

**APPARECCHIATURA ELETTRONICA PER CANCELLI A BATTENTE 230V
CONTROL BOARD FOR 230V HINGED GATES
PLATINE ELECTRONIQUE POUR PORTAILS BATTANTS 230V
EQUIPO ELECTRÓNICO PARA PORTONES DE TIPO BATIENDE 230V
ELEKTRONISCHES GERÄT FÜR FLÜGELTORE 230V**

JA592

**ISTRUZIONI PER L'USO – NORME DI INSTALLAZIONE
USE AND INSTALLATION INSTRUCTIONS
INSTRUCTIONS POUR L'EMPLOI – NORMES D'INSTALLATION
INSTRUCCIONES PARA EL USO – NORMAS DE INSTALACIÓN
BETRIEBSANLEITUNG - INSTALLATIONSVORSCHRIFTEN**

GENIUS[®]

**COMPANY
WITH QUALITY SYSTEM
CERTIFIED BY DNV
=ISO 9001/2000=**



AVVERTENZE PER L'INSTALLATORE

OBBLIGHI GENERALI PER LA SICUREZZA

- ATTENZIONE! È importante per la sicurezza delle persone seguire attentamente tutta l'istruzione. Una errata installazione o un errato uso del prodotto può portare a gravi danni alle persone.**
- Leggere attentamente le istruzioni prima di iniziare l'installazione del prodotto.
- I materiali dell'imballaggio (plastica, polistirolo, ecc.) non devono essere lasciati alla portata dei bambini in quanto potenziali fonti di pericolo.
- Conservare le istruzioni per riferimenti futuri.
- Questo prodotto è stato progettato e costruito esclusivamente per l'utilizzo indicato in questa documentazione. Qualsiasi altro utilizzo non espressamente indicato potrebbe pregiudicare l'integrità del prodotto e/o rappresentare fonte di pericolo.
- GENIUS declina qualsiasi responsabilità derivata dall'uso improprio o diverso da quello per cui l'automatismo è destinato.
- Non installare l'apparecchio in atmosfera esplosiva: la presenza di gas o fumi infiammabili costituisce un grave pericolo per la sicurezza.
- Gli elementi costruttivi meccanici devono essere in accordo con quanto stabilito dalle Norme EN 12604 e EN 12605.
Per i Paesi extra-CEE, oltre ai riferimenti normativi nazionali, per ottenere un livello di sicurezza adeguato, devono essere seguite le Norme sopra riportate.
- GENIUS non è responsabile dell'inosservanza della Buona Tecnica nella costruzione delle chiusure da motorizzare, nonché delle deformazioni che dovessero intervenire nell'utilizzo.
- L'installazione deve essere effettuata nell'osservanza delle Norme EN 12453 e EN 12445. Il livello di sicurezza dell'automazione deve essere C+E.
- Prima di effettuare qualsiasi intervento sull'impianto, togliere l'alimentazione elettrica.
- Prevedere sulla rete di alimentazione dell'automazione un interruttore onnipolare con distanza d'apertura dei contatti uguale o superiore a 3 mm. È consigliabile l'uso di un magnetotermico da 6A con interruzione onnipolare.
- Verificare che a monte dell'impianto vi sia un interruttore differenziale con soglia da 0,03 A.
- Verificare che l'impianto di terra sia realizzato a regola d'arte e collegarvi le parti metalliche della chiusura.
- L'automazione dispone di una sicurezza intrinseca antischiacciamento costituita da un controllo di coppia. E' comunque necessario verificarne la soglia di intervento secondo quanto previsto dalle Norme indicate al punto 10.
- I dispositivi di sicurezza (norma EN 12978) permettono di proteggere eventuali aree di pericolo da **Rischi meccanici di movimento**, come ad Es. schiacciamento, convogliamento, cesoiamento.
- Per ogni impianto è consigliato l'utilizzo di almeno una segnalazione luminosa nonché di un cartello di segnalazione fissato adeguatamente sulla struttura dell'infisso, oltre ai dispositivi citati al punto "16".
- GENIUS declina ogni responsabilità ai fini della sicurezza e del buon funzionamento dell'automazione, in caso vengano utilizzati componenti dell'impianto non di produzione GENIUS.
- Per la manutenzione utilizzare esclusivamente parti originali GENIUS.
- Non eseguire alcuna modifica sui componenti facenti parte del sistema d'automazione.
- L'installatore deve fornire tutte le informazioni relative al funzionamento manuale del sistema in caso di emergenza e consegnare all'Utente utilizzatore dell'impianto il libretto d'avvertenze allegato al prodotto.
- Non permettere ai bambini o persone di sostare nelle vicinanze del prodotto durante il funzionamento.
- Tenere fuori dalla portata dei bambini radiocomandi o qualsiasi altro datore di impulso, per evitare che l'automazione possa essere azionata involontariamente.
- Il transito tra le ante deve avvenire solo a cancello completamente aperto.
- L'Utente utilizzatore deve astenersi da qualsiasi tentativo di riparazione o d'intervento diretto e rivolgersi solo a personale qualificato.
- Tutto quello che non è previsto espressamente in queste istruzioni non è permesso**

