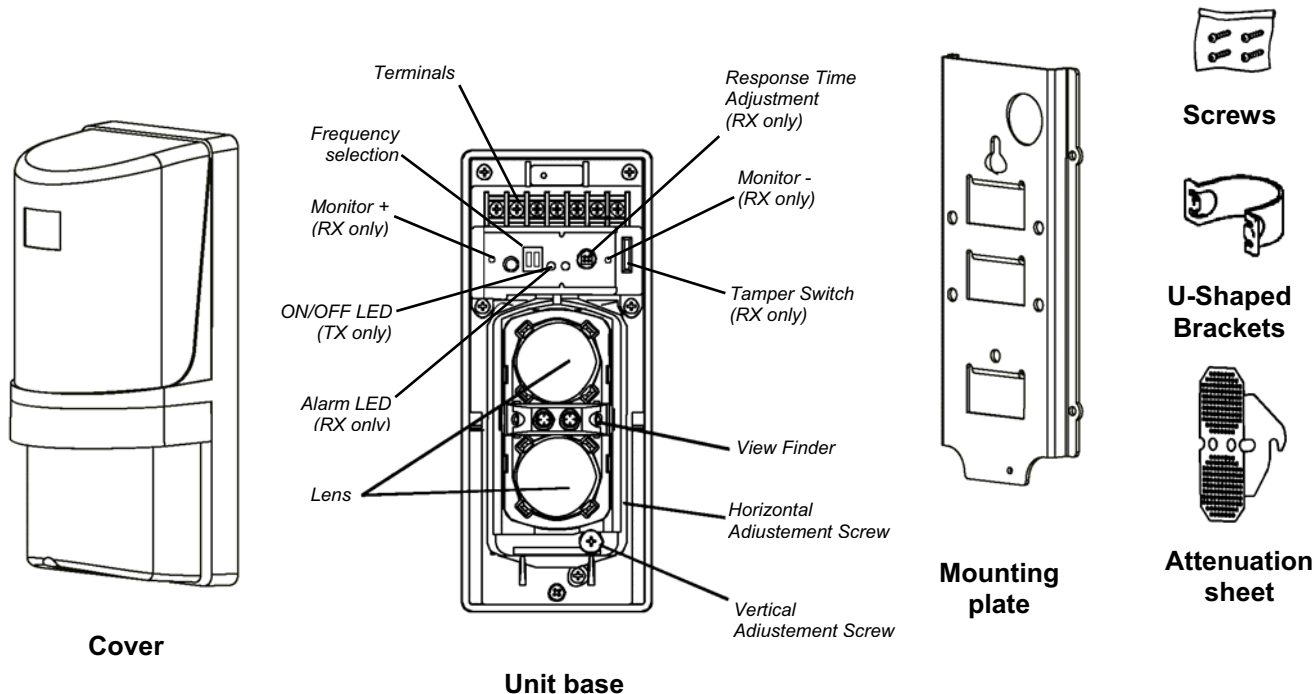


PERIMETER BARRIER WITH DOUBLE ACTIVE INFRARED BEAM – RANGE: 250 m NOMINAL, 60 m OUTDOOR

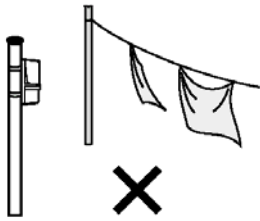
1. COMPONENTS DESCRIPTIONS



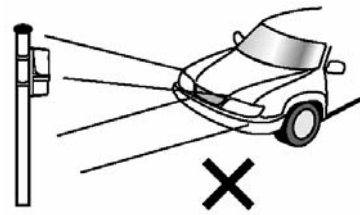
2. CARATTERISTICHE TECNICHE

| | |
|-----------------------|--|
| Detection range | 250 m nominal, max. 60 m outdoor |
| Power supply | 10.5 – 28VDC |
| Detection sistem | modulated infrared rays |
| Response delay | 50 – 700 ms (adjustable) |
| Alarm output | Dry Contact N.O.- N.C., 30VDC, 0.2A |
| Tamper output | Dry Contact N.O.- N.C., 30VDC, 0.2A |
| Alarm LED | Red LED (receiver). It is turned on when the beam is interrupted |
| Functions | Monitor outputs, automatic gain control, anti-frost cover |
| Regulation angle | 180° horizontal, $\pm 10^\circ$ vertical |
| Operating temperature | From -25°C to +55°C |
| Weight | 1100g (transmitter and receiver) |
| Dimensions | 75mm x 180mm x 75mm |
| Standard accessories | U-Shaped Brackets (2 pcs) Attenuation sheet (1 pcs) Self-threading screws 4 x 20 (4 pcs) Screws M4 x 20 (4 pcs) |
| Optional accessories | Thermostat TERMPH60 |

