TOTAL SECURITY SYSTEMS

tss GROUP

# KEETEC BS 400

# KEETEC BS 400 LED

## PARKING SENSOR SYSTEM

# USER'S MANUAL

BSI REGISTERED

UKAS QUALITY MANAGEMENT 003

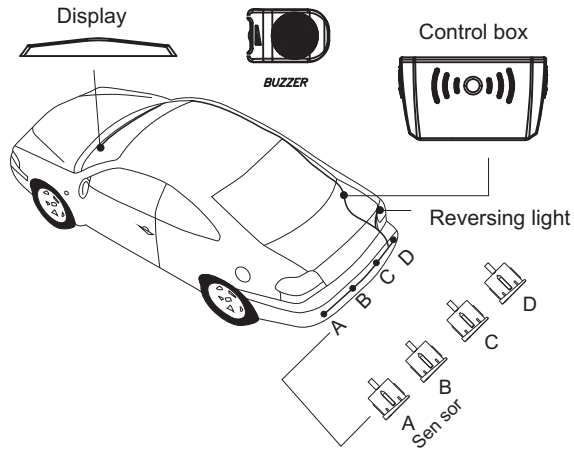
MGML. SYS. RvA C 030

e24

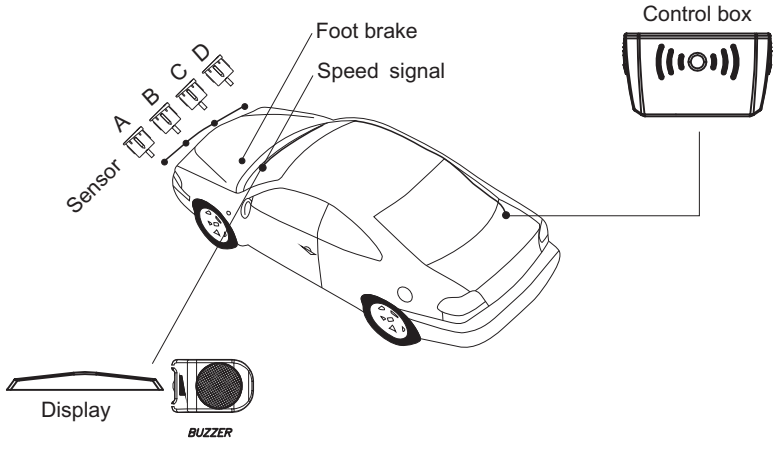
ISO 9001:2000 FM 78496
QS 9000:March 1998 FM 78495

## GENERAL INSTALLATION DIAGRAM

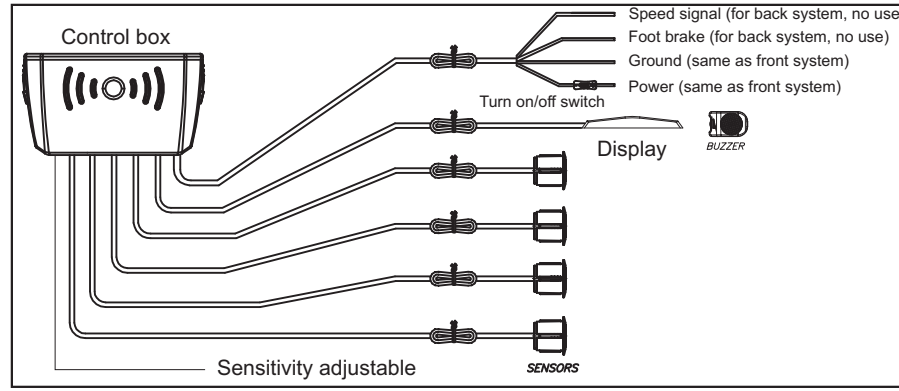
### Back system



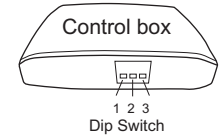

### Front system




## MAIN UNIT




## DIP SWITCH OF MAIN UNIT




| | | | | |
|---|---|---|---|---|
| Dip switch1 | function | | | |
| | front or back system choosing | | | |
| | UP | on | back system | 0.3-1.5m |
| | Down | off | front system * | 0.3-1.0m* |

