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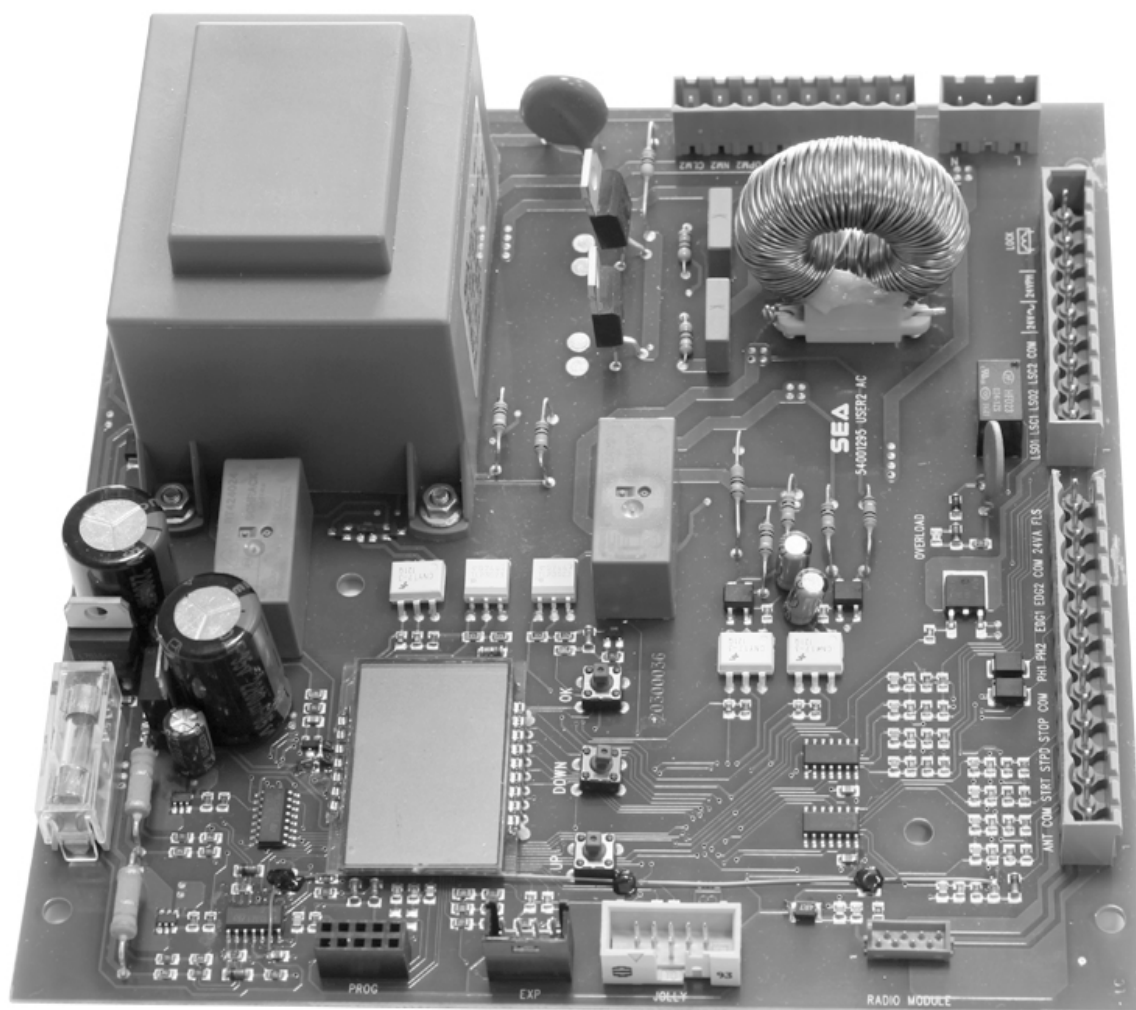
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**English**

# **GATE 2 DG R1B**

(Cod. 23023025)

***ELECTRONIC CONTROL UNIT FOR 1 OR 2 230V/115V MOTORS***



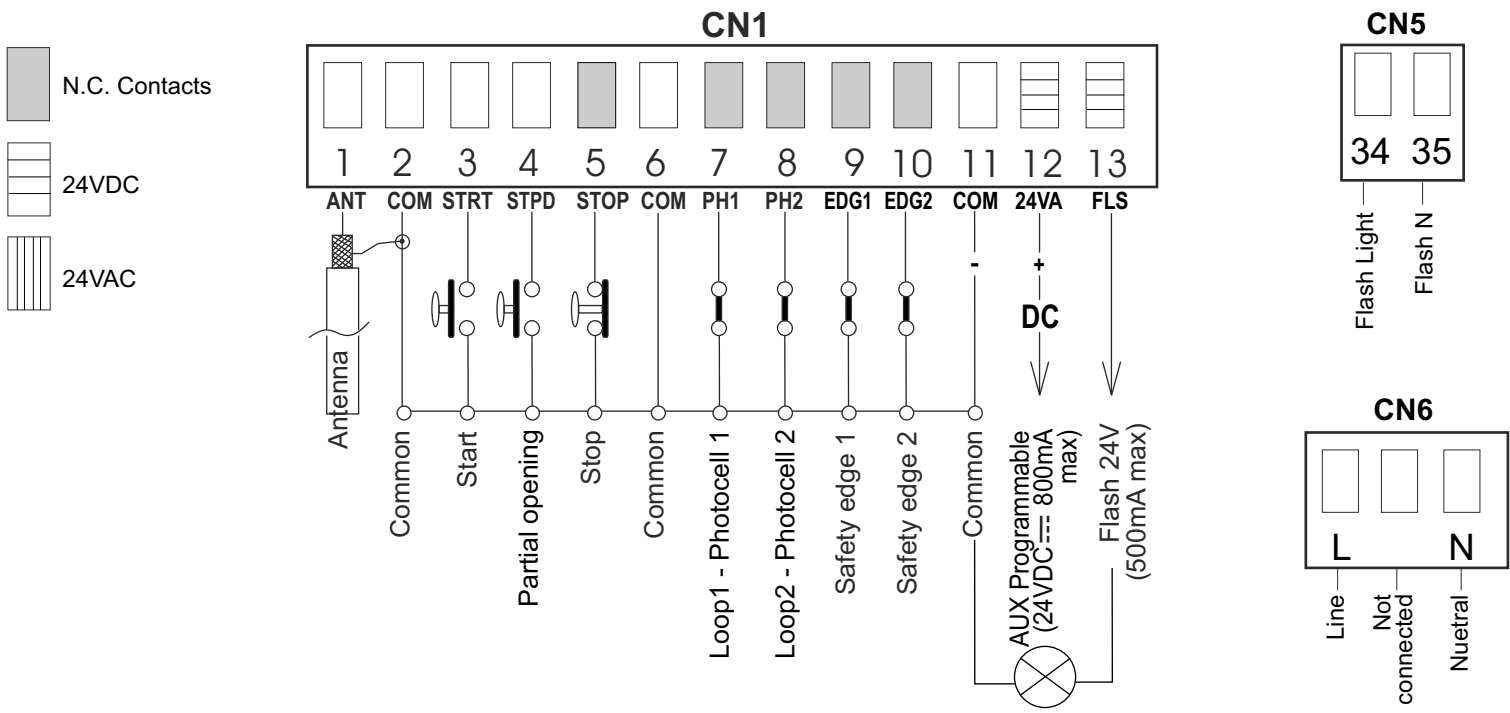
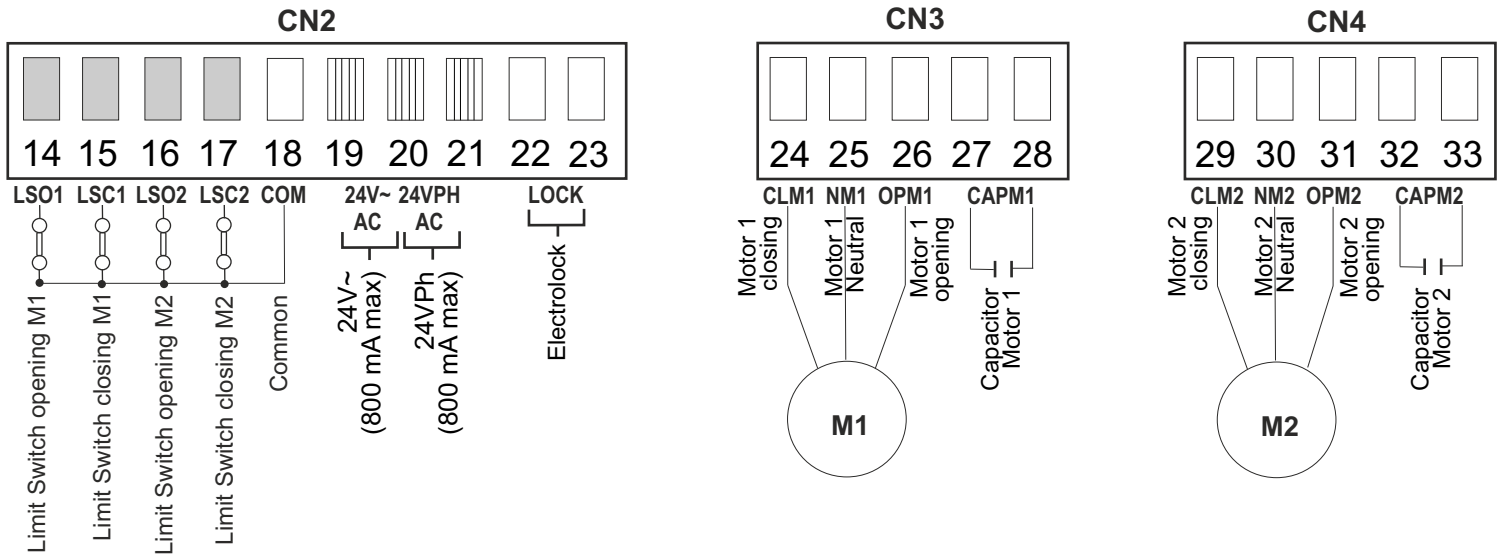
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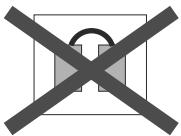


# CONNECTIONS



## NO JUMPERS NEEDED ON N.C. CONTACTS

**WARNING:** Automatic detection of not used N.C. inputs (Photocells, Stop, Limit switch and Edges)



To reactivate an NC contact you follow this procedure:

Go to  press the button  for 5 seconds then you enter

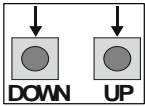
the **INPUT CHECK MENU**, where you can check the operating status of all inputs

No need to repeat self programming after reactivation of N.C. contacts.

**THE HEREIN REPORTED FUNCTIONS ARE AVAILABLE STARTING FROM REVISION 02.04 COMPATIBLE WITH JOLLY 3 ONLY.**

**GATE 2 DG R1B MENU FUNCTIONS TABLE**

MENU		SET	DESCRIPTION	DEFAULT	SET VALUE
1	LANGUAGE	<i>Italiano</i>	Italian	<i>English</i>	
		<i>English</i>	English		
		<i>Français</i>	French		
		<i>Español</i>	Spanish		
		<i>Dutch</i>	Dutch		
2	TRANSMITTERS	<i>Start</i>	Start	<i>Start</i>	
		<i>Partial opening</i>	Partial opening		
		<i>External module</i>	External module		
		<i>Stop</i>	Stop		
		<i>Unloch</i>	Storing of a command for unlocking the electric brake	<i>Partial Opening</i>	
		<i>Delete a transmitter</i>	Delete single transmitter		
		<i>Clear memory</i>	Delete transmitter memory		
		<i>End</i>	"Transmitters" menu output		
<i>Bistable Stop</i>	Pressed once, it stops the gate. Pressed twice, it reactivates the START input				
3	MOTOR	<i>Hydraulic</i>	230V hydraulic operators Mini/Half/Full/SuperFull Tank - Compact - SuperCompact - Ara - Joint - Scuti - Lyra - SuperLyra - Sprint - Vela - Vela Industrial - Tire Killer	<i>Mechanic</i>	
		<i>Sliding</i>	230V sliding operators Mercury - Saturn - Boxer - Lepus - Lepus Industrial - Lepus Box - Lepus Sectional		
		<i>Reversible sliding gate</i>	Reversible sliding gate operators Lepus Reversible - Lepus Industrial Reversible		
		<i>Three-phase - Bollards</i>	Operators with Three-phase Module : Lepus (Threephase - Industrial Threephase - Box Threephase - Sectional Threephase) - Big 4000. Bollards: Bull - Super Bull - Block - Super Block		
		<i>Mechanic</i>	230V Electro-mechanic operators Alpha - Surf - Kite - Cougar - Ger - Field - Omega - Song - Tios		
4	ONE SINGLE LEAF *	<i>Off</i>	Disabled	<i>Off</i>	
		<i>On</i>	In ON activates single leaf mode (Motor1)		
5	REVERSE MOTOR	<i>On</i>	In On reverses the opening with the closing and/or vice-versa (Note: both motors and limit-switches are reversed)	<i>Off</i>	
		<i>Off</i>	Off		
6	LOGIC	<i>Automatic</i>	Automatic	<i>Automatic</i>	
		<i>Open-stop-close-stop-open</i>	Step by step type 1		
		<i>Open-stop-close-open</i>	Step by step type 2		
		<i>2 button</i>	Two buttons		
		<i>Safety</i>	Safety		
		<i>Dead man</i>	Dead man		
7	PAUSE TIME	<i>Off</i>	OFF (semi-automatic logics)	<i>Off</i>	
		<i>1 240</i>	Setting from 1 second to 4 minutes		
8	START IN PAUSE	<i>Off</i>	The Start is not accepted during pause	<i>Off</i>	
		<i>On</i>	The Start is accepted during pause		
9	PROGRAMMING	<i>Off On</i>	Times learning start	<i>Off</i>	
10	TEST START	<i>Off On</i>	Start command	<i>Off</i>	
14	RESET	A count-down of 5 seconds will start by keeping pressed the UP button; at its end "INIT" will appear on the display as confirmation of the control board reset			
15	END	Press OK to return to the display of the firmware version and to the one of inputs state			
16	SPECIAL MENU	Press OK to enter the special menu			



## SPECIAL MENU

PRESS AT THE SAME TIME FOR 5 SECONDS TO ENTER OR TO EXIT THE SPECIAL MENU

### SPECIAL MENU FUNCTIONS TABLE GATE 1 DG R2BF

For entering into the special menu move on one of the menu and press the UP and DOWN buttons at the same time for 5 s.  
For exiting the special menu press END or move on one of the menu and press the UP and DOWN at the same time for 5 s.

