

INTELLIGENT OUTDOOR DETECTOR

SynyuWatcher

SIR05A SIR05RA

Atsumi Electric Co.,Ltd.

MAIN FEATURES

1. Models

- 1) SIR05A **Wired**
- 2) SIR05RA **Wireless**

2. Pet immunity

3. Mirror vs Fresnel lens

4. Flexible and Adjustable detection area

- 1) Detection zone
- 2) Horizontal
- 3) Distance
- 4) Slope
- 5) Inclined wall

5. Countermeasures against False alarm

- 1) Sunlight, Head light of vehicle
- 2) Flying objects
- 3) Tree, Vegetation
- 4) Pulse count
- 5) Zone masking

6. Anti-Masking
7. Battery operated detector
8. Mirror Optics and Zone masking
9. SCAA (Super Compound Analysis Algorism)
10. LED indicator
11. Test mode
12. IP rate
13. Options
14. Installation position

1. MODELS



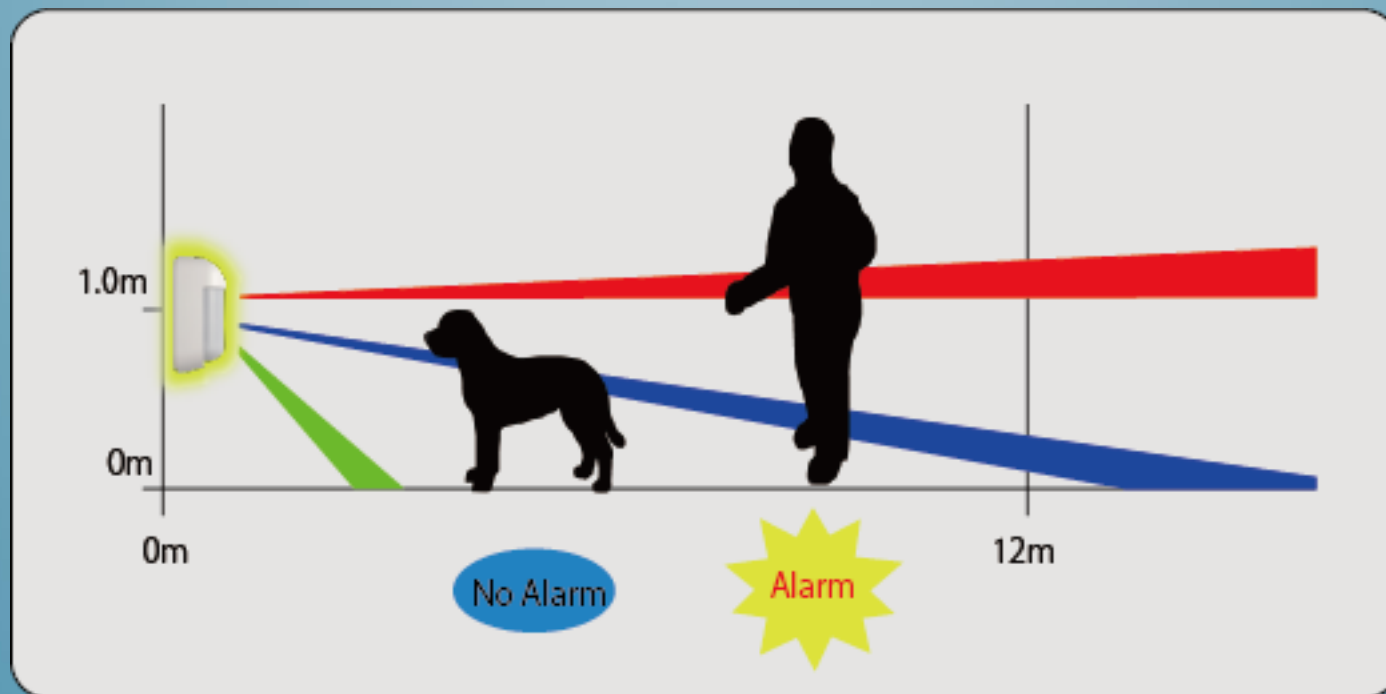
SIR05A
Wired



SIR05RA
Wireless

2. PET IMMUNITY

- When the upper and lower zones detect the object simultaneously, the alarm is output.
- If the object height is lower than the upper zone, the alarm is not output.
- Therefore you can keep the pet outdoor.



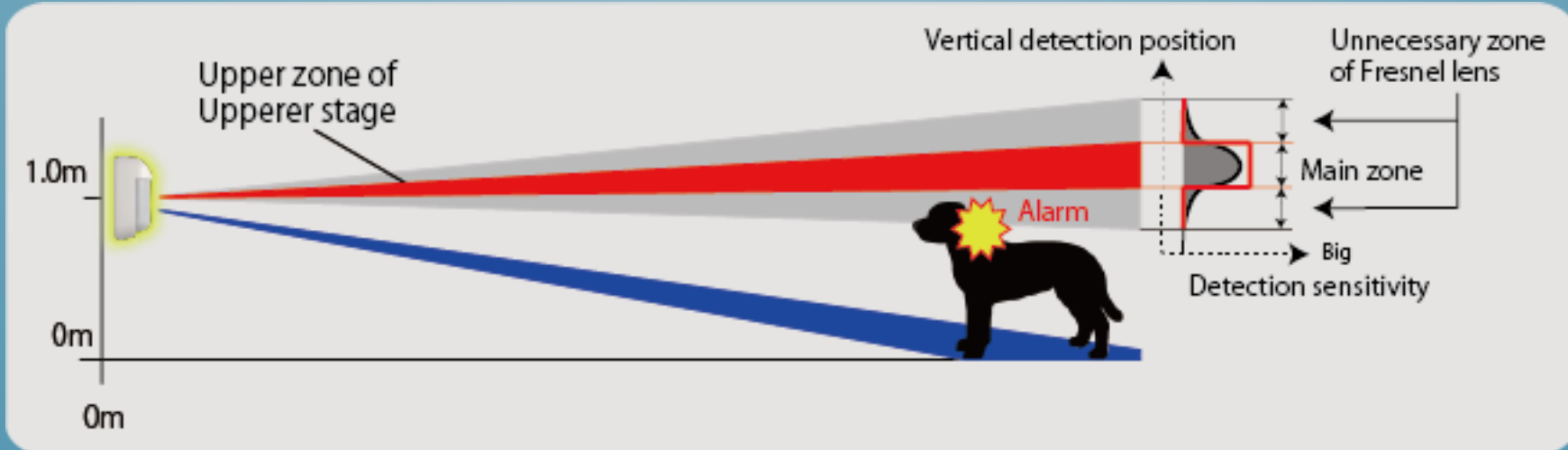
3. MIRROR VS FRESNELL LENS

★ Unnecessary zone of Fresnel lens

- There are unnecessary zone of Fresnel which cause by light leakage of the neighbor lens, refraction, etc.
- The size of this unnecessary zone varies depending on the surrounding environment. It is particularly affected by the temperature difference between the object and the background.

