



PRODUCT  
**SADRIN**

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Product code Sadrin

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# SADRIN



**Mini-barrier**

**INSTALLATION AND MOUNTING  
MANUAL VERSION 4.0.0**

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## 1.Introduction

Congratulations on having purchased the CASMAR 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.CASMAR 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;
- 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; CASMAR 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: CASMAR assumes no liability for failures resulting from incorrect installation; lack of maintenance, incorrect assembly or use.
- CASMAR is also not liable for incorrect or incomplete operation of the product or failure to detect intrusion.
- Warranty (summary of conditions): CASMAR guarantees its products for a period of 2 years from the production date. The warranty is applied to those purchasing directly from CASMAR; 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**

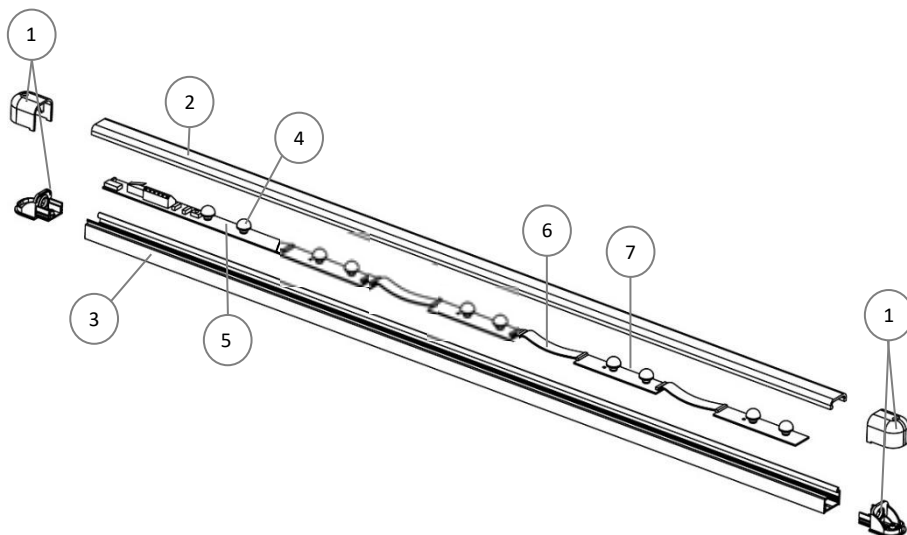
- Check that all the material to be used is in excellent condition and suitable for use.
- Before proceeding with the installation, check the environmental class of the products in the "technical specifications" chapter.
- Check, by comparing with the values shown in the paragraph "technical specifications", 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.**



#### LIST OF COMPONENTS

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

## 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 Evaluations before installation

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.

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.

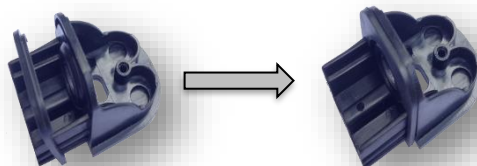
Position it in such a way that in its range of action there are no obstacles such as: pots on the windowsills, mosquito nets or objects that can swing or move with the wind.

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 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.



