Mini IR barriers series BA30 - BA100

user manual version 1.0 01-06-2020

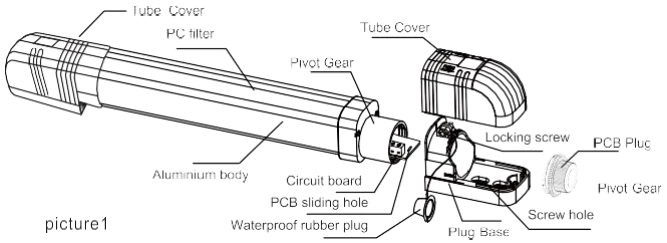
1 Descr pt on

The bi-directional infrared multi-beam adopts intelligent high-end technology for outdoor and indoor use, easy installation, convenient adjustment, elegant appearance, suitable for offices, schools, homes, factories, garages entry and perimeter protection. Not being able to be cloaked or mask forming an invisible wall rises the level of security of any protected property.

2 Features

1. Integrated and sealed, bi-directunal beams, frequency selection. 180 rotation, tamper switch and power level options.
2. Utilizing the digital variable frequency and microprocessor controlled digital signal technology. More stability and higher reliability, stronger anti-interference ability.
3. Adopting high-grade aluminium alloy shell with tamper and interference rejection.
4. Two frequencies are optional, solving cross talk from adjacent beams.
5. Dual-beam activation, effectively prevents false alarm caused by small animals, birds, etc.
6. Adjustable sensitivity with AGC circuit.
7. Resistant to rain, snow, fog and frost.
8. Detection distance : 5-100mt
9. UV resistant
10. IR beams : 6 (h:1mt), 8 (h:1,4mt), 12 (h:2mt)

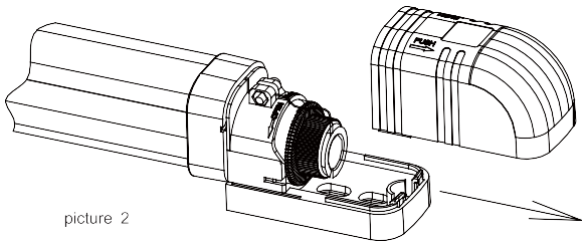
3 Product d agram



picture1

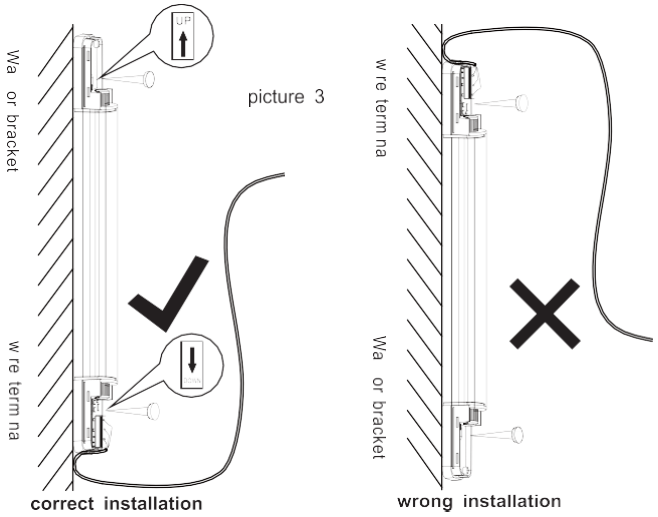
4 nsta at on nstruct on

1. Open the Tube Cover by pulling it away from the tube as shown in picture 2



picture 2

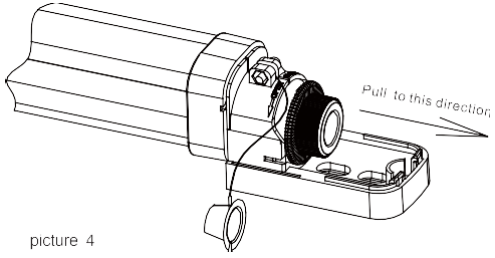
2. Use a 6mm drill bit to make mounting holes in the wall or mounting surface. Insert the plastic masonry plugs into the holes. Use supplied screws or similar, hold the beam in place and screw it to the required surface.



Note:

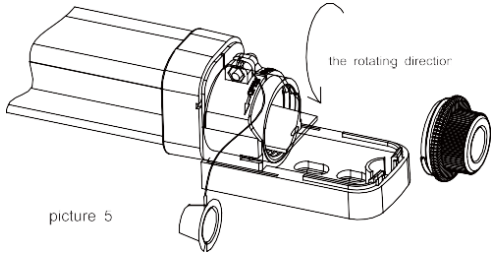
1. The transmitter (abbr TX) and receiver (abbr RX) of infrared barrier needs to be installed on the same horizontal level and vertically to the ground.
2. The wire terminals must be at the bottom of the beams, else rain will enter and damage PC-board.
3. Function setting

(1) Open waterproof rubber plug. (As in picture 4)



