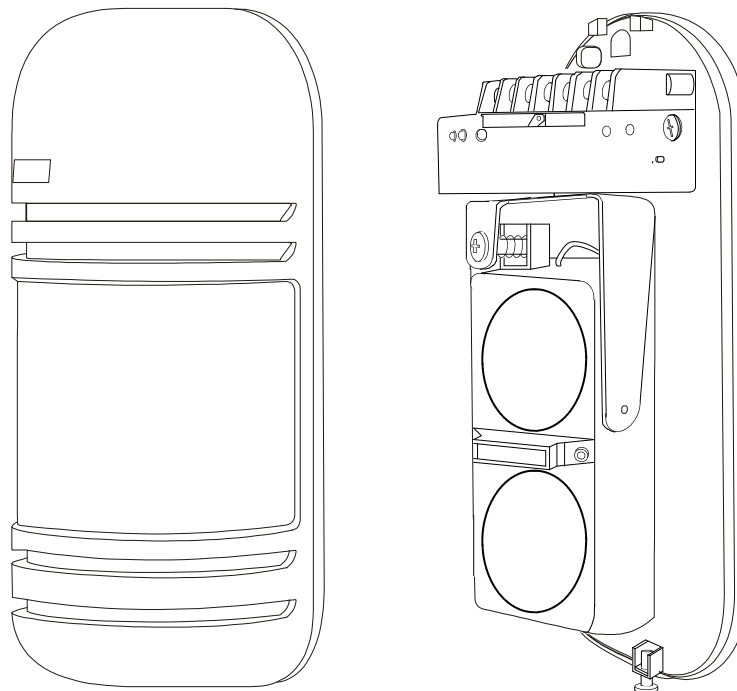

BST-100

**ACTIVE INDOOR AND OUTDOOR
INFRARED BARRIER WITH
2 BEAMS OF PROTECTION**

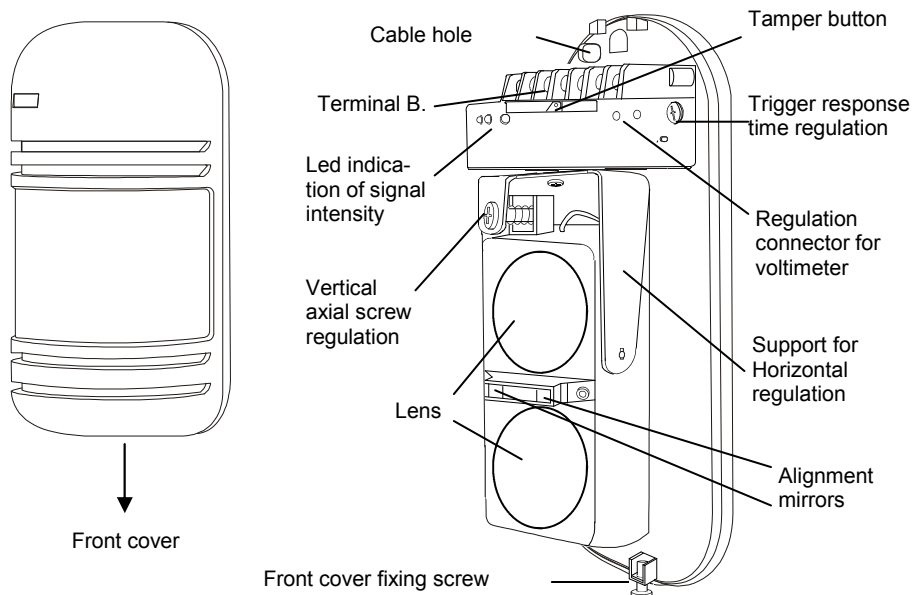
INSTALLATION MANUAL



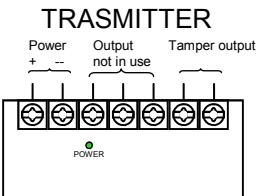
ITALIANO

1 - Product Description

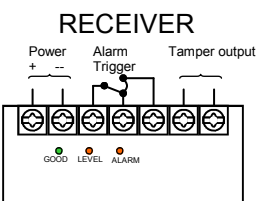
The **BST-100** is an active indoor & outdoor infrared detector with two beams of protection. It has regulations for : Vertical axial from (+10° to -10°), Horizontal axial from (+90° to -90°), and for the trigger response time from 1 to 5 (See Par. 5).



