

2.6 System limitations

The Blind Spot Detection system does have limitations. Conditions such as severe weather or debris buildup on the sensor areas may limit vehicle detection.

Other situations that may limit Blind Spot Detection System include:

- When the car get into tunnels or other places where satellite signals cannot be received, the speed limited function for BSD may gives out false alert.
- Certain maneuvers of other vehicles as they enter and exit the blind spot zone.
- Vehicles passing through the blind spot zone at very fast rates.
- Several vehicles forming a convoy and passing through the blind zone.

False Alert

It is possible that the Blind Spot Detection System will trigger an alert even though there is no vehicle in the blind spot zone. If your vehicle is towing a trailer, the sensors could possible detect the trailer and trigger the Blind Spot Detection System. The Blind Spot Detection System can detect objects such as; construction barrels, guard rails, lam posts, etc. Occasional false alert are normal.

1. The system can't detect the target under below condition:

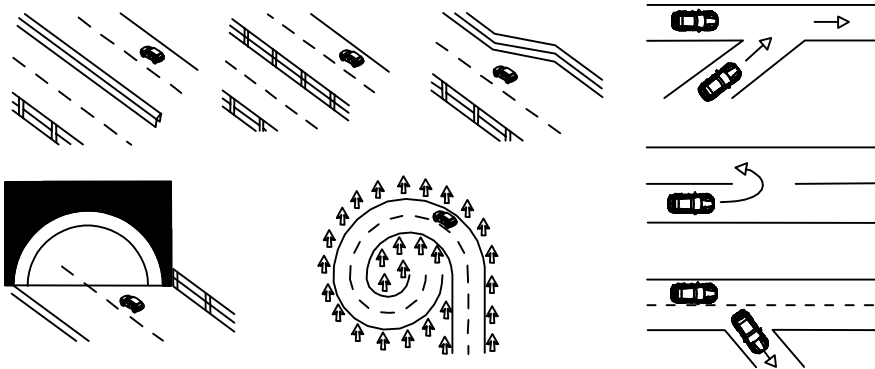
- Counter flow
- The Adjacent lanes of the vehicle wants to speed up. And it's beside you. Not behind.
- The adjacent lances is too wide to detect. Our range was set up according to the standard high way.

2. The system will not trigger the BSD warning or delay to warning you:

- The vehicle change the lane (from third lane to second lane, or other)
- When it drives on the steep slope
- Through the fop of the hills or mountain
- In a sharp turn at the intersection
- When there is height distance between driving lane and Adjacent lanes

3. If the road too narrow, it may detect the two lanes.

4. The warning LED of BSD will light by some motionless objects(such as: guardrail/Concrete-Wall, tunnel, greenbelts)





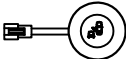


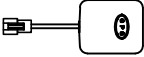

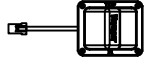



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VBSD32

BSD manual

1. Installation

1.1 Part list

No.	Name	Qty	Diagram
1	Control box	1	
2	Main Cable	1	
3	Left LED indicator	1	
4	Right LED indicator	1	
5	Buzzer	1	
6	GPS	1	
7	Left sensor	1	
8	Right sensor	1	
9	Cable tie	40	
10	Screw	8	
11	Manual	1	

2.4 Trouble shooting

Power on, the left & right warning light blink with 1.5HZ frequency	Poor connection	Check the harness connection between GPS and controller according to the wiring diagram
	GPS damaged	Replace it
Power on, the left & right warning light blink with 0.5HZ frequency	Poor connection	Check the harness connection between sensor and controller according to the wiring diagram
	Sensor damaged	Replace it
Buzzer not working	Poor connection	Check the harness connection between buzzer and controller
	Buzzer damaged	Replace it
Warning light not work	Poor connection	Check the harness connection between warning light or power cable and controller
	Warning light damaged	Replace it
Left & right turning light is triggered, left and right warning light doesn't blink	Poor connection	Check the harness connection of left and right warning light according to the wiring diagram
There's target vehicle coming from one side , but the other side warning light was lit	Left and right warning light connected contrarily	Check the harness connection of left and right warning light according to the wiring diagram

2.5 Installation Notes

1. After installation, check functions are normal before using the system.
2. Sensors need to be clear to perform properly. Remove any snow, ice, dirt, etc. from the sensors before using the system.
3. False alarm may happen sometimes, its normal and no need to repair.