MENU SP		SET	DESCRIPTION	DEFAULT	SET VALUE
26	LEAF DELAY IN OPENING	Off 6	Setting from OFF to 6 seconds	1,5	
27	LEAF DELAY IN CLOSING	Off 20	Setting from OFF to 20 seconds	2,5	
28	OPENING TORQ 1	10 100	Opening torque Motor 1: by increasing the torque, more strenght will be required to execute the inversion in case of obstacle. Note: with hydraulic motors the torque will be on 100%	75	
29	CLOSING TORQ 1	10 100	Closing torque Motor 1: by increasing the torque, more strenght will be required to execute the inversion in case of obstacle. Note: with hydraulic motors the torque will be on 100%	75	
30	OPENING TORQ 2	10 100	Opening torque Motor 2: By increasing the torque, more strenght will be required to execute the inversion in case of obstacle. Note: with hydraulic motors the torque will be on 100%	75	
31	CLOSING TORQ 2	10 100	Closing torque Motor 2: By increasing the torque, more strenght will be required to execute the inversion in case of obstacle. Note: with hydraulic motors the torque will be on 100%	75	
32	ENCODER	On	In ON enables the Encoder, in OFF it's disabled	Off	
47	ENCODER PAR. 1	xxx.	Impulses read by Encoder during operation (Motor1)		
48	ENCODER TOT. 1	xxx.	Impulses stored during programming (Motor 1)		
49	ENCODER PAR. 1	xxx.	Impulses read by Encoder during operation (Motor2)		
50	ENCODER TOT. 2	xxx.	Impulses stored during programming (Motor 2)		
32	ENCODER	Potentiometer	Enables the reading of the potentiometer with LE card	Off	
51	I.PAR.M1	-----	Reports the current position of the potentiometer on the leaf of motor 1. This parameter is useful for seeing if the potentiometer is read correctly		
52	I.AP.M1	From the value learned to ± 100 pulses	Reports the impulses stored by the control unit when the leaf of Motor 1 is fully open		
53	I.CH.M1	From the value learned to ± 100 pulses	Reports the impulses stored by the control unit when the leaf of Motor 1 is fully close		
54	I.PAR.M2	-----	Reports the current position of the potentiometer on the leaf of Motor 2. This parameter is useful for seeing if the potentiometer is read correctly		
55	I.AP.M2	From the value learned to ± 100 pulses	Reports the impulses stored by the control unit when the leaf of Motor 2 is fully open		
56	I.CH.M2	From the value learned to ± 100 pulses	Reports the impulses stored by the control unit when the leaf of Motor 2 is fully close		
32	ENCODER	Off	ON enables the Encoder; OFF shows working times learnt	Off	
65	OPENING TIME M1	xxx.s	Indicates the working times self-learning in opening and closing (Motor 1). With UP or DOWN it is possible to increase or reduce the working times		
66	CLOSING TIME M1	xxx.s			
67	OPENING TIME M2	xxx.s	Indicates the working times self-learning in opening and closing (Motor 2). With UP or DOWN it is possible to increase or reduce the working times		
68	CLOSING TIME M2	xxx.s			

MENU SP		SET	DESCRIPTION	DEFAULT	SET VALUE
33	OPENING SENSITIVITY MOTOR 1	10% (Fast intervention)	Adjusts the Encoder or Potentiometer intervention time on Motor 1 in opening	Off	
		99% (Slow intervention)			
		Off (Intervention excluded)	Disabled		
34	CLOSING SENSITIVITY MOTOR 1	10% (Fast intervention)	Adjusts the Encoder or Potentiometer intervention time on Motor 1 in closing	Off	
		99% (Slow intervention)			
		Off (Intervention excluded)	Disabled		
35	OPENING SENSITIVITY MOTOR 2	10% (Fast intervention)	Adjusts the Encoder or Potentiometer intervention time on Motor 2 in opening	Off	
		99% (Slow intervention)			
		Off (Intervention excluded)	Disabled		
36	CLOSING SENSITIVITY MOTOR 2	10% (Fast intervention)	Adjusts the Encoder or Potentiometer intervention time on Motor 2 in closing	Off	
		99% (Slow intervention)			
		Off (Intervention excluded)	Disabled		
37	SLOWDOWN SENSITIVITY MOTOR	10% (Fast intervention) 99% (Slow intervention)	Adjusts the amperometric sensitivity in slowdown. Active only if the motors are electromechanical	Off	
		With potentiometer	In case of linear potentiometer, this parameter allows to set the inversion time in slow-down from 0 to 5 seconds (= 99%)	30%	
38	POTENTIOMETER THRESHOLD OPENING 1	0 1000	Adjusts the threshold of the potentiometer intervention. The parameter self-determines in learning but can also be adjusted later. The lower the value, the slower will be the response of the potentiometer. The parameter can be set as maximum threshold at the value read on the DEBUG VPI, VP2 menu		
39	POTENTIOMETER THRESHOLD CLOSING 1				
40	POTENTIOMETER THRESHOLD OPENING 2				
41	POTENTIOMETER THRESHOLD CLOSING 2				
42	POTENTIOMETER SLOWDOWN THRESHOLD OPENING 1	0 100	Adjust the threshold of the potentiometer in slowdown. By default this value is set on 1 and can be increased manually up to the maximum value read on the DEBUG VPI, VP2 Menu		
43	POTENTIOMETER SLOWDOWN THRESHOLD CLOSING 1				
44	POTENTIOMETER SLOWDOWN THRESHOLD OPENING 2	0 100	Adjust the threshold of the potentiometer in slowdown. By default this value is set on 1 and can be increased manually up to the maximum value read on the DEBUG VPI, VP2 Menu		
45	POTENTIOMETER SLOWDOWN THRESHOLD CLOSING 2				
46	CLOSING INVERSION	Total	In case of obstacle or edge it totally reverses the movement during the closing. If active, the automatic reclosing will be attempted 5 times	Total	
		Partial	It partially reverses the direction (of about 30 cm) in case of obstacle or edge or potentiometer, then it stops		
<i>For menu 47 and 50 see menu 32-Encoder = On</i>					
<i>For menu from 51 to 56 see menu 32-Encoder = Potentiometer</i>					
59	OPENING SLOWDOWN 1	Off (*) 50 Hydraulic	From OFF to 50% of the stroke. On hydraulic operators the slowdown will be hydraulic over the 50%	20	
60	CLOSING SLOWDOWN 1	Off (*) 50 Hydraulic	From OFF to 50% of the stroke. On hydraulic operators the slowdown will be hydraulic over the 50%	20	
61	OPENING SLOWDOWN 2	Off (*) 50 Hydraulic	From OFF to 50% of the stroke. On hydraulic operators the slowdown will be hydraulic over the 50%	20	
62	CLOSING SLOWDOWN 2	Off (*) 50 Hydraulic	From OFF to 50% of the stroke. On hydraulic operators the slowdown will be hydraulic over the 50%	20	
<b>* For motors with hydraulic brake (CF) or double hydraulic brake (2CF) this parameter must be on Hydraulic</b>					

MENU SP		SET	DESCRIPTION	DEFAULT	SET VALUE
63	DECELERATION	0 % 100%	Adjust the passage between normal speed and slowdown speed	100%	
64	ACCELERATION	0 % 100%	Acceleration ramp. Adjusts the motor start	100%	
<i>For menu from 65 to 68 see menu 32-Encoder = Off</i>					
69	ANTI OVERLAP	Off	Deactivate the leaves anti-overlapping control, allowing separate control of the two leaves	Off	
		On	Activate the leaves anti-overlapping control		
70	OPENING POSITION RECOVERY	0 20 seconds	Retrieves the inertia of the motor in opening after Stop or reversing	1s	
71	CLOSING POSITION RECOVERY	0 20 seconds	Retrieves the inertia of the motor in closing after Stop or reversing	1s	
72	OPENING TOLERANCE MOTOR 1	0 100	Adjust the tolerance between stop and obstacle on Motor 1 in opening	0	
73	CLOSING TOLERANCE MOTOR 1	0 100	Adjust the tolerance between stop and obstacle on Motor 1 in closing	0	
74	OPENING TOLERANCE MOTOR 2	0 100	Adjust the tolerance between stop and obstacle on Motor 2 in opening	0	
75	CLOSING TOLERANCE MOTOR 2	0 100	Adjust the tolerance between stop and obstacle on Motor 2 in closing	0	
76	PUSHING STROKE	Time Pushing Stroke	Off - 3 sec	Off	
		Repeat Lock	Off - On		
		End			
77	LOCK TIME	Off 5	Sets the lock release time from 0 to 5 s	1	
78	LOCK	Only opening	Active only before opening	Only opening	
		Only closing	Active only before closing		
		Opening and closing	Active before opening and closing		
79	ANTI INTRUSION	Only opening	If you force the gate manually, the control unit starts the motor to restore the state of the gate before forcing (only with limit switch)	Off	
		Only closing			
		Opening and closing			
		Off			
80	PUSHOVER	Off	Allows the leaf to make an extra move at maximum torque to ensure the tightening	Off	
		Opening and closing			
		Only closing			
		Only opening			
81	PERIODICAL PUSHOVER	Off 8	Allows the repetition of the pushover function at a distance of time adjustable from 0 to 8 hours at hourly intervals	Off	
82	MOTOR RELEASE	Opening 1	Off - 3 s	Off (hydraulic) 0.1 (mechanic)	
		Closing 1	Off - 3 s		
		Opening 2	Off - 3 s		
		Closing 2	Off - 3 s		
		End			
83	EXTRA TIME *	0.0 s 10 s	With limit-switches, it adds an extra time to the movement of the motors after the limit-switches reading	0.0 s	
<b>* If hydraulic slow-down is set, the Extra Time will be ON only on motor where Extra Time is set</b>					
84	BRAKE	Off 100%	Adjusts the braking on the limit switches	0	
85	PRE-FLASHING	Only closing	Pre-flashing only active before closing	Off	
		0.0 5.0 s	Pre-flashing		

MENU SP		SET	DESCRIPTION	DEFAULT	SET VALUE
86	FLASHING LIGHT	<i>Normal</i>	Normal	<i>Normal</i>	
		<i>Light</i>	Control lamp		
		<i>Always</i>	Always ON		
		<i>Buzzer</i>	Buzzer		
87	FLASHING LIGHT AND TIMER	<i>Off</i>	The flashing light remains OFF with the active timer and open gate	<i>Off</i>	
		<i>On</i>	The flashing light remains ON with active timer and open gate		
88	COURTESY LIGHT	<i>Off</i>	Disabled	20	
		1 240	Courtesy light setting from 1sec. to 4min.		
		<i>In cycle</i>	Courtesy light in cycle		
89	TRAFFIC LIGHT RESERVATION	<i>Off On</i>	If ON, the partial input will be activated to work on the auxiliary board "SEM" (traffic light management)	<i>Off</i>	
90	PARTIAL OPENING	20 100	Setting from 20 to 100	100	
91	PARTIAL PAUSE	= Start	Pause in partial opening same as in total opening	= start	
		<i>Off</i>	Disabled		
		1 240	Setting from 1second to 4 minutes		
92	TIMER	<i>Off</i>	Turn the selected input into an input to connect an external clock to	<i>Off</i>	
		<i>On photo2</i>			
		<i>On partial entry</i>			
93	FIRE SWITCH	<i>Off</i>	Disabled		
		<i>On Photo2</i>	Function active on Photocell 2		
		<i>On Partial entry</i>	Function active on Partial entry input		
94	24V AUX (Max. 500 mA)	<i>Always</i>	AUX output always Power supplied	<i>Always</i>	
		<i>In cycle</i>	AUX output active only during cycle		
		<i>Opening</i>	AUX output power supplied only during opening		
		<i>Closing</i>	AUX output power supplied only during closing		
		<i>In pause</i>	AUX out put power supplied only during pause		
		<i>Autotest</i>	Security test		
		<i>In cycle and phototest</i>	AUX output only during cycle with fototest function active		
		<i>Positive brake management</i>	Positive Electric-brake (24V in On with stationary gate )		
		<i>Negative brake management</i>	Negative Electric-brake (24V in On with gate in cycle and 1 sec. before the Start)		
		<i>Negative brake and Photocell management</i>	Negative electric-brake not active on intervention of the photocell		
		<i>Open gate warning Light</i>	1 flash per second in opening 2 flashes per second in closing Steady lit in Stop or Open		
		<i>Start 3 s</i>	If active, the 24VAUX output is activated for 3 seconds at every Start input, every photocells or edge intervention		
		<i>Barrier Led lights</i>	the 24Vaux output will pilot the lights on the barrier so that, with the beam closed the light is on, with the beam opened the light is switched off and with the moving beam the light is blinking		



MENU SP		SET	DESCRIPTION	DEFAULT	SET VALUE
95	FOTOTEST	<i>Photo 1</i>	Self-test active only on photo 1	<i>Off</i>	
		<i>Photo 2</i>	Self-test active only on photo 2		
		<i>Photo 1 and 2</i>	Self-test active on photo 1 and 2		
		<i>Off</i>	Disabled		
		<i>Edge</i>	Self-test active only on security edge		
		<i>Photo 1 and Edge</i>	Self-test active on photocell 1 and edge		
		<i>Photo 2 and Edge</i>	Self-test active on photocell 2 and edge		
		<i>Off</i>	Disabled		
96	SECURITY EDGE SELF-TEST	<i>Edge 1</i>	Test enabled on edge 1	<i>Edges 1 and 2</i>	
		<i>Edge 2</i>	Test enabled on edge 2		
		<i>Edges 1 and 2</i>	Test enabled on edges 1 and 2		
		<i>Off</i>	Disabled		
97	PHOTOCELL 1 SHADOW LOOP 1	<i>Closing</i>	If the photocell is occupied, it reverses the movement in closing; during the pause, it prevents the reclosing	<i>Closing</i>	
		<i>Opening and closing</i>	If active the photocell blocks the movement as long as it is busy; when released, the opening movement continues		
		<i>Stop</i>	If the photocell is activated before the Start input, the Start will be ignored. If the photocell is activated after the Start input, the photocell will be ignored. If the photocell is activated during closing, the gate will reopen		
		<i>Stop and close</i>	In closing, the photocell stops the movement until it is occupied; when released the closing movement continues		
		<i>Close</i>	The photocell stops the gate until it is occupied in both opening and closing; when released, it gives a closing command (it closes one second after its release)		
		<i>Pause reload</i>	If occupied, during pause the photocell recharges the time of pause. In closing it reverses the movement		
		<i>Shadow loop</i>	Until occupied, with open gate, it prevents reclosing. It is switched off during closing		
		<i>Delete pause time</i>	If occupied during opening, pause or closing, the gate reopens completely and closes without observing the pause time		
		<i>Shadow loop RP (pause reloading)</i>	If the shadow loop is temporarily released, the pause time is reloaded before closing		

MENU SP		SET	DESCRIPTION	DEFAULT	SET VALUE
98	PHOTOCELL 2 SHADOW-LOOP2	<i>Closing</i>	If the photocell is occupied, it reverses the movement in closing; during the pause, it prevents the reclosing	<i>Stop and open</i>	
		<i>Opening and closing</i>	If active the photocell blocks the movement as long as it is busy; when released, the opening movement continues		
		<i>Stop</i>	If the photocell is activated before the Start input, the Start will be ignored. If the photocell is activated after the Start input, the photocell will be ignored. If the photocell is activated during closing, the gate will reopen		
		<i>Stop and close</i>	In closing, the photocell stops the movement until it is occupied; when released the closing movement continues		
		<i>Close</i>	The photocell stops the gate until it is occupied in both opening and closing; when released, it gives a closing command (it closes one second after its release)		
		<i>Pause reload</i>	If occupied, during pause the photocell recharges the time of pause. In closing it reverses the movement		
		<i>Shadow loop</i>	Until occupied, with open gate, it prevents reclosing. It is switched off during closing		
		<i>Delete pause time</i>	If occupied during opening, pause or closing, the gate reopens completely and closes without observing the pause time		
		<i>Shadow loop RP (pause reloading)</i>	If the shadow loop is temporarily released, the pause time is reloaded before closing		
		<i>Stop and open</i>	If the photocell is activated during opening, the gate will stop and will continue opening movement only when the photocell is released. The photocell is ignored during closing		
100	SECURITY EDGE 1	<i>Normal</i>	Normal N.C. contact	<i>Normal</i>	
		<i>8K2</i>	Edge is active and protected by a 8K2 resistor		
		<i>8K2 Double</i>	Allows to connect two 8K2 protected edges		
		<i>Photo 1 10K</i>	Edge works as a photocell protected by a 10K resistor		
		<i>Photo 1 10K Double</i>	It is possible to connect two photocells protected by a 10K resistor		
101	SECURITY EDGE 2	<i>Normal</i>	Normal N.C. contact	<i>Normal</i>	
		<i>8K2</i>	Edge is active and protected by a 8K2 resistor		
		<i>8K2 Double</i>	Allows to connect two 8K2 protected edges		
		<i>Photo 2 10K</i>	Edge works as a photocell protected by a 10K resistor		
		<i>Photo 2 10K Double</i>	It is possible to connect two photocells protected by a 10K resistor		