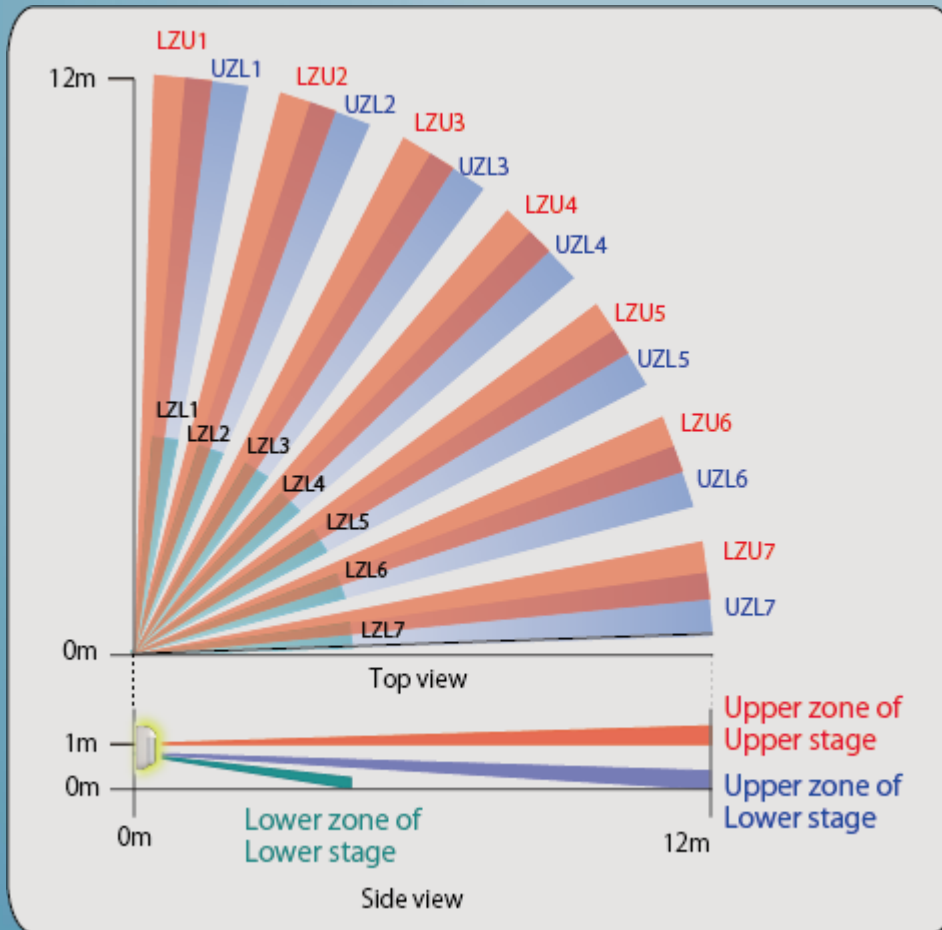
★ Mirror optics does not have this zone.

- There is no false alarm by this zone.
- The zone adjustment is very easy and stable
- The zone edge is very sharp and it makes a high detectivity.



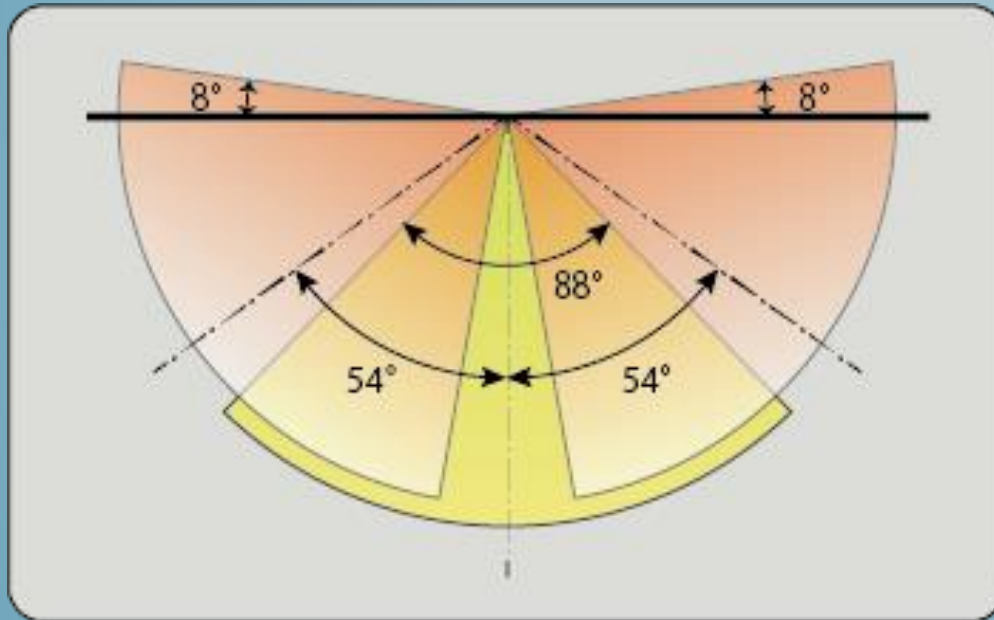
4. FLEXIBLE AND ADJUSTABLE DETECTION AREA

1) Detection zone



Distance : 12m
Angle : 88 degree
Mounting height : 1m

2) Horizontal adjustment



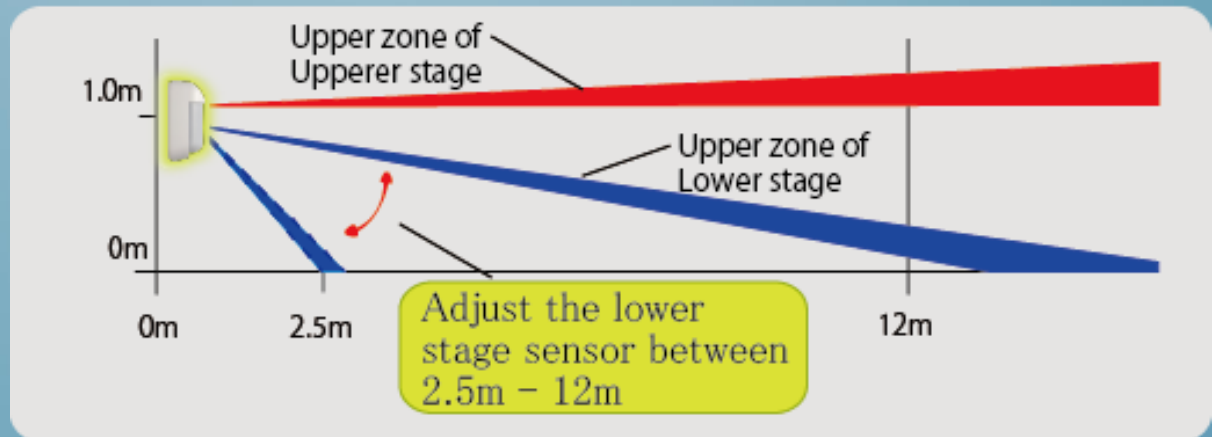
Horizontal angle : $\pm 54^\circ$

Behind Detector : 8°

When the detector's position is higher than the wall, Behind Detector function is useful.

