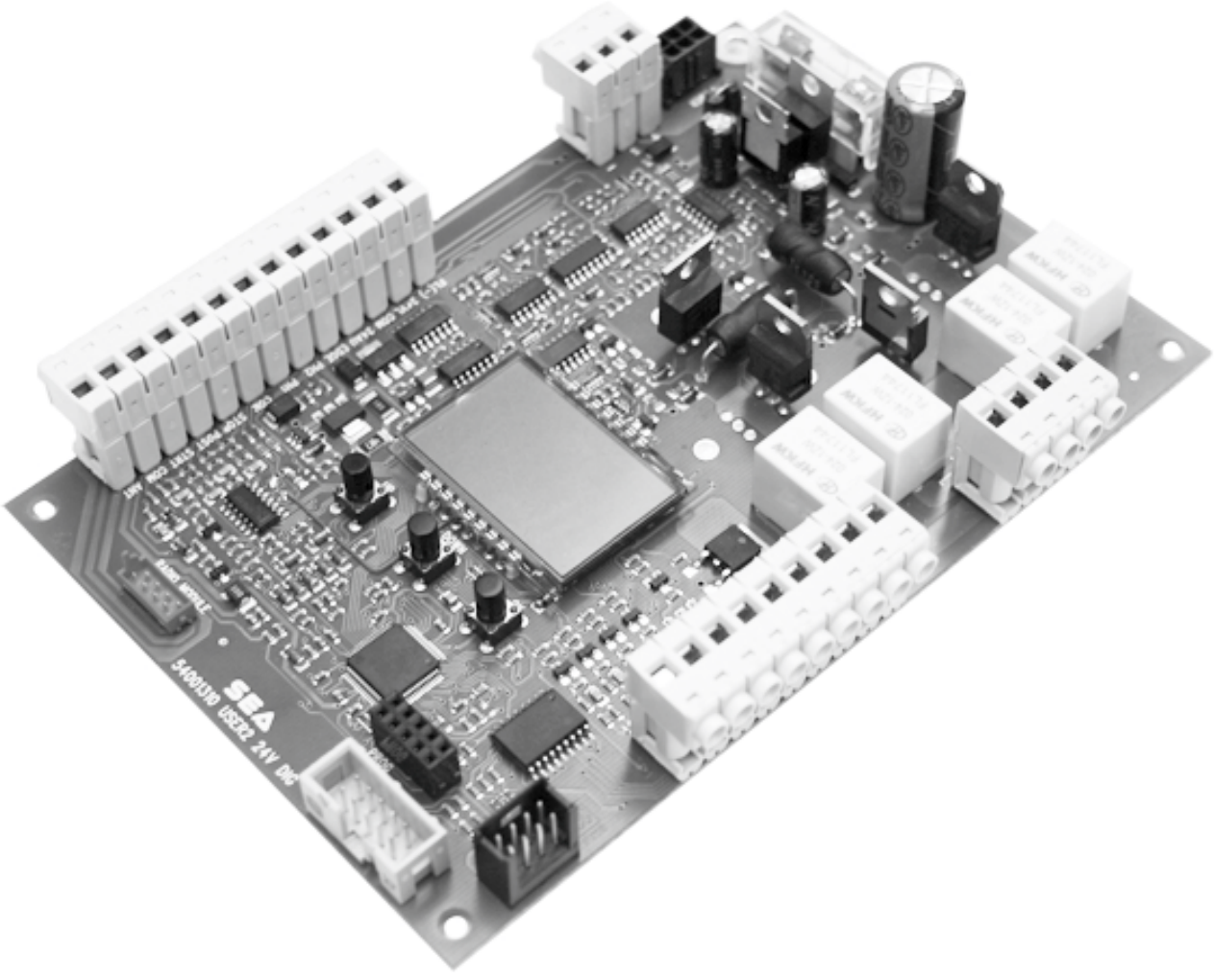
SEA USA
ELECTRONIC OPENING SYSTEMS
International registered trademark n. 2.777.971

USER 2 - 24V DG
HYDRO

ELECTRONIC CONTROL UNIT 24V ⎓ FOR SWING GATES



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67411657 **REV. 00 - 08/2018**

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IMPORTANT SAFETY INFORMATION

GENERAL SAFETY PRECAUTIONS

The following precautions are an integral and essential part of the product and must be supplied to the user Read them carefully as they contain important indications for the safe installation, use and maintenance.

1. These instruction must be kept and forwarded to all possible future users of the system.
2. This product must be used only for that which it has been expressly designed.
3. Any other use is to be considered improper and therefore dangerous.
4. The manufacturer cannot be held responsible for possible damage caused by improper, erroneous or unreasonable use.
5. Avoid operating in the proximity of the hinges or moving mechanical parts.
6. Do not enter the path of the moving gate while in motion.
7. Do not obstruct the motion of the gate as this may cause a situation of danger.
8. Do not allow children to play or stay within the path of the moving gate.
9. Keep remote control or any other control devices out of the reach of children, in order to avoid possible involuntary activation of the gate operator.
10. In case of break down or malfunctioning of the product, disconnect from the main power source. Do not attempt to repair or intervene directly, contact only qualified personnel for repair.
11. Failure to comply with the above may create a situation of danger.
12. All cleaning, maintenance or repair work must be carried out by qualified personnel.
13. In order to guarantee that the system works efficiently and correctly it is important to have the manufacturer's instructions on maintenance of the gate and operator carried out by qualified personnel.
14. In particular, regular checks are recommended in order to verify that the safety devices are operating correctly.

All installation, maintenance and repair work must be documented and made available to the user.

IMPORTANT SAFETY INSTRUCTIONS

⚠ ***WARNING – To reduce the risk of injury or death:***

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. Every gate operator installation MUST have secondary protection devices agains entrapments, such as edge sensors and photo beams more in particulary in places where the risk of entrapments is more likely to occur
9. SAVE THESE INSTRUCTIONS

PERIODICAL MAINTENANCE

TURNING OFF THE POWER

Clean and grease parts in movement (wheels, counter-connecting rod, release, etc.)	Annual
Check for corroded parts and replace if necessary	Annual
Check if the screws and all mounting hardwares are properly tighten	Annual
Check the conditions of wear and tear of the devices in movement	Annual
Check the correct drain of the rainwater	Annual
Check the integrity of the connection cables	Annual
Inspect the track for any signs of cracking or separation	Annual
Ensure that the gate moves freely	Annual

BY MAIN POWER SOURCE TURNED OFF Check the battery conditions and be sure that connections are free of corrosion Verify the functionally of the battery backup, or power failure option	Annual

TURNING ON THE POWER

Check and confirm the proper operation of all safety devices (photocells, edge sensors etc)	Annual
Check and confirm the operation of all installed accessories	Annual
Check and confirm the operation of the manual release	Annual

All the above described operations must be made exclusively by an authorized installer

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GENERAL SAFETY INFORMATION

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:

IMPORTANT INSTALLATION INSTRUCTIONS

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) The gate operator controls must be placed so that the user has full view of the gate area when the gate is moving and AWAY FROM THE GATE PATH PERIMETER.

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
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).

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

NOTICE

As for misunderstandings that may arise refer to your area distributor or call our help desk. These instructions are part of the device and must be kept in a well known place. The installer shall follow the provided instructions thoroughly. SEA products must only be used to automate doors, gates and wings. Any initiative taken without SEA USA Inc. explicit authorization will preserve the manufacturer from whatsoever responsibility. The installer shall provide warning notices on not assessable further risks. SEA USA Inc. in its relentless aim to improve the products, is allowed to make whatsoever adjustment without giving notice. This doesn't oblige SEA to up-grade the past production. SEA USA Inc. can not be deemed responsible for any damage or accident caused by product breaking, being damages or accidents due to a failure to comply with the instructions herein. The guarantee will be void and the manufacturer responsibility will be nullified if SEA USA Inc. original spare parts are not being used. The electrical installation shall be carried out by a professional technician who will release documentation as requested by the laws in force. Packaging materials such as plastic bags, foam polystyrene, nails etc must be kept out of children's reach as dangers may arise.

To respect the norms in force it is recommended to use the ENCODER SYSTEM together with the electronic control units

Changes to UL 325 ED. 6th 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 ED. 6th ENTRAPMENT PROTECTION REQUIREMENTS

VEHICULAR GATE OPERATOR CLASSES

Residential Vehicular Gate Operator-Class I: A vehicular gate operator (or system) intended for use in garages or parking areas associated with a residence of one-to-four single families

Commercial/General Access Vehicular Gate Operator-Class II: A vehicular gate operator (or system) intended for use in a commercial location or building such as a multi-family housing unit (five or more single family units), hotel, garages, retail store, or other buildings accessible by or servicing the general public

Industrial/Limited Access Vehicular Gate Operator–Class III: A vehicular gate operator (or system) intended for use in an industrial location or building such as a factory or loading dock area or other locations not accessible by or intended to service the general public

Restricted Access Vehicular Gate Operator–Class IV: A vehicular gate operator (or system) intended for use in an industrial location or building such as a factory or loading dock area or other locations not accessible by or intended to service the general public

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

GATE OPERATOR CATEGORY Effective January, 12 2016		
ENTRAPMENT PROTECTION TYPES	**HORIZONTAL SLIDE VERTICAL LIFT - VERTICAL PIVOT**	**SWING VERTICAL BARRIER (ARM)**
	A , B1*, B2* or D	A , B1*, B2*, C or D
TYPE A	Inherent entrapment protection system	
TYPE B1	Non-contact sensors such as photoelectric sensors or equivalents	
TYPE B2	Contact sensors such as edge sensors or equivalent devices	
TYPE C	Inherent force limiting, inherent adjustable clutch or inherent pressure relief device	
TYPE D	Actuating device requiring constant pressure to maintain opening or closing motion of the gate	

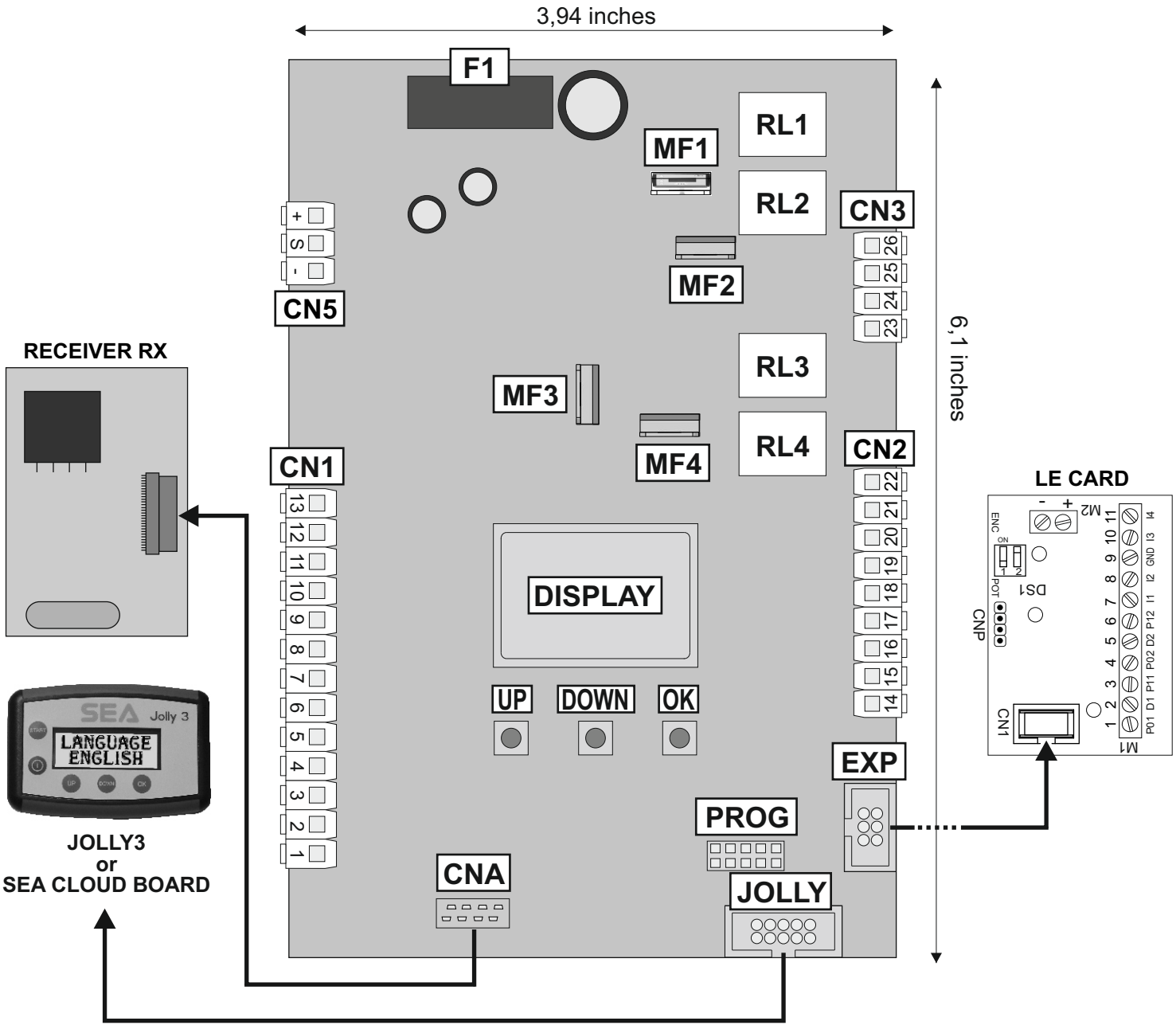
The same type of device shall not be used for both entrapment protection means. Use of a single device to cover both the opening and closing directions is in accordance with the requirement; however, a single device is not required to cover both directions. Tice installer is required to install entrapment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

