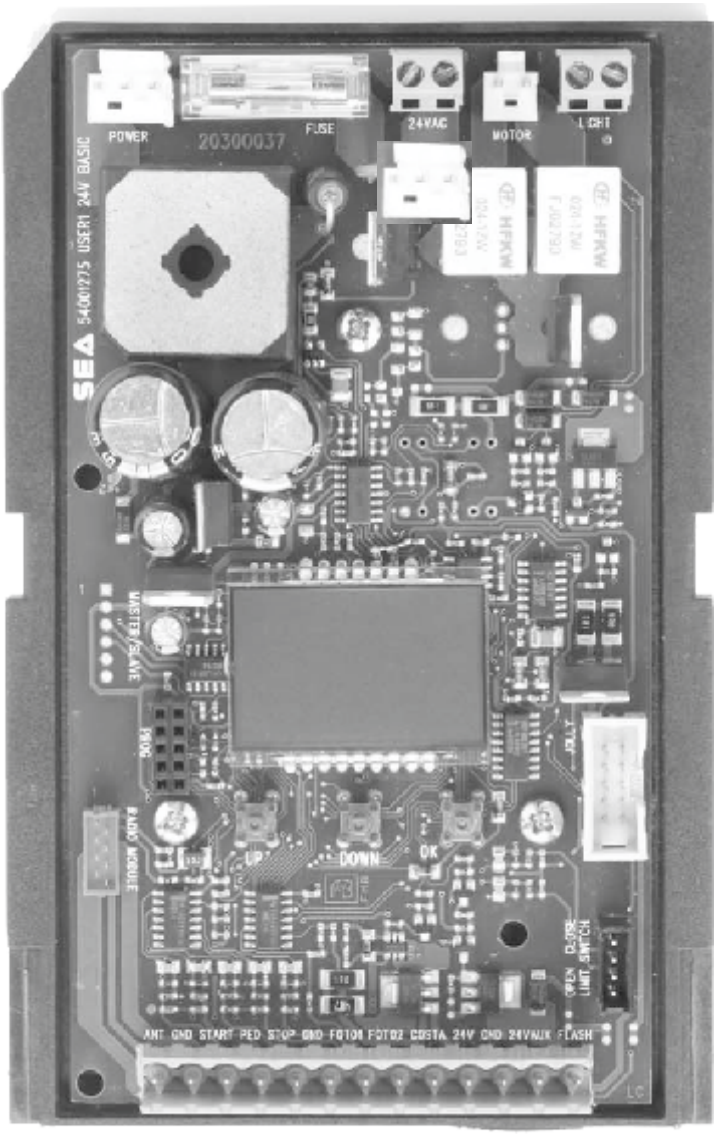
SEA USA
ELECTRONIC OPENING SYSTEMS
International registered trademark n. 2.777.971

USER 1 - 24V DG MAXI

24V ⎓ ELECTRONIC CONTROL UNIT FOR SLIDING GATES AND BARRIERS



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Details

General

An appliance shall be provided with an instruction manual. The instruction manual shall give instructions for the installation, operation, and user maintenance of the appliance.

The installation instructions shall specify the need for a grounding-type receptacle for connection to the supply and shall stress the importance of proper grounding.

The installation instructions shall inform the installer that permanent wiring is to be employed as required by local codes, and instructions for conversion to permanent wiring shall be supplied.

Information shall be supplied with a gate operator for:

a) The required installation and adjustment of all devices and systems to effect the primary and secondary protection against entrapment (where included with the operator).
b) The intended connections for all devices and systems to effect the primary and secondary protection against entrapment. The information shall be supplied in the instruction manual, wiring diagrams, separate instructions, or the equivalent.

Vehicular gate operators (or systems)
A vehicular gate operator shall be provided with the information in the instruction manual that defines the different vehicular gate operator Class categories and give examples of each usage. The manual shall also indicate the use for which the particular unit is intended as defined in Glossary, Section 3. The installation instructions for vehicular gate operators shall include information on the Types of gate for which the gate operator is intended.

A gate operator shall be provided with the specific instructions describing all user adjustments required for proper operation of the gate. Detailed instructions shall be provided regarding user adjustment of any clutch or pressure relief adjustments provided. The instructions shall also indicate the need for periodic checking and adjustment by a qualified technician of the control mechanism for force, speed, and sensitivity.

Instructions for the installation, adjustment, and wiring of external controls and devices serving as required protection against entrapment shall be provided with the operator when such controls are shipped with the operator.

Instructions regarding intended installation of the gate operator shall be supplied as part of the installation instructions or as a separate document. The following instructions or the equivalent shall be supplied where applicable:

a) Install the gate operator only when:
1) The operator is appropriate for the construction of the gate and the usage Class of the gate,
2) All openings of a horizontal slide gate are guarded or screened from the bottom of the gate to a minimum of 4 feet (1.22 m) above the ground to prevent a 2-1/4 inch (57.2 mm) diameter sphere from passing through the openings anywhere in the gate, and in that portion of the adjacent fence that the gate covers in the open position,
3) All exposed pinch points are eliminated or guarded, and
4) Guarding is supplied for exposed rollers.

b) The operator is intended for installation only on gates used for vehicles. Pedestrians must be supplied with a separate access opening. The partial access opening shall be designed to promote pedestrian usage. Locate the gate such that persons will not come in contact with the vehicular gate during the entire path of travel of the vehicular gate.

c) The gate must be installed in a location so that enough clearance is supplied between the gate and adjacent structures when opening and closing to reduce the risk of entrapment. Swinging gates shall not open into public access areas.

d) The gate must be properly installed and work freely in both directions prior to the installation of the gate operator. Do not over-tighten the operator clutch or pressure relief valve to compensate for a damaged gate.

e) (not applicable)

f) Controls intended for user activation must be located at least six feet (6') away from any moving part of the gate and where the user is prevented from reaching over, under, around or through the gate to operate the controls. Outdoor or easily accessible controls shall have a security feature to prevent unauthorized use.

g) The Stop and/or Reset button must be located in the line-of-sight of the gate. Activation of the reset control shall not cause the operator to start.

h) A minimum of two (2) WARNING SIGNS shall be installed, one on each side of the gate where easily visible.

i) For gate operators utilizing a non-contact sensor:

1) See instructions on the placement of non-contact sensors for each Type of application,
2) Care shall be exercised to reduce the risk of nuisance tripping, such as when a vehicle, trips the sensor while the gate is still moving, and
3) One or more non-contact sensors shall be located where the risk of entrapment or obstruction exists, such as the perimeter reachable by a moving gate or barrier.

j) For a gate operator utilizing a contact sensor:

1) One or more contact sensors shall be located where the risk of entrapment or obstruction exists, such as at the leading edge, trailing edge, and postmounted both inside and outside of a vehicular horizontal slide gate.
2) One or more contact sensors shall be located at the bottom edge of a vehicular vertical lift gate.
3) One or more contact sensors shall be located at the pinch point of a vehicular vertical pivot gate.
4) A hardwired contact sensor shall be located and its wiring arranged so that the communication between the sensor and the gate operator is not subjected to mechanical damage.
5) A wireless contact sensor such as one that transmits radio frequency (RF) signals to the gate operator for entrapment protection functions shall be located where the transmission of the signals are not obstructed or impeded by building structures, natural landscaping or similar obstruction. A wireless contact sensor shall function under the intended end-use conditions.
6) One or more contact sensors shall be located on the inside and outside leading edge of a swing gate. Additionally, if the bottom edge of a swing gate is greater than 6 inches (152 mm) above the ground at any point in its arc of travel, one or more contact sensors shall be located on the bottom edge.
7) One or more contact sensors shall be located at the bottom edge of a vertical barrier (arm).

Revised 56.8.4 effective February 21, 2008

Instruction regarding intended operation of the gate operator shall be provided as part of the user instructions or as a separate document. The following instructions or the equivalent shall be provided:
IMPORTANT SAFETY INSTRUCTIONS
WARNING – To reduce the risk of injury or death:
ATTENTION: pour réduire le risque de dommages ou mort:

1. READ AND FOLLOW ALL INSTRUCTIONS.

2. Never let children operate or play with gate controls. Keep the remote control away from children.

3. Always keep people and objects away from the gate. NO ONE SHOULD CROSS THE PATH OF THE MOVING GATE.

4. Test the gate operator monthly. The gate MUST reverse on contact with a rigid object or stop when an object activates the non-contact sensors. After adjusting the force or the limit of travel, retest the gate operator. Failure to adjust and retest the gate operator properly can increase the risk of injury or death.

5. Use the emergency release only when the gate is not moving.

6. KEEP GATES PROPERLY MAINTAINED. Read the owner's manual. Have a qualified service person make repairs to gate hardware.

7. The entrance is for vehicles only. Pedestrians must use separate entrance.

8. SAVE THESE INSTRUCTIONS.

Changes to UL 325 for Gate Operators

Starting on Jan. 12, 2016, new UL 325 changes take effect, bringing a series of new mandates for the gate operator industry. Here's a quick guide to the key modifications.

1. **Entrapment-Protection Devices.** Gate operators are required to have a minimum of two independent means of entrapment protection where the risk of entrapment or obstruction exists. A manufacturer can use two inherent-type systems, two external-type systems, or an inherent and an external system to meet the requirement. However, the same type of device cannot be used for both means of protection.

2. **Monitoring Required.** An external non-contact sensor or contact sensor may be used as a means of entrapment protection. However, the sensor must be monitored once every cycle for (1) the correct connection to the operator and (2) the correct operation of the sensor.
   If the device is not present, not functioning, or is shorted, then the gate operator can only be operated by constant pressure on the control device. Portable wireless controls will not function in this case.

3. **Entrapment Risk Identification.** As in the past, it's up to the installer to examine the installation and determine where a risk of entrapment or obstruction exists. Manufacturers are required to provide instructions for the placement of external devices, but they give only examples of suggested entrapment protection in their installation manuals. If the installer identifies a risk of entrapment or obstruction, at least two independent means of entrapment protection are required.

4. **Terminology Change.** The terms "primary" and "secondary" have been removed in the description of entrapment protection devices. This was done to emphasize that all entrapment protection devices are equally important.

5. **The End of Type E.** Type E (audible alarm) devices can no longer be used for entrapment protection. This change was made because the Type E device is really a warning device, not an entrapment-protection device. Also, all gate operator classes are now required to have an audio alarm that sounds when two successive obstructions are encountered via a contact-type system.

6. **Access Control Location for Emergency Use.** An exception has been added in the manufacturer's instructional requirements for the location of controls that operate the gate.
   The instructional requirements state that these controls must be at least 6' away from any moving part of the gate. In the new exception, "Emergency access controls only accessible by authorized personnel (e.g., fire, police, EMS) may be placed at any location in the line-of-sight of the gate."

7. **Barrier-Arm Operator Exception.** An exception has changed for barrier-arm gate operators requiring entrapment protection. The previous exception stated that a barrier-arm operator did not require entrapment protection if the arm did not move toward a rigid object closer than 2'. The distance has been reduced to 16" so it more closely aligns with the industry-defined entrapment protection provisions in ASTM F2200.

8. **Gate Operator Class II and Class III Definitions.** The definitions for installation classes for gate operators were modified. Class II now includes commercial locations *accessible* to the general public. Class III was refined to specify industrial locations *not accessible* to the general public. These changes, while seemingly minor, may affect which gate operator is suitable for a particular installation location.

