2*4/6/8 beams with bus and 8 frequency conversion active infrared intruder detector

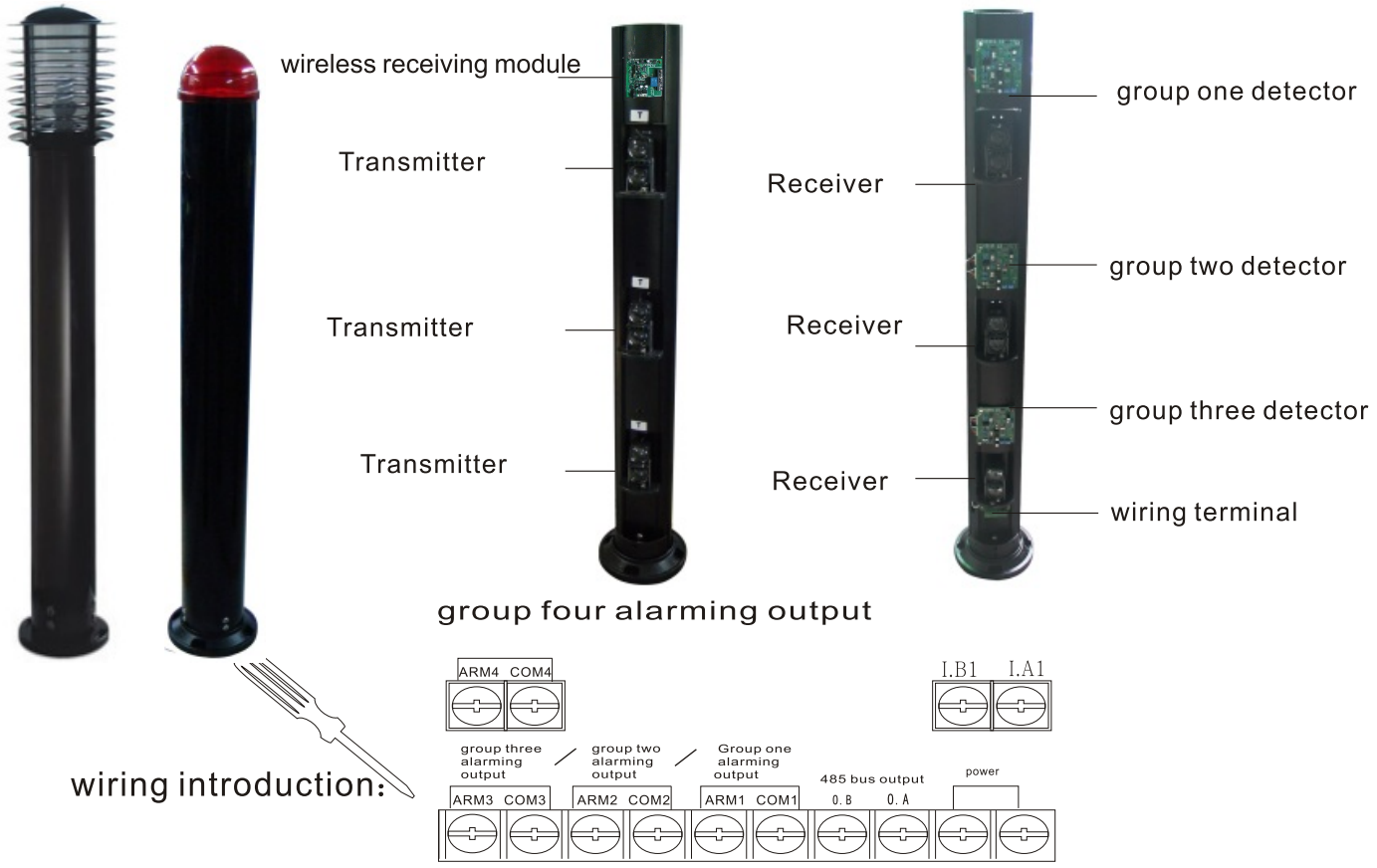
Installation manual
ABI series

V 5.0

I、Models

Model		ABI -204	ABI -206	ABI -208	ABI -404	ABI -406	ABI -408	ABI -604	ABI -606	ABI -608	ABI -1004	ABI -1006	ABI -1008	ABI -1504	ABI -1506	ABI -1508
Alarm distance	Out room	20m			40m			60m			100m			150m		
	In room	60m			120m			180m			300m			450m		
Beams		4	6	8	4	6	8	4	6	8	4	6	8	4	6	8
Detect method		Two/three/four group interrupt two beams way to test														
Light		IR digital impulse														
Response speed		50-240ms adjustable														
Alarm output		Relay tip output NO、NC capacity of tip :AC/DC30V 70mA MAX														
Power		DC13.8-24V														
Current consumption		Four beams≤150mA/ one 6 beams≤280mA/one 8 beams≤300mA/one														
Working environment		-25℃～55℃ 5%～95%RH（relative humidity）														
Dimension		refering outlook picture														
Anti-tamper output		tip output NC tip capacity DC24V 50mA max.														
