PARVIS
WS SMA

Technical
manual

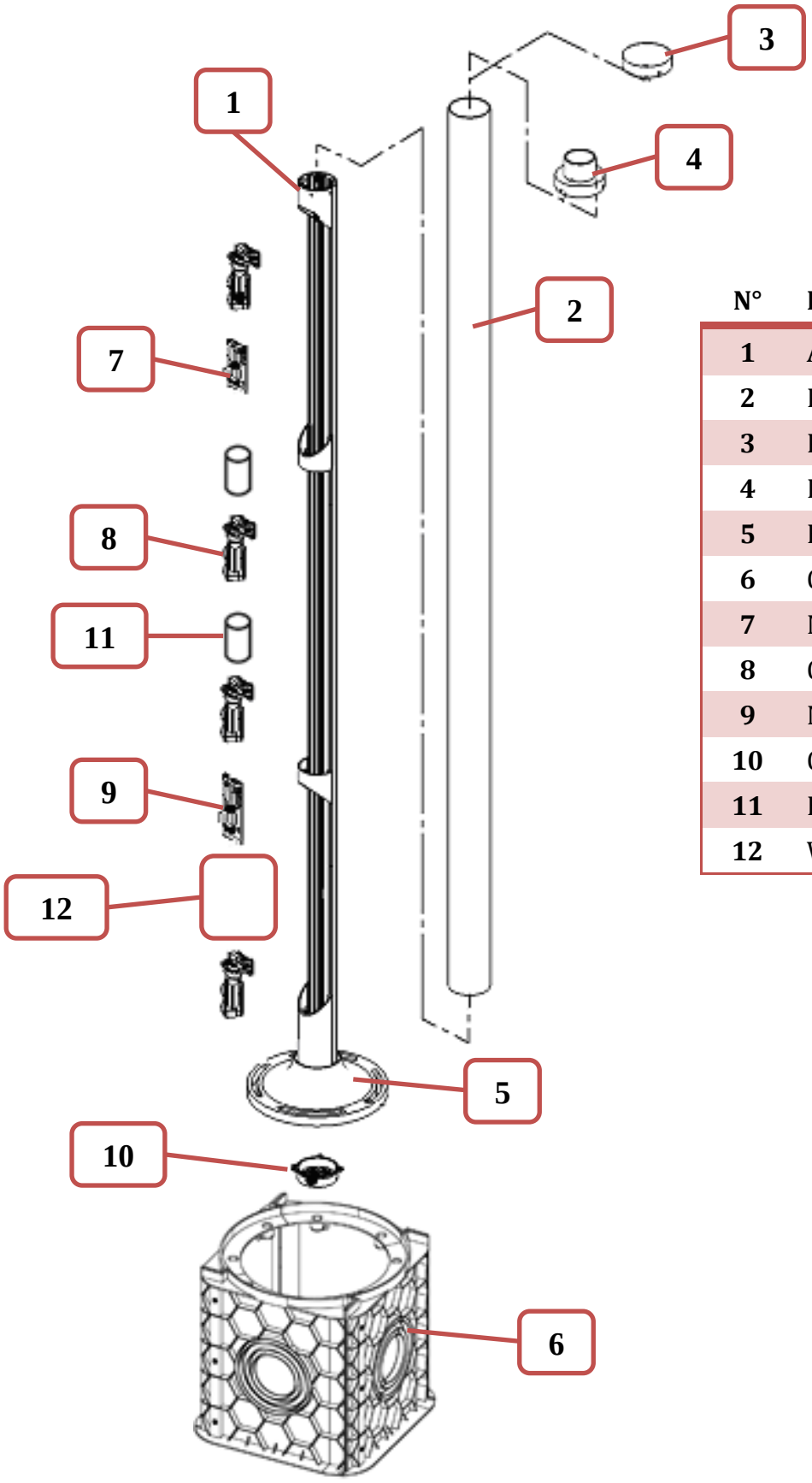
POLITEC
Perimeter protection

INDEX

Installation recommendation

- *Verify that the beam tower is fully watertight once the cover and end caps have been correctly filled at the end of the installation.*
- *Use the cable glands supplied on the tower for all cabling must pass through the lower end cap using the cable glands supplied. The missed used of proper accessories decrease the IP grade protection of the tower.*
- *Avoid any type of obstruction between the transmitter and receiver.*
- *Avoid installing the receivers beams in a position where direct sunlight, at the same angle as the receivers beams, can enter directly into optics especially at sunset and sunrise*
- *Do not install multiple beams where the transmitter beam can interfere with other receiver beams. It is always better place either transmitter or receivers back to back.*

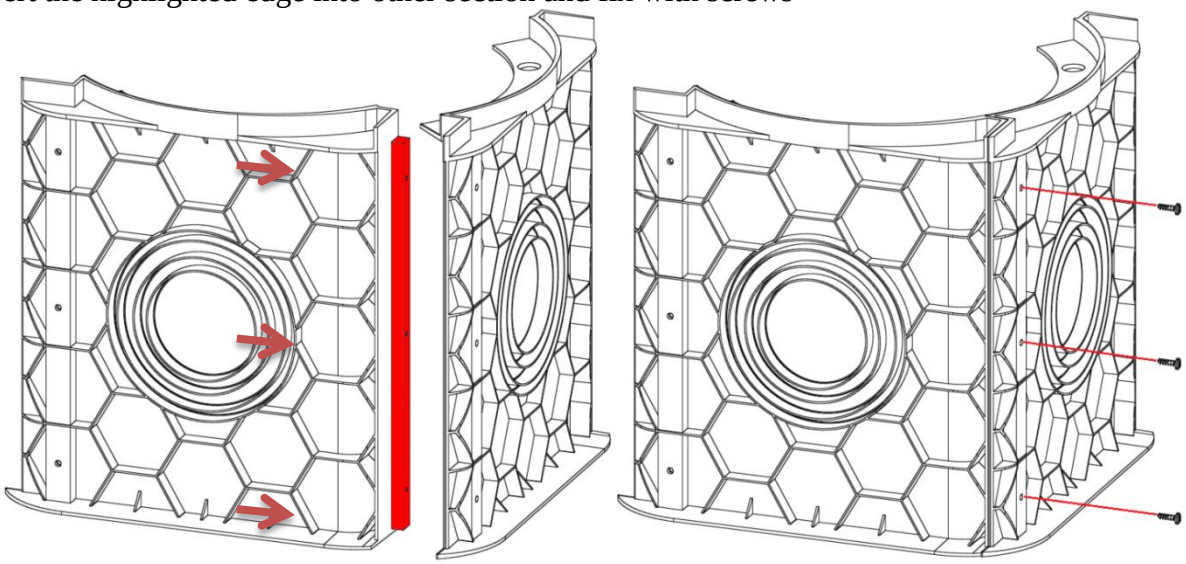
1. MAIN COMPONENTS



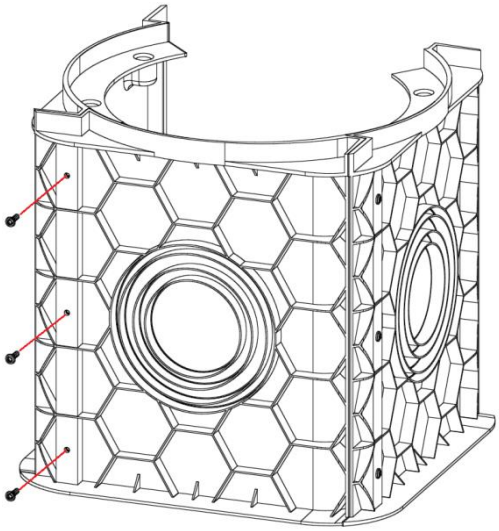
N°	Description
1	Aluminium pole
2	Pipe IR
3	Plug
4	Lamp adapter
5	Base
6	Cablepit
7	Motherboard TX
8	Group optic TX/RX
9	Motherboard RX
10	Cover for the base
11	Battery 3.6 V 19 Ah
12	Wireless trasmitter position

2. ASSEMBLING THE CABLEPIT

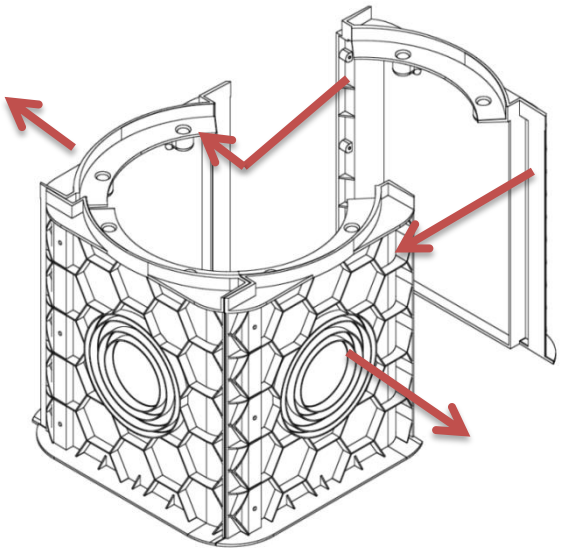
1. Insert the highlighted edge into other section and fix with screws



