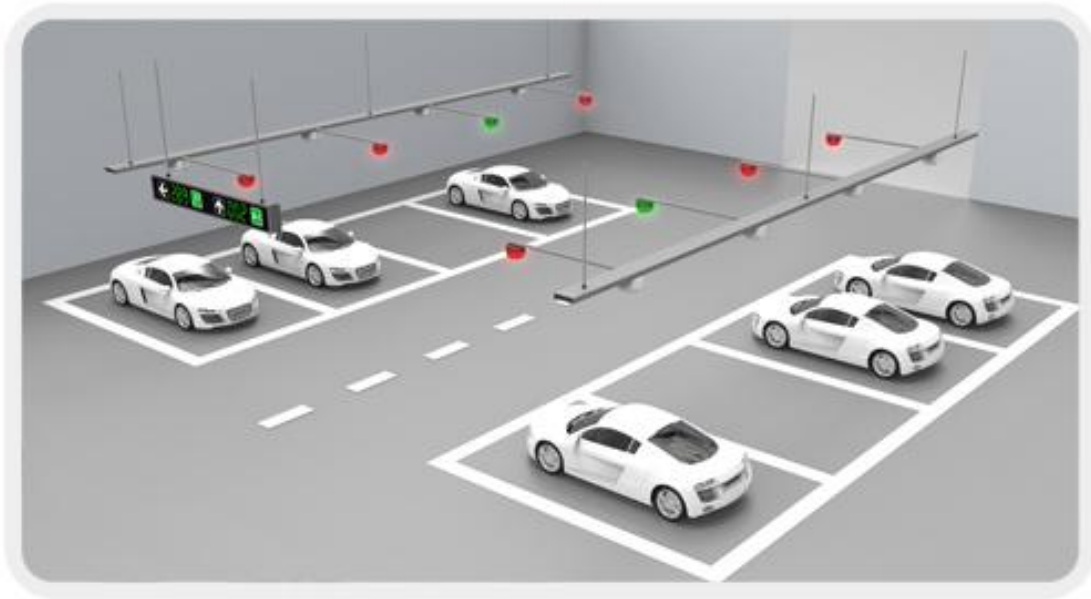
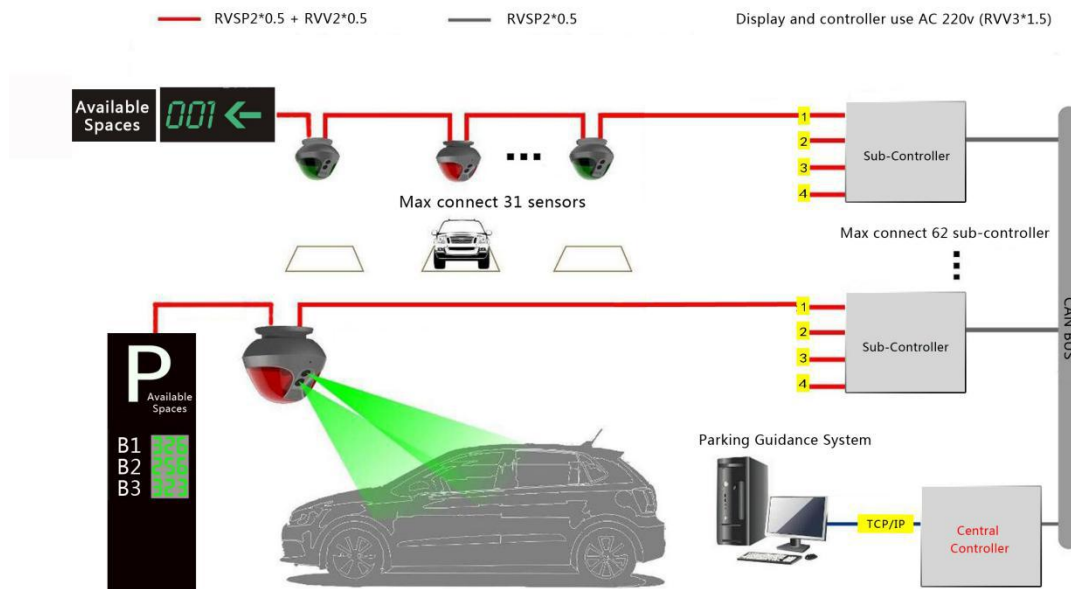


