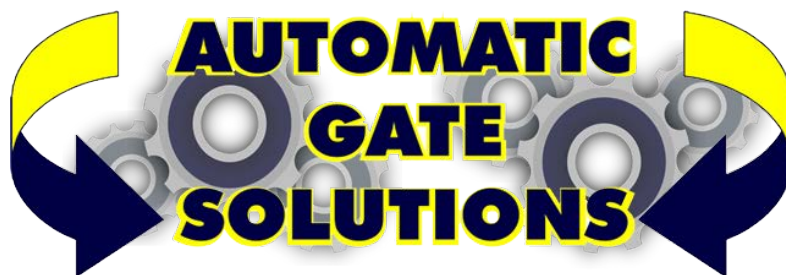


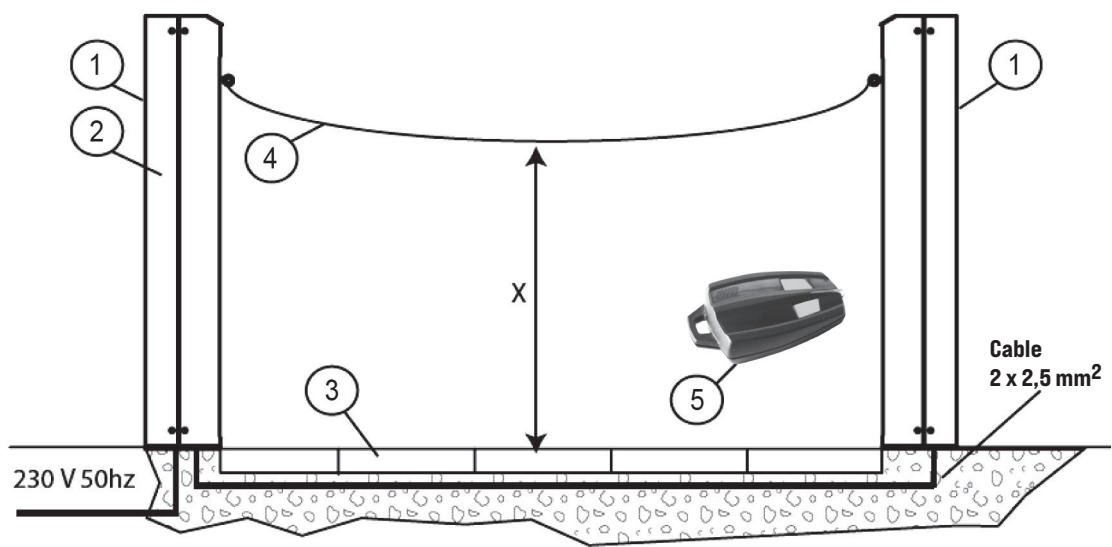
# DROPGATE



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# TECHNICAL DATA / INSTALLATION

## LAY-OUT



1

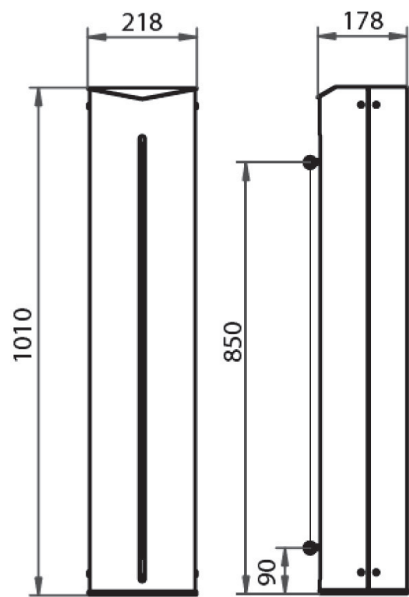
- Description:
- 1- DROPGATE Bollards
  - 2- Control Board
  - 3- Ground - Conduit under
  - 4- Chain or Cable
  - 5- Remote Control (Optional)

Opening [m]	4	6	8	10	12	14	16	18	20
Height in the middle X [cm]	75	70	65	60	55	50	45	40	35

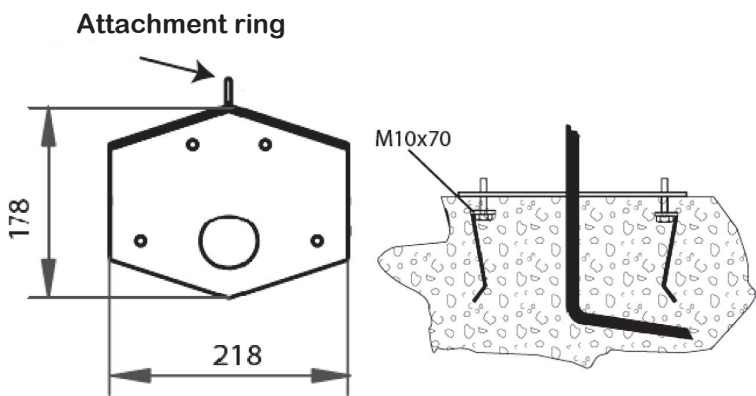
 The value in the table has been determined using a chain of 400 g/m.

