SANDOR HYBRID SMA

Technical manual

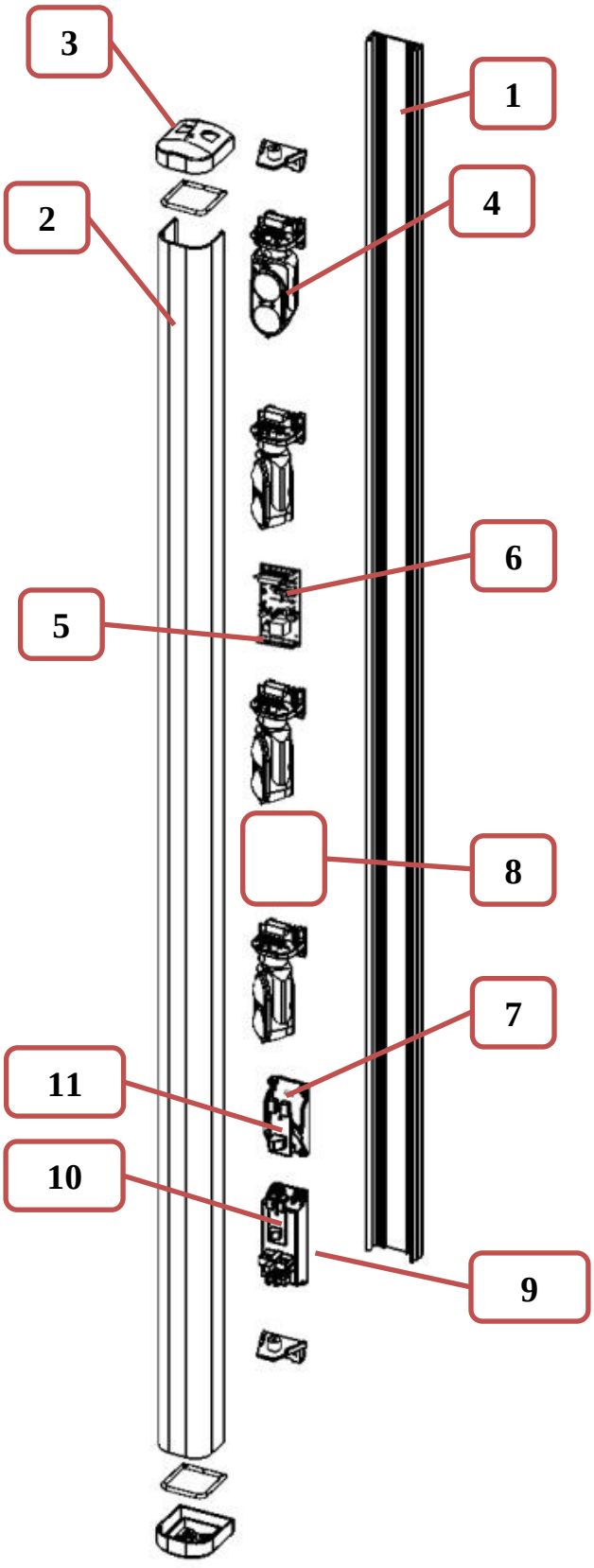
POLITEC
Perimeter protection

INDEX

Installation recommendation

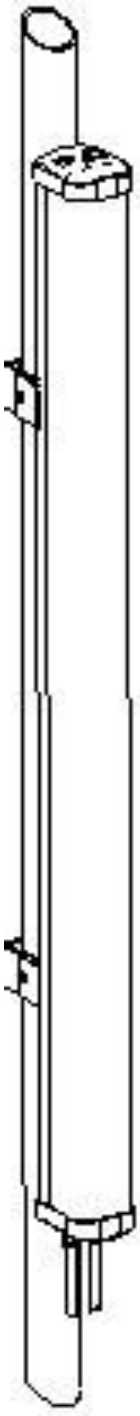
- *Verify that the beam tower is fully watertight once the cover and end caps have been correctly filled at the end of the installation.*
- *Use the cable glands supplied on the tower for all cabling must pass through the lower end cap using the cable glands supplied. The missed used of proper accessories 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

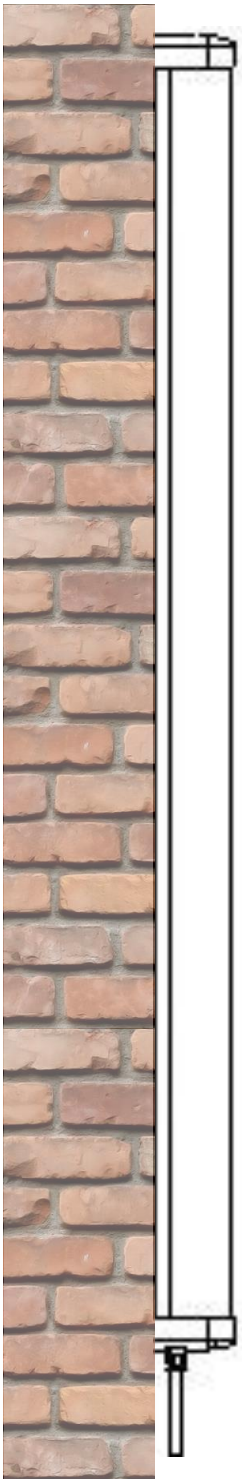


N°	Description
1	Aluminium profile
2	IR cover
3	Caps
4	Opticals TX & RX
5	Terminals card
6	Mother board
7	Battery 3.6 V 19 Ah
8	Wireless trasmitter position
9	Power supply 12Vdc
10	Thermostat board
11	Power supply board 3,6 V

