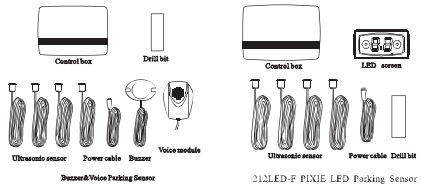
PARKING SENSOR SYSTEM

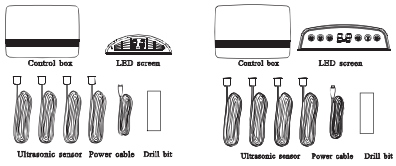
Instruction Manual

Packing list (See Picture 1)

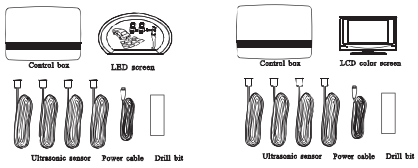
1、Control box	1PC
2、Buzzer/Voice module LED/ LCD Display screen	1PC
3、Ultrasonic sensor	4, 6 or 8 PCS
4、Power cable	1PC
5、Drill bit	1PC
6、Instruction manual	1PC



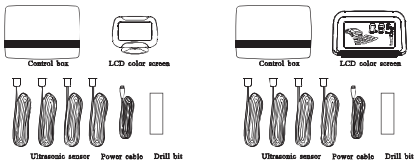
Picture 1



Picture 1



Picture 1



Picture 1

Catalogue

User's Guide

Introduction

Parking sensor system is supplementary safety equipment that is specially designed for car reversing. There is hidden trouble while reversing because of blind zone behind the car. After installing parking sensor, when reversing.

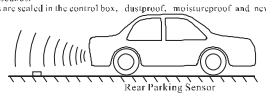
*Buzzer/Voice Module detects obstacle behind the car and sends out four beeping tone or voice warning as a reminder.
*LED system displays the distance on the screen and sends out four beeping tone as a reminder.
*LCD system displays the distance of obstacles on the screen with voice alert, or can be matched with four beeping tone as a reminder.

So that it is more relax and safe while reversing.

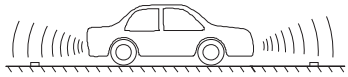
Product character

- No-ground detecting technology: the ultrasonic beam is flat shape(see Picture 2) The obstacle lower than 1cm can not be detected so that system works very stably.
- Intellectualized anti-interference analysis system, lower error report
- Sensor sensitivity can be chosen by the user.
- Superbright & colorful display screen.

- For LED series, can be matched with optional voice module, easy installation, reports distance with graceful sounds.
- All plugs are sealed in the control box, dustproof, moistureproof and never loose.



Rear Parking Sensor



Front & Rear Parking Sensor

Picture 2

Using method

Front Sensor

*Front sensors start to work upon braking activation, If there is not any obstacle within 0.6 meter or 0.9 meter in the front of car (the distance can be set), system displays nothing. Otherwise, system displays the distance of obstacle and reports the distance rapidly with graceful sounds. (Only for 6 or 8 sensors)
*If the red wire connect to ACC, front sensors stop work after release the braking for 5 seconds. If the red wire connect to brake, front sensors stop work as soon as release the braking.
*Front sensors do not work when the vehicle is in reverse. (Only for 6 or 8 sensors)
*Front sensors' detection range: 0.3 to 0.6m(default) and 0.3 to 0.9m(optional)

Rear Sensor

Rear sensors are activated when reverse gear is engaged. System automatically switches to reversing distance indication. If there is no obstacle within 2 meters behind the car, it displays " - - ". When the obstacle moves closer,

*Voice system reports the distance with graceful sounds,the volume can be chosen for high,middle ,low by the user.
*Buzzer system sends out four beeping tone as a reminder,please see table 1.
*LED system displays the distance of obstacle on the screen and sends out four beeping tone as a reminder. If it is assembled with the voice module, when reversing, it reports the distance with graceful sounds.
*LCD system displays the distance of obstacles on the screen with voice alert, or can be matched with four beeping tone as a reminder.

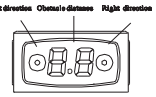
Please see table 1:

Table 1: Safety distance and buzz

Distance (meter)	Distance (feet)	Buzz
>1.5	>4.9	No buzz
1.5-1.0	4.9-3.3	Slow buzz
1.0-0.7	3.3-2.3	Middle speed buzz
0.7-0.3	2.3-1.0	Quick buzz
<0.3	<1.0	Urgent buzz

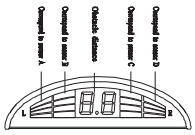
Due to the inertia of the car, it will show the distance 10cm(4inch) less than the real distance.

Display information, please see Picture 3

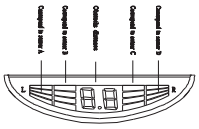


212LED-F Display Information, for this design, can be produced as both dash mount and up mount (inversion item).