Safety Information:

THE SYSTEM IS DESIGNED TO ASSIST YOU IN DETECTING OBSTACLES AND WILL NOT REPLACE SAFE DRIVING PRACTICE.

WARNING:

To help avoid injuries, NEVER use the VOYAGER VBSD32 Blind Spot Detection as a replacement for checking the interior and exterior mirrors and looking over your shoulder before changing lanes. The Blind Spot Detection System is not a replacement for careful driving.

The Blind Spot Detection System is a tool to assist you in detecting vehicles in the blind spot caused by the limited viewing angle of the mirrors installed in your vehicle, it may not operate as intended based on a variety of external factors and it is not intended to operate in connection with your vehicle's notification system.

For example; the user will NOT receive a warning on the vehicle's instrument/control panel if the VBSD32 loses power, so it is imperative that the user relies on safe and lawful driving practices. DO NOT solely rely on the VBSD32 Blind Spot Detection System!

2.2.3 Self-diagnose

When the power is on, the system starts to make self-diagnose, and warn driver by warning indicator.

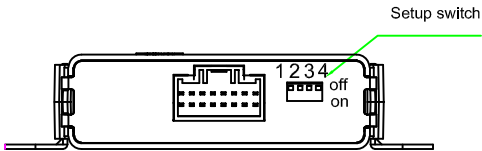
(1) If the system is normal, left and right warning indicator will be lit 2s and then turn off.

(2) If there's sensor work abnormally or missing, the corresponding warning light will blink for 10s with 0.5HZ frequency;

(3) If GPS work abnormally or missing, the Left/right LED will be blink for 10s with 1.5HZ frequency;

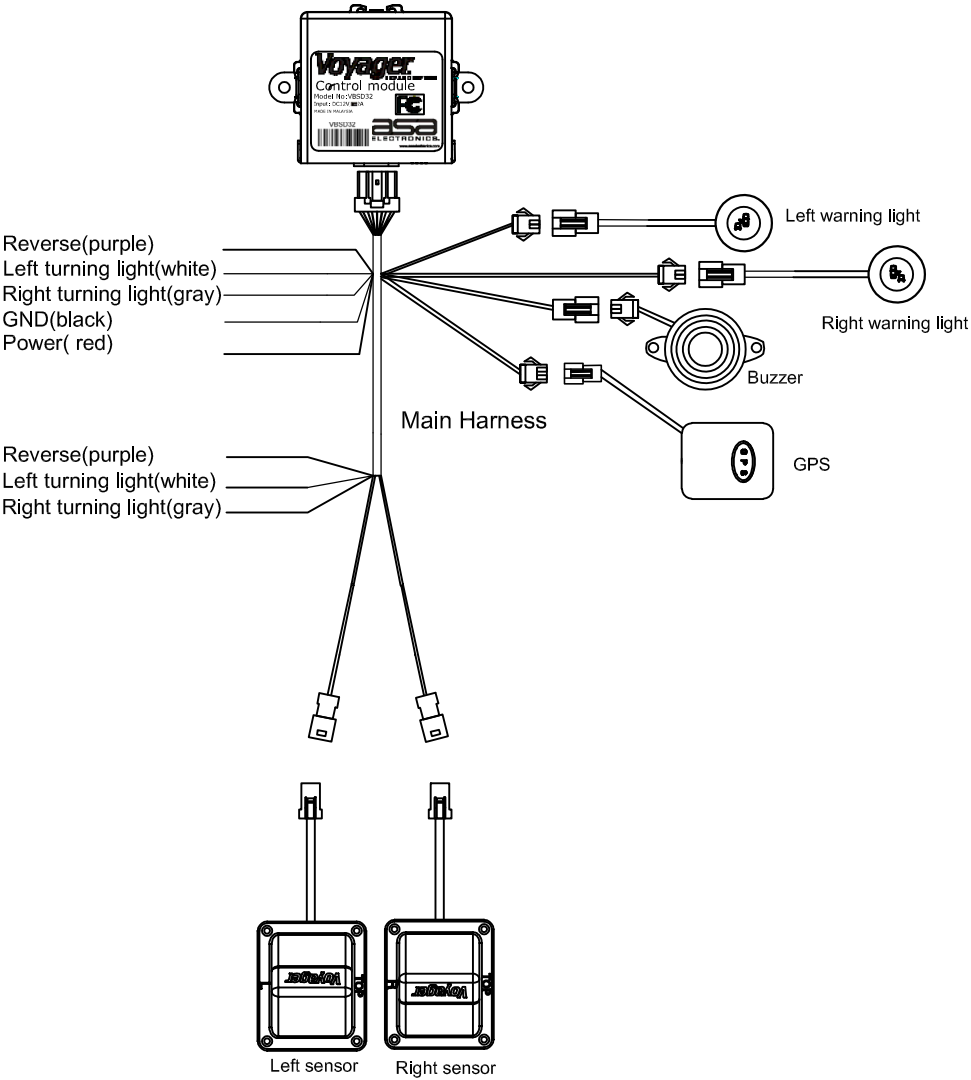
(4) If the self-diagnose couldn't pass, the system will go on self-diagnose until all work normally.