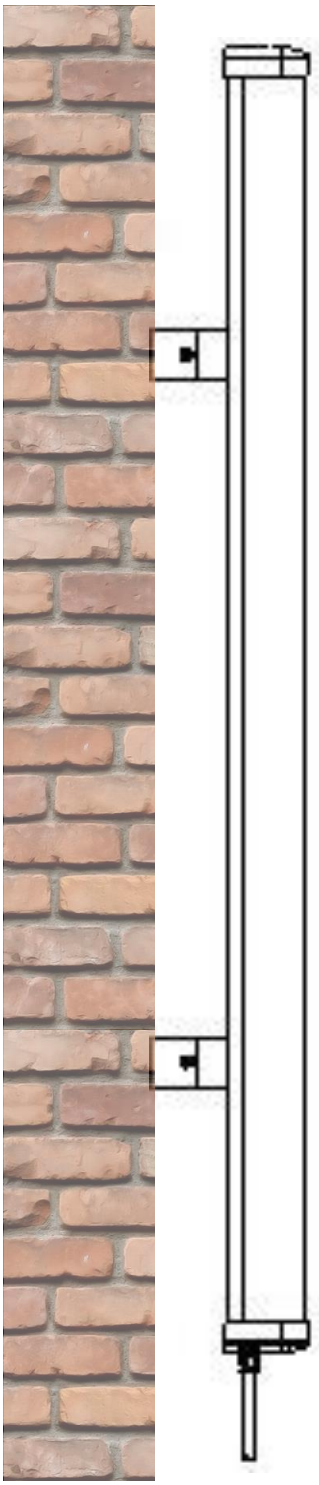
2. MOUNTING SAMPLES



Pole mounting with SAN/PL



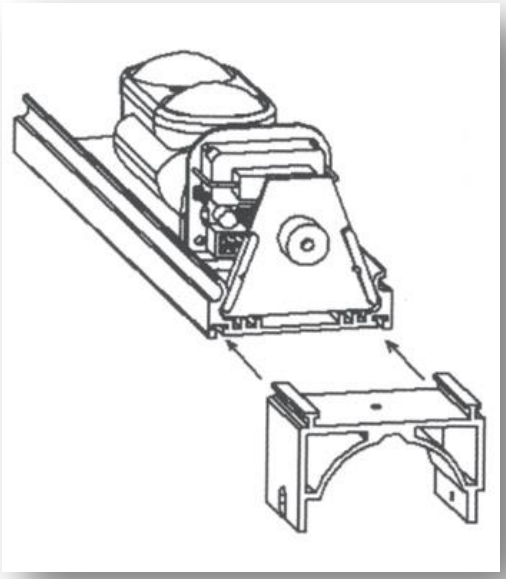
Wall mounting with SAN/SD

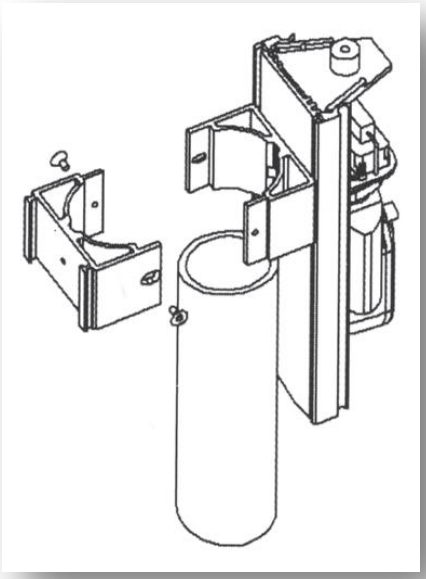


Wall mounting with SAN/PL

MOUNTING WITH BRACKETS

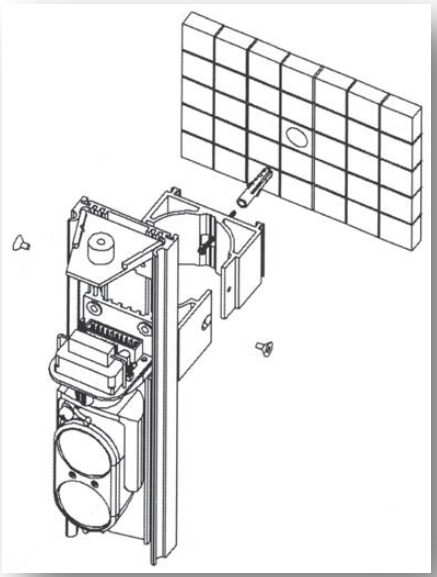
Insert the bracket on the back



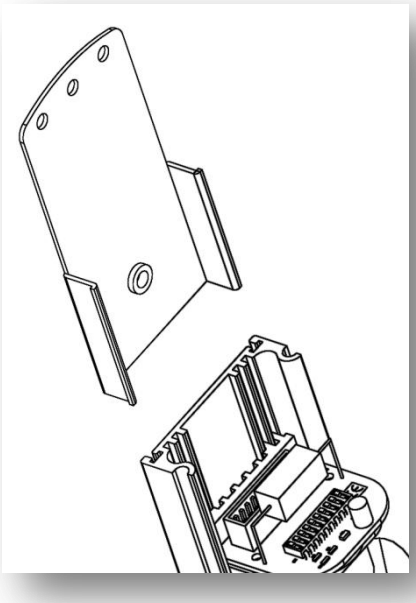


Pole mounting with SAN/PL

Diameter pole max 48 mm



Wall mounting with SAN/PL

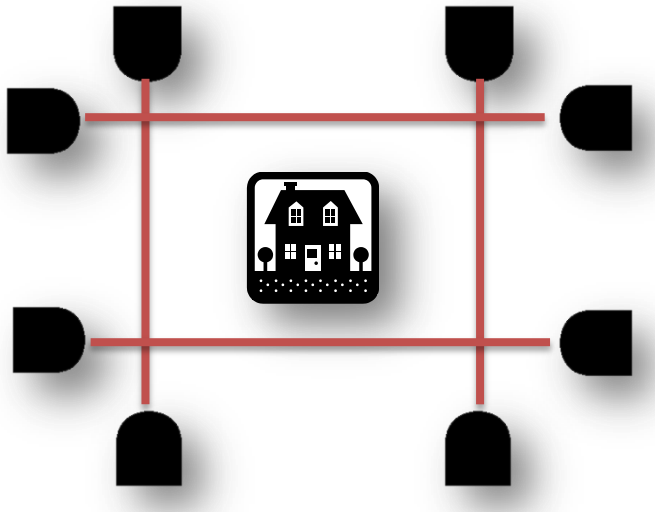


Wall mounting with SAN/SD

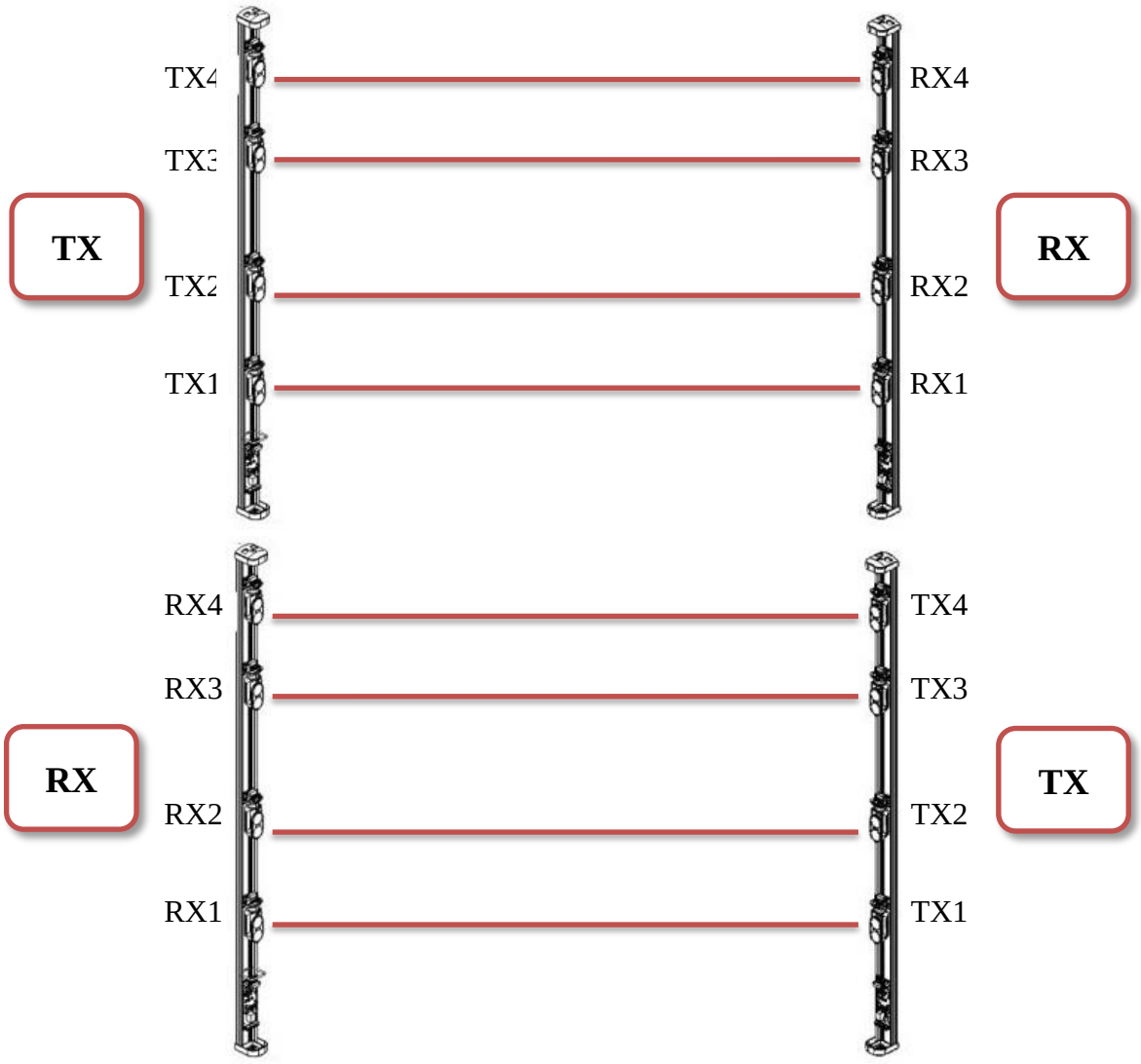
N.B.: we recommend the use of the brackets SAN / PL on the wall when you place the protection of gates (windows, doors, ...) along the wall to avoid small obstacles (hinges, edges of window sills, ...) that could create signal attenuation.