3) Distance adjustment

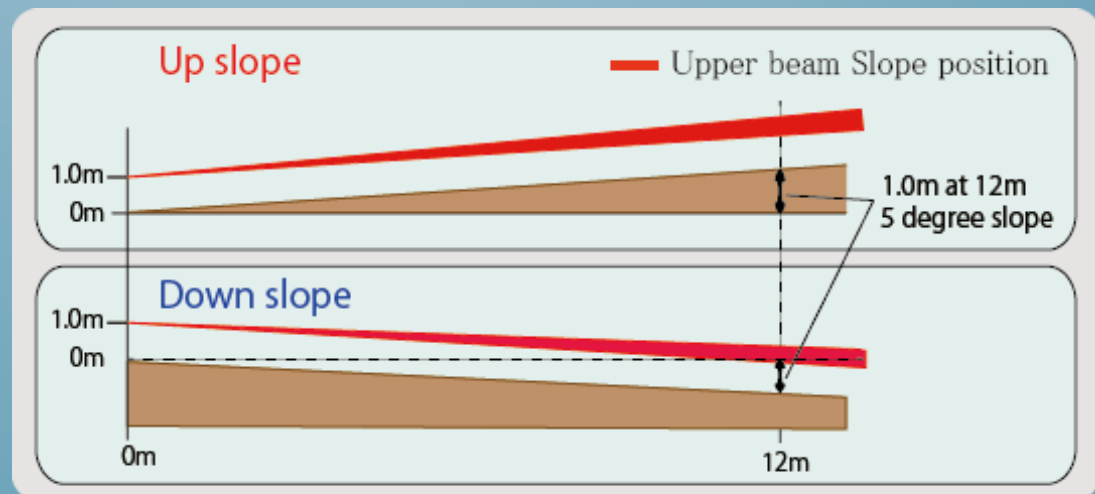
Detection distance is adjustable between 2.5m – 12m by adjusting the lower stage sensor.



4) Slope adjustment

Adjust the vertical direction of the zone between maximum -5 and +5 degree according to the slope. The slope height is 1m (-5 and +5 degree) at 12m away from the detector.

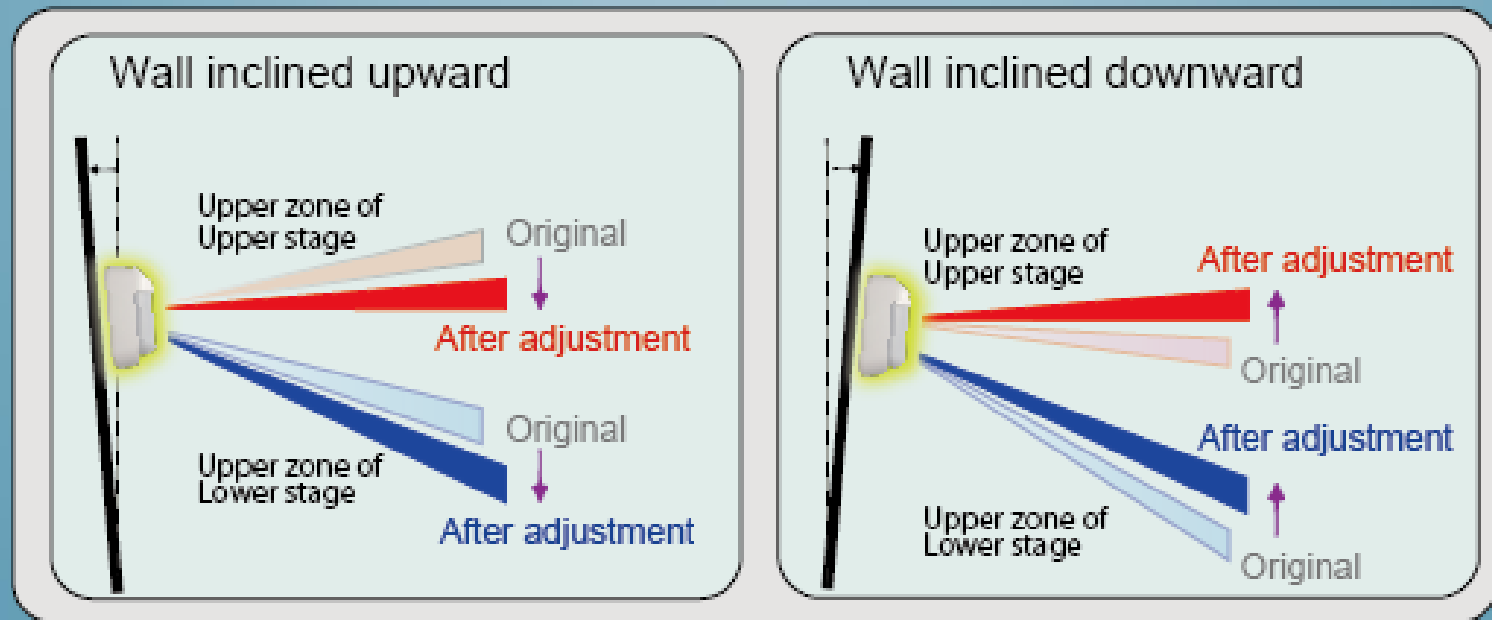
Note : This function is commonly used with Wall inclination adjustment.



5) Inclined Wall adjustment

Adjust the vertical direction of the zone between -5 and +5 degree according to the wall inclination.

Note : This function is commonly used with Slop adjustment.