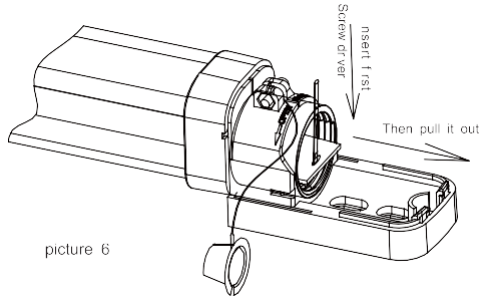
picture 4

(2) Remove the seal cover plug by rotating it counter clockwise as in picture 5



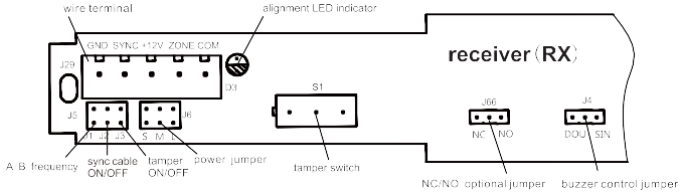
picture 5

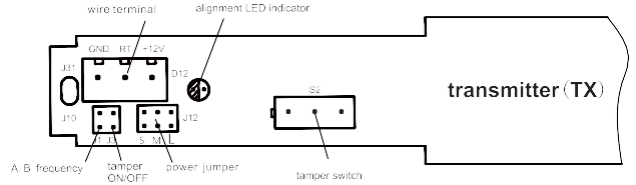
(3) Insert screwdriver in the sliding hole on PCB board and pull it out. (as shown in picture 6)



picture 6

(4). Function setting on PCB board





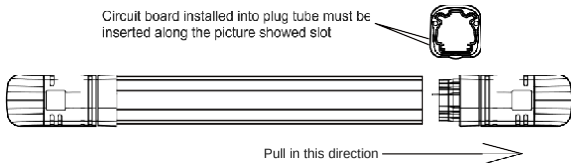
Receiver	J5	J1	Jumper ON - Frequency A (make sure TX is the same)	Default
			Jumper OFF - Frequency B (make sure TX is the same)	
		J2	Jumper ON - Synchronization cable NOT used	
			Jumper OFF - Synchronization cable used	Default
		J3	Jumper ON - Tamper switch OFF	
			Jumper OFF - Tamper switch ON	Default
	J6	L	Jumper ON - High transmit power TX & RX must be same	Default
		M	Jumper ON - Medium transmit power TX & RX must be same	
		S	Jumper ON - Low transmit power TX & RX must be same	
			Jumper OFF ALL - Very Low TX Power TX & RX must be same	
	J66	NC	Jumper ON - NC - Normally closed zone contact	Default
		NO	Jumper OFF - NO - Normally open zone contact	
	J4	SIN	Jumper ON - If any ONE infrared beam is blocked the buzzer will make a short " di di di " BUT wont trigger the zone output (Alarm). The is primarily for testing and alignment. After 30minutes it will automatically revert back to DOU function.	
		DOU	Jumper ON - The buzzer will sound for 1.5 seconds when beam path is broken.	Default
			Jumper OFF - The buzzer will be OFF	

Transmitter	J10	J1	Jumper ON - Frequency A (make sure TX is the same)	Default
			Jumper OFF - Frequency B (make sure TX is the same)	
		J3	Jumper ON - Tamper switch OFF	
			Jumper OFF - Tamper switch ON	
	J12	L	Jumper ON - High transmit power	TX & RX must be same Default
		M	Jumper ON - Medium transmit power	Tx & Rx must be same
		8	Jumper ON - Low transmit power	Tx z ex must be same
			Jumper OFF ALL - Very Low TX Power	Tx z Rx must be same

(5).Jumper Statement

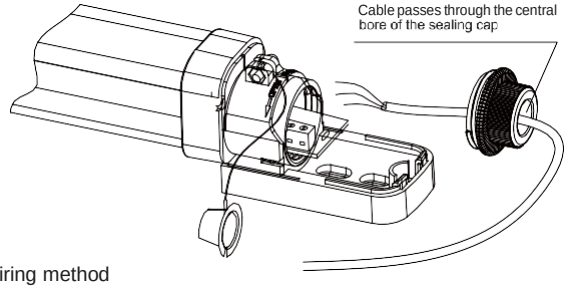
	Model	10m	30m	100m
RX J6/TX J12	L	5-10m	15-30m	50-100a
	M	3-5m	10-15m	30-50m
	S	1-3m	3-10m	530m
	OFF	0-1 m	0-3m	0-5m