TECHNICAL DATA		STOPPER
Power supply		240 Vac 50/60 Hz
Absorption	A	1
Motor Power	W	60
Force	Nm	645
Service	%	50
Operating temperature	°C	-20 ÷ +55
Protection Degree	IP	34
Lubrication		Permanent
Weight	kg	25
Max chain weight	kg	8,5

## DESCRIPTION AND DIMENSION OF THE COLUMN



2



3

## INSTALLATION

All measures are expressed in millimeters unless otherwise indicated.

### PRELIMINARY CONTROLS

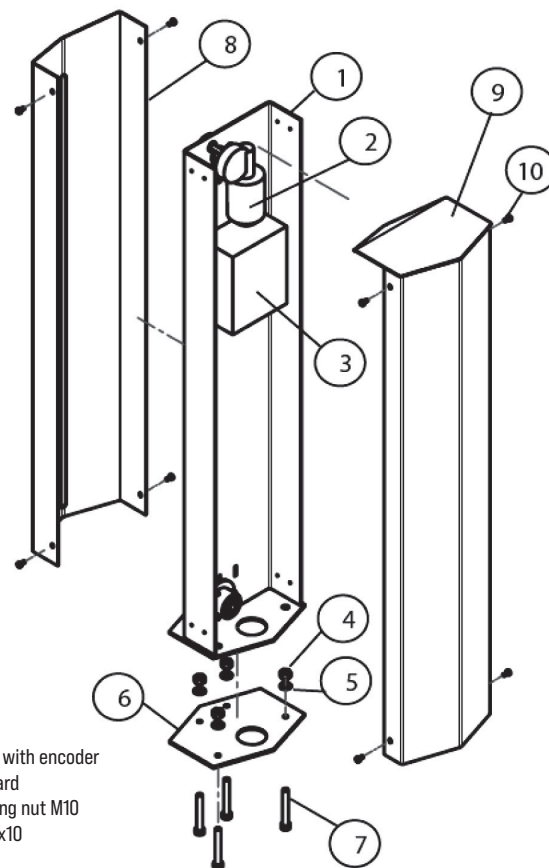
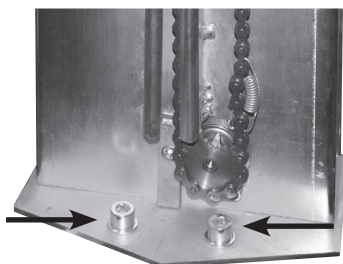
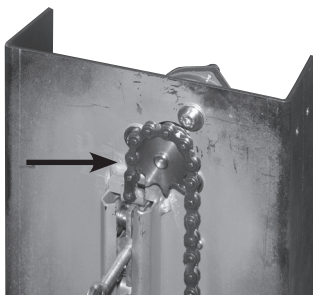
- Control the stability and solidity of the zone where the columns are going to be fixed.
- Use an omnipolar interrupter with contact distance of at least 3 mm.
- The connection to the power supply must be separated from the connections to the security and command devices.

### INSTALLATION OF THE COLUMN (fig. 1, fig. 3, fig. 4)

1. Screw in the base for 1,5 - 2,0 cm the 4 screws M10x70 supplied.
2. Place then the base on the previously prepared base of cement (fig. 3).
3. The upper part of the base should be clean and perfectly horizontal.
4. Pass the plastic tubes of the cables through the central hole on the base and check again the stability of the base.
5. Unscrew the 8 screws (10) and take off the frontal cover (8) and the rear cover (9) of the column (fig. 4).
6. Place now the column structure on the base.
7. Fix now the column to the base with the 4 washers (5) and 4 nuts (4).
8. Fix the frontal covers (8) of both columns with 4 screws (10).
9. Now you can fix the chain to the rings on both columns respecting the level X in the middle of the chain barrier as shown fig. 1.

### HALF-YEARLY MAINTENANCE

1. Cut the power supply off and disconnect the batteries, if present. Clean and grease the guide and the pignons internally.
2. Grease the internal transmitting chain (fig. 5).
3. Check the fixation nuts (fig. 6).
4. Control the electrical connections.
5. Supply the power again.
6. Check out the correct functioning of the obstacle recognition (encoder system).
7. Check out the correct functioning of all and of the security commands.
8. Replace any worn parts.



#### Description:

- 1 - Column
- 2 - Gearmotor with encoder
- 3 - Control board
- 4 - Autoblocking nut M10
- 5 - Washer 20x10
- 6 - Base plate
- 7 - Screw M10x70
- 8 - Frontal cover
- 9 - Rear cover
- 10 - Closing screw M5x10

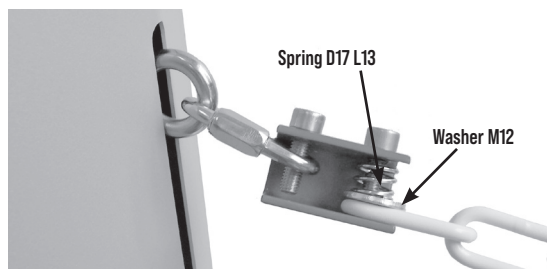
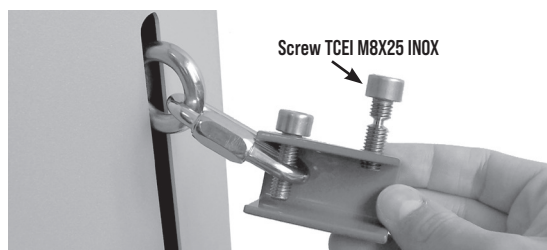
4