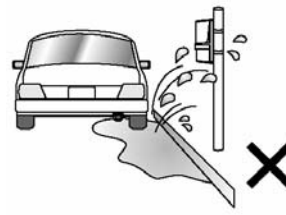
3. CAUTIONS ON INSTALLATION



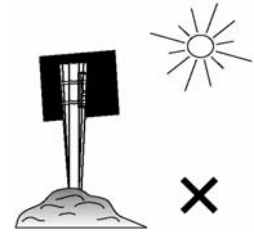
Remove all obstructions (trees, clothes line, etc.) between Transmitter and Receiver



Avoid strong light from the sun, headlights and direct shining on the Transmitter/Receiver. When strong light stays in optical axis for a long time, it will hurt the product's life



Do not install the unit on places where it may be splashed by dirty water or direct sea spray.



Do not install the unit on the unsteady place.

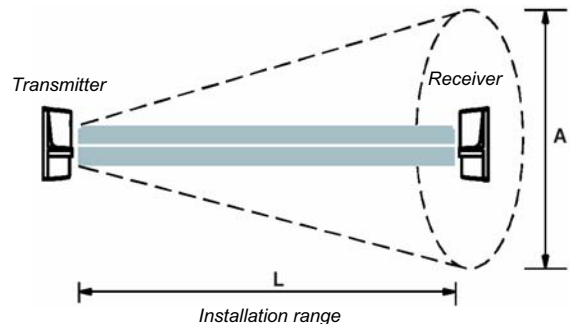
4. DETECTION RANGE AND WIDTH

The maximum detection range is 60 m outdoor and 120 m indoor.

The detection width can be calculated with the following formula:

$$\text{Width (A)} = 0.025 \times \text{Length (L)}$$

| L | A |
|-----|------|
| 20m | 0,6m |
| 40m | 1,2m |
| 60m | 1,8m |

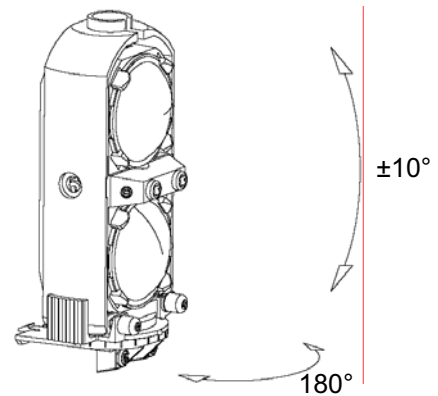


5. INSTALLATION HEIGHT

To detect the intruder efficiently, the sensor should be installed within 32"-40" (80-100 cm) height.

6. ALIGNMENT ANGLE

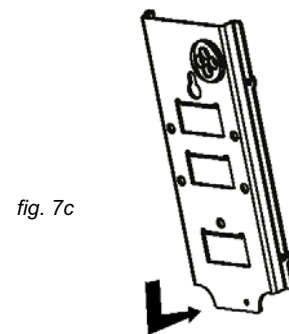
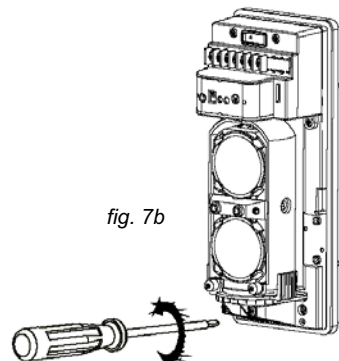
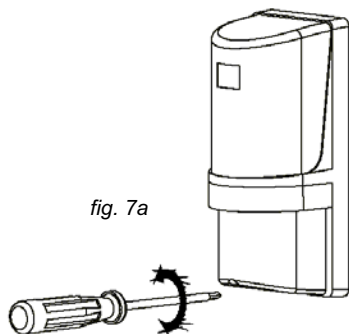
Both receiver and transmitter can be adjusted horizontally 180° and vertically ± 10°.