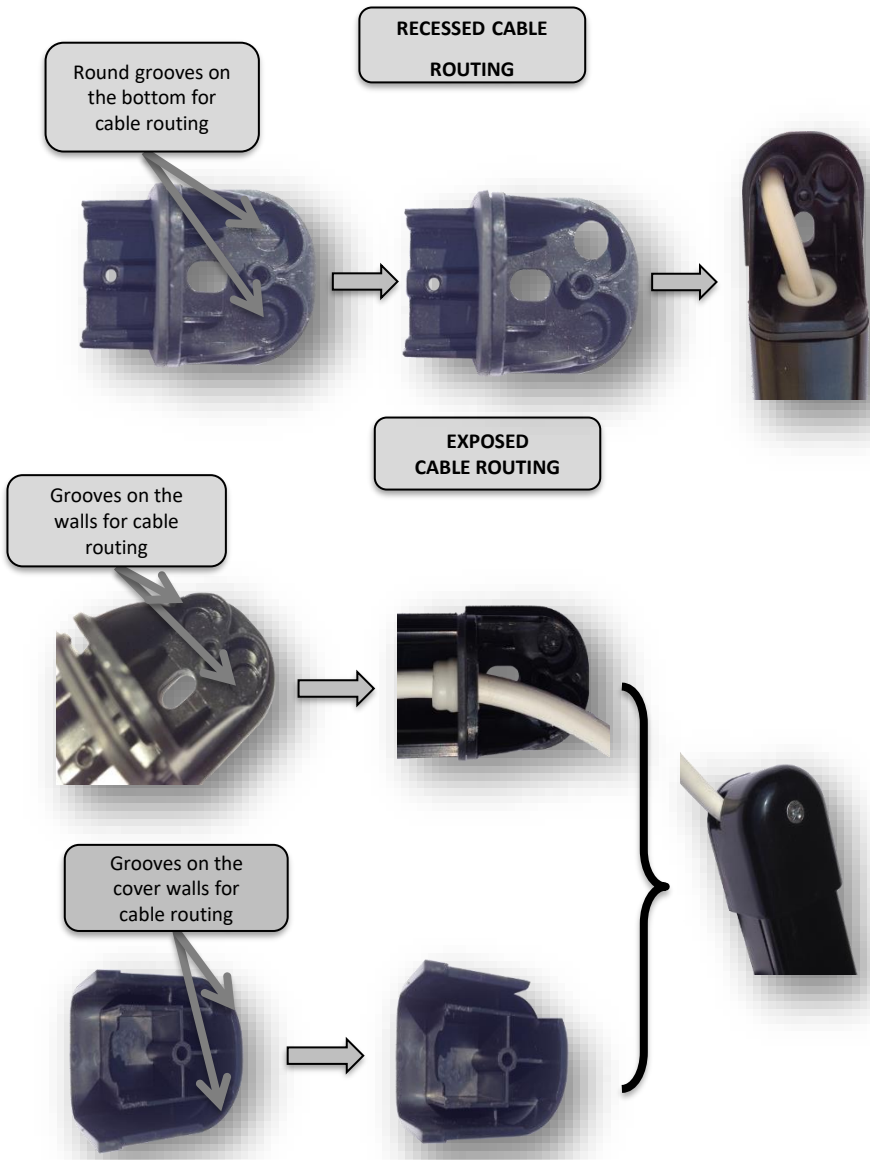
- Insert the concentric cable grommet in the appropriate hole.



- 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.

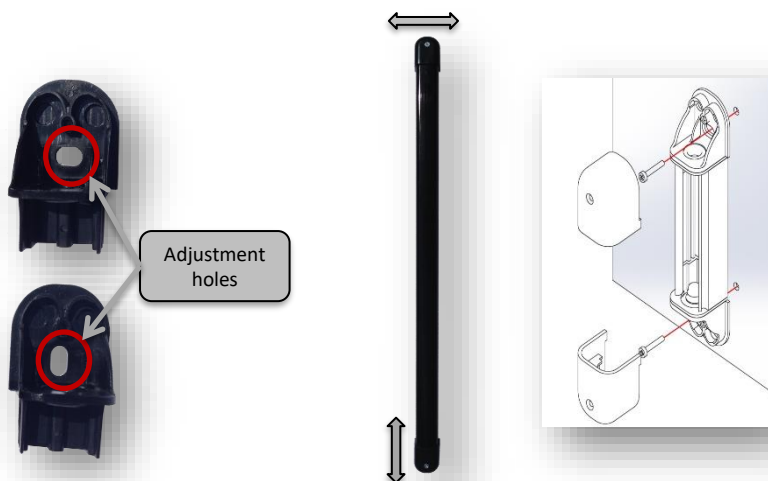




- On the lower cover of the column, make a small incision to ensure the drainage of rainwater that could accumulate inside the closure.



- Fix the whole structure to the wall; it is possible to make small adjustments both horizontally and vertically thanks to the special holes positioned on the caps.



