

- The peak hour parking space occupancy increased by 8%.
- Parking spaces utilization will be increased by 3%.
- Carbon dioxide emissions will be decreased by 56%.
- The operation costs will be decreased by 1-3%.

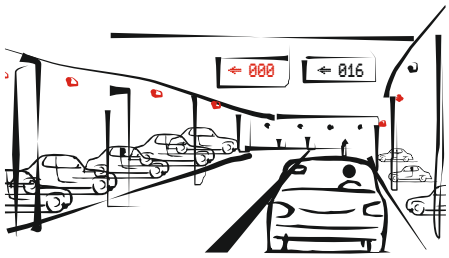
The advanced digital parking guidance system helps to realize quick parking without wasting time. Here is an efficient and convenient parking experience brought by Solus.

❶ The external combined guidance screen uses advanced LED display technology, which enables you to see the information of vacancies even if at the distance of more

❷ The internal regional guidance screens display the information of vacant parking spaces of specific areas, which help you to find the right places.



❸ The guidance screens show the driving directions and the number of vacancies. which help you to find vacant parking spaces quickly.



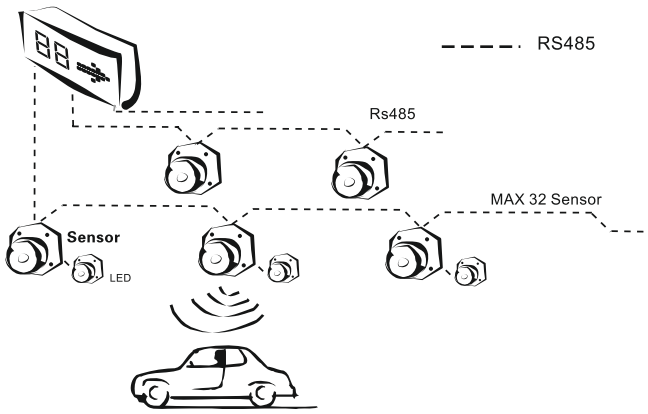
❹ If the above light is green, it means the parking place is vacant; and when a vehicle is parked, the light will turn red. The ultrasonic detector can set its detectable range, which can accurately detect different heights and different types of vehicles.

Solution 1 (Standard) upto 50 Parking Lots

The basic version of parking guidance suitable for small size car parks provides available parking lots information only at main entrance. Driven by Vehicle count loop and Access controlled Boom barrier available lot count reduces by each entry & increases by each exit.

Main Components : Boom Barriers with detection loops, Information LED Display, Smart Card Reader & Dispenser (Optional)

Solution 2 (Professional) upto 200 Parking Lots



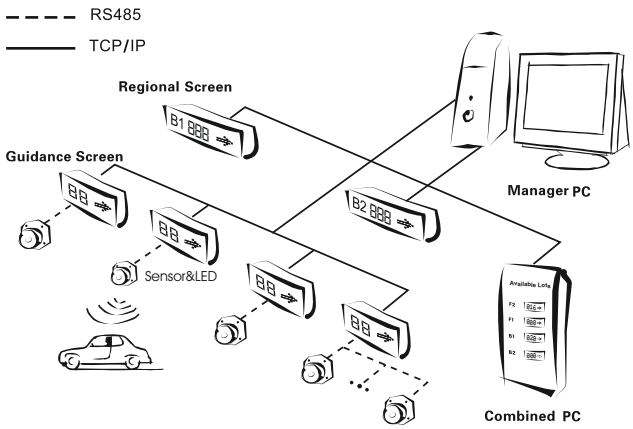
The advance version of parking guidance system, here each parking lot is fitted with an ultrasonic detector and Indicator light. hence Information displays at main entrance and at internal junction points are driven with real time occupancy detected by ultrasonic detectors. An Indicator LED light turns RED when a parking lot is occupied, and status sent to a Zonal Control Unit on RS 485 or on Wireless, Control Unit in turns updates all connected LED information displays.

Each Zone control Unit can have 8 loops of 32 Detectors hence supporting 256 Car park with 8 Information LED Displays.

All Zone control units (ZCU) need to connect with Central Control Unit, which can optionally be connected with Central Parking Management Software.

Main Components : Boom Barriers with detection loops, Information LED Display, Smart Card Reader & Dispenser (Optional), **Parking Detectors, Occupancy Indicator, Zone Control Units, Central Control Units.**

Solution 3 (Enterprise) Any size



This Most Advanced online solution uses an IP Camera over each Parking lot along with Parking sensor and Status Indication LED.

