PRODUCT

Sadrin WS

Product code Sadrin WSI SMA
Sadrin WSE SMA

SADRIN WS SMA

Self-powered
Wireless Mini-barrier

INSTALLATION AND MOUNTING
MANUAL VERSION 2.1

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1.Introduction

Congratulations on having purchased the Politec perimeter barrier.This appliance guarantees long-lasting and reliable operation if installed correctly.For correct and effective use, it is necessary to read this instruction manual carefully.

The system has been designed to detect intrusions and activate the alarm; it is not a device that prevents intrusion.Politec is not responsible for damage, injury or loss caused by accidents, theft, force majeure (including momentary lightning-induced overcurrent), abuse, improper or incorrect use, faulty installation or inadequate maintenance.

2. **Product description**

The double optic infrared perimeter barrier consists of an infrared receiver and transmitter. Operation is based on "AND" logical operations: in other words, the alarm is activated only in the event of simultaneous interruption of two superimposed beams.

This barrier is ideal for perimeter protection of internal and external areas.
The main features of this barrier are:

- Adjustable intervention time which allows you to adapt to the characteristics of the site to be protected;
- Set-up for wall mounting;
- Optical alignment with SMA function;
- Adjustable configuration for managing each individual optic
- Contact signalling barrier opening.

Warnings
Mounting, installation of the barrier and connection to the mains must be carried out by expert and qualified personnel, in compliance with rules and regulations applicable to electrical systems.

3.General warnings

This installation manual contains important information regarding safety for installation: it is necessary to read all the instructions before proceeding with the installation.

Keep this manual for future use.

- If you have any questions or doubts during installation, do not carry out any operations and contact the distributor's support service.
- Use of these products for purposes other than those specified in these instructions is prohibited.
- You must not make any changes to the components of the product unless stated in the manual in order not to void the warranty; such operations can only lead to malfunctions; Politec assumes no liability for malfunctions or damage due to modified products.
- Depending on the specific situation of use, check for the need for additional devices: detectors or signalling devices.
- During installation, mounting and use of the product, make sure no foreign objects (solids, metals or liquids) are able to penetrate inside the open devices.
- Manufacturer's liability:Politec assumes no liability for failures resulting from incorrect installation; lack of maintenance, incorrect assembly or use.
- Politec is also not liable for incorrect or incomplete operation of the product or failure to detect intrusion.
- Warranty (summary of conditions):Politec guarantees its products for a period of 2 years from the production date.The warranty is applied to those purchasing directly from Politec; there is no warranty for the end user who, in the event of breakdowns or faults, must contact the installer or dealer.
- The warranty excludes aesthetic parts as well as parts subject to normal wear and parts subject to normal consumption such as batteries and accumulators.

3.1 Additional warnings for devices powered by mains voltage

This manual is intended only for technical personnel qualified to install such devices.

- Assessing the hazards that may occur during installation and use of the system, in order to achieve complete safety, it is necessary that installation takes place in full compliance with applicable laws, methods, rules and regulations.
- Before accessing the internal terminals of the product, it is necessary to disconnect all the power circuits.
- If automatic circuit breakers or fuses trip, before resetting them it is necessary to identify the fault and repair it.