Adjust Opticalaxis angle (horizontal)		180° （±90°）														
Adjust Optical axis angle (vertical)		20° （±10°）														
Material		P C 、aluminum alloy structure														

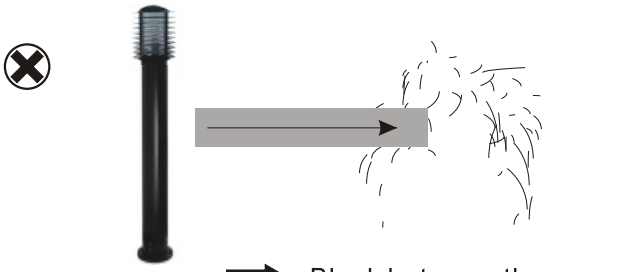
II、structure



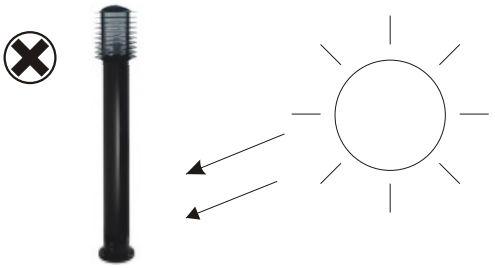
Remark: 1.the number of beams can be optical for four, six, eight. Four beams detector has two groups of alarming output, six beams detector has three groups of alarming output, eight beams detector has four groups of alarming output.ARM1、COM1 are corresponding to the first group, ARM2、COM2 are corresponding to the second group, ARM3、COM3 to the third group, and ARM4、COM4 to the fourth group

2. Power supply for different ABI type:ABI with window blind: Power from AC(220V/110V/240V..) directly
ABI with recover: Power from DC13.8-24V through wired terminals.

III、 Installation



Block between the transmitter and receiver

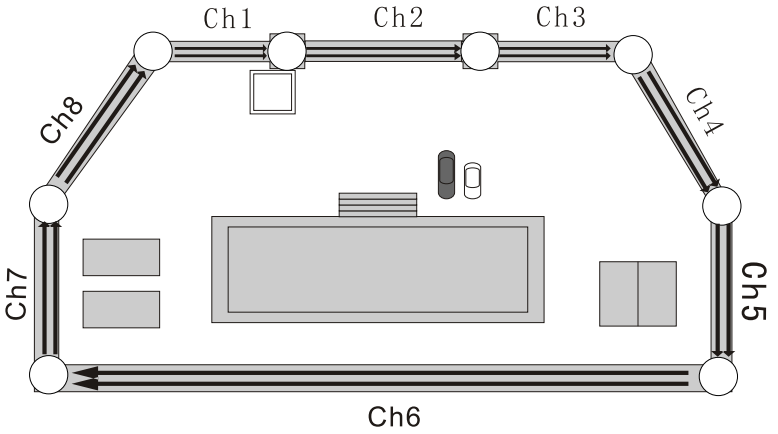


Under direct sunllgh or lampllght etc.