### INSTALLING THE PROTECTION SYSTEM (CVA2208)

5



6



# DROPGATE CONTROL BOARD

## 1. INTRODUCTION

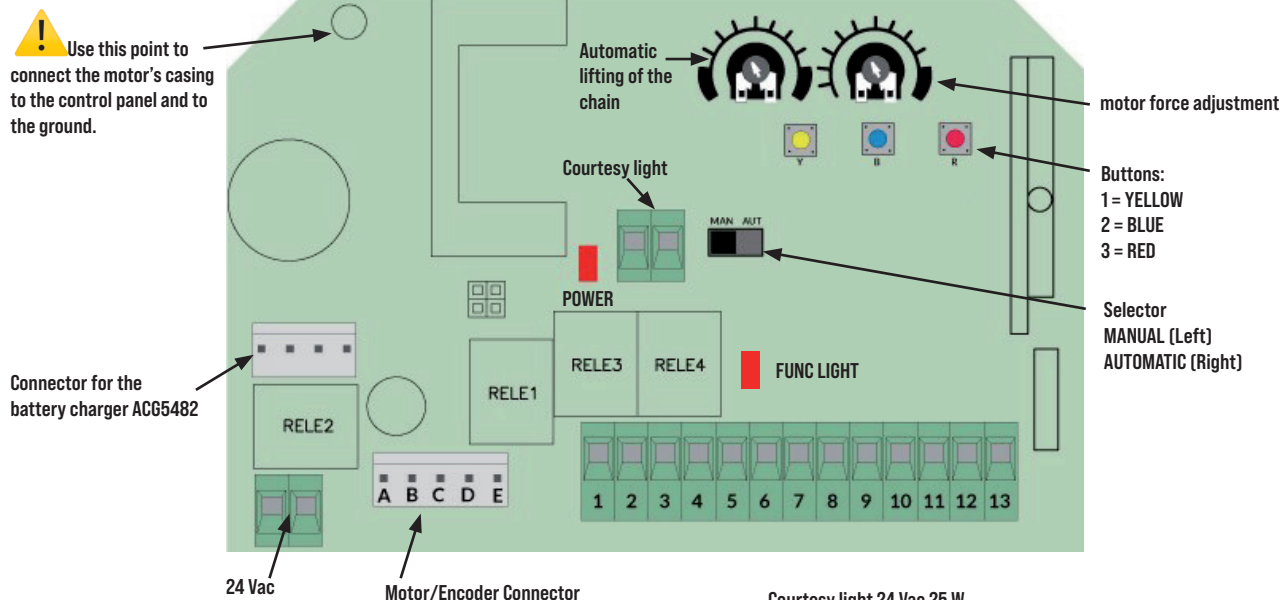
STOPPER is a control board dedicated to the movement of the chain barrier with 24Vdc motor. The coexistence of various types of safeties such as the control of the absorbed power by the motor and the velocity of the motor allows a rapid intervention of the anti - squeezing security [sense].

Through the encoder present in the motor it is possible to control the exact position of the chain and to use it without mechanical limit switches.

The control board has inputs for mechanical limit switches, for the step by step button, for the pedestrian opening, for the safety photocells and the output for flashing light 24 Vac. The unit also allows the regulation by trimmer both the automatic chain lifting and the motor force.

Action can control motors at 24 - 30 Vcc with a maximum consumption of 7A.

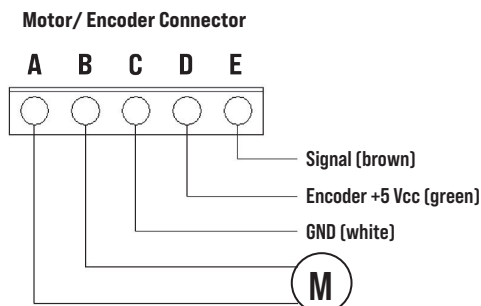
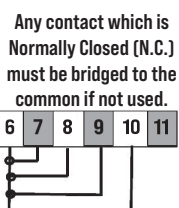
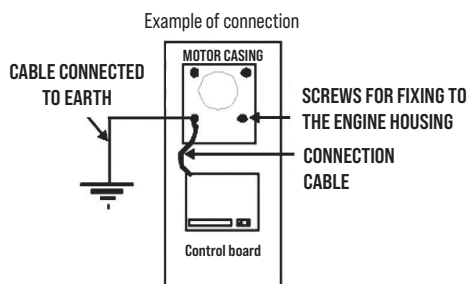
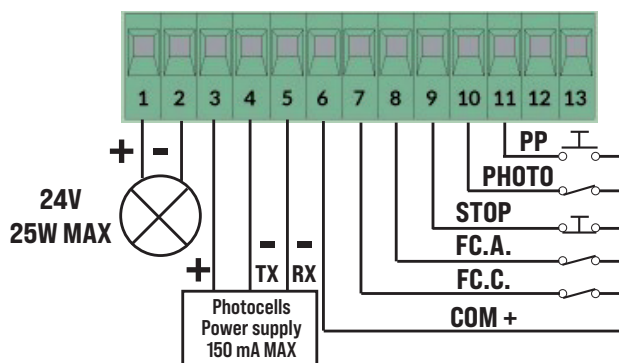
## 2. CONFIGURATION



