

## **Aktiv infrarøde skud (AIR)**

### **Installationsmanual G-SAIR serien (ver. 3)**



**G-SAIR2-30/48 PERIMETERSIKRING 30 meters rækkevidde (højde: 48cm) – best. nr.: 140600**

**G-SAIR4-30/76 PERIMETERSIKRING 30 meters rækkevidde (højde: 76cm) – best. nr.: 140610**

**G-SAIR6-100/108 PERIMETERSIKRING 100 meters rækkevidde (højde: 108 cm) – best. nr.: 140620**

**G-SAIR10-100/172 PERIMETERSIKRING 100 meters rækkevidde (højde: 172 cm) – best. nr.: 140630**

**G-SAIR12-100/204 PERIMETERSIKRING 100 meters rækkevidde (højde: 204 cm) – best. nr.: 140640**

## 1. Description

Infrared barrier is a type of active infrared detector. Using frequency conversion mutual radiation technology, once a person or object blocks the infrared beam between the transmitter and receiver (the factory default is to block two adjacent beams or more), an alarm signal will be output immediately.

## 2. Features

- 1) Adopt digital frequency conversion and 32-bit high-speed MCU micro-processing digital control technology to improve stability.
- 2) Using aluminum alloy shell, anti-dismantling, anti-shearing, anti-movement function design.
- 3) Support asynchronous and synchronous working modes (the factory default is synchronous working mode)
- 4) Adopting frequency conversion mutual radiation technology, 2 frequencies are selectable (the factory default is frequency A), which completely solves the mutual interference between adjacent barriers and avoids direct sunlight, flashlights, and car lights.
- 5) The dual beam recognition function can effectively prevent small animals, birds, etc. from causing false alarms.
- 6) High sensitivity, 3 levels of adjustable guard distance.
- 7) Anti-interference ability: it can be used in harsh outdoor environments with wind, frost, rain, snow, fog, tide, and oblique sunlight.
- 8) Independent tamper switch, the design is more reasonable and reliable, to ensure that the barrier is not damaged by disassembly.
- 9) Support buzzer and LED calibration prompt.

### 3. Technical Parameters

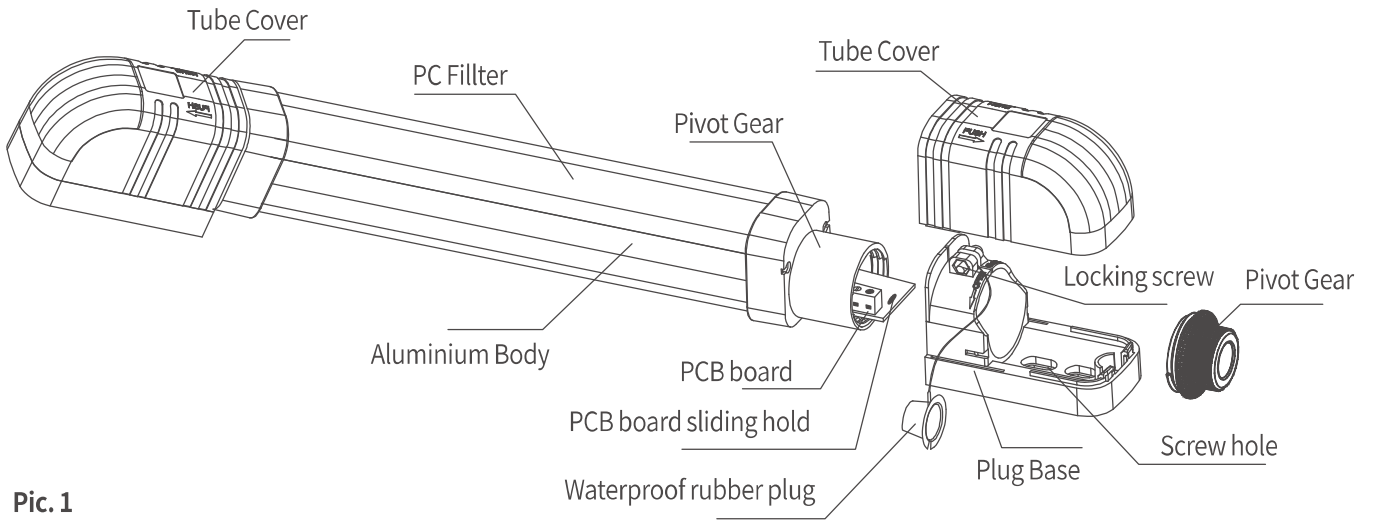
- Warning distance: 0-100m for maximum synchronous work, 10-80m for asynchronous work
- Beam: 2/4/6/8/10/12 beams
- Power supply: 9-30V DC
- Current consumption: 50-120mA
- Temperature: -30°C to +70°C
- Alarm output: NO/NC optional (factory default NC), contact capacity 30V/2A.
- Detection method: block two adjacent beams (single beam alarm can be set)
- Alarm duration:  $\geq 1S$
- Independent tamper output: When shell removed, NC output.
- Response speed:  $\leq 40ms$
- Optical axis adjustment angle: horizontal 180°, vertical is non-adjustable.
- Other additional functions: LED indication, buzzer prompt
- Material: aluminum, PC plastics