7. INSTALLATION

The 2PH60C barrier can be easily installed on a pole or on a flat surface

- Remove the cover (fig. 7a)
- Loosen the plate restraining screw (fig. 7b) and remove it by sliding it downwards to the base (fig. 7c).



7.1 Wall Mounting

- Pass the connecting cable through the hole in the fixing plate and then fix the plate to the wall with the screws (fig. 7.1a).
- Make the connections to the terminal board (fig. 7.1.b)
- After checking the alignment and the correct working efficiency, re-mount the cover and fully tighten the closing screw (fig. 7.1.c)

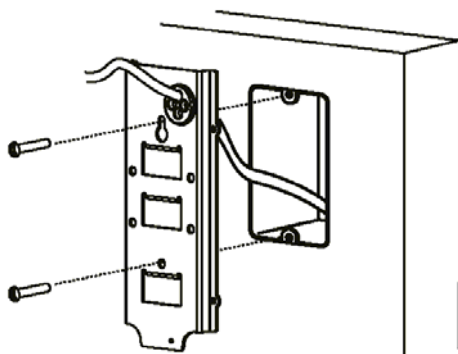


fig. 7.1a

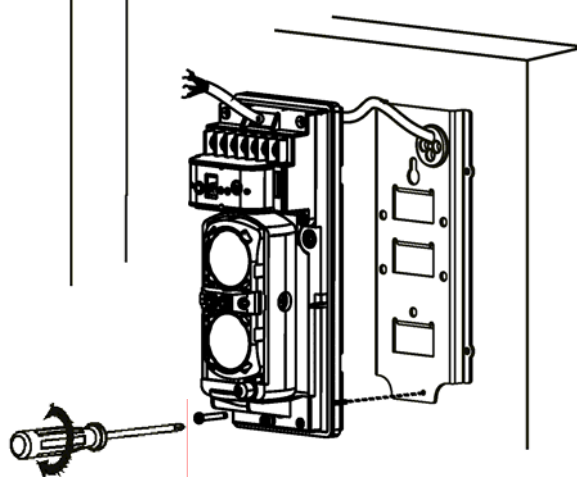


fig. 7.1b

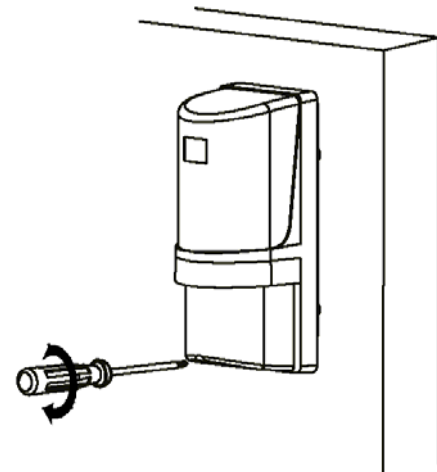


fig. 7.1c

7.2 Pole Mounting

The brackets supplied can be used for mounting on 4 – 4.5 cm diameter poles.

- Make an 8mm hole on the pole through which the connecting cable should pass (fig. 7.2a).
- Pass the connecting cable through the hole and through the opening in the fixing plate.
- Position the U brackets on the pole and fix them with the supplied screws (fig. 7.2b).
- Make the connections to the terminal board.
- After checking the alignment and the correct working efficiency, re-mount the cover and fully tighten the closing screw.