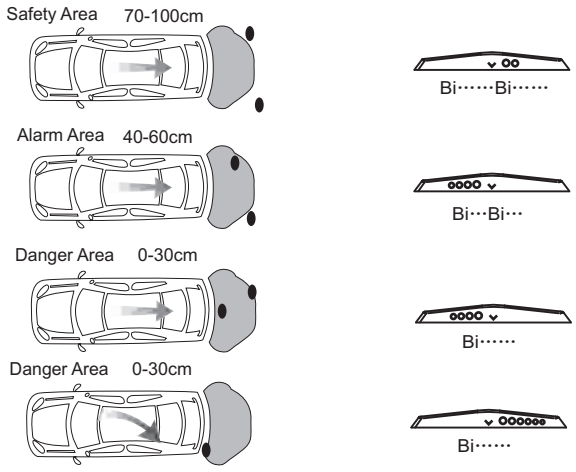
* It has to realise the below functions: **A.** there is switch on the power wire, used to control the system turn on or turn off; **B.**If the signal speed is set, when the real speed is lower than the set speed, the system work normally(the switch on the power wire is in "Turn on" status, if you turn it off, the system wouldn't work), if the real speed is higher than the set speed, the system will not work automatically; **C**. If you didn't set the signal speed, when you press the foot brake, the system will only work for 15s. But if there is obstacle, the system will start work automatically.

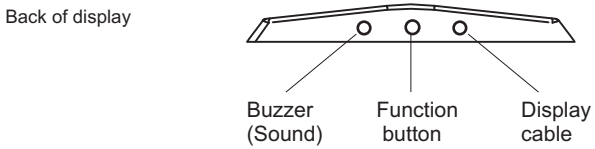
| | | | | |
|---|---|---|---|---|
| Dip switch 2 (for back system, no use) | Function: Initial alarming mode control | | | |
| | UP | on | start to alarm at 1.5m | Yellow LED light |
| | Down | off | start to alarm at 0.5m | Red LED light |

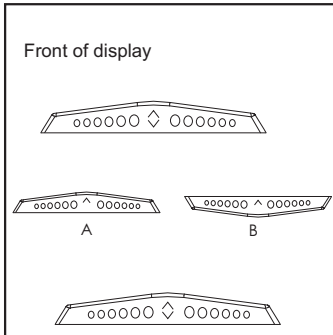
| | | | | |
|---|---|---|---|---|
| Dip switch 3 (for back system, no use) | Function: anti-hook | | | |
| | UP | on | cancel the function | The system will regard the hook as an obstacle, The display will show the real distance |
| | Down | off | start the function | the system will not regard the hook as an obstacle, the display will show 20cm less than the real distance |

## DISPLAY STATUS

### Front system




**Function button**

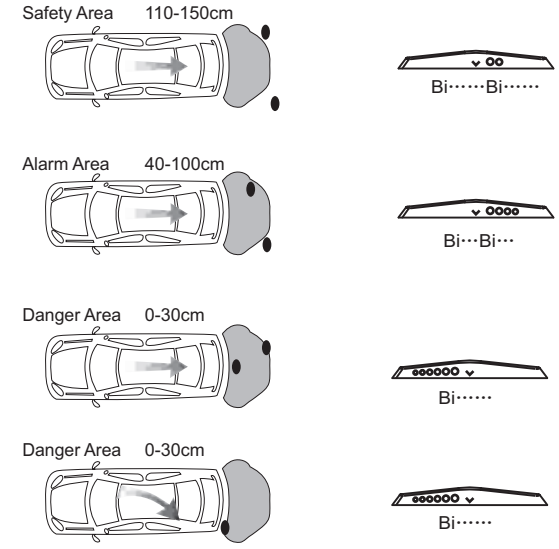
Press once: mute, press once again, sound;

12s: Reset; press button for 12s till the 2 triangles and all the LED light shining, then let your hands off, press it once again, it enters into RESET status.