#### 3.1 Installation recommendations

Always use SYNC CABLE for installations with more than 10 meters between transmitter and receiver units to make sure they work stable and perfect (see page 8, pt. 9). The range is informed for inside use in buildings and can be reduced with up to 50% for outside use.

If outside use, the unit needs to be installed on building directly to avoid quick temperature changes. Using brackets or poles may cause problems with dew or frost. Fog, snow and heavy rain, as well as bright lights, car lights and direct sun will affect visibility that can cause alarms.

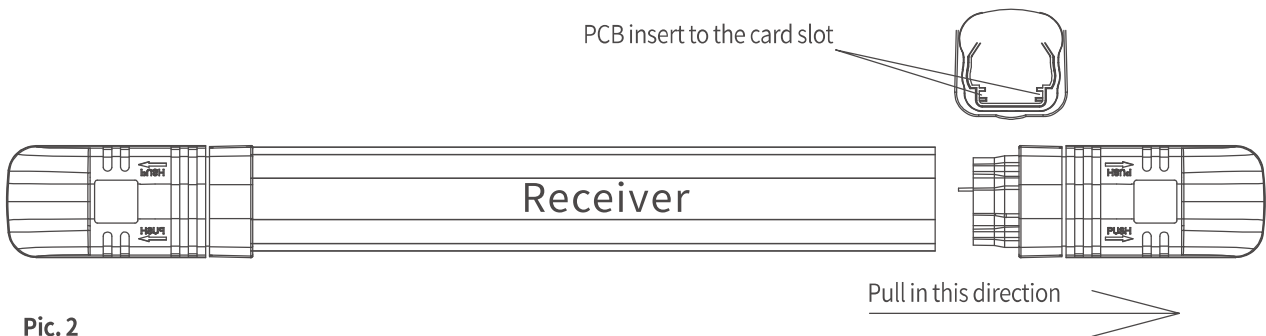
## 4. Product diagram



Pic. 1

## 5. Installation and Instructions

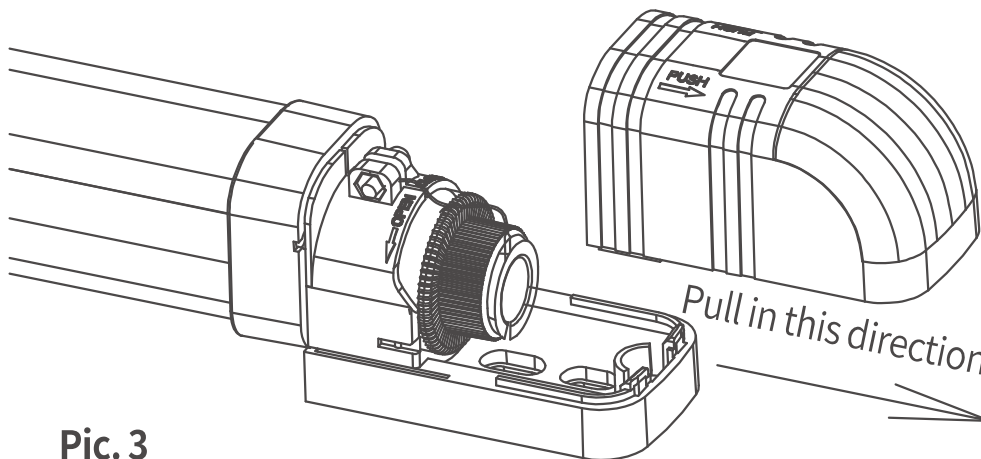
- 1) Generally, step 1 is not required. If you need to set the alarm output state or alarm mode of the barrier, please refer to step 1. Gently shake the tube cover left and right, and pull the "receiver" out of the tube plug to prevent the circuit board from being broken by excessive force, and then pull out the main board of the receiver PCB, after setting, push



Pic. 2

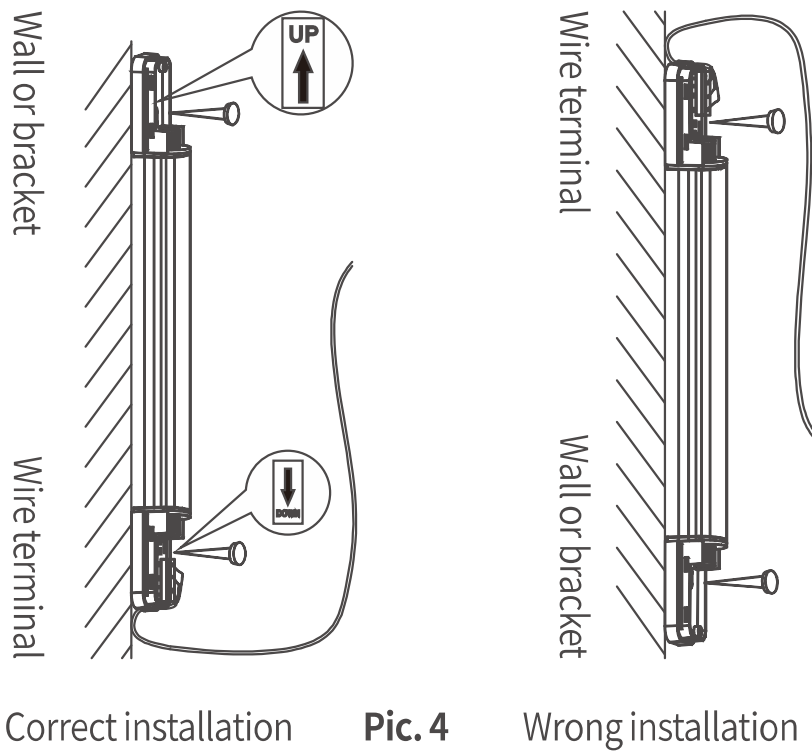
it back (Picture 2)

- 2) Pull the tube cover in pointed direction (Picture 3)