Courtesy light 24 Vac 25 W  
Active during handling and for the following 3 minutes

## 3. ELECTRICAL CONNECTIONS

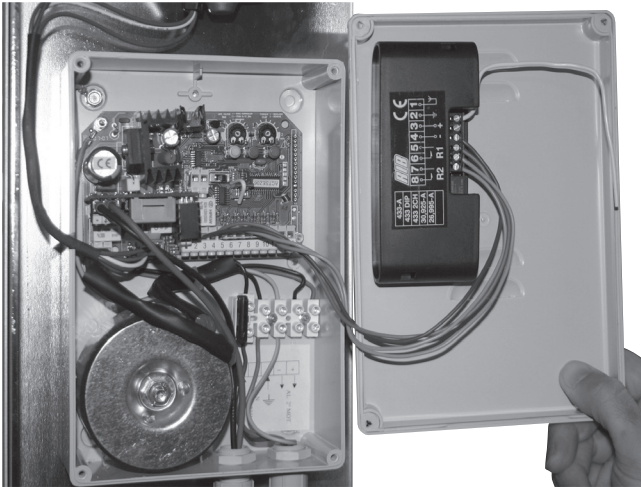
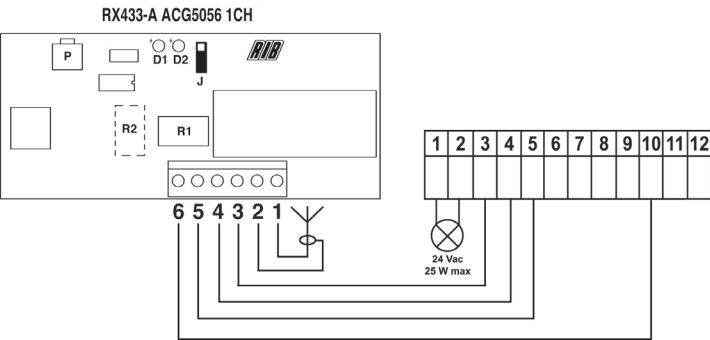
Terminal	Function	Setting
1-2	Flasher output	Out: 24 Vac 25 W MAX
3	Positive power supply for transmitter and receiver of the photocell	Out: +24 Vcc 150 mA MAX
4	Negative power supply for photocell transmitter	Out: GND TX
5	Negative power supply for photocell receiver	Out: GND RX
6	Common for commands and safeties	Common
7	Limit switch of the chain raising	Normally closed (NC)
8	Limit switch of the chain lowering	Normally closed (NC)
9	STOP button input	Normally closed (NC)
10	RX photocell contact input	Normally closed (NC)
11	Step by step button input	Normally open (NO)
12	Not to use	
13	Not to use	



**!** to obtain a correct working of the accessories (photo devices in particular) connected to the control board, it is very important that the entire system (motor + control board) has only one mass reference system.

You must therefore connect a small cable between the motor casing and the control box in the point shown in the figure.  
If there is a good ground connection it is advisable to connect all the system to it.

3.1 CONNECTIONS TO THE OPTIONAL RADIO RECEIVER



Please refer to the S433 radio receiver manual  
After the radio receiver has been connected, it can be glued, thanks to its bi-adhesive to the control board plastic top box, to the interior side.

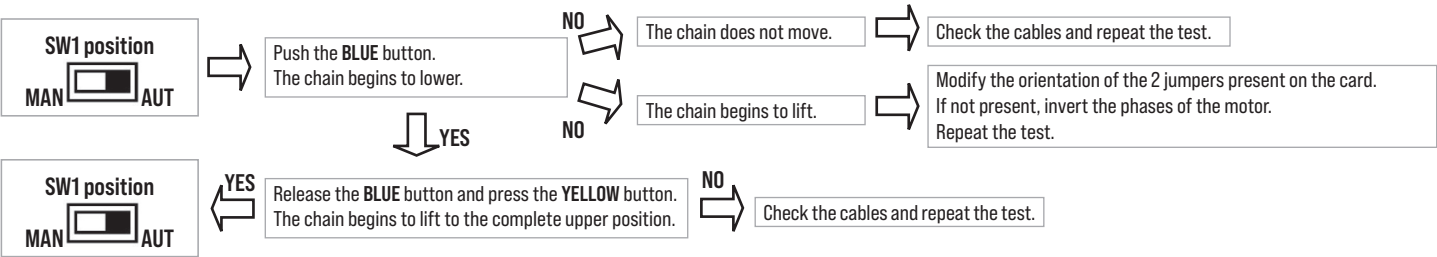
4. SETTINGS

This chapter contains important informations for a secure and correct installation.  
Follow exactly all the instructions because a wrong installation can cause serious damages to the automation.