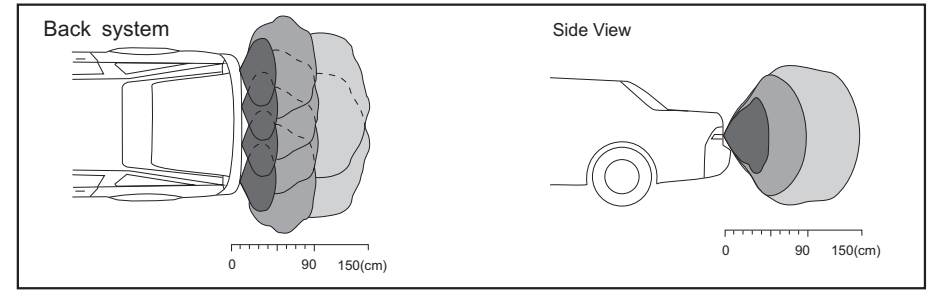
6S: Dashboard installation OR roof-installation; press the button for 6s until the triangle change to A--dashboard installation, to B--roof installation;

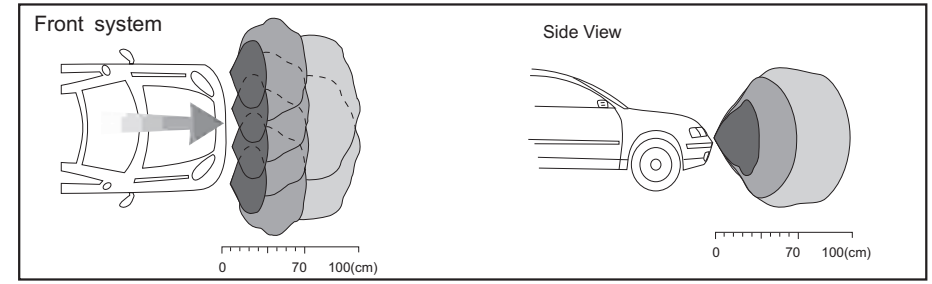
9S: Speed set; press the button for 9s till the 2 triangles shining, then let your hands off, press once again, it enters into speed setting;

### Back system

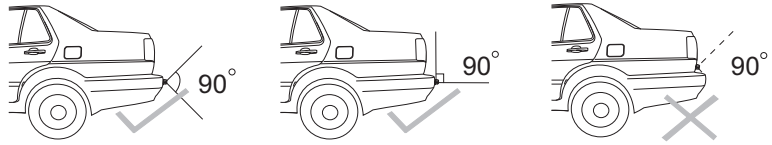



## DETECTING RANGE

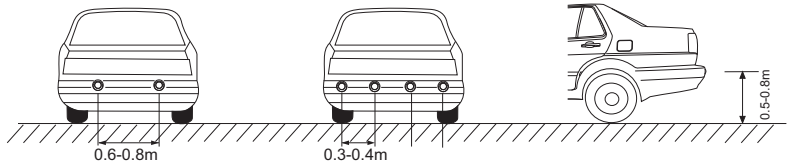


## SENSOR INSTALLATION DIAGRAM

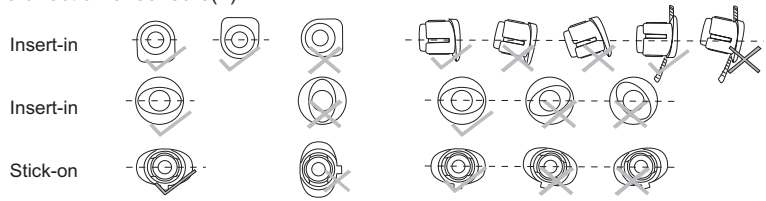



Be sure no other part of vehicle falls into detecting range of sensors.