Parking space image information by Camera sent to to Centralised Server PC on TCP/IP network on real-time basis. An intelligent image processing software at the back end extends "Car Find Feature" using Car find Kiosk beyond parking guidance. this also guide the way to reach parked car with path.

This search application can also be extended as mobile application using Android, iOS or Blackberry Mobile phones.

Several Analytic reporting for usage occupancy, timing are generated to improve operational efficiency and planning . software supports web search, Graphic User Interface and E-map function, etc.

Main Components : Boom Barriers with detection loops, Information LED Display, Smart Card Reader & Dispenser (Optional), **Parking Detectors, Occupancy Indicator with Camera, Zone Control Units, Central Control Units. Central Parking Management Software, Parking Search Kiosk's**

Functions And Features

- Modular design: The users can choose ultrasonic detectors and indicator lights separately, or choose the combined two-in-one ultrasonic indicator standalone according to the site requirements.
- Indoor / Out Door : Unique ultrasonic transmit / receive integrated design enables a wider range detection, with 50cm - 3m flexible adjustment of .the detection range.
- The detector sends out ultrasonic signals from the top downward, and accurately detects the presence of vehicles according to the analysis of the reflected waves from car-roof or the ground.
- The detector can accurately judge whether there are parking vehicles, and transmits the signals to the guidance units through high-speed Rs485 bus.
- The indicator light adopts 18 high brightness red/green LED lights. No visual blind spot, bright but not dazzling. It is expertly designed, with the plastic shell of fireproof, anti flaming, safe and ovenproof.

Ultrasonic Detector

Model	S DUD-20 D
Input Voltage	DC16~24V
Rated Wattage	2W
Working Temperature	-25°C to 65°C
Working Humidity	5% - 95% (non-condensing)
Ultrasonic Frequency	40.0+1.0KHz
Detecting Range	1.2m-3.0m
Detecting Angle	About70
Communication Form	RS485, 9600bps
Colors of the Lights	No

DUD-20D Detector

Indicator light 1

Model	SDUD-20L
Input Voltage	DC16-24V
Rated Wattage	0.5W
Working Temperature	-25°C to 65°C
Working Humidity	5%-95% (non-condensing)
Colors of the Lights	Red / Green
States of Parking Spaces	Red-Occupied Green - Vacant Red and Green flashes - reserved

DUD-20L Indicator Light

Indicator light 2

Model	DUD-20LD Standalone
Input Voltage	DC16~24V
Rated Wattage	2.5W
Working Temperature	-25°C to 65°C
Working Humidity	5% - 95% (non-condensing)
Ultrasonic Frequency	40.0+1.0KHz
Detecting Range	1.2~3.0m
Detecting Angle	About 70
States of Parking Spaces	Red-Occupied Green - Vacant Red and Green flashes - reserved
Colors of the Lights	Red / Green
Communication Form	RS485, 9600bps

DUD-20LD Standalone

Functions And Features

- Each guidance screen can manage 96 parking spaces through three RS485 buses of super-ability and high-transfer -rate.
- In actual practice, the external screen which shows the total vacant parking spaces is controlled by the PC. and can display the remaining vacancies of each floor and region.
- High brightness LED indicators, clear and bright without glare, and the visual distance is not less than 20 meters under direct sunlight.
- The case uses deluxe steel frame, and the special multi variant fixed structure makes the installation more convenient.
- The design is small and exquisite, double LED light highly bright. and writing legible and clear.
- The arrows in the guidance screen can be flexibly adjusted according to the site environment.
- Precise numerically controlled cabinets and high-quality UV-static spray.

Information Display 1

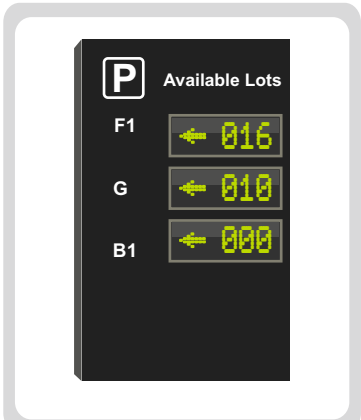
Model	SDLS-120P
Power	24W/AC220V TCP/IP
Communication Form	TCP / IP
Material	Steel frame, Plexiglas panel
Working Temperature	-25°C to 65°C
Working Humidity	5% -95% (non-condensing)
Display Content	2 digil + 1 arrow