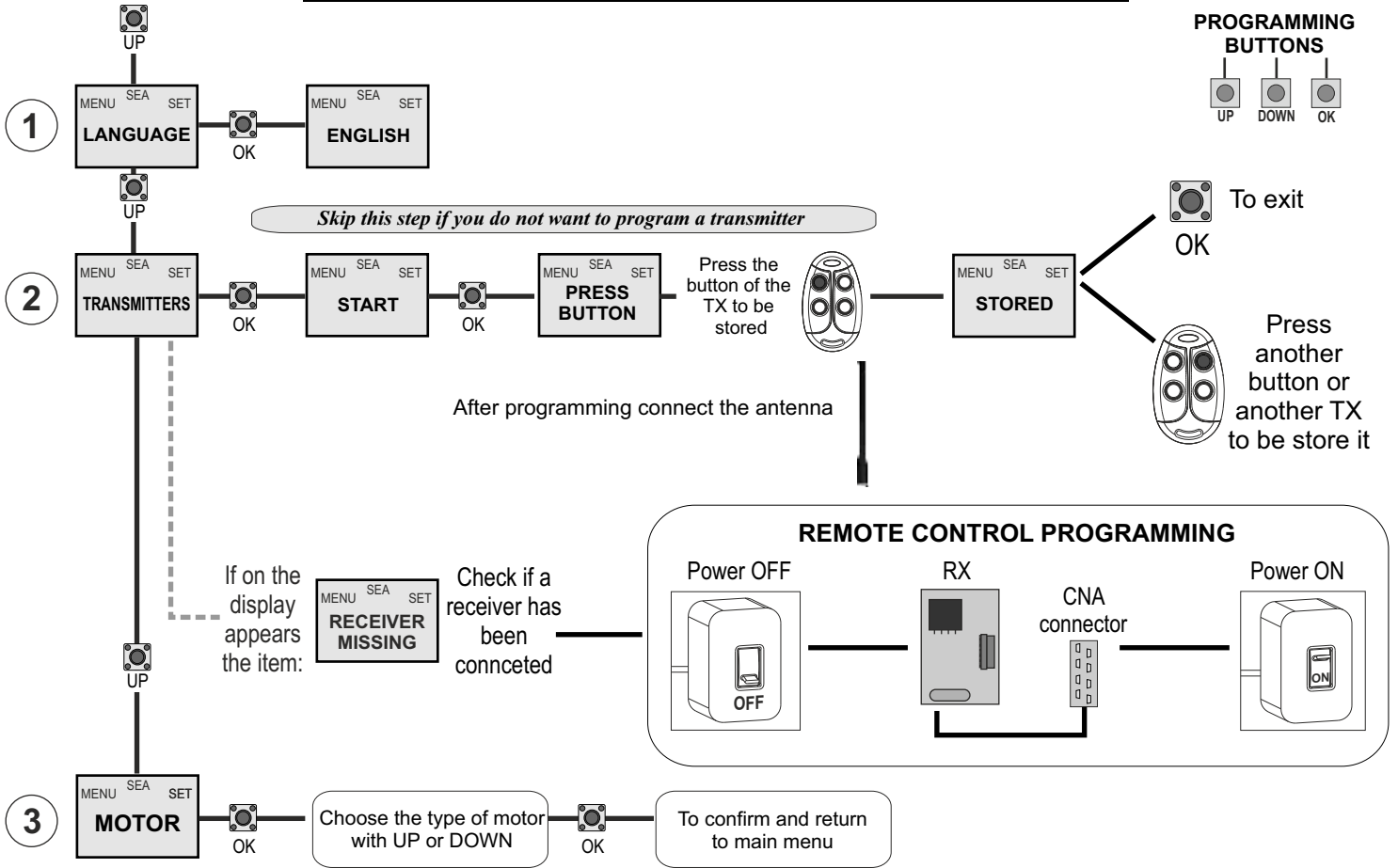
MENU SP		SET	DESCRIPTION	DEFAULT	SET VALUE
102	SECURITY EDGE 1 DIRECTION	<i>Opening and closing</i>	Active in opening and closing	<i>Opening and Closing</i>	
		<i>Only opening</i>	Active only in opening		
		<i>Only closing</i>	Active only in closing		
103	SECURITY EDGE 2 DIRECTION	<i>Opening and closing</i>	Active in opening and closing	<i>Opening and Closing</i>	
		<i>Only opening</i>	Active only in opening		
		<i>Only closing</i>	Active only in closing		
104	SELECT LIMIT SWITCH	<i>Automatic</i>	Limit switch in automatic recognition	<i>Automatic</i>	
		<i>Only opening</i>	Active limit-switch in opening only		
		<i>Only closing</i>	Active limit-switch in closing only		
		<i>Motor internal</i>	To be activated if there is a limit-switch that stops the motor phase		
		<i>Ext</i>	Limit-switch connected on the interface board for 4 cams limit-switches		
106	DIAGNOSTICS	<i>1 10</i>	Shows last event (See alarms table)		
107	MAINTENANCE CYCLES	<i>100 240000</i>	Setting from 100 to 240000	<i>100000</i>	
108	PERFORMED CYCLES	<i>0 240000</i>	Reports the executed cycles. Keep pressed OK to reset the cycles	<i>0</i>	
109	THERMOMETER	<i>On Off</i>	In ON you can insert the piston oil temperature probe combined with the LE card	<i>Off</i>	
110	LOWER THRESHOLD TEMPERATURE	<i>From -20° to +50°</i>	Regulates the activation threshold of the motor oil heater	<i>-10°</i>	
111	UPPER THRESHOLD TEMPERATURE	<i>From -20° to +50°</i>	Regulates the deactivation threshold of the motor oil heater	<i>0°</i>	
112	PASSWORD	<i>----</i>	Allows the entering of a password blocking the control unit parameters modification	<i>----</i>	
113	EMERGENCY (This function involves the use of "STAR 1000" with "LB" unit)	<i>Off</i>	Disabled	<i>Off</i>	
		<i>Last opening</i>	Without main power, if batteries are lower than 22V the gate opens and stay opened. The gate recloses when the power is back		
		<i>Last closing</i>	Without main power, if batteries are lower than 22V the gate closes and stay closed until the power is back		
116	REPEAT DELAY OPENING	<i>On Off</i>	In case of STOP at the mid stroke, leaves will repeat the leaf delay	<i>On</i>	
117	ALWAYS CLOSE	<i>Off 240 seconds</i>	Without main power if the gate is manually opened, when the power is back the gate will reclose only after the time set (from 0 to 240 seconds)	<i>Off</i>	
119	DISPLAY WRITING SPEED	<i>From 30% to 100%</i>	See Note 3 below	<i>80%</i>	
120	BASIC MENU		Press OK to exit the special menu.		

**Note 1:** The \* indicates that the default value or the menu may change depending on the selected motor type.

**Note 2:** After initialization the parameters "motor type" and "limit switch type" remain on the value chosen in the setup program.

**Note 3:** Display writing speed set on 30% keeps writing slow; Display writing speed set on 100% keeps writing fast. Please note that speed does not change on JOLLY 3 display.

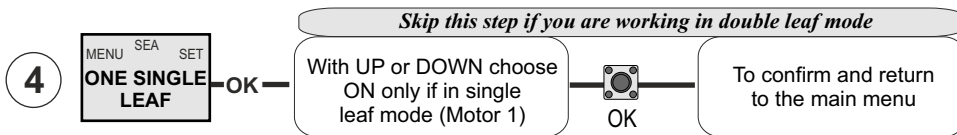
# QUICK START AND PROGRAMMING



## CHOOSE FROM SINGLE LEAF OR DOUBLE LEAF

SET IF ONE SINGLE LEAF (ON)

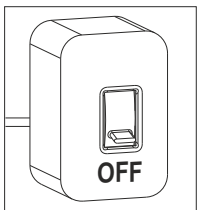
Default (OFF) = Double leaf



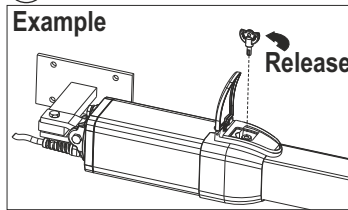
## PRESET INSTALLATION

**ATTENTION:** This procedure is potentially dangerous and should only be performed by qualified people in safety conditions.

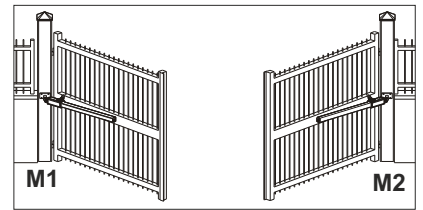
**A** Turn OFF the power



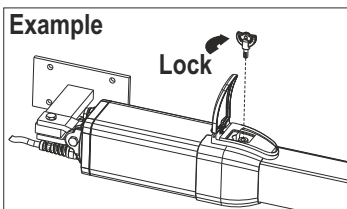
**B** Release the operators



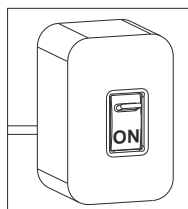
**C** Manually push the leaves in half position



**D** Reset the mechanical lock



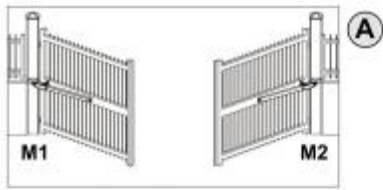
**E** Put the power ON



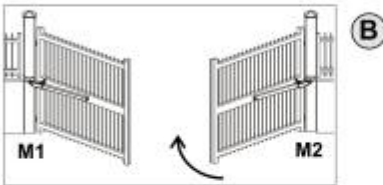
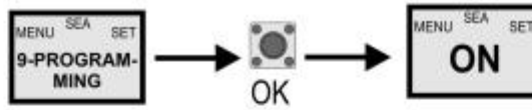
# MANUAL SELF-LEARNING

## A) IMPULSES \*

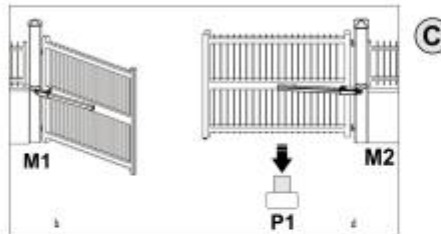
The gate will start the following cycle: CLOSING M2 - CLOSING M1 - OPENING M1 - OPENING M2 - CLOSING M2 - CLOSING M1. During cycle, to store the respective stops, press UP or DOWN or START at every point of mechanical stop of the leaf. The self-learning is done.



Both half way

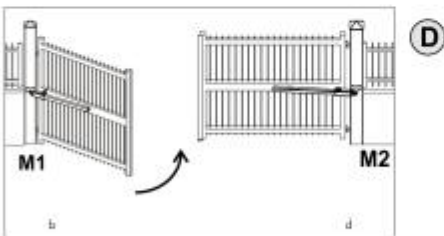


M2 in closing

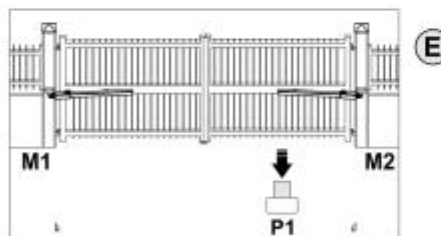


M2 closed

Press or TX if stored when M2 is in closed position

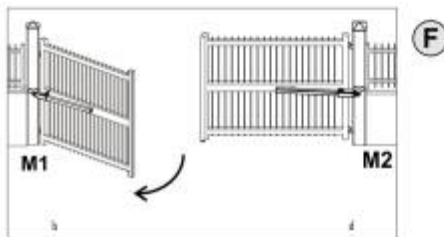


M1 in closing

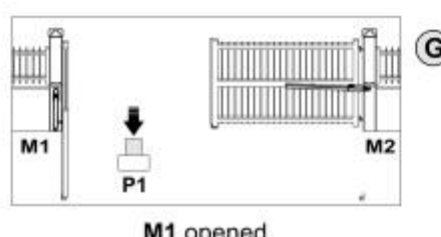


M1 closed

Press or TX if stored when M1 is in closed position

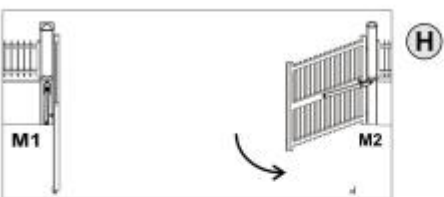


M1 in opening

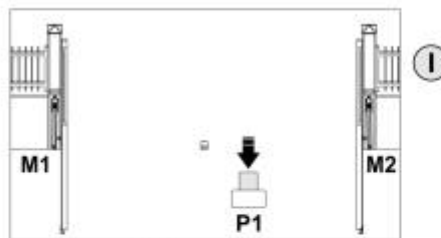


M1 opened

Press or TX if stored when M1 is in opened position

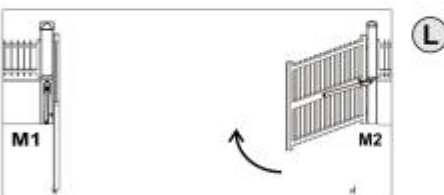


M2 in opening

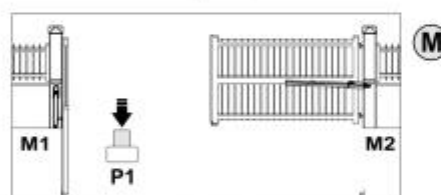


M2 opened

Press or TX if stored when M2 is in opened position

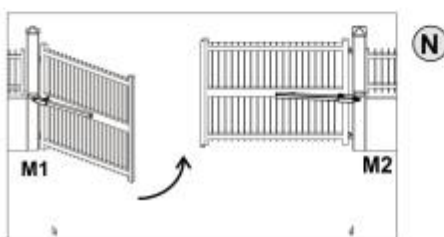


M2 in closing

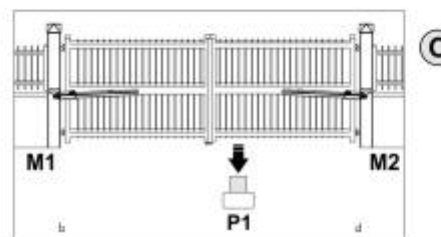


M2 closed

Press or TX if stored when M2 is in closed position



M1 in closing



M1 closed

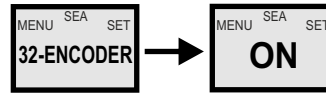
Press or TX if stored when M1 is in closed position

# AUTOMATIC SELF-LEARNING

Make sure, for all these types of selflearning, that the gate effects the following cycle: CLOSE M2 - CLOSE M1 - OPEN M1 - OPEN M2 - CLOSE M2 - CLOSE M1. Otherwise see REVERSE MOTOR function.

## B) ENCODER \*

- When an Encoder is installed, it is necessary to select **ON** in the 32-ENCODER menu

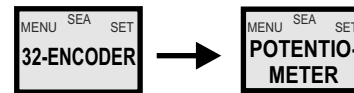


**Note:** to adjust sensitivity on obstacle refer to the special menu

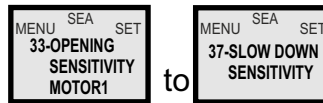


## C) POTENTIOMETER \*

- When the potentiometer is installed, it is necessary to select



**Note:** to adjust sensitivity on obstacle refer to the special menu



Potentiometer treshold intervention is automatically set during self learning,



## MIXED PROCEDURE

### SELF-LEARNING OPERATION TIME WITH POTENTIOMETER




When the potentiometer is installed, it is necessary to select "Potentiometer" in the 32-ENCODER menu. Start programming and make sure that leaf starts as first in closing. With potentiometer, the gate will automatically execute the following cycle: CLOSE - OPENING -CLOSE - OPENING and CLOSING with SLOW-DOWN

**Note 1:** For the stop detection sensitivity settings refer to the special menu.

**Note 2:** With the potentiometer you can also make the self-learning giving impulses on favourite opening or closing points; In this case it is also possible to modify the parameters I.AP.M1, I.CH.M1, I.AP.M2, I.CH.M2 of ± 100 impulses, if you need to optimize the initial and the final position

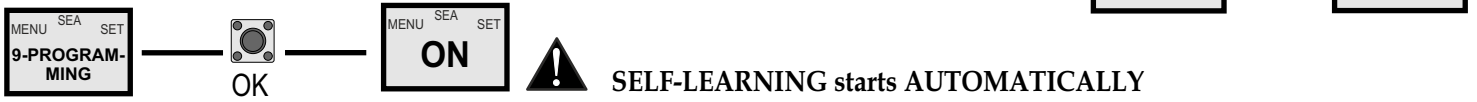
**Nota:** in case of **MIXED PROCEDURE** (detection of AUTOMATIC stop in closing and with MANUAL input in opening) the learning cycle will only be CLOSE-OPEN-CLOSE

## \* REVERSE MOTOR

If the motor starts in opening, switch off the power and then switch it ON again, select  on the display and through the  and  put it on ON or, if you have the JOLLY 3 programmer, activate the motor exchange function

### D) AMPEROMETRIC\* (For electromechanical motors only)

This type of selflearning is possible ONLY with electromechanical operators and physical stops.