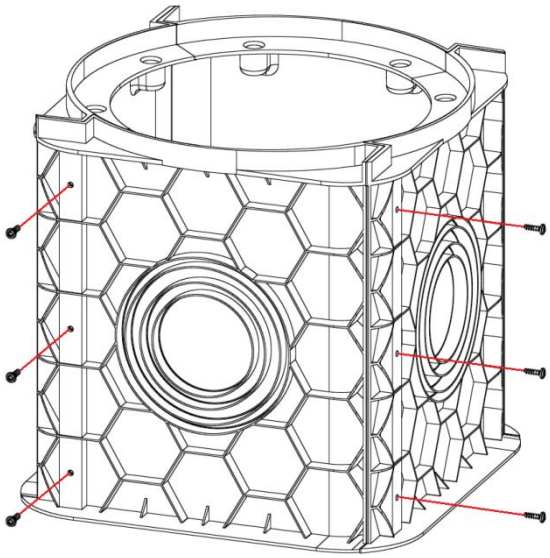
1. Insert the third section in the same way and fix with screws.



3. Enlarge the two opposite walls of cable pit to allow the positioning of last section.

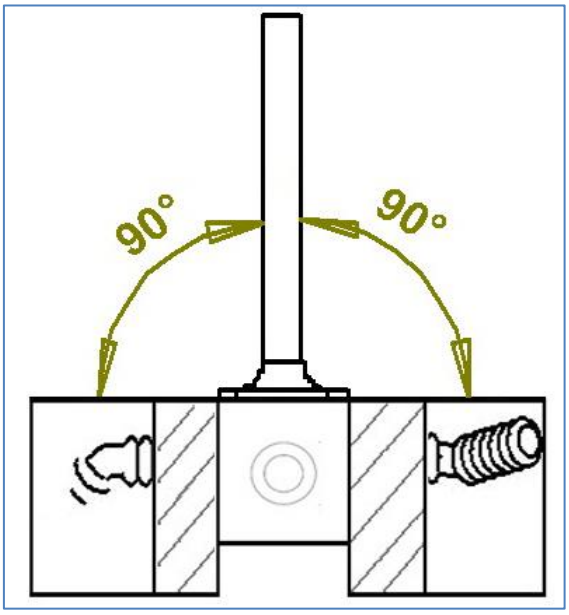


1. Insert and well fix the missing screws.

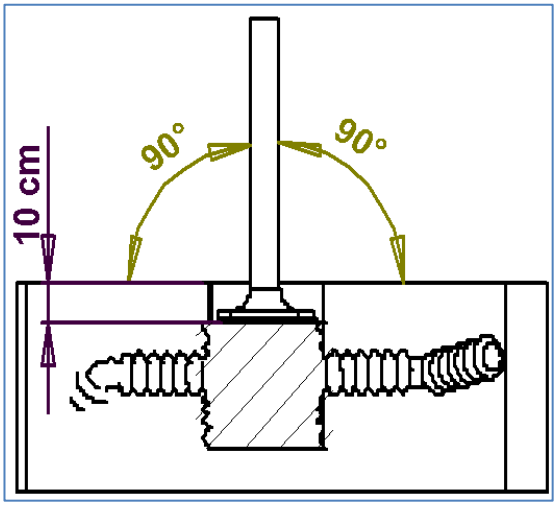


CABLE PIT POSITIONING

The placement of the cable pit for PARVIS columns, after assembling, have to be done in the following way: cement all around the cable pit keeping the top edge of it at same level of ground.



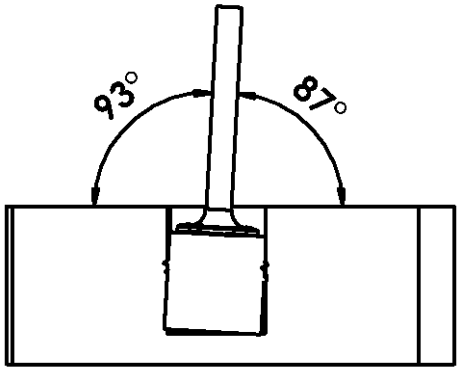
For PARVIS columns is also possible to keep the top edge ten centimeters below the level of the ground so that it is visible only the IR tube.
This type of placement is possible only when the cable pit is fixed into the ground and not in a concrete pavement.



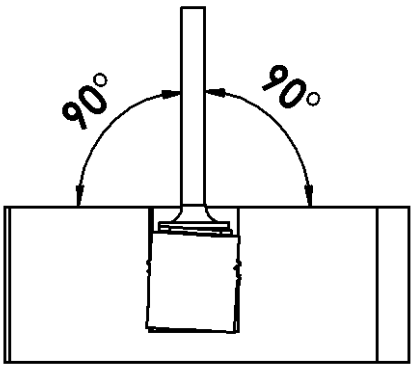
POSSIBLE CORRECTION OF THE INCORRECT POSITIONING

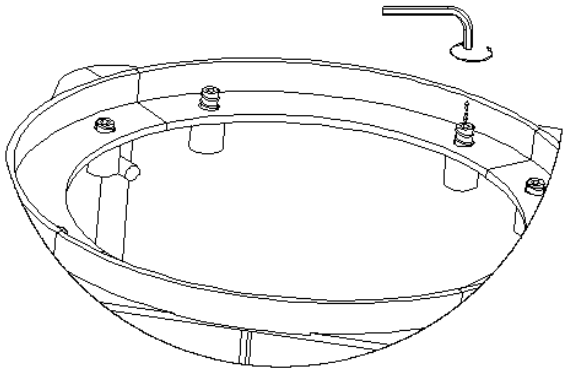
Placement should be perpendicular to the ground. If the base is not in perfectly at ground level, is possible to adjust it through the insert regulation of cable pit.
On the side that must be corrected loosen the insert in order to get the right inclination.

WRONG POSITIONING



CORRECT POSITIONING BY ADJUSTING INSERTS



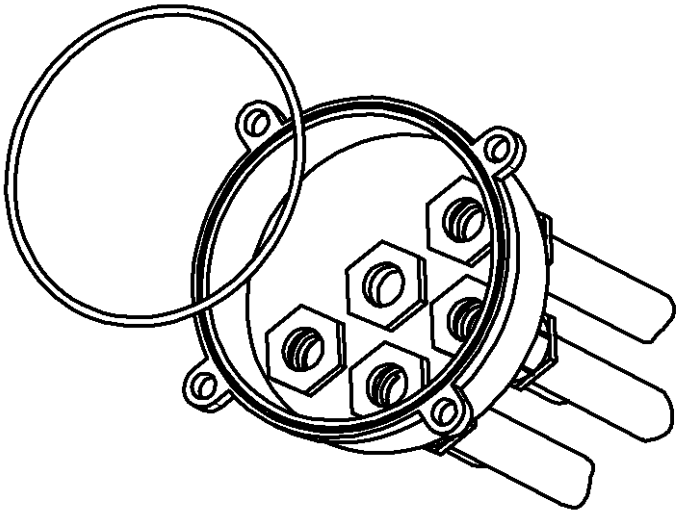


EXAMPLE
OF SETTING

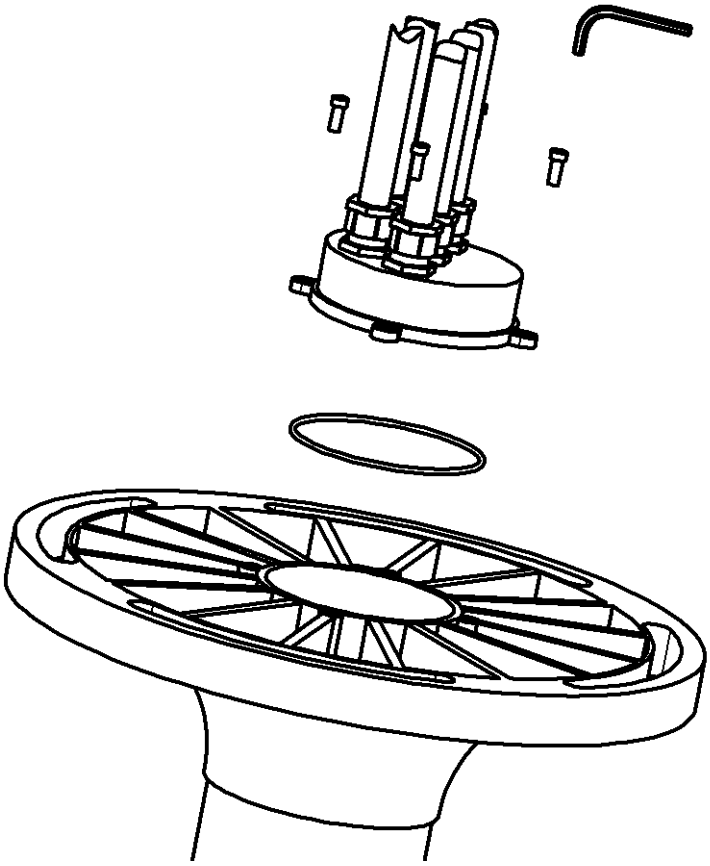
3. BASE INSTALLATION ON CABLE PIT

Ensure that all the cables to and from the PARVIS tower passes through the supplied cable glands inserted into the base cap. Use the central cable gland for lightning cable.