2.3 Control box

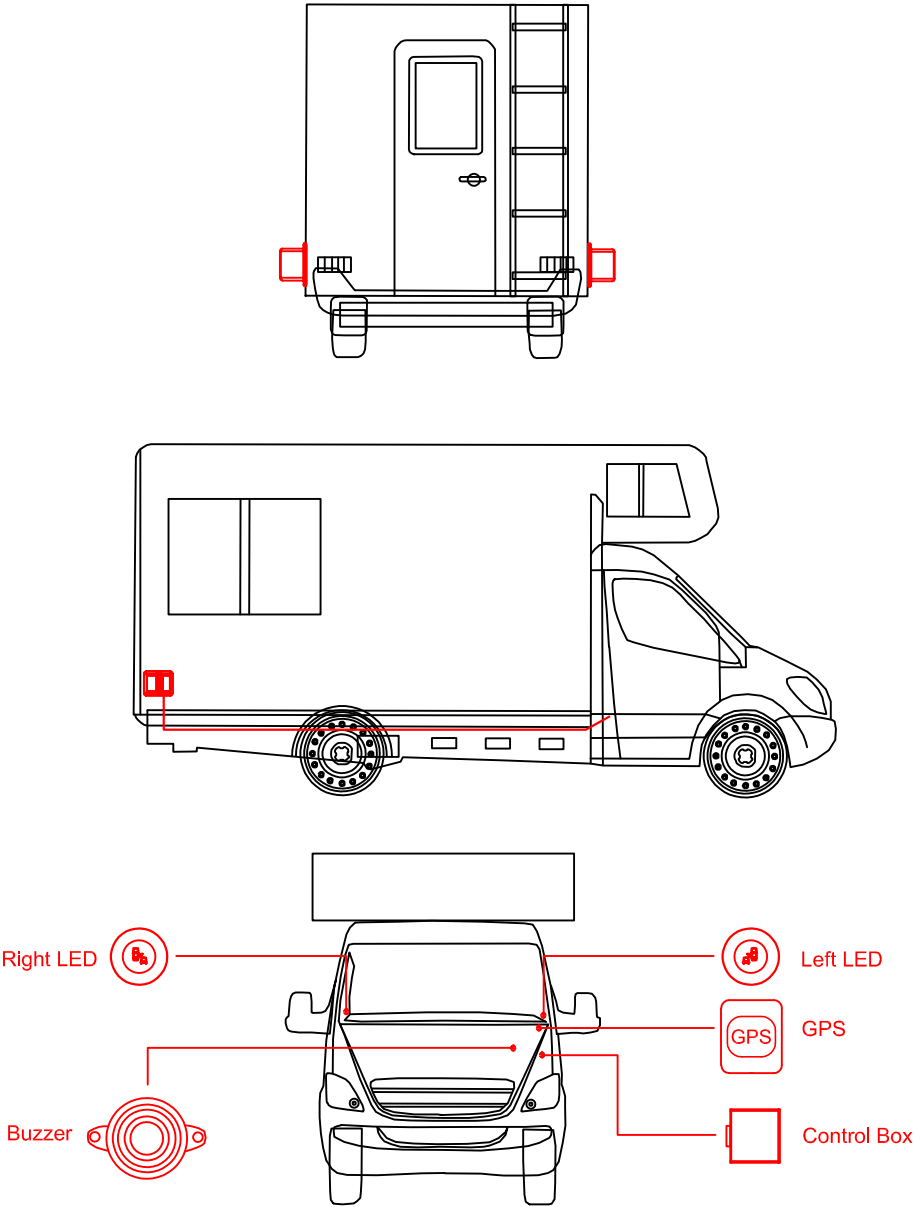


No.	Switch status	Definition	Note
1	Off	Left sensor working mode	Default
	On	Left sensor calibration mode	
2	Off	Right sensor working mode	Default
	On	Right sensor calibration mode	
3	Off	Working speed 13miles/h	Default
	On	Working speed 0miles/h	
4	Off	Warning distance of BSD zone 39ft	Default
	On	Warning distance of BSD zone 23ft	

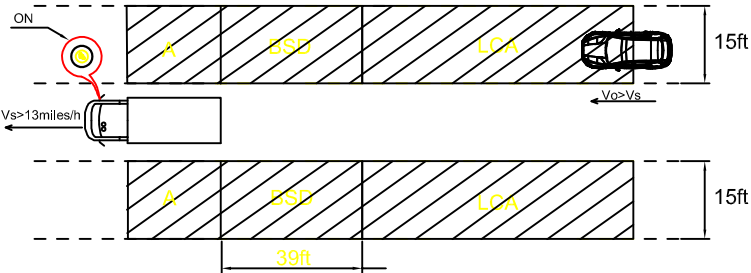
1.2 Wiring diagram



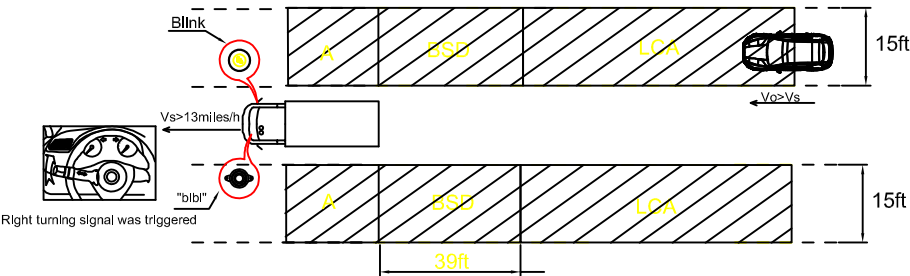
1.3 Installation