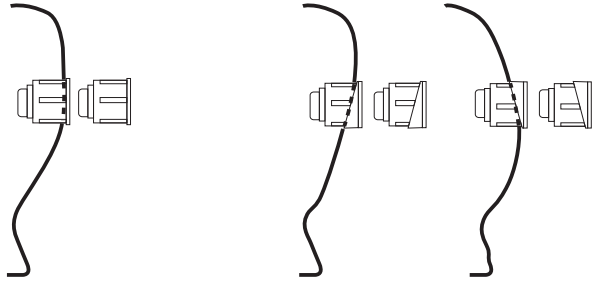



The best position for 2-sensors The best position for 4-sensors

The direction of sensors(1)

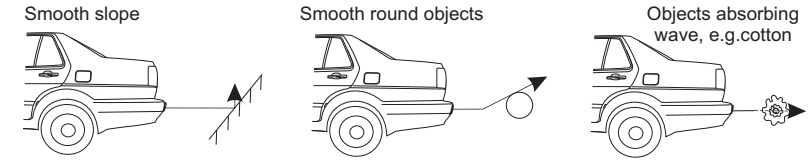



The direction of sensors(2)



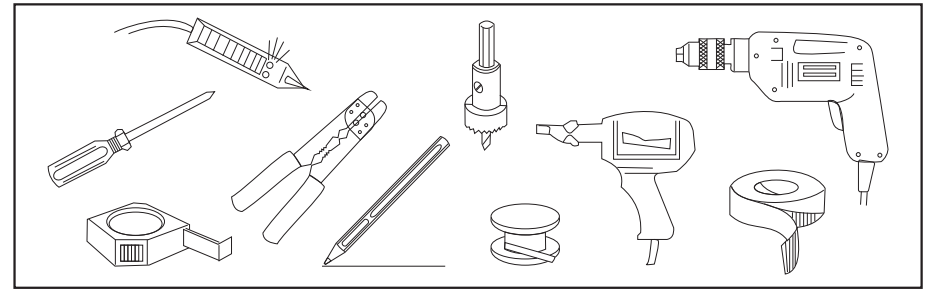
Vertical installation position to the ground  Sloping installation opsition to the ground

Stick-on and insert-in sensors in various shapes for option

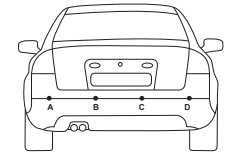



Objects hard to be detected

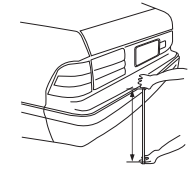
## INSTALLATION TOOLS



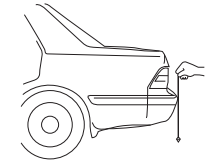
## 1. Advised position to install the sensors




A. 4 drilled holes (A,B,C,D) should be under the same line.

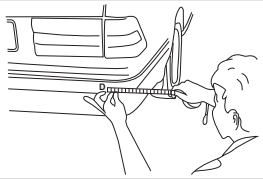


B. 0.5-0.8m vertically high to the ground, 0.55m is recommended.

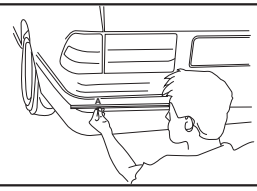


C. Vertical, tidy surface without metal components is preferred.

## 2. Select drilling position for sensor A & D

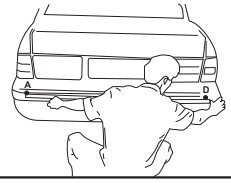


A. Choose suitable drilling position for A & D sensor with relevant mark.

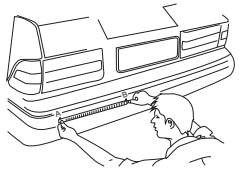


B. To perform the best detecting angle, select the position for A & D sensor with 8-13cm away from the side, 11cm is recommended, and 20° with the side.