VERITICAL BARRIER NOTE:
Barrier gate operators (arm) that is not intended to move toward a rigid object closer than 16 inches (406mm) are not required to be provided with a means of entrapment protection

*** B1 and B2 means of entrapment protection MUST be MONITORED**

DESCRIPTION OF THE COMPONENTS

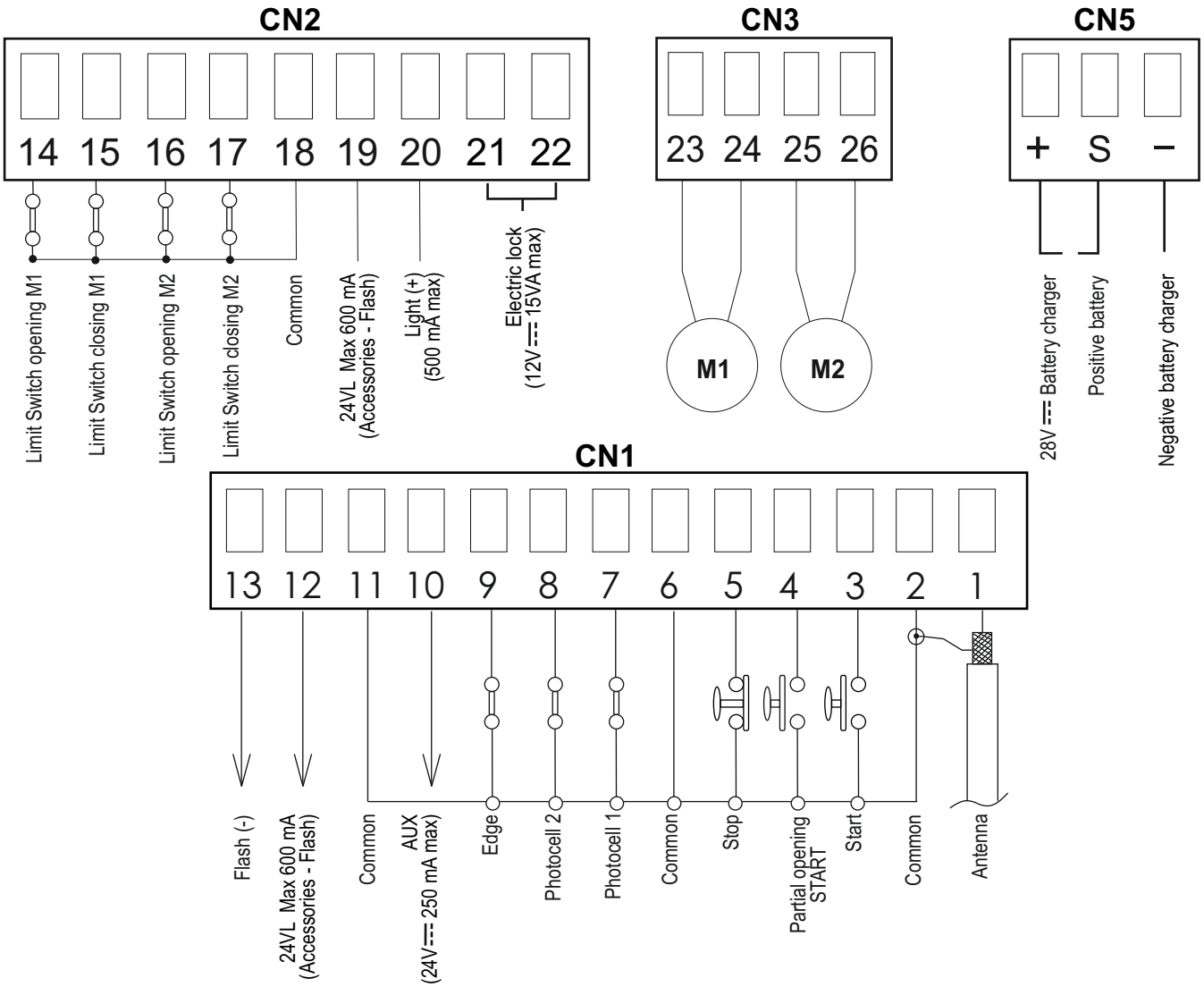
TECHNICAL SPECIFICATIONS
Control unit power supply: 24V
Switching power pack input voltage: (90 - 132~ / 180 - 264~) 50/60 Hz
Absorption in stand by: 30 mA
Environment temperature : - 4°F / +122°F
Specifications of external enclosure: 12 x 8,9 x 4,9 inches - Ip55



CN1 = Input/Output connector
CN2 = Limit switch, electro-lock connector
CN3 = Motors connector
Cn5 = Battery charger connector and Switching power pack
CNA = RX Receiver module connection
EXP = Expansion module connector/LE Card
JOLLY = JOLLY 3 programmer or SEA CLOUD BOARD connector

MF1 - MF2 = Mosfet motor 2
MF3 - MF4 = Mosfet motor 1
PROG = Programming connector
RL1 - RL2 = Relay motor 2
RL3 - RL4 = Relay motor 1
F1 = Fuse 10AT

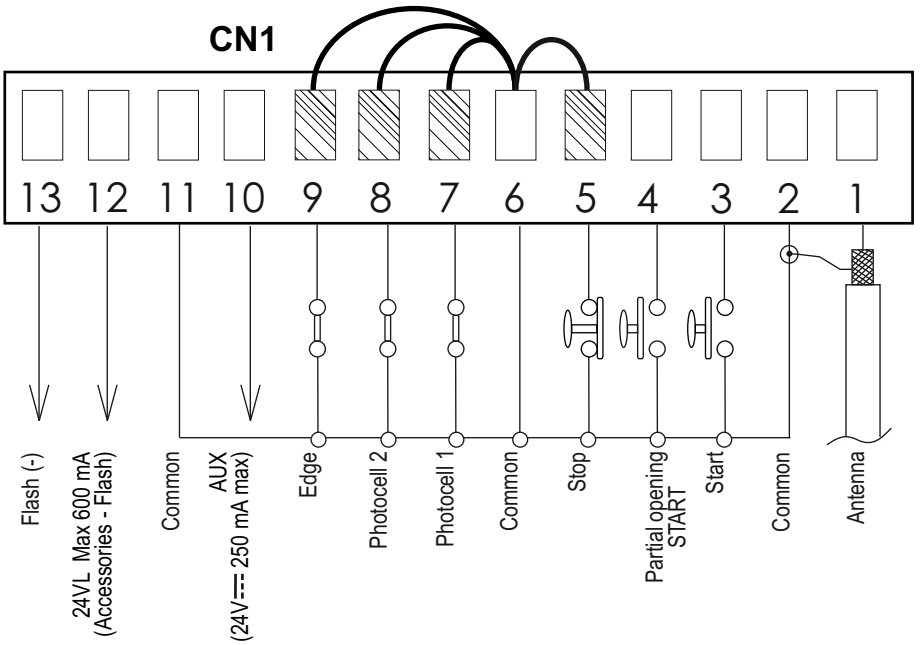
CONNECTIONS



JUMPERS

WARNING: The control unit is designed with the automatic detection of not used N.C. inputs (Photocells, Stop, Limit switch or Safety Edges). The exclude inputs in self-programming can be restored in the “Check inputs” menu without need to repeat the programming

Optional



The herein reported functions are available starting from revision 02.02 compatible only with Jolly 3

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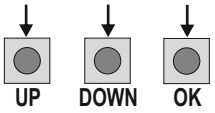
PROGRAMMING QUICK START

PROGRAMMING BUTTONS



UP

1. MENU SEA SET **LANGUAGE** — OK — MENU SEA SET **ITALIANO**

UP

Skip this step if you do not want to program a transmitter

2. MENU SEA SET **TRANSMITTERS** — OK — MENU SEA SET **START** — OK — MENU SEA SET **PRESS BUTTON** — Press the button of the TX to be stored — MENU SEA SET **STORED** — OK to exit Menu or press the button of the next TX to be stored

UP

If on the display appears the item: MENU SEA SET **RECEIVER MISSING** Check if a receiver has been conneted

3. MENU SEA SET **MOTOR** — OK — Choose the type of motor with UP or DOWN — OK — To confirm and return to main menu

UP

Skip this step if you are working in double leaf mode

4. MENU SEA SET **ONE SINGLE LEAF** — OK — With UP or DOWN choose ON only if in single leaf mode (Motor 1) — OK — To confirm and return to the main menu

UP

5. MENU SEA SET **REVERSE MOTOR** — OK — Choose ON with UP or DOWN if you want to reverse the direction of the motor rotation — OK — Per confermare e tornare al Menu principale

UP

6. MENU SEA SET **LOGIC** — OK — With UP or DOWN choose the desired logic — OK — To confirm and return to main menu

UP

7. MENU SEA SET **PAUSE TIME** — OK — With UP or DOWN choose a delay for automatic closing — OK — To confirm and return to main menu

UP

8. MENU SEA SET **START IN PAUSE** — OK — With UP or DOWN Choose ON — OK — To confirm and return to main menu

Skip this step if you want to work in half-automatic logic

UP

9. MENU SEA SET **PROGRAM-MING** — OK — With UP or DOWN choose ON to start times learning — OK — At the end of the selflearning the control unit returns automatically to the main menu

The gate will execute a CLOSING-OPENING-CLOSING CYCLE

UP

Skip this step if a TX has already been stored

10. MENU SEA SET **TEST START** — OK — With UP or DOWN Choose ON to start test — OK — To confirm and return to main menu

UP

15. MENU SEA SET **END** — OK — Press OK to return to the display of the inputs state

UP

16. MENU SEA SET **SPECIAL MENU** — OK — Press OK to enter the special menu

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 seconds

WORKING TIMES SELF-LEARNING

Note1: It is not necessary to put a jumper on the N.C. contacts if they are not used.