Integrated Sensor Parking Guidance System

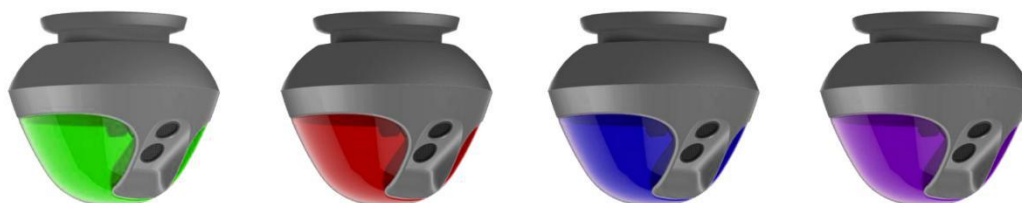


System structure



1. IUS-200 Integrated ultrasonic sensor

The integrated ultrasonic sensor is an important part of the parking guidance system. Our integrated ultrasonic sensor use advanced technology and unique structure, it integrates the ultrasonic sensor with the indicator light and installed in front-top of each parking space. Compared with the traditional ultrasonic parking guidance system, our system reduce the construction time and difficulty greatly, and saved one Indicators, a KBG tube or a bridge, a connector, a cable and etc for each parking space. Greatly reducing the cost of materials for each parking space and labor costs.



The indicator light is green when space is empty, red when space occupied, blue for VIP or exclusive space, purple for booked space. More colors could be use.

Adopt two independent transceiver circuit design, effectively covering the detection area, while working independently, dual switching, redundant backup, greatly improving the detector life and stability and reliability;

Receiving circuit uses a variety of combinations to determine the way to enhance the device's anti-jamming and detection stability;

Adopting advanced intelligent learning anti-jamming algorithm, it effectively solves the stability and reliability of the sounding of parking spaces caused by ultrasonic crosstalk, bypass interference and radio interference in the process of detection;

The whole system has undergone rigorous tests of static electricity, lightning and surge, group pulse and other tests to effectively ensure the reliable use of fluorescent lamps, large mechanical and electrical equipment, lightning and surge and other harsh environmental factors in the parking lot environment;

Adopt short circuit, reverse connection and wrong connection protection design to prevent electrical damage to related equipment

The interface is connected by pluggable terminal. Just insert terminal, connection finish easily greatly reducing the labor cost of traditional wiring and reducing the short circuit and poor contact caused by improper connection; (Ethernet connection is optional)

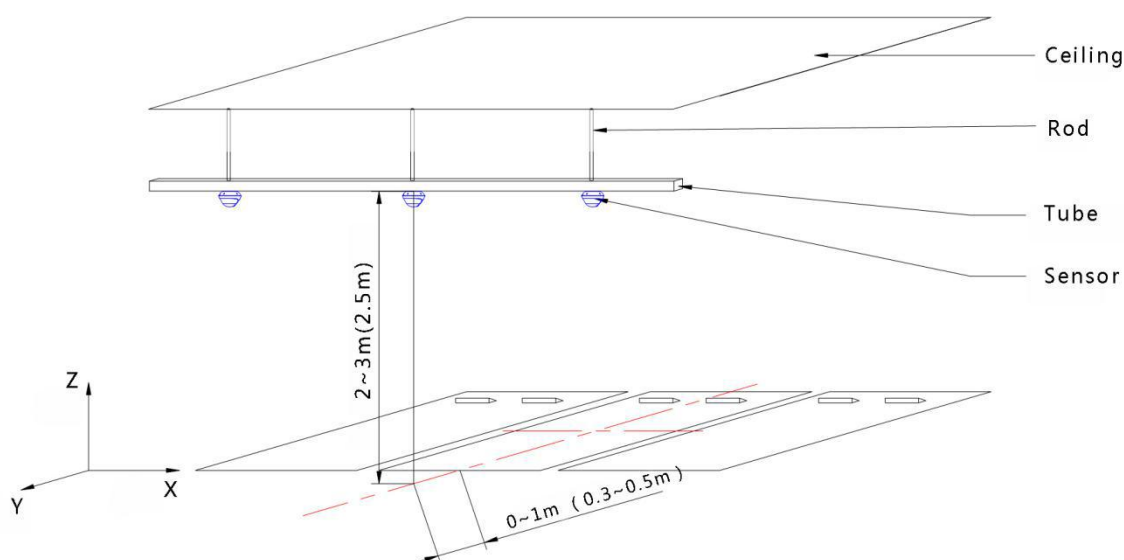
Internal use 8 RGB LED beads design, long service life, visual distance;

Support input and output of passive binary/on-off signals, can detect parking lock input signal and other external equipment signal

Support booking space function.

Installation

The integrated ultrasonic detector is installed ahead of parking line and is 0~1m, recommended distance is 0.3-0.5m. The installation height is 2~3m, recommended is 2.5 m.