3. INSTALLATION SAMPLES

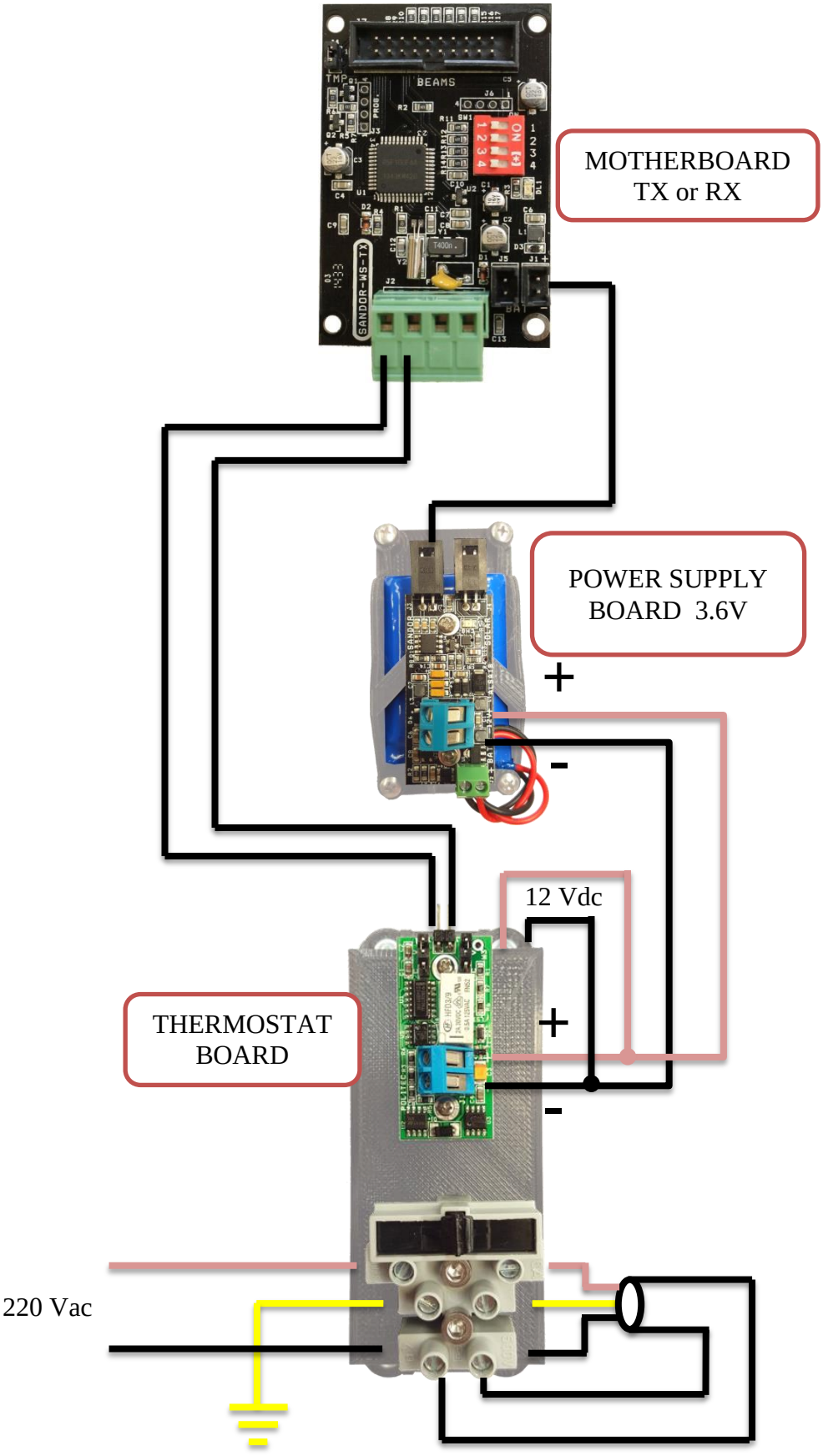
Standard perimeter protection:



In the case of overlapped barriers:

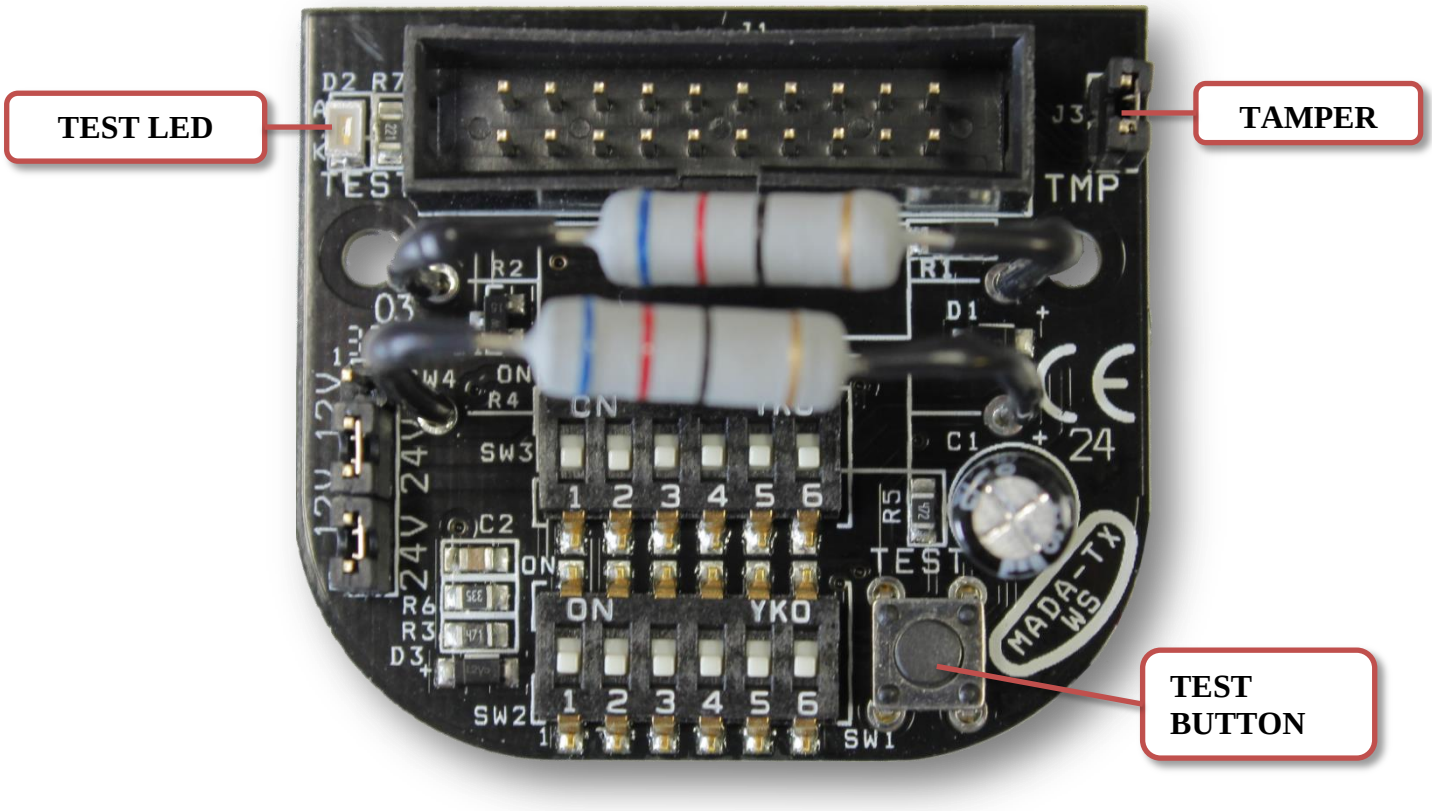


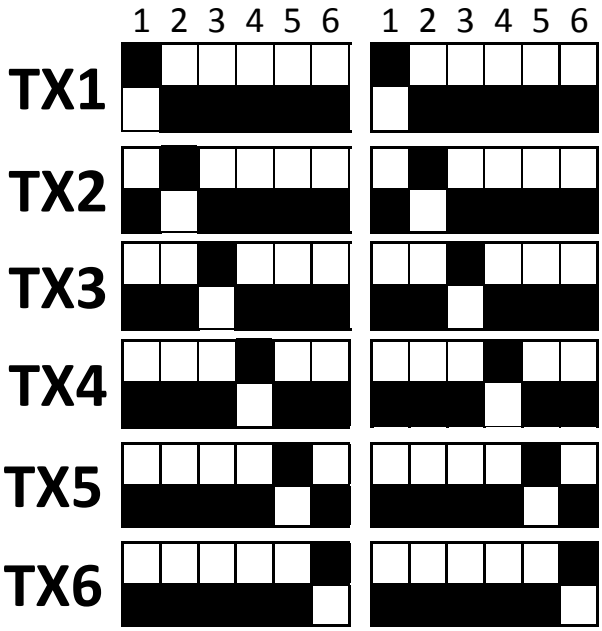
4. WIRING


MOTHERBOARD
TX or RX
POWER SUPPLY
BOARD 3.6V
+
-
12 Vdc
THERMOSTAT
BOARD
+
-
220 Vac

5. CONFIGURATION OF THE OPTICALS

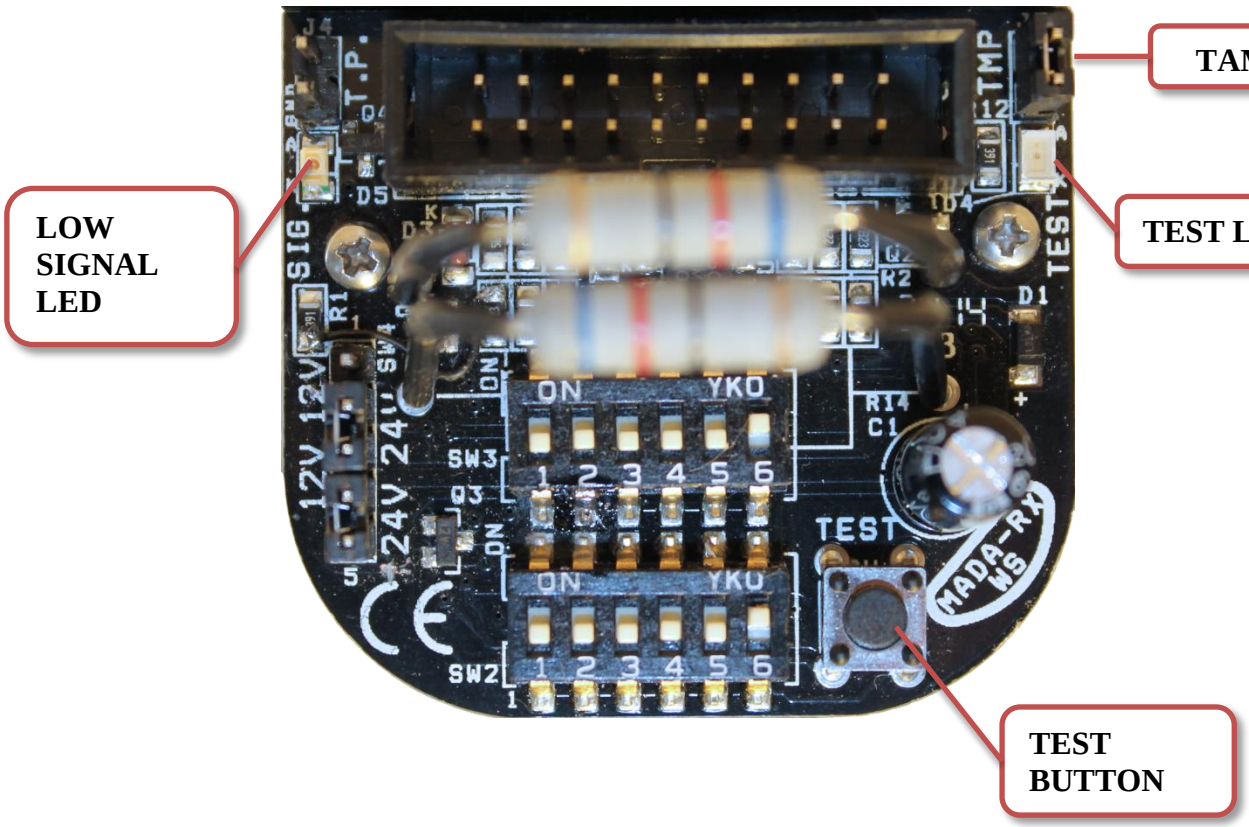
OPTICAL TX

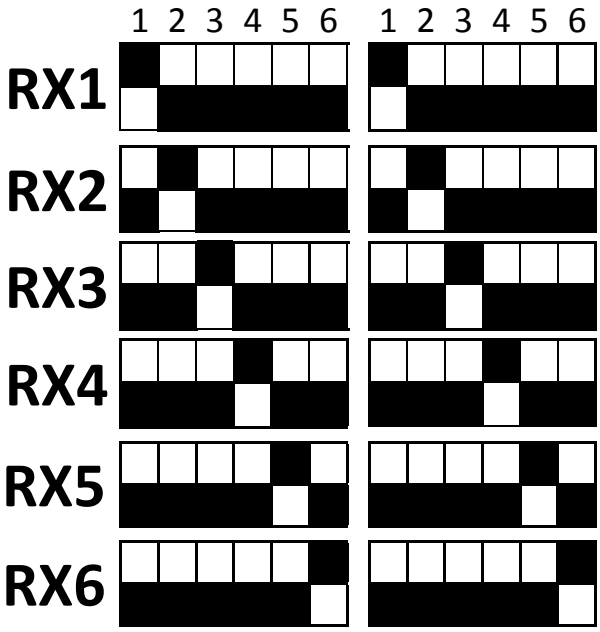




NB: The address settings as per default .