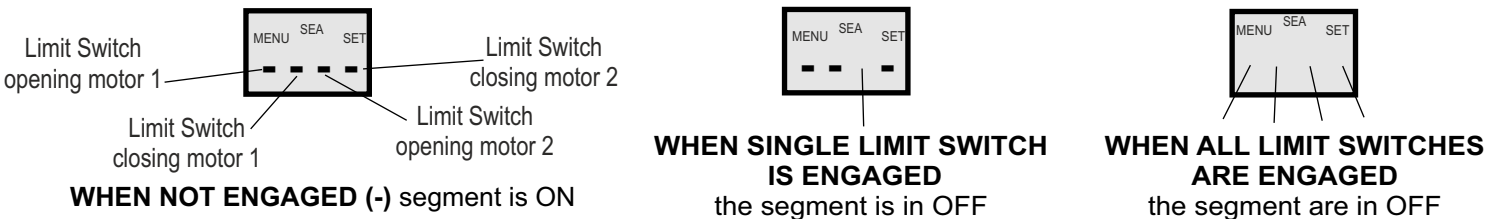


**Note:** to adjust sensitivity on obstacle refer to the special menu

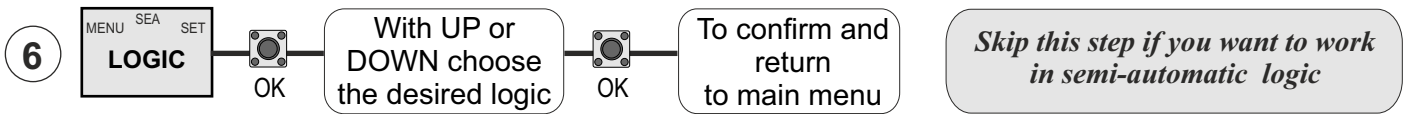


### E) WITH LIMIT-SWITCHES \*

**1 - INPUT TEST LIMIT-SWITCHES:** test each limit-switch of both leaves by activation before self-learning. The segment on display shall disappear when each limit-switch is activated



## LOGIC FUNCTIONS

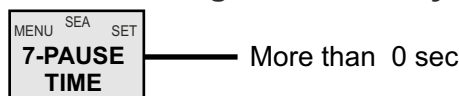


**! ONLY AFTER SELF LEARNING OF WORKING TIME WITH AUTOMATIC LOGIC, THEN YOU CAN CHANGE LOGICS TO:**

#### A) AUTOMATIC

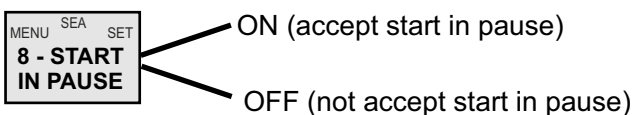
A start impulse opens the gate. A second impulse during the opening will not be accepted. A start impulse during closing reverses the movement.

**NOTE 1:** To have the automatic closing it is necessary to set a pause time, otherwise all the logic will be semi-automatic.



**NOTE2:** It is possible to choose, whether to accept or not, the start in pause, selecting in the MENU the item

**8-START IN PAUSE** and choosing ON or OFF. By default, the parameter is OFF.



**B) SECURITY**

A start impulse opens the gate. A second impulse during opening reverses the movement.

A start impulse during closing reverses the movement.

**NOTE 1: To have the automatic closing it is necessary to set a pause time, otherwise all the logic will be semi-automatic.**



————— More than 0 sec

**NOTE2: It is possible to choose, whether to accept or not, the start in pause, selecting in the MENU the item 8-START IN PAUSE and choosing ON or OFF. By default, the parameter is OFF.**

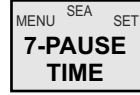


- ON (accept start in pause)
- OFF (not accept start in pause)

**C) STEP BY STEP TYPE 1**

The start impulse follows the OPEN-STOP-CLOSE-STOP-OPEN logic.

**NOTE 1: To have the automatic closing it is necessary to set a pause time, otherwise all the logic will be semi-automatic.**



————— More than 0 sec

**NOTE2: It is possible to choose, whether to accept or not, the start in pause, selecting in the MENU the item 8-START IN PAUSE and choosing ON or OFF. By default, the parameter is OFF.**



- ON (accept start in pause)
- OFF (not accept start in pause)

**D) STEP BY STEP TYPE 2**

The start impulse follows the OPEN-STOP-CLOSE -OPEN logic.

**NOTE 1: To have the automatic closing it is necessary to set a pause time, otherwise all the logic will be semi-automatic.**



————— More than 0 sec

**NOTE2: It is possible to choose, whether to accept or not, the start in pause, selecting in the MENU the item 8-START IN PAUSE and choosing ON or OFF. By default, the parameter is OFF.**



- ON (accept start in pause)
- OFF (not accept start in pause)

**E) DEAD MAN**

The gate opens as long as the **START** button of opening is pressed; releasing it the gate stops. The gate closes as long as the button connected to the PARTIAL OPENING is pressed; releasing it the gate stops. To execute complete opening and/or closing cycles the related pushbuttons must be constantly pressed.

**F) 2 BUTTONS**

One start opens, one partial opening closes. In opening the closing will not be accepted. In closing a start command reopens, a partial opening command (closes) will be ignored.



# RADIO TRANSMITTER SELF LEARNING WITH RECEIVER ON BOARD OF CONTROL UNIT

**⚠ WARNING:** Make the radio transmitters programming before you connect the antenna and insert the receiver into the special CMR connector (if available) with turned off control unit. With RF UNI and RF UNI PG module it will be possible to use both Coccinella Roll Plus transmitters and radio transmitters with fixed code. The first memorized radio transmitter will determine the type of the remaining radio transmitters. If the receiver is a Rolling Code, press twice the button of the radio transmitter that you want to program to memorize the first TX. In the case of transmitters with fix code it is necessary to press 1 time the button of the transmitter you want to program to store the first remote control

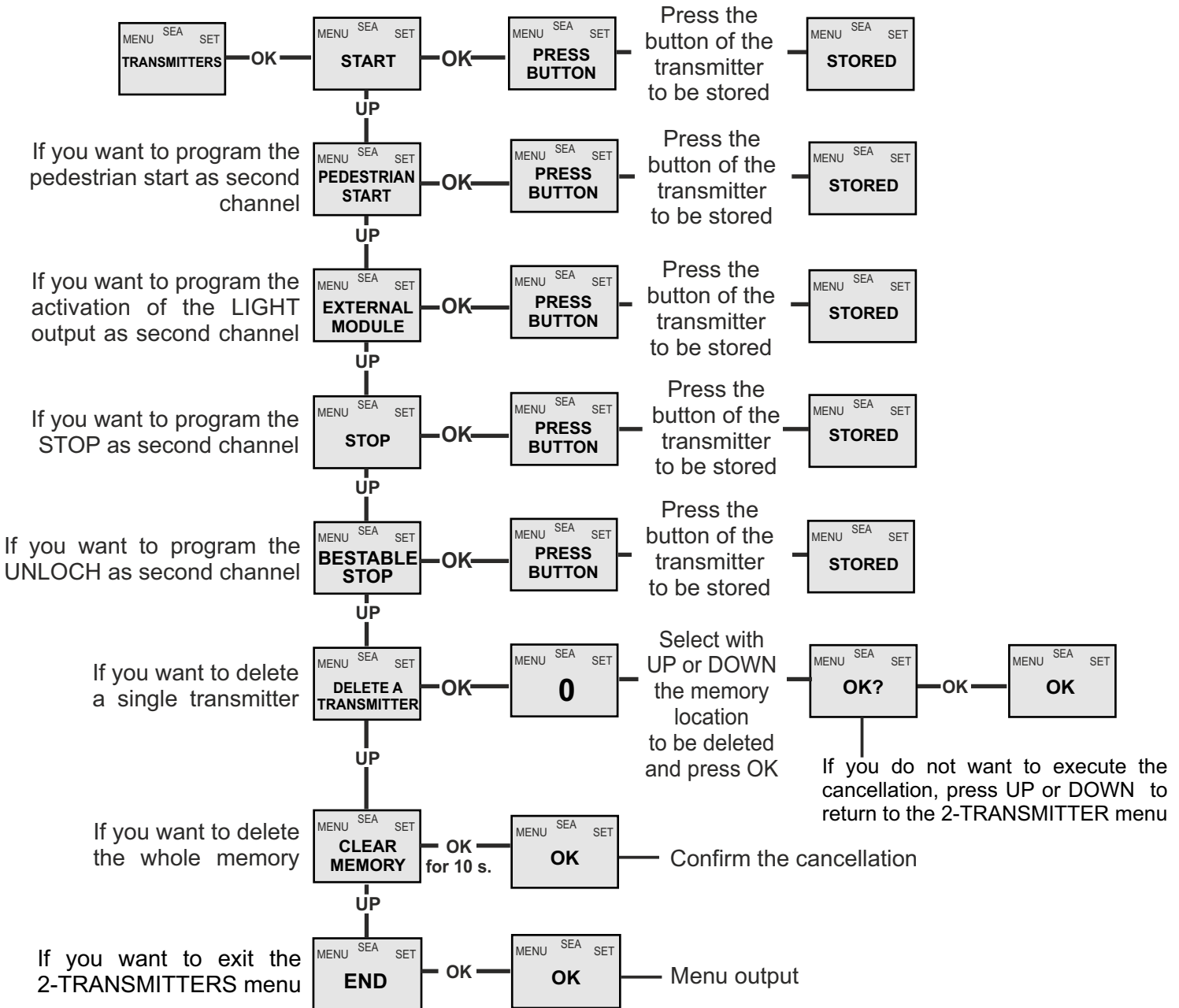
**Notes:**

- Enter radio transmitters learning only when the working cycle stops and the gate is closed.
- You can store max. 2 of the available 4 functions. If the control unit receives a code which was already associated to another function it will be updated with the new function.

<b>RF UNI</b>	<b>16 USERS</b> Whitout memory <b>800 USERS</b> With additional memory MEM
<b>RF UNI PG</b> <i>Old Model</i>	<b>100 USERS</b> Fixed code <b>800 USERS</b> Roll Plus
<b>RF UNI PG</b> <i>New model</i>	<b>800 UTENTI</b> Fixed code <b>800 UTENTI</b> Roll Plus

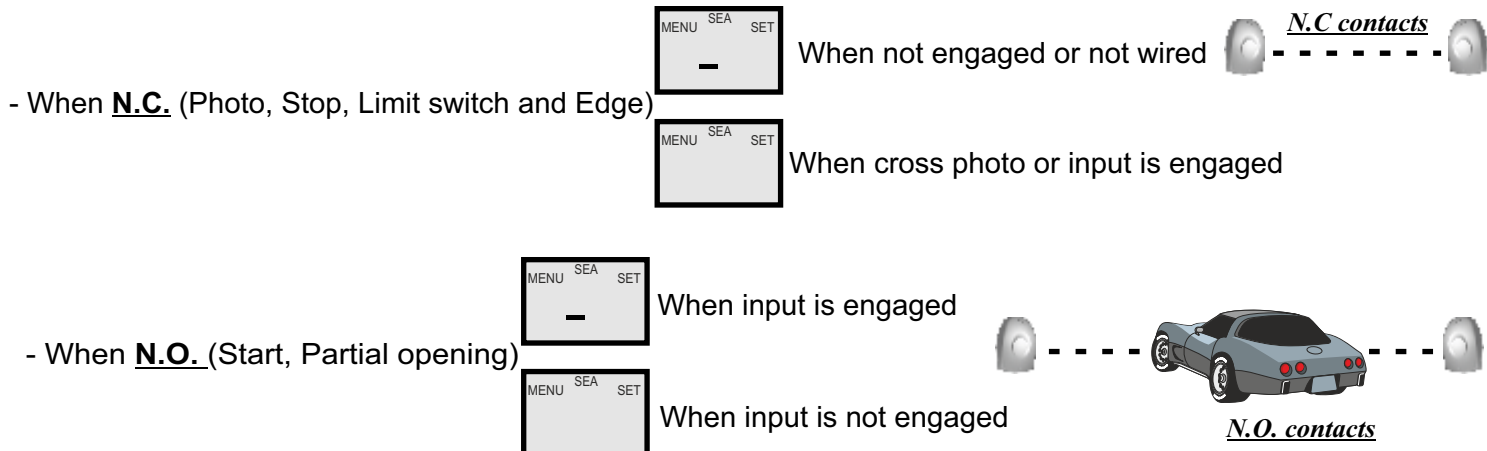
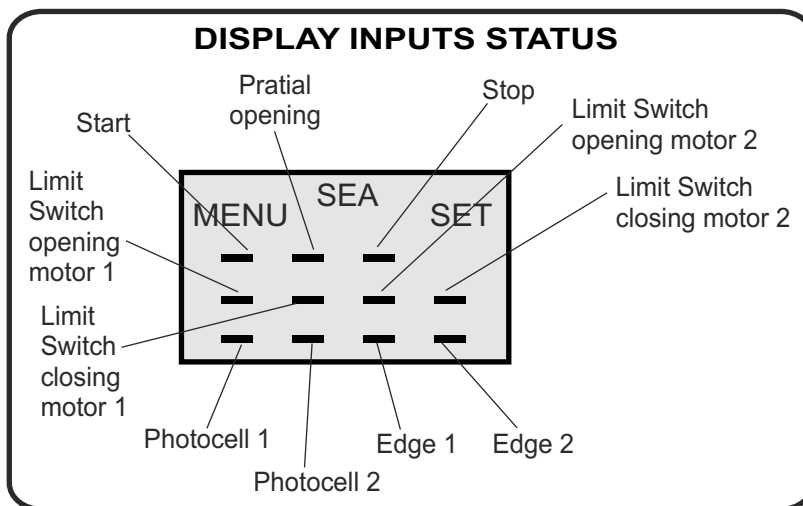
**TABLE EXAMPLE**

Transmitter button Memory location	1	2	3	4	Serial number	Customer
0						
1						
2						
3						

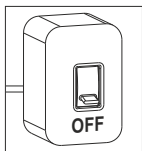


# PRE SET PARAMETERS AND NO/NC CONTACTS

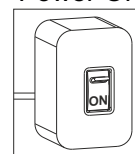
①



② Power OFF



Power ON



③ Keep pressed the two buttons  and  At the same time put

to start initialisation

of the board until you see IN.IT on the display.

④



All parameters get DEFAULT configuration, see following Menu (for example: Automatic logic, Pause time OFF) and put in **OFF** all NC contacts (like STOP, PHOTO, EDGE, LIMITS) not used.

⑤



All NC contacts are automatically in **OFF** if not used (no segments on display). If wired segments are in ON on display

To reactivate NC contacts you must go on each Menu of display for NC contacts (like STOP, PHOTO, EDGE, LIMITS) and with SET put in **ON**.

# INPUTS CHECK MENU



Moving in the **CHECK MENU**, menu and then by pressing the **OK** button for 5 seconds, you can enter the **CHECK MENU**, where it is possible to check the operating status of all inputs.

## MENU FUNCTION TABLE CHECK GATE 2 DG R1B INPUTS

To access the Menu for input check keep pressed OK for about 5 seconds.

MENU		Description	Description
START	—OK	Enabled	Start Test The contact must be a N.O. Contact . When activating the related command on the display SET lights up, the input works. If SET is always on, check the wirings.
		Blocked	
STOP	—OK	Enabled	Stop Test The contact must be a N.C. Contact. When activating the related command on the display SET lights up, the input works. If SET is always on, make sure that the contact is a N.C. Contact
		Blocked	
START PARTIAL OPENING	—OK	Enabled	Partial Opening Test The contact must be a N.O. Contact. When activating the related command on the display SET lights up, the input works. If SET is always on, check the wirings.
		Blocked	
EDGE 1	—OK	Enabled	Safety edge1 test The contact must be a N.C. Contact. When activating the related command on the display SET lights up, the input works. If SET is always on, make sure that the contact is a N.C. Contact
		Blocked	
EDGE 2	—OK	Enabled	Safety edge2 test The contact must be a N.C. Contact. When activating the related command on the display SET lights up, the input works. If SET is always on, make sure that the contact is a N.C. Contact
		Blocked	
PHOTO 1	—OK	Enabled	Photocell 1 test The contact must be a N.C. Contact. When activating the related command on the display SET lights up, the input works. If SET is always on, make sure that the contact is a N.C. Contact
		Blocked	
PHOTO 2	—OK	Enabled	Photocell 2 test The contact must be a N.C. Contact. When activating the related command on the display SET lights up, the input works. If SET is always on, make sure that the contact is a N.C. Contact
		Blocked	
LIMIT SWITCH OPENING 1		M1 Opening limit switch test	The contact must be a N.C. Contact. When activating the related command on the display SET lights up, the input works. If SET is always on, make sure that the contact is a N.C. contact or that the related limit switch is not occupied.
LIMIT SWITCH CLOSING 1		M1 Closing limit switch test	The contact must be a N.C. Contact. When activating the related command on the display SET lights up, the input works. If SET is always on, make sure that the contact is a N.C. Contact or that the related limit switch is not occupied.
LIMIT SWITCH OPENING 2		M2 Opening limit switch test	The contact must be a N.C. Contact. When activating the related command on the display SET lights up, the input works. If SET is always on, make sure that the contact is a N.C. contact or that the related limit switch is not occupied.
LIMIT SWITCH CLOSING 2		M2 Closing limit switch test	The contact must be a N.C. Contact. When activating the related command on the display SET lights up, the input works. If SET is always on, make sure that the contact is a N.C. Contact or that the related limit switch is not occupied.
CHECK MOTOR FAULT	—OK	Enabled	Check motor fault  Desactivate the motor fault checking
		Blocked	
END		Exit menu	

**Note:** If the **Stop**, **Photocell 1** and **Photocell 2**, **Edge 1** and **Enge 2** contacts are not bridged in self-learning, they will be deactivated and can be reactivated through this menu, without repeating times self-learning.