UL 325 ENTRAPMENT PROTECTION REQUIREMENTS

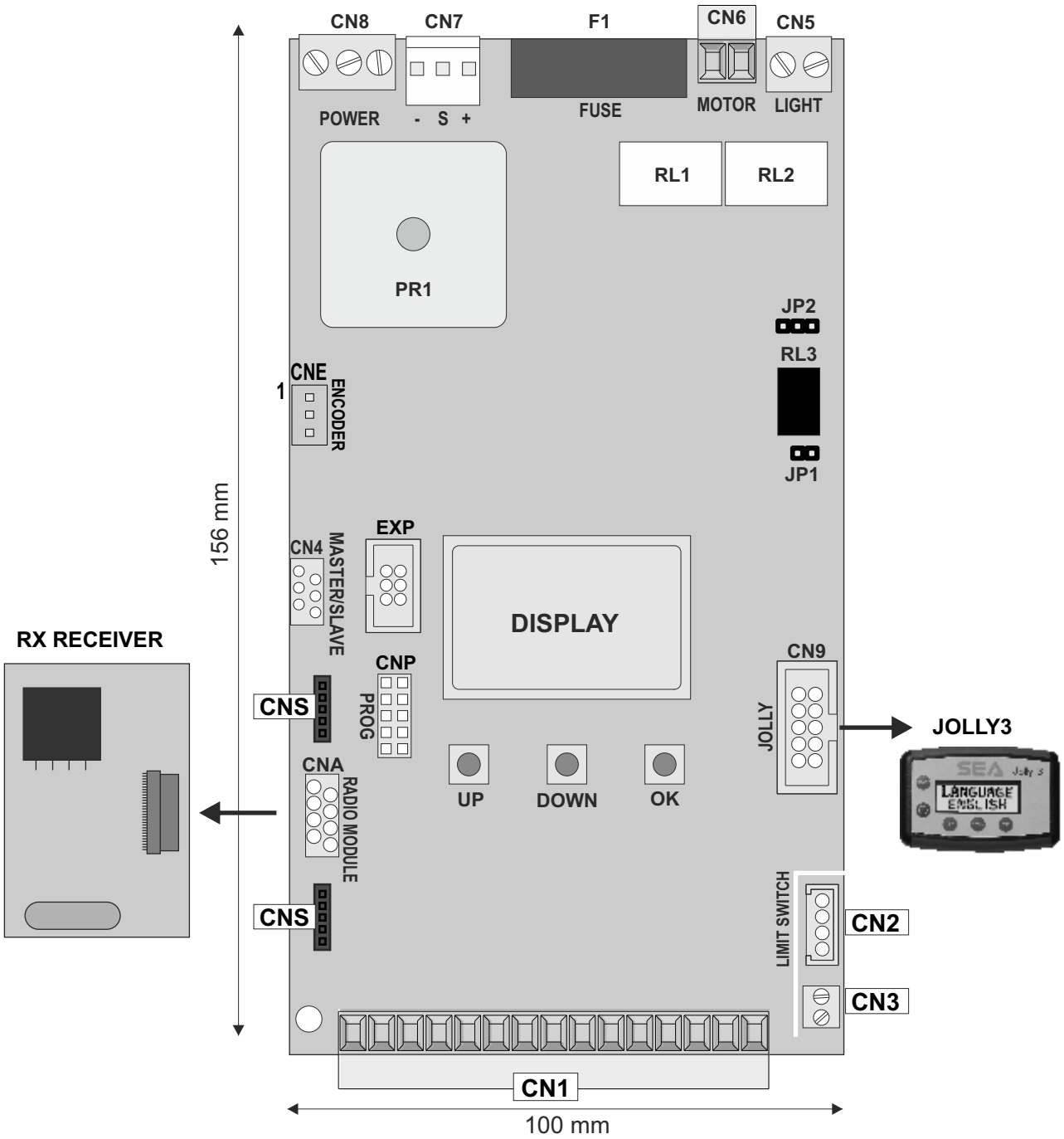
This vehicular gate operator must be installed with at least two independent entrapment protection means as specified in the table below.

HORIZONTAL SLIDE AND SWING GATE OPERATOR	
GATE OPERATOR ENTRAPMENT PROTECTION TYPES	
TYPE A	Inherent (built into the operator) entrapment protection system
TYPE B1	Non-contact sensors such as photoelectric sensors
TYPE B2	Contact sensors such as edge sensors
TYPE C	Inherent force limiting, inherent adjustable clutch or inherent pressure relief device

The same type of device shall not be used for both entrapment protection means.
Use of a single device to cover both the opening and closing directions is in accordance with the requirement; however, a single device is not required to cover both directions.
Tice installer is required to install entrapment protection devices in each entrapment zone.

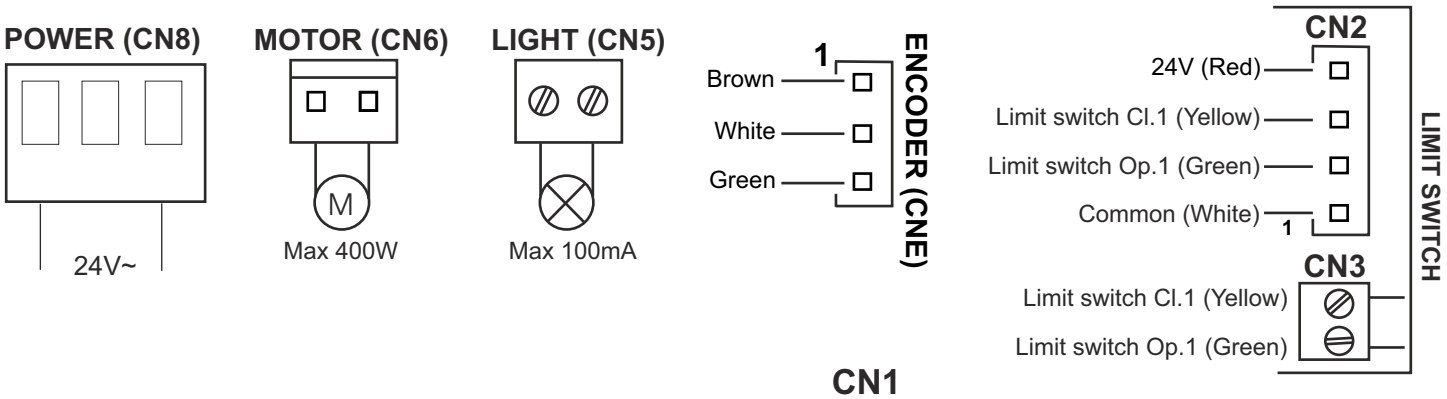
DESCRIPTION OF THE COMPONENTS

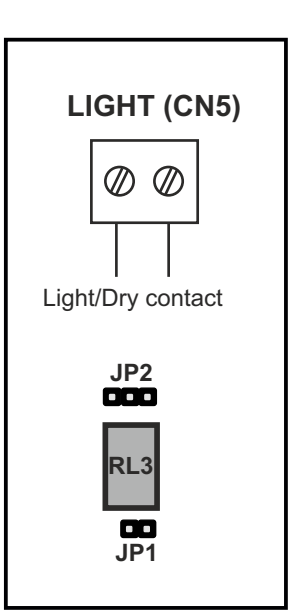
TECHNICAL SPECIFICATIONS
Control unit power supply: 24 V~
Absorption in stand by: 30 mA
Maximum motor current: 20A
Environment temperature: -20°C +50°C
Specifications of external enclosure: 305 x 225 x 125 mm - Ip55

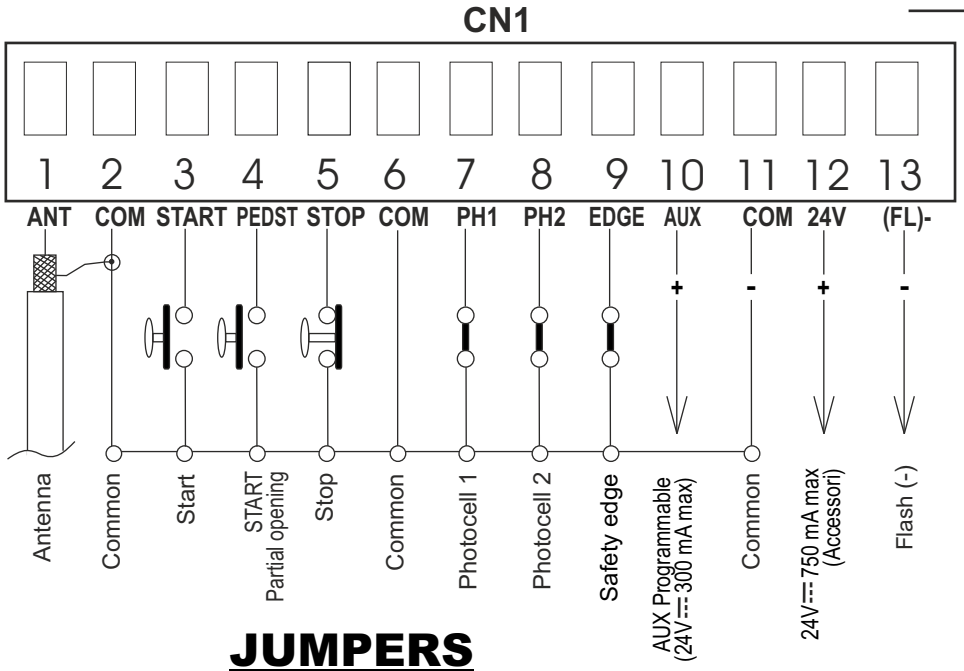


CN1 = Input/Output connector
CN2 = Pre-wired limit switch connector
CN3 = Not Pre-wired limit switch connector
CN4 = Master/slave connector
CN5 = Courtesy light output connector
CN6 = Motor connector
CN7 = Batteries connector - Quick connection
CN8 = Power connector
CN9 = Jolly 3 connector
CNA = RX Receiver connector
CNE = Encoder connector
CNP = Programming connector
CNS = RF FIX receiver connector
EXP = External module connector
OK = Programming button
DOWN = Programming button
UP = Programming button
RL1 = Motors control relay
RI2 = Motors control relay
RL3 = Light/dry output contact relay
PR1 = Rectifier bridge
F1 = Fuse 20 AT
Jp1 = Relay 3 activation
JP2 = Light/dry contact selection