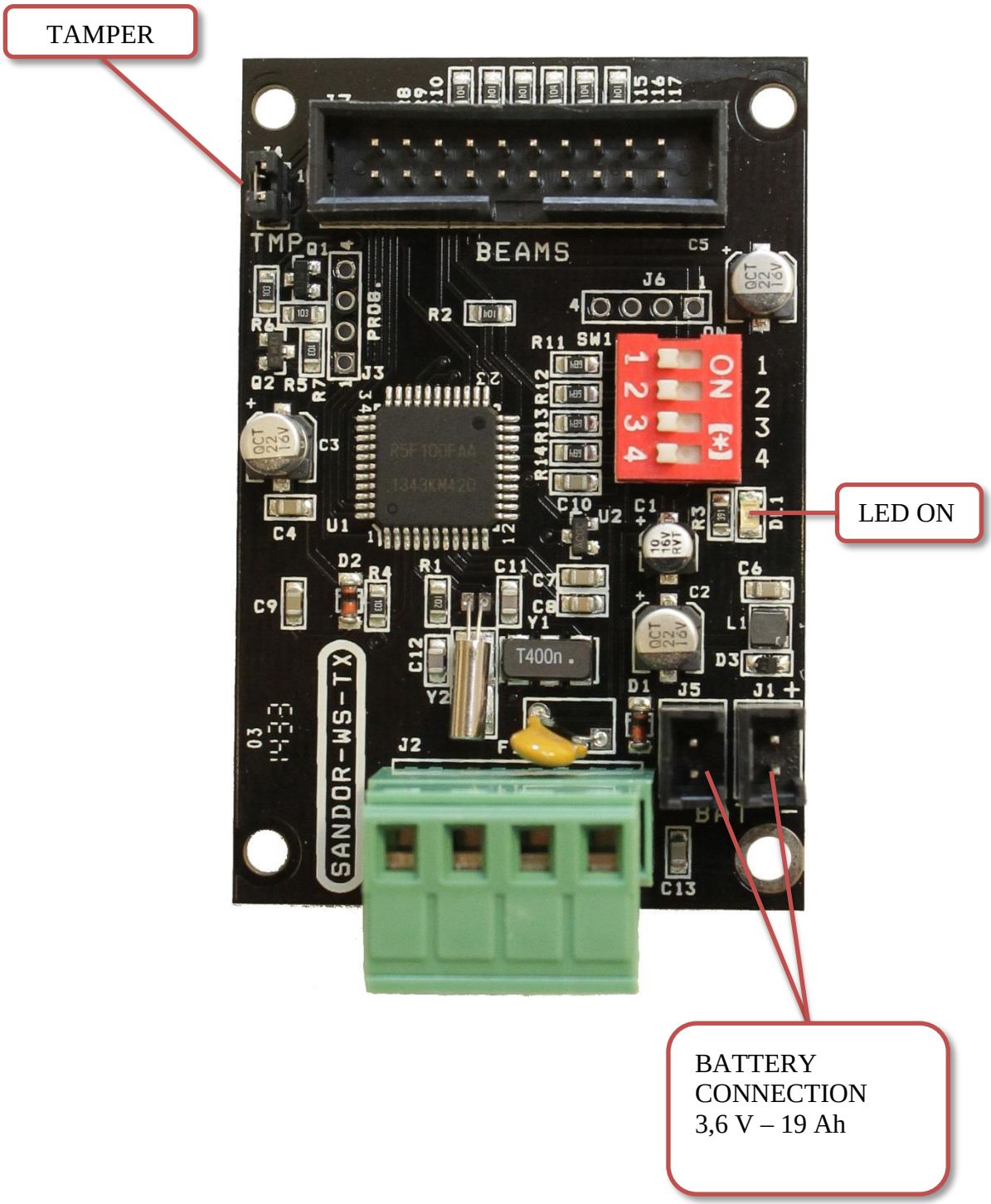
OPTICAL RX





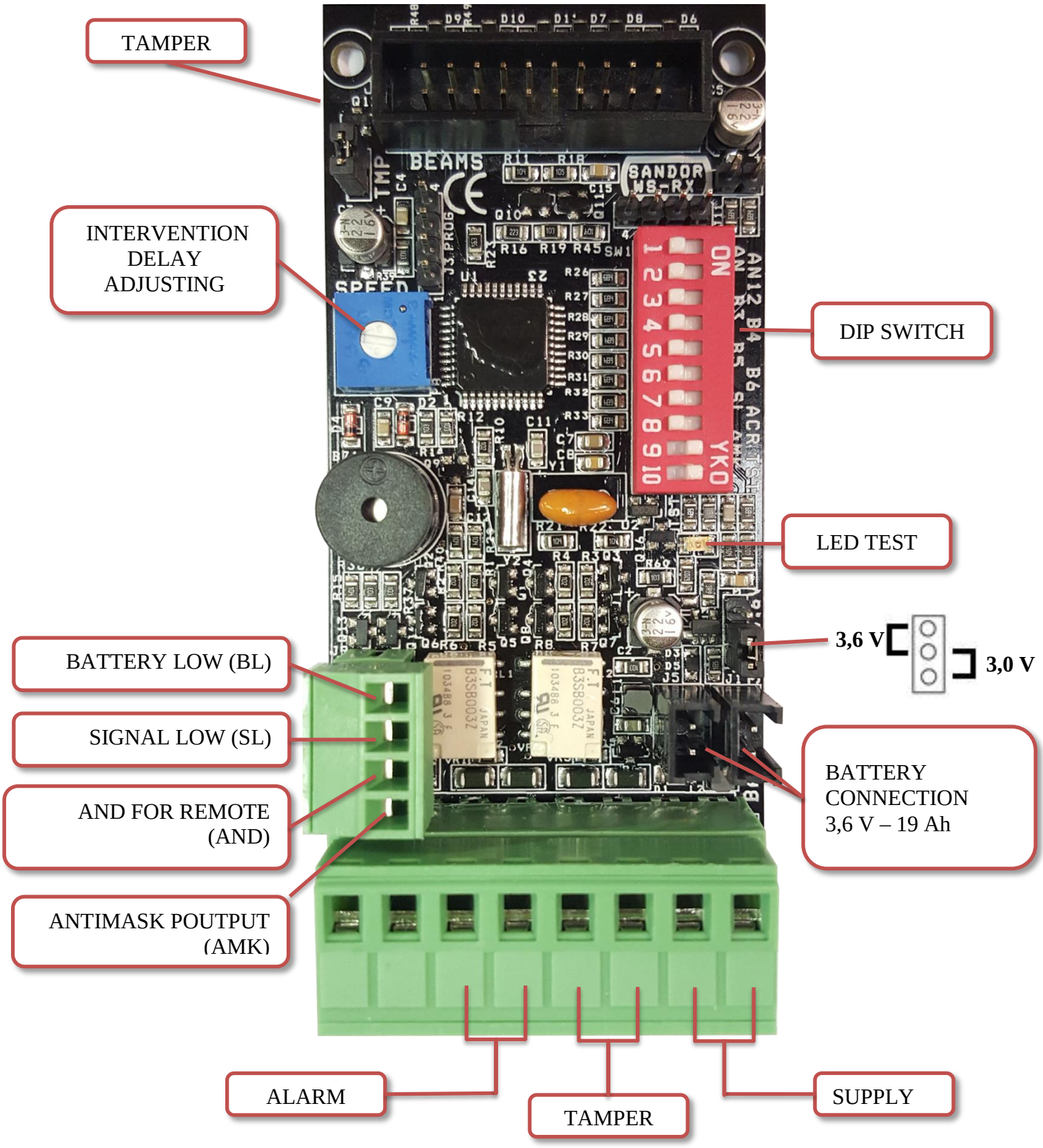
NB: The address settings as per default .