4.1 PRELIMINARY CHECKS

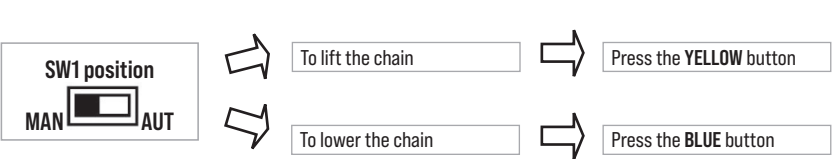
Before powering up the control panel, check the wirings.  
In particular check that there are no damaged wires, short-circuits between wires and that all the accessories are connected to the terminal board in the points indicated in the diagram on the previous page.  
Once the power supply is on:  
1. Check that the **POWER led** is steady on and that the chain is raised.  
2. Check that the radio receiver is properly connected.  
3. Check that the motor and the encoder connections are correct by following the procedure described below.  
This procedure allows to check the rotation sense of the motors and any possible blockages during the movement of the chain.  
It is important to carry out this check in order to locate any wiring errors or anything else that can jeopardize.

**!** During this handling the photocells, the radio and the buttons are NOT active.



4.2 MANUAL MODE (HOLD-TO-RUN)

This procedure must be carried out ONLY by the installer and ONLY during the setting up of the system.  
This movement must be carried out only if it is not possible to fully raise the chain automatically.

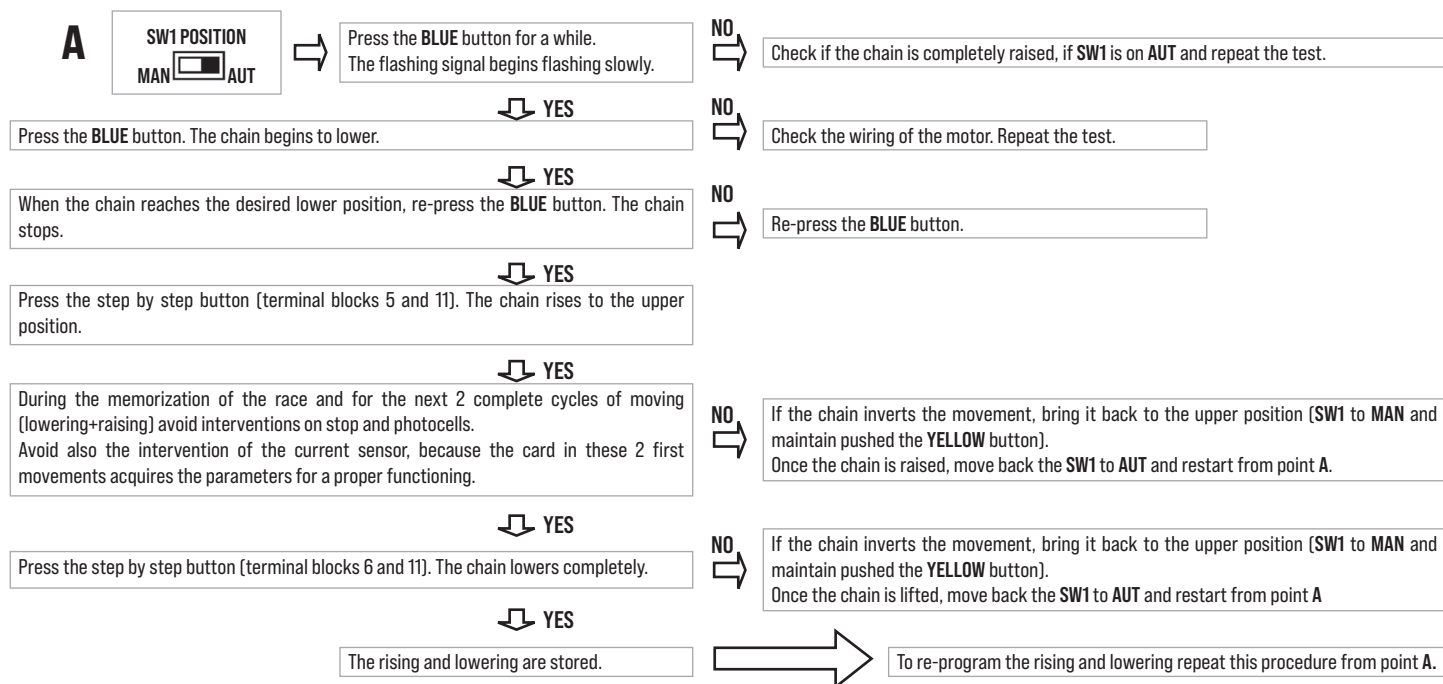


**!** the reactivation of the automatic mode (AUT) implies the use of the reached position as totally lifted position.  
**!** During the movements in manual mode (MAN), the current sensor is not active.

### 4.3 PROGRAMMING THE CHAIN RACE

This procedure must be carried out **ONLY** by the installer and **ONLY** during the setting up of the system.