Pic. 3

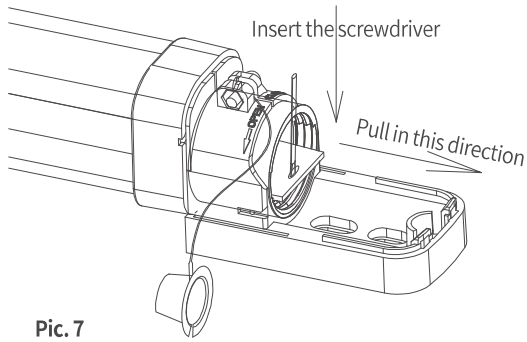
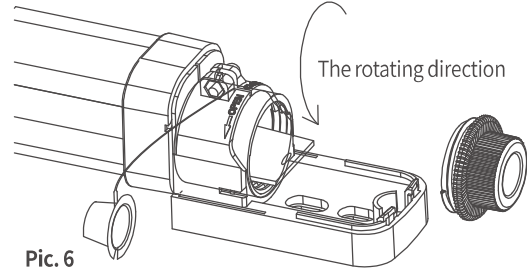
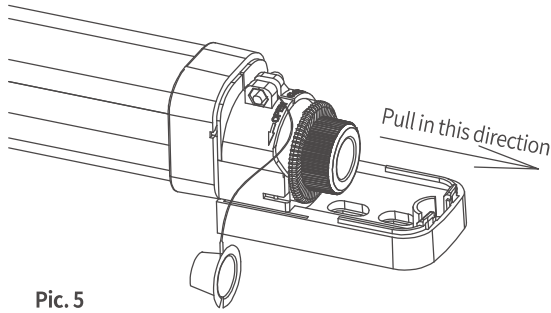
- 3) Drill holes on the wall with a 6mm drill bit, insert the expansion rubber plug, and then fix the upper and lower mounting bottom seats with M4\*25 self-tapping screws (Pic.4).



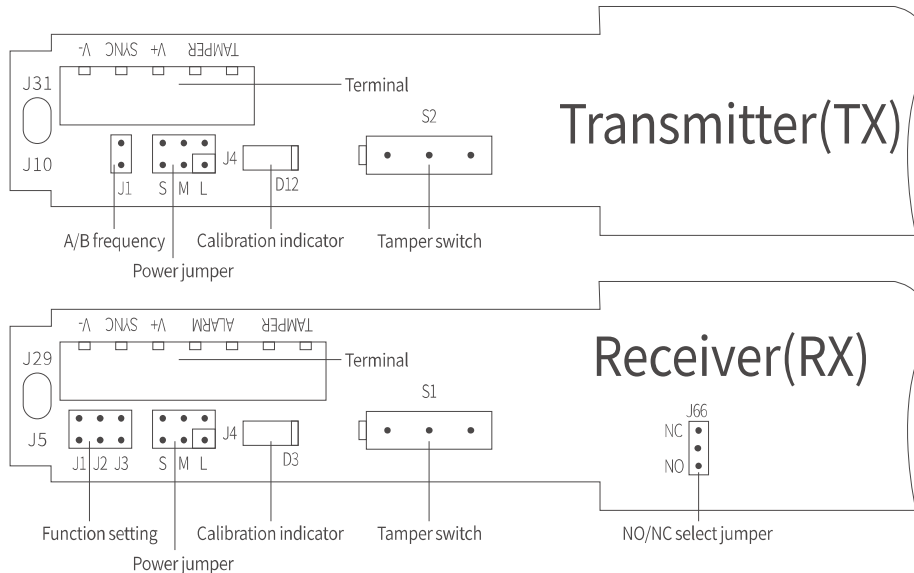
**Note:**

- The transmitter (TX) and receiver (RX) of infrared barrier needs to be installed on the same horizontal level and vertically to the ground.
- The wire terminals must be at the bottom of the beams; else rain will enter and damage PC-board.

- 4) Open waterproof rubber plug as picture 5
- 5) Remove the seal cover plug by rotating it counterclockwise as in picture 6
- 6) Insert the screwdriver into the push-pull hole of the PCB board, then set it as picture 7