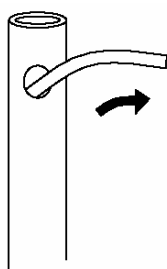


fig. 7.2a

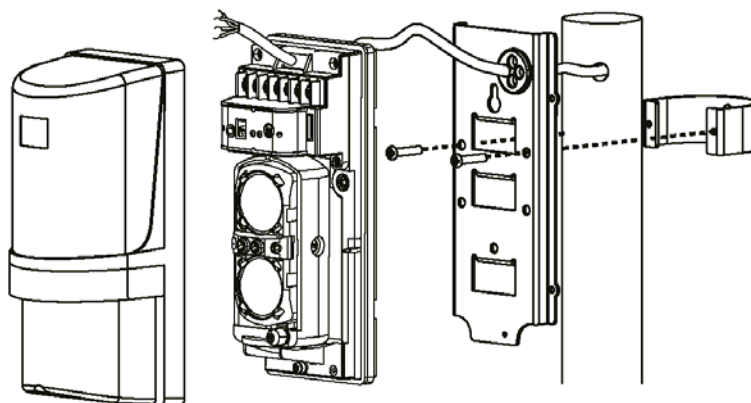
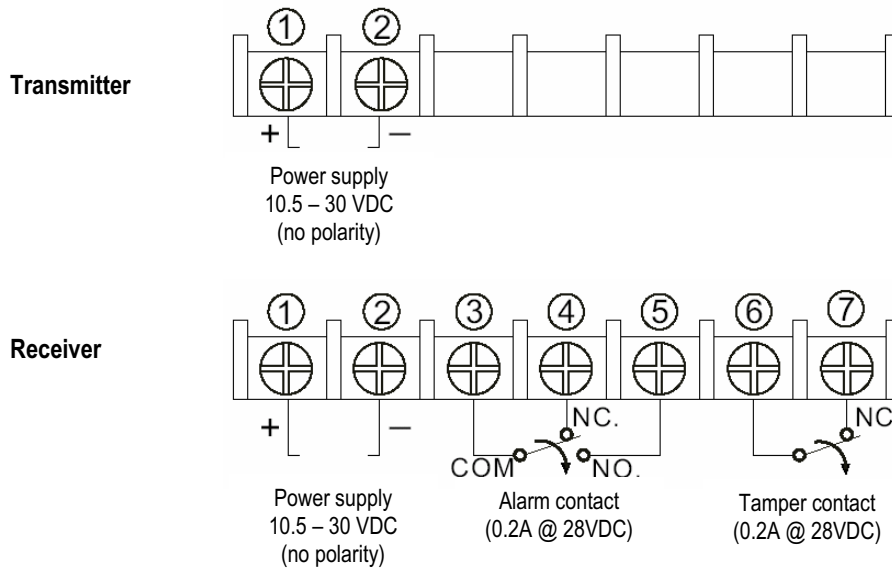


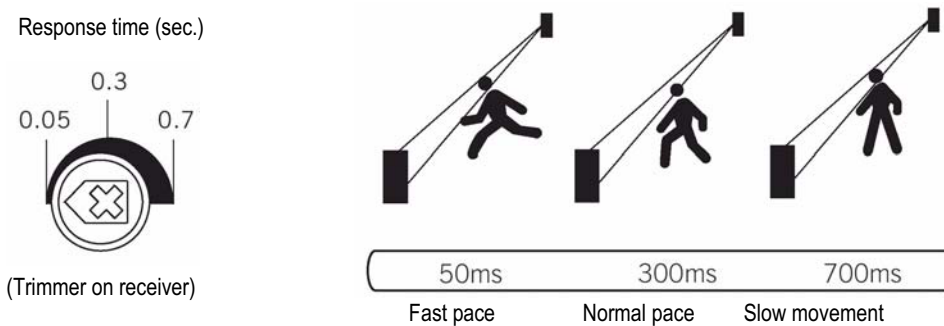
fig. 7.2b

8. CONNECTIONS



9. SETTING THE RESPONSE TIME

A trimmer is available on the receiver for setting the photocell response time. Set the response time, as described in the figures below, according to the type of installation and the level of protection required.

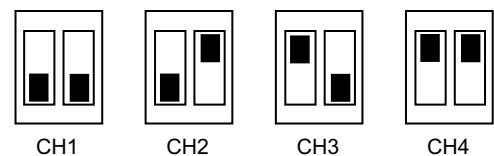


10. FREQUENCY SELECTION

To prevent interference if installing more than one photocell, it is possible to set a different work frequency for each photocell, by choosing between 4 available values.

Set the frequency using the two dip switches on the receiver and on the transmitter (see "Frequency selection" in section 1).

Select the same frequency on both the receiver and the transmitter.