1) Check the right operation of the accessories (photocells, buttons etc.). If necessary set the leaf delay.
2) If necessary adjust the self-learning speed.
3) Switch-off power supply , release the motors and manually place the leaf on the middle of the stroke Restore the mechanical lock
4) Power the control unit .
5) Choose the desired motor type;
6) Select 9-PROGRAMMING on the display, press OK and then UP or DOWN to start the programming.

Note2: If single leaf mode is needed set 4-ONE SINGLE LEAF on ON
Note3: If one or both motors start in opening, switch-off power and invert the motor(s) cable starting in opening. Afterwards repeat the procedure starting from point 4, or activate 5-REVERSE MOTOR.

7) Both leaves will start a CLOSE - OPEN - CLOSE cycle automatically (CLOSE M2 - CLOSE M1 - OPEN M1 - OPEN M2 - CLOSE M2 - CLOSE M1).
End of self-learning.

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 until the display shows the message "INIT". The DEFAULT settings are shown in the Menu table

SELF-LEARNING OPERATION TIME WITH POTENTIOMETER OR LIMIT-SWITCH

When the potentiometer is installed, it is necessary to select "*Potentiometer*" in the 32-ENCODER menu. Now it is possible to start the programming but make sure that leaf 2 starts in closing as first. The gate will automatically execute the following cycle: CLOSING M2 - CLOSING M1 - OPENING M1 - OPENING M2 - CLOSING M2 - CLOSING M1

Note: For stop detection sensitivity settings, refer to the special menu

WORKING TIMES SELF-LEARNING THROUGH IMPULSES
(Required for SB version or in case of Menu-104 LIMIT-SWITCH set on «Working Time»)

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

1) Turn off electricity, release the motors and manually position the leaves on halfway. Reset the mechanical lock

2) Connect the control board to the power supply

3) Select 9-PROGRAMMING on the display, press OK and than one of the UP or DOWN buttons

4) Now 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 stop of the leaf

5) The self-learning is done

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.
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.

SECURITY LOGIC
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.
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.

STEP BY STEP TYPE 1 LOGIC
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.
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.

STEP BY STEP TYPE 2 LOGIC
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.
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.

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 push-buttons must be constantly pressed.

2 PUSHBUTTONS 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.

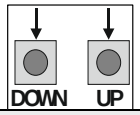
PASSWORD ENTERING MANAGEMENT

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 terminal.

USER 2 24V DG HYDRO MENU FUNCTIONS TABLE

MENU		SET	DESCRIPTION	DEFAULT	SET VALUE
1	LANGUAGE	*Italiano*	Italian	*English*	
		English	English		
		Français	French		
		Español	Spanish		
		Dutch	Dutch		
2	TRANSMITTERS	*Start*	Start	*Start* *Partial Opening*	
		Partial opening	Partial opening		
		External module	External module		
		Stop	Stop		
		Delete a transmitter	Delete single transmitter		
		Clear memory	Delete transmitter memory		
		Bistable Stop	Pressed once, it stops the gate. Pressed twice, it reactivates the START input		
		End	Exit transmitters menu		
3	MOTOR	*Compact 2017*	Compact 2017	*HT 270 DC*	
		Electro-Hydraulic	Electro-Hydraulic		
		Compact	Compact		
		HT 270 DC	HT 270 DC		
		HT 390 DC	HT 390 DC		
		Electro-Hydraulic R1	Electro-Hydraulic R1		
4	ONE SINGLE LEAF	*Off*	Disabled	*Off*	
		On	In ON activates single leaf mode (Motor1)		
5	REVERSE MOTOR	*On*	In On reverses the opening with the closing and/or vice-versa ***(Note: both motors and limit-swiches are reversed)***	*Off*	
		Off	Off		
6	LOGIC	*Automatic*	Automatic	*Automatic*	
		Open-stop-close-stop-open	Step by step type 1		
		Open-stop-close-open	Step by step type 2		
		2 button	Two buttons		
		Safety	Safety		
		Dead man	Dead man		
7	PAUSE TIME	*Off*	OFF (semi-automatic logics)	*Off*	
		1 240	Setting from 1 second to 4 minutes		
8	START IN PAUSE	*Off*	The Start is not acceped during pause	*Off*	
		On	The Start is acceped during pause		
9	PROGRAMMING	*Off On*	Times learning start	*Off*	
10	TEST START	*Off On*	Start command	*Off*	
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 USER 2 24V DG HYDRO

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
17	OPENING SPEED 1	*30 100*	Setting from 30 to 100	75	
18	CLOSING SPEED 1	*30 100*	Setting from 30 to 100	75	
19	OPENING SPEED 2	*30 100*	Setting from 30 to 100	75	
20	CLOSING SPEED 2	*30 100*	Setting from 30 to 100	75	
21	SLOWDOWN SPEED IN OPENING 1	*30 100*	Setting from 30 to 100	30	
22	SLOWDOWN SPEED IN CLOSING 1	*30 100*	Setting from 30 to 100	30	
23	SLOWDOWN SPEED IN OPENING 2	*30 100*	Setting from 30 to 100	30	
24	SLOWDOWN SPEED IN CLOSING 2	*30 100*	Setting from 30 to 100	30	
25	LEARNING SPEED	*30 100*	Setting from 30 to 100	50	
26	LEAF DELAY IN OPENING	*Off 6*	Setting from OFF to 6 seconds	*3*	
27	LEAF DELAY IN CLOSING	*Off 20*	Setting from OFF to 20 seconds	*3*	
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%	*70*	
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%	*70*	
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%	*70*	
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%	*70*	
32	ENCODER	*On*	In ON enables the Encoder, in OFF it's disabled	*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 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		

MENU SP		SET	DESCRIPTION	DEFAULT	SET VALUE
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*			
33	OPENING SENSITIVITY MOTOR 1	*10% (Fast intervention)* *99% (Slow intervention)*	Adjusts the Encoder or Potentiometer intervention time on Motor 1 in opening	*Off*	
		Off (Intervention excluded)	Disabled		
34	CLOSING SENSITIVITY MOTOR 1	*10% (Fast intervention)* *99% (Slow intervention)*	Adjusts the Encoder or Potentiometer intervention time on Motor 1 in closing	*Off*	
		Off (Intervention excluded)	Disabled		
35	OPENING SENSITIVITY MOTOR 2	*10% (Fast intervention)* *99% (Slow intervention)*	Adjusts the Encoder or Potentiometer intervention time on Motor 2 in opening	*Off*	
		Off (Intervention excluded)	Disabled		
36	CLOSING SENSITIVITY MOTOR 2	*10% (Fast intervention)* *99% (Slow intervention)*	Adjusts the Encoder or Potentiometer intervention time on Motor 2 in closing	*Off*	
		Off (Intervention excluded)	Disabled		
37	SLOWDOWN SENSITIVITY MOTOR	*10% (Fast intervention)* *99% (Slow intervention)*	Adjusts the amperometric sensitivity in slowdown.	*Off*	
		Off (Intervention excluded)	Disabled		
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		
For menu from 51 to 56 see menu 32-Encoder = Potentiometer					
59	OPENING SLOWDOWN 1	*Off (*) 100%*	OFF = Disabled 100% = the slowdown will Start at middle of the total stroke	*20*	
60	CLOSING SLOWDOWN 1	*Off (*) 100%*	OFF = Disabled 100% = the slowdown will Start at middle of the total stroke	*20*	
61	OPENING SLOWDOWN 2	*Off (*) 100%*	OFF = Disabled 100% = the slowdown will Start at middle of the total stroke	*20*	
62	CLOSING SLOWDOWN 2	*Off (*) 100%*	OFF = Disabled 100% = the slowdown will Start at middle of the total stroke	*20*	
**** For motors with hydraulic brake (CF) or double hydraulic brake (2CF) this parameter must be on Off***					
Note: if menu-104 SELECT LIMIT-SWITCH is set on WORKING TIME, so menus 59-60-61-62 will show seconds from 0 to 30 and default value will be of 5 seconds					
63	DECELERATION	*0 %* *50%* 	Adjust the passage between normal speed and slowdown speed	*5%*	
64	ACCELERATION	*0 %* *100%* 	Acceleration ramp. Adjusts the motor start	*100%*	
70	OPENING POSITION RECOVERY	*0 15 seconds*	Retrieves the inertia of the motor in opening after Stop or reversing	*1s*	
71	CLOSING POSITION RECOVERY	*0 15 seconds*	Retrieves the inertia of the motor in closing after Stop or reversing	*1s*	
72	OPENING TOLERANCE MOTOR 1	*10% (20 pulses)* *99% (500 pulses)*	Adjust the tolerance between stop and obstacle on Motor 1 in opening	*16% = 80 pulses*	
73	CLOSING TOLERANCE MOTOR 1	*10% (20 pulses)* *99% (500 pulses)*	Adjust the tolerance between stop and obstacle on Motor 1 in closing	*16% = 80 pulses*	
74	OPENING TOLERANCE MOTOR 2	*10% (20 pulses)* *99% (500 pulses)*	Adjust the tolerance between stop and obstacle on Motor 2 in opening	*16% = 80 pulses*	
75	CLOSING TOLERANCE MOTOR 2	*10% (20 pulses)* *99% (500 pulses)*	Adjust the tolerance between stop and obstacle on Motor 2 in closing	*16% = 80 pulses*	

MENU SP		SET	DESCRIPTION	DEFAULT	SET VALUE
76	PUSHING STROKE	*Off - 3 seconds*	Before opening, the motor starts in closing for the setup time, in order to simplify the lock release	Off	
77	LOCK TIME	*Off - 5 seconds*	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 cloning		
		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*	If different from Off, the motor slightly reverse its direction at the end of the cycle ***Note: on swing operators, the release time of the Motor 2 in closing must not be longer than that of Motor 1***	*Off*	
		Closing 1 Off - 3 s			
		Opening 2 Off - 3 s			
		Closing 2 Off - 3 s			
		End			
83	EXTRA TIME	*Opening 1 Off - 10 s*	It adds an extra time to the movement of the motors on direction set	*Off*	
		Closing 1 Off - 10 s			
		Opening 2 Off - 10 s			
		Closing 2 Off - 10 s			
		End			
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		
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		
88	COURTESY LIGHT	*Off*	Disabled	*In Cycle*	
		1 240	Courtesy light setting from 1sec. to 4min.		
		In cycle	Courtesy light in cycle		
89	TRAFFIC LIGHT RESERVATION ***(Only with SEM2 board)***	*Off On*	If ON, the partial input will be activated to work on the auxiliary board "SEM" (traffic light management)	*Off*	
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*	
		Off	Disabled		
		1 240	Setting from 1second to 4 minutes		
92	TIMER	*Off*	Turn the selected input into an input to connect an external clock to	*Off*	
		On photo2			
		On partial entry			

MENU SP		SET	DESCRIPTION	DEFAULT	SET VALUE
94	24V AUX	*Always*	AUX output always Power supplied	*Always*	
		In cycle	AUX output active only during cycle		
		Opening	AUX output power supplied only in opening		
		Closing	AUX output power supplied only in closing		
		In pause	AUX out put power supplied only in pause		
		Phototest	Security test		
		In cycle and phototest	AUX output only during cycle with fototest function active		
		Positive brake management	Positive Electric-brake (24V in On with stationary gate)		
		Negative brake management	Negative Electric-brake (24V in On with gate in cycle and 1 sec. before the Start)		
		Negative brake and Photocell management	Negative electric-brake not active on intervention of the photocell		
		Open gate warning Light	1 flash per second in opening 2 flashes per second in closing Steady lit in Stop or Open		
		Start 3 s	If active, the 24VAUX output is activated for 3 seconds at every Start input, every photocells or edge intervention		
95	FOTOTEST	*Photo 1*	Self-test active only on photo 1	*Photo 1 and 2*	
		Photo 2	Self-test active only on photo 2		
		Photo 1 and 2	Self-test active on photo 1 and 2		
97	PHOTOCELL 1 SHADOW LOOP 1	*Closing*	If the photocell is occupied, it reverses the movement in closing; during the pause, it prevents the reclosing	*Closing*	
		Opening and closing	If active the photocell blocks the movement as long as it is busy**;** when released, the opening movement continues		
		Stop	If the photocell is activated before the Start input, the Start will be ignored. If it is activated after the Start input, the photocell will be ignored. If it is activated during closing, the gate will reopen		
		Stop and close	In closing, the photocell stops the movement until it is occupied; when released the closing movement continues		
		Close	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)		
		Pause reload	If activated, the photocell recharges the time of pause during pause. In closing it reverses the movement		
		Shadow loop	Until occupied, with open gate, it prevents reclosing. It is switched off during closing		
		Delete pause time	If the photocell is activated during opening, pause or closing, the gate reopens completely and closes without observing the pause time		
		Shadow loop RP (pause reloading)	If the shadow loop is temporarily released, the pause time is reloaded before closing		