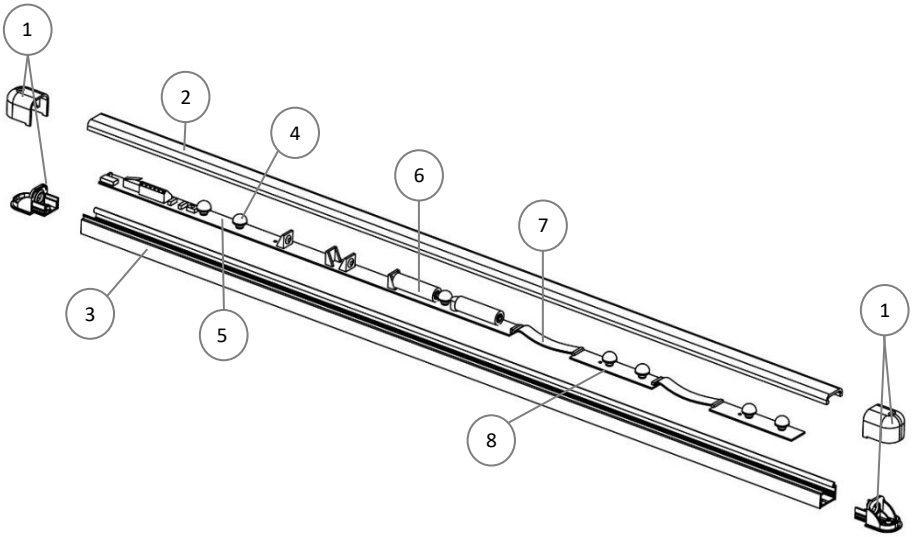
3.2 Installation warnings

- Check that all the material to be used is in excellent condition and suitable for use.
- Before proceeding with the installation, check the environmental class of the products in the "technical specifications" chapter.
- Check, by comparing with the values shown in the paragraph "technical specifications", that the range of the devices is equal to or lower than the physical distance between the barriers.
- Check that the barrier is positioned in areas protected against potential impact, in flat areas and on fixed supports to avoid oscillations.
- Do not place the system components close to heat sources as they could be damaged.
- Each barrier has its own operating principle: check the instructions for choosing the right position in the respective instruction manual.

4.List of main components

The package contains the following components and accessories.
When opening the package, check that everything has been included.

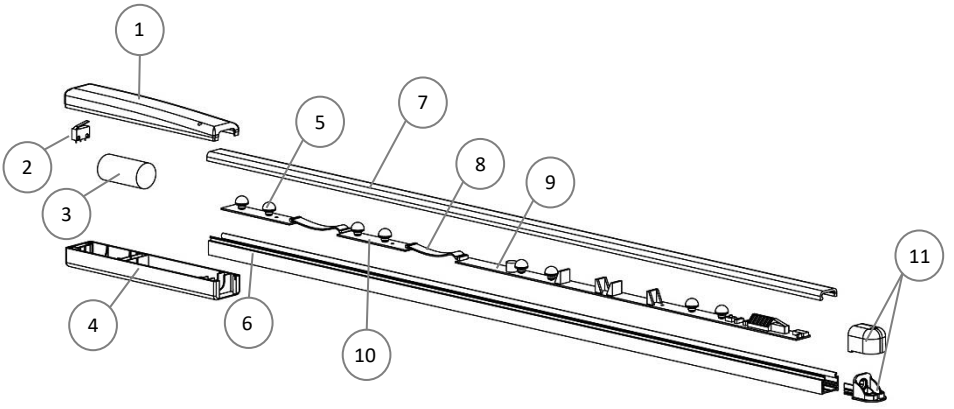
4.1 SADRIN WSI version



LIST OF COMPONENTS	
1	Standard cap
2	Black polycarbonate cover
3	Aluminium profile
4	Optic
5	CPU WS TX/RX motherboard
6	Batteries
7	Flat cable for board connection
8	ESP WS TX/RX expansion board

The WSI version can have one or more battery kits, connected inside each TX and RX column.
However, it is necessary to position the radio transmitter that is going to be connected in a sheltered area or in a container of adequate IP rating for it to stay outdoors.

4.2 SADRIN WSE version



LIST OF COMPONENTS	
1	Box cover
2	Box tamper
3	Battery
4	Box base
5	Optic
6	Aluminium profile
7	Black polycarbonate cover
8	Flat cable for board connection
9	CPU WS TX/RX motherboard
10	ESP WS TX/RX expansion board
11	Standard cap

The WSE version has a box at the head of each TX and RX column, equipped with a protection tamper, suitable for containing larger capacity batteries inside.
An adequate space is also available to house the majority of radio transmitters on the market.