CONNECTIONS

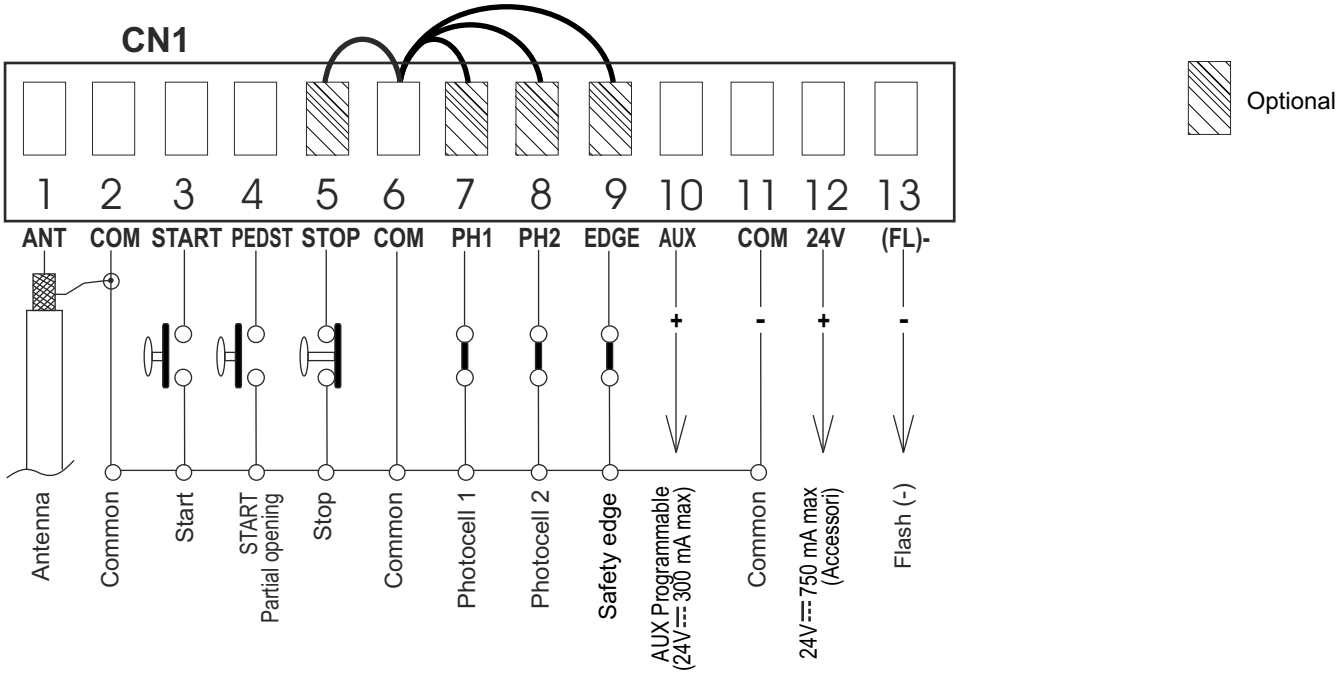






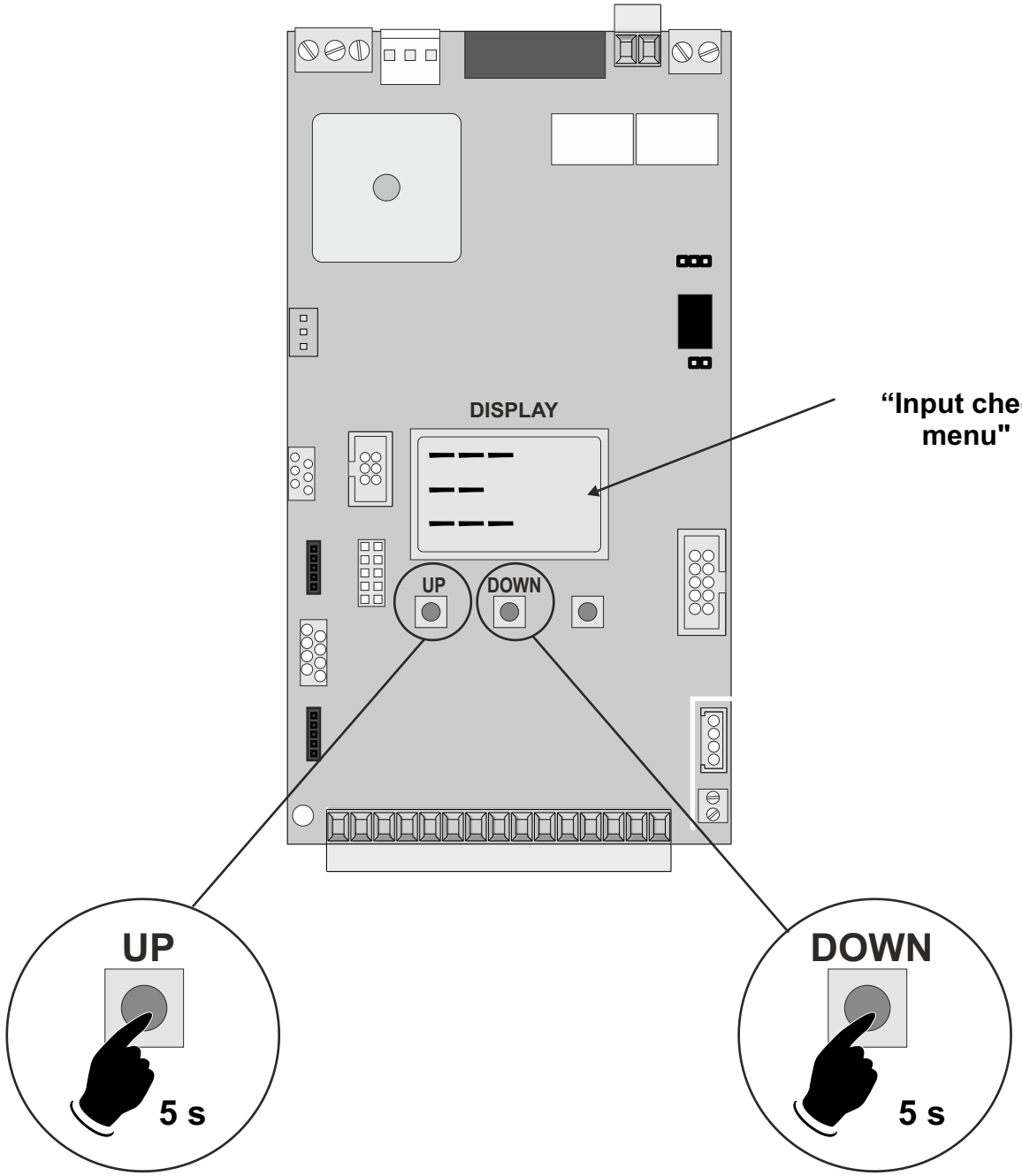
JUMPERS

WARNING: The control unit is designed with the automatic detection of not used N.C. inputs (photocells, Stop and Limit switch) except the SAFETY EDGE input. The exclude inputs in self-programming can be restored in the "Check inputs" menu without need to repeat the programming (pag.17).



The herein reported functions are available starting from revision 01.23 compatible only with Jolly 3.

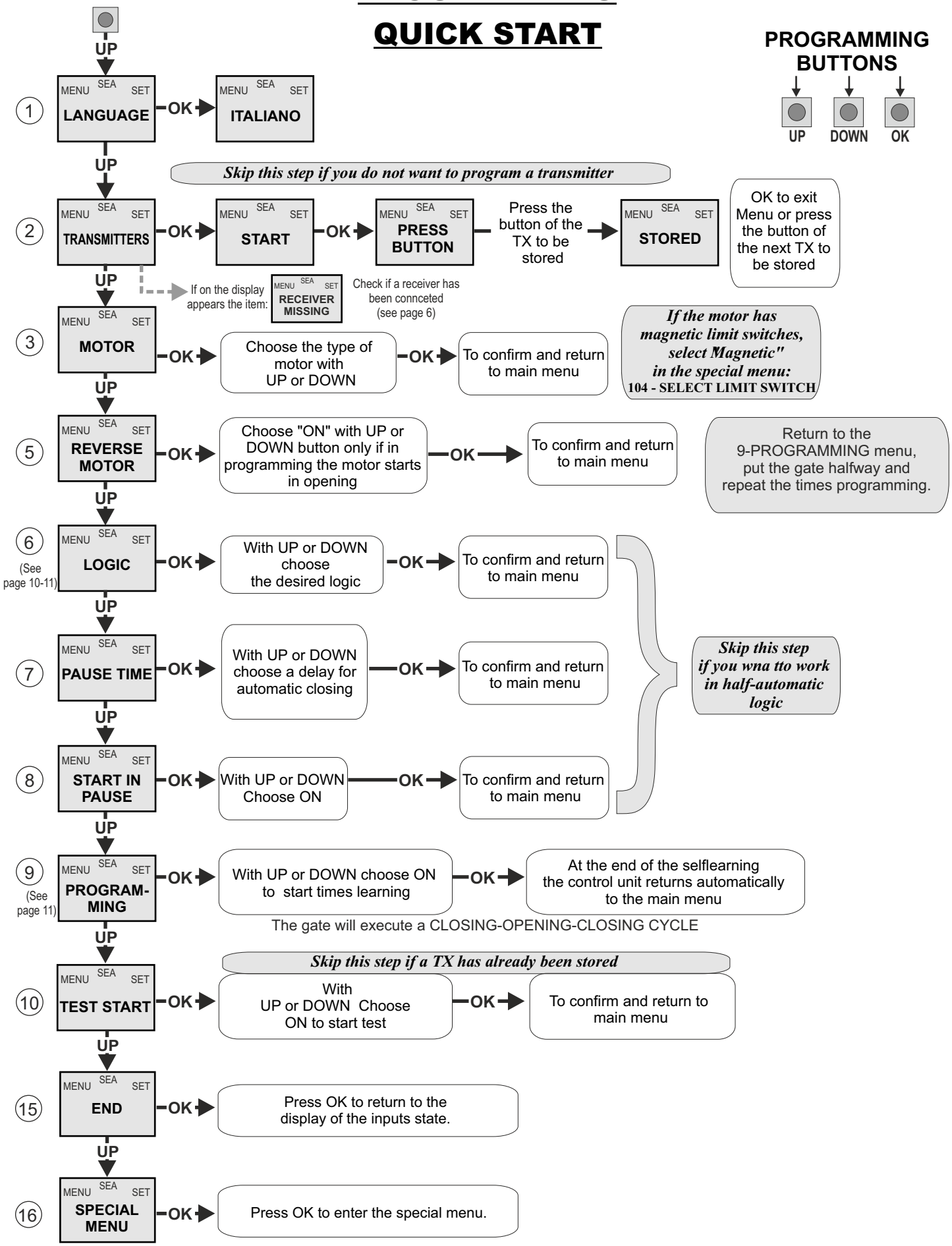
QUICK SELF-EARNING PROGRAMMING



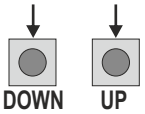
Fast self-learning START command by radio control

You can store the START button of the remote control while pressing DOWN for 5 s in the "Input check menu".
Once the writing "Press button" appears, press the button of the transmitter, which you want to store for the START command.
By pressing OK, you can exit the menu, otherwise it will be left automatically after 5 seconds.

PROGRAMMING
QUICK START



ALL OTHER PARAMETERS HAVE DEFAULT SETTINGS WHICH ARE USEFUL FOR THE 90% OF THE APPLICATIONS BUT CAN BE HOWEVER SET THROUGH THE SPECIAL MENU. 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.



MENU FUNCTIONS TABLE USER1 24V DG MAXI				
MENU	SET	Description	Default	Set value
1 - LANGUAGE	*Italiano*	Italian	*English*	
	English	English		
	Français	French		
	Español	Spanish		
	Dutch	Olandese		
2 - TRANSMITTERS	*Start*	Start	*Start* *Partial opening Start*	
	Partial opening Start	Partial opening Start		
	External module	External module		
	Stop	Stop		
	Unloch	Storing of a command for unlocking an electric brake		
	Delete A TX	Delete single transmitter		
	Clear memory	Delete transmitter memory		
	End	"Transmitters" menu output		
3 - MOTOR	*Saturn Fast - Saturn Super Fast*	Saturn Fast - Saturn Super Fast	*Saturn fast-* *Saturn* *super fast*	
	Joint	Joint		
	Hydraulic unit	Hydraulic unit		
	Lepus box chain	Lepus box chain		
	Slim	Without limitswitch, obligatory mechanical stop in opening and closing, obligatory Stop on engine release		
	B-800	Without limitswitch, obligatory mechanical stop in opening and closing, obligatory Stop on engine release		
	*Saturn 1500 - Lepus **2000***	Saturn 1500 - Lepus 2000		
5 - REVERSE MOTOR	*Off*	Synchronized right motor	*Off*	
	On	Synchronized left motor		
6 - LOGIC (See page 11)	*Automatic*	Automatic	*Open-stop-close-open*	
	Open-stop-close-stop-open	Step by step type 1		
	Open-stop-close-open	Step by step type 2		
	2 buttons	Two buttons		
	Safety	Safety		
	Dead man	Dead man		
7 - PAUSE TIME	*Off*	OFF (semi-automatic logics)	*Off*	
	1 240	Setting from 1s to 4min.		
8 - START IN PAUSE	*Off*	In pause start is not acceped	*Off*	
	On	In pause start is accepted		
9 - PROGRAMMING (See page 11)	*Off On*	Times learning start	*Off*	
10 - TEST START	*Off On*	Start command	*Off*	
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.			

WORKING TIMES SELF LEARNING

NOTE: When using a magnetic limit switches in general; make sure that the control unit is set on magnetic limit switch before learning.
MENU 104 - SELECT LIMIT SWITCH - *"Magnetic"*

1) Disconnect the power supply, release the motor (Fig. 1) and manually position the leaves or the beam on halfway (Fig. 3-4).
2) Reset the mechanical lock (Fig. 2)
3) Select 9 - PROGRAMMING on the display, press OK and than one of the UP or DOWN buttons. Now the gate will automatically execute a closing, opening and reclosing cylce.
Note: If the motor starts in opening, remove and re-put power supply, select on the display 5 - REVERSE MOTOR. And through the UP and DOWN button put it on ON, or if you have the Jolly 3 programmer, activate the motor and limit switch exchange function. If the motor starts in closing and stops, remove the power supply and reverse the motor cables, then repeat the programming procedure.
4)The self-learning is done.
ATTENTION: This procedure is potentially dangerous and should only be performed by qualified personnel in safety conditions.

The control unit is pre-set with the default settings, to start the control unit with the DEFAULT settings just keep pressed the UP and DOWN buttons at the same time power supplying the control unit the display shows the message "Init".
The DEFAULT settings are shown in the Menues table.

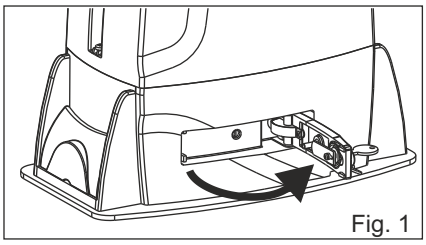


Fig. 1

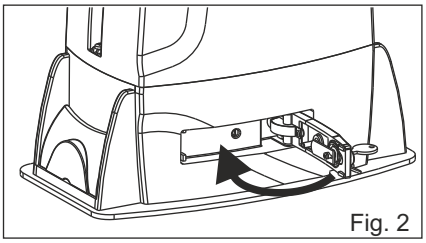


Fig. 2

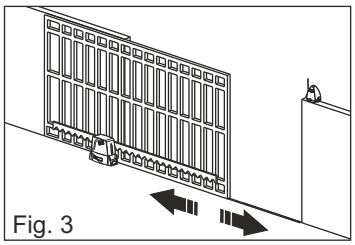


Fig. 3

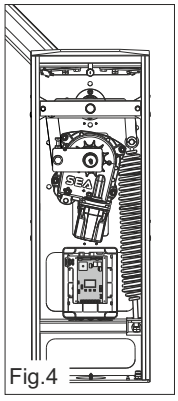


Fig.4

PROGRAMMING SLIM MOTOR WITHOUT LIMIT SWITCH

The SLIM motor has no limit switches and works only with Encoder. For the stroke learning it is necessary that the motor reaches the mechanical stops. Learning provides a CLOSE-OPEN-CLOSE cycle with automatic detection of the mechanical stops. During normal cycle the motor will stop at about 1 cm from the mechanical stop. This space will be regulated through the motor release parameter (meu 82).
Attention:
In case of the STOP command, power failure or obstacle detection, the motor will perform a closing maneuver at low speed up to the mechanical stop in closing, to retrieve the position.