2 - Connections and Indications



On the transmitter there is a GREEN LED indication for power. LED "on" indicates power present.



The receiver has 3 LEDs that indicate the intensity of the infrared signal received and the alarm trigger. LEVEL (red led) The more intense the luminosità the more intense the signal received from transmitter. GOOD (green led) this will light if there is a good level of transmission (at least 2,3V on the voltmeter). ALARM (red led) This will light if there is an alarm trigger.

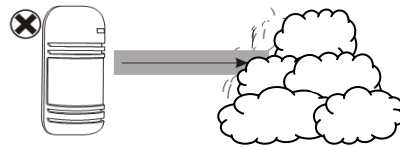
Connection terminals

- | | |
|---------------------------|--|
| 1. Power input (+12Vd.c.) | } Dry contact relay output only for receiver |
| 2. Negative power input | |
| 3. Common (relay) | |
| 4. Normally open | |
| 5. Normally closed | |
| 6. Tamper output | |
| 7. Tamper output | |

Note: When the **BST-100** is in normal function, the relay on the receiver is always powered.

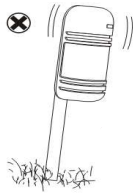
3 - Installation precautions

Outdoor installations: Due not install the **BST-100** where animals, trees, bushes or other plants can interrupt the line of sight of the beams.

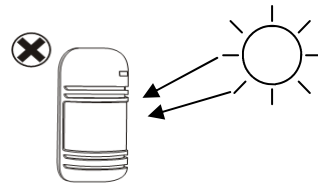


Indoor installations: Avoid that instable objects intrupt the line of sight of the beams (curtains, furniture, etc..)

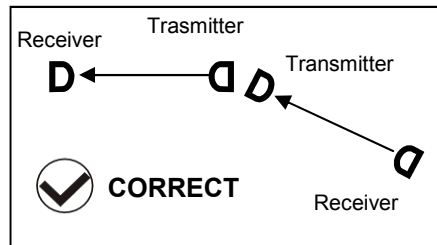
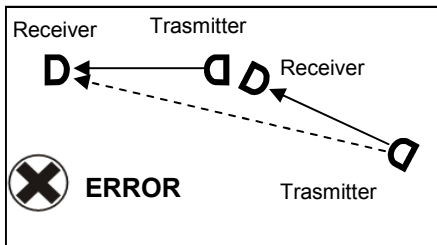
⊗ Avoid mounting the unit on columns that may not be stable.



Avoid mounting the unit in direct sun light or in front of a high luminosity light sources.



Avoid that a receiver can, by error, receive the signal transmitted form the the wrong unit. See below:

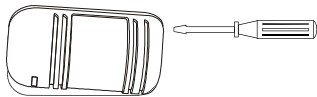


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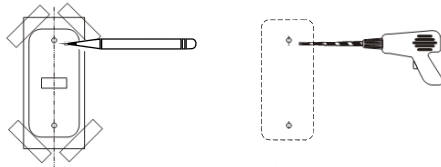
3 - Installation procedure

• Wall mounting

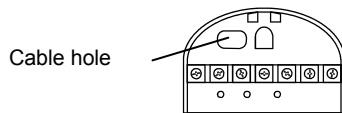
3.1.1 Remove front cover



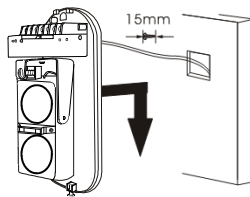
3.1.2 Using the metal base, mark on the wall the position of the fixing holes. See below:



3.1.3 Insert the connection cable that comes from the control panel.



3.1.4 Fix to the wall the metal base of the sensor.



3.1.5 Connect the cables to the desired terminal blocks



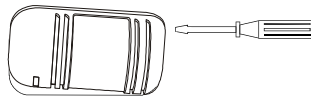
See fig. page 2 for terminal conn.