Information Display 2

Model	SDLS-230/DLS-230D
Power	60W / AC220V, 30W / AC220V TCP/IP
Communication Form	TCP / IP
Material	Steel frame, Plexiglas panel
Working Temperature	-25°C to 65°C
Working Humidity	5% - 95%(non-condensing)
Display Content	Region No.+3 digit+ 1 arrow/ 2 (Region No.+3digit+1 arrow)

Information Display 3

Model	DLS-X3
Power	200W/AC220V
Communication Form	TCP/IP
Material	Steel frame, Plexiglas panel
Working Temperature	-25°C to 65°C
Working Humidity	5% - 95%(non-condensing)
Display Content	Customized



Data Sharing

WEB client is easy to operate facilitates users to remotely login to check the parking information at any time.

Functions of Report Forms

The software can generate different types of report forms according to different requirements. It can gather statistics of utilization ratio daily. monthly and in different time-period and can be shared over mail or printed. The analysis of the report forms can help to understand the service conditions of the parking-lot and carry on the management effectively.

Automatic Statistical Function for Parking Spaces

The system will calculate the remaining parking spaces automatically and reconciles with collection information statistics and reports variances.

E-map Functions

The layout of the parking-lot can be loaded to the software. and the states of each parking space can be showed synchronously and dynamically. Different colors are used to mark the different states of the parking spaces.

Mobile App Extension

Enterprise Solution users can extend a Mobile app for their users to find parking lot # by giving their car number.

We Provide ....

We have an excellent and experienced team which can design more rational and perfect solutions for different situations

It is hard to find a vacant parking place in a parking-lot where lots of vehicles are parking. You can judge the state of parking spaces according to the colors of the indicator lights. If the light is green. you can park your car at the parking space beside it.

With efficient design, Even in a complex space you can find the vacant spaces without loosing time. The guidance screens show the driving directions and the number of vacancies

Even in the peak period of the parking. the drivers can still park quickly with the help of the guidance information.

Even the only left vacant parking space can be quickly found by the driver according to the guidance screen and indicator lights.

If present area is full, found next area according the guidance screen show.

Functions And Features

- Our management system is simple and easy for operating. It provides WEB client enquiry function which is convenient for the users to check the service condition of the internal parking spaces.
- Solus guidance system can work without using other transit facilities like controlling and transporting. The strong functional modules such as data statistics and display are integrated in the guidance screen, which simplifies the complicated guiding process and avoids data loss and time delay caused by the data conversion.
- Through TCP / IP network, PC can control the management system, The hardware is still able to complete the guidance even in the condition of network constraints.
- The indicator light adopts 18 high brightness LED lights. No visual blind spot, bright but not dazzling.
- The guidance screen adopts the modern design of ultra-thin frame less mirror with wide viewing angle, and the quality is high and the appearance is elegant. Using double high - brightness light-emitting LED lights inside, the digital can display clearly and brightly.
- The detector adopts low-energy-waste and environment-friendly ultrasonic transceiver design, with the ability of strong anti-interference, high stability and accurate signal-receiving.

Your Choice

As a worthwhile investment project, the parking guidance system is the right choice for you

- Accelerate the turnover of vehicles and improve the utilization of parking spaces.
- Increase the number of parking cars and bring greater profits.
- Improve customers' loyalty and optimize the occupancy rate.
- Automatic induction will decrease the cost of labor monitoring.
- Reduce the exhaust emissions and decrease the pollution significantly.
- Simple and convenient management and control by the software.
- Fault self-test, easy to maintain and protect.
- Daily, weekly, quarterly and annual real-time data count.

Benefits for the Car Owners

- The internal indicator arrows which are clear and accurate can help you finish parking.
- Digitals displayed at the screens are visible even at the distance of more than a hundred meters.
- Reduce the fuel consumption and lots of time can be saved
- Quick parking, much safer and more convenient.
- Easy parking brings a pleasant mood.

Solus

- Solus is one of the leading manufacturer of security products, including a wide variety of construction types, colors and designs, combined with up-to-date operation.
- Each product from Solus is designed to balance the needs of aesthetics, security, ease of use and flow rates demanded by different environments. Our factories are automated and technologically advanced.
- This commitment to quality and innovation has enabled Solus to produce the latest innovation in security products.
- Each of our valued employees is extensively trained to produce superior products. This is essential in reaching our company wide objective of 100% customer satisfaction.
- Most of our business is from repeat customers who consider Solus as their supplier of choice.

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