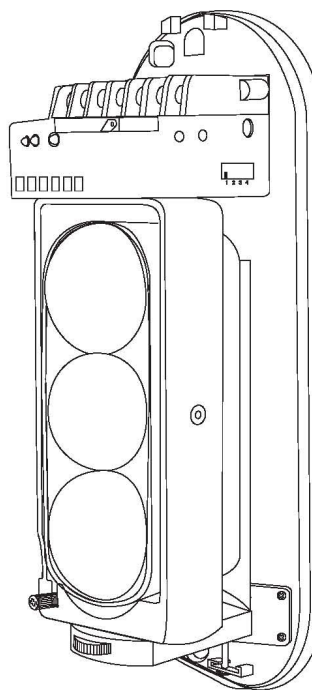
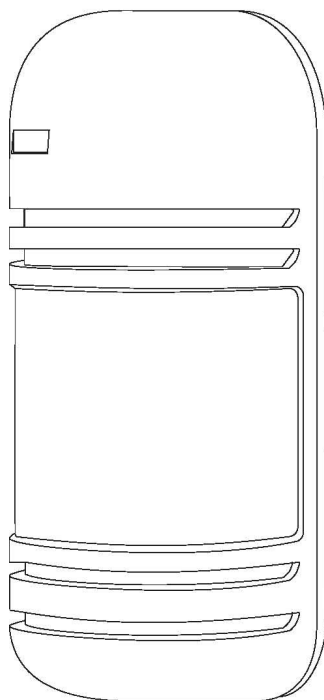


3BMW 3 BEAMS ACTIVE PHOTOELECTRIC DETECTOR WITH DIGITAL FREQUENCY CONVERSION

INSTALLATION GUIDE



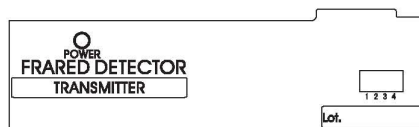
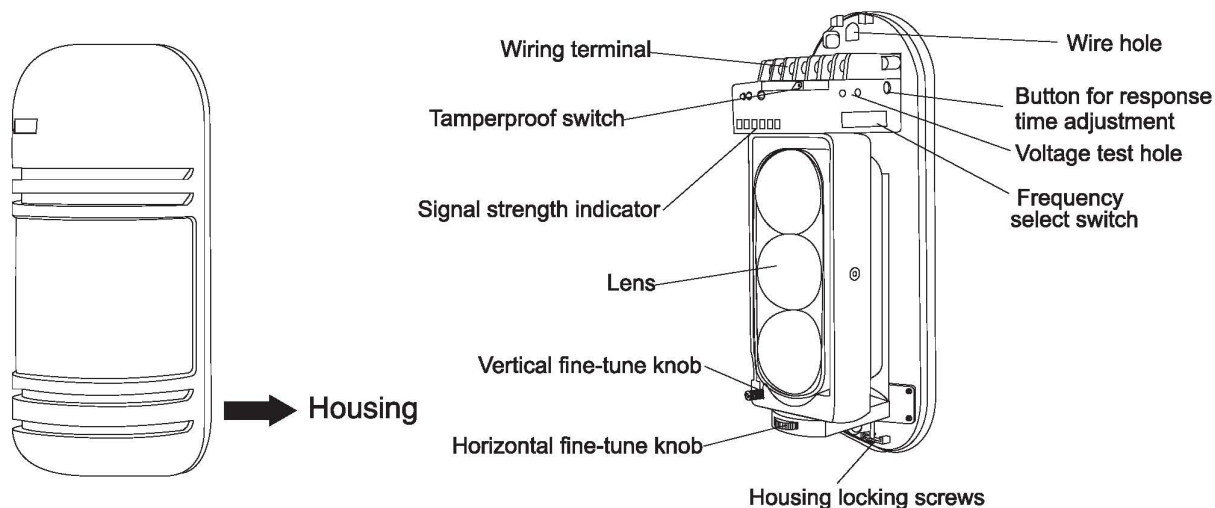
3BMW SERIES