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

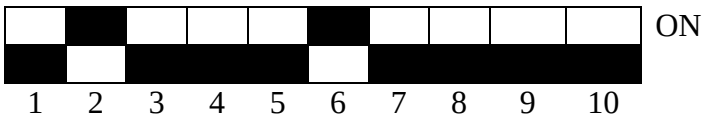
8. SETTINGS & FUNCTIONS

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 utilized
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 activates the test phases

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 trasmitter with 3,0 or 3,6 V

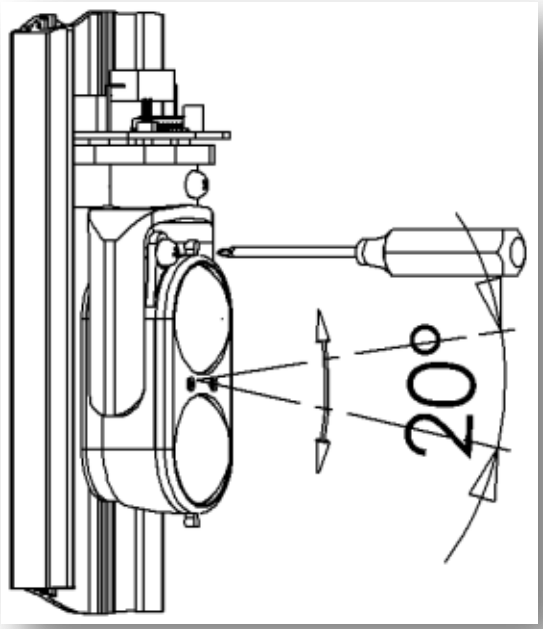
CONNECTOR 4

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.

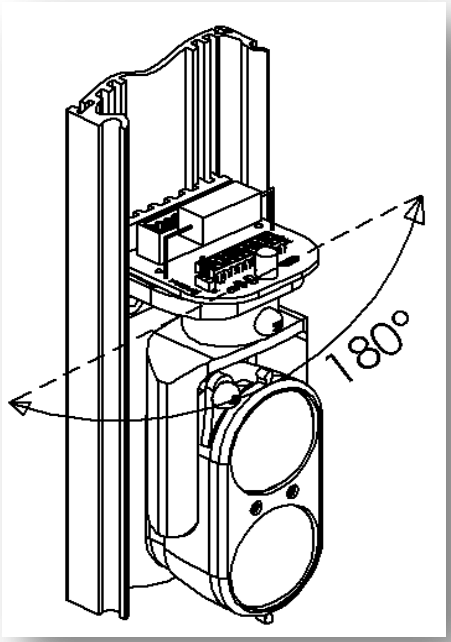
9. COLOUMN ALIGNMENT

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

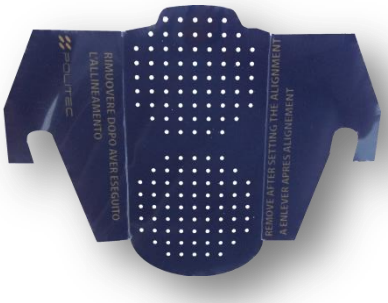


Horizontal adjustment

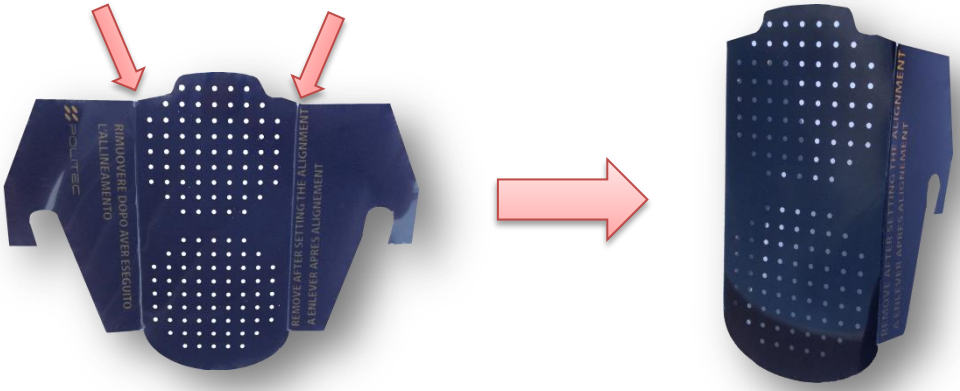


10. CALIBRATION WITH SMA SYSTEM

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



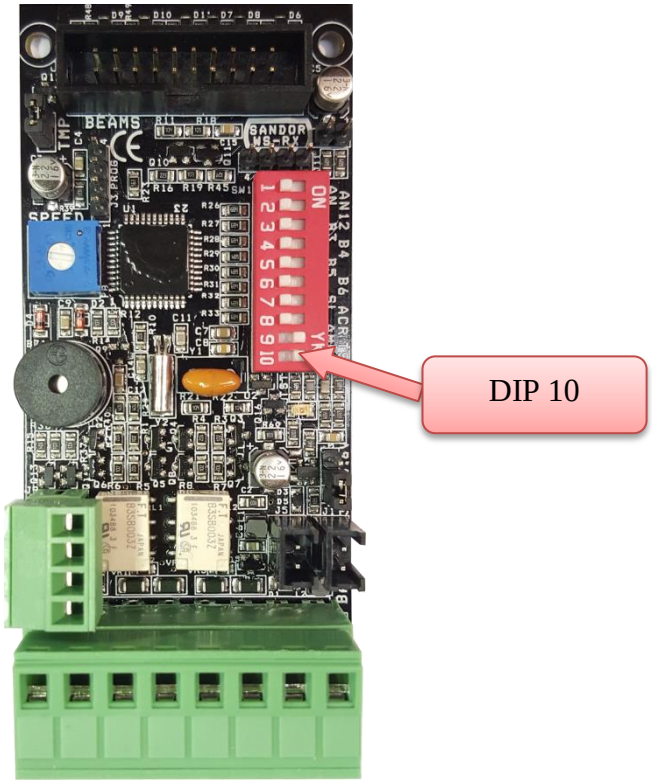
1) Fold the device by following the folds preset



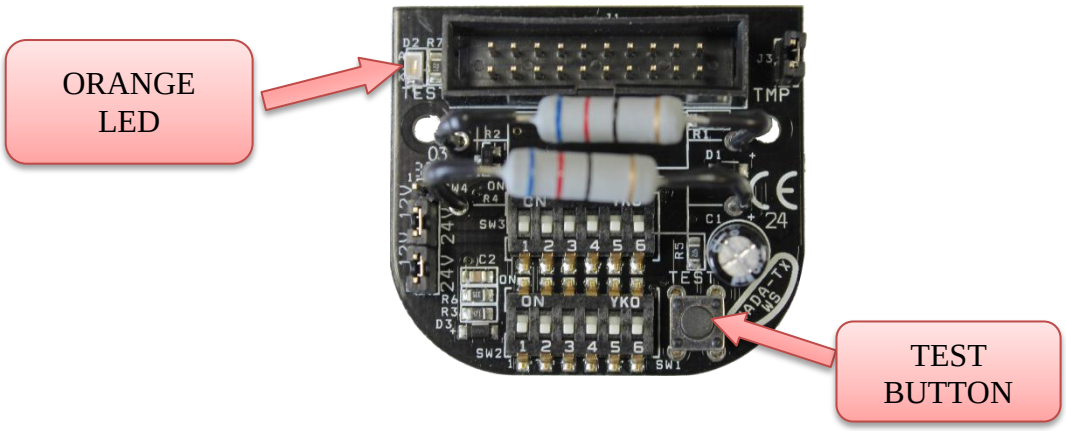
2) Place the filter in front of the optics TX positioning the two hooks on the pins of the fork optics to effectively search the signal alignment with critical conditions.