IMPORTANT NOTICE FOR THE INSTALLER

GENERAL SAFETY REGULATIONS

- ATTENTION! To ensure the safety of people, it is important that you read all the following instructions. Incorrect installation or incorrect use of the product could cause serious harm to people.**
- Carefully read the instructions before beginning to install the product.
- Do not leave packing materials (plastic, polystyrene, etc.) within reach of children as such materials are potential sources of danger.
- Store these instructions for future reference.
- This product was designed and built strictly for the use indicated in this documentation. Any other use, not expressly indicated here, could compromise the good condition/operation of the product and/or be a source of danger.
- GENIUS declines all liability caused by improper use or use other than that for which the automated system was intended.
- Do not install the equipment in an explosive atmosphere: the presence of inflammable gas or fumes is a serious danger to safety.

- The mechanical parts must conform to the provisions of Standards EN 12604 and EN 12605.
For non-EU countries, to obtain an adequate level of safety, the Standards mentioned above must be observed, in addition to national legal regulations.
- GENIUS is not responsible for failure to observe Good Technique in the construction of the closing elements to be motorised, or for any deformation that may occur during use.
- The installation must conform to Standards EN 12453 and EN 12445. The safety level of the automated system must be C+E.
- Before attempting any job on the system, cut out electrical power.
- The mains power supply of the automated system must be fitted with an all-pole switch with contact opening distance of 3mm or greater. Use of a 6A thermal breaker with all-pole circuit break is recommended.
- Make sure that a differential switch with threshold of 0.03 A is fitted upstream of the system.
- Make sure that the earthing system is perfectly constructed, and connect metal parts of the means of the closure to it.
- The automated system is supplied with an intrinsic anti-crushing safety device consisting of a torque control. Nevertheless, its tripping threshold must be checked as specified in the Standards indicated at point 10.
- The safety devices (EN 12978 standard) protect any danger areas against **mechanical movement Risks**, such as crushing, dragging, and shearing.
- Use of at least one indicator-light is recommended for every system, as well as a warning sign adequately secured to the frame structure, in addition to the devices mentioned at point "16".
- GENIUS declines all liability as concerns safety and efficient operation of the automated system, if system components not produced by GENIUS are used.
- For maintenance, strictly use original parts by GENIUS.
- Do not in any way modify the components of the automated system.
- The installer shall supply all information concerning manual operation of the system in case of an emergency, and shall hand over to the user the warnings handbook supplied with the product.
- Do not allow children or adults to stay near the product while it is operating.
- Keep remote controls or other pulse generators away from children, to prevent the automated system from being activated involuntarily.
- Transit through the leaves is allowed only when the gate is fully open.
- The user must not attempt any kind of repair or direct action whatever and contact qualified personnel only.
- Anything not expressly specified in these instructions is not permitted.**