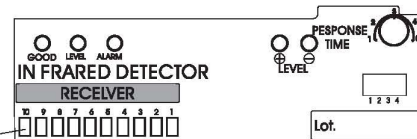
Model:

| | |
|------------------|------------------------------------|
| 3BMW-050M | (Outdoor 50m, Indoor 150m) |
| 3BMW-075M | (Outdoor 75m, Indoor 225m) |
| 3BMW-100M | (Outdoor 100m, Indoor 300m) |
| 3BMW-125M | (Outdoor 125m, Indoor 375m) |
| 3BMW-150M | (Outdoor 150m, Indoor 450m) |
| 3BMW-180M | (Outdoor 180m, Indoor 540m) |
| 3BMW-200M | (Outdoor 200m, Indoor 600m) |
| 3BMW-250M | (Outdoor 250m, Indoor 750m) |

I. Part Name



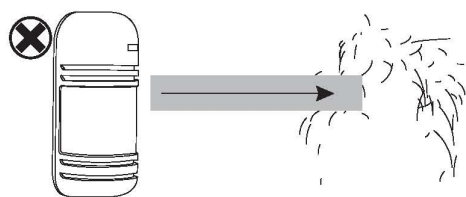
Signal strength receiving indicator. In the diagram, after adjustment of the beam, the level 5 shall light up. Otherwise, adjust again. It is strongly recommended that it should be adjusted to the point until level 7 or higher lights up.



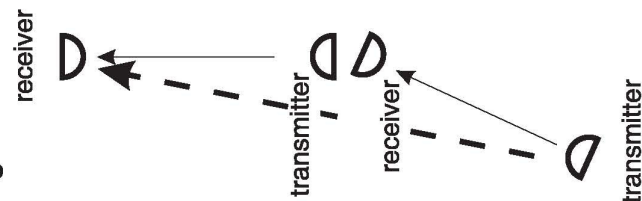
- **Power transmit indicator**
- **LEVEL:** Indicators turns on when the beam align presents. Specific alignment accuracy refer to signal strength receiving indicator.

- **ALARM:** The indicator turns on when alarm presents.
- **GOOD:** The green indicator turns on when the beam aligns with the receiver. If fails to align, the indicator will OFF.

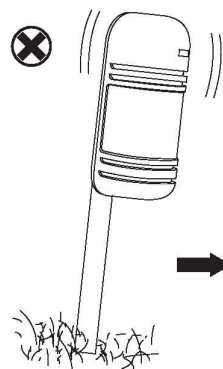
II Precautions for setting



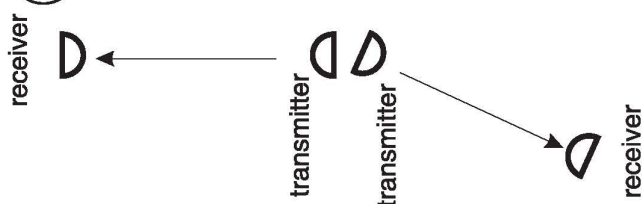
➔ Impediment presents during setup



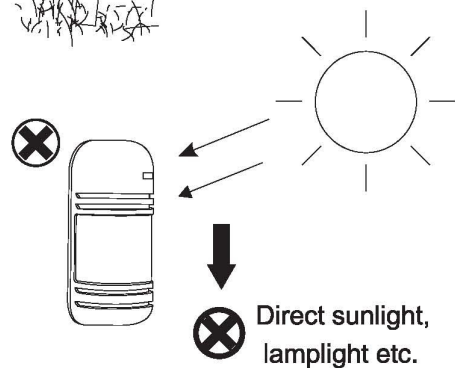
Multi sensors may be used for long-distance guarding. Please install according to the below diagram to avoid interference between beams.