• Installation on column

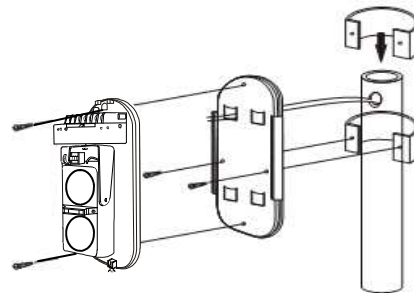
3.2.1 Drill hole for the cable on the top of the column



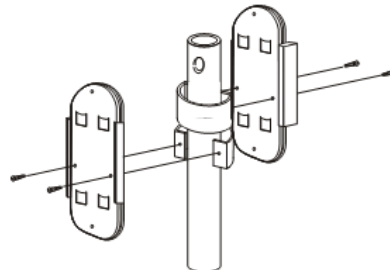
3.2.2 Remove the front cover



3.2.3 Fix the metal base to the Column as shown below.



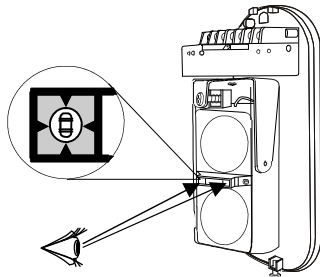
3.2.4 See below how to fix 2 units to the same column.



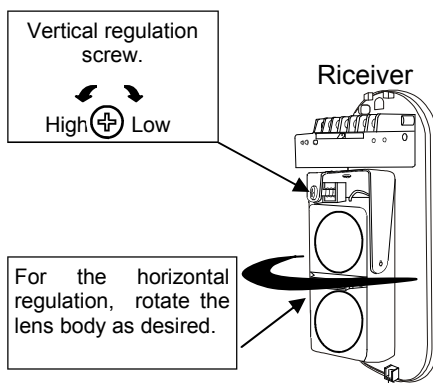
4 - Alignment of the I.R.

Visual test

1. Remove the front cover and power up both receiver and transmitter.
2. At a distance of about 10cm. from the alignment mirrors, check to see if the figure of the other sensor can be seen. Also check the intensity of the Red LED. The more intense the red LED the better the alignment.



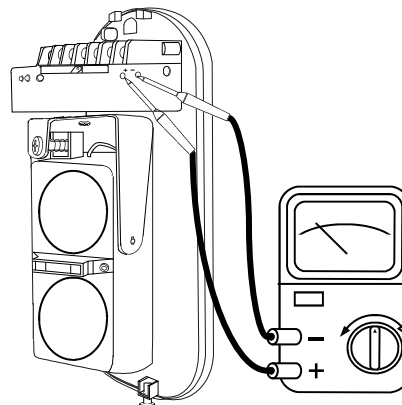
3. On the receiver, by using the vertical and horizontal alignment tools, you may better align the receiver and the transmitter. See below.



NOTE: The more precise is the alignment, the more intense will be the luminosity of the Red Led. It is best to regulate the sensor until the luminosity is at a maximum.

Testing with voltmeter

1. Insert the tester cable points based on the polarity in the holes marked (+ and -)
2. Regulate the vertical and horizontal angles until the voltage is at a maximum. In anycase it must be above 2,3V.








Replace the front cover and test if the active infrared barrier is functioning correctly. If not, it must be recalibrated.

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5 - Regulation of trigger response