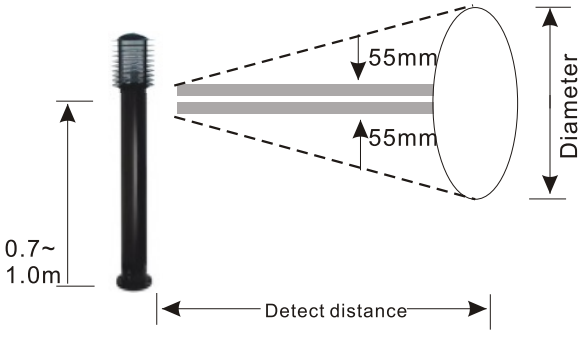
Unfixed base

●Can be adjust 180° horizontaly and ±10° verticaly

Horizontal:±180° Vertical:±10 °



Typical Application

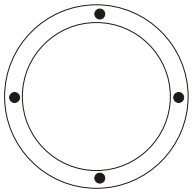


Instal l height

Model	Detect distance	Beams scattering diameter
ABI-20	20m	0.60m
ABI-30	30m	0.70m
ABI-40	40m	0.75m
ABI-60	60m	0.90m
ABI-80	80m	1.05m
ABI-100	100m	1.20m
ABI-150	150m	1.50m

IV、Installation method

1、Consolidate the base where the beams will be installed (e.g. Reinforced concrete base)
I, fix the reinforcing bracket

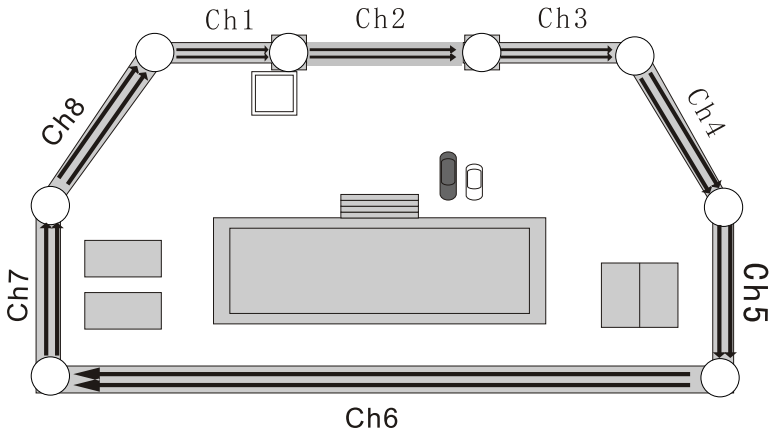


2、After the base already, install the detector

3、layout the wire first ,then thread the wire through the hole of bottom of the base

4、Drow out the screw on the top and take off the spotlight case, then take out the big screw on the bottom and take out the round light-filtering cover.(See in the above picture)

5、install all of the detectors as said above .



6、enter the detector testing step. After wiring the power, connect the output of relay to the wired zone of the panel (or the 485 bus to the bus zone of the panel) and then set the frequency of each signal(see the use manual in chapter five)

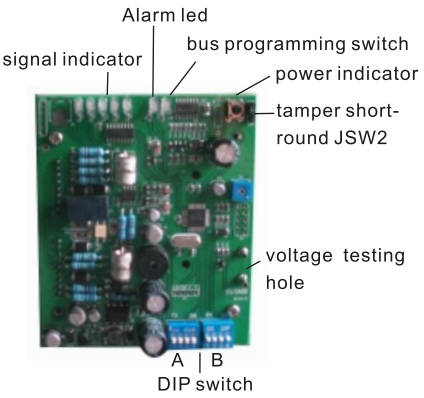
7、power on testing : adjust the detector’ s horizonal and vertical knob to let the signal indicator of control panel to be grade 7.

8、waling testing: use the barrier (e.g) to ward off the signal, the detector will sound alarm till the barrier removed. Then, check the alarm information of the panel, to see if it is tested to be normal .If has fault, please check the wiring.

voltage / line / distance	DC13.8Vhour	DC24Vhour
0.5mm^2 （dia Φ0.8）	300m	300m
0.75mm^2 （dia Φ.0）	400m	800m
1.25mm^2 （dia Φ.2）	700m	1400m
2.0mm^2 （dia Φ.6）	1000m	2000m

V、Function description

1.Frequency band settings



sketch map of receiving and emitting alarm module

point remark:

when use the function of frequency conv -ersion,the frequency of emitter and receiver is the same, or, the system will send out the alarm indication for false frequency band setting.

After powering-up,the detector enter the self-detecting mode, and about 30s later, the self-detecting is over, and then enter the working mode.(Remark: TX sands for emitter , RX is receiver) .

(1)set the frequency band of emitter As shown on the left, the DIP switch of the position A: DIP1～DIP3 can set 8 frequency bands; if DIP4=ON the buzzer of the detector will open.