Base cover with the cable glands and O-ring

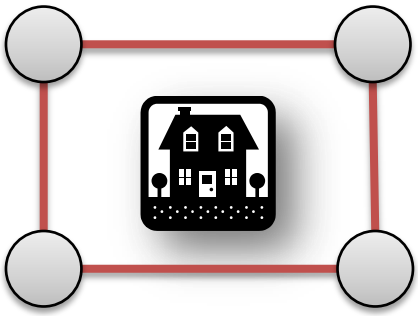


Once the cabling is completed the base cap has to be fixed to the base with relative O-ring.



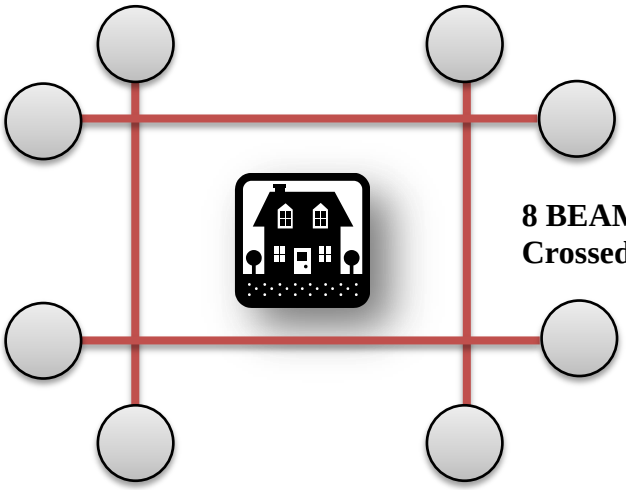
4. INSTALLATION EXAMPLES

Per un'installazione a controllo di perimetro posizionare le barriere come indicato:



4 BEAMS
Simple barrier

8 BEAMS
Single barrier

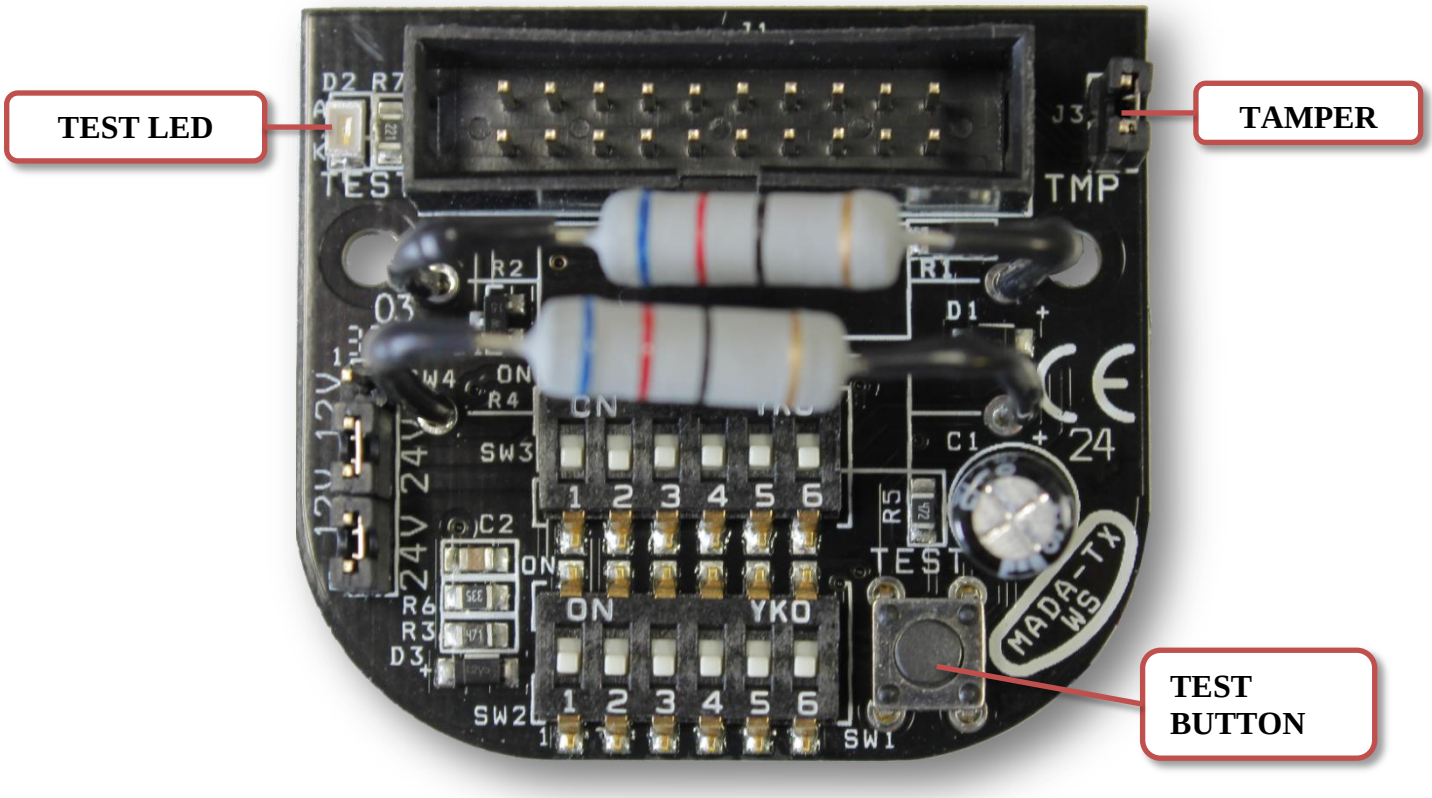


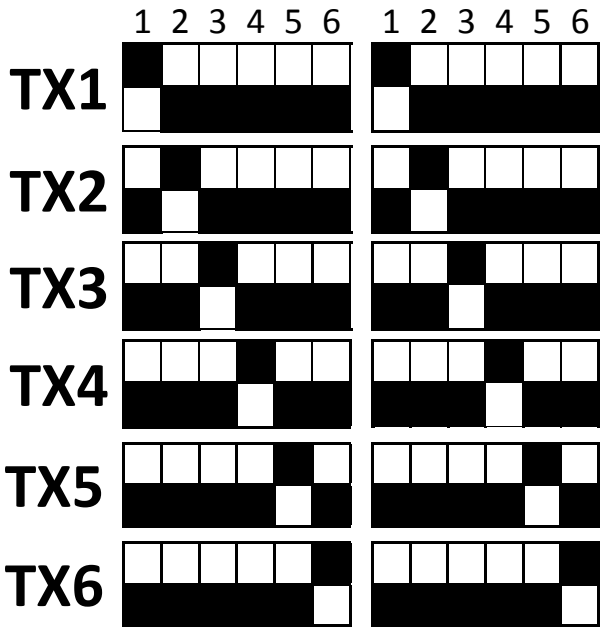
8 BEAMS
Crossed barrier

Note: if you use the optical sync do not place multiple transmitters on the same line in the same direction