5. COUNTERMEASURES AGAINST FALSE ALARM

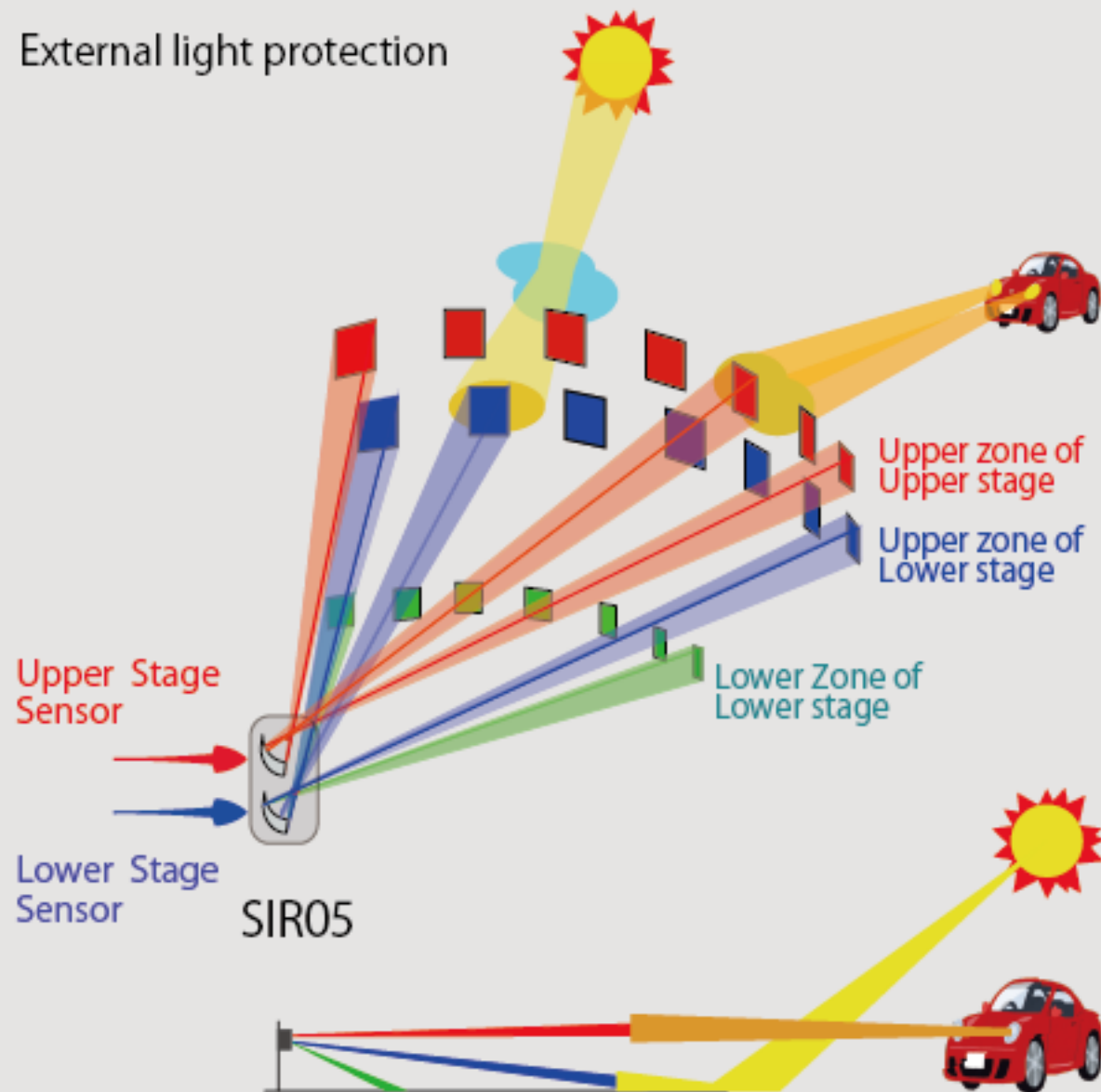
1) Sunlight, Head light of vehicle

Even when upper or lower zone is facing toward the external light (Sunlight, Head light etc.), it does not trigger an alarm.

***** Technical points *****

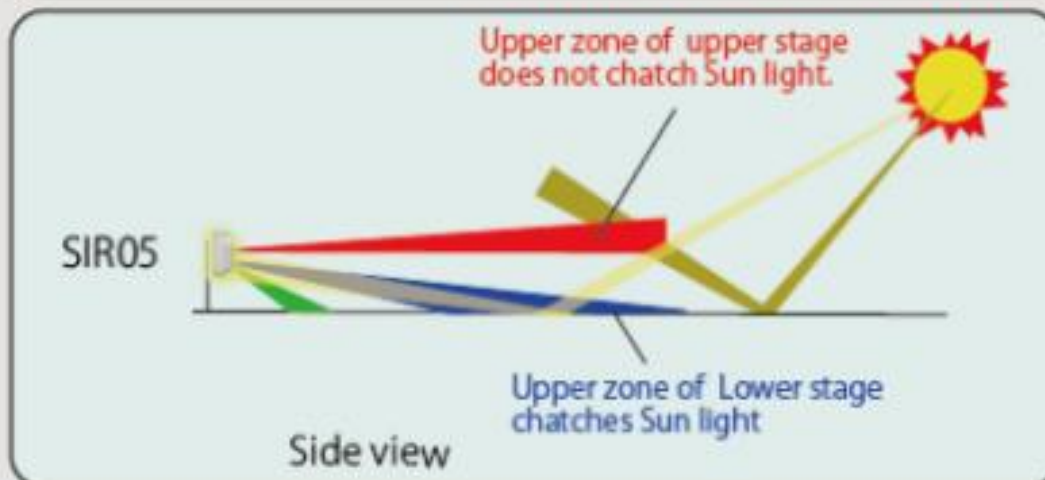
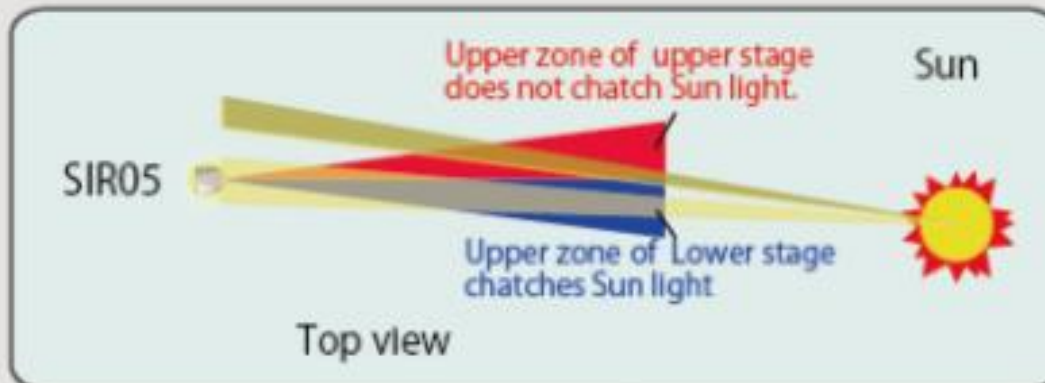
- a) Upper and Lower zones are **shifted horizontally and vertically** so that they don't detect the external light simultaneously.
- b) The **optical filter** on PIR sensor cut the unnecessary light.

External light protection



Countermeasures against the external light

Sun light does not come into
Upper zone of Upper stage.