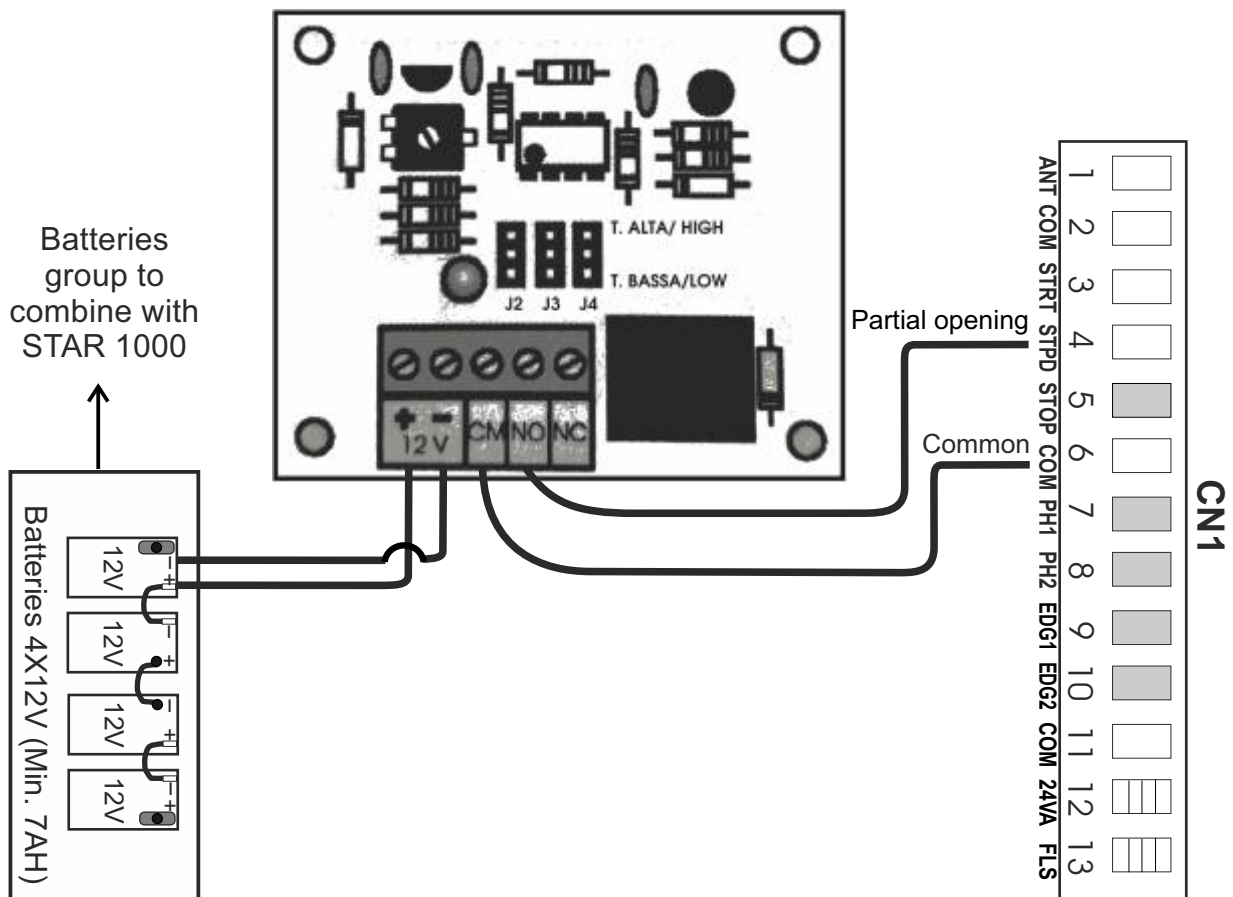
# PASSWORD ENTERING MANAGEMENT

With a new control unit all menus can be displayed and set and the password will be disabled. Selecting one of the Menus and keeping UP and DOWN pressed at the same time for 5 seconds, you will access the SP Menu containing the 112-PASSWORD Submenu. Pressing OK in the 112-PASSWORD Menu, you will proceed with the entering of the numeric code of the 4-digit password. Use UP and DOWN to increase or decrease the number, press OK to confirm it and you will pass automatically to the entering of the next number. Pressing OK after the last entered number the word "Sure?" appears, confirm the activation of the password and the message OK appears, pressing UP or DOWN instead you can cancel the operation and "No operation" will appear on the display. Once entered the password, it will be definitively activated, once the display switch off timeout has expired, or by turning off and on again the control unit. Once the password has been activated, the menus of the display can be only displayed but not set. To unlock them you must enter the correct password in the 112-PASSWORD menu, if the password is wrong the message "Error" will appear. At this point, if the password has been entered correctly, the menus will be unlocked and it will be possible to change the parameters of the control unit again. If the control unit has been unlocked through 112-PASSWORD Menu, it is possible to enter a new and different password, using the same entering process as for the first one; at this point, the old password will no longer be valid. If the password has been forgotten, the only way to unlock the control unit is to contact the SEA technical assistance, which will assess whether to provide the procedure to unlock the control unit or not.

**Note:** The password cannot be set through the Jolly 3 terminal.

## LB UNIT CONNECTION

The LB unit can be used combined with the Emergency (menu-113) function. It is useful to monitor the battery charge and allows a last emergency operation before the battery is completely discharged. Furthermore, by connecting a Buzzer, this last operation will be signaled by an acoustic alarm.



**Nota:** Connect the LB unit on a single battery of the group combined with the STAR 1000

# SAFETY DEVICES CONNECTIONS

## A) 24V AC [19] and [20]

### PHOTOCELL 1 AND PHOTOCELL 2 (LOOP1 - LOOP2)

[19] and [20] 24VAC~ (Accessories) 800 mAmax COM = 0V  
 [7] PH1 = Photocell contact 1 [8] PH2 = Photocell contact 2

**Default setting:**

PHOTO 1 = *Closing* - PHOTO 2 = *Opening and closing*  
 The photocell 2 can also be set as TIMER (see TIMER function below). For the options of the photocells (97 and 98 menus)

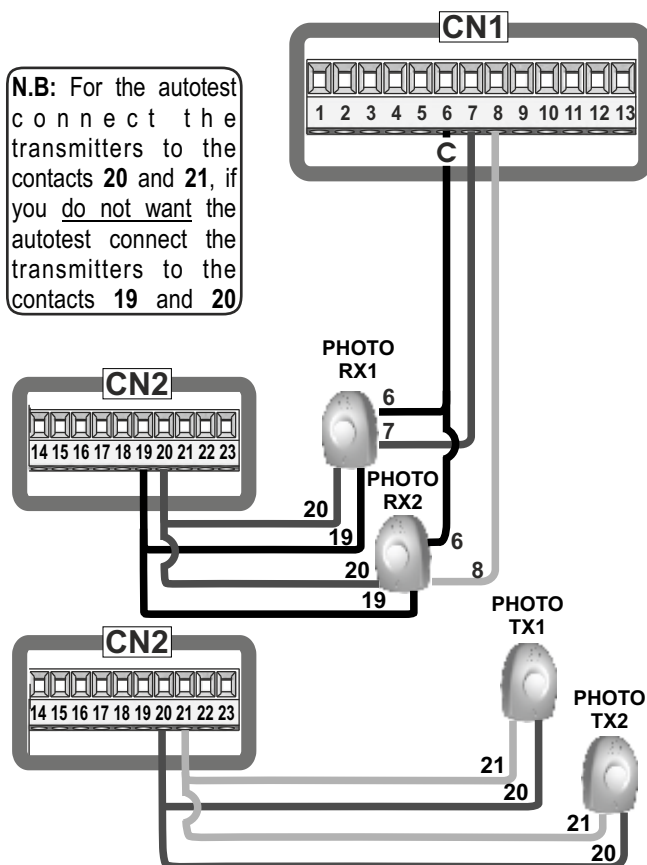


**TIMER:** by holding PH2 the gate opens and then stay opened. While you release it, the gate repeat the pause selected time and start closing. In case a safety is activated the timer will automatically reset after 6 sec.

**AUTOTEST Function:** is a safety mode to protect against malfunctioning of the PHOTO (the board doesn't allow any other movements) and you can see report of detect on display. To activate AUTOTEST:

- 1) Connect the TX photocell power on 24V AC~ input [20] and [21]
- 2) Go on 95-PHOTOTEST menu and select on which accessory Photo 1 or Photo 2 or both) activate this mode.

**N.B:** For the autotest connect the transmitters to the contacts 20 and 21, if you do not want the autotest connect the transmitters to the contacts 19 and 20

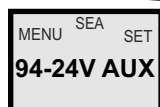


## B) 24V DC AUX PROGRAMMABLE [12]

It is possible to connect any accessory in case you want to power in 24V DC and select operation mode (see chart below). It is not possible to use AUTOTEST if you connect on 24V DC AUX (only on 24V AC).  
**Max load 800 mA**

The options of 94-24V AUX menu are:

- Always
- In cycle
- Opening
- Closing
- In pause
- Positive brake management
- Negative brake management
- Negative brake management - photocellule
- Gate open warning light

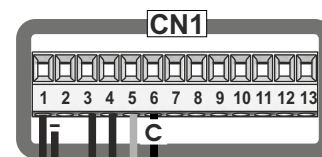


(See special menu)

# PARTIAL OPENING, STOP, START CONNECTIONS

### PARTIAL OPENING (N.O.) [4]

- **Function 1 (STANDARD):** partial opening space adjustable from 20 to 100 (90-PARTIAL OPENING)
- **Function 2 (TIMER):** by holding STDP 4 the gate Opens and then stay opened. While you release it the gate repeat the pause selected time and start closing. In case a safety is activated the timer will automatically reset after 6 sec.
- **Function 3 (2 BUTTONS):** in 2 buttons logic press the STPD 4 to close the gate.
- **Function 4 (DEADMAN):** in deadman logic this button executes the re-closing if you keep it pressed.



### STOP (N.C.) [5]

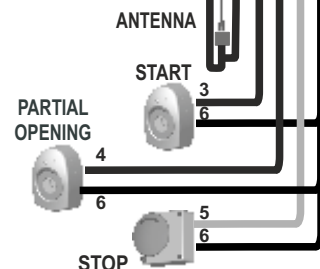
When pressing this button the motor immediately stops in any condition/position. To re-start the movement give a start command. After a stop the motor always re-starts in closing.

### START (N.O.) [3]

• **Function 1 (STANDARD):** an impulse given to this contact opens and closes the automation depending on the selected logic.

• **Function 2 (TIMER):** holding START starts the TIMER function, releasing the start, the operator repeats the pause and then closes. To connect the other devices refer to the related instructions leaflets (ie. loop detectors and proximity Switches). In case of activation of a safety device the timer will automatically reset after 6 seconds.

- **Function 3 (2 BUTTONS):** in 2 buttons logic this button performs the opening.
- **Function 4 (DEADMAN):** in deadman logic keep pressed the Start for the opening of the automation.



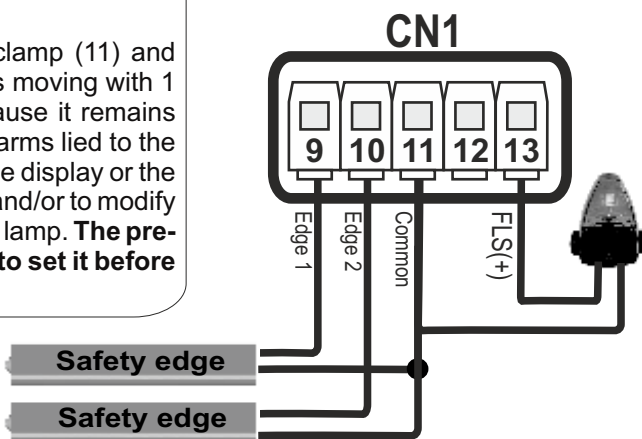
# WARNING LAMP - SAFETY EDGE - 10K PHOTOCELL - BUZZER

## 24V --- FLASHING LAMP 3W MAX 11 and 13

Flashing Lamp 24V --- 3W max (Control lamp)

The 24V Flashing Lamp can be connected between the Common clamp (11) and FLS (+) of CN 1. The Flashing lamp advises that the automatic gate is moving with 1 flash/second in opening and 2 flashes / second in closing. During pause it remains switched on. Through the warning lamp it is also possible to identify alarms lied to the STOP, PHOTOCELL 1, PHOTOCELL 2 and EDGE devices. Through the display or the JOLLY 3 programmer it is possible to activate the pre-flashing function and/or to modify the function of the warning lamp choosing between fix flashing or control lamp. **The pre-flashing can be timed from 0 to 5 seconds otherwise it is possible to set it before closing only.**

Example of flashing lamp and 2 edges connections



## SAFETY EDGE 9 and 11 - 10 and 11

Between clamps 9 and 11 on the terminal CN1 it is possible to connect an active Safety Edge (or two safety edges where the second edge must be connected between clamps 10 and 11). When pressed, the Safety Edge opens the contact causing a partial inversion of the movement both in opening and in closing. The Safety Edge output can be set «only in closing», «only in opening» or both directions

**Note1:** Through the on-board display or the JOLLY 3 programmer it is possible to activate the balanced edge 8K2, in this case the edge contact is controlled by a special resistance value revealing the eventual involuntary short-circuit of the device. In case of imbalance of the device a special alarm will be shown on the on-board display or on the JOLLY programmer.

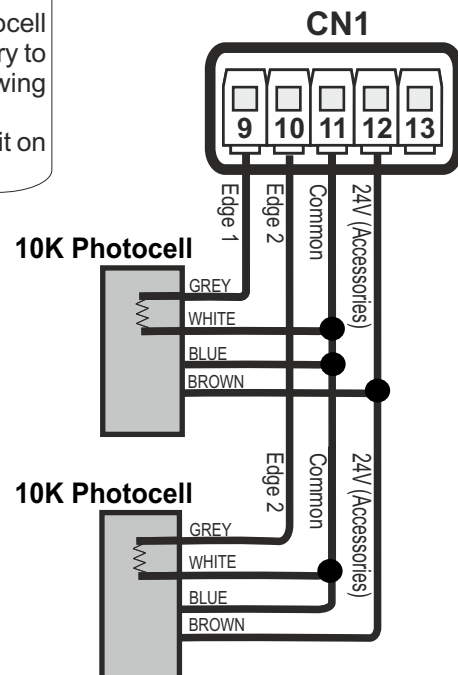
**Note2:** Self-test can be made also on a radio powered Edge (See Auto-test Menu)

## 10K PHOTOCELL (SINGLE OR DOUBLE) 9 and 11 - 10 and 11

Between clamps 9 and 11 on the terminal CN1 it is also possible to connect a 10K Photocell (or two 10K Photocells connected between clamps 10 and 11) In this case it is necessary to set it on menu 100 - EDGE as Photo10K (or Photo1 10K Double), then it will run following settings on menu 97 - PHOTO 1.

**Nota1:** The use of a 10K Photocell allows to get further protection in case of short-circuit on the cables.

Example of two 10K Photocells connections



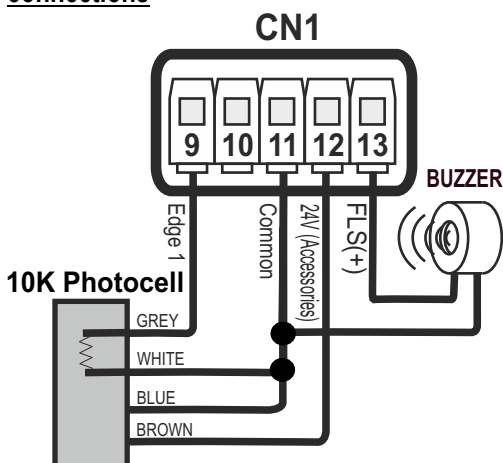
### Setting 10 K Photocell



### Setting 10K Double Photocell



### Example of 10K Photocell and Buzzer connections



**IMPORTANT NOTE: INSTEAD OF THE FLASHING LAMP, YOU CAN ALSO CONNECT A BUZZER REMEMBER TO SET THE 86-MENU ON «BUZZER»**

## 24V--- BUZZER 11 and 13

Buzzer (24V--- ) Audible Alarm

Use an autoswinging buzzer 24V--- of 100 dB. The buzzer will be switched on after two consecutive activations of the entrapment protection. To reset the alarm it is necessary to push the button STOP. Anyway after 5 minutes the buzzer will stop to sound and the automation stands still waiting for commands.