2. IRC-100 Remote controller

Compared with first generation DIP switch, remote control to set the sensor address and detect height.

Instructions:

1. About 1 second after power-on initialization is completed, the screen displays the above data.
2. Press the READ button to read the current device status (this step can be skipped)
3. Use the up, down, left, right to select the parameters, press plus, minus modified to the desired value
4. After setting, press the set button to complete the modification. If the device receives the modification information successfully, there will be a blue light flash.

3. PGC-410 Node controller

Node controller cyclically detects the status of the connected detectors and uploads the information to the central controller. One node controller is designed to connect 124 terminals maximum. We recommend connect 80 terminals maximum to keep system working more stable. Node controller use for connecting the central controller and parking detectors, LED displays, etc., Using RS485, CAN bus hybrid communication mechanism to solve the problem of long-distance communication is not reliable, the expansion of network nodes, group management issues.

Adopts internationally advanced imported 32-bit ARM processor, all industrial grade design, to ensure the product is stable and reliable, the entire system controller can be remotely upgraded, always meet user needs;

Adopt CAN bus industrial grade communication interface design, the signal communication is stable and reliable, the transmission distance can reach 1.2 kilometers;

Four RS485 communication interface design, completely independent of each other between the four does not affect. Each of the bus can connect the maximum of 31 RS485 devices, high communication efficiency;

The overall use of industrial design, after rigorous static electricity, lightning and surge, pulse and other tests, effectively ensure the reliable use of equipment;

Using short circuit, reverse connection and wrong connection protection design to prevent electrical damage to related equipment

Adopts the advanced anti-collision, fault-tolerant and error-correcting algorithm mechanism to ensure the stable and reliable communication.

Quickly detect the communication status of RS485 equipment and diagnose the bus connection after installation.

Technical parameters

Model:	PGC-410	Voltage:	AC 110~240V
Temperature:	-20 ~ +65℃	Power:	≤2W
Dimension:	280×260×100mm	Weight:	3.75Kg
Communication distance:	1 CAN @ 20kbps 4 RS485 @ 9600bps	communication distance:	CAN: ≤1000m (RVSP 2*0.75) RS485: ≤150m (RVSP 2*0.5)
Installation position:	vertical 2 ~ 3m (recommended 2.5m)	Material:	gray paint cold steel
	Level 0 ~ 1m (recommended 0.3 ~ 0.5m)	RS485 capacity:	31units(sensors and led display)

Node controller installation

Node controller is generally installed on wall or power control room , the proposed installation height of 2 meters or above.

4. PGC-400 Central controller

The central controller is the core of the whole system. It is the acquisition and control center of the entire intelligent parking guidance system. Through the update of the real-time data of the parking guidance screen, the guidance function of the vehicle can be realized. A central controller can control up to 62 node controllers.

Central controller connect host computer with TCP/IP communication;

Adopt advanced imported 32-bit ARM processor, all industrial grade design, to ensure the product is stable and reliable, the entire system controller can be remotely upgraded, meet user needs at anytime;

Adopt CAN bus industrial grade communication interface design, the signal communication is stable and reliable, the transmission distance can reach 1 kilometers;

Passed rigorous static electricity, thunder lightning, surge ,group pulse and other tests, effectively ensure the reliable use of equipment;

Using short circuit, reverse connection and wrong connection protection design to prevent electrical damage to related equipment

Adopts the advanced anti-collision, fault-tolerant and error-correcting algorithm mechanism to ensure the stable and reliable communication

Ethernet, CAN bus hybrid combination of communication to increase the system capacity, communication and reliable, communication chips are used industrial-grade protection and isolation;

Automatically scan the terminal devices such as sensors and led displays, with automatic alarm function of device failure;

Maximum management partition 256 (supports 256 kinds of related methods);

The partition information not affected by installation location of the sensors and led display ,

and can be associated with any sensors and led display;

After download the related information of the system, it will be automatically saved, the whole system can work offline independently without computer.

Technical parameters

Model:	PGC-400	Voltage:	AC 110~240V
Operating temperature:	-20 ~ +65 °C	Power consumption:	≤3W
Dimension:	280×260×100mm	Weight:	3.36Kg
Communication:	1 CAN @ 20kbps 1 10/100M BaseT Ethernet	communication distance:	CAN: ≤1000m (RVSP 2*0.75) TCP/IP: 100m(over CAT 5 cable)
Node capacity:	62units	Material:	gray paint cold steel

5. IED-1100Indoor LED Display

Indooe LED display consist of the high-brightness LED modules, drive units and the case. It receives the output information of the controller, real-time display the number of vacancies in the area in the form of numbers, arrows, etc., and help driver find the empty space easily.