5.Preparation for installation

5.1 Preparation of the barrier parts before installation
Since the communication between the barriers can take place wired, via wireless and their alignment can be done optically, it is advisable to firstly check all the component parts of the barriers and any accessories before beginning the installation.

5.2 It is advisable to carry out:

- device configuration on a table;
- a check on the operation of the optical and acoustic alignment
- the permanent fixing of each device;
- the preparation and carrying out of electrical connections.

In order to avoid errors, operating and installation problems, it is advisable to proceed as follows:

a) Place all the products with the package open on a table;
b) For the low consumption barrier version for wireless models with universal circuit board housing, insert and connect the radio transmitter, and connect it to the barrier receiver board
c) Power up the barriers and program them
d) Test barrier operation;
e) Place (without fixing) the barriers at the planned points;
f) Place (without fixing) all the other devices at the planned points;
g) Check for each barrier that there is sufficient field for radio communication (for wireless versions);
h) Permanently fix the barriers.

Before proceeding with the installation, it is necessary to check the integrity of the product, the adequacy of the model chosen and the suitability of the environment intended for installation:

• Check that all conditions of use fall within the "limits of use" and in the "Technical specifications of the product".
• Check that the environment chosen for the installation is compatible with the total footprint of the product.
• Check that the surface chosen for the installation of the product is sturdy so as to ensure stable fixing and that it is adequately protected against possible impacts or the elements.

6.Mounting/fixing instructions

6.1 Placement and installation height

This type of Active Infrared Beam barriers is always made up of a pair of columns, one is a TX transmitter only and the other a RX receiver only.The barrier is self-powered with batteries already included, and must be combined with a radio transmitter of any brand of Wireless systems on the market.

Its compact size makes it particularly suitable for single barrier systems to protect windows, doors or facades of limited dimensions.

Therefore, we advise against installation in open areas unless due precautions are taken.

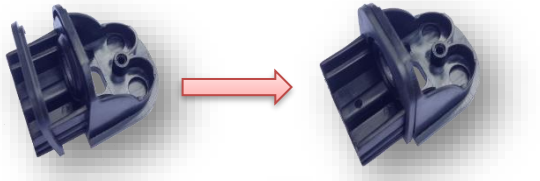
Position it in such a way that in its range of action there are no obstacles such as: pots on the windowsills, mosquito nets or objects that can swing or move with the wind.

In any case, it is necessary to take into account the diffusion of the infrared beam, to avoid reflection of the beams caused by adjacent shiny surfaces.

If possible, position the barrier so that sunlight does not hit the RX column directly.