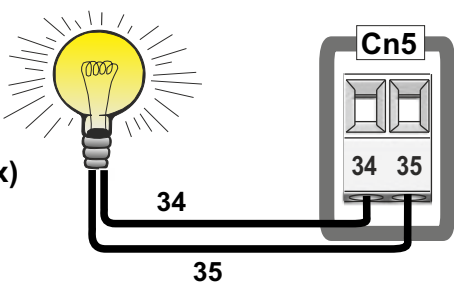


**If Buzzer does not work, check the 86-FLASHING LIGHT menu is set on "Buzzer"**

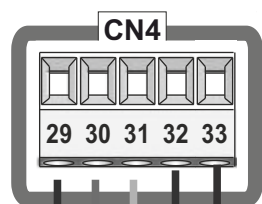
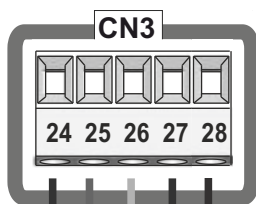
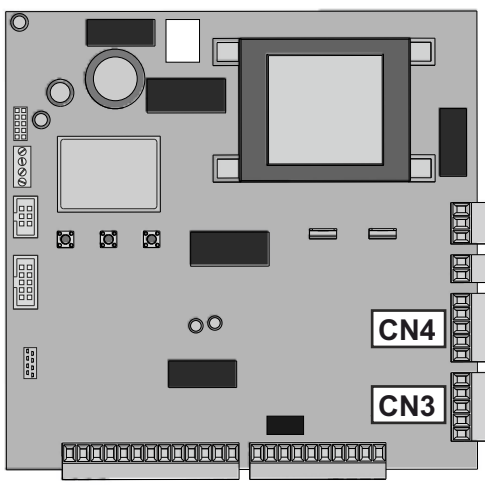
# COURTESY LIGHT CONNECTION

## COURTESY LIGHT

Timing from 0 to 4 minutes  
(230V~ 50W Max - 115V~ 100W Max)



# MOTORS, CAPACITORS AND POWER SUPPLY CONNECTIONS



**MOTOR 1**  
 Motor 1 connection  
 M = motor Opening/Closing  
 COM = Common  
 Motore to be connected on a single leaf

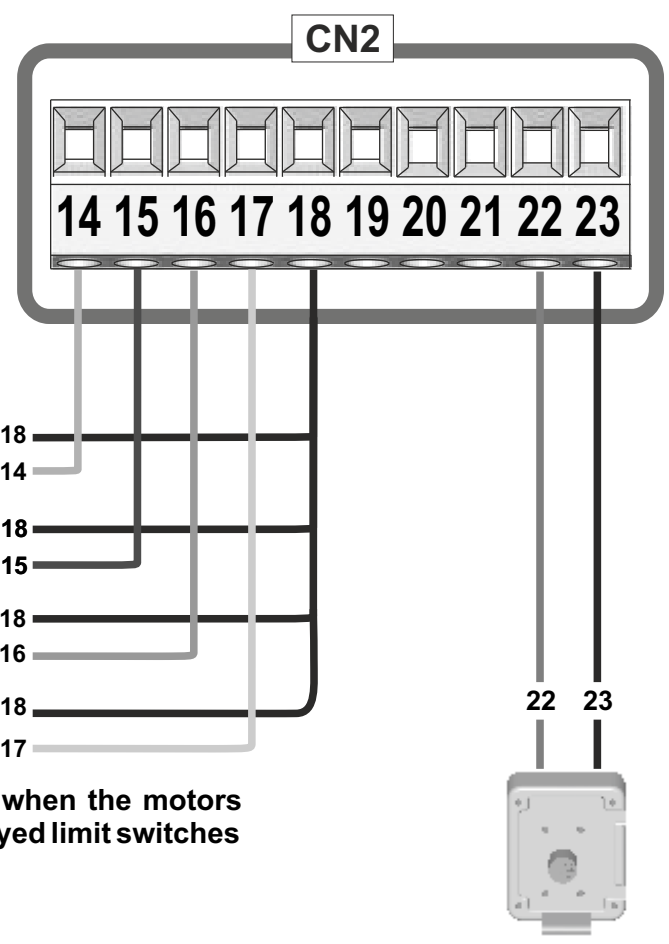
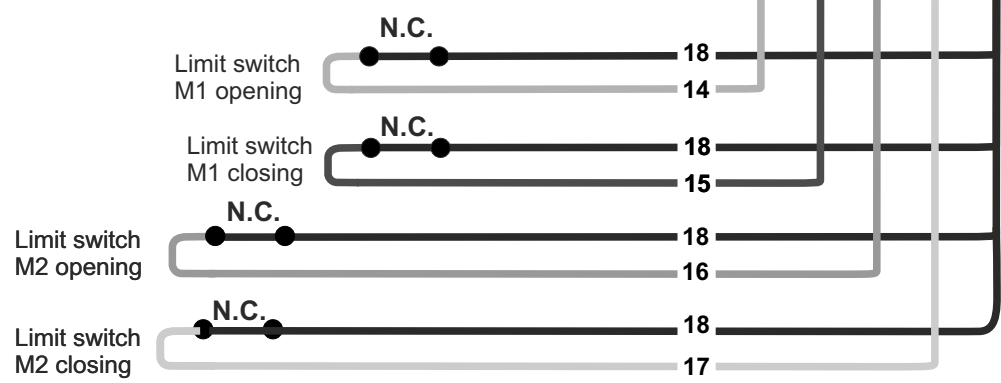
**MOTOR 2**  
 Motor 2 connection  
 M = motor Opening/Closing  
 COM = Common

**POWER SUPPLY INPUT**  
**NOTE:** For power supply connection follow the rules in force

# LIMIT SWITCH and ELECTRIC LOCK CONNECTIONS

**LIMIT SWITCH 14 15 16 17**

Does not need a jumper when not connected.  
 For the limit switch function, limit switches must be installed, both in opening and closing. In the case of single-leaf connect motor 1 (it is not necessary to bridge the limit switches of motor 2).  
 Anti-intrusion function can be activated. This function needs at least one limit switch, which pushes the motor in closing direction once it's released.



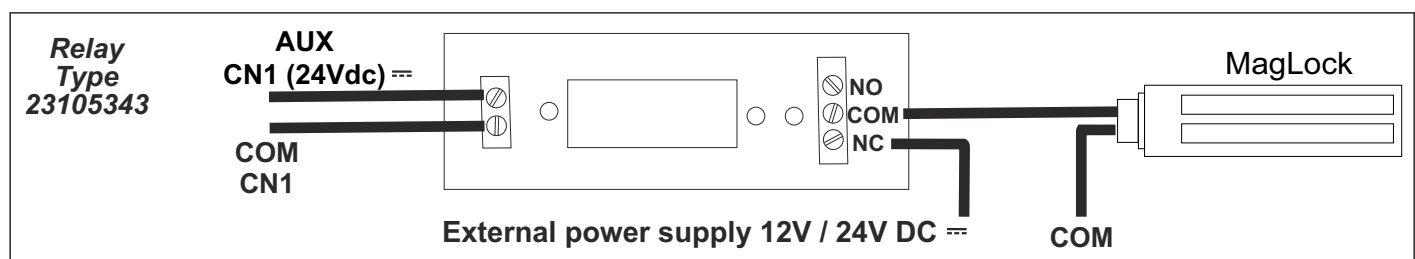
**⚠ The right operation of the limit switch is guaranteed when the motors turning direction correspond with the respective employed limit switches**  
**Com = Common**  
**C= Contact**

ELECTRIC LOCK

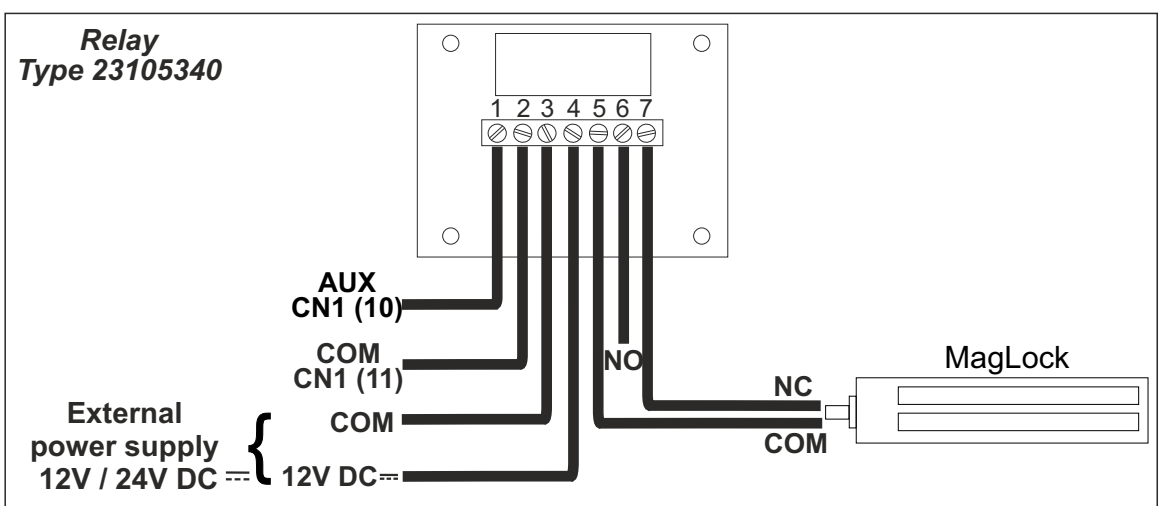
**ELECTRIC LOCK OUTPUT 22 23**

A 12V --- 15W max electric lock can be connected  
 The electric lock can be deactivated when not used for energy saving on the control unit.  
 The electric lock release can be timed from 0 to 5 seconds  
 The electric lock can be set: only before opening, only before closing or in both directions.

## MAGLOCK 12V CONNECTIONS



**NOTE:**  
 For both Relay types it is necessary to set menu 94 - 24V AUX on "negative brake management"





# SAFETY GATE, AMPEROMETRIC MANAGEMENT or POSITION GATE CONNECTIONS



*With these options the entrapment protection is always monitored*

## 1) AMPEROMETRIC DEVICE FOR ELECTROMECHANICAL OPERATORS

This control unit comes with an obstacle detection system working only on electromechanical operators allowing to have the reversing on obstacles and the automatic detection of the stops.

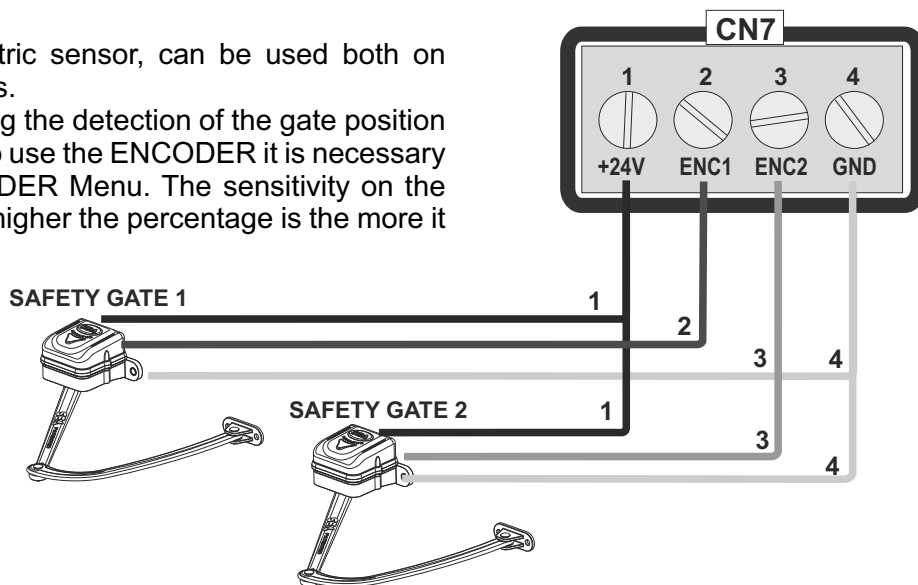
Sensitivity adjustable from OFF to 99% inside the special menu. The more the percentage is high the more the obstacle detection will be difficult. On hydraulic unit this parameter will be always OFF.

## 2) SAFETY GATE

The Safety Gate, unlike the amperometric sensor, can be used both on electromechanical and hydraulic operators.

The Safety Gate is an ENCODER allowing the detection of the gate position and its reversing in case of obstacles. To use the ENCODER it is necessary to enable it inside the special 32-ENCODER Menu. The sensitivity on the obstacle is adjustable from 0 - 99%. The higher the percentage is the more it will be difficult to detect the obstacle.

**ATTENTION:** The first operation after power failure, will be executed with the set speed to search the mechanical stops limit.



## 3) POSITION GATE WITH LE CARD

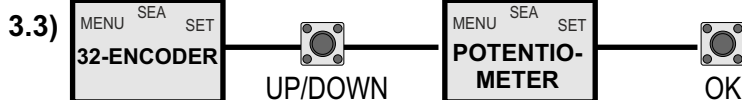
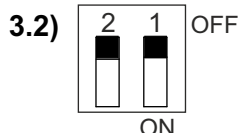
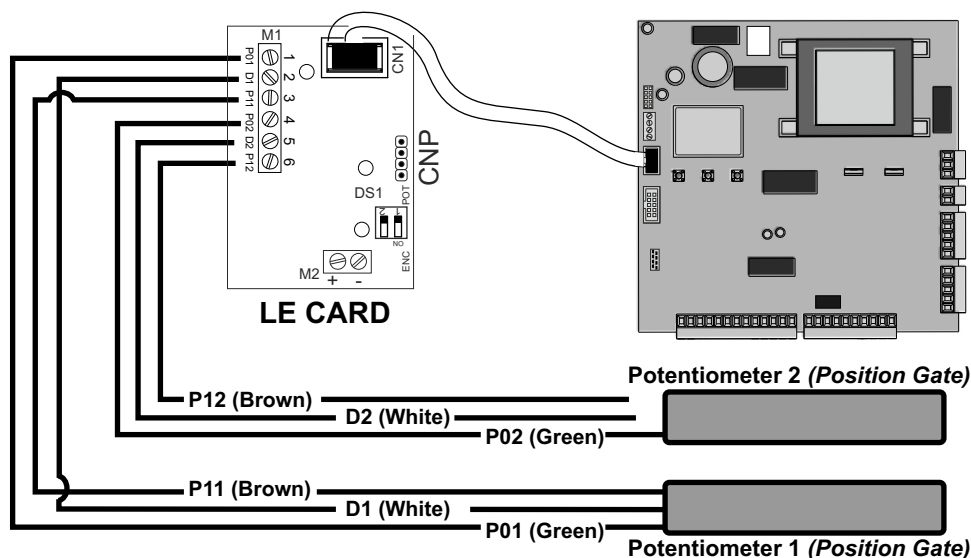
The position gate allows to know the exact position of the gate and to have the reverse on the obstacle.

The position gate is applicable on the hydraulic motors Half Tank and Mini Tank new series, **in combination with the LE card.**

### To connect position gate (linear Encoder):

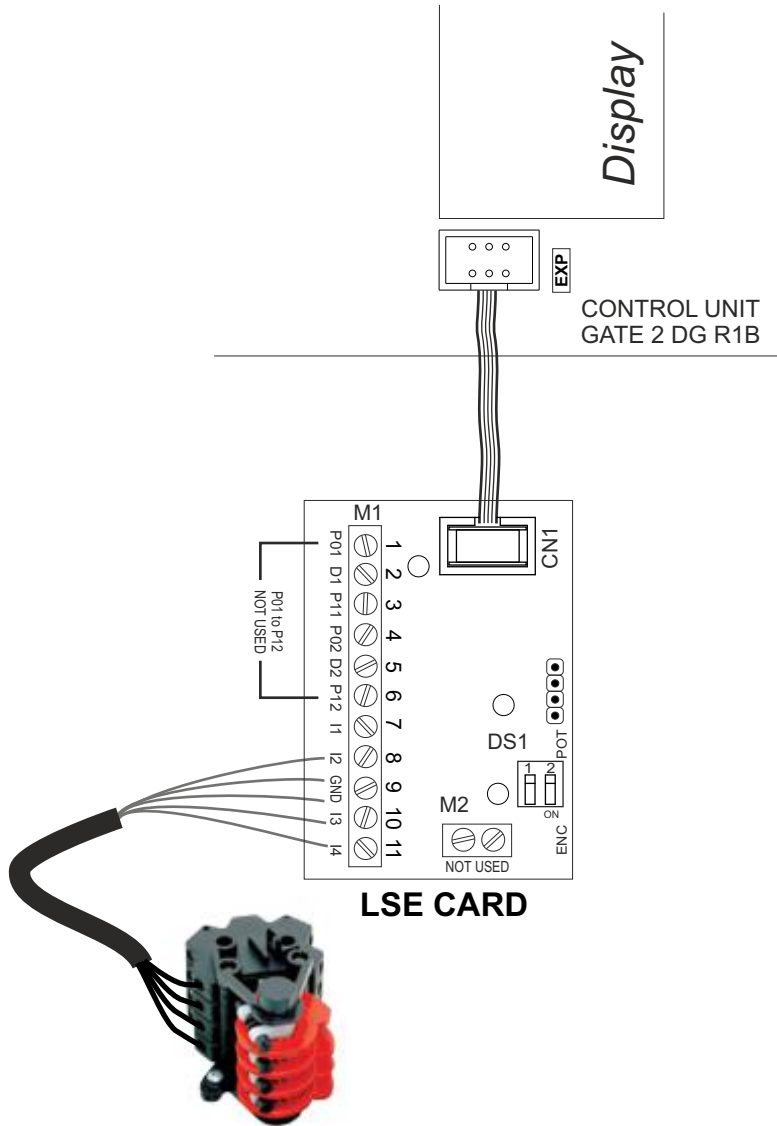
If the reading of the potentiometer is reversed relative to the movement of the motor, on the display will appear the alarm "Potentiometer direction" and you will have to reverse the brown wire with the green one and repeat programming.