Dust-proof design, special shell paint, hard to fade;

Acrylic panel and painting shell cold steel;

Low-power design, with short circuit, overload, over-current, over-voltage protection;

The industrial design, through rigorous static electricity, lightning and surge, group pulse test, effectively ensure the reliable use of equipment;

multi-directional display content support, to meet the various crossroads to use;

led beads luminous intensity of 1600mcd, visual distance more than 50m, wide viewing angle;

Technical parameters

Model:	IED-1100	Operating	AC 110~240V
Communication:	RS485 @ 9600bps	Power:	≤10W(one direction)
Communication distance:	≤300m	Temperature	-20 ~ +65 °C
Dimension: (support customized)	One direction: 1065*90*270mm	Humidity:	≤90% RH
	Two direction: 1370*90*270mm	Material:	Paint cold steel & acrylic
	Three direction: 1680*90*270mm	LED light:	Red and Green

6. IED-2100 Outdoor LED Display

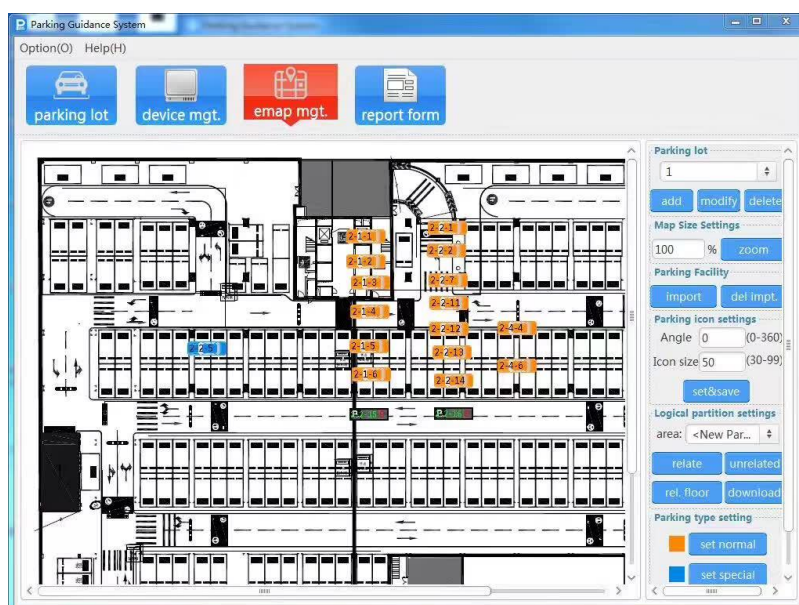
Outdoor LED display installed at every entrance of parking lot, to display the remaining parking spaces information of different floor. The display screen is composed of high-brightness LED modules, driving circuits, brackets and other components. It receives parking statistics from controller and displays the number of empty parking spaces in the parking lot in real time. Inform the driver of the parking space information in advance.

- Acrylic panel and painting shell cold steel;
- Parking signs with reflective film;
- waterproof and dustproof design, with anti-UV paint treatment, color hard fade;
- Low-power design, with short circuit, overload, over-current, over-voltage protection;
- Industrial design, through rigorous static electricity, lightning and surge, group pulse test, effectively ensure the reliable use of equipment;
- LED luminous intensity is 1600mcd, visual distance greater than 50m, wide viewing angle.

Technical parameters

Model:	IED-2105	Voltage:	AC 110~240V
Communication:	RS485 @ 9600bps	Power:	≤10W (one direction)
Communication	300m	Temperature:	-20 ~ +65 °C
LED light:	Red and Green	Protection class:	IP67
Dimension:	75*20*2,200mm	Material:	Paint cold steel & acrylic

7. Parking guidance system software (English version)



7.1. Parking guidance function:

Control led display, guide driver find empty space quickly, improve the utilization rate of parking lots, optimize the parking environment and improve customer satisfaction.

7.2. Fixed parking protection (customized):

Through the avoidance guidance, to achieve reservations of VIP space, monthly paid, or exclusive space.

7.3. Real-time monitoring of parking spaces status:

The software can display every sensor and led display state, shows the occupation of the parking spaces in real time, count the occupied parking spaces, the empty spares. Statistics within the period of vehicles into the number of vehicles entering or leaving, to facilitate management of the yard monitoring and management.

7.4. Statistics function:

Calculate the usage of parking space every hour,day and month, etc.

7.5. Parking time detection function:

Calculate the parking time after the car parked on the parking space.

7.6. Permission Control Function:

Multi-level permission control functions to facilitate the manage and confidentiality of relevant information.

7.7. Other functions can be modified according requirements