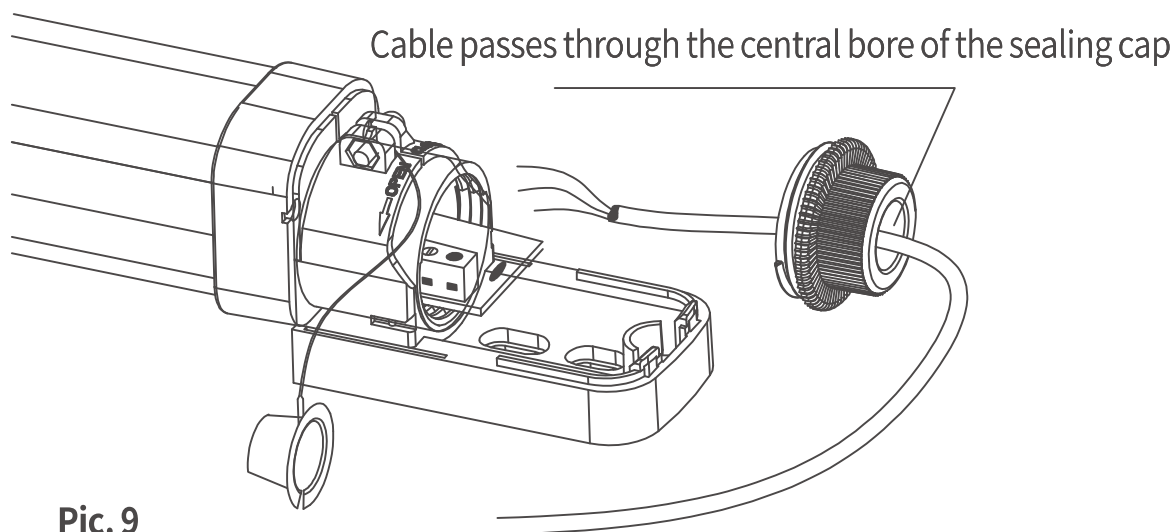
7) Function setting



<b>Transmitter (TX)</b>		
J10	J1	Jumper ON-Frequency A (make sure RX is the same)
		Jumper OFF-Frequency B (make sure RX is the same)
J4	L	Jumper ON-Long range transmit power
	M	Jumper ON-Medium range transmit power
	S	Jumper ON-Short range transmit power
		Jumper OFF ALL-Very Low Power

<b>Receiver (RX)</b>		
J5	J1	Jumper ON-Frequency A (make sure TX is the same)
		Jumper OFF-Frequency B (make sure TX is the same)
	J2	Jumper ON-Synchronization cable NOT used (only when less than 3 pairs installation in a same line or plane)
		Jumper OFF-Synchronization cable used
	J3	Jumper ON-Receiver buzzer sound
		Jumper OFF-Receiver buzzer Not sound
J4	L	Jumper ON-High transmitter power
	M	Jumper ON-Medium transmit power
	S	Jumper ON-Low transmit power
		Jumper OFF ALL-Very Low Power
J66	NC	Jumper on NC-NC output
	NO	Jumper on NO-NO output
J22	J22 is empty by default, special functions refer to FS1, FS2, FS3	
	FS1	Jumper ON- 2 beams instant alarm mode, 0.1 sec to recover
	FS2	Jumper ON- 1 beam alarm mode, 2 sec to recover
	FS3	Jumper ON- 1 beam instant alarm mode, 0.1 sec to recover