5. CONFIGURATION OF THE OPTICALS

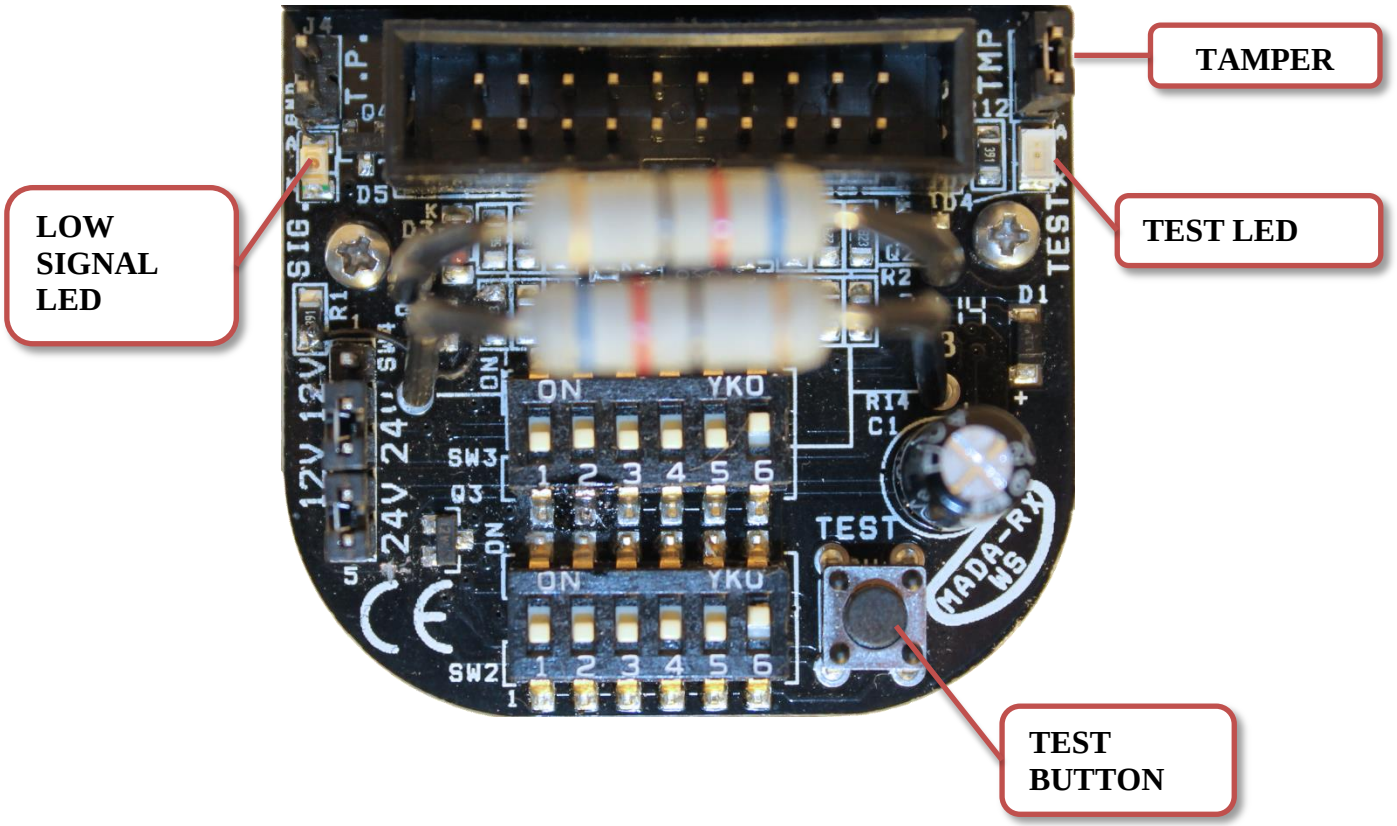
OPTICAL TX

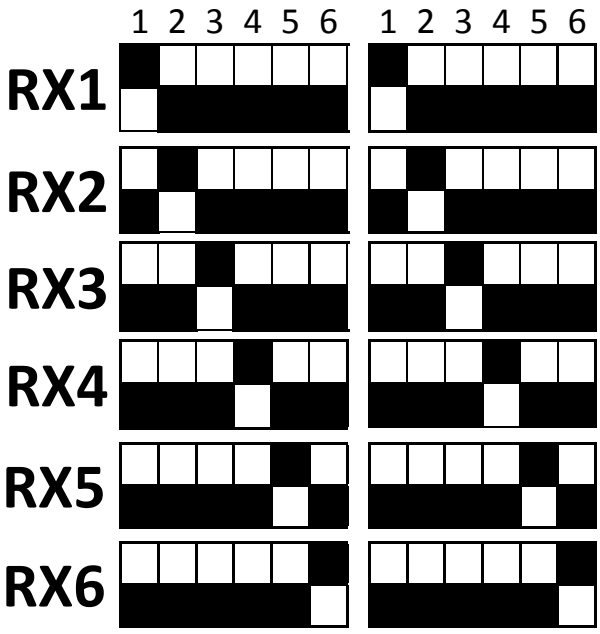




NB: The address settings as per default .