6.2 Mounting

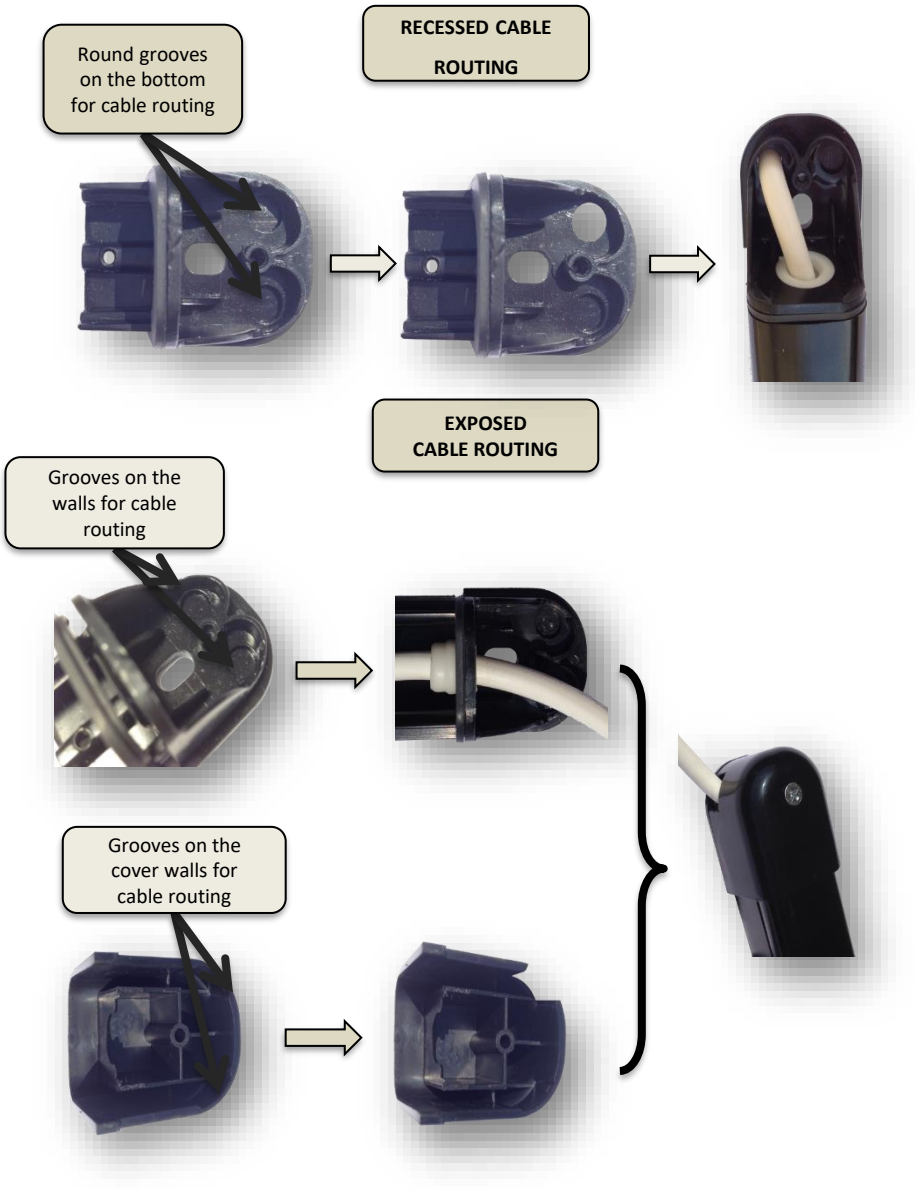
- Remove the caps and remove the extruded cover.The barriers are a standard size in terms of column height but different sizes can be supplied if communicated when ordering.If at this stage, it is necessary to reduce the length of the profile, it can be cut, taking care to prevent metal slag from ending up on the electronic circuits.
- The barrier in the **WSI** version can be mounted indifferently with both boards with the terminal board, at the top or bottom.
- Insert the square gasket into the cap until the joints fit together.



- Insert the concentric cable grommet in the appropriate hole.

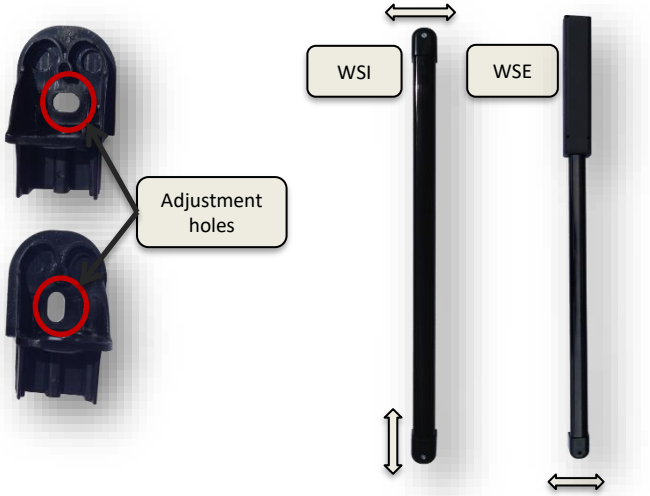
- Make a hole in the concentric gasket, of the lower or upper cap, so that the conical wall exerts a sealing pressure on the sheath of the connection cable that will pass inside it.
- Insert the cap into the aluminium profile until the gasket matches the metal.