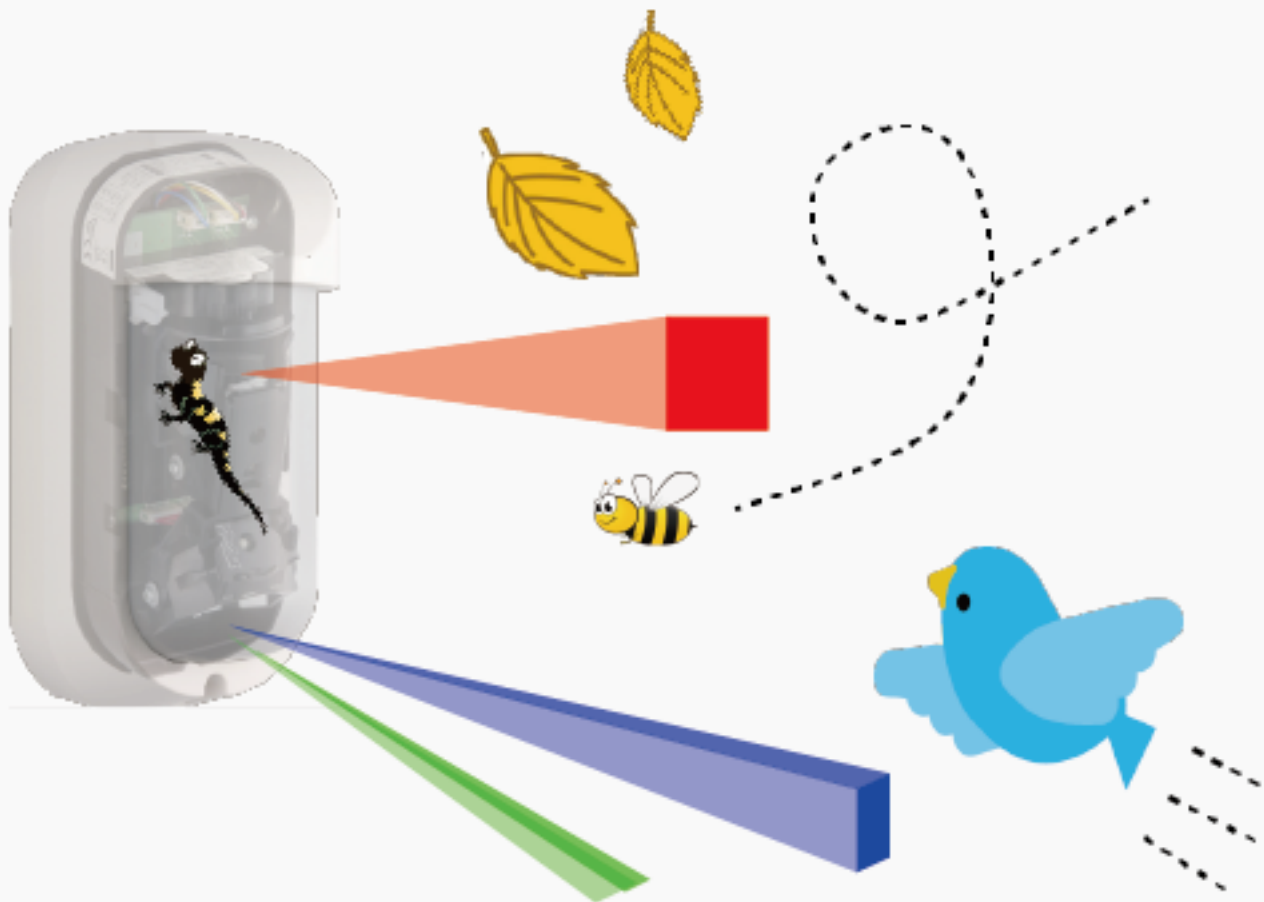
2) Flying objects

Insects, Birds, Falling leaves or Trash do not trigger an alarm.

***** Technical points *****

- 1) The position of Upper and Lower sensors are shifted horizontally and they don't detect the object simultaneously.
- 2) The distance between Upper and Lower sensors is wide enough not to detect the object simultaneously.

No alarms by Insects, Birds, Falling leaves or Trash!!



3) Tree, Vegetation

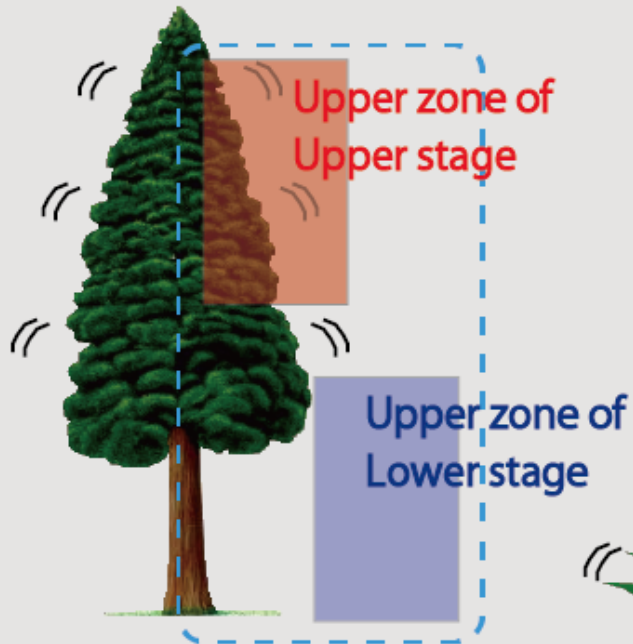
Even when vegetation sways by wind , it does not trigger an alarm.

***** Technical points *****

- 1) The position of Upper and Lower sensors are shifted horizontally and they don't detect the object simultaneously.

(a) Tree only

No Alarm



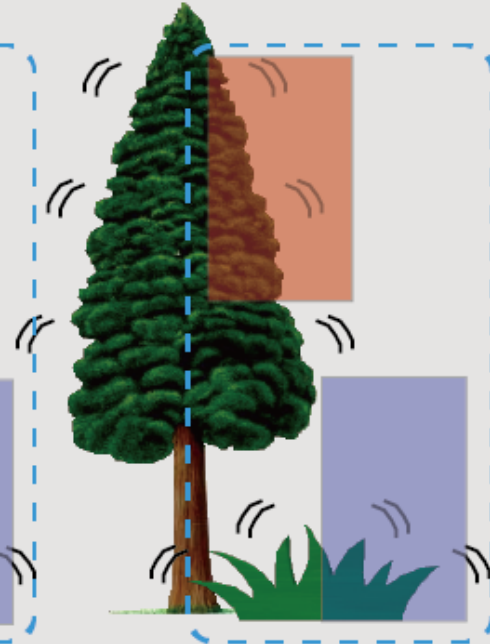
(b) Vegetation only

No Alarm



(c) Tree & Vegetation

May cause Alarm



4) Pulse count

When a false alarm arises by a bad environment condition, it does not trigger an alarm by increasing the number of the pulse counts.