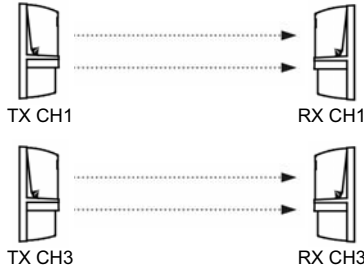
ATTENTION: SELECT NON-ADJACENT FREQUENCIES FOR BEAMS IN THE SAME SECTION (E.G.: CH1-CH3, CH2-CH4, CH1-CH4). IF THERE ARE MORE THAN 2 BEAMS ON THE SAME SECTION, CROSS OVER THE TRANSMITTERS AND RECEIVERS SO THAT THERE IS NO INTERFERENCE BETWEEN ADJACENT FREQUENCIES.

Below some examples are shown of installations with several pairs of beams, with the indication of the lay-out and the channel to set for the various pairs

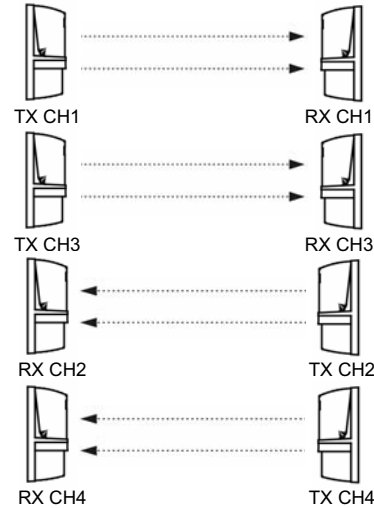
Three pairs in a line



Two overlapping pairs

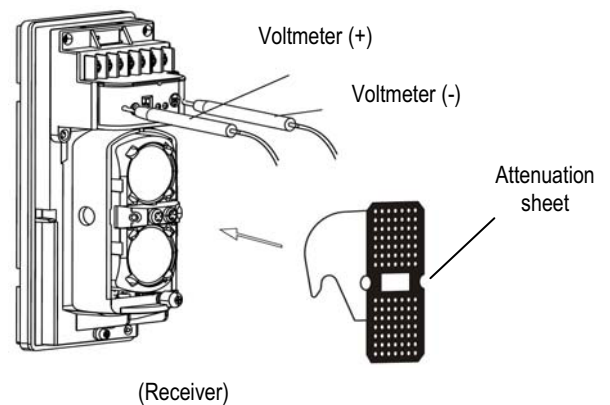
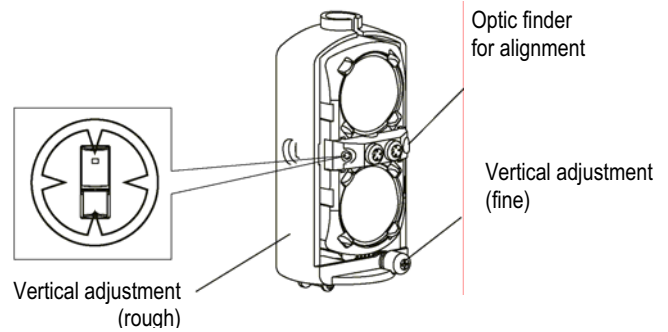


Four overlapping pairs



11. OPTIC ALIGNMENT

1. Power the transmitter and the receiver
2. Look through the alignment finder on the receiver and adjust the vertical and horizontal angle until the transmitter is located in the centre of the finder.
3. Connect a voltmeter with 10VDC end of scale to inputs Monitor (+) and Monitor (-) on the receiver (see fig. 1).
4. Position the attenuation sheet provided on the upper pair of lenses of the TX and of the RX.
5. Adjust the horizontal and vertical alignment (in that order) both on the Transmitter and on the Receiver, until the maximum value is obtained on the voltmeter.
6. Repeat points 4 and 5 on the lower pair of lenses.
7. Once the alignment has been checked, remove the voltmeter and the attenuation sheets.



The table below gives the voltage values on the Monitor terminals in the various alignment situations (values with attenuation sheets)

| Voltage on Monitor terminals | Alignment level |
|------------------------------|-----------------|
| Over 700 mV | Excellent |
| Between 250 mV and 700 mV | Good |
| Under 250 mV | Poor |