Picture 3

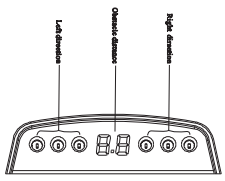


216LED-F Dash Mount Display Information

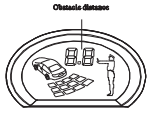


216LED-F Up mount(inversion) Display Information

Picture 3

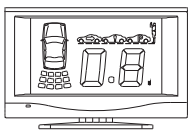


226LED-F LED Parking Sensor

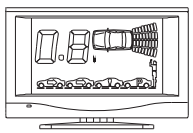


227LED-F LED Parking Sensor

Picture 3



217LCD-F/Y Display Information



218LCD-F/Y Display Information

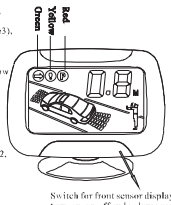
Picture 3

Front sensor' s turn on and turn off (only for MP-220LCD-Y)

When stepping on the brake gear, press the switch (see picture3), it can turn on or off front sensor distance display function. If the front sensor display function is closed and the speaker is mute, front sensor is still in working, the 3 mark ⑧ ⑦ ⑨ on the left top of screen will be lightened as Green/Yellow /Red to be a remiader.When the front sensor distance display function is turned on, the system displays the obstacle distance on screen and send out voice warning at same time.

Volume Control:

Press the switch for 1 second, the LCD screen display 0/1/2, correspond to mute/undertone/loudness.

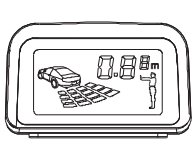


Switch for front sensor display turn on or off and volume control
220LCD-F/Y Display Information

Picture 3

228LCD:
Different background(green, orange or red) based on different obstacle distance.

Volume could be adjusted by slide switch in the back, could choose mute/undertone/loudness.



228LCD-F/Y LCD Parking Sensor

219LCD-F/Y LCD Parking Sensor

Picture 3

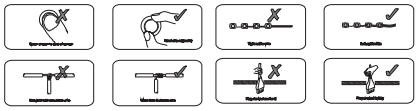
Using notice

- Parking sensor is designed only for reverse assistance. The driving safety depends on the driver' s prudence. Our company will not be responsible for the traffic accidents.
- As the system does not connect to car brake system, please brake immediately once hearing rapidly "di - di" reminder
- Do not press the sensor core. Please clean the ice, snow, silt or others dust away of the surface of sensors.
- All parking sensors may fail to detect the following objects based on the ultrasonic detecting principle:
  1)Vertical objects lower than the sensor such as pillar and low wall
  2)Sharp corners, such as corner of wall, diagonal quadrate pillar
  3)Hanged objects, such as trunk, horizontal sign pole and projecting steel bar
  4)Objects or shapes which are disadvantaged for ultrasonic wave projection, such as the wheels of bike, human body is away from one meter or above.

Installation Guide

Installation notice

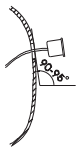
1) Please ensure the power is OFF prior to connecting any wires
2) All joints should be enlaced more than 5 circles with good insulation.
3) Do not press the sensor core during installation.
4) Front sensor installation with the order of E,F,G,H
   Rear sensor installation with the order of A,B,C,D
   Sensor cable is connected to the control box with the order of E,F,G,H,A,B,C,D
5) Please do not close up the engine or face to the cooling fan during front sensor installation.
6) Do not have anything higher than sensors on the body.
7) The sensor and control box have been matched strictly in production. Different types of sensor can not be exchanged.
8) Other notice please see Picture 4



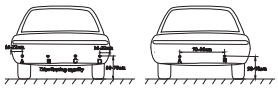
Picture 4

Ultrasonic sensor installation

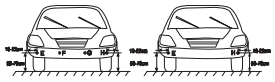
Front Sensor is installed on the shell beside of the headlight, rear sensor is installed on the back bumper. Choosing a place where is vertical with the ground or a bit up tilting to the ground, please see Picture 5. It should be installed 5~10 degree up tilting to the ground if the installation position is lower than 50 cm to the ground.



Picture 5 Sensor plumbs the ground or slightly tilted

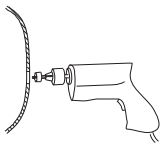


Picture 6 Rear Sensor installation distance



Picture 7 Front Sensor installation distance

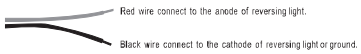
Drill the hole by which prepared in the package, please see Picture 8. After drilling, please clean the edge of hole.



Put the sensors into the holes according to Picture 5, sensor cables go through into the trunk of car.