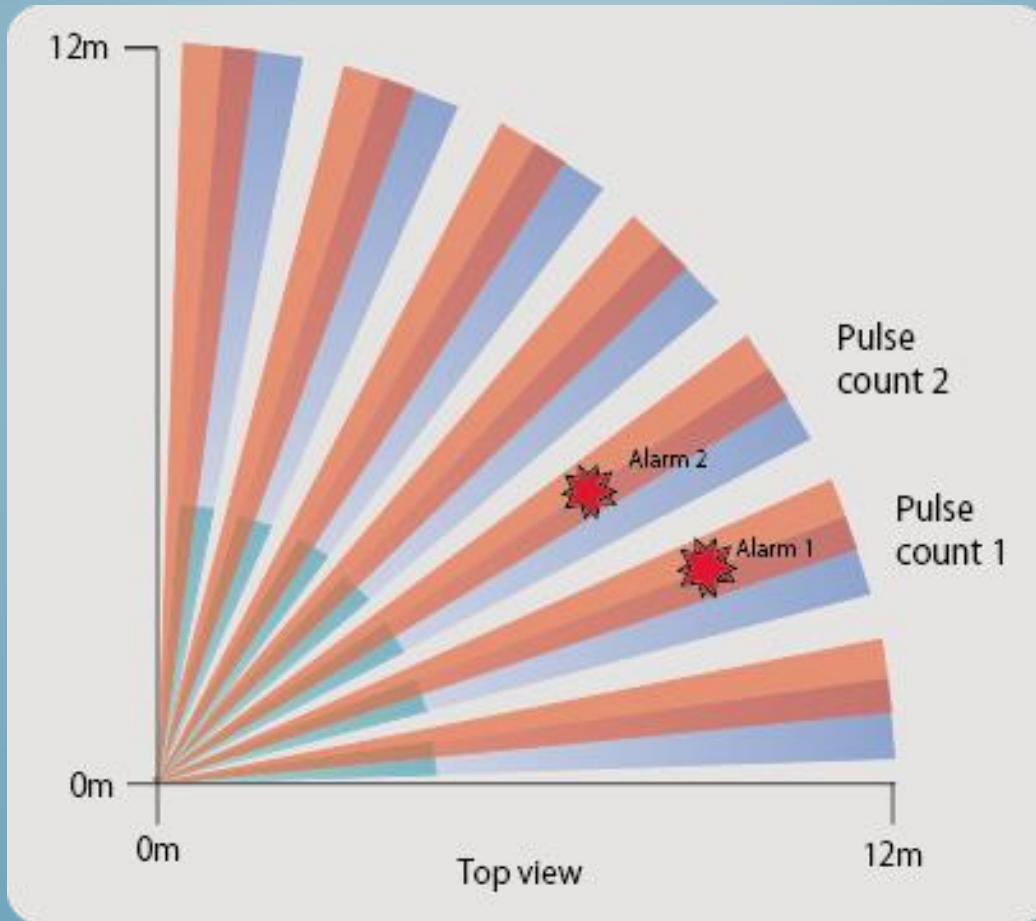
***** Technical points *****

Count the detection times of the sensor and trigger an alarm when it matches the number set.

The number of the pulse counts is selected from 1-4 times.

e.g

When Pulse count is set to 2 and 2 alarms are happened, it trigger alarm.

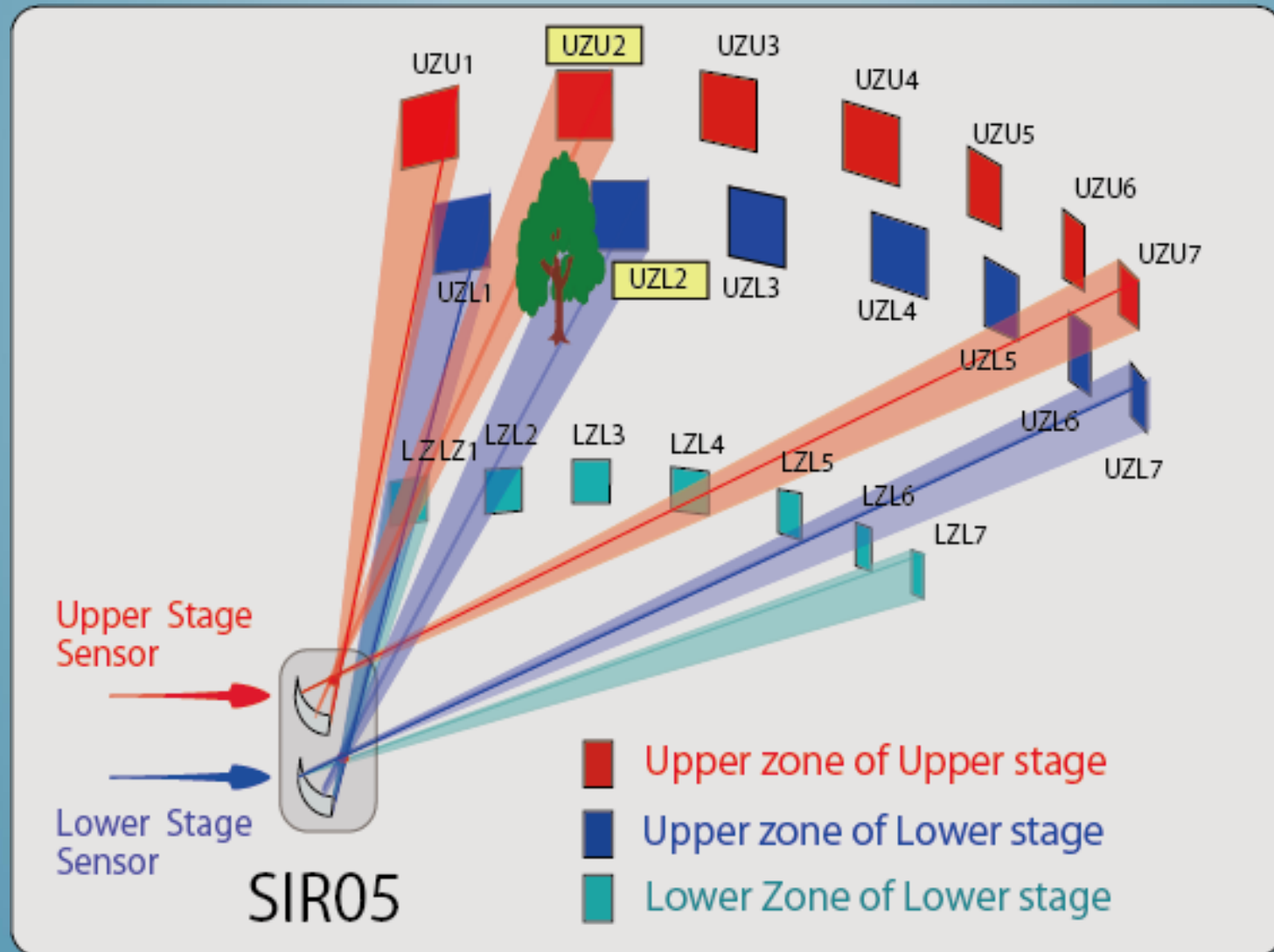


5) Zone Masking

In case there are moving object like tree, vegetation, etc. or the road where person or a vehicle passes in the detection area, these become a cause of false alarm.