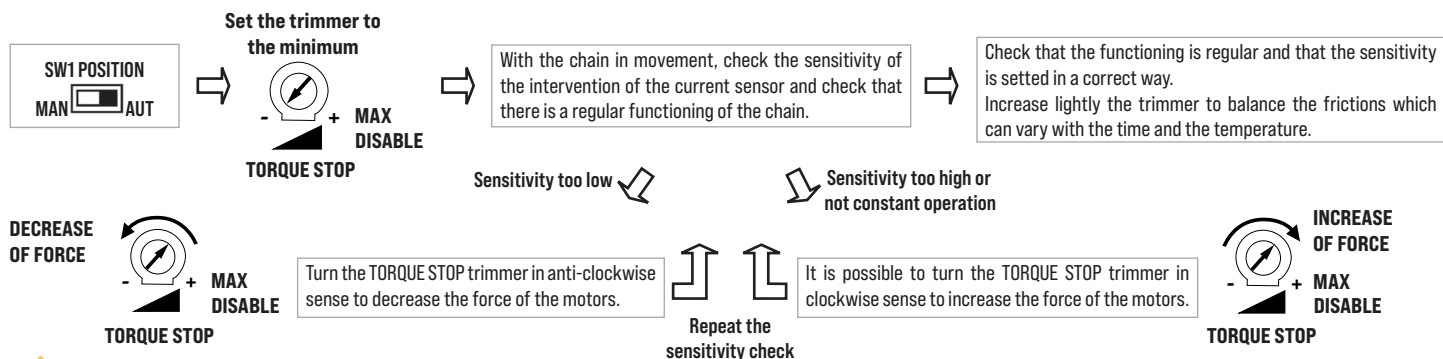
For correct programming, before making changes, always return the chain to the high position (see paragraph 4.2).



### 4.4 ADJUSTMENT OF THE CURRENT SENSOR

This procedure must be carried out **ONLY** by the installer and **ONLY** during the setting up of the system.

The movement can be performed in particular situations in which it is not possible to move the chain to the lifted position in automatic mode.

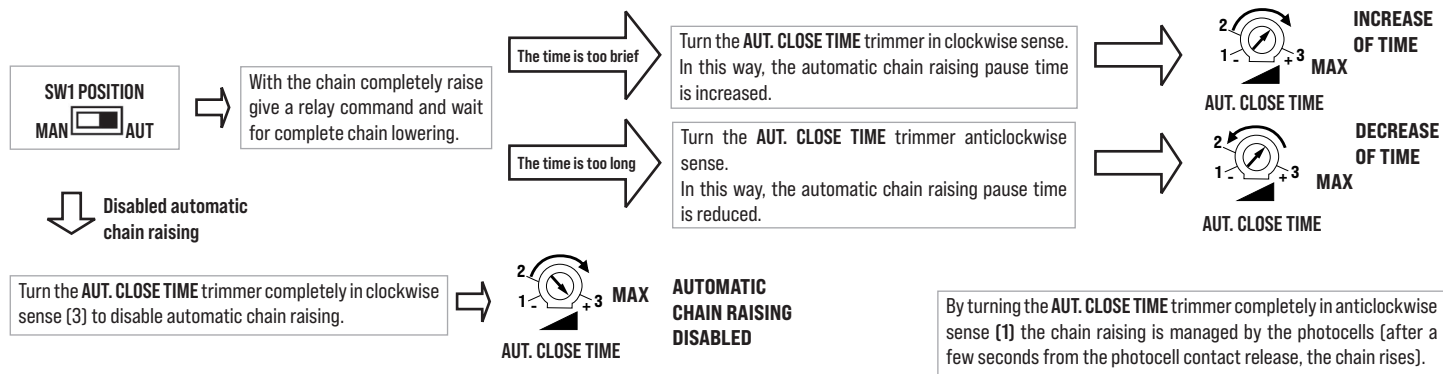


**!** With the trimmer in disabled position (flashing light turned on), the current sensor is excluded.

### 4.5 REGULATION OF THE AUTOMATIC RE-CLOSURE TIME

This procedure must be carried out **ONLY** by the installer and **ONLY** during the setting up of the system.

The movement can be effectuated in particular situations in which it is not possible to move the chain to the lifted position in automatic mode.






## 4.6 RESYNCHRONIZATION.

This operation must be carried out **ONLY** if it is repeatedly observed that the chain does not reach the correct climbing position (or if it try to go beyond it).

The resynchronization operation consists in the upward activation of the chain at reduced speed in order to find the total climb point.

The movement stops automatically at the point where a mechanical stop is found that hinders its movement. This position is identified as the end of climb position.

- 1 - Press the step-by-step button for more than 6 seconds, then release it.
- 2 - The chain stops momentarily (if moving) and then restarts uphill at a reduced speed (if it does not happen, restart from point 1)
- 3 - The window stops in the presence of a mechanical stop, memorizing the end of ascent position at this point.

 **during the resynchronization operation, the intervention of the current sensor is interpreted as identification of the end-of-raise position. To avoid involuntary intervention, the sensitivity of the sensor must be significantly reduced compared to normal operating conditions.**

## 5. ADVANCED FEATURES

This procedure must be carried out **ONLY** by an installer and **ONLY** during setting up of the system.

For correct setting, before carrying out changements, bring the chain completely up (see paragraph 4.2).

### 5.1 RESET

In case it is necessary to reset the control board, proceed as follows (total erasing of the race data and deactivation of pre-blinking, photocell test and multi-user functions):

1. Remove power supply from the system.
2. Set the selector **SW1** to **AUT** (automatic).
3. Press the **RED** button.
4. Keep it pressed while reconnecting the power supply.
5. Keep it pressed until the **FUNC LIGHT** led lights up for the 3rd time.
6. Release the button and wait until the **FUNC LIGHT** led turns off.