3.1)



3.4) Sensitivity and threshold of intervention adjustment from menu 33 to 45

# 4 LIMIT SWITCHES WITH LSE CARD CONNECTIONS



ON Dip switch 1 = OFF (if Inverter is not present)  
 OFF Dip switch 2 = OFF

Set EXT on  
104 - SELECT LIMIT SWITCH menu

- I1 = Slowdown closing motor 1
- I2 = Slowdown opening motor 1
- GND = Common
- I3 = Slowdown closing motor 2
- I4 = Slowdown opening motor 2

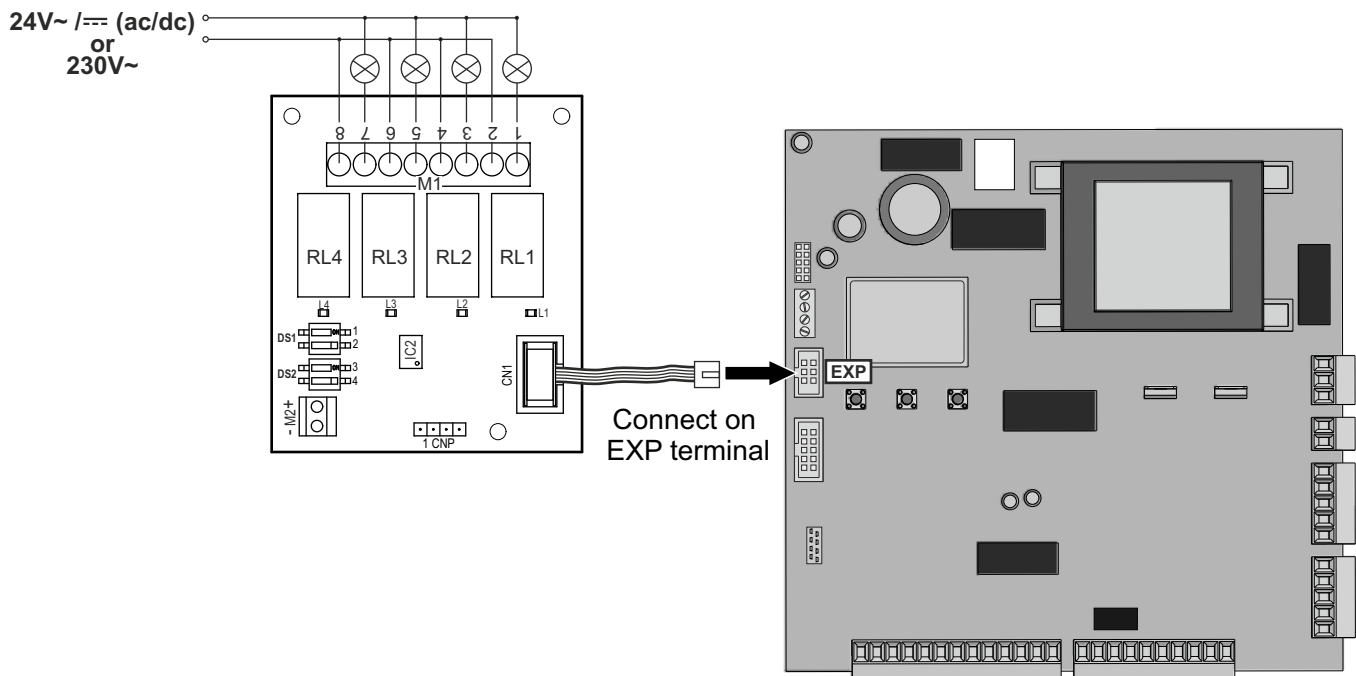
**Note 1:** For two leaves gates, slowdown limit-switches only must be connected on LSE card. Opening and closing limit-switches must be connected on the control unit.

**Note 2:** If slowdown is not evident, move up slowdown limit-switches.

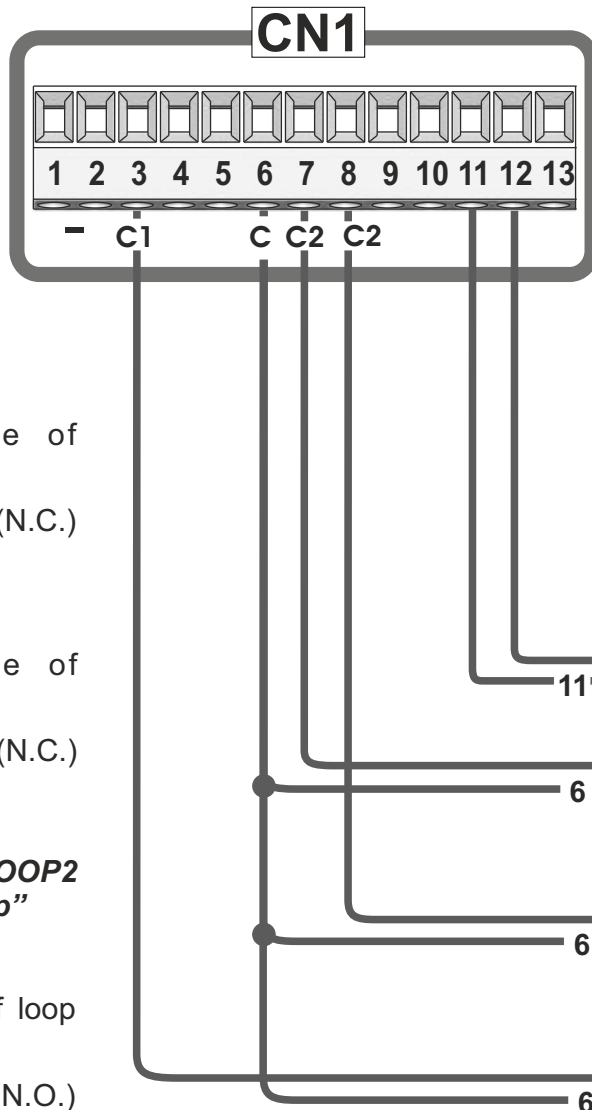
**Note 3:** for sliding motors with inverter, the Dip-switch 2 must be ON.

ON Dip switch 1 = OFF  
 OFF Dip switch 2 = ON

# TRAFFIC LIGHT CARD CONNECTIONS



# SAFETY LOOP CONNECTIONS



DRAWING SHOWS HOW TO EVENTUALLY CONNECT THE MAGNETIC LOOP

C1 = CONTACT OPEN  
C2 = CONTACT CLOSED  
12 = 24 V  $\equiv$   
11 = 0 V  $\equiv$

## Safety exit loop

Connecting scheme of loop detector 1 reader

7 = Contact photocell 1 (N.C.)  
6 = Common

## Shadow loop

Connecting scheme of loop detector 2 reader

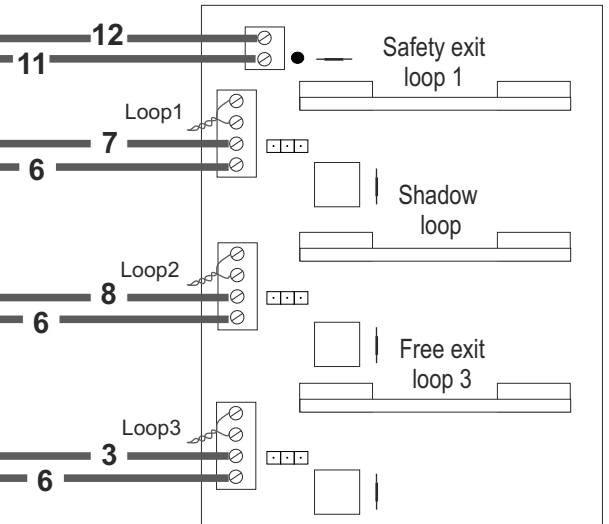
8 = Contact photocell 2 (N.C.)  
6 = Common

**Note: Please set 98-PHOTOCELL2 - LOOP2 menu to "Shadow loop"**

## Free exit loop

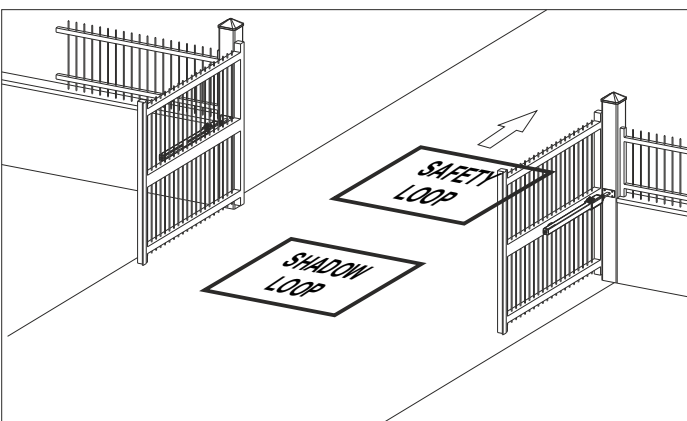
Connecting scheme of loop detector reader

3 = Contact start (N.O.)  
6 = Common

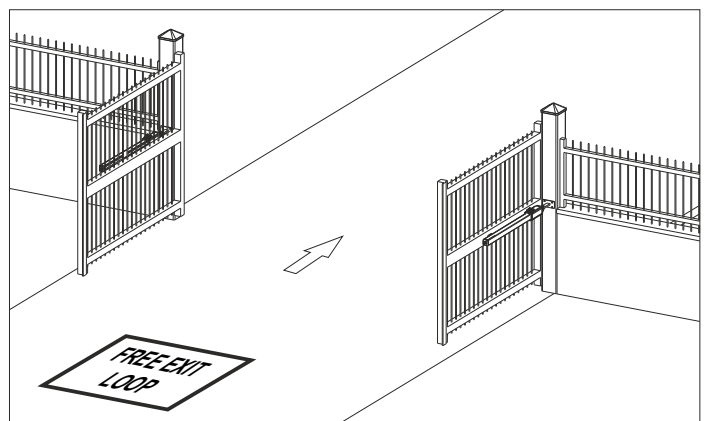


## CONNECTING SCHEME OF THREE READERS OF MAGNETIC LOOP DETECTORS: (TWO OF THEM USED AS SECURITY DEVICE AND ONE AS EXIT)

### SAFETY LOOP SYSTEM



### EXIT LOOP SYSTEM



## ALARM DESCRIPTION

Signals	Kind of alarm	Solutions
FAILURE MOTOR	Motor current failure	Make sure there are no short circuits on the motor or on the control unit
FAILURE24	AUX output voltage failure	Make sure there are no short circuits on the wiring or on the control unit and no overloads
FAILURE NET	Power supply failure	Check the network or the F2 fuse
FAILURE AUTO-TEST	Photocells auto-test failure	Check the photocells operation and / or connections on the control unit
FAILURE LIMIT-SWITCH	Limit-switch activation failure	Check the operation of both limit-switches and/or correspondence between movement direction of the motor and the engaged limit-switches
FAILURE FLASHING LIGHT	Flashing lamp failure	Check connections and/or conditions of the lamp
FAILURE POTENTIOMETER	Potentiometer failure	The message appears only if the potentiometer is ON and the potentiometer (LE) card is broken or not connected
FAILURE POT.1 DIRECTION	Potentiometer 1 direction failure	Invert potentiometer's cables (invert green with brown)
FAILURE POT.2 DIRECTION	Potentiometer 2 direction failure	Invert potentiometer's cables (invert green with brown)
FAILURE THERMOMETER	Failure thermometer	The message appears only if the thermometer is ON and the potentiometer card (LE) is broken, not connected or incorrectly set
FAILURE EDGE 1	Edge 1 failure	Check edge's metal thread and edge's connection cables; make sure the contact is closed by looking on display
FAILURE EDGE 2	Edge 2 failure	Check edge's metal thread and edge's connection cables; make sure the contact is closed by looking on display
FAILURE PHOTO1 10K	10K photocell1 failure	Check photocells 1 connections or possible short circuits; check if photocell is well powered. Make sure that a 10K protection photocell has been connected
FAILURE PHOTO2 10K	10K photocell2 failure	Check photocells 2 connections or possible short circuits; check if photocell is well powered. Make sure that a 10K protection photocell has been connected

**Note 1:** If in the diagnostics shows "Max. cycles reached", do the maintenance and / or reset the number of cycles performed.

**Note2:** To exit from the error messages, press OK. If the error persists, make all required checks for the specific error and / or disconnect the device that generates the error to see if the error disappears.

At each opening and closing of the automation the flashing light will blink. It blinks once per second during opening and twice per second during closing, while it remains lit during pause.

It is possible to view the alarms also on the flashing light or on the control lamp, simply by observing the number of flashes emitted and verifying the reference in the table below:

Blinks	Cause of Alarm
1	Photocell in closing
2	Photocell in opening
3	Security edge
4 fast blinks	Limit-switch error
5	Stop
6	Collision in closing

Blinks	Cause of Alarm
7	Collision in opening
7 fast blinks for 9 times	Autotest failure
8	Maximum cycles reached
10	Motor failure
11	Motor failure

# TROUBLE SHOOTING

<b>Advices</b>		
<b>Make sure all Safeties are turned ON</b>		
<b>Problem Found</b>	<b>Possible Cause</b>	<b>Solutions</b>
Operator doesn't respond to any START impulse	a) Check the connected N.C. contacts b) Burnt fuse	a) Check the connections or the jumpers on the connections of the safety edge or of the stop and of the photocell if connected b) Replace the burnt fuse on the control unit
Operator does not run and diagnostic display not on.	a) No power to control board b) Open fuse c) Defective control board	a) Check AC power b) Check fuses c) Replace defective control board
Operator does not respond to a wired control/command (example: Open, Close, etc.)	a) Check Open and Close command input b) Stop button is active c) Reset button is stuck d) Entrapment Protection Device active	a) Check all Open and Close inputs for a stuck on input b) Check Stop button is not stuck on c) Check Reset button d) Check all Entrapment Protection Device inputs for a stuck on sensor
Operator does not respond to a transmitter	a) Stop button is active b) Reset button is stuck c) Poor radio reception	a) Check Stop button is not stuck on b) Check Reset button c) Check if similar wired control operates correctly. Check antenna wire
Motor turn only one way	a) Check resistance between motor phase and neutral, if the resistance is MOhm b) Try to invert the motor phase and watch if the motor change or not the direction	a) Change cable b) If the motor is blocked change the cable if the motor go only in one direction the motor relay direction is damaged
Gate doesn't move while the motor is running	a) The motor is in the released position b) There is an obstacle	a) Re-lock the motor b) Remove obstacle
Gate doesn't reach the complete Open / Closed position	a) Wrong setting of the limit switches b) Error on programming c) Gate is stopped by an obstacle d) Torque too low e) Gate is too heavy for automatic slow-down	a) Set limit switches b) Repeat programming c) Remove obstacle d) Increase torque parameter e) Set the slow-down on OFF
Gate opens but doesn't close	a) The contacts of the photocells are connected and open b) The stop contact is connected and open c) The edge contact is open d) Ammeter alarm	a) b) c) Check the jumpers or the connected devices and the signals indicated on the warning lamp d) Check if the ammeter alarm has intervened and eventually increase the torque parameter
Gate doesn't close automatically	a) Pause time set too high b) Control unit in semi-automatic logic	a) Adjust pause time b) Set the pause parameter on a different value from the OFF
Gate moves, but cannot set correct limits	a) Gate does not move to a limit position b) Gate is too difficult to move	a) Use manual disconnect, manually move gate, and ensure gate moves easily limit to limit. Repair gate as needed b) Gate must move easily and freely through its entire range, limit to limit. Repair gate as needed
Gate does not fully open or fully close when setting limits	a) Gate does not move to a limit position b) Gate is too difficult to move	a) Use manual disconnect, manually move gate, and ensure gate moves easily limit to limit. Repair gate as needed b) Gate must move easily and freely through its entire range, limit to limit Repair gate as needed
Gate stops during travel and reverses immediately	a) Control Open/Close becoming active b) The obstacle sensitivity is too low	a) Check all Open and Close inputs for an active input b) Check the obstacle sensitivity value and try to increase this parameter