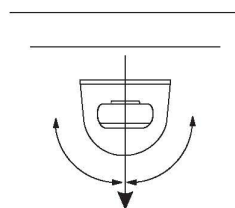
➔ The base is unstable



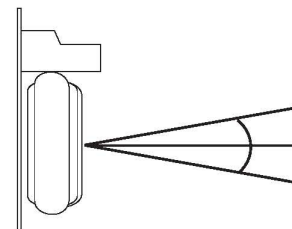
● Adjustable angle: horizontal $\pm 90^\circ$
vertical $\pm 10^\circ$



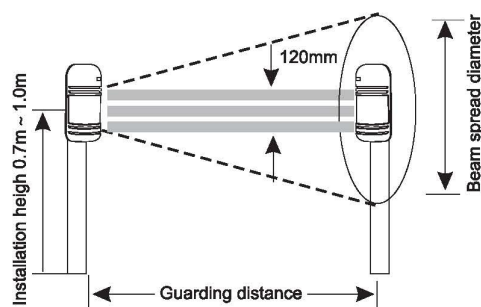
➔ Direct sunlight, lamp light etc.



Horizontal $\pm 180^\circ$ ($\pm 90^\circ$)



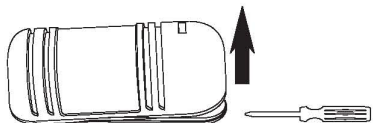
Vertical $\pm 10^\circ$



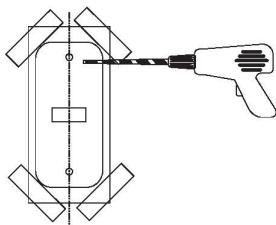
| Style | Guarding distance | Beam spread diameter |
|-----------|-------------------|----------------------|
| 3BMW-050M | 50m | 1.5m |
| 3BMW-075M | 75m | 2.3m |
| 3BMW-100M | 100m | 3.0m |
| 3BMW-125M | 125m | 3.8m |
| 3BMW-150M | 150m | 4.5m |
| 3BMW-180M | 180m | 5.4m |
| 3BMW-200M | 200m | 6.0m |
| 3BMW-250M | 250m | 7.5m |

III Setting procedure

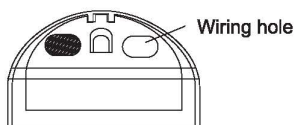
1.Remove the cover



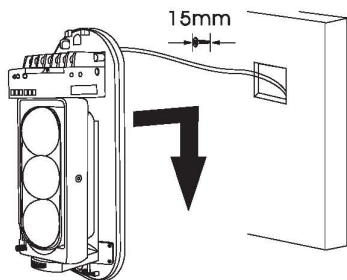
2.Attach the paper stencil onto the location where the equipment is to be mounted, and drill the holes in the positions on its mark.



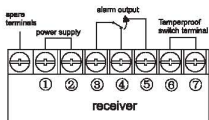
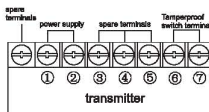
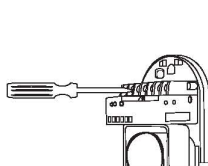
3.Put the cable through the hole for wiring.



4.Fix the main body onto the wall



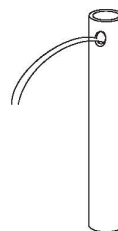
5.Connect the cable to the wire terminal.



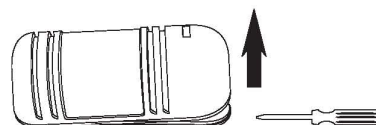
6.Put on the cover after adjusting the response time of the beam.

● Installation of fixed bracket

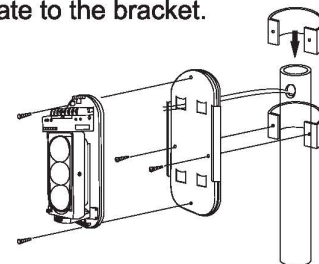
1.Drill a hole on the bracket and extend out the cable from it.