e. The warning light will be lit if the target vehicle in LCA detection area will overtake the vehicle within 5 seconds.

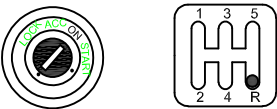


f. If LED lit, and then turning signal was triggered, LED will blink; the buzzer will give out "bibi" warning beep.



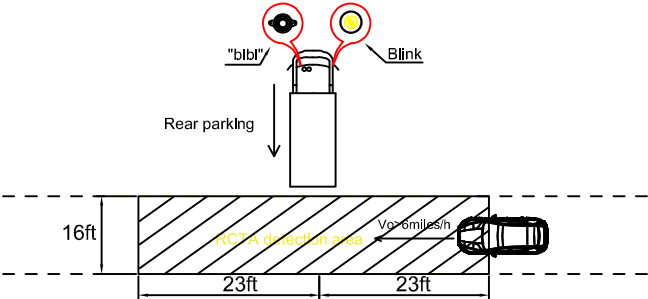
2.2.2 Rear Cross Traffic Alert (RCTA)

(1) Start condition:

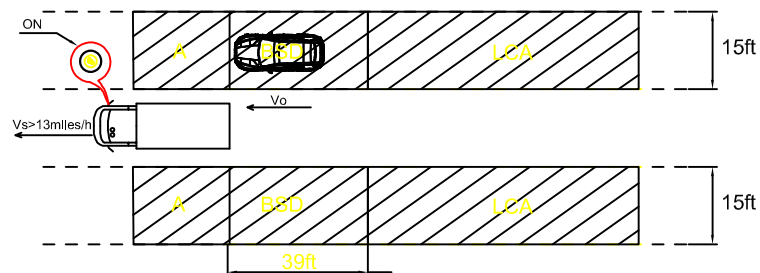


(2) Basic function

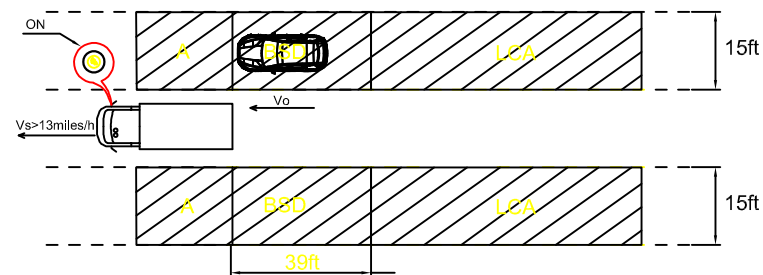
The radars monitor the target object in the monitored area; system gives out alert for potential risk in parking mode.