Mask the correspondent parts on the mirror to them to prevent false alarms.

There is a tree on the UZU2 and UZL2 zones.
Mask the correspondent parts on the mirror to UZL2.



6. ANTI-MASKING

When Synyu watcher is masked by Spray, Paper, Tape, etc., it outputs a trouble signal after 1 minutes.

This function can be switched ON/OFF by the internal Dip switch.



Spray



Paper



Tape

7. BATTERY OPERATED DETECTOR

SIR5RA model only

- *SIR05RA is designed with very low power consumption.*

Therefore it is able to be operated by a battery.

CR123A : 5.6 years

1/2AA : 4.8 years

CR2 : 3.4 years

** These life times are reference only.*

- *The battery box is designed with large storage space for various kind of wireless transmitters and batteries.*

Cover



Main unit



Battery box



Mount base



Wireless
Transmitter



Battery



Synyu Watcher

Make the safety life by Atsumi

Wireless application

SIR05RA



Any Kind of
Wireless
Control panel



Battery



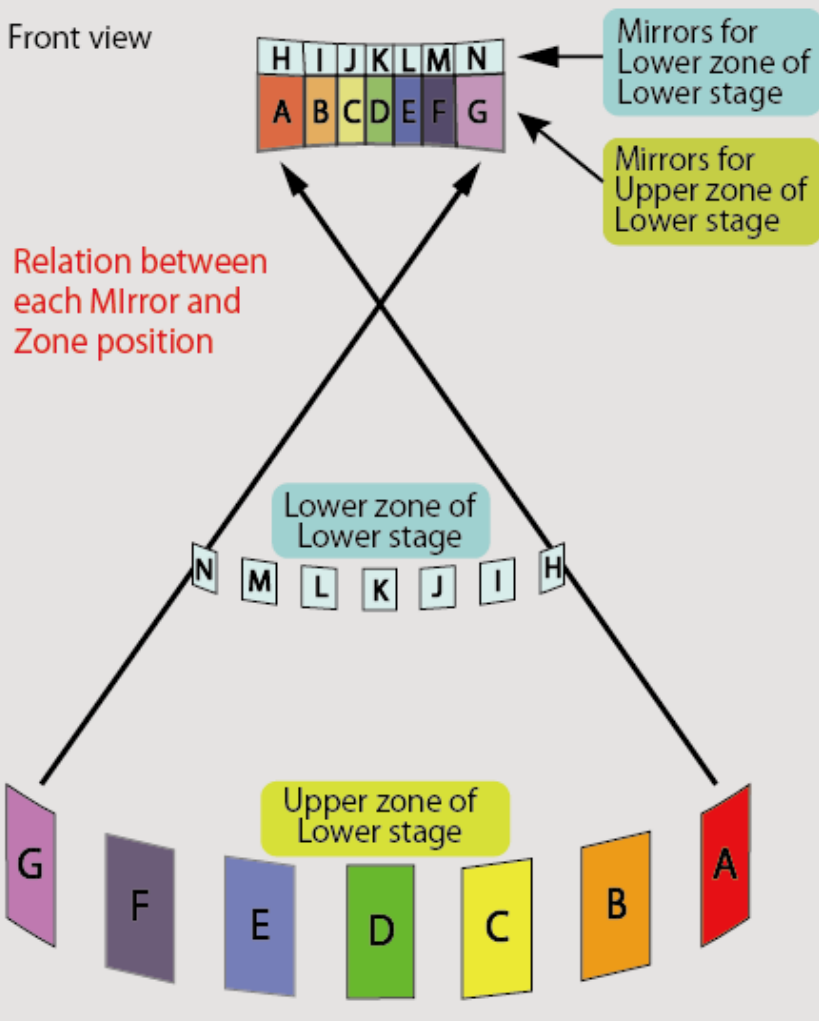
Any Kind of
Wireless Tx



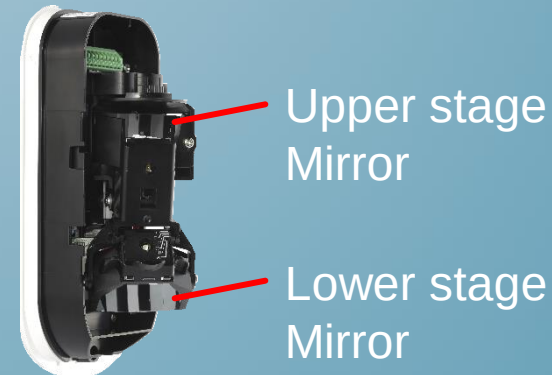
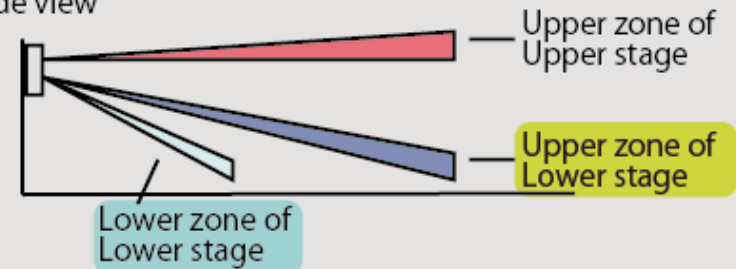
Installed in Battery box