## 3. Select drilling position for sensor B & C

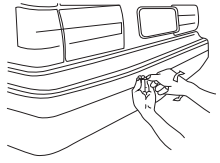


A. Measure the distance between sensor A and D, get the result "L".

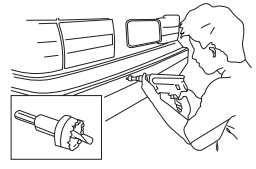


B. Mark sensor B & C for every 1/3 "L" interval.

## 4. Drilling

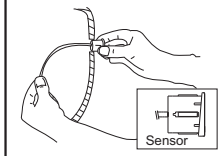


A. Firstly, use a small driller tip to locate.

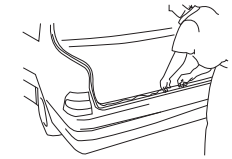


B. Drill with the original driller.

## 5. Sensor Installation

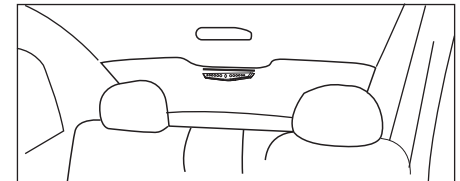



A. Insert the sensors into the holes one by one and tighten them. The sensor with metal slice must be installed following the direction.

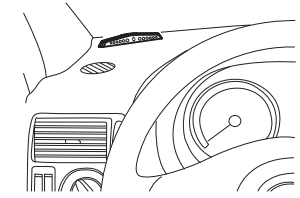


B. Hide the wires in good order according to various cars.

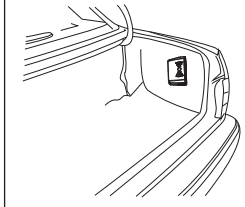
## 6. Others



If the display is installed on the roof, please choose ﹀

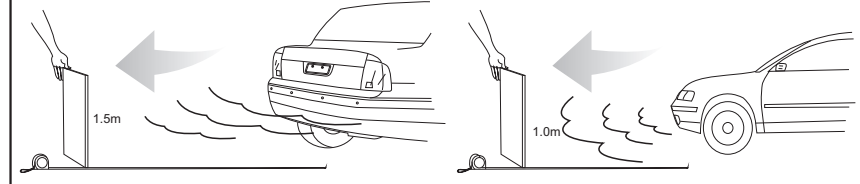


If the display is installed on the dashboard, please choose ﹀



Locate the control box in the boot, keep safe, cool, dry and away from shake and interference.

## 7. Sensor Detecting



# PARKING SENSOR SYSTEM

H-123 consists of ultrasonic sensors, digital control unit and display. This system detects the distance between the car and back obstruction by the ultrasonic sensors installed at the rearward of the car. The distance and direction of the back obstruction will be displayed in an innovative mode with the specially designed LED light, three-step sounds. With changes of sound and number color, drivers can control the distance between the car and obstruction .

## MAIN FEATURES

- Led display
- Dashboard/front roof installation
- Buzzer or display for option
- obstruction identification of left and right
- Sensitivity adjustable; Anti-hook function
- Front or back system for choice
- System stop alarming if the distance keep the same for 5s

## TECHNICAL SPECIFICATIONS

- Rated Voltage: DC 12V
- Operating Range: DC 9 ~ 16V
- Operating Current: 20 ~ 200mA
- Detecting Distance: 0.3 ~ 1.5m(Back) 0.3-1.0m(Front)
- Ultrasonic Frequency: 40KHz
- Working Temperature: -30 ~ +70℃
- Display Size: 148*20*17mm