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

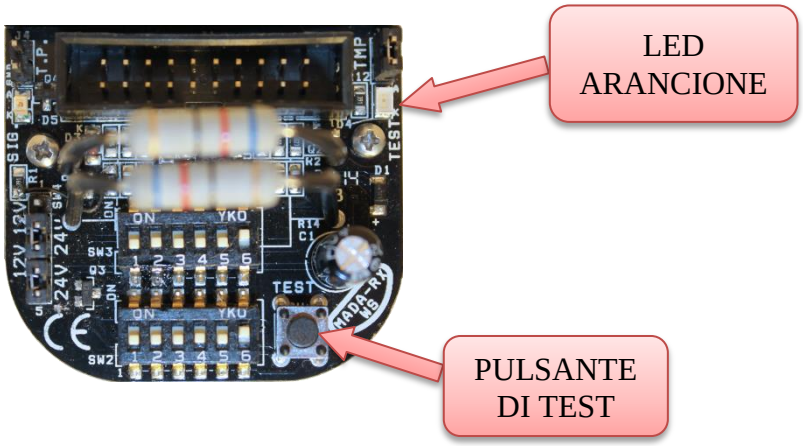
3) Put the DIP10 in ON on the motherboard to activate the programming mode indicated by the flashing LED test. During this phase the LED will continue to flash.



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.

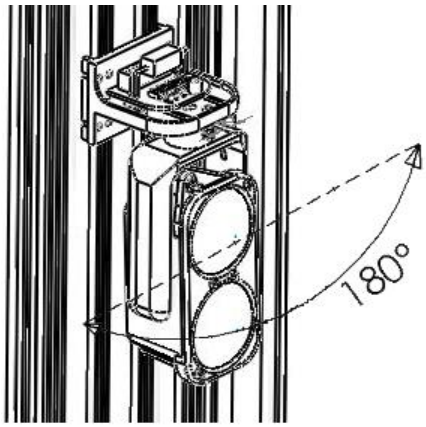


5) Turn the TEST on the corresponding optics receiver by pressing the dedicated button for about 3 seconds until the TEST LED turns orange , the Buzzer and LED alignment go ON.



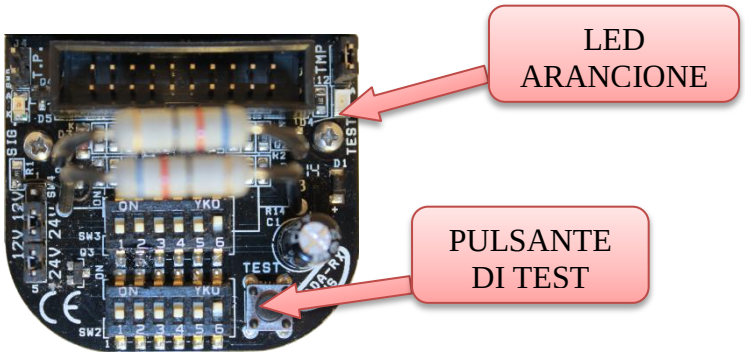
6) Through the TRANSMITTER lens shifts , find the maximum optical alignment based on the BUZZER and LED (high-brightness) of alignment, the 'increase in the frequency of blinking of the LEDs and the whistle of the corresponding BUZZER indicate better ALIGNMENT.

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

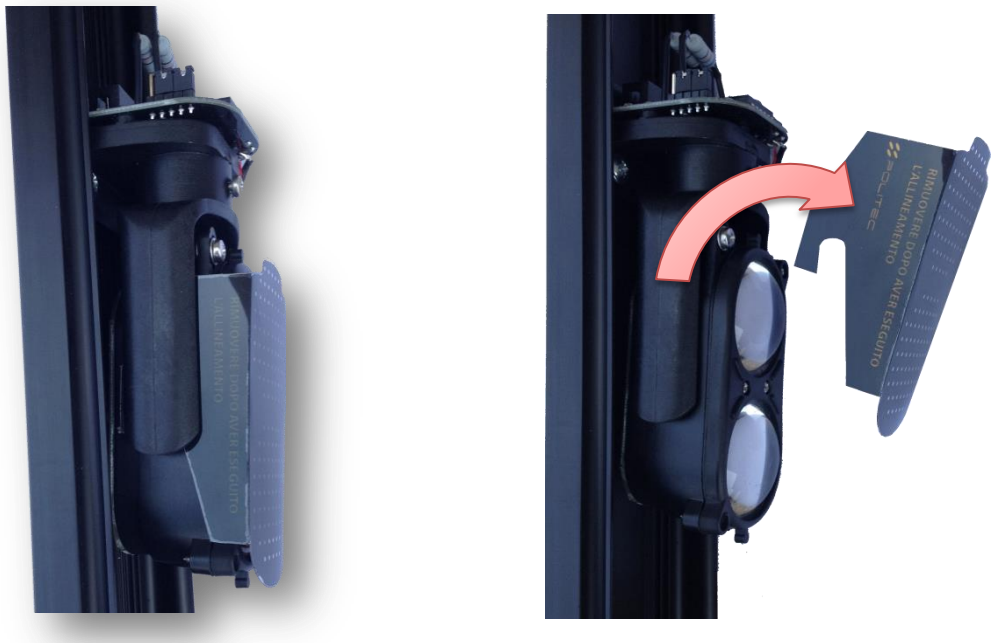


8) Rotating the optical RX find the maximum value of which corresponds to the ALIGNMENT LED (high-brightness) FIXED and whistle CONTINUOUS of the BUZZER.

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.



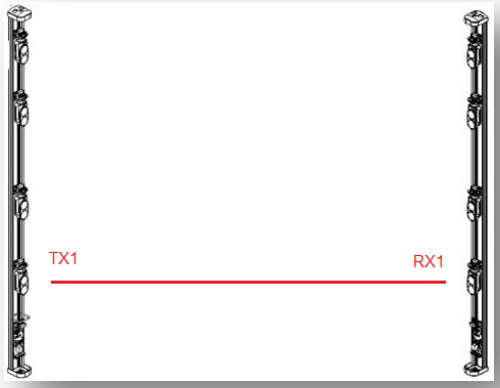
10) When finished, remove the shade that acts as a attenuator, with the certainty of having found the optimum value.