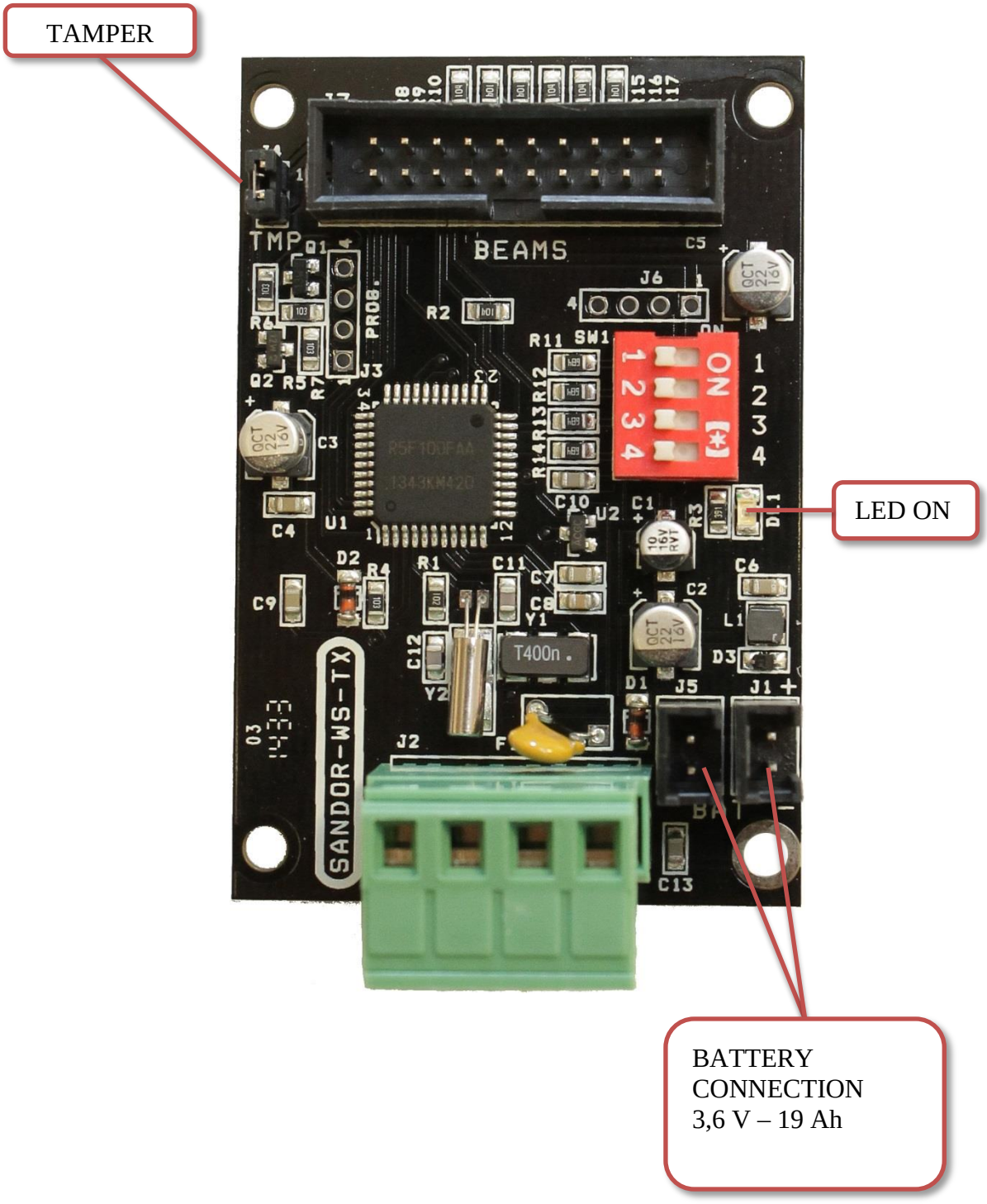
OPTICAL RX





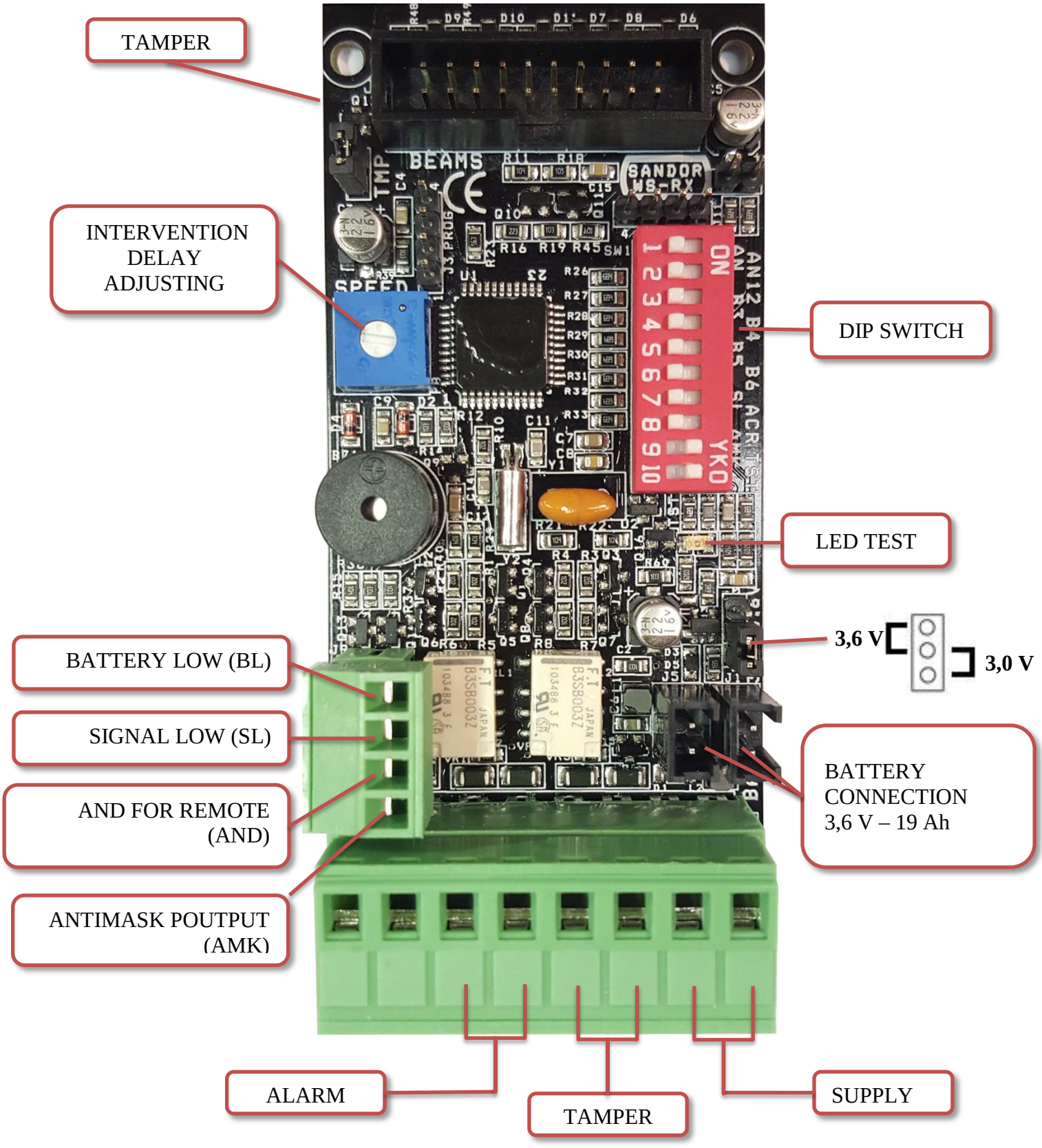
NB: The address settings as per default .

6. SANDOR WS SMA TX MOTHER BOARD



N.B.: When the motherboard is supplied the LED ON will flash.

7. SANDOR WS SMA RX MOTHER BOARD



N.B.: When the motherboard is supplied by battery the TEST LED will flash

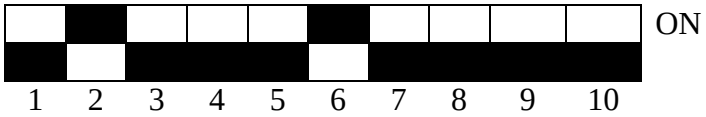
8. SETTINGS & FUNCTIONS

DIP SWITCHES

The board has Dip Switches to set different functions:

4 DIP SWITCH TX

1	**TEST**	In ON position goes in test for alignment. The TEST LED start blinking.
2	/	Not in use
3	**BEAM ON**	It puts in test all TX during alignment (DIP 1 ON). Test LED fixed ON.
4	**BEAM OFF**	It puts OFF all TX during alignment (DIP 1 ON). Test LED fixed ON.



Ex.: Function AND 1-2 with 6 beams

10 DIP SWITCHES RX

1	**AND**	At least 2 optical must be interrupted to give alarm
2	**AND 1-2**	AND function only for 1st and 2nd beam, usefull in case of growing grass
3	**BEAM 3**	First 3 RX are active
4	**BEAM 4**	First 4 RX are active
5	**BEAM 5**	First 5 RX are active
6	**BEAM 6**	all RX are active
7	**S. LOW**	FOG disqualification active
8	**A. CRAWL**	**ON** - Anti crawling active. In this condition if the first beam (lower) is interrupted for more than 2 seconds, it will generate an alarm, independently of its configuration (i.e. AND)
9	**AMK**	/
10	**TEST**	Put in ON to activate the TEST

CONECTOR 8

1 2	**HTR**	Not utilized
3 4	**ALLARME**	NC Alarm relay
5 6	**TAMPER**	NC Tamper relay
7 8	**SUPPLY**	Possibility to supply the radio transmitter with 3,0 or 3,6 V

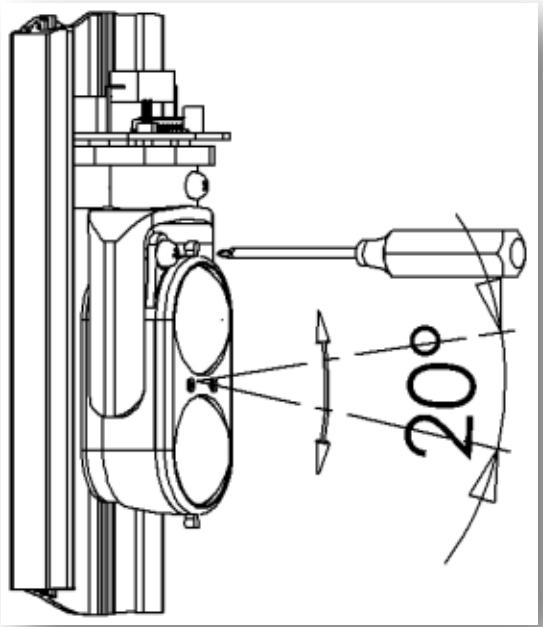
CONNECTOR 4

BL	**BATTERY LOW**	Low battery indication (negative open collector)
SL	**SIGNAL LOW**	Fog disqualification (negative open collector)
AN	**REMOTE CONTROL**	Giving a positive (3,6 V) the AND function is activated
AMK	**ANTIMASK**	Segnalazione di mascheramento data dalla chiusura al negativo di un open collector.

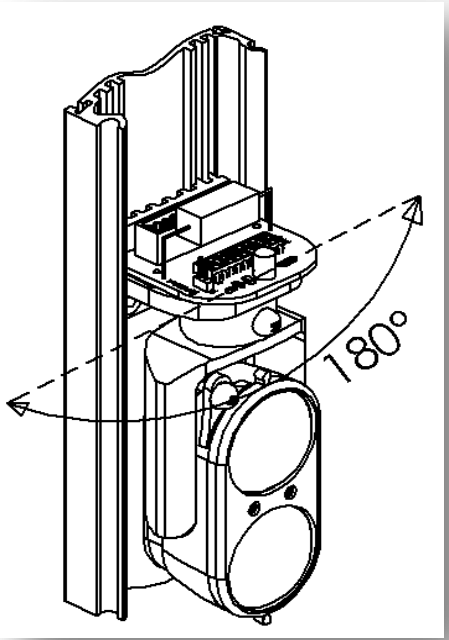
9. COLOUMN ALIGNMENT

For proper alignment once installed barriers orient optical groups of the transmitters and receivers each optical groups in the direction of others. Adjusting horizontally through the manual movement, and vertically through the front screws placed above the lenses.