<b>Advices</b>		
<b>Make sure all Safeties are turned ON</b>		
<b>Problem Found</b>	<b>Possible Cause</b>	<b>Solutions</b>
Gate doesn't respect slow down points	a) ENCODER is not working properly if It's activated b) Mechanical clutch loose c) Slow down space is too wide d) Potentiometer is not working properly if It's activated e) The recovery position parameters are too high or too low	a) Check menu for encoder parameters "Encoder Par" shall be from a low value +/- 10 (gate completely closed) to "Encoder tot" (gate completely opened). If the movement of Ipar is not linear in the range (+/-10 - Encoder tot) probably the Encoder is defective b) Tight mechanical clutch c) Reduce slow down space d) Check menu for potentiometer parameters "IPar" shall be from "I. CH." (gate completely closed) to "I.AP." (gate completely opened). If the movement of Ipar is not linear in the range (I.AP. - I.CH.) probably the potentiometer is defective e) Reduce or increase the recovery position parameters
Gate opens suddenly without start command	a) Frequency or other noise from main line b) Short circuit on the start contact	a) Wiring AC shall be separate from DC wire and pass through separate conduits. If there is a frequency noise it is possible to change frequency to another MHz like 868 for example or FM b) Check all start contacts
Gate doesn't close in automatic logic during pause even if a loop/photo is set as start	a) START IN PAUSE is not in ON b) The photo/loop input is not set as delay pause time	a) Put in ON the menu of START IN PAUSE b) Set in the photo/loop menu (delay pause time)
Gate doesn't have power to close or reach limit switch	a) Slow down not possible for that site due to heavy gate or inclination or not new installation	a) Put Slow Down in OFF
Obstruction in gates path does not cause gate to stop and reverse	a) Force adjustment needed	a) Refer to the Adjustment section to conduct the obstruction test and perform the proper force adjustment that is needed (sensitivity - torque)
Photoelectric sensor does not stop or reverse gate	a) Incorrect photoelectric sensor wiring b) Defective photoelectric sensor c) Photoelectric sensors installed too far apart	a) Check photoelectric sensor wiring. Retest that obstructing photoelectric sensor causes moving gate to stop, and may reverse direction b) Replace defective photoelectric sensor. Retest that obstructing photoelectric sensor causes moving gate to stop, and may reverse direction c) Move the photoelectric sensors closer together or use edge sensors instead
Edge Sensor does not stop or reverse gate	a) Incorrect edge sensor wiring b) Defective edge sensor	a) Check edge sensor wiring. Retest that activating edge sensor causes moving gate to stop and reverse direction b) Replace defective edge sensor. Retest that activating edge sensor causes moving gate to stop and reverse direction
Alarm sounds for 5 minutes or alarm sounds with a command	a) Double entrapment occurred (two obstructions within a single activation)	a) Check for cause of entrapment (obstruction) detection and correct. Press the reset button to shut off alarm and reset the operator.
Shadow loop does not keep gate at the open limit	a) Vehicle detector setup incorrectly b) Defective vehicle loop detector c) Wrong settings	a) Review Shadow loop detector settings. Adjust settings as needed b) Replace defective Shadow loop detector c) Check the photo2 menu is set on shadow loop
Accessories connected to the accessory power not working correctly, turning off or resetting	a) Accessory power protector active b) Defective control board	a) Disconnect all accessory powered devices and measure accessory power voltage (should be 23-30 Vdc). If voltage is correct, connect accessories one at a time, measuring accessory voltage after every new connection b) Replace defective control board
FAILURE 24VAUX	a) Overload or short-circuit on the output N°10 b) Burnt fuse	a) Check a short circuit on the cable b) Change fuse

## Page for both instaler and user

### MAINTENANCE

Considering the number of working cycles and the kind of gate, if the gate has changed the clutches and doesn't work it's necessary to periodically proceed, with **the learning times reprogramming on the electronic control unit**. Periodically clean the optical systems of the photocells.

### REPLACEMENTS

Any request for spare parts must be sent to:

**SEA S.p.A. - Zona Ind.le, 64020 S.ATTO - Teramo - Italia**

### SAFETY AND ENVIRONMENTAL COMPATIBILITY

Disposal of the packaging materials of products and/or circuits should take place in an approved disposal facility.



#### **REGULAR PRODUCT DISPOSAL (electric and electronic waste)**

(It's applicable in EU countries and in those ones provided with a differential waste collection)

The brand that you find on the product or on documentation signals that the product must not be disposed off together with other domestic waste at the end of life cycle. In order to avoid any possible environmental or health damage caused by irregular waste disposal, we recommend to separate this product from other forms of waste and to recycle it in a responsible way in order to provide the sustainable re-use of material resources. Domestic users are invited to contact the retailer where the product has been purchased or the local office in charge of all the information related to differential waste collection and recycling of this kind of product.

### STORING

#### WAREHOUSING TEMPERATURES

<b>T<sub>min</sub></b>	<b>T<sub>Max</sub></b>	<b>Dampness<sub>min</sub></b>	<b>Dampness<sub>Max</sub></b>
- 20°C ↯	+ 65°C ↯	5% <i>Not condensing</i>	90% <i>Not condensing</i>

Materials handling must be made with appropriate vehicles..

### WARRANTY LIMITS

For the guarantee see the sales conditions on the official SEA price list.

*SEA reserves the right to make any required modification or change to the products and/or to this manual without any advanced notice obligation.*

## **English** GENERAL NOTICE FOR THE INSTALLER AND THE USER

1. Read carefully these **Instructions** before beginning to install the product. Store these instructions for future reference
2. Don't waste product packaging materials and /or circuits.
3. This product was designed and built strictly for the use indicated in this documentation. Any other use, not expressly indicated here, could compromise the good condition/operation of the product and/or be a source of danger. SEA S.p.A. declines all liability caused by improper use or different use in respect to the intended one.
4. The mechanical parts must be comply with Directives: Machine Regulation 2006/42/CE and following adjustments), Low Tension (2006/95/CE), electromgnetic Consistency (2004/108/CE) Installation must be done respecting Directives: EN12453 and En12445.
5. Do not install the equipment in an explosive atmosphere.
6. SEA S.p.A. is not responsible for failure to observe Good Techniques in the construction of the locking elements to motorize, or for any deformation that may occur during use.
7. Before attempting any job on the system, cut out electrical power and disconnect the batteries. Be sure that the earthing system is perfectly constructed, and connect it metal parts of the lock.
8. Use of the indicator-light is recommended for every system, as well as a warning sign well-fixed to the frame structure.
9. SEA S.p.A. declines all liability as concerns the automated system's security and efficiency, if components used, are not produced by SEAS.p.A..
10. For maintenance, strictly use original parts by SEA.
11. Do not modify in any way the components of the automated system.
12. The installer shall supply all information concerning system's manual functioning in case of emergency, and shall hand over to the user the warnings handbook supplied with the product.
13. Do not allow children or adults to stay near the product while it is operating. The application cannot be used by children, by people with reduced physical, mental or sensorial capacity, or by people without experience or necessary training. Keep remote controls or other pulse generators away from children, to prevent involuntary activation of the system.
14. Transit through the leaves is allowed only when the gate is fully open.
15. The User must not attempt to repair or to take direct action on the system and must solely contact qualified SEA personnel or SEA service centers. User can apply only the manual function of emergency.
16. The power cables maximum length between the central engine and motors should not be greater than 10 m. Use cables with 2,5 mm<sup>2</sup> section. Use double insulation cable (cable sheath) to the immediate vicinity of the terminals, in particular for the 230V cable. Keep an adequate distance (at least 2.5 mm in air), between the conductors in low voltage (230V) and the conductors in low voltage safety (SELV) or use an appropriate sheath that provides extra insulation having a thickness of 1 mm.



## TERMS OF SALES

**EFFICACY OF THE FOLLOWING TERMS OF SALE:** the following general terms of sale shall be applied to all orders sent to SEA S.p.A. All sales made by SEA to all costumers are made under the prescription of this terms of sales which are integral part of sale contract and cancel and substitute all apposed clauses or specific negotiations present in order document received from the buyer.

**GENERAL NOTICE** The systems must be assembled exclusively with SEA components, unless specific agreements apply. Non-compliance with the applicable safety standards (European Standards EM12453 – EM 12445) and with good installation practice releases SEA from any responsibilities. SEA shall not be held responsible for any failure to execute a correct and safe installation under the above mentioned standards.

**1) PROPOSED ORDER** The proposed order shall be accepted only prior SEA approval of it. By signing the proposed order, the Buyer shall be bound to enter a purchase agreement, according to the specifications stated in the proposed order.

On the other hand, failure to notify the Buyer of said approval must not be construed as automatic acceptance on the part of SEA.

**2) PERIOD OF THE OFFER** The offer proposed by SEA or by its branch sales department shall be valid for 30 solar days, unless otherwise notified.

**3) PRICING** The prices in the proposed order are quoted from the Price List which is valid on the date the order was issued. The discounts granted by the branch sales department of SEA shall apply only prior to acceptance on the part of SEA. The prices are for merchandise delivered ex-works from the SEA establishment in Teramo, not including VAT and special packaging. SEA reserves the right to change at any time this price list, providing timely notice to the sales network. The special sales conditions with extra discount on quantity basis (Qx, Qx1, Qx2, Qx3 formula) is reserved to official distributors under SEA management written agreement.

**4) PAYMENTS** The accepted forms of payment are each time notified or approved by SEA. The interest rate on delay in payment shall be 1.5% every month but anyway shall not be higher than the max. interest rate legally permitted.

**5) DELIVERY** Delivery shall take place, approximately and not peremptorily, within 30 working days from the date of receipt of the order, unless otherwise notified. Transport of the goods sold shall be at Buyer's cost and risk. SEA shall not bear the costs of delivery giving the goods to the carrier, as chosen either by SEA or by the Buyer. Any loss and/or damage of the goods during transport, are at Buyer's cost.

**6) COMPLAINTS** Any complaints and/or claims shall be sent to SEA within 8 solar days from receipt of the goods, proved by adequate supporting documents as to their truthfulness.

**7) SUPPLY** The concerning order will be accepted by SEA without any engagement and subordinately to the possibility to get it's supplies of raw material which is necessary for the production; Eventual completely or partially unsuccessful executions cannot be reason for complains or reservations for damage. SEA supply is strictly limited to the goods of its manufacturing, not including assembly, installation and testing. SEA, therefore, disclaims any responsibility for damage deriving, also to third parties, from non-compliance of safety standards and good practice during installation and use of the purchased products.

**8) WARRANTY** The standard warranty period is 12 months. This warranty time can be extended by means of expedition of the warranty coupon as follows:

**SILVER:** The mechanical components of the operators belonging to this line are guaranteed for 24 months from the date of manufacturing written on the operator.

**GOLD:** The mechanical components of the operators belonging to this line are guaranteed for 36 months from the date of manufacturing written on the operator.

**PLATINUM:** The mechanical components of the operators belonging to this line are guaranteed for 36 months from the date of manufacturing written on the operator. The base warranty (36 months) will be extended for further 24 months (up to a total of 60 months) when it is acquired the certificate of warranty which will be filled in and sent to SEA S.p.A. The electronic devices and the systems of command are guaranteed for 24 months from the date of manufacturing. In case of defective product, SEA undertakes to replace free of charge or to repair the goods provided that they are returned to SEA repair centre. The definition of warranty status is by unquestionable assessment of SEA. The replaced parts shall remain propriety of SEA. Binding upon the parties, the material held in warranty by the Buyer, must be sent back to SEA repair centre with fees prepaid, and shall be dispatched by SEA with carriage forward. The warranty shall not cover any required labour activities.

The recognized defects, whatever their nature, shall not produce any responsibility and/or damage claim on the part of the Buyer against SEA. The guarantee is in no case recognized if changes are made to the goods, or in the case of improper use, or in the case of tampering or improper assembly, or if the label affixed by the manufacturer has been removed including the SEA registered trademark No. 804888. Furthermore, the warranty shall not apply if SEA products are partly or completely coupled with non-original mechanical and/or electronic components, and in particular, without a specific relevant authorization, and if the Buyer is not making regular payments. The warranty shall not cover damage caused by transport, expendable material, faults due to non-conformity with performance specifications of the products shown in the price list. No indemnification is granted during repairing and/or replacing of the goods in warranty. SEA disclaims any responsibility for damage to objects and persons deriving from non-compliance with safety standards, installation instructions or use of sold goods. The repair of products under warranty and out of warranty is subject to compliance with the procedures notified by SEA.

**9) RESERVED DOMAIN** A clause of reserved domain applies to the sold goods; SEA shall decide autonomously whether to make use of it or not, whereby the Buyer purchases propriety of the goods only after full payment of the latter.

**10) COMPETENT COURT OF LAW** In case of disputes arising from the application of the agreement, the competent court of law is the tribunal of Teramo. SEA reserves the faculty to make technical changes to improve its own products, which are not in this price list at any moment and without notice. SEA declines any responsibility due to possible mistakes contained inside the present price list caused by printing and/or copying. The present price list cancels and substitutes the previous ones. The Buyer, according to the law No. 196/2003 (privacy code) consents to put his personal data, deriving from the present contract, in SEA archives and electronic files, and he also gives his consent to their treatment for commercial and administrative purposes.

**Industrial ownership rights:** once the Buyer has recognized that SEA has the exclusive legal ownership of the registered SEA brand num.804888 affixed on product labels and / or on manuals and / or on any other documentation, he will commit himself to use it in a way which does not reduce the value of these rights, he won't also remove, replace or modify brands or any other particularity from the products. Any kind of replication or use of SEA brand is forbidden as well as of any particularity on the products, unless preventive and expressed authorization by SEA.

**In accomplishment with art. 1341 of the Italian Civil Law it will be approved expressly clauses under numbers:**

**4) PAYMENTS - 8) GUARANTEE - 10) COMPETENT COURT OF LAW**

**Dichiarazione di conformità**  
**Declaration of Conformity**

La SEA S.p.A. dichiara sotto la propria responsabilità e, se applicabile, del suo rappresentante autorizzato che il prodotto:

*SEA S.p.A. declares under its proper responsibility and, if applicable, under the responsibility of its authorised representative that the product:*

<b>Descrizione / Description</b>	<b>Modello / Model</b>	<b>Marca / Trademark</b>
Gate 2 DG R1B (e tutti i suoi derivati)	23023025	SEA
<i>Gate 2 DG R1B (and all its by-products)</i>	<i>23023025</i>	<i>SEA</i>

è costruito per essere incorporato in una macchina o per essere assemblato con altri macchinari per costruire una macchina ai sensi della Direttiva 2006/42/CE:

*is built to be integrated into a machine or to be assembled with other machinery to create a machine under the provisions of Directive 2006/42/CE:*

è conforme ai requisiti essenziali di sicurezza relativi al prodotto entro il campo di applicabilità delle Direttive Comunitarie 2006/95/CE e 2004/108/CE.

*it is conforming to the essential safety requirements related to the product within the field of applicability of the Community Directives 2006/95/CE and 2004/108/CE.*

**COSTRUTTORE o RAPPRESENTANTE AUTORIZZATO:**  
**MANUFACTURER or AUTHORISED REPRESENTATIVE:**

SEAS.p.A.  
DIREZIONE E STABILIMENTO:  
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[Http://www.seateam.com](http://www.seateam.com)

I test sul prodotto sono stati effettuati in configurazione standard e in riferimento alle norme specifiche per la sua classe d'utilizzo.

*The products have been tested in standard configuration and with reference to the special norms concerning the classe of use.*

(Luogo, data di emissione)  
(Place, date of issue)  
Teramo, 10/06/2015

L'Amministratore  
The Administrator  
Ennio Di Saverio  



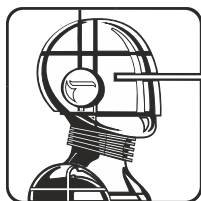

**SEA**<sup>®</sup>  
electronic opening system

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Le agradecemos por haber escogito SEA.



**SEA<sup>®</sup>**

Sistemi Elettronici  
di Apertura Porte e Cancelli  
International registered trademark n. 804888



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