FUNCTION LOGIC

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

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

STEP BY STEP TYPE 1 LOGIC
The start impulse follows the OPEN-STOP-CLOSE-STOP-OPEN logic.

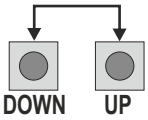
STEP BY STEP TYPE 2 LOGIC
The start impulse follows the OPEN-STOP-CLOSE -OPEN logic.

NOTE1 : To have the automatic closing in this logic it is necessary to set a pause time , otherwise all the logics will be semi-automatic
NOTE2: It is possible to choose whether to accept or not the start in pause, by selecting in the MENU point 8-START IN PAUSE and choosing ON or OFF. The default parameter is OFF.

DEAD MAN LOGIC
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 START** is pressed; releasing it the gate stops. To execute complete opening and/or closing cycles the related pushbuttons must be constantly pressed.

2 PUSH BUTTONS LOGIC
One start opens, one Partial opening start closes. In opening the closing will not be accepted. In closing a start command reopens, a Partial opening start command (closes) will be ignored.

SPECIAL MENU



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

SPECIAL MENU FUNCTIONS TABLE USER 1 24V DG MAXI

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 buttons at the same time for 5 s.

MENU SP	SET	Description	Default	Set Value
17 - OPENING SPEED 1 *	*30 100*	Setting from 30 to 100	** 70*	
18 - CLOSING SPEED 1 *	*30 100*	Setting from 30 to 100	** 70*	
21 - OPENING SLOWDOWN SPEED 1 *	*30 100*	Setting from 30 to 100	** 40*	
22 - CLOSING SLOWDOWN SPEED 1 *	*30 100*	Setting from 30 to 100	** 40*	
25 - LEARNING SPEED *	*30 100*	Setting from 30 to 100	** 75*	
28 - OPENING TORQ 1 *	*10 100*	100% Maximum torque	** 70*	
29 - CLOSING TORQ 1 *	*10 100*	10% Minimum torque	** 70*	
32 - ENCODER *	*On*	In ON enables the Encoder	*ON*	
47 - ENCODER PAR. *	*xxx.*	Encoder impulses during operation. This parameter is useful for seeing if the Encoder is working correctly.		
48 - ENCODER TOT. *	*xxx.*	Encoder impulses stored in programming		
32 - ENCODER *	*Off*	In OFF disabled the Encoder	*Off*	
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. This parameter is useful for seeing if the potentiometer is read correctly.		
52 - I.AP.M1 *	- - - - - - - -	Reports the impulses stored by the control unit when the leaf is fully open.		
53 - I.CH.M1 *	- - - - - - - -	Reports the impulses stored by the control unit when the leaf is fully close.		
33 - OPENING SENSITIVITY MOTOR1 *	10% (Fast intervention) 99% (Slow intervention)	Adjusts the intervention time of the Encoder in opening	*35*	
	Off (Intervention excluded)	Disabled		
34 - CLOSING SENSITIVITY MOTOR1 *	10% (Fast intervention) 99% (Slow intervention)	Adjusts the intervention time of the Encoder in closing	*35*	
	Off (Intervention excluded)	Disabled		
57 - WORKING CURRENT	- - - - -	Shows the absorbed current by the motor during the movement. The letter H at the left of the current value indicates the exceeding of the set inversion threshold.		

Note: Menus 47 and 48 are only present if the encoder is ON.

MENU SP	SET	Description	Default	Set Value
59 - OPENING SLOWDOWN 1 *	*Off*	Disabled	** 30*	
	5 100	Setting from 5 to 100		
60 - CLOSING SLOWDOWN 1 *	*Off*	Disabled	** 30*	
	5 100	Setting from 5 to 100		
63 - DECELERATION	*Off*  *100%* 	Adjust the passage between normal speed and slowdown speed	*10%*	
64 - ACCELERATION *	*0 %*  *100%* 	Acceleration ramp. Adjusts the motor start.	** 70%*	
70 - OPENING POSITION RECOVERY	*0 15*	Retrieves the inertia of the motor in opening after Stop or reversing	*6 %*	
71 - CLOSING POSITION RECOVERY	*0 15*	Retrieves the inertia of the motor in closing after Stop or reversing	*6 %*	
72 - OPENING TOLERANCE MOTOR1	*0 100*	Adjust the tolerance between stop and obstacle opening	*0*	
73 - CLOSING TOLERANCE MOTOR1	*0 100*	Adjust the tolerance between stop and obstacle closing	*0*	
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.	*Off*	
	Only closing			
	Opening and closing			
	Off			
82 - MOTOR RELEASE	*Off*	Disabled	*Off*	
	1 100	Setting from 1 to 100		
85 - PREFLASHING	*Only closing*	Pre-flashing only active before closing	*0.0*	
	0.0 5.0	Pre-flashing time		
86 - FLASHING LIGHT	*Normal*	Normal	*Normal*	
	Light	Control lamp		
	Always	Always ON		
	Buzzer	Buzzer		
87 - FLASHING LIGHT AND TIMER	*Off*	The flashing light remains OFF with the active timer and open gate	*Off*	
	On	The flashing light remains ON with active timer and open gate		

MENU SP	SET	Description	Default	Set Value
88 - COURTESY LIGHT	*1 240*	With J1 between 2 and 3, and J2 inserted on CN5, you will have 24 volts only during the cycle plus for the set time.	*In cycle*	
	In cycle	With J1 between 2 and 3, and J2 inserted on CN5, you will have 24V only during the cycle.		
	Dry contact	With J1 between 1 and 2, and J2 not inserted, on CN5 you will have a dry contact with activation of "one second" at each start impulse.		
	Always	With J1 between 2 and 3, and J2 not inserted, on CN5 you will have 24 volts always.		
89 - TRAFFIC LIGHT RESERVATION	*Off on*	When setting this function the partial opening input will beactivated to work on the auxiliary board SEM (traffic light management).	*Off*	
90 - PARTIAL OPENING	*20 100*	Setting from 20 to 100	*30*	
91 - PARTIAL OPENING PAUSE	*= Start*	Pause in partial opening same as in total opening	*= Start*	
	Off	Disabled		
	1 240	Setting from 1s to 4 min.		
92 - TIMER	*Off*	Transforms the selected input in an input on which to connect an external clock.	*Off*	
	On photo2			
	On partial entry			
94 - 24V AUX (Max. 300 mA)	*Always*	AUX output always power supplied	*Always*	
	In cycle	AUX output active only during cycle		
	Opening	AUX output power supplied only during opening		
	Closing	AUX output power supplied only during closing		
	In pause	AUX output power supplied only during pause		
	Fototest	AUX output for connection of photocell TX to autotest		
	In cycle and fototest	AUX output only during cycle with fototest function active		
	Positive brake management	Positive Electrobrake (output only when the motor is stopped)		
	Negative brake management	Negative Electrobrake (output only during cycle)		
	Gate open warning light	1 flash per sec. in opening 2 flashes per sec. in closing Steady lit in Stop or Open.		

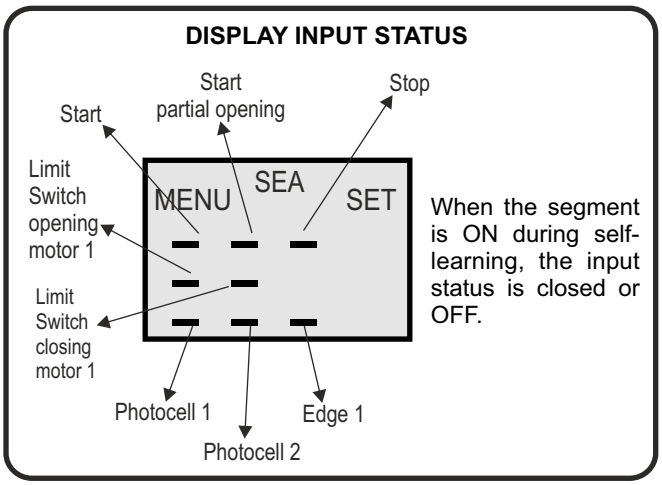
MENU SP	SET	Description	Default	Set Value
95 - FOTOTEST	*Photo1*	Auto-test active only on Photo1	*Photo1-2*	
	Photo2	Auto-test active only on Photo2		
	Photo1-2	Auto-test active on Photo1 and Photo2		
97 - PHOTO1	*Closing*	Photocell active in closing	*Closing*	
	Opening and closing	Active in opening and closing		
	Stop	Photocell active before opening		
	Stop and close	The photocell stops in closing and closes when released		
	Close	The photocell gives a command to close during opening, pause and closing		
	Pause reload	The photocell charging the pausing time		
	Delay pause time	If the photocell is occupied during opening, pause or closing, the gate reopens completely and closes without observing the pause time.		
98 - PHOTO2	*Closing*	Photocell active in closing	*Opening And clousure*	
	Opening and closing	Active in opening and closing		
	Stop	Photocell active before opening		
	Stop and close	The photocell stops in closing and closes when released		
	Close	The photocell gives a command to close during opening, pause and closing		
	Pause reload	The photocell charging the pausing time		
	Delay pause time	If the photocell is occupied during opening, pause or closing, the gate reopens completely and closes without observing the pause time.		
99 - PHOTO OFF IN CLOSING	*0 50*	Setting from 0 to 50	0	
100 - EDGE	*Normal*	Normal N.C. contact	*Normal*	
	8K2	Edge is active and protected by a 8K2 resistor		
	8K2 Double	Allows to connect n. 2 8K2 protectec edges		
	Photo1 10K	Edge works as a photocell protected by a 10K resistor. *See page 23.*		
104 - SELECT LIMIT SWITCH *	*Mechanical*	Mechanical limit switch	*Mechanical*	
	Magnetic	Magnetic limit switch		

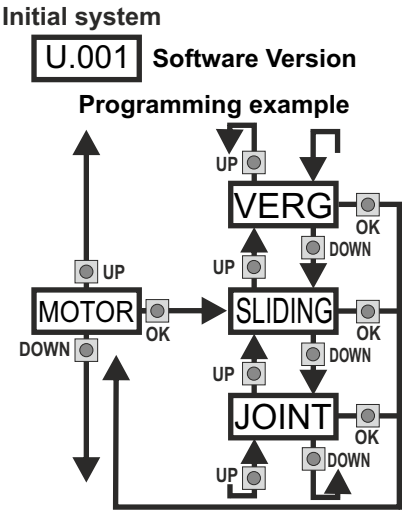
MENU SP	SET	Description	Default	Set Value
105 - MASTER-SLAVE	*Master*	For applications with two motors in master-slave, it allows to set the control unit as master	*Off*	
	Slave	For applications with two motors in master-slave, you can set the control unit as slave		
	Off	Disabled		
106 - DIAGNOSTICS	*1 10*	Shows last event		
107 - MAINTENANCE CYCLES	*100 10E4*	Setting from 100 to 100000	*10E3*	
108 - PERFORMED CYCLES	*0 10E9*	Reports the executed cycles. Keep pressed OK to reset the cycles	*0*	
112 - PASSWORD	- - - -	Allows the entering of a password blocking the control unit parameters modification.	- - - -	
113 - EMERGENCY	*Off On*	When ON, if no mains power and batteries connected, the gate will open fully and will remain open until the power returns. At this point it will perform an automatic reclosing.	*Off*	
119 - DISPLAY WRITING SPEED	*From 30% to 100%*	See note 3 below		*80%*
120 - BASIC MENU	Press OK to exit the special menu. The special menu switches off automatically after 20 minutes.			

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 son 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.