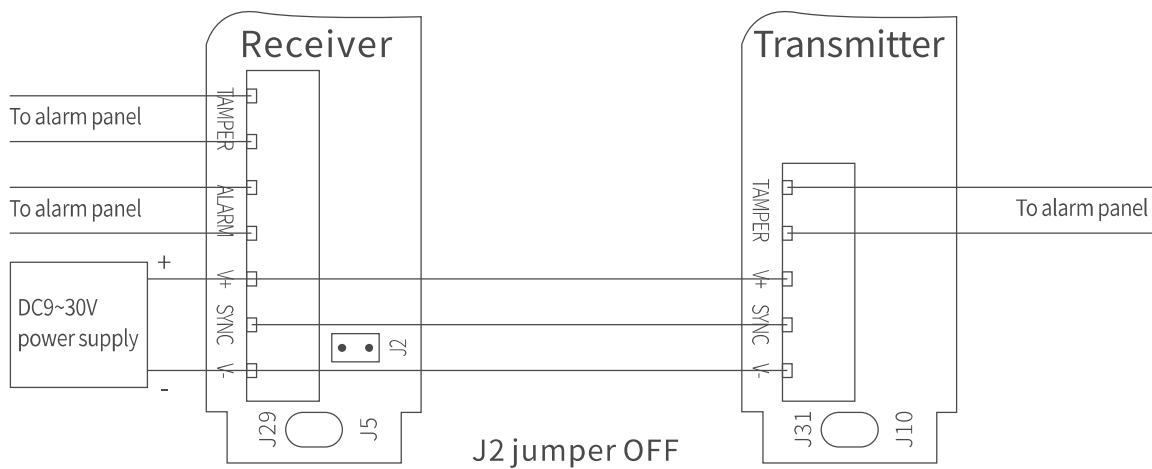
8) Cable passes through the central bore of the sealing cap