- Open the special grooves on the cap and on the cover to allow the cable to pass from outside the barrier.



- On the lower cover of the column, make a small incision to ensure the drainage of rainwater that could accumulate inside the closure.

- Fix the whole structure to the wall; in the **WSI** version, it is possible to make small adjustments both horizontally and vertically thanks to the special holes positioned on the caps.
- In the **WSE** version, it is possible to make small adjustments only horizontally, after fixing the box on the upper part of the columns.



- At the end of the installation and alignment process, close the cover with the supplied screw.

N.B.:The barriers in the WSE version must be mounted with the terminal board at the top, where the box is located, to allow the connection of the cable from the terminal board to the radio transmitter. However, it is possible to move the box from the column, for example it can be put inside the shutter box and arrange the height of the columns in full view for aesthetic reasons, taking care to extend all the connections inside and close the columns with the top cap.

7.Batteries

7.1 WSI version
3.6V - 2.7Ah lithium batteries placed inside each column, on a special connection battery module, it is possible to increase the number of batteries by inserting other modules.

7.2 WSE version
3.6V - 19Ah lithium battery placed in a special box, inserted at the top end of each column.

7.3 Battery life

NUMBER OF BEAMS	WSE	WSI
2	3 years ***	2 years *
4	3 years ***	1 year *
6	2.5 years ***	1.5 years **
8	2 years ***	1 year **

* value refers to 2 batteries 3.6 V - 2.7 mAh
** value refers to 4 batteries 3.6 V - 2.7 mAh
*** value refers to a 3.6 V - 19 Ah battery

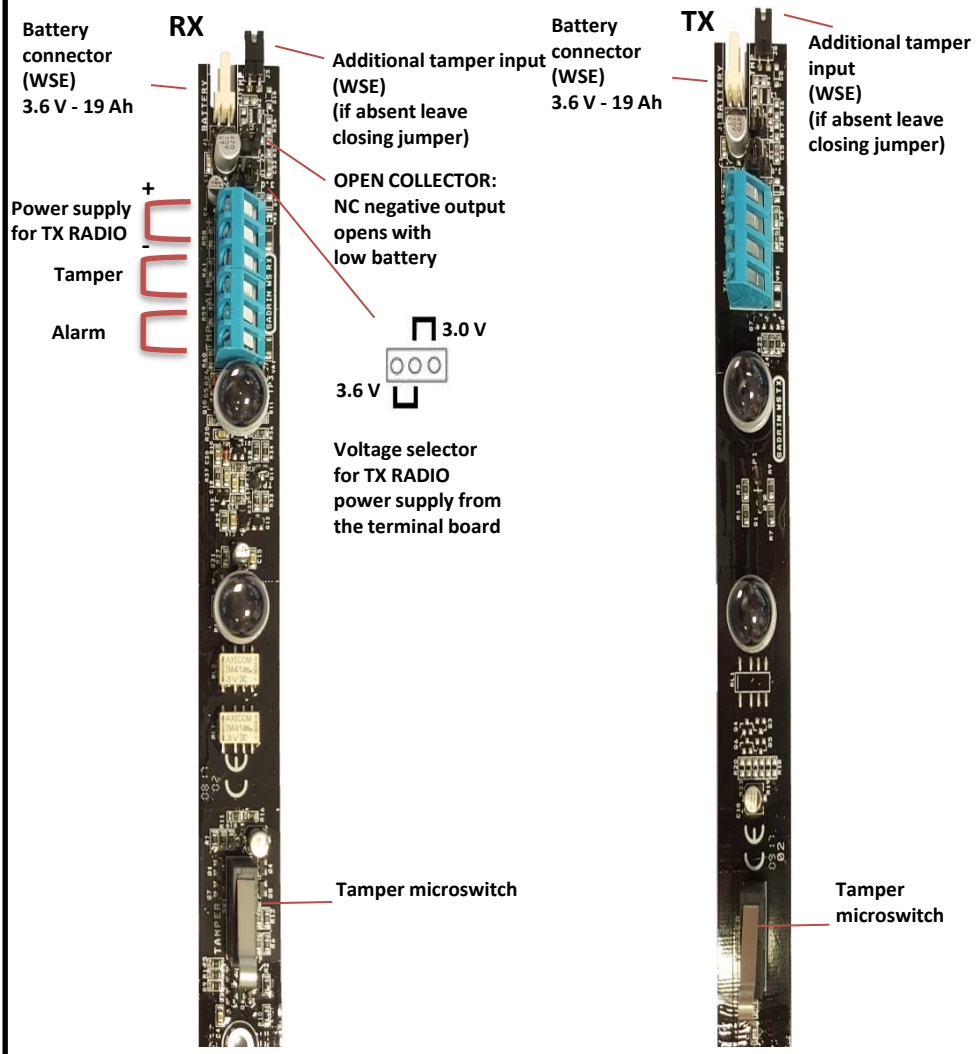
N.B.:The low battery signal occurs as a local acoustic alert, during the alarm events of the barrier and their sending through the radio transmitter if configured.
N.B.:Battery life can also vary due to other factors, such as if the radio transmitter is powered by the column battery or by the specific climatic conditions of the installation area.
N.B.:The barrier is capable of operating with power up to 2.8V; if the voltage on the battery measured under load is <3.4V, it means that the lithium battery is almost flat.