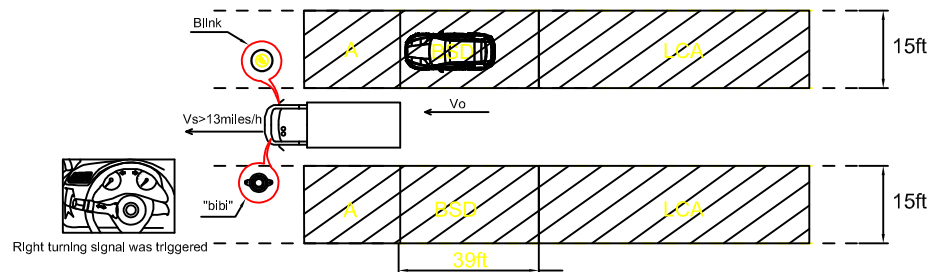
b.The warning light will be lit if there's relatively stationary target vehicle($V_o=V_s$) in BSD detection area.



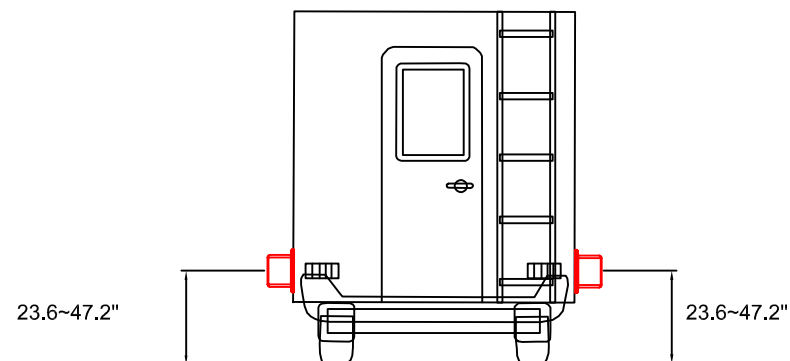
c.The warning light will be lit if there's relatively slowly retreating target vehicle($V_s-V_o < 7 \text{ miles/h}$) in BSD detection area.



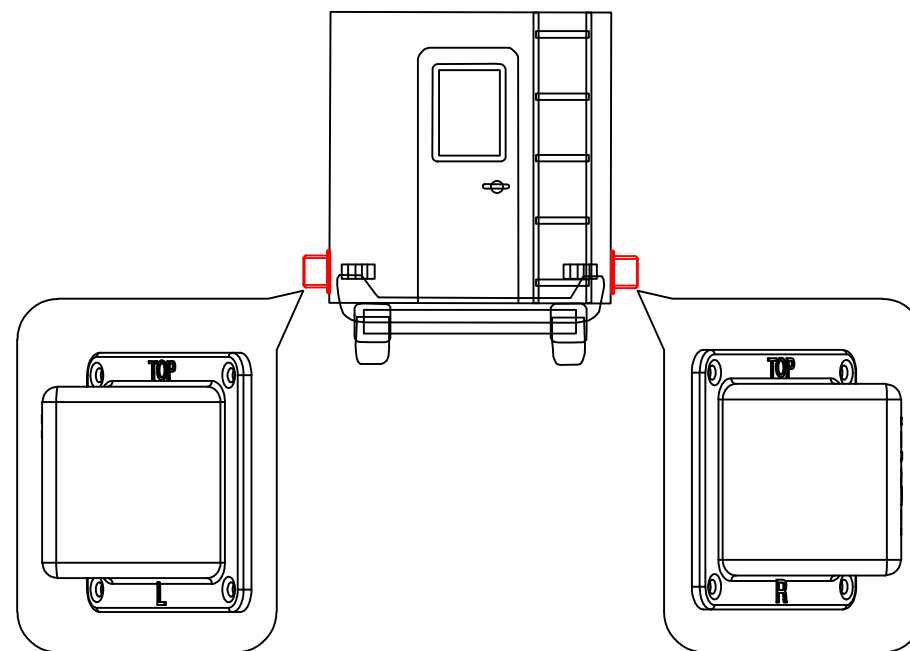
d.If LED lit, and then turning signal was triggered, LED will blink; the buzzer will give out "bibi" warning beep.