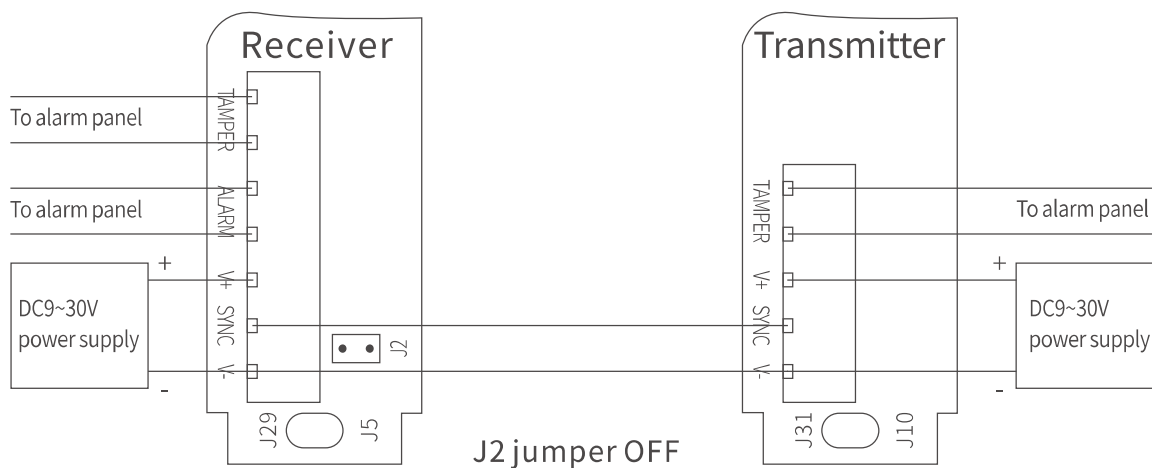
**Pic. 9**

9) **Wiring method**

Single power supply, sync working mode wiring diagram

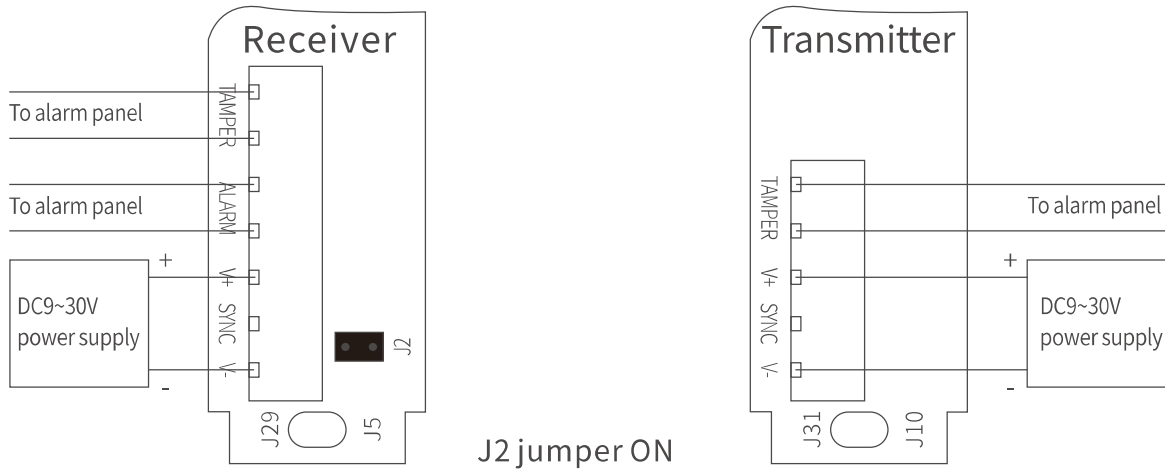