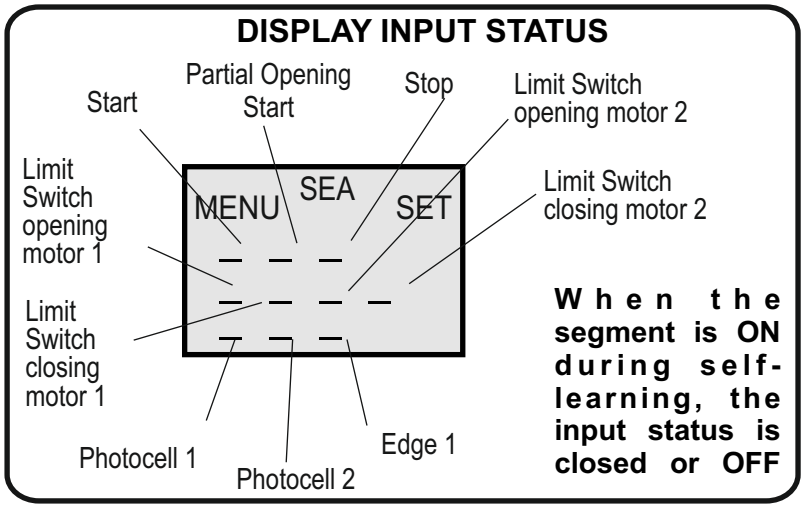
MENU SP		SET	DESCRIPTION	DEFAULT	SET VALUE
98	PHOTOCELL 2 SHADOW-LOOP2	*Closing*	If the photocell is occupied, it reverses the movement in closing; during the pause, it prevents the reclosing	*Opening and closing*	
		Opening and closing	If active the photocell blocks the movement as long as it is busy**;** when released, the opening movement continues		
		Stop	If the photocell is activated before the Start input, the Start will be ignored. If it is activated after the Start input, the photocell will be ignored. If it is activated during closing, the gate will reopen		
		Stop and close	In closing, the photocell stops the movement until it is occupied; when released the closing movement continues		
		Close	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)		
		Pause reload	If activated, the photocell recharges the time of pause during pause. In closing it reverses the movement		
		Shadow loop	Until occupied, with open gate, it prevents reclosing. It is switched off during closing		
		Delete pause time	If the photocell is activated during opening, pause or closing, the gate reopens completely and closes without observing the pause time		
		Shadow loop RP (pause reloading)	If the shadow loop is temporarily released, the pause time is reloaded before closing		
		Stop and open	If the photocell is activated during opening, the gate stops and will continue in opening only when the photocell is released. It is ignored during closing		
100	SECURITY EDGE 1	*Normal*	Normal N.C. contact	*Normal*	
		8K2	Active edge protected by a 8K2 resistor		
		8K2 Double	Allows to connect two 8K2 protected edges		
		Photo 1 10K	Edge works as a photocell protected by a 10K resistor		
		Photo 1 10K Double	It is possible to connect two photocells protected by a 10K resistor		
102	SECURITY EDGE 1 DIRECTION	*Opening and closing*	Active in opening and closing	*Opening and Closing*	
		Only opening	Active only in opening		
		Only closing	Active only in closing		
104	SELECT LIMIT SWITCH	*Automatic*	Limit switch in automatic recognition	*Automatic*	
		Only opening	Active limit-switch in opening only		
		Only closing	Active limit-switch in closing only		
		Motor internal	To be activated if there is a limit-switch that stops the motor phase		
		Working time	If active, disables the Encoder and Potentiometer. Allows time programming through pulses		
106	DIAGNOSTICS	*1 10*	Shows last event (See alarms table)		
107	MAINTENANCE CYCLES	*100 240000*	Setting from 100 to 240000	*100000*	
108	PERFORMED CYCLES	*0 240000*	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	- - - -	

MENU SP		SET	DESCRIPTION	DEFAULT	SET VALUE
113	EMERGENCY	*Off*	Disabled	*Off*	
		Emergency	Without main power but batteries connected, the gate will open fully and will remain opened. The gate recloses when the power is back		
		Last opening	Without main power, if batteries are lower than 22V the gate opens and stay opened. The gate recloses when the power is back		
		Last closing	Without main power, if batteries are lower than 22V the gate closes and stay closed until the power is back		
117	ALWAYS CLOSE	*Off 240 seconds*	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)	*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 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.

INPUT CHECK MENU

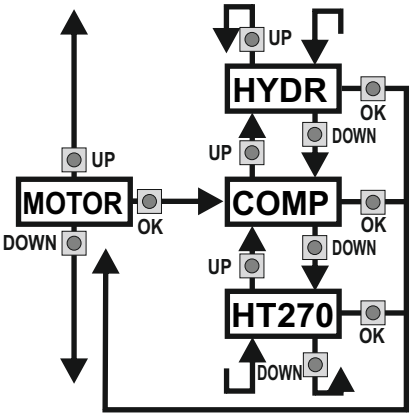
The settings of the control unit are made through the UP, DOWN and OK buttons. The UP and DOWN buttons to scroll through the MENUS and SUBMENUS. By pressing OK you enter from MENU into SUBMENU and confirm the choice. Moving in the 1-LANGUAGE menu pressing the UP and DOWN buttons at the same time you 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.



Initial system

U.001 **Software Version**

Programming example



MENU FUNCTION TABLE CHECK USER 2 24V DG HYDRO INPUTS To access the Menu for input check keep pressed OK for about 5 seconds.				
MENU			**Description**	**Description**
START	—OK	*Enabled* *Blocked*	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.
STOP	—OK	*Enabled* *Blocked*	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
PARTIAL OPENING START	—OK	*Enabled* *Blocked*	Partial opening 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.
EDGE	—OK	*Enabled* *Blocked*	Safety edge 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
PHOTO1	—OK	*Enabled* *Blocked*	Photocell 1 test	Ithe 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
PHOTO2	—OK	*Enabled* *Blocked*	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
LIMIT SWITCH OPENING			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. Menu active only on version with limit switches
LIMIT SWITCH CLOSING			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. Menu active only on version with limit switches
0.0V			Batteries Voltage Level	Batteries charge level indicator
END			Exit menu	

Note: If the **Stop**, **Photocell 1** and **Photocell 2, Edge** 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 fix code** it is necessary **to press 1 time** the button of the transmitter you want to program to store the first remote control

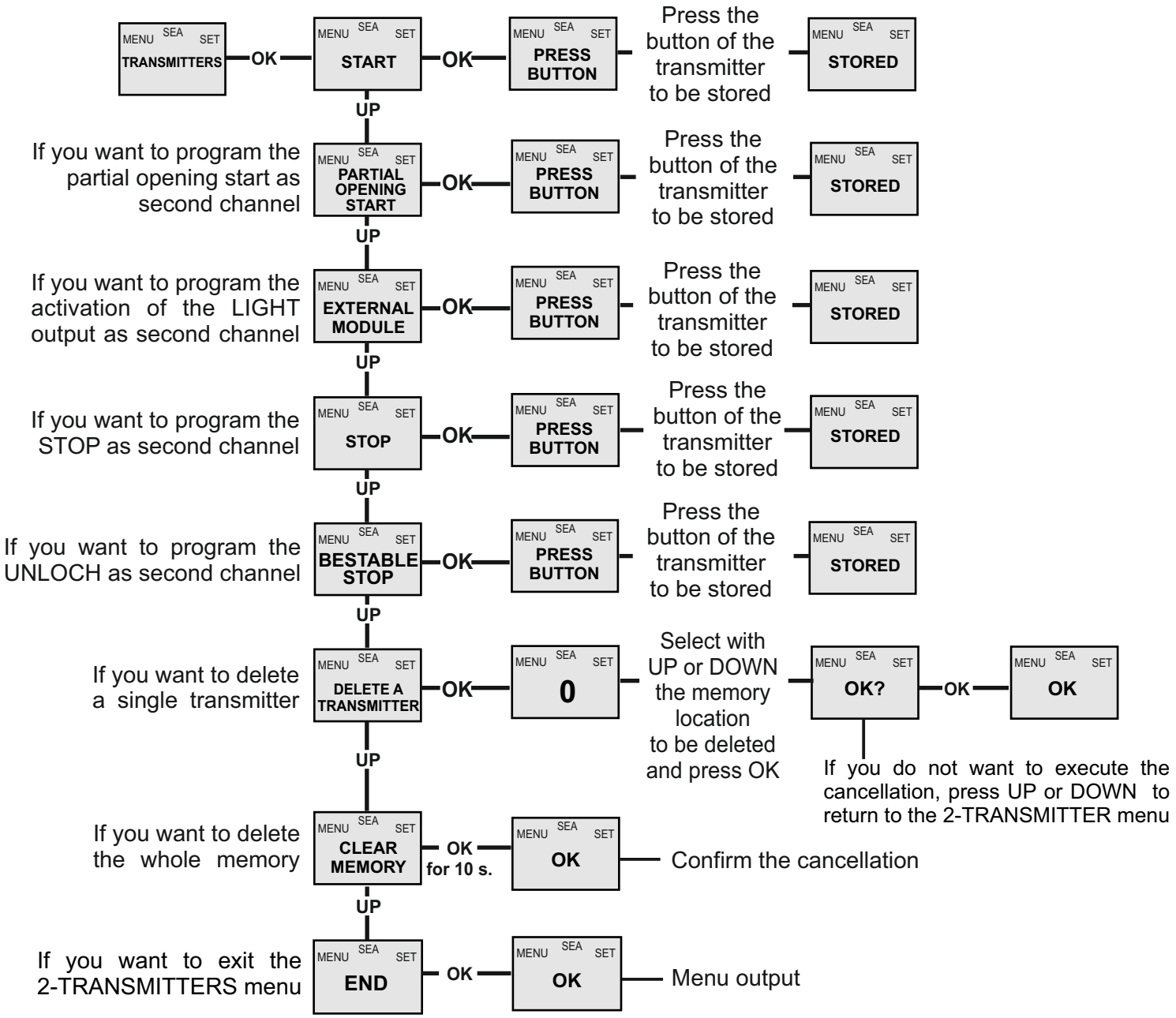
Notes:

- 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.