The reset is done

## 6. ENABLING AND DESABLING THE PRE-FLASHING, PHOTOCELL TEST AND THE MULTI-USER FEATURES

To modify the status of any of these features it is necessary to enable the setting mode.

During the learning phase the control board automatically goes through all possible features in which it is possible to intervene.

The **FUNC LIGHT** led on the control board show the selected function with a different number of flashings.

The passage from a function to another one is made automatically (it is enough to maintain always pressed the **RED** button).

The control board starts selecting the first function (showed by 1 flashing), successively, keeping pressed the **RED** button you pass at the second function (showed by 2 flashings) and so on.

To enable the setting/learning mode proceed as follows:

1. Raise the chain to its upper position (**SW1** has to be set on **AUT**).
2. Press and keep pressed the **RED** button.
3. After 4 - 5 s the led **FUNC LIGHT** does a series of 8 flashings (notifying the next entry to the learning mode). Once the series of flashings ends, the control board is in the learning mode. Do not release the **RED** button yet.
4. Once found (through the number of flashings of the flashing-light led) the function that you want to modify, release the **RED** button. In this way the function is selected. Once selected the function, the **FUNC LIGHT** led puts in evidence the setting by flashing with a slow frequency (1 flash each second) or with a rapid frequency (2 flashes each second) as pointed out on the next table.
5. Press now the button correspondent to the new status you wish set for the selected function (see table). The frequency of **FUNC LIGHT** led flashes will vary according to the chosen mode.

At this point it is possible to modify further features or, if you have ended, go out from the setting phase.

In case you want to modify other features, press and keep pressed the **RED** button.

After few seconds, the control board will start again to select in sequence the several functions. If you want to exit from the learning mode, it is sufficient to set **SW1** to **MAN**, wait 1 - 2 s and set **SW1** to **AUT**.

### 6.1 PRE-FLASHING FUNCTION

The chain movement is always signaled by a pre-blinking, advising the user that the chain is next to move.

### 6.2 MULTI-USER FUNCTION

During the opening phase of the chain, every other command is ignored.

Once opened the chain (completely down, it is possible to close it using the step-by-step command or using the automatic re-closure.

During the closing phase, a step-by-step command blocks and inverts the movement.

### 6.3 PHOTOCELL TEST FUNCTION

**Connect just one pair of photocells (max 150 mA)**

Every time the motor is switched on, the control board automatically controls if the photocells are functioning properly.

This operation increases the security system.

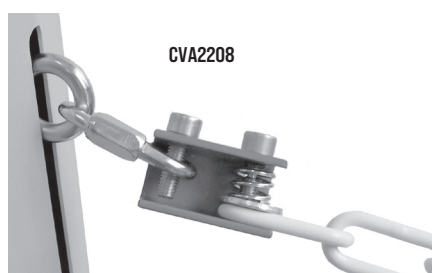
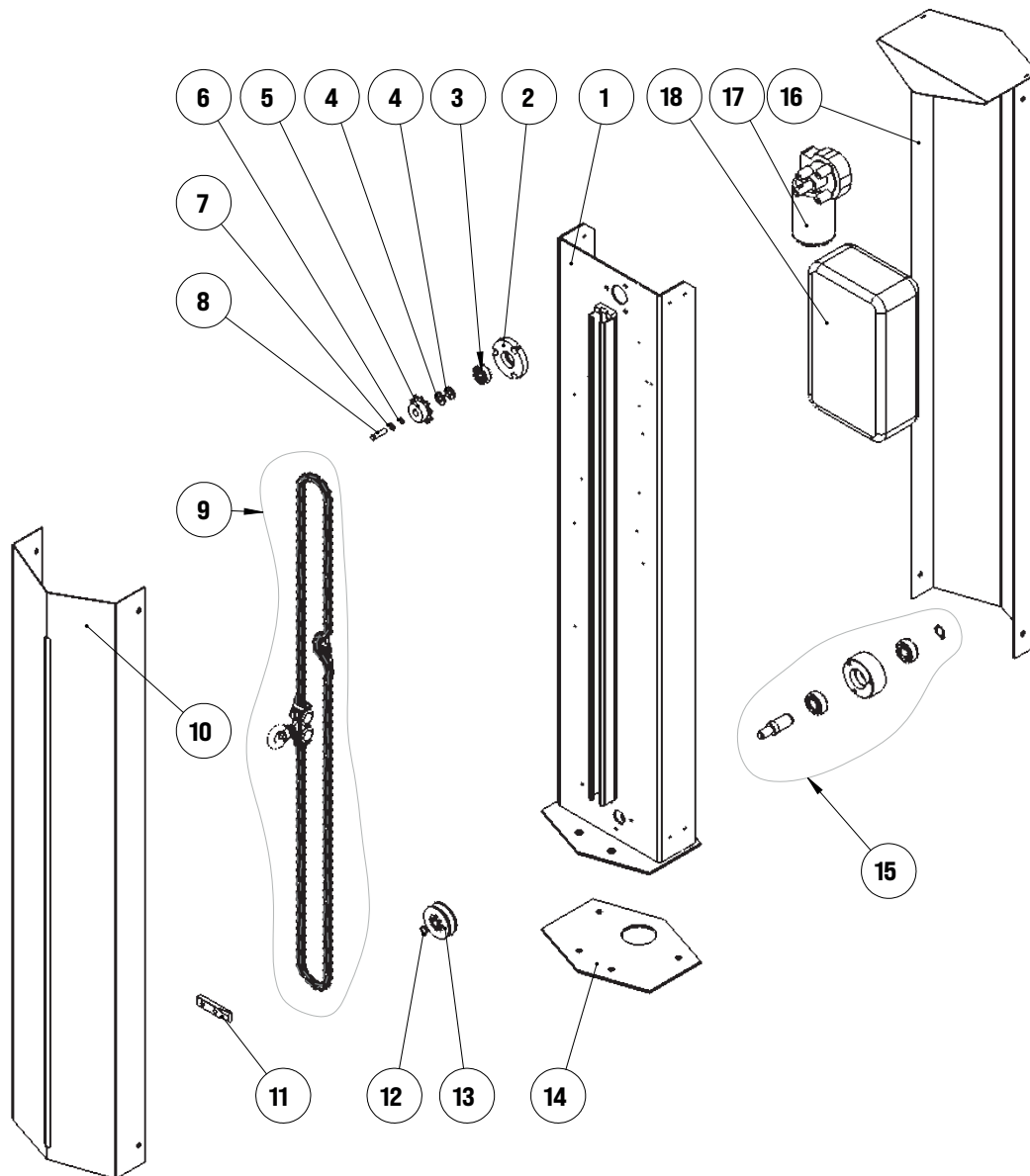
If a photocell is damaged (for instance: output relay stuck) or in case of undesired photocell input short circuit.