INPUT CHECK MENU

The settings of the control unit are made through the UP, DOWN and OK buttons. The UP and DOWN buttons to scroll through the MENUS and SUBMENUS. By pressing OK you enter from MENU into SUBMENU and confirm the choice.
Moving in the 1-LANGUAGE menu pressing the UP and DOWN buttons at the same time you access the SP MENU for special settings.
Moving in the 1-LANGUAGE menu pressing the OK button for 5 seconds, you enter the CHECK MENU, where you can check the operating status of all inputs.





MENU FUNCTION TABLE CHECK USER1 24V DG MAXI INPUTS To access the Menu for input check keep pressed OK for about 5 seconds.				
MENU			**Description**	**Description**
START			Start test	The contact must be N.O. If activating the related command on the display the item SET lights up, the input will be working. If SET is always on, check the wirings.
STOP	→ OK	*Enabled*	Stop test	The contact must be N.C. If activating the related command on the display the item SET lights up, the input will be working. If SET is always on, make sure that the contact is a N.C. one
		Blocked		
PARTIAL OPENING START			Partial opening start test	The contact must be N.O. If activating the related command on the display the item SET lights up, the input will be working. If SET is always on, check the wirings
EDGE	→ OK	*Enabled*	Safety edge test	The contact must be N.C. If activating the related command on the display the item SET lights up, the input will be working. If SET is always on, make sure that the contact is a N.C. one
		Blocked		
PHOTO1	→ OK	*Enabled*	Photocell 1 test	The contact must be N.C. If activating the related command on the display the item SET lights up, the input will be working. If SET is always on, make sure that the contact is a N.C. One
		Blocked		
PHOTO2	→ OK	*Enabled*	Photocell 2 test	The contact must be N.C. If activating the related command on the display the item SET lights up, the input will be working. If SET is always on, make sure that the contact is a N.C. one.
		Blocked		
LIMIT SWITCH OPENING			Opening limit switch test	The contact must be N.C. If activating the related command on the display the item SET lights up, the input will be working. If SET is always on, make sure that the contact is a N.C. one or that the related limit switch is not occupied.
LIMIT SWITCH CLOSING			Closing limit switch test	The contact must be N.C. If activating the related command on the display the item SET will light up, the input will be working. If SET is always on, make sur that the contact is a N.C. one or that the related limit swith is not occupied.
0.0V			Batteries' voltage level	Batteries charge level indicator
END			Exit menu	

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

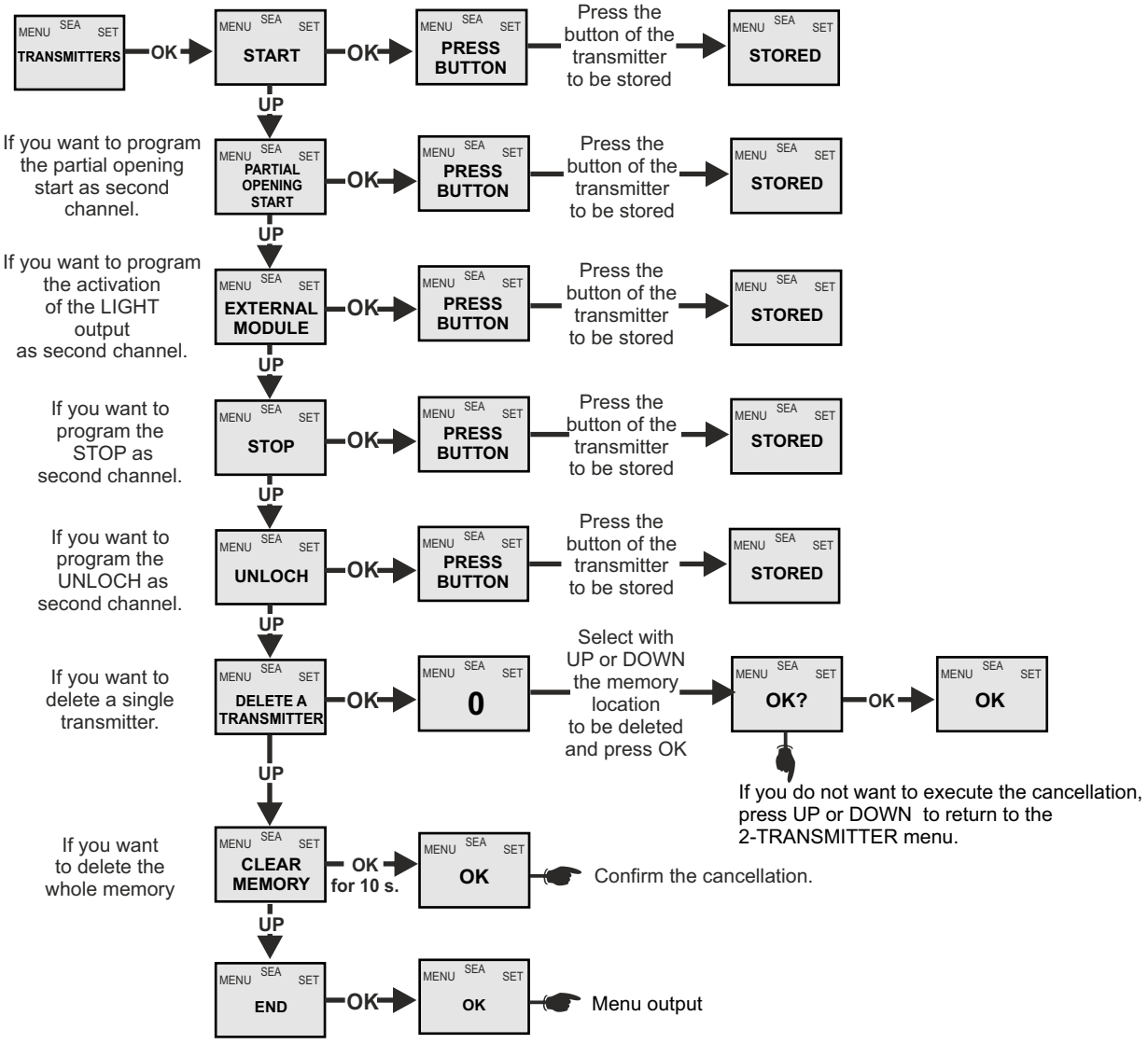
RADIO TRANSMITTER SELF LEARNING
WITH RECEIVER ON BOARD OF CONTROL UNIT

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 fixed 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.

RF UNI	**16 USERS** Whitout memory **800 USERS** With additional memory MEMO
RF UNI PG *Old model without additional memory*	**100 USERS** Fixed code **800 USERS** Roll Plus
RF UNI PG *New model with MEMO additional memory*	**800 UTENTI** Fixed code **800 UTENTI** Roll Plus

TABLE EXAMPLE

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



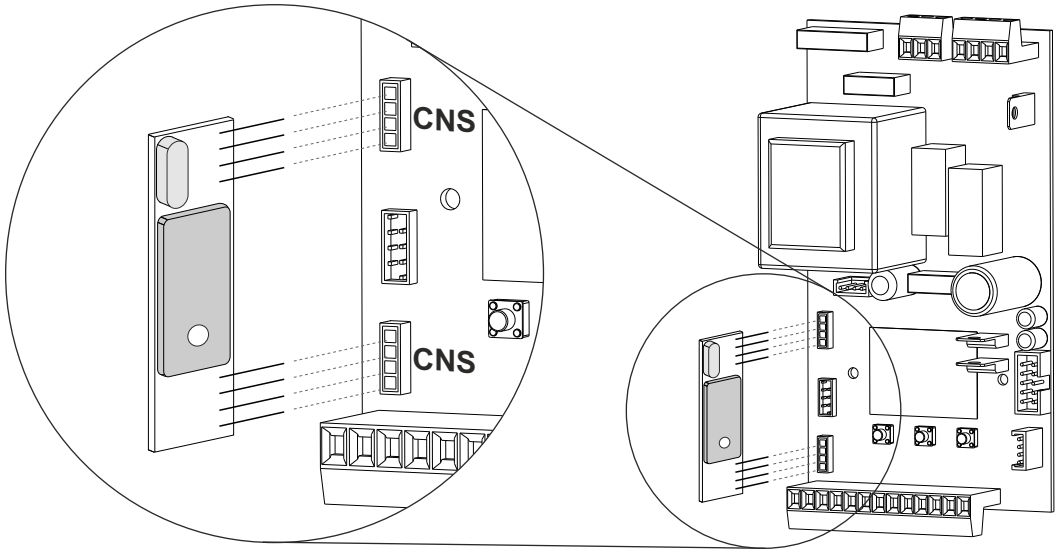
RADIO TRANSMITTER SELF LEARNING
WITH RF FIX RECEIVER ON BOARD OF CONTROL UNIT

⚠ **WARNING: Make the radio transmitters programming before you connect the antenna and insert the receiver into the special CNS connector (if available) with turned off control unit.**
With the RF FIX module it will be possible to use only radio controls with fixed code.
Select through the display 2-TRANSMITTERS and press OK, now select with the UP and DOWN buttons, the command to which you want to associate the button (it is possible to associate max. 2 commands) and press OK to confirm the choice, now press the button of the radio transmitter which you want to associate. If the storage is successful, the display will show *"Stored"*.

In the 2-TRANSMITTERS MENU it is possible to select *"Start"* (to associate a Start command), *"Partial opening start"* (to associate a Partial opening Start), *"External Module"* (For the activation of a contact on the EXP output), *"Stop"* (To associate the STOP command to the TX), *"Unloch"* (to associate the release of the electric brake to the transmitter), *"Delete a transmitters"* (To delet the single transmitter only if it is a Rolling Code Plus), *"Clear memory"* (To delete all TX), *"End"* (To exit menu 2-TRANSMITTERS).
To release the electric brake it is necessary to give three consecutive pulses, the 4th will reactivate the lock of the electric brake.

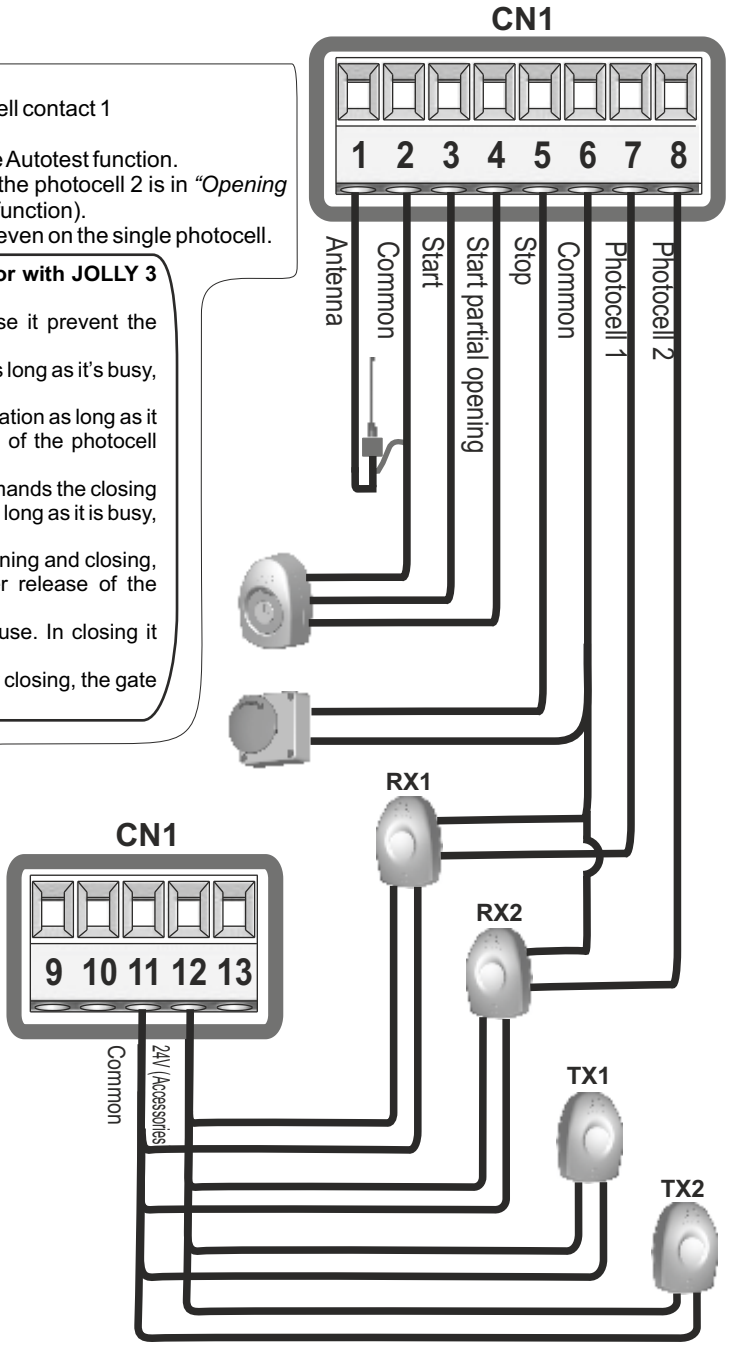
Notes:
- Enter radio transmitters learning only when the working cycle stops and the gate is closed.
- It will be possible to memorize up to max. 16 codes (buttons) adding the MEM memory it will be possible to store up to 496 different codes.
- You can store max. 2 of the available 4 functions. If the control unit receives a code which was already associated to another function it will be updated with the new function.