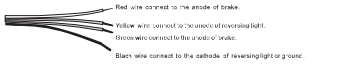
Power cable connection

4sensors: Please see Picture 9

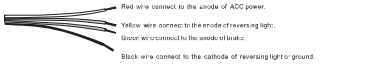


Picture 9 Power cable connection(4 sensors)

6 or 8 sensors: Please see Picture 10&11



Picture 10 Power cable connection for automatic transmission(6 or 8 sensors)

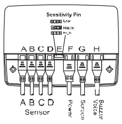


Picture 11 Power cable connection for manual transmission(6 or 8 sensors)

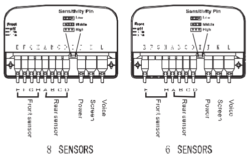
Control box connection

Before connection, pls remove the screws of the control box firstly.
4 sensors Please see Picture 12.

- Insert the sensor cable into the four sockets A, B, C,D from left to right.
- Insert the power cable into F socket
- Insert the display screen cable into G socket
- Insert the voice module cable into H socket if selection
- Arrange the cable in a good order and then screw the lid tightly.



Picture 12



Picture 13

6 or 8 sensors: Please see Picture 13

- Insert the front sensor cables into the four sockets E, F, G, and H from left to right.
- Insert the rear sensor cables into the four sockets A, B, C, and D from left to right.
- Insert the power cable into J socket
- Insert the display screen cable into K socket
- Insert the voice module cable into L socket if selection.
- Arrange the cables in a good order and then screw the lid tightly.

Sensor sensitivity adjustment

The system is already set to a middle sensitivity when ex work. if the error report appears frequently in using please move the sensitivity pin to high or low.

Setting detection distance of front sensor

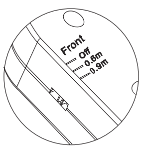
Please choose the detection range as per Picture 14 indication:
0.6M means the farthest range is 0.6M.
0.9M means the farthest range is 0.9M.
Off means the front sensor is closed.

Fix control box

Tear off the shield of the velcro strap on the back of control box and stick on the sidewall of the trunk. If the sidewall of trunk is covered by felt, pls take off the half of the velcro and stick on the felt directly. Clean the dust before sticking.

Fix Display Screen

Tear off the shield of the velcro strap under the screen and stick on the left corner of the dashboard. Clean the dust before sticking.



Picture 14 Setting detection distance of front sensor

Technical Parameter

Working voltage: D.C.10-16 V
Working current: ≤200mA for Buzzer
Working current: ≤350mA for Voice
Power protection for wrong connection: yes
Fuse: built in automatic recovery fuse
Rear detection distance for Buzzer: 0.3m-1.5m(1-4.92ft)
Rear detection distance : 0.30m-2m (1-6.56ft)
Rear sensor cable length: 2.50m
Front detection distance : 0.30m-0.60m(default) Or 0.30m-0.90m(optional), also can be closed.
Front sensor cable length: 7.60m
Display screen cable length: 5.20m or 6.00m(with extra connector)
4 sensors control box: 105*75*21mm
6/8 sensors control box: 140*90*25 mm
212LED-F Screen Size:61*29*31mm
216LED-F Screen Size: 90*28*26mm
217/218LCD-F/Y Screen Size: 81*49*8mm
220LCD-F/Y Screen Size : 80*55*23 mm
Working temperature: -40℃~+80 ℃(LED)
-20℃~+75 ℃(LCD)

Problem and solution

Table 2 Problem and solution

Number	Problem	Solution
1	No display when reverse gear is engaged	1.Check if power on, reversing light on 2.Check if power cable is connected to the correct socket 3.Check if display screen cable is connected to the correct socket
2	Front sensors do not work	1.Check if brake light is in a good condition 2. Check if the red wire is connected to ACC or brake light 3.Check if there is no obstacle or only a little obstacle in front of the car 4.Check if the switch behind the control box is OFF
3	Display but no buzz	1.If the system assembled with voice module, the buzz will be forbidden. 2. Check if the screen cable connect to the correct socket
4	Wrong display	1.Check if other pressure, car washing nearby or another parking sensor is working 2.Check if anything is higher than sensor 3.Check if sensor installed too low 4.Check if sensor installed facing to the ground by mistake 5.Check if all plugs and joints connected firmly 6.Try to reduce the sensitivity

5	Keep beeping without obstacle	Same as above
6	Low sensitivity	1.Check if heavy silt on the surface of sensor 2.Check if all plugs and joints connected firmly 3.Check if voltage is normal.
7	Two different digital display	1.Two obstacles 2.Obstacle is moving
8	Restart often	Poor contact of power cable or ground
9	Sometimes good and sometimes bad	Check if all plugs and joints connected firmly
10	Display when raining	Detect raindrop if rain is heavy
11	Display on the snowground	Detect snow if the snow is much higher than the ground