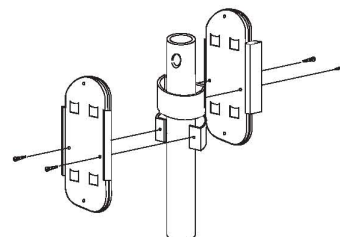
2.Remove the cover.



3.Fasten the base-plate to the bracket.



(Back-to-back installation guiding diagram)



Wiring distance between transmitter and receiver

| wire size | distance | voltage | |
|-----------------------------|----------|---------|-------|
| | | DC13.8V | DC24V |
| 0.5mm ² (φ 0.8) | | 300m | 300m |
| 0.75mm ² (φ 1.0) | | 400m | 800m |
| 1.25mm ² (φ 1.2) | | 700m | 1400m |
| 2.0mm ² (φ 1.6) | | 1000m | 2000m |

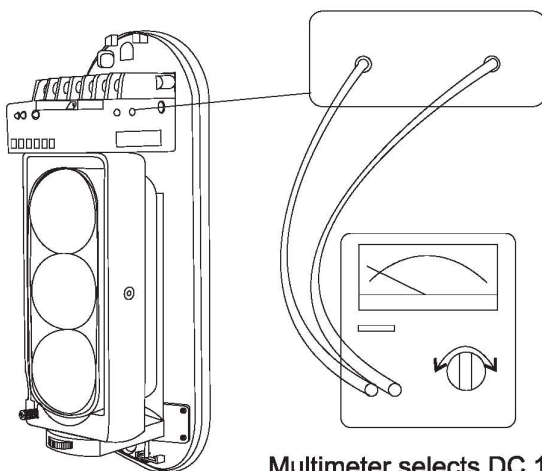
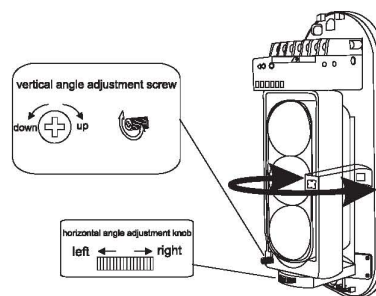
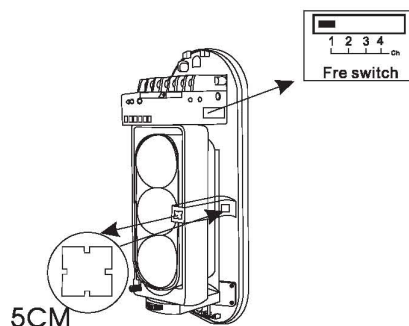
IVBeam alignment

Visual test method

1. Remove the cover and connect power.
2. Adjust the beam frequency of transmitter and receiver to the same channel.
3. Observe the collimation effect at a distance of 5cm from the viewfinder. Adjust the upper / lower angle regulation screw and horizontal adjustment wheel in order that the image of opposite detector falls into the central part of the viewing hole.
4. Adjust the vertical adjustment screw and the horizontal

angle adjusting wheel, the signal strength indicator will light up step by step, adjust until level 5 or higher indicator lights up. If not, adjust it again.

Note the more the signal strength indicator lights up, the higher the beam alignment is.



Voltage test method

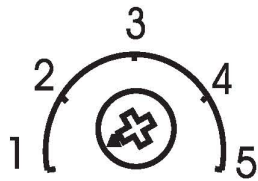
1. Insert the test pen into the test hole (please note the +,- polarity)
2. First adjust the horizontal angle until the test hole voltage output maximize. Then adjust the vertical angle by the same way.