(6). Put the PCB board back to shell

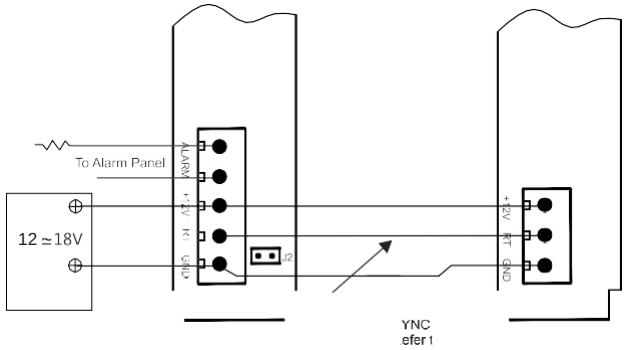


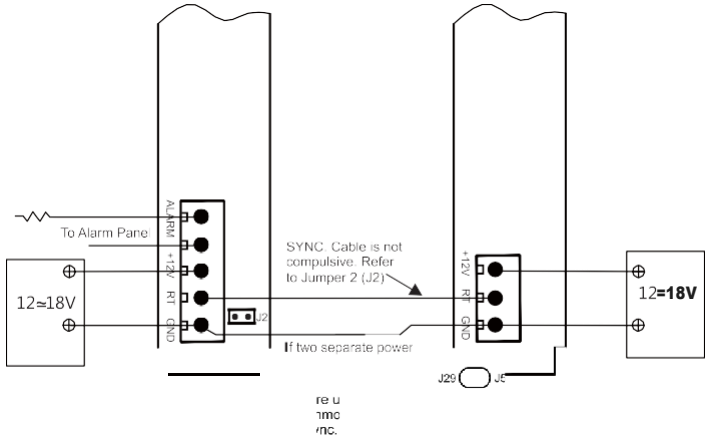
5.Wiring

1. Cable passes through the central bore of the sealing cap



2. Wiring method





Adjust the position of Transmitter and Receiver, make sure both are at the same horizontal level.

Make sure both are at the same vertical level facing each other laterally.

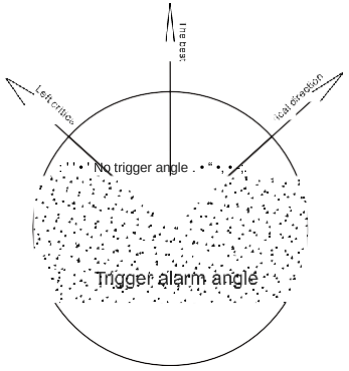
Adjust RX left or right till buzzer sounds, find critical direction (refer to picture below).

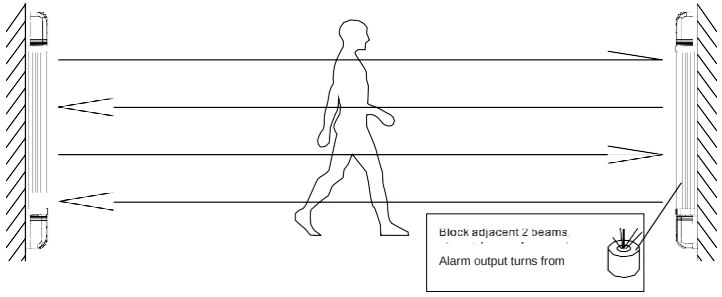
Now turn TX left of right till buzzer sounds, find critical direction (refer to picture below).

Adjust both RX and TX out the critical directions area either left or right.

Alarm buzzer should not sound.

Alignment complete.





Notes:

1. Do not install under following situations:
   A. With any obstructions between TX & RX
   B. Mounted on an unsteady or movable base
   C. With direct sunlight facing the Receiver.
2. Do not use a PSU with lower or higher voltage (12 — 18 volts)
3. Make sure that the unit is sealed correctly and wires at the bottom to prevent water damage.

6.Technical Parameter

Detection distance	5-100m
eeams	6 (h: 1m)- 8 (h:1,4mt) - 12 (h:2mt)
Current consumption	50-100mA
Power supply	12VDC
Working temperature	-30°C-70'C
Alarm output	NC. Contact capacity 30V 2A
Response time	40ms
Alarm period	¿ 1s

7.Troubleshooting

1. LED on TX and RX are always on, buzzer keeps sounding when trying to align:

A. Check if TX and RX are set to same frequency (J1)

B. Check the voltage of TX and RX, make sure that all connections are correct and tightly connected.

C. Check if J3 is inserted on RX and TX.

D. Make sure that the distance between TX and RX are within the detection range.

E. Make sure there is no obstacles beMeen RX and TX.

F. Make sure power jumpers (J6/12) are in correct position on RX and TX.

2. LED on RX flashed, LED of TX is off and buzzer gives short beeps when busy with alignment (this is a warning condition)

A. Check voltage on TX

B. Obstruct each beam on TX, make sure when blocking beam that buzzer beeps. If buzzer beeps continuously, alignment was successful.

3. Alarm sensitivity is very slow even though a beam is blocked

A. Block more than one beam at a time

B. Adjust jumper J6 & J12 to a lower and then lower power setting and see if it improves.

C. Check for reflective objects and surfaces.

4. Alarm output relay.

A. Block beam and make sure buzzer beeps when blocking beam on RX.

B. Check continuity on alarm output relay.

c. Make sure the cable going to alarm panel is not damaged.

D. 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.

E. Check the alarm panel programming.