CONSIGNES POUR L'INSTALLATEUR

RÈGLES DE SÉCURITÉ

- ATTENTION! Il est important, pour la sécurité des personnes, de suivre à la lettre toutes les instructions. Une installation erronée ou un usage erroné du produit peut entraîner de graves conséquences pour les personnes.**
- Lire attentivement les instructions avant d'installer le produit.
- Les matériaux d'emballage (matière plastique, polystyrène, etc.) ne doivent pas être laissés à la portée des enfants car ils constituent des sources potentielles de danger.
- Conservé les instructions pour les références futures.
- Ce produit a été conçu et construit exclusivement pour l'usage indiqué dans cette documentation. Toute autre utilisation non expressément indiquée pourrait compromettre l'intégrité du produit et/ou représenter une source de danger.
- GENIUS décline toute responsabilité qui dériverait d'usage improprie ou différent de celui auquel l'automatisme est destiné.
- Ne pas installer l'appareil dans une atmosphère explosive: la présence de gaz ou de fumées inflammables constitue un grave danger pour la sécurité.
- Les composants mécaniques doivent répondre aux prescriptions des Normes EN 12604 et EN 12605.
Pour les Pays extra-CEE, l'obtention d'un niveau de sécurité approprié exige non seulement le respect des normes nationales, mais également le respect des Normes susmentionnées.
- GENIUS n'est pas responsable du non-respect de la Bonne Technique dans la construction des fermetures à motoriser, ni des déformations qui pourraient intervenir lors de l'utilisation.
- L'installation doit être effectuée conformément aux Normes EN 12453 et EN 12445. Le niveau de sécurité de l'automatisme doit être C+E.
- Couper l'alimentation électrique avant toute intervention sur l'installation.
- Prévoir, sur le secteur d'alimentation de l'automatisme, un interrupteur onnipolaire avec une distance d'ouverture des contacts égale ou supérieure à 3 mm. On recommande d'utiliser un magnétothermique de 6A avec interruption onnipolaire.
- Vérifier qu'il y ait, en amont de l'installation, un interrupteur différentiel avec un seuil de 0,03 A.
- Vérifier que la mise à terre est réalisée selon les règles de l'art et y connecter les pièces métalliques de la fermeture.
- L'automatisme dispose d'une sécurité intrinsèque anti-écrasement, formée d'un contrôle du couple. Il est toutefois nécessaire d'en vérifier le seuil d'intervention suivant les prescriptions des Normes indiquées au point 10.
- Les dispositifs de sécurité (norme EN 12978) permettent de protéger des zones éventuellement dangereuses contre les **Risques mécaniques du mouvement**, comme l'écrasement, l'acheminement, le cisaillement.

CONTROL BOARD JA592

1. WARNINGS

Important: Before attempting any work on the control board (connections, maintenance), always turn off power.

- Install, upstream of the system, a differential thermal breaker (Residual Current Device) with adequate tripping threshold.
- Connect the earth cable to the appropriate terminal on the J3 connector of the equipment (see fig.2).
- Always separate power cables from control and safety cables (push-button, receiver, photocells, etc.). To avoid any electric noise, use separate sheaths or a shielded cable (with earthed shield).

2. TECHNICAL SPECIFICATIONS

Powersupply	230 V~ (+6% -10%) -50Hz
Absorbed power	10W
Motormax. load	800W
Accessories max. load	0,5 A
Electric lock max. load	15VA
Operating ambient temperature	-20 °C +55 °C
Protection fuses	2 (see fig. 1)
Function logics	Automatic / Semi-automatic / "Stepped" safety devices / Semi-automatic B / Dead-man C / "Stepped" semi-automatic
Opening/closing time	Programmable (from 0 to 120s)
Pause time	0, 10, 20, 30, 60, 120s
Closing leaf delay	0, 5, 10, 20 s
Opening leaf delay	2s (Can be disabled with the dip-switch)
Thrust force	Dip-switch adjustable on 8 levels for each motor
Terminal board inputs	Open / Open free leaf / Stop / Limit-switch Opening safety devices / Closing safety devices / Power supply + Earth
Terminal board outputs	Flashing lamp - Motors - 24Vdc accessories powersupply - 24Vdc indicator-light - Failsafe - 12Vdc electric lock powersupply
Rapid connector	Rapid connector 5 pins
Selectable functions	Logics and pause times - Thrust force - Opening and closing leaf delay - Reversing stroke - Fail safe - Closing safety devices logic - Pre-flashing
Programming key	Simple or Advanced work time learning, with or without Limit-switch and/or encoder