8.Wiring

8.1 Type of cable

To avoid radio disturbances, use a **SHIELDED** cable with the braiding connected to the negative of the terminal board as the connection between the wireless transmitter and the barrier.

8.2 Connections

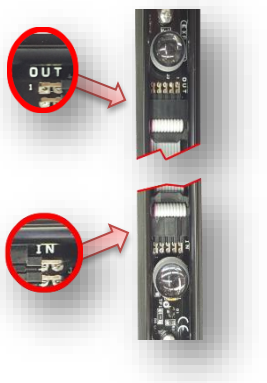


The tamper output in the terminal board is closed if both columns have their own microswitches closed.

The tamper opening information of the transmitter column is sent optically to the receiver column after 40 ''; as well as low battery information.

8.3 Expansion board wiring

If inserting or removing expansion boards, make sure they are connected in the correct direction.



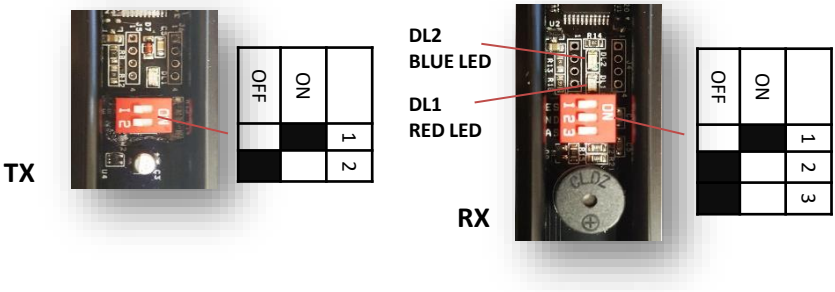
Expansion boards codes:
SADRIN ESP WS RX/SADRIN ESP WS TX

9.Programming and commissioning

9.1 Powering the barriers

Connect the power supply to the dedicated input respecting the polarity and check the flashing of the LED.Power first the TX column and then the RX column.