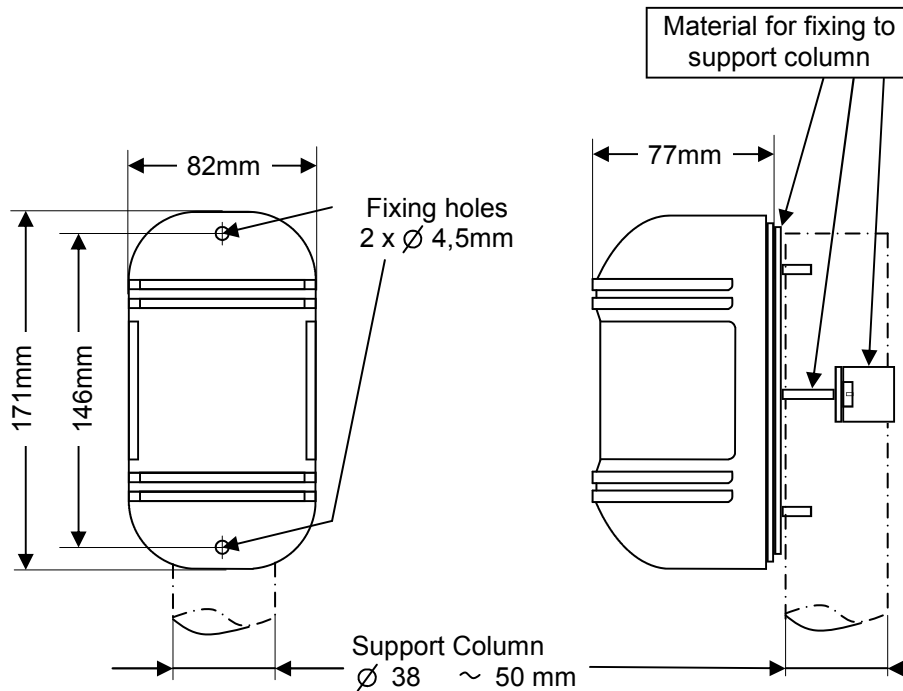
With the below figures, you may regulate the trigger response time as desired.



1  Run (6,9m/sec.)	2  Fast Walk (1,2m/s)	3  Normal walk (0,7m/s)	4  Slow Movement (0,3-0,5m/s)	5  Slow Walk (0,1-0,3m/s)
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Verify the effects on the barrier based on the selected walk. If you are not satisfied with the results, change this regulation until you obtain the best possible results.

6 - Dimensions



7 - In case of problems

Problem	Cause	Solution
The indicator LEDs of transmitter and receiver do not light	12 Vdc. not present or defective power source present.	Check the connection cables for short circuit or bad connection.
The ALARM LED does not light and the alarm trigger relay does not change state if both beams are interrupted.	1-Check if the receiver is getting the barrier signal from another near by transmitter. 2-Check if both beams are interrupted at the same time. 3-Check if the trigger response time is correctly set.	1-Remove the transmitter that is causing the interference. 2-Make sure that both beams are interrupted 3-Regulate the trigger response time so that the unit will function correctly.
The ALARM LED lights when both IR beams are interrupted but the control panel does not receive the trigger alarm signal.	1-Check the terminal connections and if there is an open or short circuit. 2-Check for error on the terminal connections.	1-Check for damaged cables 2-Check that the terminal connection are correct.
ALARM trigger LED is always light.	1-The IR beams are not aligned. 2-There is something that prevents the IR beam from arriving. 3-The sensor cover is very dirty.	1-Re-align the IR beams and test. 2-Remove any obstacles that can prevent the IR beams to arrive 3-Clean the sensor cover.
False alarm signal	1-Bad cable connections to the control panel. 2-Bad 12 Vdc. Power source. 3-Obstacles present that will interrupt the IR beams always or only when there is wind 4-Unstable column 5-The signal received is not strong enough. Below 2.3 V. 6-The trigger response time is not correct.	1-Check that the cables make good connection. 2-Check that the input power is okay. 3-Remove all obstacles or change the IR beam path. 4-Change or fix better the support 5-Re-align the IR beams 6-Change the trigger response time so that the unit works correctly.

8 - Technical Characteristics

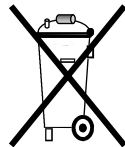
MAXIMUM RANGE	Indoor 300 mt. Outdoor 100 mT.
NUMBER OF BEAMS	2
OPERATING MODE	Interruption of both beams together
TECHNOLOGY IR TRANSMISSION ...	Active Infrared
RESPONSE TIME	From 50 to 700 Msec
ALARM OUTPUT	30 V. 0,5 mA max. (a.c. or d.c.)
POWER	From 10,5 to 18 Vd.c.
CURRENT DRAIN	70 mA max.
FUNCTIONING TEMPERATURE.....	Da -25°C to +55°C (from 5% to 95% humidity)
HORIZONTAL ANGLE.....	180° (-90°+ 90°)
VERTICAL ANGLE	20° (-10°+ 10°)
SENSOR MATERIAL	ABS
WEIGHT.....	Transmitter 260 g - Receiver 280 g



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CE



Dispose of all waste material in appropriate garbage disposal containers. Based on the local laws, if necessary, separate the different materials before disposal.

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