Dual power supply, sync working mode wiring diagram

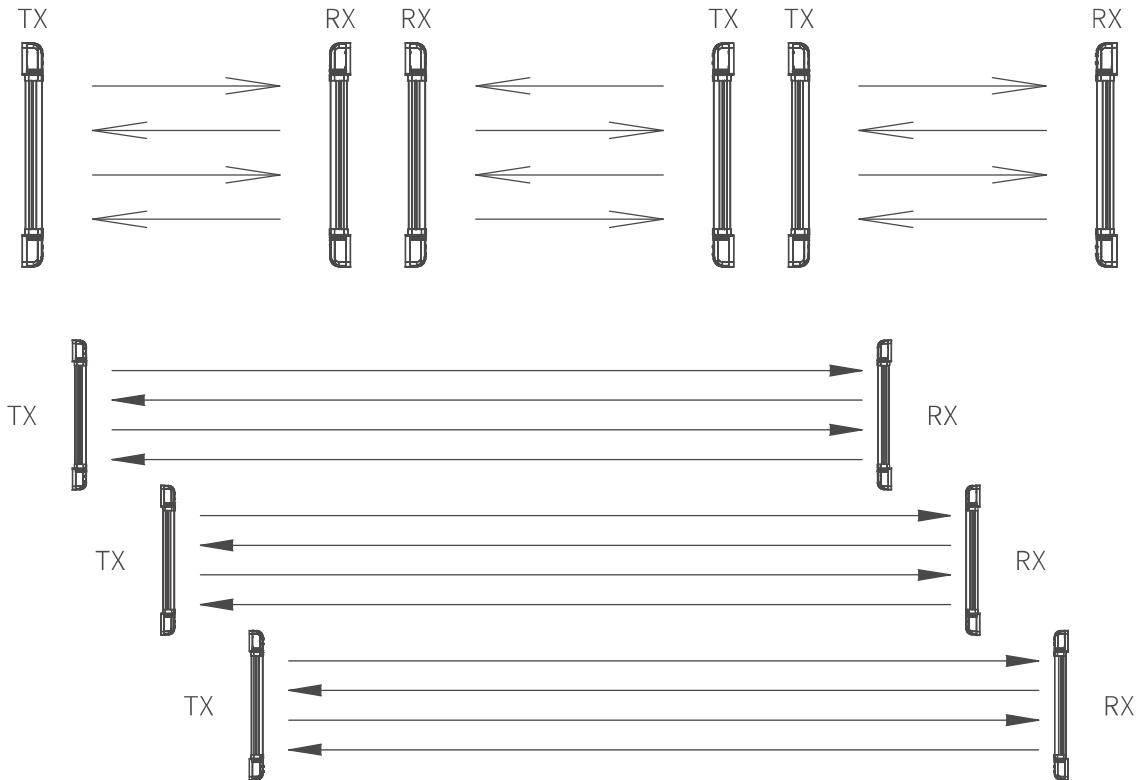




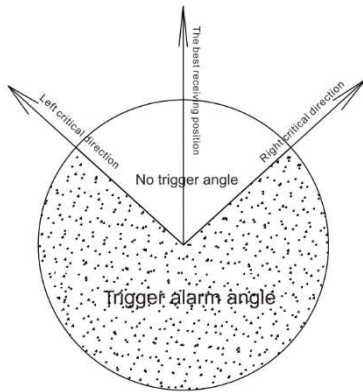
Dual power supply, async working mode wiring diagram