## ALARM MODE

Back System

| Stage | Distance | Awareness | Alarm Sound | Triangle Display | Alarm Color |
|---|---|---|---|---|---|
| 1 | >1. 5m | Safety Area | Silence | ↓ | Extinguish |
| 2 | 1. 5-1. 2m | Safety Area | Bi……Bi…… | ↓ | 1Yellow |
| 3 | 1. 1-0. 9m | Safety Area | Bi……Bi…… | ↓ | 2Yellow |
| 4 | 0. 8m | Alarm Area | Bi…Bi… | ↓ | 3Yellow |
| 5 | 0. 7-0. 6m | Alarm Area | Bi…Bi… | ↓ | 4Yellow |
| 6 | 0. 5-0. 4m | Danger Area | Bi…… | ↓ | 4Yellow, 1Red |
| 7 | <=0. 3 | Danger Area | Bi…… | ↓ | 4Yellow, 2Red |

Front System

| Stage | Distance | Awareness | Alarm Sound | Triangle Display | Alarm Color |
|---|---|---|---|---|---|
| 1 | >1. 0m | Safety Area | Silence | ↓ | Extinguish |
| 2 | 0.9-0. 8m | Safety Area | Bi……Bi…… | ↓ | 1Yellow |
| 3 | 0. 7m | Safety Area | Bi……Bi…… | ↓ | 2Yellow |
| 4 | 0. 6m | Alarm Area | Bi…Bi… | ↓ | 3Yellow |
| 5 | 0. 5m | Alarm Area | Bi…Bi… | ↓ | 4Yellow |
| 6 | 0. 4m | Danger Area | Bi…… | ↓ | 4Yellow, 1Red |
| 7 | <=0. 3m | Danger Area | Bi…… | ↓ | 4Yellow, 2Red |

## INSTALLATION STEPS

1. Choose right installation position for sensors
2. Select drilling position for sensor A & D
3. Select drilling position for sensor B & C
4. Locate the position and drill
5. Install the sensors and hide the wires
6. Install the display
7. Install the control box
8. Connect the whole system according to the General Installation Diagram

## TEST

1. Adjust the directions of sensors and axial orientation, neaten the wiring after installing the sensors;
2. Connect the red power wire with the positive of reversing light, the black wire with the ground;
3. Connect the display with the digital control box, do not connect the sensors;
4. Put the car into back gear , the display will show radix point which indicate the system is in test status;

Test: a. If no sound, please check whether the wire is connected correctly, the voltage is larger than 9V, or the LED is well connected with control unit; b. If there is a BiBi alarm sound, please switch the power off then enter into the back gear again, if the problems could not be removed, the control unit could be decided to be failed. The whole system should be replaced.

5. Test the sensors one by one.

Test: a. When testing some sensor, if the buzzer gives continuous "Bi…" sound, please check whether some parts of the car or some unwanted objects fall into the detecting range, or the sensor is near to some strong interference sources (such as exhaust pipe, other wires); b. If there is an alarm sound (Bi…Bi…) and the display shows distance but there is nothing in front of the sensor, maybe the sensor is detecting the ground, please check the position and direction of the sensor; or the sensor maybe detect some parts of the car; c. If the problem still could not be removed, the whole system should be replaced.

## NOTE

1. The car must be in power-off during the installation.
2. Its performance may be affected in following situation: heavy rain, gravel road, bumpy road sloping road and bush, very cold, hot or moist weather, or the sensor is covered by ice, mud, etc..
3. Other ultrasonic or electric wave, the instance of DC/AC switch or 24/12v switch maybe affect the performance of the system.
4. The sensors should be installed appropriate loose or tight.
5. Its performance may be effected if the sensors are fixed on metallic bumper.
6. Avoid installing the digital control box in places of great interference, such as vent-pipe, wiring nearby.
7. Test the system to make sure it works normally before using.
8. This system is a reversing aid and the manufacturer will take no responsibility for any accident after the kit is installed.