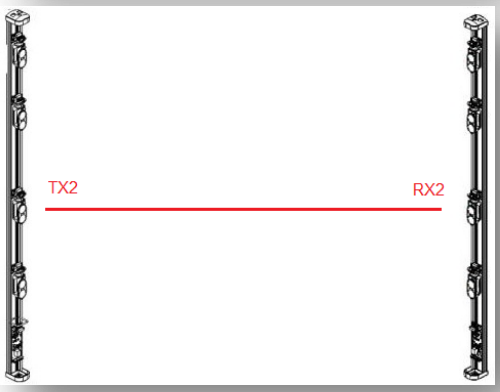
11) Once the alignment of all the beams is finished, put in OFF the DIP 10 on the motherboard to deactivate the programming mode indicated by the LED turns off.
For the next 30 seconds the barrier will sound continuously in case of alignment not effective or interruption of a beam; correct the orientation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

N.B.: SE IL LED DI TEST CONTINUA A LAMPEGGIARE VELOCEMENTE DURANTE IL NORMALE FUNZIONAMENTO SIGNIFICA CHE ESISTE UNA FONTE DI DISTURBO INFRAROSSO (ALTRA BARRIERA, FOTOCELLULA CANCELLO, …) CHE NON PERMETTE IL CORRETTO FUNZIONAMENTO DELLA BARRIERA.

11. PARALLEL BEAMS CALIBRATION



Put TEST optics TX1 and RX1 and proceed with the calibration as previously explained.



Put TEST optics TX2 and RX2 and proceed with the calibration as previously explained.

Put TEST optics TX3 and RX3 and proceed with the calibration as previously explained.

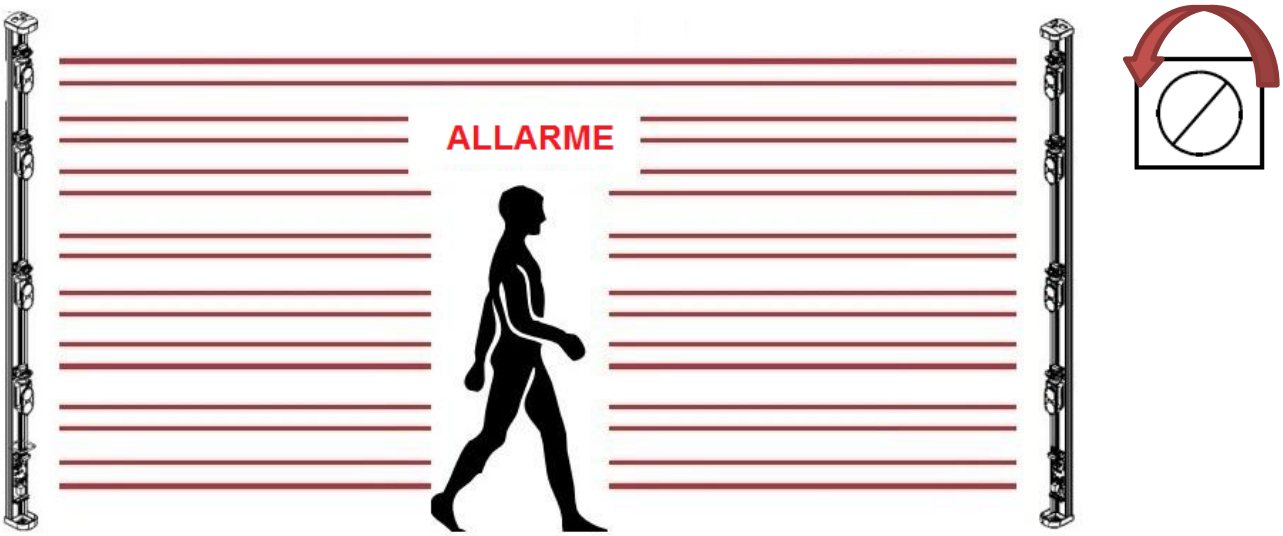
Put TEST optics TX4 and RX4 and proceed with the calibration as previously explained.

N.B.: During the alignment phase of a transmitter the other TX are switched off automatically.

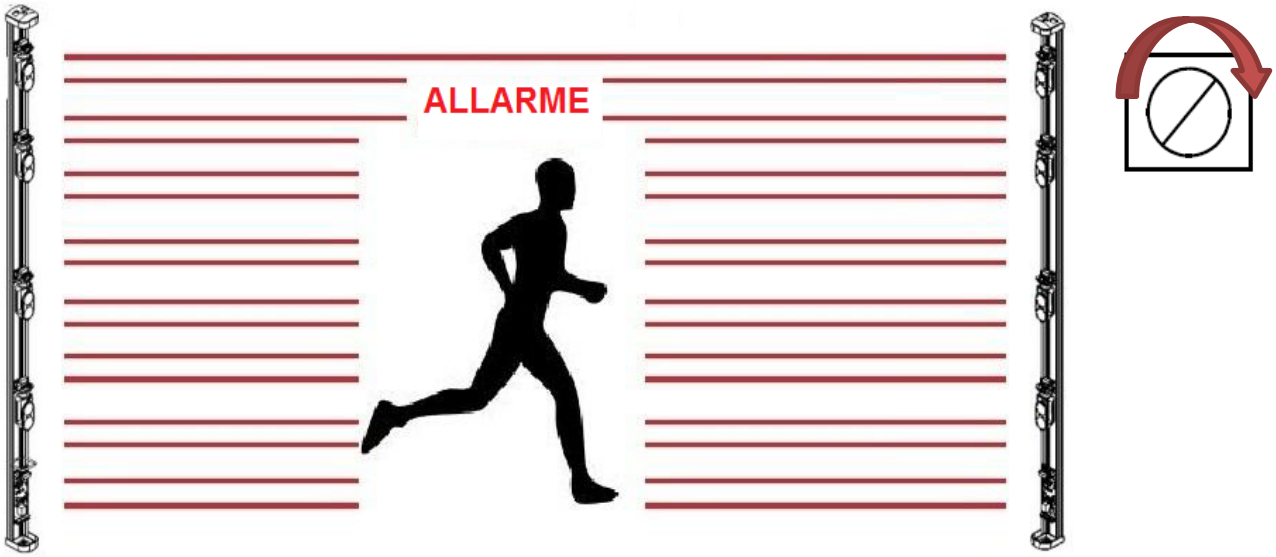
12. ALARM SENSITIVITY ADJUSTMENT

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

MAX RANGE INDOOR	200 m
MAX RANGE OUTDOOR	100 m
ALIGNEMENT TECHNOLOGY	SMA tecnology
SYNCHRONIZATION	Optical
ADJUSTMENT	20° vertical 180° horizontal
PHOTOBEAMS	Pulsed 950nM beams
SETTABLE OPERATION MODE	OR - AND RANDOM
SETTABLE BEAMS EXCLUSION	Yes
ANTI-CRAWLING FUNCTION (FIRST BEAM LOW)	Yes
COLUMN SUPPLY	BATTERY 3,6 V 19 Ah
OUTPUT	Relè con contatti liberi NC/NO (su RX)
TAMPER OUTPUT	Free contact relay (NC NO) on RX (also for TX tamper)
OUTPUT DISQUALIFICATION	Output OC
OUTPUT BARREY LOW	Output OC
OPERATING TEMP.	–25°C / +65°C
PROTECTION GRADE	IP65
DIMENSIONE PROFILO LXPXH	60 mm x 60 mm x (da 600 mm a 4000 mm)

N° Beams	**Battery life**	
	Single battery	Double batteries
2	42 months	/
4	36 months	/
6	24 months	48 months

POLITEC
Perimeter protection
POLITEC s.r.l.
Via Adda, 66/68 - 20882 Bellusco (MB) - Italy
tel. +39 039 6883019 r.a. - fax +39 039 6200471
www.politecsrl.it