This test is performed immediately after that the control board has received a command to move, but before power is supplied to the motor.

No. of flashes	function selected	FUNC LIGHT LED	YELLOW button	BLUE button
1	Pre-flashing	Slow = disabled / Fast = enabled	to enable	to disable
other 2	Photocell Test	Fast = disabled / Slow = disabled	to enable	to disable
other 3	Multi-user setting	Slow = disabled / Fast = enabled	to enable	to disable
other 4	Reserved			
other 5	Reserved			
other 6	Reserved			

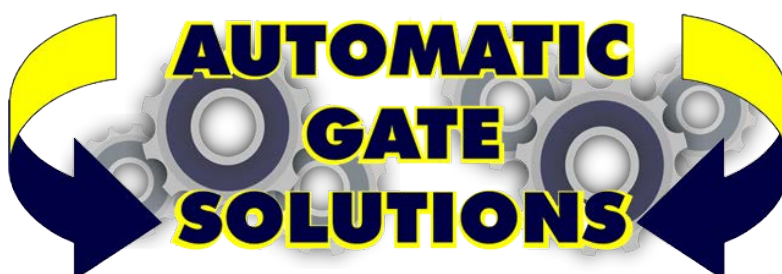
## 7. PROBLEMS AND THEIR SOLUTIONS

Problem	Possible cause	Solution
Once a lift command is pressed, the chain does not move.	Lack of electrical power supply	Check the presence of the electrical voltage and all the connections to the electrical network
	Burned fuse	Replace the fuse with a similar one
Once a lift command is pressed, the chain rises for brief time and then stops.	Incorrect encoder connection	Check the connections of the encoder's wires
The programming procedure cannot be activated.	The chain is not completely lifted.	Lift the chain with the manual procedure. If the chain is already lifted, turn <b>SW1</b> to <b>MAN</b> , wait 1 s, turn <b>SW1</b> to <b>AUT</b> and try again.
The control panel is powered but the chain does not move.	A normally closed input is not active	Check the photocell, stop and limit switch inputs. If not used, they must be bridged to the common.



CVA2208

Pos.	Codice	Descrizione	Q.tà
1	CVA2280	TELAIO LAMIERA ZINCATA	1
2	CVA2297	FLANGIA ALLUMINIO PER SUPPORTO MOTORE	1
3	CVA2283	CUSCINETTO	1
4	CVA2339	RONDELLA PIANA M10 ZN	2
5	CVA2279	PIGNONE 10 DENTI X TECNOCAT	1
6	CVA2398	RONDELLA PIANA M4 ZN	1
7	DRL4X16Z	RONDELLA PIANA M4x16 ZN	1
8	DTC4X12I	VITE TC + M4X12 Inox	1
9	CVA2252	GRUPPO CATENA CON CARRELLO	1
10	CVA2303	CARTER ANTERIORE VERNICIATO	1
11	CVA2399	PIATTO DI FERMO	1
12	CTC1117	SEEGER EST 15	1
13	CVA2306	RUOTA RINVIO CATENA IN NYLON	1
14	CVA2202	CONTROPIASTRA	1
15	CVA2574	GRUPPO RINVIO PULEGGIA	1
16	CVA2304	CARTER POSTERIORE VERNICIATO	1
17	CVA2254	MOTORIDUTTORE CON ENCODER	1
18	AC07076	QUADRO ELETTRONICO <05/25	1
18	AC08013	QUADRO ELETTRONICO >06/25	1



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