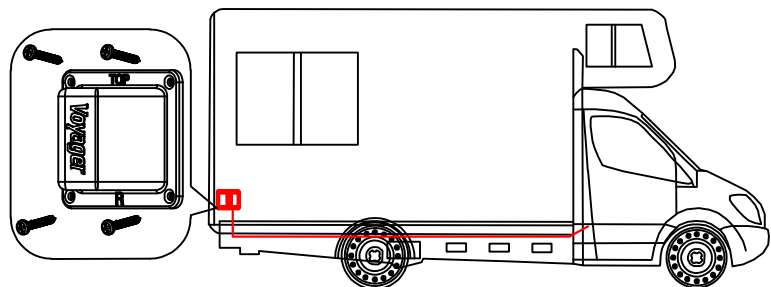
1.4 Installation instruction



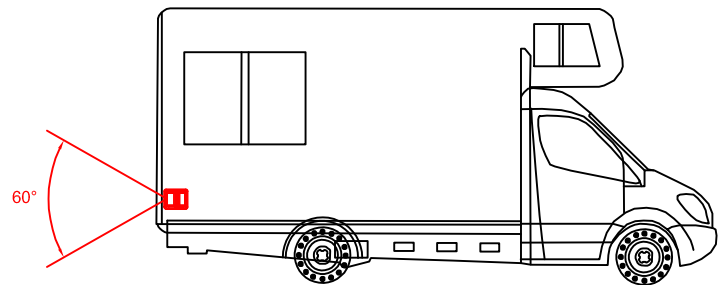
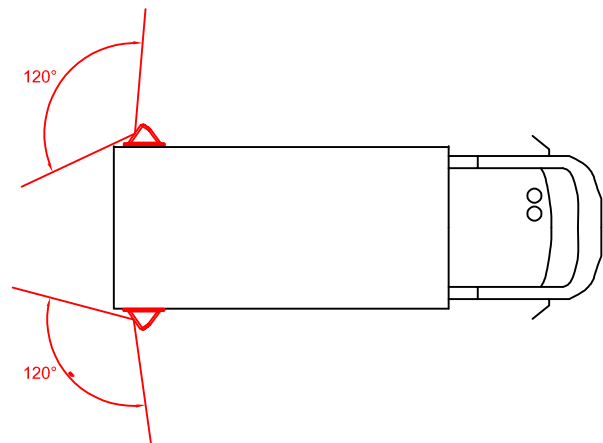
Please pay attention to TOP mark on each sensor



Use screw to fix sensors after select the correct installation position, make sure that sensor's installation side is parallel to vehicle body and fix cables with cable tie.



Make sure there is no objects in sensors' detection area.



1.5 Checking

- 1.After finish installation, make sure all the connectors are connected well.
- 2.Test all the functions are OK.

2. User manual

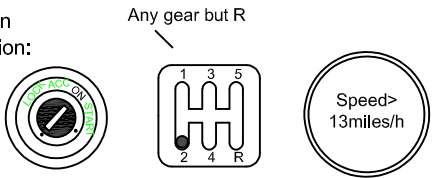
2.1 Technical parameters

Operated Voltage	DC9-16V
Current Consumption	<500mA@12V
Working Temperature	-40℃- + 80℃
Storage Temperature	-40℃- + 85℃
Frequency	24.00-24.25Ghz
Warning Mode	Warning Lights/Buzzer
Sensor waterproof grade	IP66
Modulation Mode	MFSK
Antenna type	1TX,2RX
Vertical Angle	30°@-6db
Horizontal Angle	70°@-6db
Distance Ability	98ft@108ft*2 target

2.2 System function

2.2.1 BSD function

(1) Start condition:



(2) Basic function

The radars monitor the target object in the monitored area; system gives out alert for potential risk.

Note: As sensors can not detect objects directly in A area, alert in A area is based on time delay-function.

a.The warning light will be lit if there's approaching target vehicle($V_o > V_s$) in BSD detection area.