9.2 Checking alignment and operation



1. Set the TEST DIP 1 of the TX motherboard to ON.
2. Set the TEST DIP 1 of the RX motherboard to ON.
3. In this phase, the barrier alignment takes place, where each RX optic receives the signal from the corresponding TX optic, the maximum value is reached when the BLUE test LED and the buzzer provide a continuous signal.
4. To exit the test, set TEST DIP 1 to OFF on the RX, the RED LED will flash and the WALK TEST function will activate for a duration of 30'', the barrier will emit a continuous acoustic signal in the event of interruption of one beam (two beams if configured in AND) to indicate the correct operation of all optics.The BLUE LED will flash if the tampers are open.
5. At the end of this phase, the BLUE TEST LED will light up and the RED LED will flash until the TEST DIP 1 on the TX motherboard is set to OFF.

10.Configuration

RX COLUMN		
1	TEST	In the ON position, the TEST phase for the barrier alignment is activated.
2	AND	In the ON position, an alarm event is recorded in the event of at least two beams being obscured.
3	FAST	In the ON position, the intervention time is reduced, making the barrier itself more sensitive.

TX COLUMN		
1	TEST	In the ON position, the TEST phase for the barrier alignment is activated.
2	/	Not in use

11.Technical specifications

	SADRIN WS 205	**SADRIN WS 410**	**SADRIN WS 615**	**SADRIN WS 820**
Outdoor range *	From 0.4 to 10 metres **(MAX. 3 metres for white version)**			
Synchronism	Optical			
Double beam optic	SYSTEM with 15mm lenses in AND			
Optical sensors	Pulsed type beams with a wavelength of 950 nm			
Max. configuration	2TX+2RX	4TX+4RX	6TX+6RX	8TX+8RX
Beam arrangement	Parallel			
Power supply	Lithium Batteries 3.6 Volt - 19 Ah WSE / 3.6 Volt - 2.7 Ah WSI			
Consumption per column	0.30 mA	0.50 mA	0.65 mA	0.85 mA
Alarm Output	Relay with NC clean contacts (on RX column)			
Anti-tampering output	Relay with NC clean contacts (on RX column) tamper TX column opening optically transmitted on RX			
Low battery output	Acoustic and O.C. signalling on RX column, of the TX column optically transmitted on RX			
Ingress protection rating	IP54/65 (on request)			
Operating temperature	-10°C / +70°C			
Profile dimensions WxDxH	25mm x 24mm from 500mm to 4000mm			
Dimensions with caps WxD	29.5mm x 26.6			
Box dimensions (WSE)	40mm x 39mm x 225mm (H to be added)			
Usable space x TX (WSE)	35mm x 35mm x 100mm			
Warranty	2 years			

12.FAQ

The system remains in alarm	Check that the expansion boards are well connected with the flat cable
	Check the condition of the charged batteries (> 3.4V)
The system gives false alarms	Make sure there are no animals or objects that can obscure the optical beam, otherwise activate the AND function
	Make sure that the receiver is not hit perpendicularly by sunlight
	Check the condition of the charged batteries (> 3.4V)
	Make sure there are no external light sources that interfere with the correct reading of the signal (gate photocells, other barriers, infrared etc.);
	To avoid radio disturbances, use a shielded cable with the braid to the negative of the terminal board as the connection between the wireless transmitter and the barrier

13.Product disposal.

All components of this barrier are an integral part of the equipment and must be disposed of together with it.
Just as with installation operations, also at the end of life of these products, the dismantling operations must be carried out by qualified personnel.
These products are made up of various types of materials: some can be recycled and others must be disposed of.Find out about available recycling or disposal systems for this category of products governed by regulations in force in your area.
Warning!- Some parts of the products may contain polluting or dangerous substances which, if dispersed in the environment, could result in harmful effects on the environment itself and on human health.
As indicated by the symbol on the side, it is forbidden to throw these products in domestic waste.
Therefore, carry out "separate collection" for disposal, according to the methods stipulated by the regulations in force in your area or return the products to the seller when purchasing a new equivalent product.
Warning!- Local regulations can impose heavy penalties for incorrect disposal of these products.

For technical support, contact your security systems distributor