8. MIRROR OPTICS AND ZONE MASKING

Front view



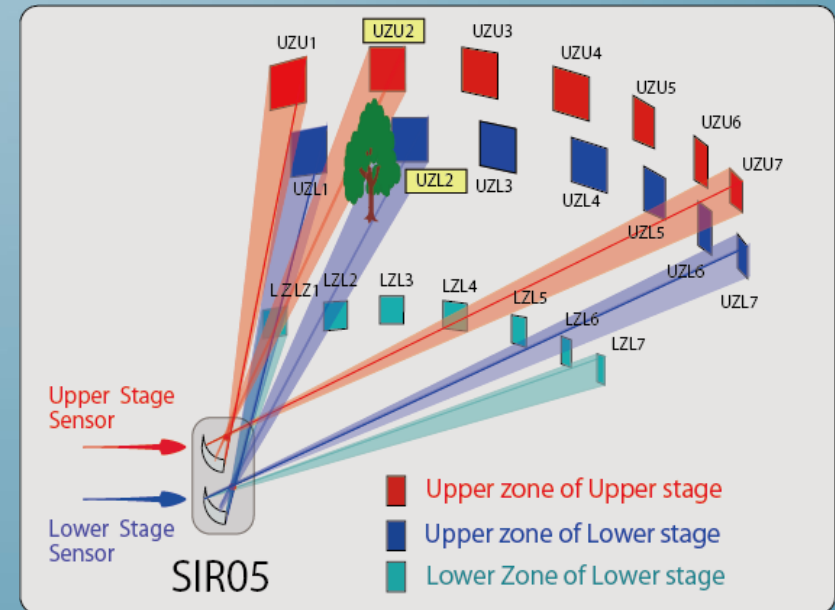
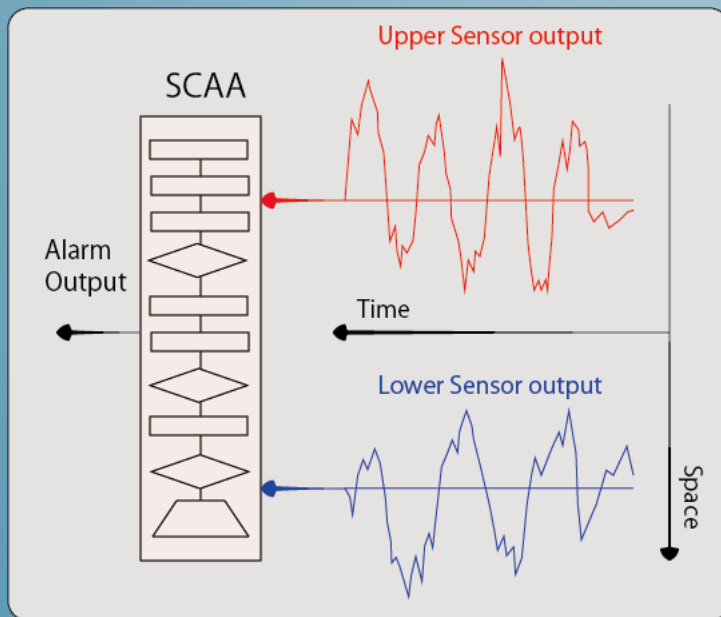
Side view



9.SCAA

(SUPER COMPOUND ANALYSIS ALGORITHM)

- *Eliminate false alarm factors like vegetation, insect, animal, external light etc. by analyzing information spatially and temporally, which is input from Upper and Lower detection zone to 2 PIR sensors.*



10.LED INDICATOR

LED indicator is center on the optical unit.

When turning the optical unit, LED is always at the center of it.

Therefore It is easy to recognize LED when adjusting the detection zone.

Also for Alarm, Walk test, Tamper, Anti-masking,



11.TEST MODE

Upper stage zone and **Lower** stage zone are adjusted independently.

You can understand the position of each zone.

1) Adjust **Upper** stage zone firstly.

It can decide the height of the horizontal zone from the ground.

a) All zones' height should be same.

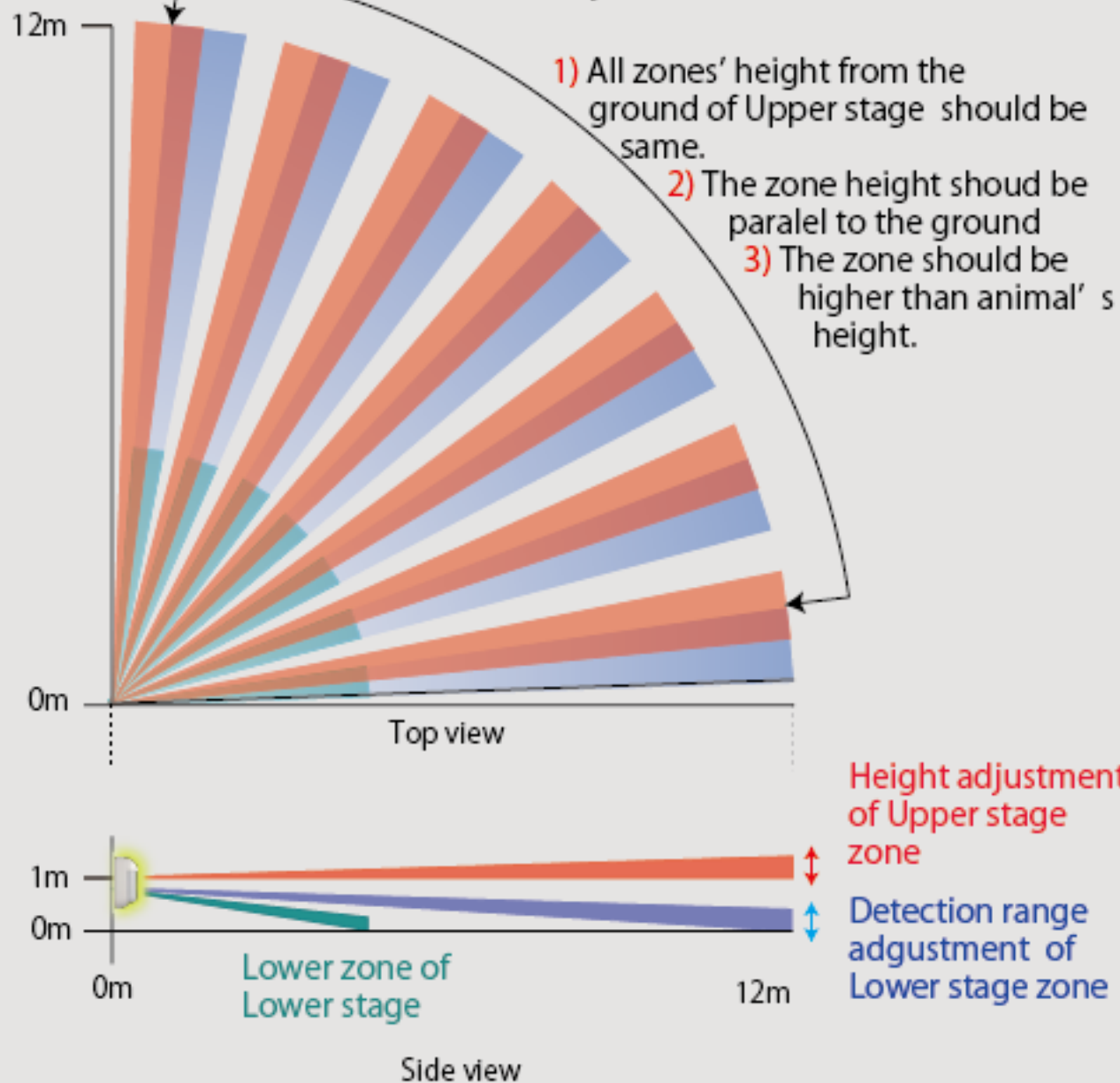
b) The zone height should be parallel to the ground.

c) The zone should be higher than animal's height.

2) Adjust Lower stage zone secondly.

It can decide the detection range.

Zone adjustment at Test mode



14.INSTALLATION POSITION