Note

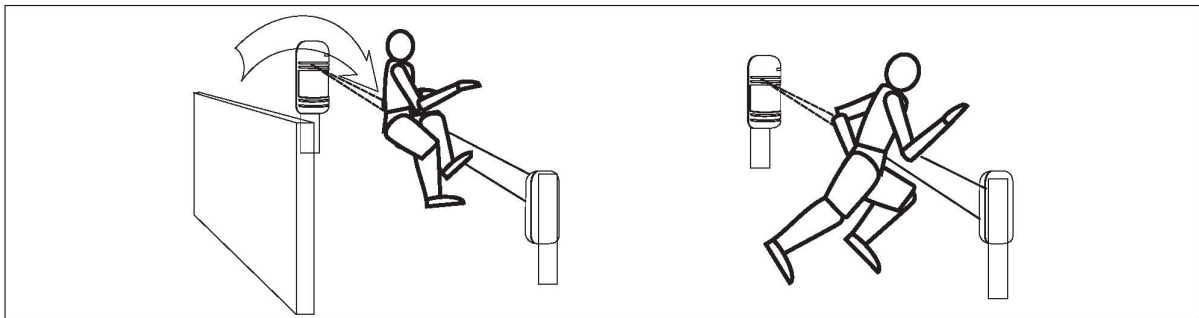


In the diagram, after adjustment of the beam, the level 5 of the reception/transmission LED shall light up. Otherwise, adjust again. It is strongly recommended that it should be adjusted to the point until level 7 or higher lights up.

VBeam response time adjustment



Please see the diagram to adjust the response time of the receiver. Usually, the time set shall be less than the time when the intruder crosses the guarding area.



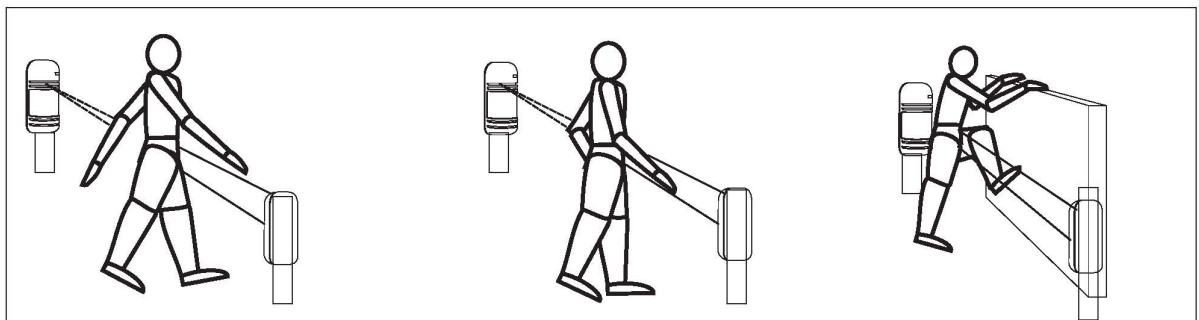
High speed:1

Fast running(6.9m/s):2

Fast walking(1.2m/s):3

Normal walking(0.7m/s):4

Slow walking(0.4m/s):5



Physical test

Walking test is required after the setting, physical test in accordance to below diagram.

| | State | Signal |
|-------------|--------------|--|
| Transmitter | Transmitting | The 2 indicators of green LED light up |
| Receiver | Guarding | GOOD LEVEL indicators light up |
| | In alarm | The red ALARM indicator light up |