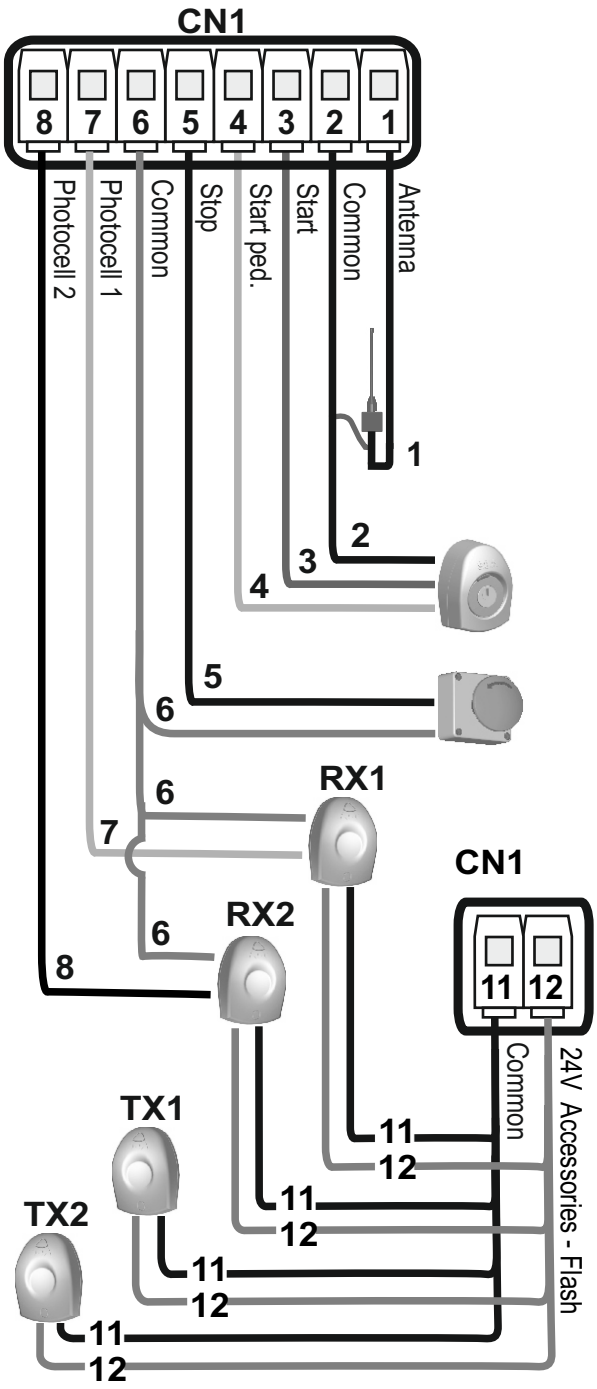
RF UNI	**16 USERS** Whitout memory **800 USERS** With additional memory MEM
RF UNI PG *Old Model*	**100 USERS** Fixed code **800 USERS** Roll Plus
RF UNI PG *New model*	**800 UTENTI** Fixed code **800 UTENTI** Roll Plus

TABLE EXAMPLE

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



START - STOP - PARTIAL START - ANTENNA - PHOTOCELL



Photocell 1 and Photocell 2 Connections
+ = 24V ⎓ Accessories COM = 0V
PH1 = Photocell contact 1 PH2 = Photocell contact 2
Note1: For the self-test connect the TX to the 24VAux clamp and activate the Self-test function
Note2: On the 95-FOTOTEST menu you can also activate the self-test even on the single photocell
Note3: The standard setting of the photocell 1 is in *"Closing"* and the one of the photocell 2 is in *"Opening"*. The photocell 2 can be set also as TIMER (see TIMER function)
Note4: For photocells settings, see menu 97-98

Options AUX 24V⎓ max 200mA can be set with on-board Display or with Jolly device.
Through the Jolly programmer it is possible to chose when having tension on the AUX output. The options are: "Always", "In cycle", "Opening", "Closing", "In pause", "Fototest" and "In cycle and fototest". 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 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 the JOLLY3 device
Note1: The contact for partial opening is a N.O. Contact (normally open)
Note2:In 2 BUTTONS logic it is necessary to keep pressed the Start Ped. 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 Jolly3 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: If activated on the pedestrian 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 to reclose

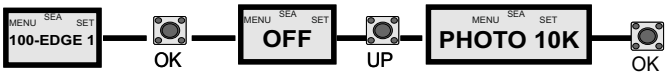
WARNING LAMP - SAFETY EDGE - 10K PHOTOCELL - BUZZER

10K PHOTOCELL or DOUBLE 10K PHOTOCELL 9 and 11

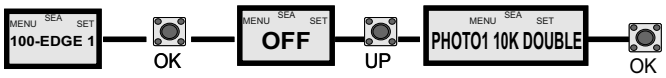
Between clamps 9 and 11 on the terminal CN1 it is also possible to connect a 10K Photocell or two 10K Photocells . In this case it is necessary to set it on menu 100 - EDGE as Photo10K (or Photo1 10K Double), then it will run following settings on menu 97 - PHOTO 1.

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

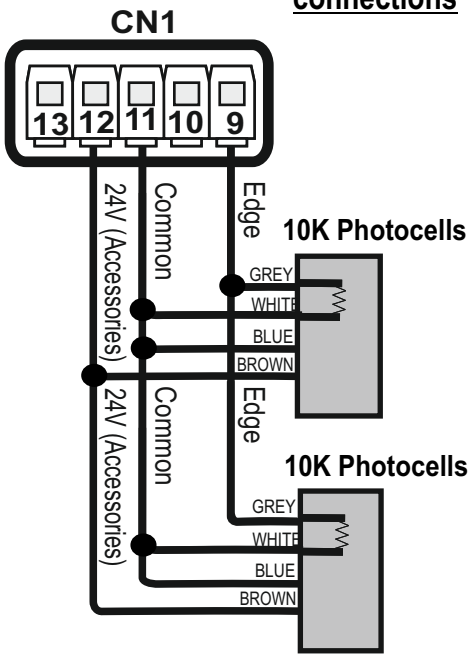
Setting 10 K Photocell



Setting 10K Double Photocell



Example of two 10K Photocells connections



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.

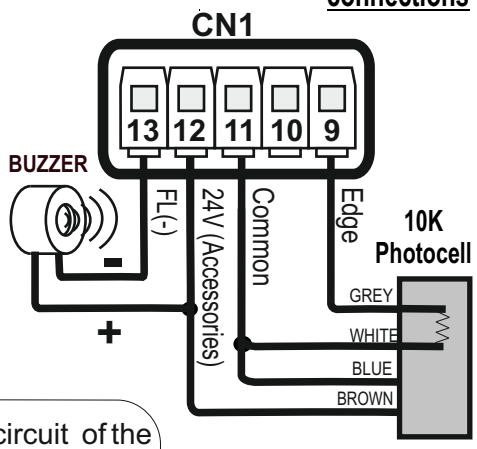
IMPORTANT: UL325 standards requires an audible alarm. The alarm shall signal upon two sequential activations of an entrapment protection device, where the first activation is either a Type A or B2 device and the second activation is a Type A device.

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"

Example of 10K Photocell and Buzzer connections



SAFETY EDGE 9 and 11

Between clamps 9 and 11 on the terminal CN1 it is possible to connect an active Safety Edge. When pressed, it 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

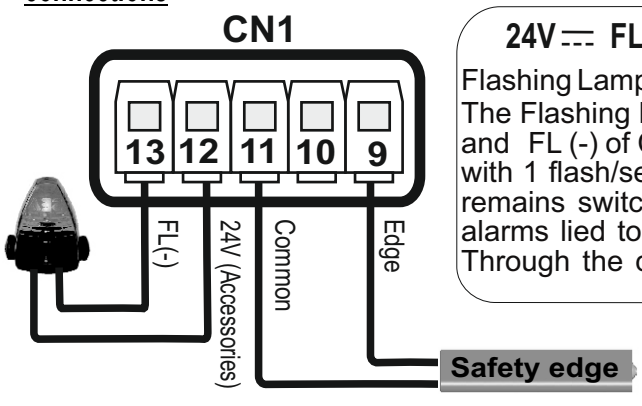
Note1: Note1: Through the on-board display or the JOLLY 3 programmer it is possible to activate the balanced edge 8K2, in this case the edge contact is controlled by a special resistance value revealing the eventual involuntaryshort-circuit of the device. In case of imbalance of the device a special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

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

With 8K2 option the entrapment protection is always monitored

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

Example of flashing lamp and edge connections



24V ⎓ FLASHING LAMP 3W MAX 12 and 13

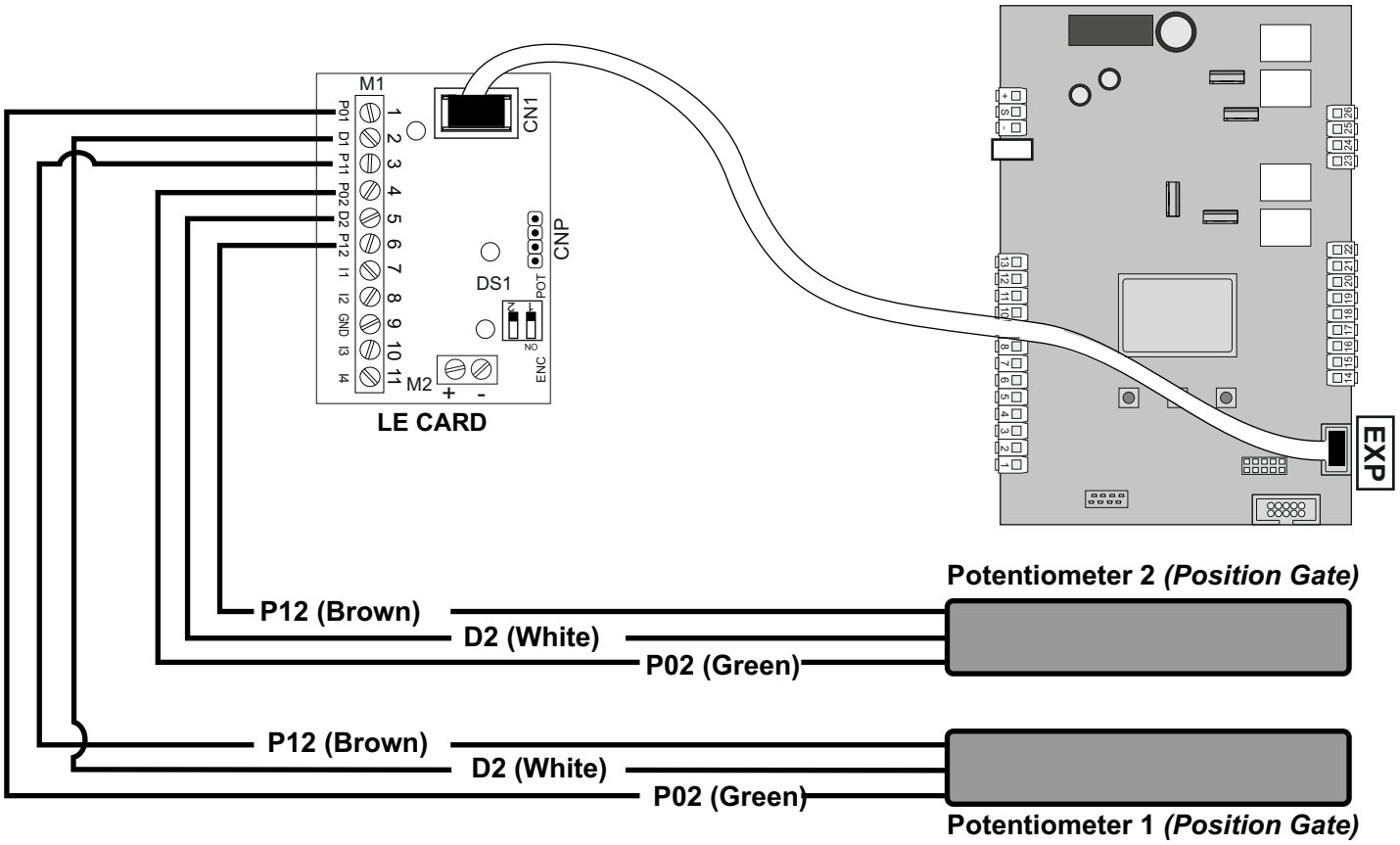
Flashing Lamp 24V⎓ (Accessories) 3W max. (Control lamp)

The Flashing Lamp can be connected between the 24V ⎓ clamps (Accessories) and FL (-) 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

POTENTIOMETER MANAGEMENT (Position Gate)

The position gate ensures the correct position of the gate and the inversion on the obstacle, helping the installer to pass the certification of the automation. To connect the potentiometer you must use the LE card (Cod.23001256) and set with Dip Switches 1 and 2 both in OFF. With the potentiometer it is possible to access the hidden DEBUG menu to check the maximum settable value as threshold in normal and slowdown speed. To access this menu you have to press, in the menu that displays the firmware version, UP and OK at the same time until the menus VP1 speed of potentiometer 1 and VP2 speed of potentiometer 2 will appear. To view the speed of the potentiometer on the related menu, press OK. To exit the DEBUG menu go to END and press OK. 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. For a quick inversion on the obstacle you have to lower the sensitivity and torq parameters.