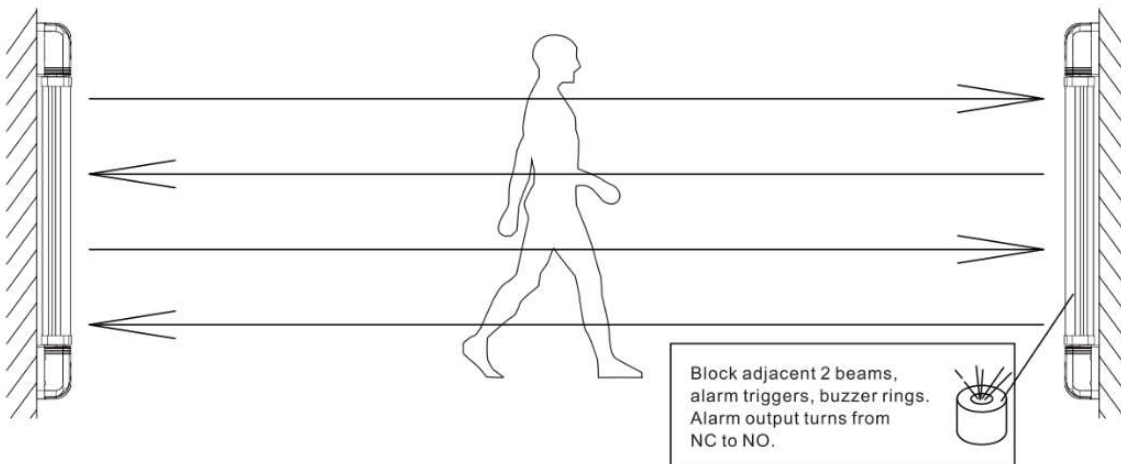
**Sync\Async working notes:**



- 10) Adjust the position of RX & TX, make sure both are at the same horizontal level, and at the same vertical level facing each other laterally;  
 Adjust RX & TX left or right till buzzer sounds, find critical direction (refer to picture below)  
 Adjust both RX & TX out the critical directions area either left or right.  
 Alarm buzzer should not sound.  
 Alignment complete.



- 11) Seal the unit correctly and wires at the bottom to prevent water damage.  
 12) Block adjacent 2 beams, alarm triggers, buzzer buzz, indicator lights, alarm output turns from NC to NO.



## 6. Troubleshooting

- **LED on TX & RX are always on, buzzer keeps sounding when trying to align:**
  - Check if TX & RX are set to same frequency(J1)
  - Check the voltage of TX & RX, make sure that all connections are correct and tightly.
  - Check if J3 is inserted on TX & RX.
  - Make sure that the distance between TX and RX are within the detection range.
  - Make sure there is no obstacles between TX & RX.
  
- **LED on RX flashed, LED of TX is off, and buzzer gives short beeps when busy with alignment (this is a warning condition)**
  - Check voltage on TX
  - Obstruct each beam on TX, make sure when blocking beam that buzzer beeps. If buzzer beeps continuously, alignment was successful.
  
- **Alarm sensitivity is very slow even though a beam is blocked.**
  - Check whether already block adjacent 2 beams.
  - Check for reflective objects and surfaces.
  - Adjust jumper J4 to a lower and then low power setting and see if it improves.
  
- **Alarm output relay.**
  - Block beam and make sure buzzer beeps when blocking beam on RX.
  - Check continuity on alarm output relay.
  - Make sure the cable going to alarm panel is not damaged.
  - Make sure that the TX and RX are not beyond the detection range, make sure power is correct and the same on both RX and TX.
  - Check the alarm panel programming.