FRE. / DIP	0	1	2	3	4	5	6	7
1	0	1	0	1	0	1	0	1
2	0	0	1	1	0	0	1	1
3	0	0	0	0	1	1	1	1

NOTE: 0=OFF 1=ON

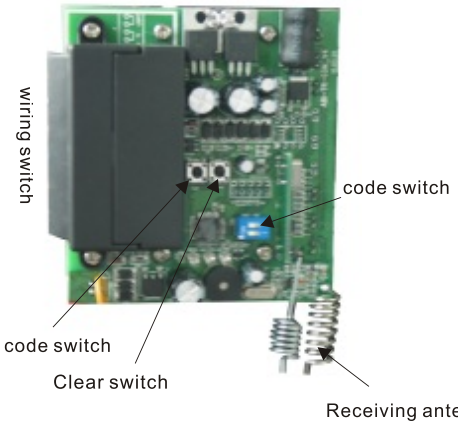
(2) set the frequency of receiver. see in the left picture, the DIP switch in the position B DIP1-DIP3 can set 8 frequency bands, when DIP4=ON, detector alarm switch is NO(factory default : DIP4=OFF, alarm output is to be NC)

FRE. / DIP	0	1	2	3	4	5	6	7
1	0	1	0	1	0	1	0	1
2	0	0	1	1	0	0	1	1
3	0	0	0	0	1	1	1	1

NOTE: 0=OFF 1=ON

Note: after powering on, the detector will automatically display frequency band setting dates to be 10s and alarm indicator (buzzer) also indicate (refer to the above) then enter the working status

During the working status, D1-D5 display the signal intension of the receiver. After setting, insert the JSW2 module into the the bottom terminals. Or the LCD of the bus panel wiring to the detector will indicate :tamper: "NG"



wireless module sketch map

Transmitter

Band	signal LED D3	D2	D1
0	0	0	0
1	0	0	1
2	0	1	0
3	0	1	1
4	1	0	0
5	1	0	1
6	1	1	0
7	1	1	1

Note: 1=on 0=off

Receiver

Band	signal LED D3	D2	D1
0	0	0	0
1	0	0	1
2	0	1	0
3	0	1	1
4	1	0	0
5	1	0	1
6	1	1	0
7	1	1	1

Note: 1=on 0=off

signal Intensity (LED5-LED1)	Grade
on on on on on	10
on on on on flash	9
off on on on on	8
off on on on flash	7
off off on on on	6
off off on on flash	5
off off off on on	4
off off off on flash	3
off off off off on	2
off off off off flash	1
off off off off off	0

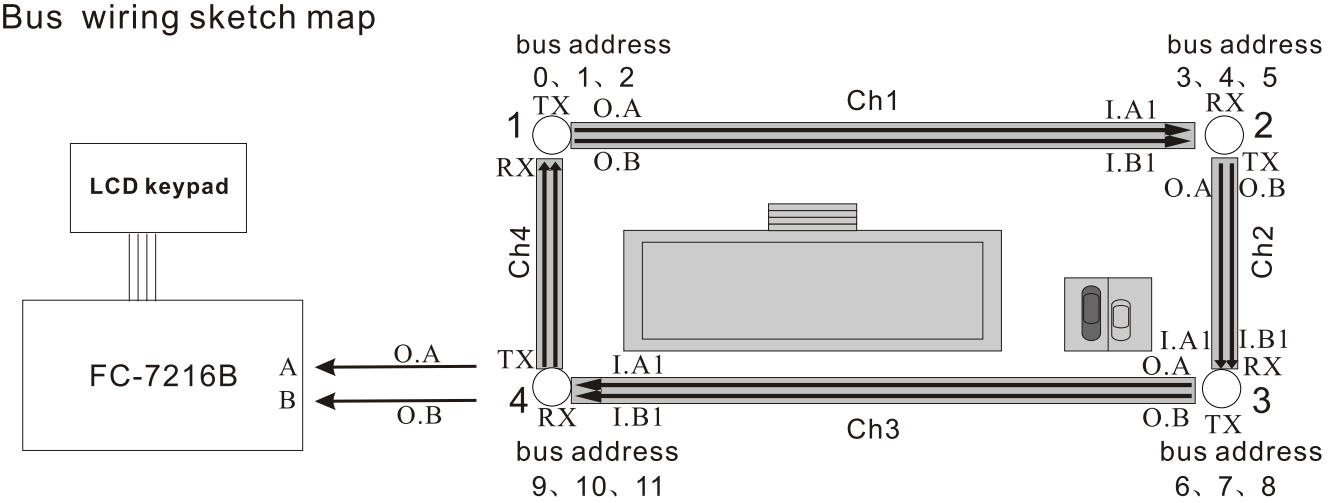
code switch of wireless module

code switch:

DIP-1 is relay flash close function; ON , when alarming, the LED do not flash but continues lighting; OFF , when alarming , the LED flash.

DIP-2 duration of alarm time option: ON,10S OFF,180S

2.Bus wiring sketch map



(Note: before left factory, make sure that group two/ three/ four detectors bus wiring be ready ,and ,the group one bus address setting to be "0" ,the group two to be "1", the group three to be "2", group four to be "3".if user use bus wiring method, have to refine all the bus address)

3.Wireless module

★wireless transmitting module

Under the status of arming, if any group alarm, wireless module transmit alarming code to the panel, under the status of disarming, do not use the transmitting module

★wireless receiving module

using our remote controller can control CPU, arm, disarm, alarm, eliminate arming(but not disarm)

4.siren and flash LED

A:Under the situation of arming, any group alarms, will immeduiately start-up the flash LED and siren, continues flashing for 10S(180S) , at the same time, the siren will continues ringing

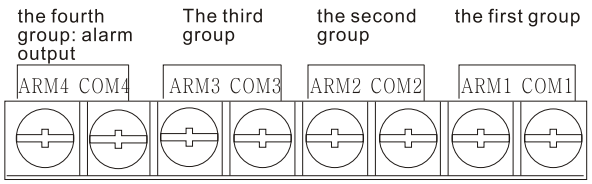
B:Under the situation of disarming, any group alarm, the siren will ring for 2S

5.coding

Study coding: pressing down the coding key and springing the remote controller to study coding

clear away coding :pressing down the clearing key and coding key at the same time for 10S to clear the coding

6.wired connecting sketch map

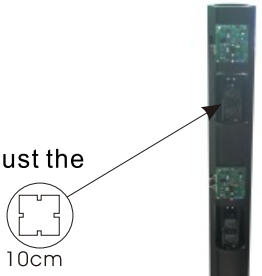


As shown on the left map, adopt wired connect method(connect matching resistance) , can engross wired panel's 2/3/4 wired zones, also can connect the zones in series to one zone The connecting method is flexible,is convenient for different users' requirement

VI.adjust the optical axis and frequency band matching

(1).Open the outer cover

(2).Hang the aiming lens separately on the side of transmitter /receiver, adjust the position of the transmitter or the receiver to make the eyes is 5cm away the aiming lens , from the aiming lens, we can have a full look of the transmitter /receiver

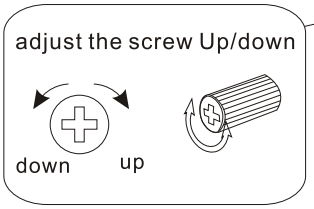


(3).Set the frequency of transmitter and receiver to make them are the same. setting method can refer to the section Five

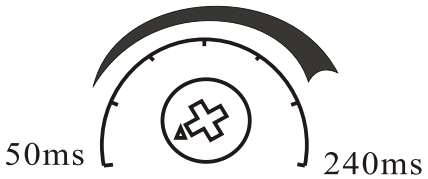
(4).Adjust the horizontal knob and vertical knob, to make the intension of signal achieve grade 7, at the same time, can use the universal table to test the voltage testing hole to make sure the voltage is over 2.90V