AMPEROMETRIC MANAGEMENT

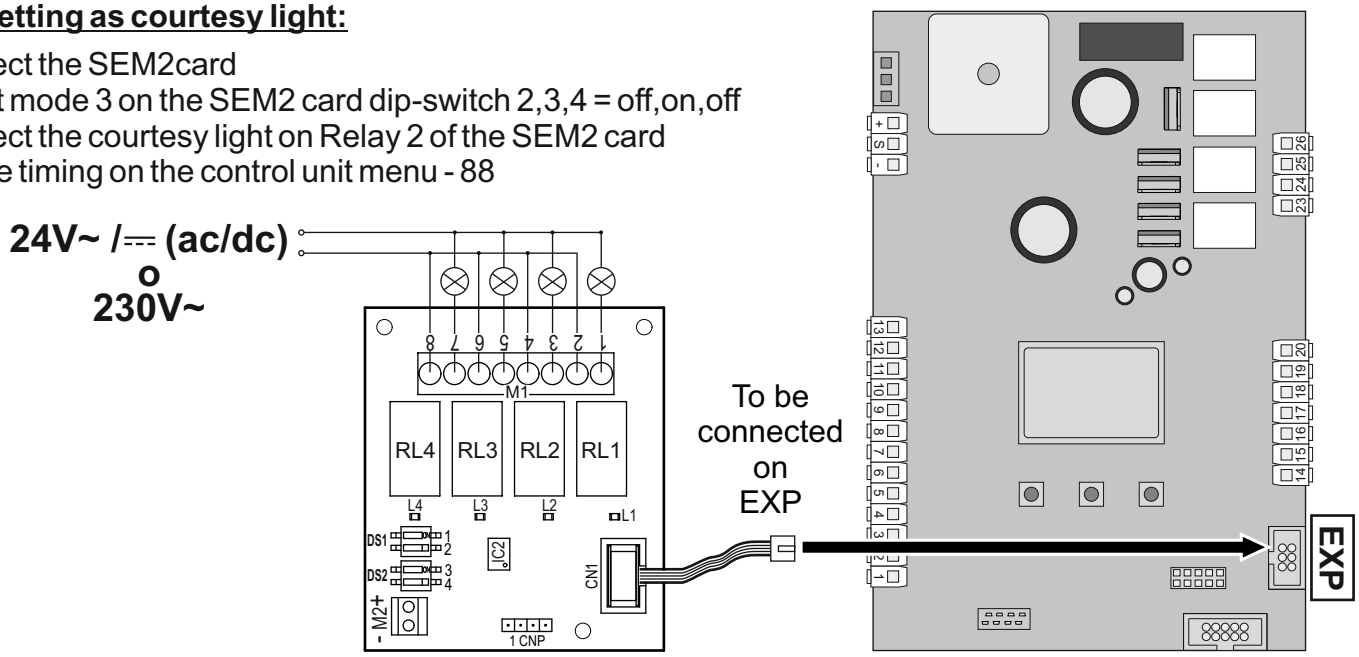
AMPEROMETRIC DEVICE FOR MOTORS WITHOUT POTENTIOMETER

This control unit comes with an obstacle detection system allowing to have the reversing on obstacles.
The sensitivity is adjustable for single leaf and single opening and closing direction through the torque and the sensitivity parameters.

SEM2 CONNECTION

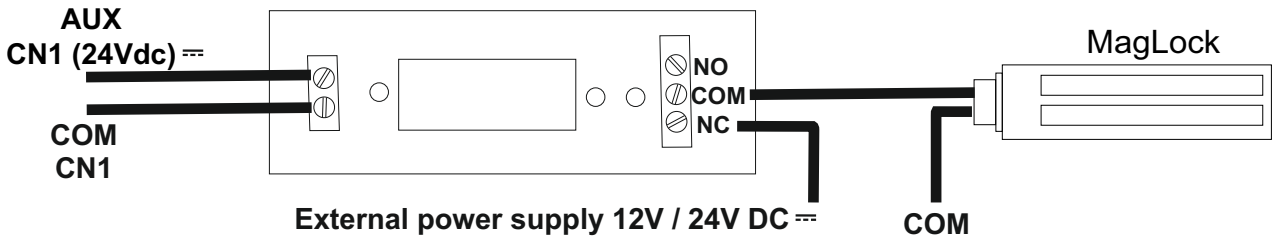
SEM2 setting as courtesy light:

1) connect the SEM2card
2) select mode 3 on the SEM2 card dip-switch 2,3,4 = off,on,off
3) connect the courtesy light on Relay 2 of the SEM2 card
4) set the timing on the control unit menu - 88



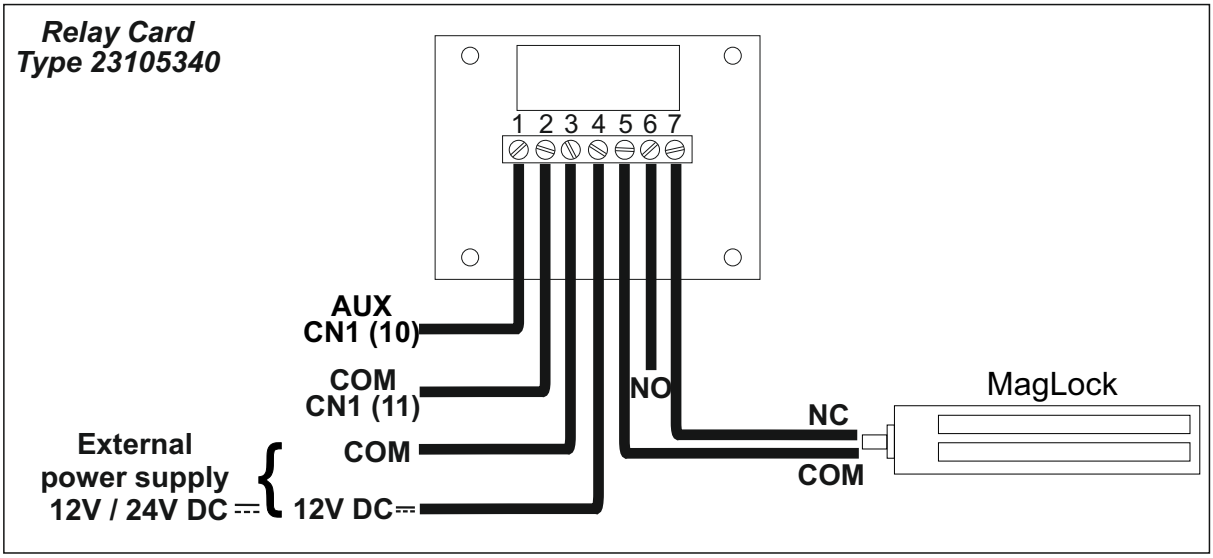
MAGLOCK 12V CONNECTIONS

Relay Card Type 54020285

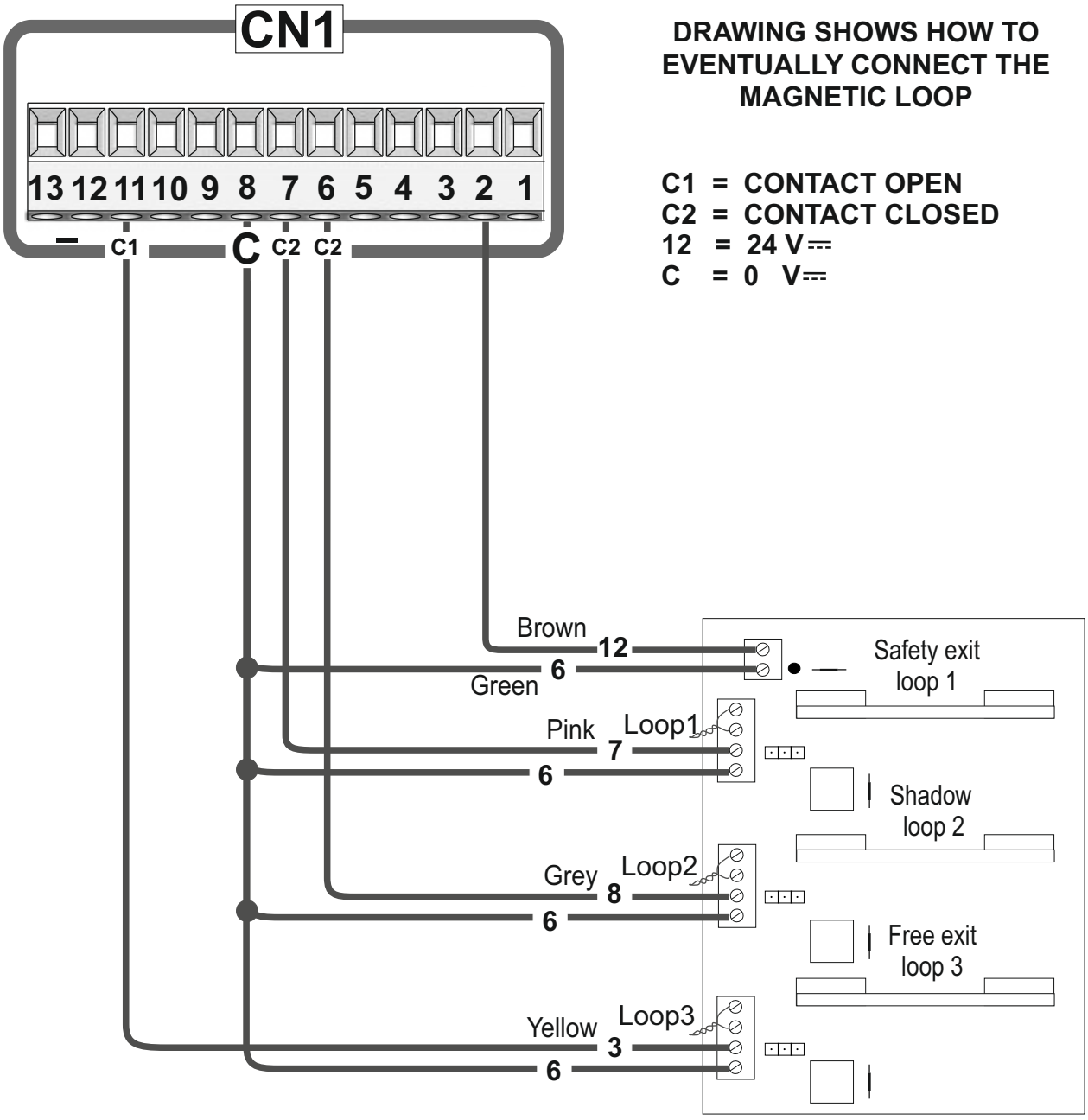


NOTE: For both Relay Card types it is necessary to set menu 94 - 24V AUX on "negative brake management"

Relay Card Type 23105340



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"

Free exit loop (loop 3)