VII. Trouble checking

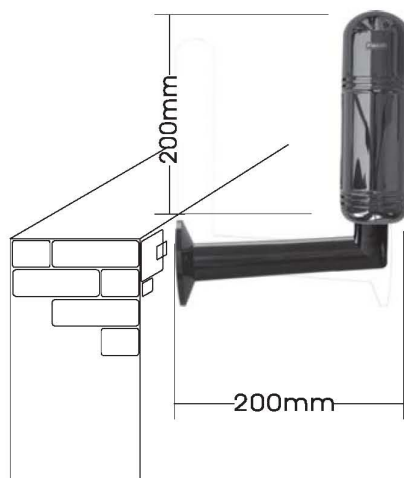
| Fault | Cause | Solution |
|--|---|---|
| The LED of the transmitter doesn't light up | Power failure (open circuit, short-circuit, etc.) | Check the power wiring |
| The LED of the receiver doesn't light up | Power failure (open circuit, short-circuit, etc.) | Check the power wiring |
| The LED of the receiver doesn't light up when the light is blocked | 1.By reflecting, or light from other sources enter the receiver 2.Both beams are not blocked at the same time 3.Response time is set too short | 1.Remove the reflecting object or change the direction of beam 2. Block both beams at the same time 3.Prolong the response time |
| The receiver alarm indicator ON after the beam is blocked, but there is NO alarm signal output | 1.Broken circuit or short-circuit of the wiring 2.Poor contact | 1.Check the wiring and contact 2.Connect the cable |
| The alarm indicator of the receiver is constantly ON. | 1.The beam doesn't match closely 2.There is obstacle presents between the transmitter and the receiver 3.The cover is polluted. | 1.Re-adjust the beam 2.Remove the obstacle 3.Clear the cover |
| Intermittent alarm signal output | 1.Improper wiring 2.The supply voltage does not reach 13V or higher 3.The potential obstacle appears to block the beams due to the effect of wind and rain 4.The installation base unstable 5.The beam coincidence accuracy is inadequate 6.Beams blocked by other moving objects 7.Response time too short 8.Level 5 LED does not light up before the cover is put on | 1.Check the wiring 2.Check the supply power 3.Remove the obstacle or change the location 4.Select a site with a stable base 5.Re-adjust the optical axis 6.Adjust the shade time or change the install location 7.Re-adjust the response time 8.Re-adjust the optical axis, and make the signal reception reaches its top. |

VIII Technical parameters:

| Model | | 3BMW-050M | 3BMW-075M | 3BMW-100M | 3BMW-125M | 3BMW-150M | 3BMW-180M | 3BMW-200M | 3BMW-250M |
|----------------------------------|---------|---|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Alert distance | Outdoor | 50m | 75m | 100m | 125m | 150m | 180m | 200m | 250m |
| | Indoor | 150m | 225m | 300m | 375m | 450m | 540m | 600m | 750m |
| No. of beams | | 3 beams | | | | | | | |
| Detection mode | | 3 beams blocked simultaneous | | | | | | | |
| Optical source | | Infrared digital pulse beam | | | | | | | |
| Response speed | | 50 ~ 700msec adjustable | | | | | | | |
| Alarm output | | Relay contact output: NO. NC contact rating: AC/DC30V 0.5Amax | | | | | | | |
| Power supply | | DC13.8 ~ 24V AC11 ~ 18V P ≧ 15W | | | | | | | |
| Power consumption | | 70mAmax | | 80mAmax | | 90mAmax | | 100mAmax | |
| Operation temperature & humidity | | -25℃-55℃ 5%-95%RH(relative humidity) | | | | | | | |
| Dimensions | | Refer to its diagram | | | | | | | |
| Tamper output | | Contact output: NC contact rating DC24V 0.5Amax | | | | | | | |
| Optical axis adjustment(H) | | ± 180° (± 90°) | | | | | | | |
| Optical axis adjustment(V) | | 20° (± 10°) | | | | | | | |
| Viewfinder | | Detachable | | | | | | | |
| Protection against dew, frost | | Calefaction housing (optional) | | | | | | | |
| Material | | PC resin | | | | | | | |
| Net weight | | 1250g(receiver +transmitter) | | | | | | | |
| Gross | | 2168g | | | | | | | |

IX. Recommended installation guide & physical appearance and dimension

Recommended installation



Installation bracket

T-shaped bracket

T-100

100 × 120mm

T-200

200 × 120mm

I-shaped bracket

I-100

100mm

I-200

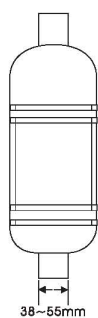
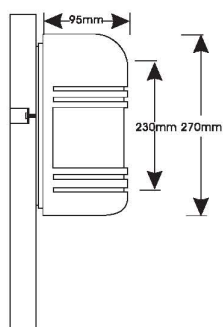
200mm

L-shaped bracket

80 × 75mm



Physical appearance & dimension



The product has got the 3C and CE approval already and is now applying for the UL approval.