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



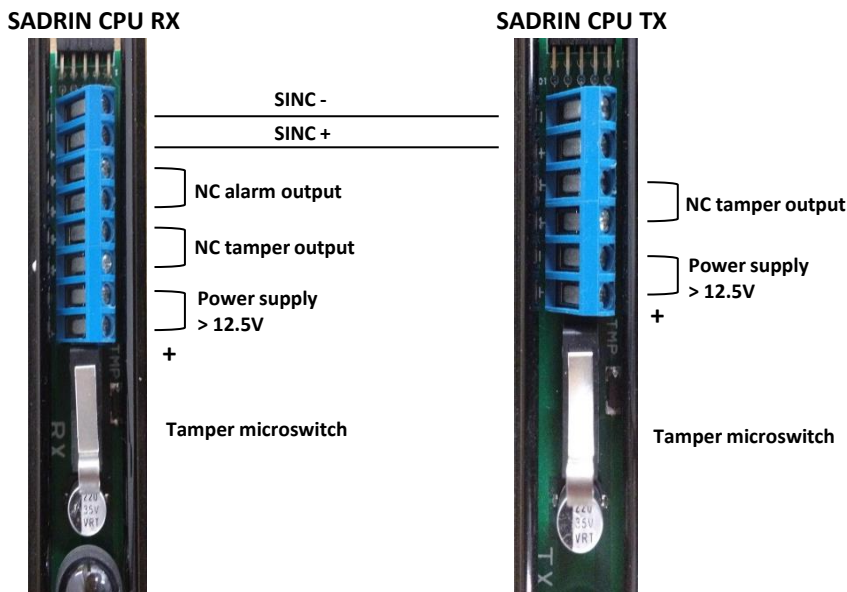
## 7. Wiring

### 7.1 Type of cable

It is recommended to always use a SHIELDED cable of adequate cross-section for the power supply, with the braiding connected to the negative of the terminal board, plus the signals towards the alarm control unit.

### 7.2 Connections

**It is mandatory to connect the synchronism cables between the RX column and the TX column as shown in the figure**



The barrier power supply must be higher than 12.5Vdc. Also make sure that the negatives of the columns are in common.

The sizing of the cables depends on the consumption of the columns and on the distance between the columns and the power supply.

We recommend making a star-shaped connection to the power supply to avoid voltage drops on the cables.

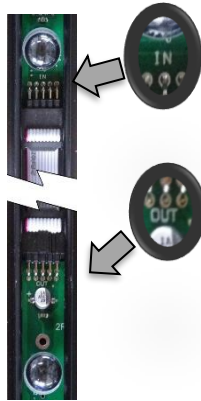
We recommend using linear power supplies.

On the CPU TX and RX boards there are the first 2 Beams, all the electronic logical operation, programming and management, i.e. the minimum composition of these barriers.

It is possible to reach the maximum number of 10 Beams, with the expansion boards connected with flat-cables of different sizes depending on the height of the columns.

### 7.3 Expansion board wiring

In case of insertion or removal of expansion boards, make sure they are connected in the correct direction and correctly set the DIPs on the 10 dip unit as shown below.



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

## 8. Programming and commissioning

### 8.1 Powering the barriers

Position the optics at the desired height by acting on the screws on the circuits, make the connections to the terminal boards and seal the cable routing to prevent the entry of water and insects.

Make sure that the screws are tight, so that there is electrical contact between the board and the metal profile that acts as a screen against disturbances, then power the columns.

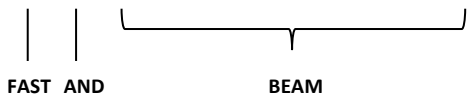
Since the distances involved are very limited, the alignment of the optics is automatic, without the need for special attention.

### 8.2 Setting and functioning

E.g. Barrier in AND with a total of 4 beams



	1	2	3	4	5	6	7	8	9	10
ON		■	■	■						
OFF	■				■	■	■	■	■	■

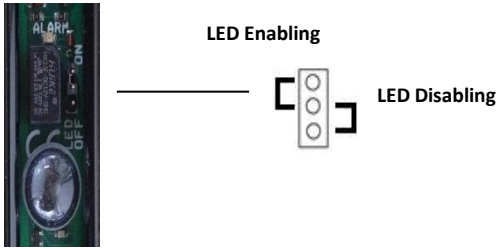


- **FAST:** Fast single beam detection
- **AND:** Double beam detection
- **BEAM:** Activation of expansion board optics

The SYNC LED indicates by continuous flashing the correct wiring and functioning of the synchronisms between transmitters and receivers.



At the end of the test, the LED indicators can be disabled by moving the indicated jumper on the CPU boards.



Intervention time setting with programming DIPs:

FUNCTION	DIP POSITION	DELAY
AND	AND - ON	500ms
	FAST - OFF	
FAST	AND - OFF	100ms
	FAST - ON	
NORMAL	AND - OFF	250ms
	FAST - OFF	

## 9.Appendix A:Sadrin SD2 Kit

Bracket accessory with adjustable joint

### 9.1 List of components



No.	QTY	DESCRIPTION
1	2	Upper fixing
2	2	Lower fixing
3	2	Upper cover
4	2	Lower cover
5	4	Insert
6	4	Gasket for insert
7	4	Joint block grub screw
8	4	Lock screw
9	2	Tamper

The optional joint accessory is necessary when the barrier is positioned on the facade but as the internal optics cannot be rotated, the two columns must be rotated so that the optics can be seen from the front.