(5).test if it is working normal under the status of alarm NO,NC

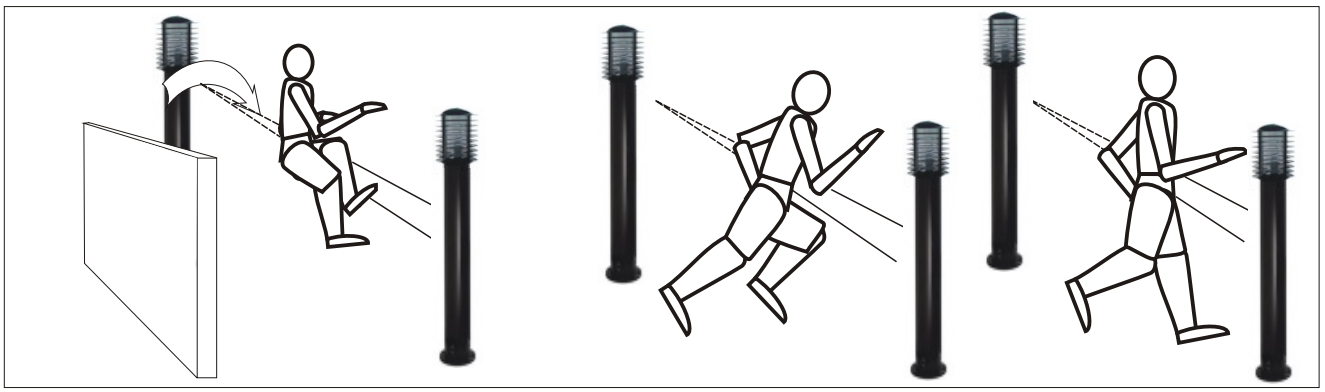
(6).Finish adjusting, please cover the case



VII.Interrupt time adjusting

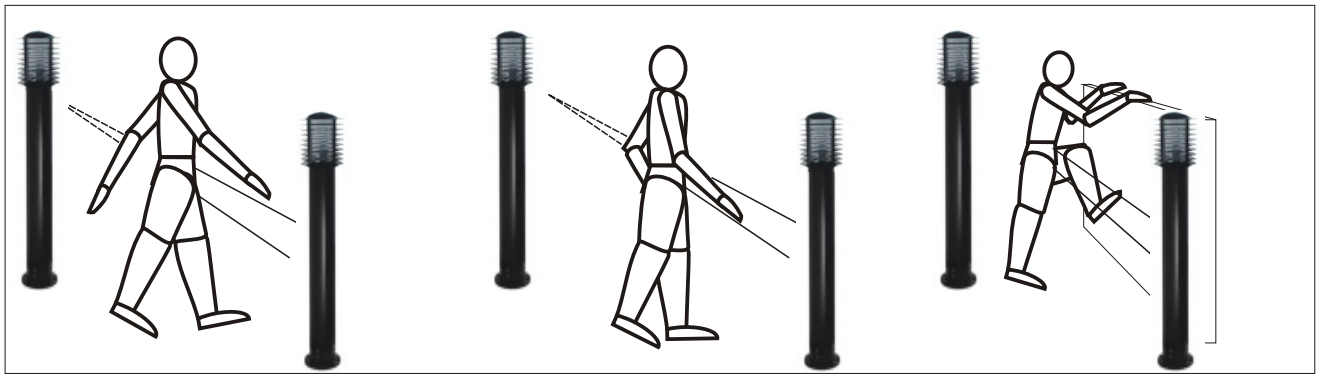


Normally, set the interrupt time shorter than the time intruder will spend to get through the beams



high speed moving：respnd quickly　　ast running（6.9m/s）：1　　normal speed running（3m/s）：2

high speed walking（1.2m/s）：3　　normal speed walking（0.7m/s）：4　　slow moving（0.4m/s）：5



VIII、 Moving confirm

after setting, have to get walking test, please refer to the below chart to confirm moving

	signal intensity indicator	alarm indicator	Status
LED status	Strong	Off	system work normally
	Weak	Off	system work normally, but signal is weak
	Strong	ON	signal is strong, the panel alarm, but the incorrect frequency/misalignment
	Weak	ON	signal is weak, the panel alarm, misalignment

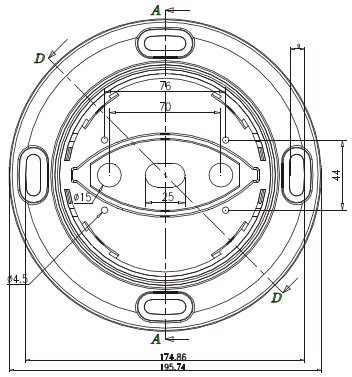
IX.Abnormity situation checking

Failure	Failure cause	Countermeasure
power LED is OFF	voltage is not suitable(cut off, short-circuit and so no)	check the power wiring, voltage is to be 13.8-24V
The ray is shut off,the receiver alarming LED wil be OFF	①for reflecting or ray from other transmitter come into the receiver	①remove the reflecting thing or change the way of light axis
	②sheltering time is set to be too long	②short down the sheltering time
After shutting off,the receiver alarm indicator LED will light, but there is no alarm signal output	① wiring cut off or short-circuit	①check the wiring and tips
	②bad contact between the tips	②re-connect the wiring
	③ NO/NC settings are incorrect	③re-set the function of :"NO/NC"