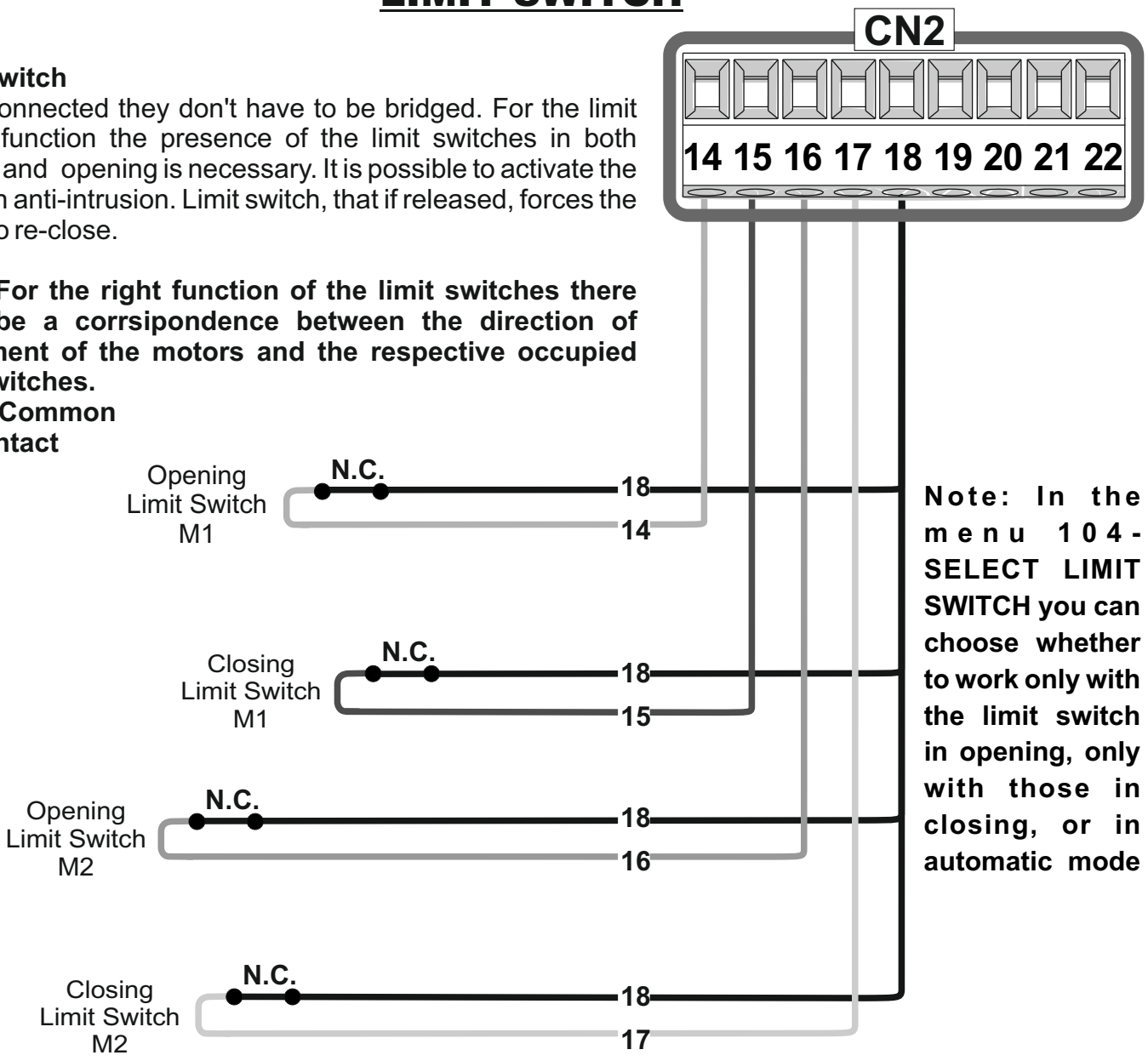
Connecting scheme of loop detector reader

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

LIMIT SWITCH

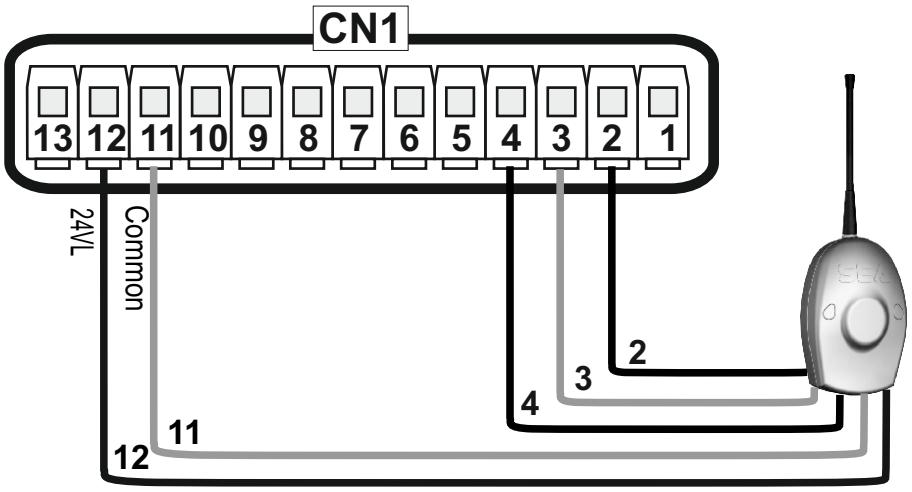
Limit switch
If not connected they don't have to be bridged. For the limit switch function the presence of the limit switches in both closing and opening is necessary. It is possible to activate the function anti-intrusion. Limit switch, that if released, forces the motor to re-close.

For the right function of the limit switches there must be a corrsipondence between the direction of movement of the motors and the respective occupied limit switches.
Com = Common
C = Contact



Note: In the menu 104- SELECT LIMIT SWITCH you can choose whether to work only with the limit switch in opening, only with those in closing, or in automatic mode

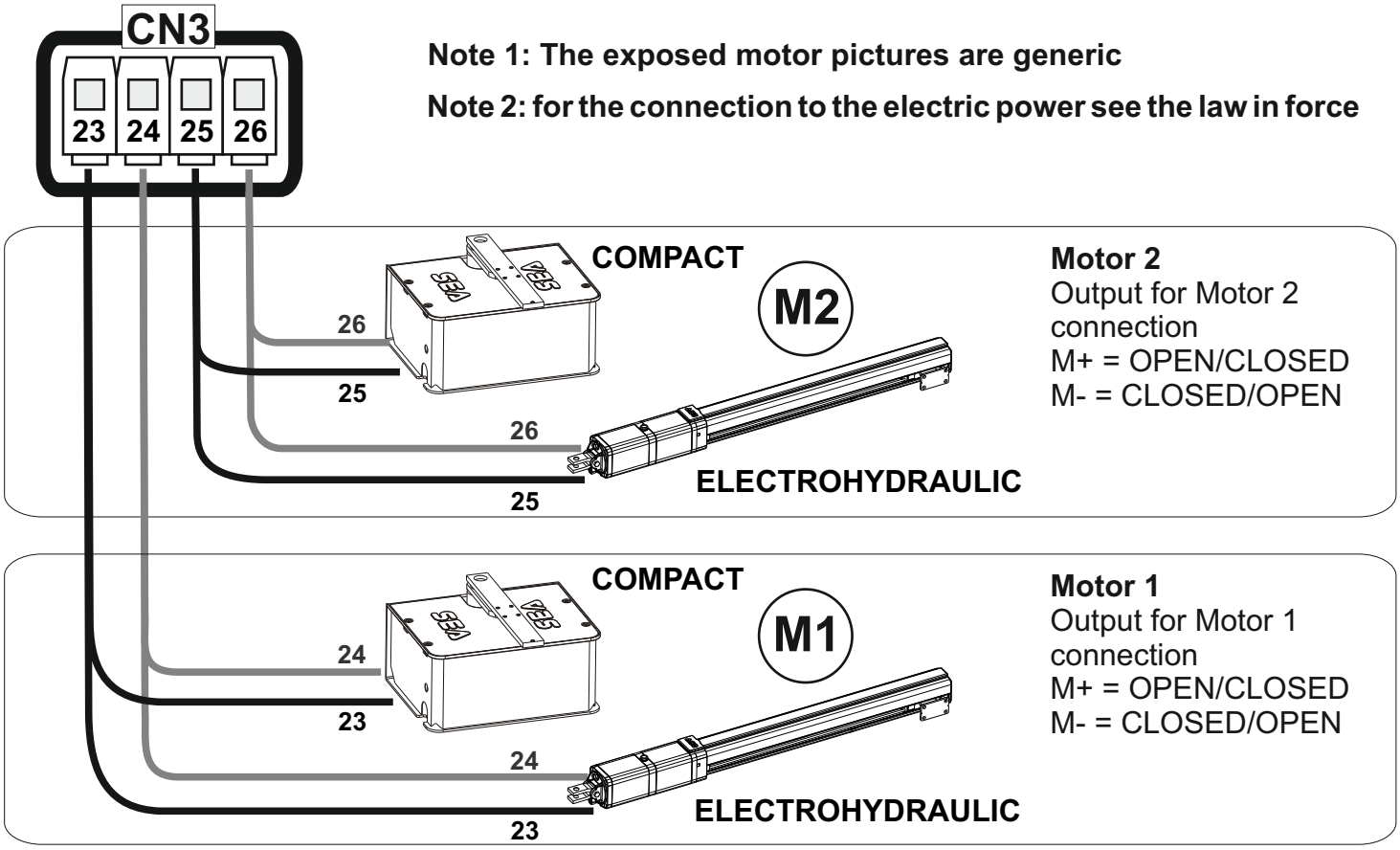
EXTERNAL RECEIVER



Example: Connection of a radio receiver

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

POWER SUPPLY - MOTORS



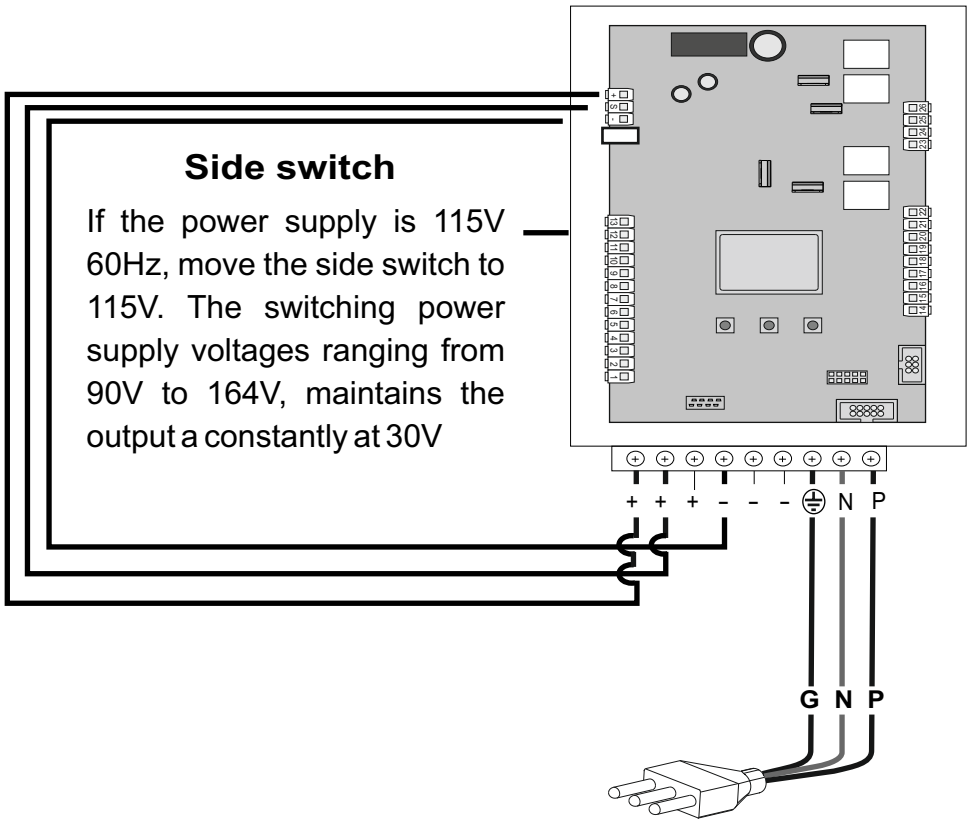
Note 1: The exposed motor pictures are generic