Vertical adjustment

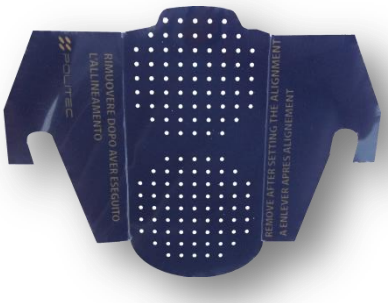


Horizontal adjustment

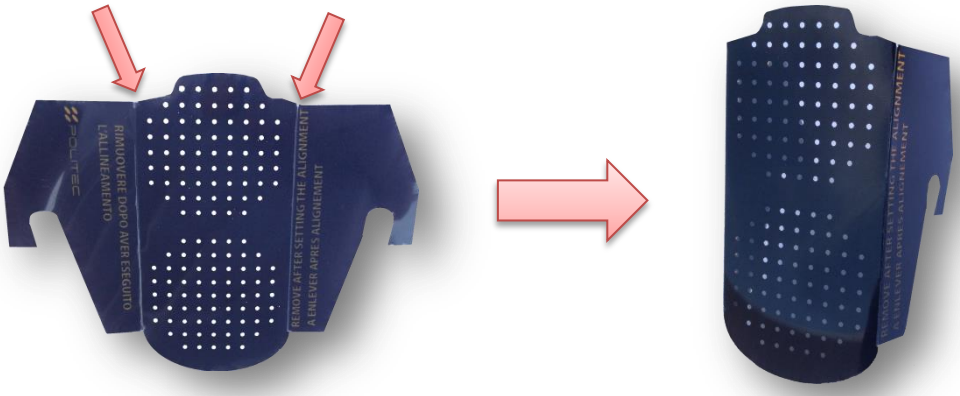


10. CALIBRATION WITH SMA SYSTEM

You can improve the calibration through the use of the supplied filter



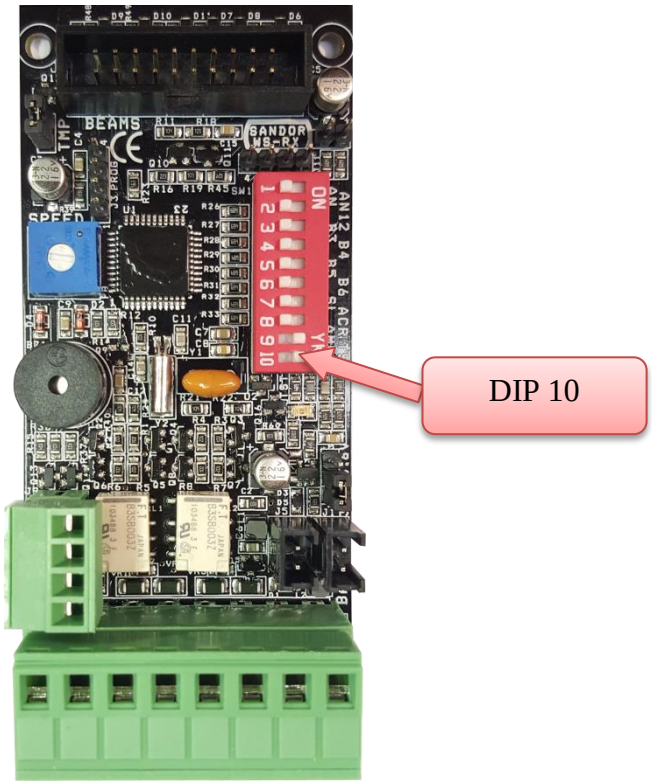
1) Fold the device by following the folds preset



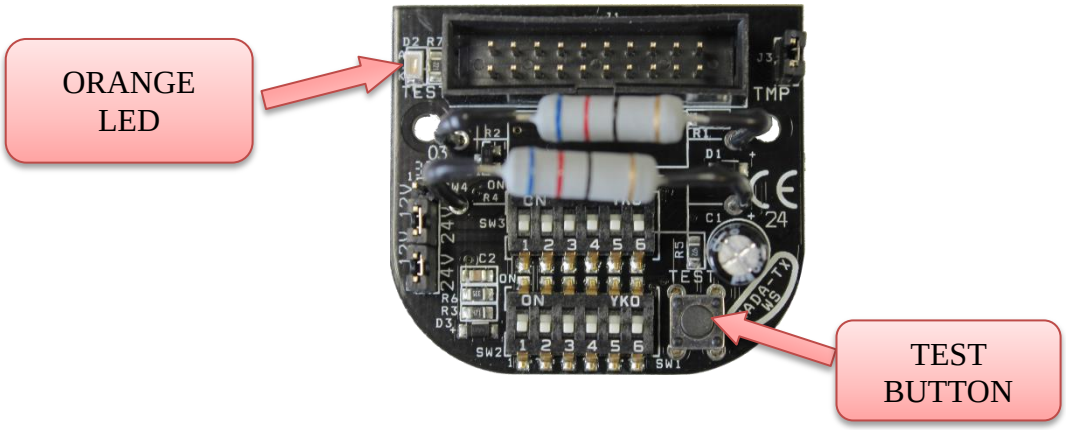
2) Place the filter in front of the optics TX positioning the two hooks on the pins of the fork optics to effectively search the signal alignment with critical conditions.

Simply applying the filter only on the TX, no need to repeat the operation RX.

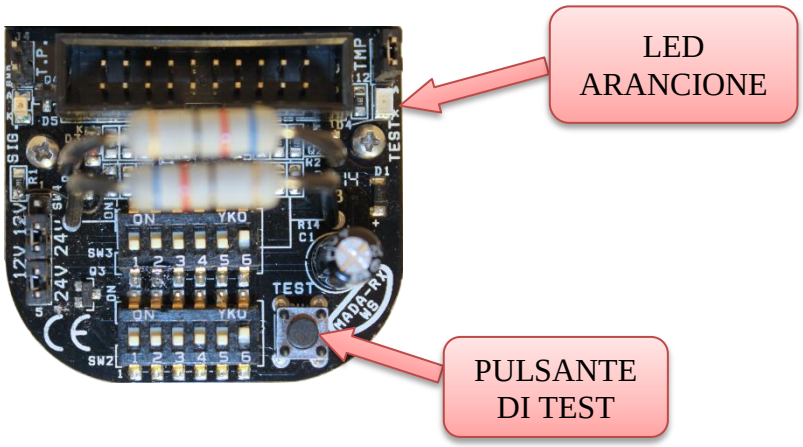
3) Put the DIP10 in ON on the motherboard to activate the programming mode indicated by the flashing LED test. During this phase the LED will continue to flash.



4) Start the alignment of the barrier is on activating the transmitter optics TX TEST, pressing the dedicated button for about 3 seconds until the TEST LED turns orange.

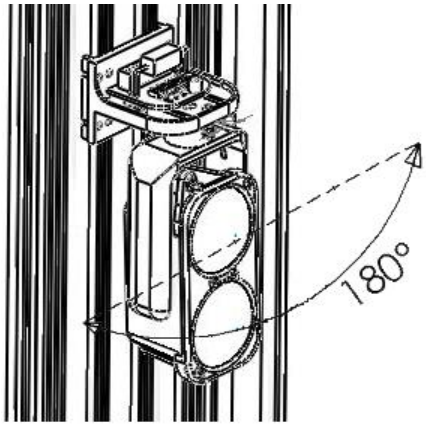


5) Turn the TEST on the corresponding optics receiver by pressing the dedicated button for about 3 seconds until the TEST LED turns orange , the Buzzer and LED alignment go ON.



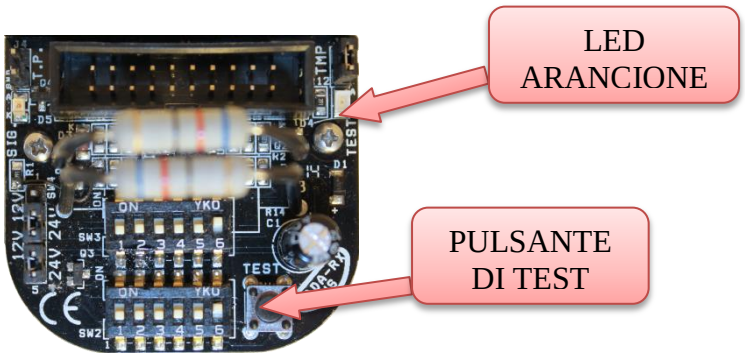
6) Through the TRANSMITTER lens shifts , find the maximum optical alignment based on the BUZZER and LED (high-brightness) of alignment, the 'increase in the frequency of blinking of the LEDs and the whistle of the corresponding BUZZER indicate better ALIGNMENT.

7) By a FULL rotation on the horizontal axis of the RECEIVER optics , you make the SCANNING of the optical signal.