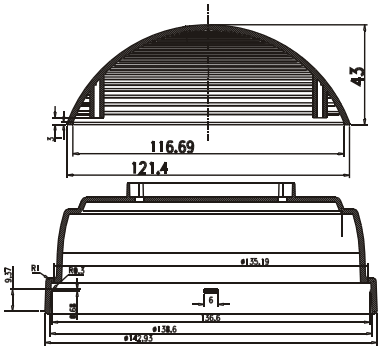
(Continued on page)

alarm LED of the receiver is ON all the time	①optical axis not matched ②there is obstacle between the receiver and the transmitter ③outer cover is got dirty	① re-adjust the optical axis ②clear the obstacle ③clean up the outer cover
bus trouble	①tamper short-circuit module is inserted wrong ②connect bus A and bus B oppositely ③wire bus input/output oppositely ④bus address edit wrong	①insert the tamper module into the two tips of spinal ②refer to interface terminal, I.A/I.B is bus input, O.A/O.B is bus output. ③refer to the interface terminal, I.A/I.B is bus input, O.A/O.B is bus output ④bus address 0-31 (algorism), should set by orders,the beginning address is 0, and the end is N, and wire address N to bus panel or special module
always make false alarm	①bad wiring ②the voltage of power can not achieve 13.8V or higher ③obstacle between the receiver and trans -mitter interrupted by the rain and wind the beams will shutoff the light beams ④installing base is not stable ⑤the precision of optical axis do not matched very well ⑥othe moving things shut-off the light ⑦responding time is too short ⑧not fix the cover well	①check the wiring ②check the power ③ remove the obstacle or change the setting ground ④ choose the place whose base is well-grounded ⑤ re-adjust the optical axis ⑥adjust the shut-off time or change the installing place ⑦re-adjust the shut-off time ⑧ re-adjust the optical axis,to the ability of receiving signal achieve the best lever

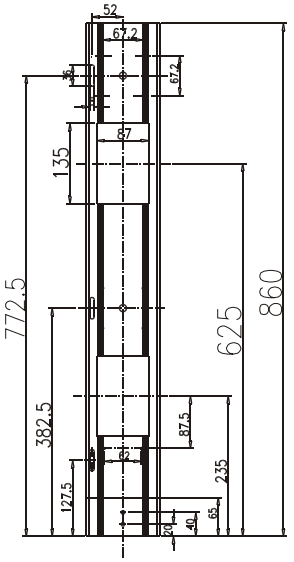
X、 dimesion



bottom base

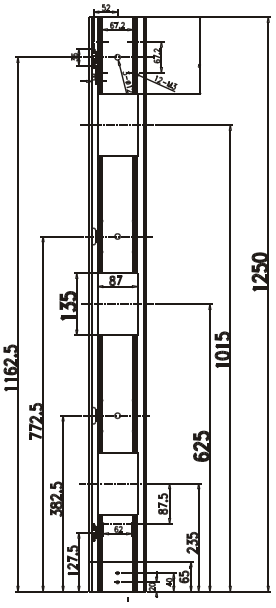


top cover



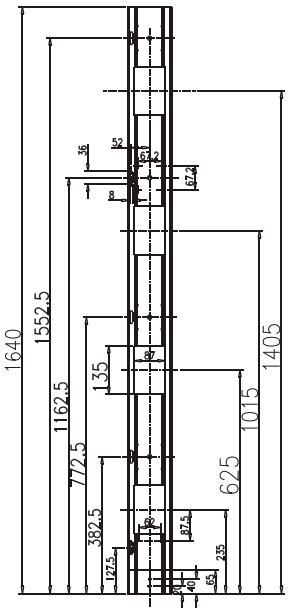
4 beams

total height：1000mm



6 beams

total height：
1400mm



8 beams

total height：
1800mm