Note 2: for the connection to the electric power see the law in force

Motor 2
Output for Motor 2 connection
M+ = OPEN/CLOSED
M- = CLOSED/OPEN

Motor 1
Output for Motor 1 connection
M+ = OPEN/CLOSED
M- = CLOSED/OPEN

POWER SUPPLY WITH SWITCHING



Side switch

If the power supply is 115V 60Hz, move the side switch to 115V. The switching power supply voltages ranging from 90V to 164V, maintains the output a constantly at 30V

Power input

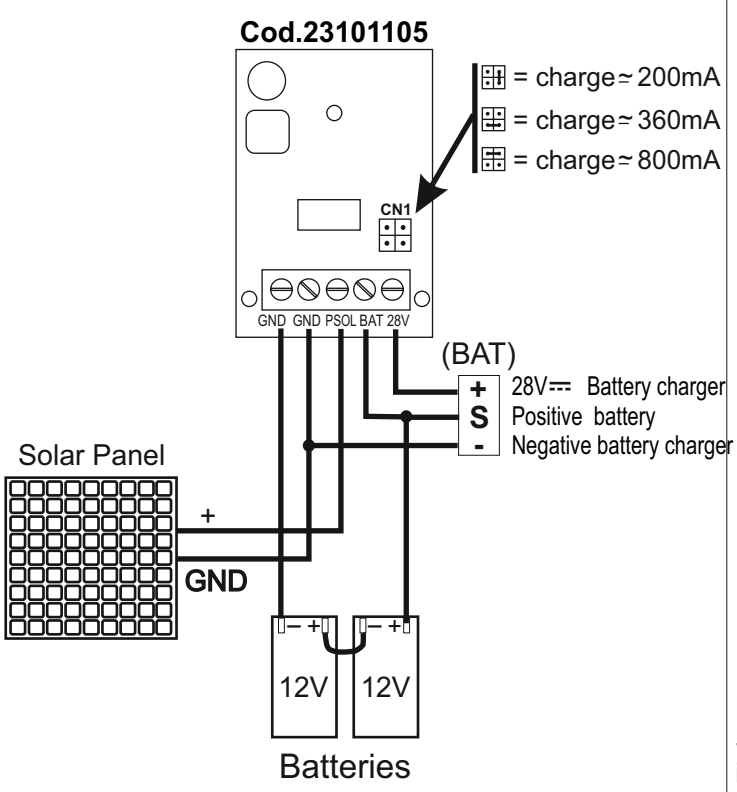
Input for the connection of the electric power

P = PHASE
N = NEUTRAL
G = GROUND

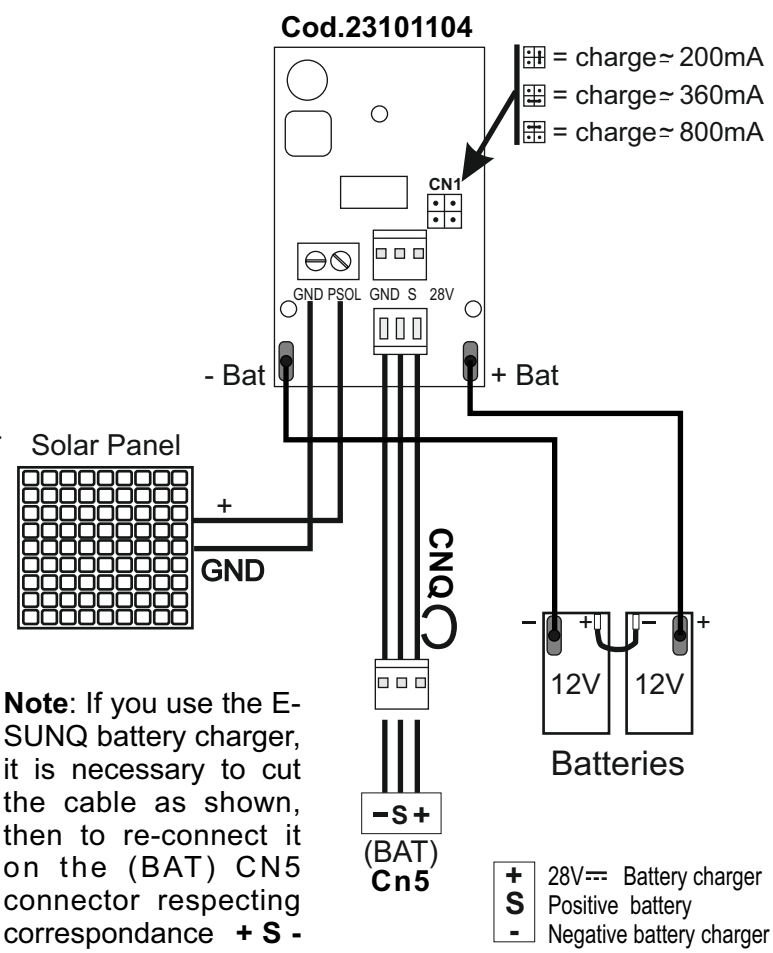
NOTE: for the connection to the electric power see the law in force

CONNECTION OF BATTERIES TO BATTERY CHARGER CARD

E SUN



E SUN Q



Note: If you use the E-SUNQ battery charger, it is necessary to cut the cable as shown, then to re-connect it on the (BAT) CN5 connector respecting correspondance **+ S -**

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

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

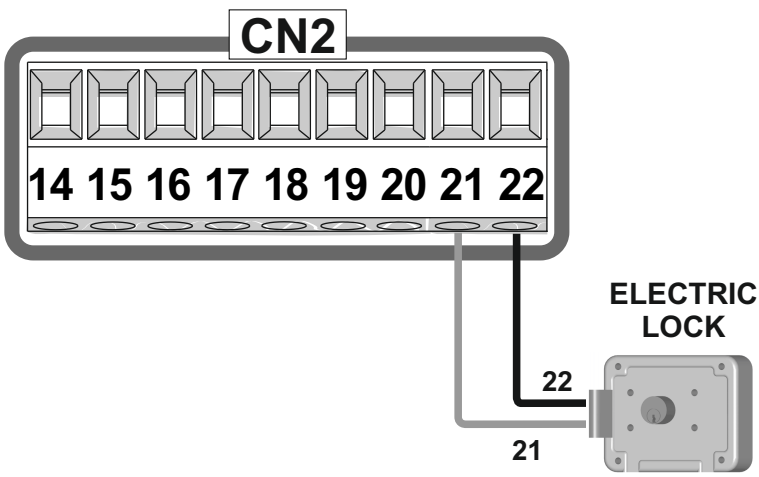
Specifications of optional batteries: 24V Pb

Insert two 12V batteries connected in series

ELECTRIC LOCK

ELECTRIC LOCK EXIT

An electric lock of 12V⎓ 15VA max can be connected. It is possible to disactivate the electroc-lock if not used. This operation allows to save energy of the control unit. The release of the electro-lock can be timed' from 0 to 5 s.



ALARM DESCRIPTION

Signals	Kind of alarm	Solutions
FAILURE MOTOR	Motors 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
FAILURE24VAUX 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 SELF TEST	Self-test 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 FLASHING LIGHT	Flashing lamp failure	Check connections and / or conditions of the lamp
FAILURE OVERCURRENT COLLISION	Failure overcurrent collision	Check for obstacles or points of friction on the gate. **NOTE:** the fault is reset by pressing OK
POTENTIOMETER DIRECTION	Wrong direction of the potentiometer or of the motor	Reverse the brown cable with the green one on the potentiometer (Position Gate)
FAILURE POTENTIOMETER	Failure potentiometer	This signal appears only with potentiometer on, if the management board (LE) is broken or not 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
9	Motors failure
2	Photocell in closing
3	Photocell in opening
6	Collision in opening
4	Safety edge

Blinks	Cause of alarm
5	Stop
7	Max. Cycles reached
6	Closing collision
4 fast	Limit-switch error

Periodically, in relation to the number of manoeuvre and the type of gate, it is recommended to execute, if the gate has modified the attritions and it doesn't work, **the re-programming of the times of learning on the electronic board.**
The 7 flashes refer to the attainment of the established maximum cycles for the maintenance of the control unit, therefore it is recommended to perform the maintenance and to put on zero the number of cycles.

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

...NEXT

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

...NEXT

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.

SEA USA
ELECTRONIC OPENING SYSTEMS
International registered trademark n. 2.777.971

SALES CONDITIONS and WARRANTY

GENERAL WARNING: Installation must be realized using parts and accessories approved by SEA. SEA is not responsible for incorrect installations and/or non-compliance with safety standards according to the law in-force. SEA is in no way liable for any damages and/or malfunctioning due to using parts and accessories non-compliant with the UL325 safety standards.
ORDERS: Orders are processed upon approval by SEA. Buyers must confirm orders by sending a written Purchase Orders to SEA. Purchase Orders are intended as confirmation of orders and binding for the buyer, which accepts SEA sales condition.

QUOTATION: Quotation and special offers with a non-specified duration expires automatically after 30 days.

PRICES: Prices are based on the Price List in force. Discounts and quotation from Sales Rep. and other selling branches must be approved by SEA. Prices are F.O.B SEA Warehouse in Miami and do not include shipments costs. SEA reserves the right to modify the price list at any time and provide notice to its sales network.

PAYMENT: Method of payments and terms are notified by SEA and displayed on the commercial invoice.

DELIVERY: The delivery time on the invoice is not binding and represents an estimated delivery. Shipments costs will be charged to the buyer and SEA is not responsible for delays and/or damages occurred to the products during shipment.

COMPLAINS: Complains and/or claims must be notified to SEA within 7 business days after receiving the products. Claims and complains must be supported by original documents. Customer must contact the factory for instructions and authorization. Merchandise returned for credit must be current, uninstalled and unused and returned in its original packaging. Freight must be pre-paid on all authorized returns.

REPAIRS: Repairs and parts are subject to the availability in stock. Shipment of products for repairs must be pre-paid by the customer. Products shipped without authorization, sender's details and description of the problems will be refused. Customers must contact SEA for instructions.

WARRANTY: for the original buyer only:
Hydraulic and oil-bath motors: 36 months warranty from the date of invoice on manufacturing, assembling and workmanship defects.
Electro-mechanic motors and electronic control systems: 24 months warranty from the date of invoice on manufacturing, assembling and workmanship defects.
Lepus and Full Tank Standard model: 60 months warranty from the date of invoice on manufacturing, assembling and workmanship defects.
No warranty will be recognized for damages due to incorrect installation and/or improper use for which the product was intended. SEA warranty obligations shall be limited to repair or replace the defective product/parts at SEA option, upon examination of the products by SEA technical Staff. All replaced parts must remain property of SEA. The warranty status of the product remains an unquestionable assessment of SEA. Buyer must ship pre-paid defective products. Products under warranty will be returned pre-paid by SEA. Recognized defects, whatever their nature, will not produce any responsibility and/or damage claims to SEA USA Inc and SEA s.r.l. Warranty shall not cover any required labor activities. Warranty will in no case be recognized if alterations and any other changes will be found on products. Warranty will not cover damages caused by carriers, expendable materials and faults due to improper use with the products specifications. No indemnities are recognized during repairing and/or replacing of the products under warranty. SEA USA Inc. and SEA s.r.l. decline any responsibility for damages to person and objects deriving from non-compliance with safety standards, installation instructions or use of the products sold. It is intended that warranty will be recognized only on products bought through the SEA authorized network. Products must be installed by professionals. No warranty will be recognized if products are installed directly by the final user. Warranty does not apply in case of unexpected events such as fire, flood, electrical power surge, lightning, vandalism and others.

SEA USA Inc. is not responsible for errors in technical information printed in catalogs and installation manuals.

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NOTES

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