## 9.2 Assembly

1. Insert the square gasket into the insert



2. Insert the tamper in the appropriate fixing point



3. Connect the tamper cable to the motherboard by passing it inside the fixing and the insert



4. Put the insert into the aluminium profile



5. Secure the column to the wall using the slots on the fixing bases



6. Insert the grub screw at the head of all the fixings



7. Perform the column alignment procedure

8. Tighten the grub screw to block the rotation, until it comes flush with the plastic



9. Insert the plastic profile into the upper cap insert



10. Pry up the plastic profile and insert it into the lower cap insert



11. Press the plastic profile and insert it into the aluminium structure along its entire length

12. It is possible to cut the special groove located on the lower cover to facilitate any water draining that could infiltrate



13. Close the caps with the screws provided

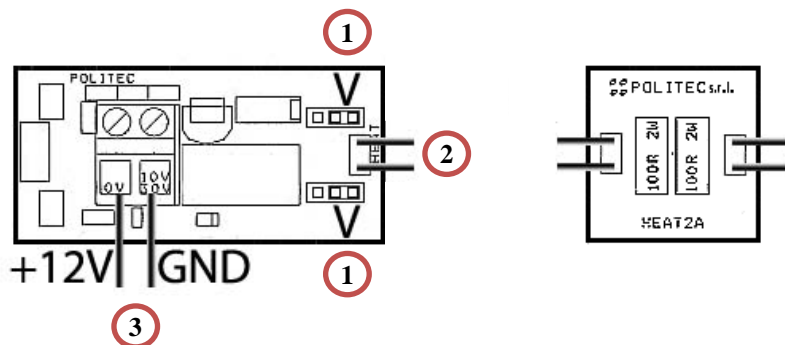




## 10. Appendix B: Sadrin Ther Kit

Optional accessory for thermostated heaters (used for temperatures  $<-10^{\circ}\text{C}$ )

N.B. The kit can be assembled at the factory if it is requested when ordering.



1. Check that the jumpers on the thermostat board are both set to V
2. Connect the cable from the thermostat connector to the column heaters (50ohm)
3. Power the 12Vdc board respecting the polarity
4. The kit consists of two thermostats and a variable number of mini heating resistors, based on the number of beams in the columns

**N.B.** Since a voltage of 12Vdc is required with rather significant consumption, it is recommended to power the thermostating system from a source even without buffer batteries but different from the power supply for the electronic part of the barrier, normally equipped with buffer batteries to ensure operation in the absence of mains supply.

## 11. Technical specifications

	SADRIN 205	SADRIN 410	SADRIN 620	SADRIN 825
<b>Outdoor range *</b>	From 0.4 to 15 metres ( <b>MAX. 5 metres for white version</b> )			
<b>Synchronism</b>	Wired			
<b>Double beam optic</b>	SYSTEM with 15mm lenses in AND			
<b>Optical sensors</b>	Pulsed type beams with a wavelength of 950 nm			
<b>Configuration **</b>	2TX+2RX	4TX+4RX	6TX+6RX	8TX+8RX
<b>Consumption per pair</b>	60mA	90mA	120mA	150mA
<b>Beam arrangement</b>	Parallel			
<b>Power supply</b>	13.8Vdc			
<b>Optional heater kit</b>	For T down to -50 °C. 12Vdc (from 560mA to 3920mA per pair)			
<b>Alarm Output</b>	Relay with NC clean contacts (on RX column)			
<b>Anti-tampering output</b>	Tamper opening on both columns			
<b>Ingress protection rating</b>	IP54			
<b>Profile dimensions WxDxH</b>	25mm x 24mm from 500mm to 4000mm			
<b>Dimensions with caps ***</b>	29.5mm x 26.6mm (WxD)			
<b>Weight per column</b>	250g	500g	750g	1000g
<b>Warranty</b>	2 years			

\* A white screen reduces the maximum range to 1/3 of a black screen

\*\* The maximum beam configuration is 10TX and 10RX

\*\*\* Upon request, flat caps with overall dimensions equal to the cross-section of the column can be supplied



## 12.FAQ

<b>The system remains in alarm</b>	Check that the expansion boards are well connected with the flat cable
	Check that the DIP configuration is correct
	Check that the distance is within the requirements (especially if with a white profile)
<b>The system gives false alarms</b>	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.If necessary, try to invert TX/RX or remove the lenses for distances of less than 5m
	Make sure the power supply is > 12.5V
	Wherever possible use a linear power supply
	If the distance between the columns is less than 1.5m, remove the lenses on the optics

## 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.