DELETE TRANSMITTERS FROM THE RECEIVER
With modules different from RF FIX, it will be possible to delete only the entire memory of the receiver.
Proceed as follows: select from the menu 2-TRANSMITTERS: *"Clear memory"* and hold the OK button until the display shows the message "OK".



Connect the receiver on the CNS connectors, making sure that the direction is the one shown in the illustration.

START - STOP - PARTIAL OPENING - START - ANTENNA - PHOTOCELL



Photocell 1 and Photocell 2 Connections
+ = 24V ⎓ (Accessories) max 750mA COM = 0V PH1 = Photocell contact 1
PH2 = Photocell contact 2
Note: For the autotest connect the TX to the AUX clamp and activate the Autotest function.
The standard setting of the photocell 1 is in *"Closing"* and the one of the photocell 2 is in *"Opening and losing"*. The photocell 2 can be set also as TIMER (see TIMER function).
Note3: On the 95-FOTOTEST menu you can also activate the self-test even on the single photocell.

OPTIONS ON FOTO1 and FOTO2 adjustable on on- board display or with JOLLY 3 terminal.
"Closing": if occupied, reverses the movement in closing, during pause it prevent the closing.
***"Opening and closing"*:** If activated the photocell blocks the movement as long as it's busy, when released the opening continues.
"Stop": When activated before the opening the photocell blocks the automation as long as it is busy, during the opening it will be ignored. In closing the intervention of the photocell causes the reopening.
"Stop and close": in opening it is not active; in pause are activated it commands the closing when released, otherwise it's not active; in closing it stops the movement as long as it is busy, when released the closing continues.
"Close": The photocell stops the gate as long as it is occupied in both opening and closing, when released it gives a closing command (Closing one second after release of the photocell).
"Pause reload": If occupied, during pause it recharges the timer of pause. In closing it reverses the movement.
"Delay pause time": If the photocell is occupied during opening, pause or closing, the gate reopens completely and closes without observing the pause time.

Options AUX 24V ⎓ max 300mA can be set with on-board Display or with Jolly 3 device.
Through the Jolly 3 programmer it is possible to chose when having tension on the AUX output. The options are: *Always, In cycle, Opening, Closing, In pause, Fototest, In cycle and fototest, Positive brake management, Negative brake management, Gate open warning light.* When using control units with batteries and / or solar panels, we recommend connecting the accessories which are not used when operator stands still (e.g. photocells) to a AUX output, setting the option "*In cycle*". With this setting you can save energy by lowering power consumption in stand-by, increasing the autonomy of the system.

PARTIAL OPENING START (N.O.) The partial opening start can be connected between the clamps 2 and 4 of the CN1 terminal .
This input allows a partial opening the opening space can be set through the on-board display or through the JOLLY device.
Note1: The contact for partial opening is a N.O. Contact (Normally open).
Note2:In 2 BUTTONS logic it is necessary to press the Start partial. to re-close the automation.
Note3: In dead man logic this button executes the re-closing if you keep it pressed.
Note4: When closed during pause, the gate will reclose only after this input has been reopened.
TIMER activation: This input can be transformed into TIMER (See TIMER).

STOP (N.C.) The STOP is connected between the clamps 2 and 5 of the CN1 terminal .
The pressure on this button immediately stops the motor in any condition/position. A start command is needed to re-start the movement. After a stop the motor always re-starts in closing.

START (N.O.) The START is connected between the clamps 2 and 3 of the CN 1 terminal.
An impulse given to this contact opens and closes the automation depending onthe selected logic it can be given by a key switch, a keypad, etc. To connect the other devices refer to the related instructions leaflets. (ie. loop detectors and proximity switches).
Note1: In DEAD MAN logic it is necessary to keep pressed the Start for the opening of the automation.
Note2: In 2 BUTTONS logic this button performs the opening.

TIMER

Can be activated through on-board display or through the Jolly 3 programmer. In both cases it's a N.O. contact which provoques the opening of the automation keeping it open until it is activated. When it's released, the gate attends the set pausing time and executes the reclosing. The TIMER command can be activated on the inputs FOTO2, PARTIAL OPENING START .
Note1: When activated on the partial entry, the partial opening will be disabled also on the radio transmitter.
Note2: In case of intervention of a security device during the timer (Stop, Ammeter, Edge), to restore the movement it will be necessary to give a start impulse.
Note3: In case of no power supply with open gate and active Timer the control unit will restore its use, otherwise if during restore of the power supply the TIMER is not activated it will be necessary to give a start impulse for the reclosing.

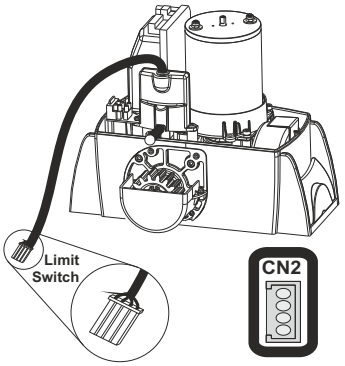
LIMIT SWITCH AND SENSOR BARRIERS

Sensor barriers

This control unit comes with a detection device of motor current absorbtion which allows to reveal possible obstacles during the opening and the closing of the gate. When this device intervenes in opening it causes the inversion of the movement for around a second, if it intervenes in closing it causes the total reopening.

Note1: The sensitivity is adjustable both in opening and in closing through the on-board display or through the JOLLY 3 terminal. With high torque the gate reverses after 5 seconds.

Attention: In case of obstacle, if the automatic reclosing is on, the gate will attempt to close for 3 times, whereupon a start signal will be necessary to re-establish the movement.

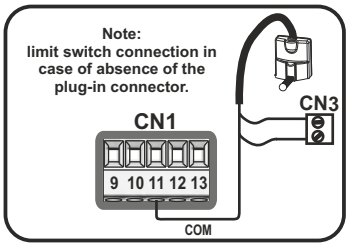


Limit switch

The limit switch can be connected through the special LIMIT SWITCH connector on the control unit. The control unit can administrate mechanical, inductive and magnetic limit switches. Only on some special applications il will not be necessary to connect the limit switches. The control unit will automatically realize if limit switches are present or not.

1) Through the on-board display or through the JOLLY 3 programmer it is possible to activate the ani-intrusion function. This function is lied to the presence of at least one limit switch which, when free, forces the motor to re-close.

Note: if during programming phase the motor and limit switch times should not be in phase between them, the gate will start in closing, it stops and will not complete the selflearning of the times, at this point it will be necessary to switch off the tension and to invert the cables of the motor. The first movement in selflearning must always be executed in closing.



ATTENTION: When using SEA magnetic limit switches, make sure that the motor is set on *"Magnetic"* present in the special menu 104-SELECT LIMIT SWITCH.

ALARMS INDICATIONS

Signals	Kind of alarm	Solutions
FAILURE BLOCKED MOTOR PRESS OK TO RESET	Motor current failure	-Be sure there are no short circuits on the motor or on the control unit -Check that the gate is not locked or stuck in stop -Check that the encoder (if active) is connected to the control unit -By unlocking the gate, try giving a start and hear if the motor runs dry If the motor does not run at all, then it is burned, therefore call our technical support; If the motor is running, it is recommended to unplug the power cord, lock the gate again and restore the power
FAILURE MOTOR	Motor current failure	Make sure there are no short circuits on the motor or on the control unit
FAILURE24	24V power supply failure	Make sure there are no short circuits on the wiring or on the control unit and no overloads.
FAILURE 24VAUX OVERLOAD EXIT 10 CONNECT ACCESSORIES EXIT 12	AUX output voltage failure	Make sure there are no short circuits on wiring or control unit and no overload.The 24Vaux exit is an output which can be set with a maximum load of 500mA; if you do not require an adjustable 24V, use the 24V present on terminal 12 (+) and use the negative on exit 11 (COM) and **NOT** on exit 13.
FAILURE AUTO-TEST	Autotest photocells 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 engaged limit switches.
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's direction failure	Invert potentiometer's cables (invert green with brown)
FAILURE OVERCURRENT-COLLISION	Failure overcurrent-collision	Check for obstacles or points of friction on the gate. **NOTE:** the fault is reset by pressing OK
FAILURE SLAVE	Failure slave function	Check the Master/Slave circuit's connection and be sure the function Slave is set on Slave circuit (105-menu).
FAILURE EDGE	Edge's 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 photocell failure	Check photocell connection or possible short circuits; check if photocell is well powered. Make sure that a 10K protection photocell has been connected
FAILURE PHOTO	Photocell failure	Check photocell connection or possible short circuits; check if photocell is well powered
FAILURE ENCODER	Encoder failure (on SLIM and B800 motors only)	Check Encoder connections; check on Menu-32 if Encoder is ON; check if motor is blocked.

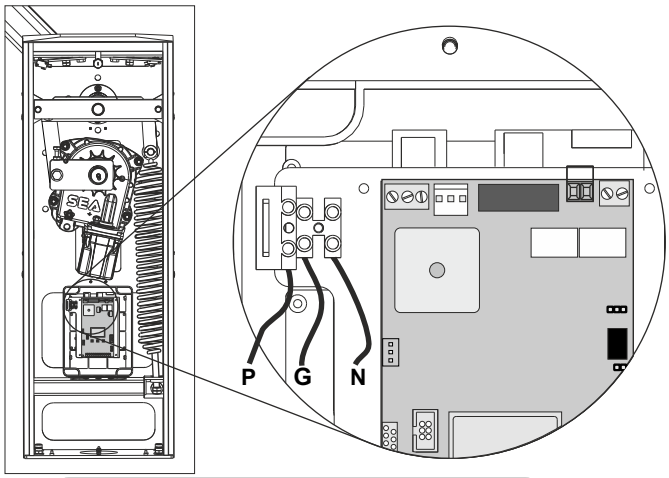
Note1: If in the diagnostics shows "max. cycles reached ", do the maintenance and / or reset the number of cycles performed.
Note2: To exit from the error messages, press OK. If the error persists, make all required checks for the specific error and / or disconnect the device that generates the error to see if the error disappears.