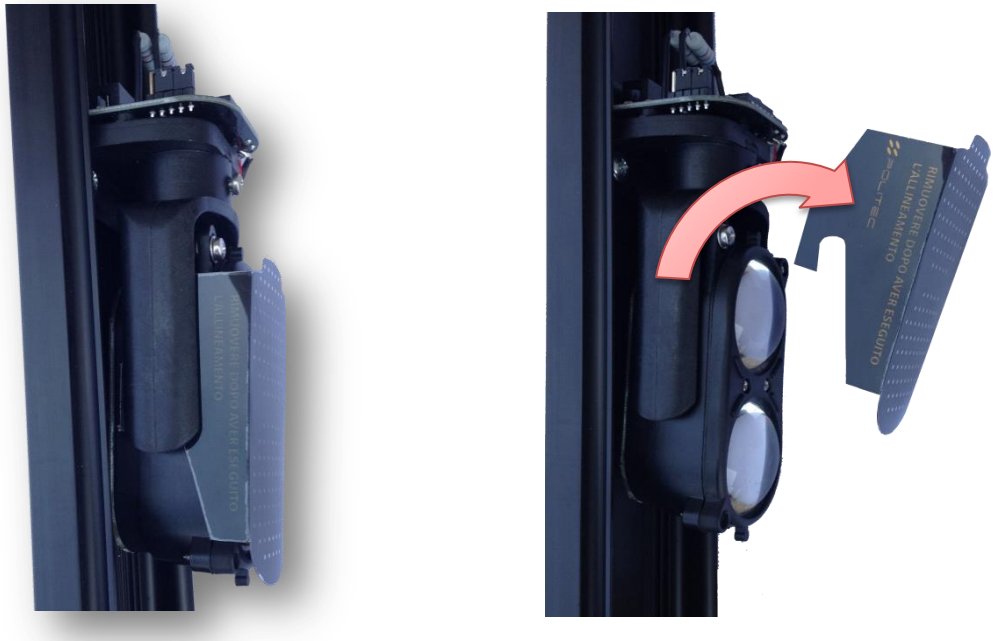


8) Rotating the optical RX find the maximum value of which corresponds to the ALIGNMENT LED (high-brightness) FIXED and whistle CONTINUOUS of the BUZZER.

9) Exit the function by repressing the ALIGNMENT TEST button for about 3 seconds on both optics (TX-RX) ensuring that the orange LED TEST is shown in original condition.



10) When finished, remove the shade that acts as a attenuator, with the certainty of having found the optimum value.

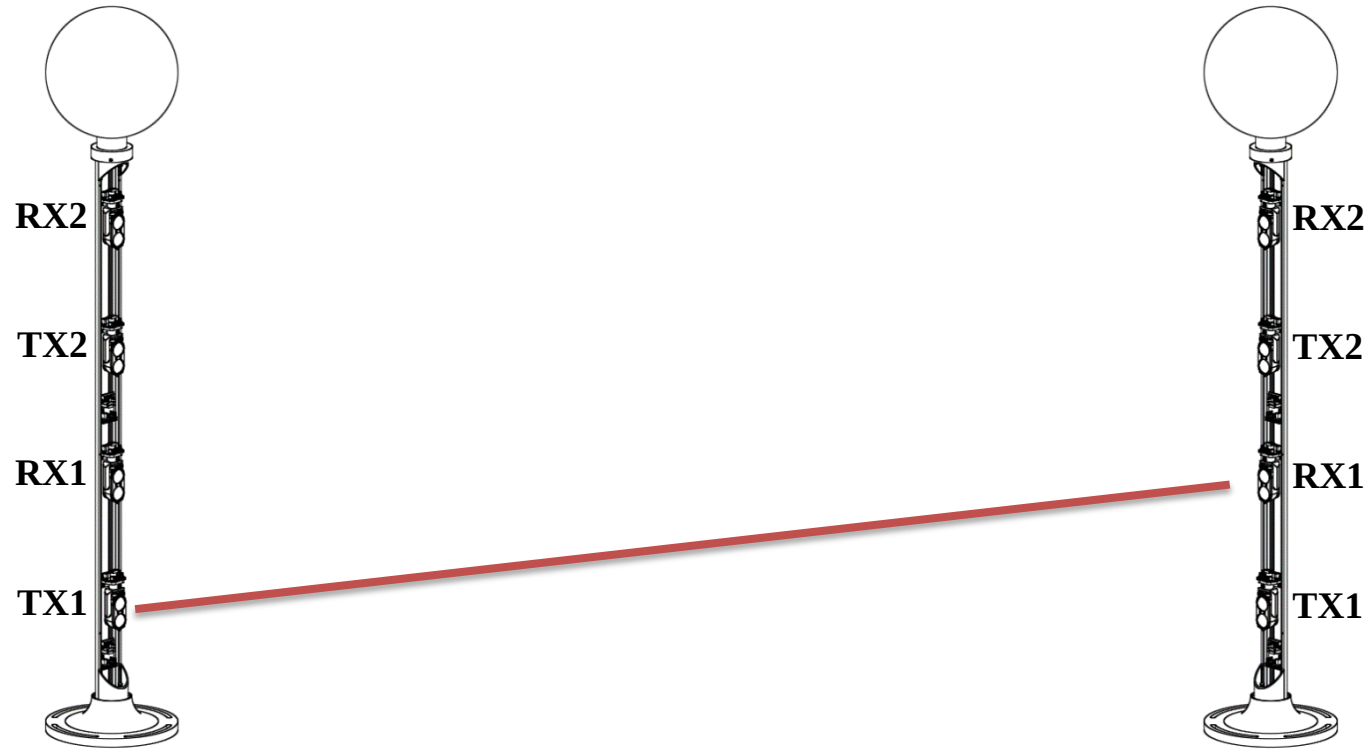


11) Once the alignment of all the beams is finished, put in OFF the DIP 10 on the motherboard to deactivate the programming mode indicated by the LED turns off.
For the next 30 seconds the barrier will sound continuously in case of alignment not effective or interruption of a beam; correct the orientation of the columns so that the buzzer emits no longer any sound.

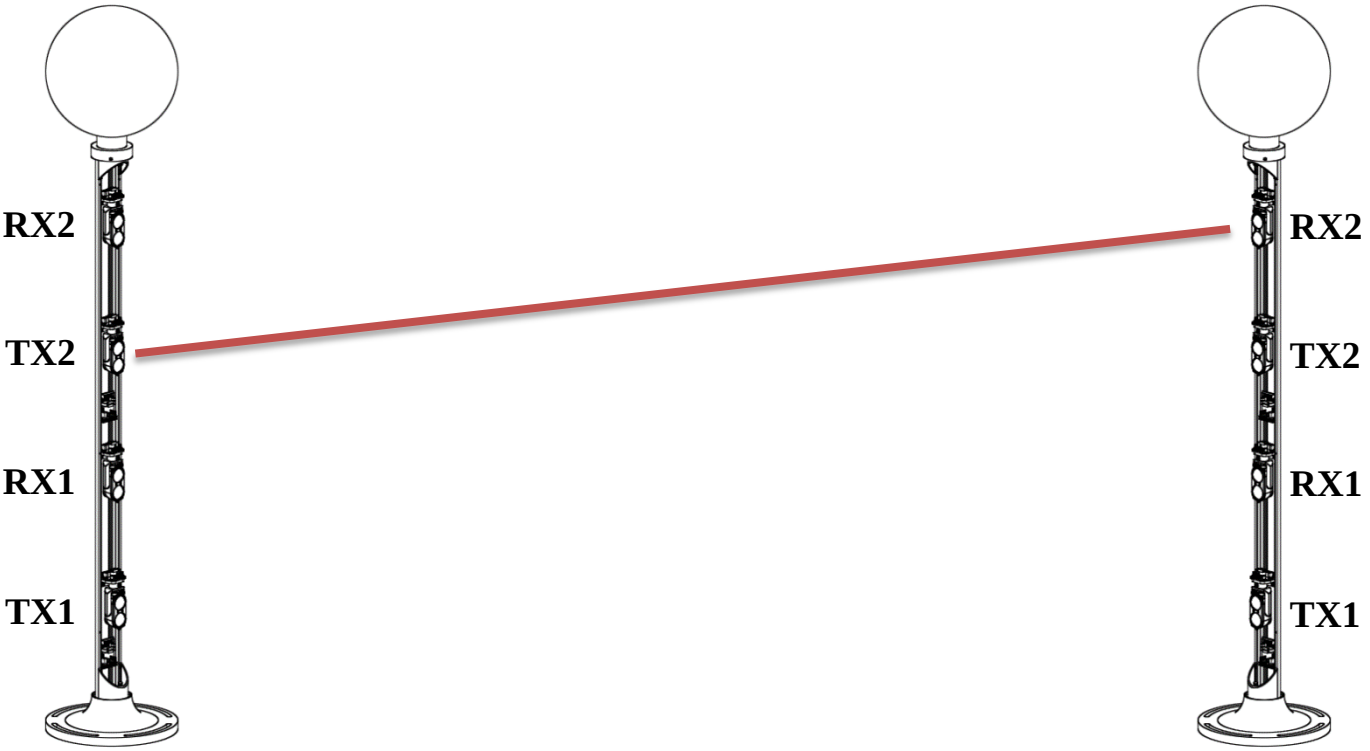
N.B.: IF TEST LED KEEP FAST FLASHING DURING NORMAL USE OF SYSTEM ANOTHER INFRARED SOURCE IS DISTURBING (BARRIERS, GATE PHOTOCELL, …) CORRECT FUNCTIONING OF BARRIER

11. CALIBRATION WITH PARALLEL BEAMS

Put in test the optical TX1 and RX1 and proceed with the calibration as explained



Put in test the optical TX2 and RX2 and proceed with the calibration as explained

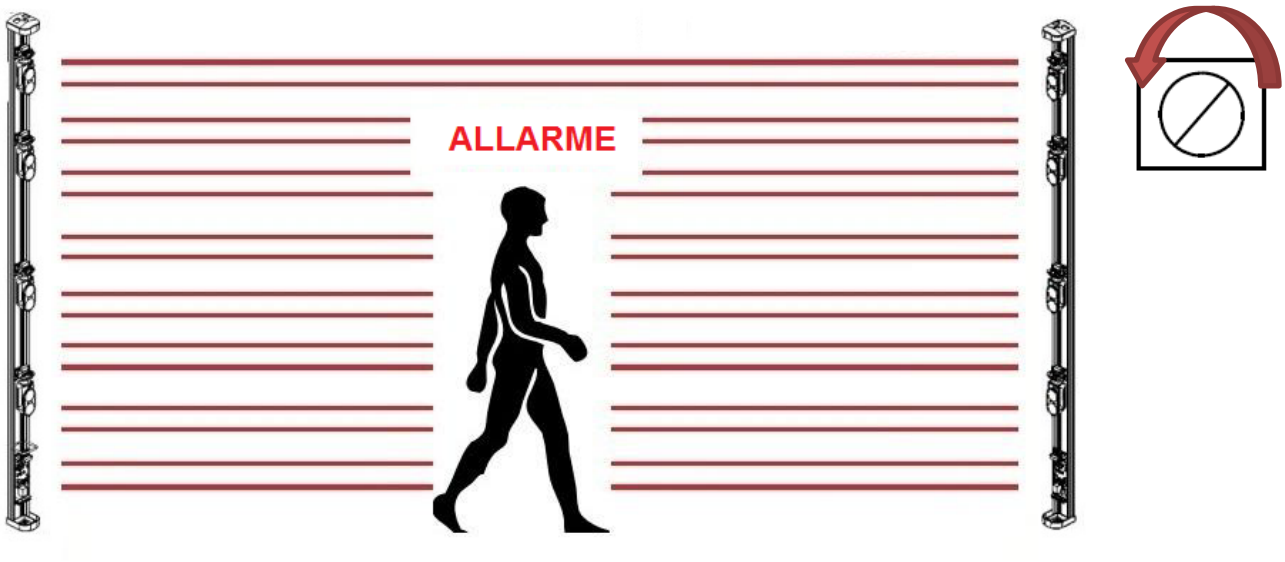


N.B.: during the testing phase of an optical transmitter the other TX not in test are switched off automatically.

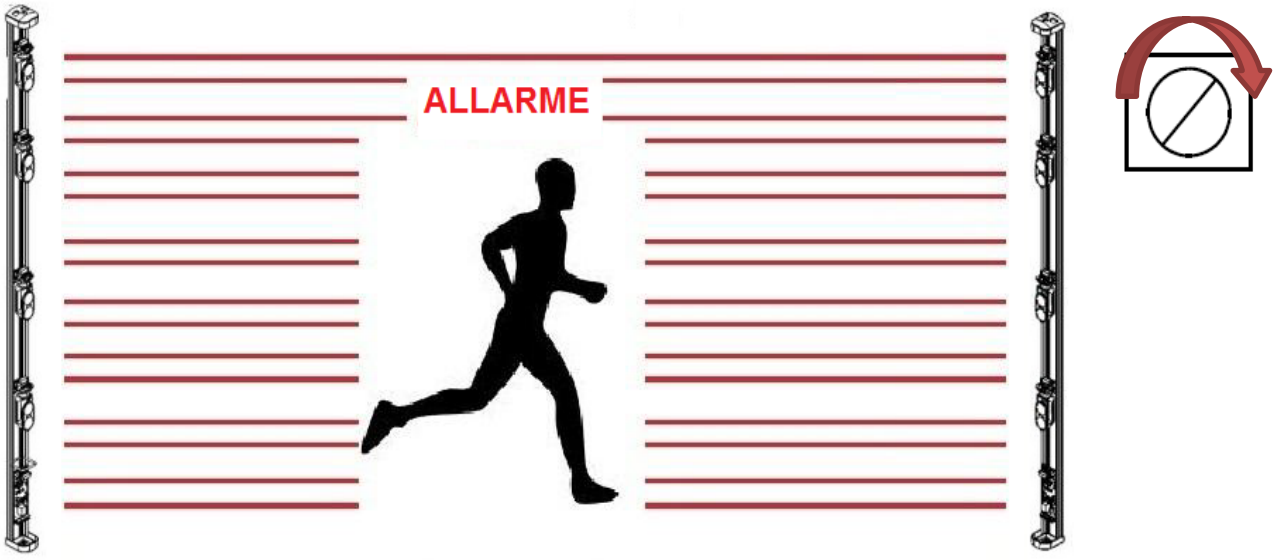
12. ALARM SENSITIVITY ADJUSTMENT

You can set the barrier for HIGH sensitivity as crossing fast (running) or LOW as slow (walking).

- By adjusting the potentiometer counterclockwise to increase the alarm delay up to 500ms. In this condition ensures the alarm of a person walking through the barrier, with the advantage of excluding the possibility of any false alarms such animals.



- Adjusting the potentiometer clockwise to decrease the alarm delay up to 50ms. In this condition ensures the alarm of a person crossing the barrier running at maximum speed.



13. TECHNICAL CHARACTERISTICS

MODELS	PARVIS WS SMA 412	PARVIS WS SMA 416	PARVIS WS SMA 420
MAX RANGE INDOOR		200 m	
MAX RANGE OUTDOOR		50 m	
HEIGHT COLUMN	120 cm	160 cm	200 cm
SYNCHRONIZATION		Optical	
TOTAL BEAMS		4 parallel	
SUPPLY		Battery 3,6V 19Ah	
BATTERY LIFE		3 years	

14. F.A.Q

I can't calibrate the columns	○ Make sure that there are no obstacles whatsoever interposed between RX and TX and that the conformity of the site does not pose an impediment; ○ Make sure that TX is being tested (orange LED of optic in question switched on and others turned off); ○ Make sure the connectors are securely attached and that the configuration of the DIP is correct; ○ Make sure that there are no external light sources that interfere with the correct reading of the signal (photocell gates, other barriers, infrared, ...);
After precisely aligned sensor (light LED steadily on and continuously BIP sound) system remains in alarm	○ Make sure the connectors are securely attached and that the configuration of the DIP is correct; ○ Verify that optic receiver senses the corresponding transmitter. To do this, set the AND mode, if the barrier is no longer in alarm obscure individually each ray finding one that does not generate the alarm general, this ray is not aligned; ○ Make sure that there are no external light sources that interfere with the correct reading of the signal (photocell gates, other barriers, infrared, ...);
With fog or rain, the system goes into alarm	○ Check that the function of disqualification from fog is active (see pag. 11); ○ Make sure that the structure is properly sealed and check that there are not already present within disturbing elements as water, insects, ...; ○ Verify the accuracy of the alignment of each optic and in case re-perform the procedure possibly making a complete scanning that there are no light sources that can influence the calibration; ○ For a more precise alignment position a side of the column cover in front of the lens in order to have two surfaces interposed between TX and RX for doubling attenuation of the beam.
Repeated false alarms	If they are caused by the passage of animals, use either **AND,** or increase the **intervention time** ○ Verify the accuracy of the alignment of each optic and in case re-perform the procedure possibly making a complete scanning that there are no light sources that can influence the calibration; ○ To prevent radio interference, use as a link between the wireless transmitter and barrier a shielded cable with the shield to the negative of terminal block;

The system goes into disqualification even without fog	○ Verify the accuracy of the alignment of each optic and in case re-perform the procedure possibly making a complete scanning that there are no light sources that can influence the calibration; ○ For a more precise alignment position a side of the column cover in front of the lens in order to have two surfaces interposed between TX and RX for doubling attenuation of the beam.

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