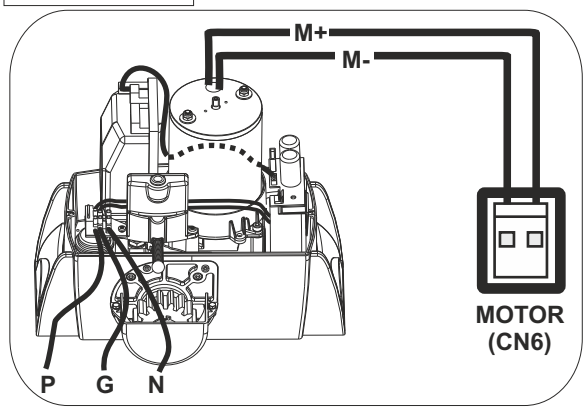
At each opening and closing of the automation the flashing light will blink. It blinks once per second during opening and twice per second during closing, while it remains lit during pause. It is possible to view the alarms also on the flashing light or on the control lamp, simply by observing the number of flashes emitted and verifying the reference in the table below:

Flashings Number	Kind of alarm
9	Motors fault
2	Photocell in closing
3	Photocell in opening
6	Opening impact
4	Safety edge

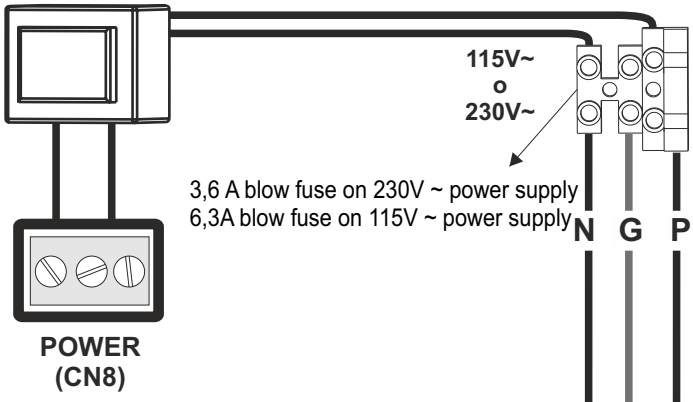
Flashings Number	Kind of alarm
5	Stop
7	Max. Reached cycles
6	Closing impact
4 fast	Limit switch error

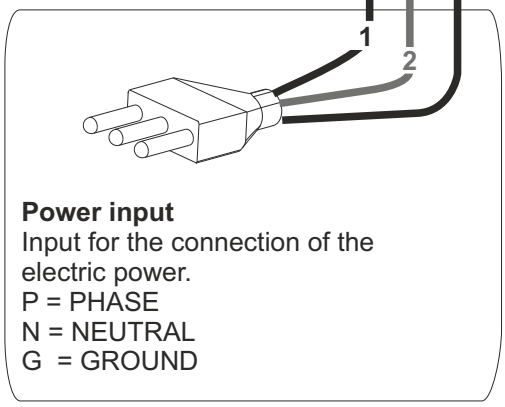
MOTOR POWER SUPPLY





TRANSFORMER





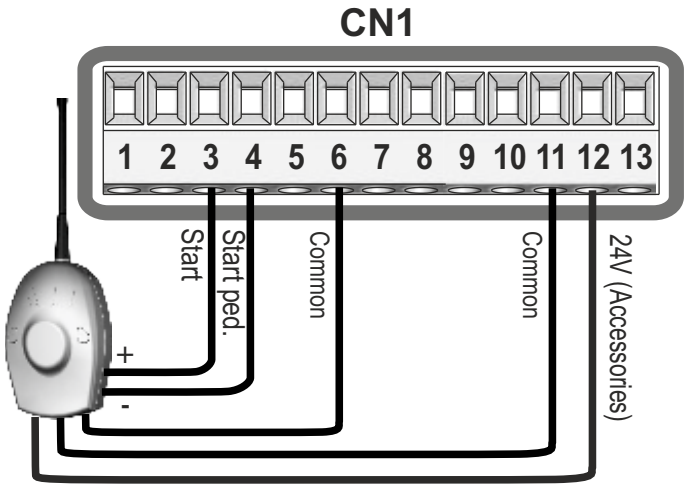
Power input
Input for the connection of the electric power.
P = PHASE
N = NEUTRAL
G = GROUND

NOTICE: for the connection to the electric power see the law in force.

EXTERNAL RECEIVER

Example: Connection of a radio receiver

For the connection of the receiver refer to the relative instructions manual.



10K PHOTOCELL - SAFETY EDGE - BUZZER - WARNING LAMP

10 K PHOTOCELL or SAFETY EDGE 9 and 11

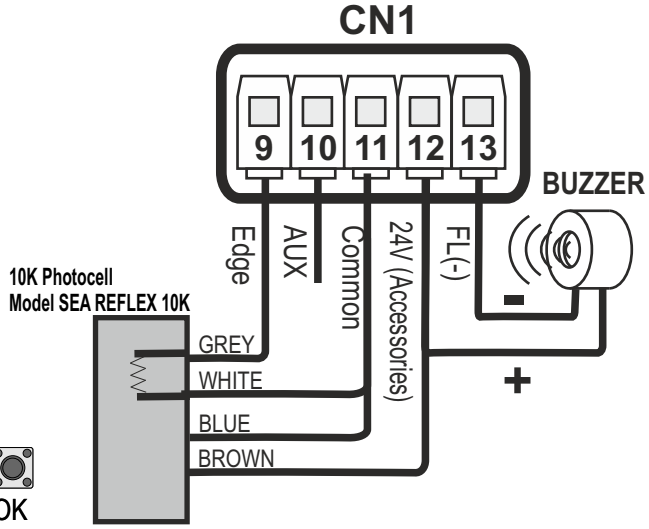
Between clamps 9 and 11 of CN 1 it is possible to connect an active safety edge or a 10K photocell on the terminal CN1. If used as safety edge, when pressed it opens the contact causing a partial inversion of the movement both in opening and in closing. If used as 10K photocell, it is necessary to set it on menu 100-EDGE as 10K photocell, then it will run following settings on menu 97-PHOTO 1.
You must put a jumper between the contacts GND and 9 of Cn1 if you don't use none.

Note1: Through the on-board display or the Jolly 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 show on the on-board dispaly or on the JOLLY programmer

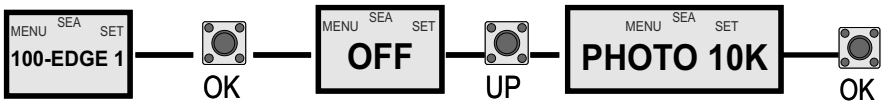
⚠ ***With 8K2 option the entrapment protection is always monitored***

⚠ ***With 10K photocell option the photocell is always monitored***

Example of photocell and buzzer connections



Setting Photocells 10K



24V ⎓ BUZZER 12 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 allarm 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.
IMPORTANT: UL325 standards requires an audible alarm.
The alarm shall signal upon two sequential activations of an entrapment protection device, where the first activation is either a Type A or B2 device and the second activation is a Type A device.
Type A device = entrapment protection system
Type B device = contact sensor / non contact sensor

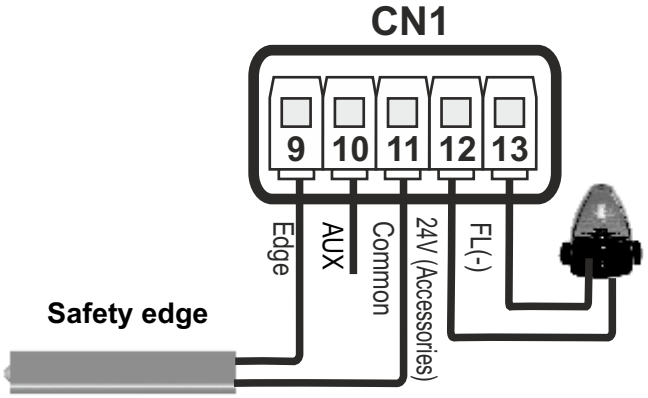
⚠ ***If Buzzer does not work, check the 86-FLASHING LIGHT menu is set on "Buzzer"***

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

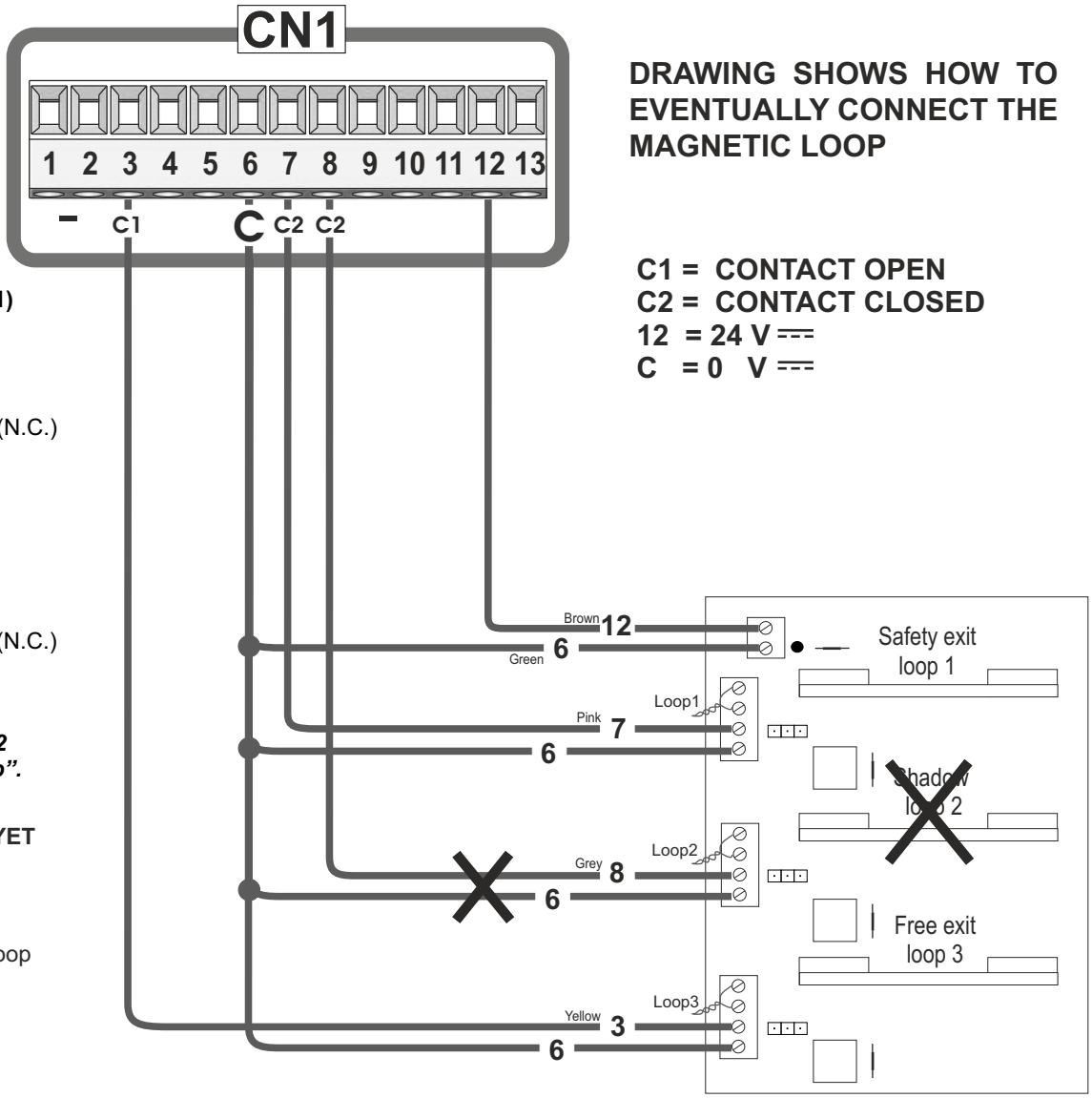
24V ⎓ FLASHING LAMP 4W MAX 12 and 13

Flashing Lamp 24V ⎓ 15W (Warning lamp)
The flashing lamp can be connected between the clamps 24V (Accessories) and FL (-) of CN 1.
The warning 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 programmer it is possible to activate the pre-flashing function and/or to modify the function of the warning lamp choosing between fix flashing, control lamp.

Example of edge and flashing lamp connections



SAFETY LOOP CONNECTIONS



Safety exit loop (loop 1)

Connecting scheme of loop detector 1 reader

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

Shadow loop (loop 2)

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".

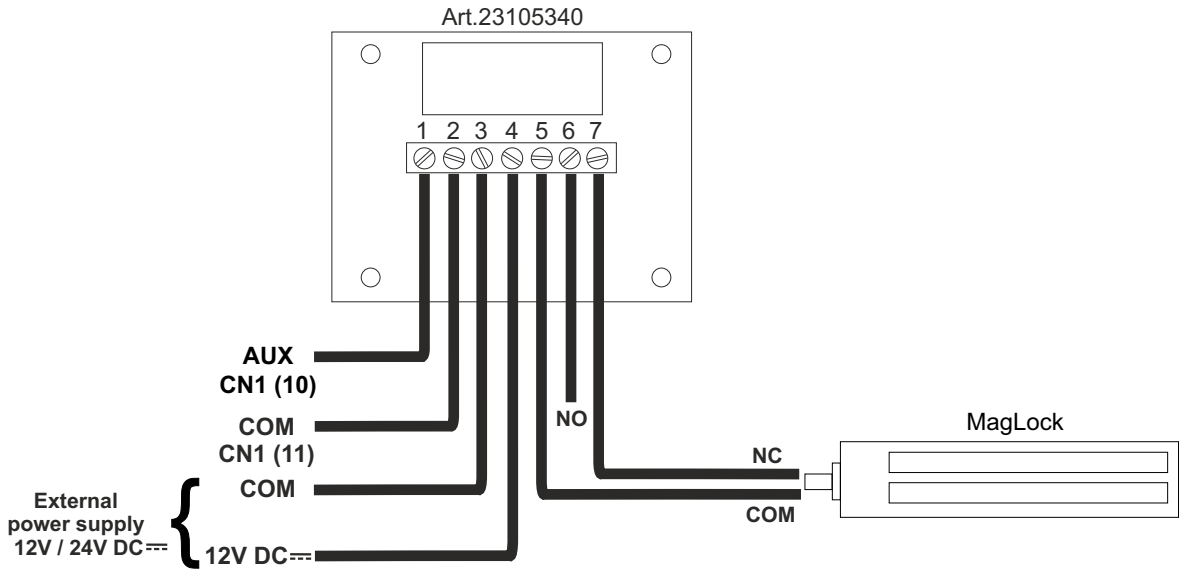
NOTICE :
SHADOW LOOP NOT YET AVAILABLE

Free exit loop (loop 3)

Connecting scheme of loop detector reader

3 = Contact start (n.o.)
6 = Common

MAGLOCK 12V CONNECTIONS



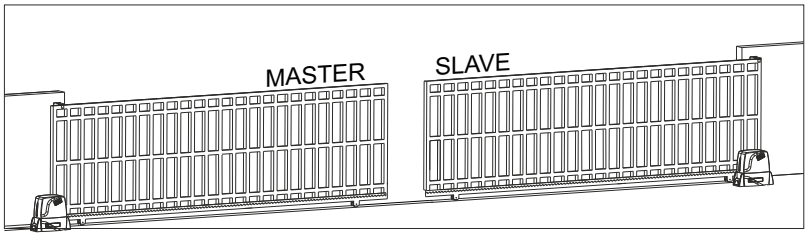
NOTE: Please set 94-24V AUX menu to "Negative brake management".

MASTER-SLAVE FUNCTION

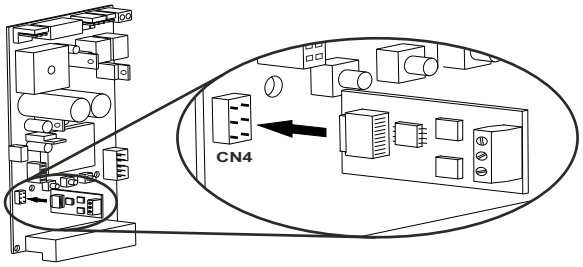
To set an installation with two motors in **MASTER-SLAVE** function it is recommended to do as follows:

1) Set the two motors as if they were two independent installations, make sure that the individual motor works properly and that the limit switches (when present) are read properly.
2) Once sure of the correct functioning connect the control unit MASTER to the control unit SLAVE through the special clamp (Code SEA 23001220).
3) Now set the control unit, which has to manage the commands and motor 1 (photocell, keyswitch, STOP, safety edge etc.) as MASTER and the other one which will move motor 2 as SLAVE.
4) Follow up the selflearning of the times of the MASTER control unit.

Note 1: The master and slave settings on the control unit are present in the special menu selecting 105-MASTER-SLAVE.
Note 2: All these operations can also be managed through the JOLLY 3 programmer).
Note 3: On the SLAVE it is possible to set the following functions only: torque, speed, motor type, slowdown speed, acceleration, deceleration, position recovery, AUX and motor inversion.
All other parameters will be set only by the MASTER control unit.

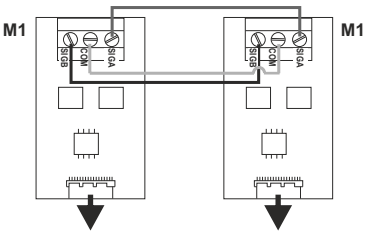


This configuration is usable in the case of two opposite sliding gates.
In this configuration, all devices (photocells, key switch, edges, etc.) must be connected on the MASTER unit which will also control the movement of the motor linked to the SLAVE unit.



It is recommended to use a two twisted pairs shielded cable with less than 0.5 mm^2 section.

Note: respect the polarity of the cables.



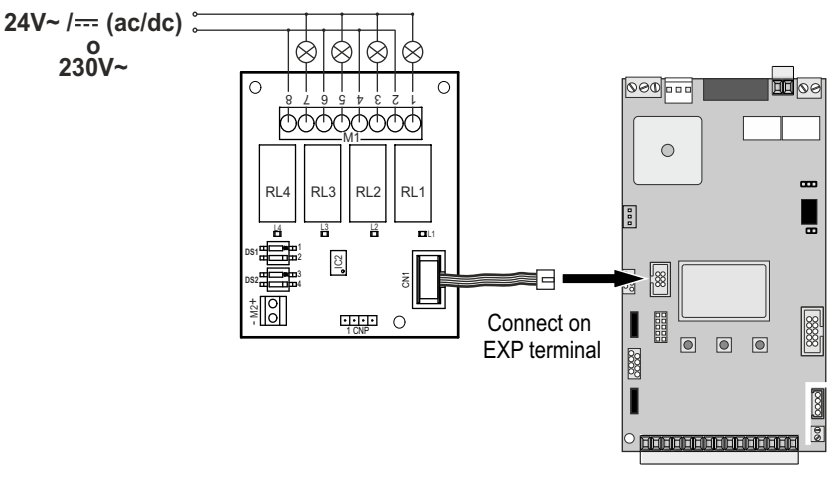
Insert on CN4 of the Master control unit

Insert on CN4 of the Slave control unit

COURTESY LIGHT OUTPUT 24 VOLT / DRY CONTACT MANAGEMENT

JP1	JP2	8 - COURTESY LIGHT menu settings
1 2	1 2 3	**With JP1 off and JP2 inserted between 1 and 2 of CN5 you will have a clean contact that is activated based on the setting given by the menu 88 (one second from each start pulse, only during cycle or for the set time).**
1 2	1 2 3	**With JP1 inserted and JP2 inserted between 2 and 3 of CN5 you will have tension according to the setting given by the menu 88 (one second from each pulse start, only during cycle, always or for the set time).**

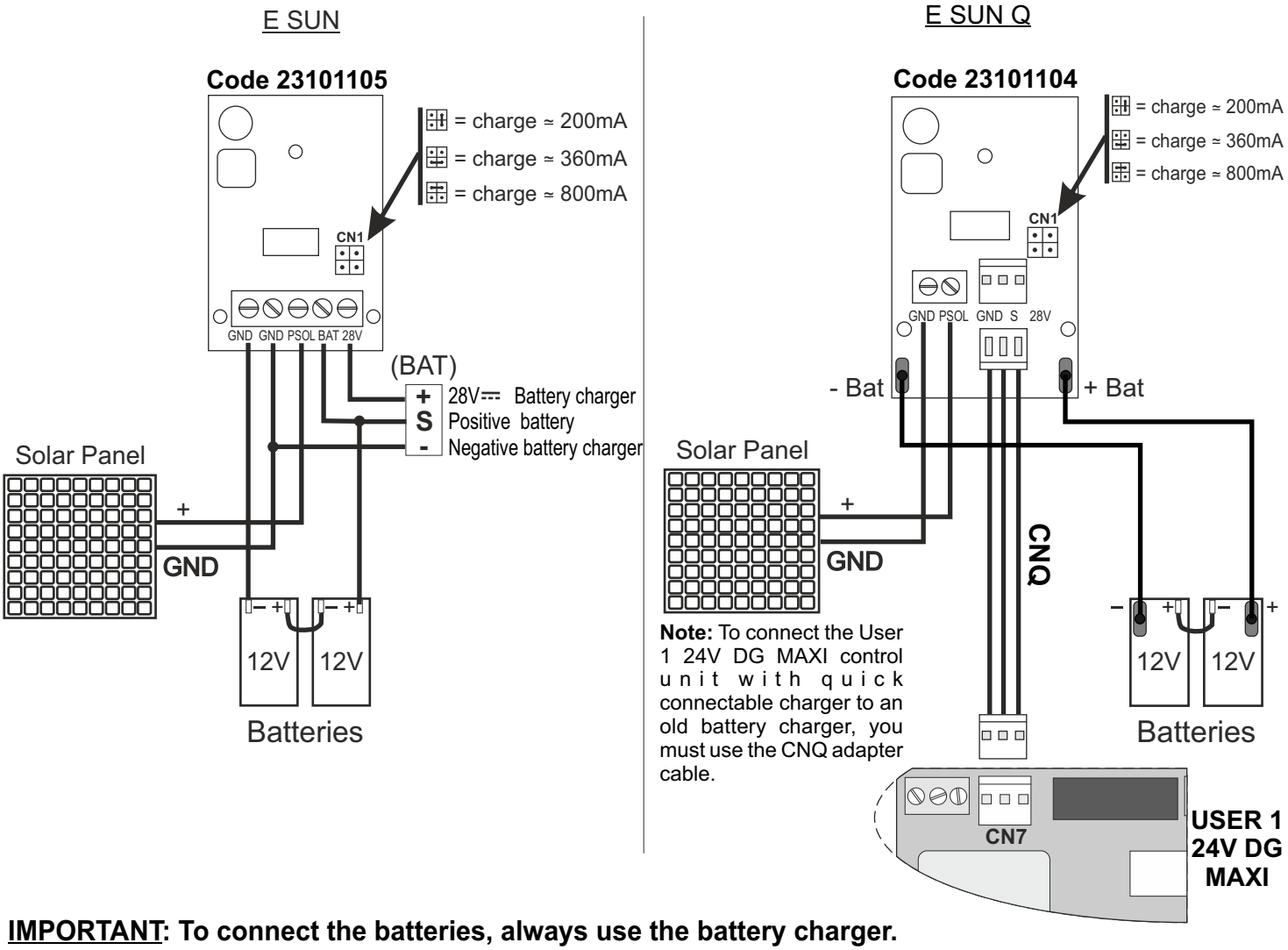
TRAFFIC LIGHT CARD CONNECTION



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 the112-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.

CONNECTION OF BATTERIES TO BATTERY CHARGER CARD



IMPORTANT: To connect the batteries, always use the battery charger.

Battery current (mA)	Battery (Ah)
800	12 or 16
360	7
200	2

Insert two 12V batteries connected in series.

Specifications of optional batteries:
24V Pb

TROUBLESHOOTING

Advices

Make sure all Safeties are turned ON

Problem Found	Possible Cause	Solutions
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 d) If on battery power only, low or dead batteries	a) Check AC power b) Check fuses c) Replace defective control board d) Charge batteries by AC or solar power or replace batteries
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 e) If on battery power only, low or dead batteries	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 e) Charge batteries by AC or solar power or replace batteries
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) Try to invert the motor phase and watch if the motor change or not the direction	a) 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 c) Low battery voltage	a) Check all Open and Close inputs for an active input b) Check the obstacle sensitivity value and try to increase this parameter c) Battery voltage must be 23.0 Vdc or higher. Charge batteries by AC or solar power or replace batteries

...CONTINUE

Advices

Make sure all Safeties are turned ON

Problem Found	Possible Cause	Solutions
Gate opens, but will not close with transmitter or pause time different from OFF	a) Open control active b) Pause not set c) Close Entrapment Protecting Device active d) Photocells contact is open e) Fire-switch input active	a) Check all Open inputs for an active input b) Check pause settings c) Check all Entrapment Protection Device inputs for an active sensor d) Check photocells contact e) Check fire-switch input
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

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Advices

Make sure all Safeties are turned ON

Problem Found	Possible Cause	Solutions
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
Control board powers up, but motor does not run	a) Stop button active or jumper not in place for stop circuit b) Open or Close Input active c) Entrapment Protection Device active d) Defective control board	a) Check Stop button is not "stuck on"", or verify that the stop button is a normally closed circuit, or put a jumper on the stop circuit b) Check all Open and Close Inputs for a "stuck on" Input c) Check all Entrapment Protection Device inputs for a "stuck on" sensor d) Replace defective control board
Solar operator not getting enough cycles per day	a) Insufficient panel wattage b) Excessive accessory power draw c) Old batteries d) Solar panels are not getting enough sunlight	a) Add more solar panels b) Reduce the accessory power by using low power accessories or set the 24Vaux only in cycle c) Replace batteries d) Relocate the solar panels away from obstructions (trees, buildings, etc.)
Solar operator insufficient stand-by time	a) Insufficient panel wattage b) Excessive accessory power draw c) Battery capacity too low	a) Add more solar panels b) Reduce the accessory power draw by using low power accessories c) Use batteries with higher amp hour (Ah) rating

Page for both installer 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 USA Inc. 10850 N.W. 21st unit 160 DORAL MIAMI Florida (FL) 33172 USA
Tel. :++1-305.594.1151 - ++1-305.594.7325 Toll free: 800.689.4716

SAFETY AND ENVIRONMENTAL COMPATIBILITY

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

STORING

WAREHOUSING TEMPERATURES			
T_{min}	T_{Max}	Dampness $_{min}$	Dampness $_{Max}$
-4 °F	+ 149 °F	5% *Not condensing*	90% *Not condensing*

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.

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