3. LAYOUT AND COMPONENTS

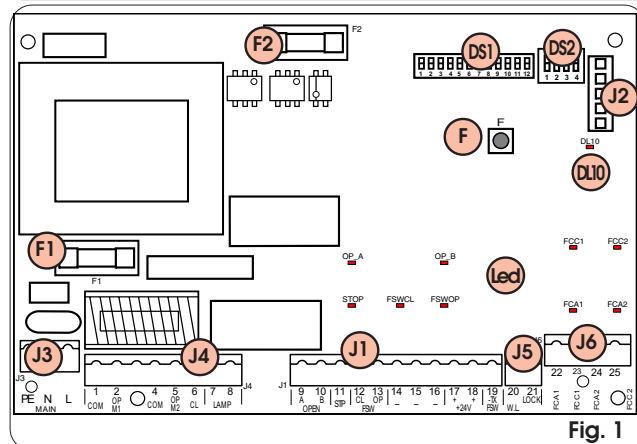


Fig. 1

Led OP_A	TOTALLY OPEN LED
Led OP_B	LED: OPEN LEAF 1 / CLOSE
Led STOP	LED STOP
Led FSWCL	LED: CLOSING SAFETY DEVICES
Led FSWOP	LED: OPENING SAFETY DEVICES
Led FCA1	LED: LEAF 1 OPENING LIMIT-SWITCH
Led FCC1	LED: LEAF 1 CLOSING LIMIT-SWITCH
Led FCA2	LED: LEAF 2 OPENING LIMIT-SWITCH
Led FCC2	LED: LEAF 2 CLOSING LIMIT-SWITCH
DL10	LED: TIME LEARNING SIGNALLING
J1	LOW VOLTAGE TERMINAL BOARD
J2	RAPID CONNECTOR 5 PINS
J3	230 VAC POWER SUPPLY TERMINAL BOARD
J4	MOTORS AND FLASHING LAMP CONNECTION TERMINAL BOARD
J5	INDICATOR-LIGHT AND ELECTRIC LOCK TERMINAL BOARD
J6	LIMIT-SWITCH AND ENCODER TERMINAL BOARD
F1	MOTORS AND TRANSFORMER PRIMARY WINDING FUSE (F 5A)
F2	LOW VOLTAGE AND ACCESSORIES FUSE (T 800mA)
F	TIME LEARNING SELECTION PUSH-BUTTON
DS1	1ST GROUP OF MICROSWITCH PROGRAMMING
DS2	2ND GROUP OF MICROSWITCH PROGRAMMING

4. ELECTRIC CONNECTIONS

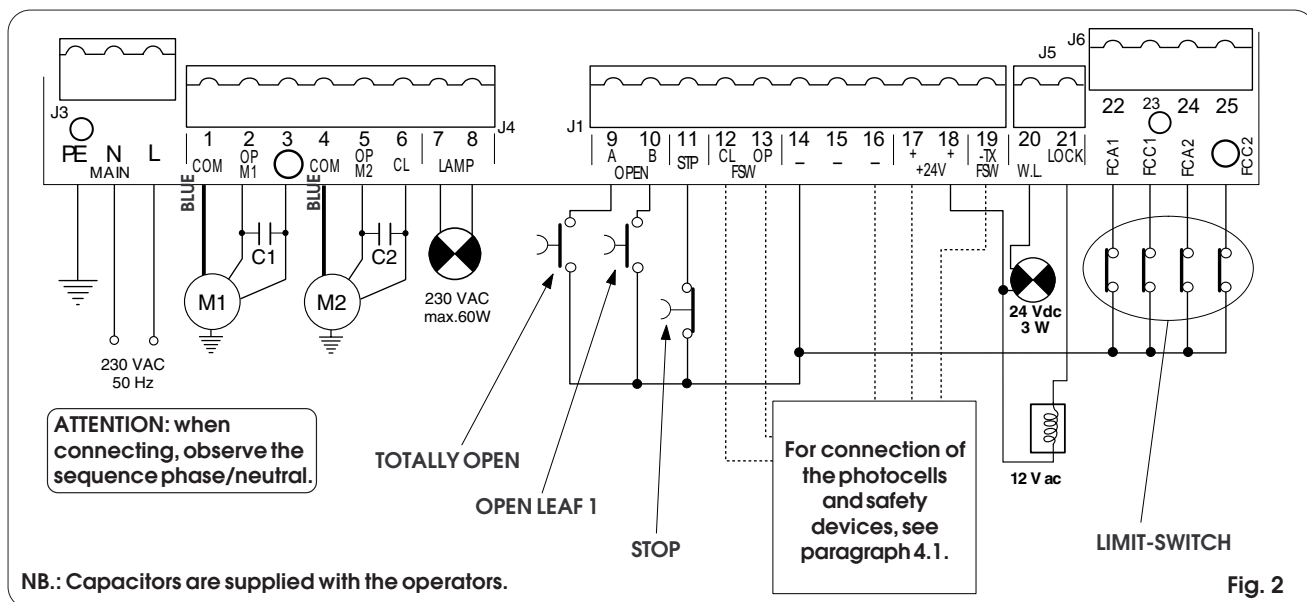


Fig. 2

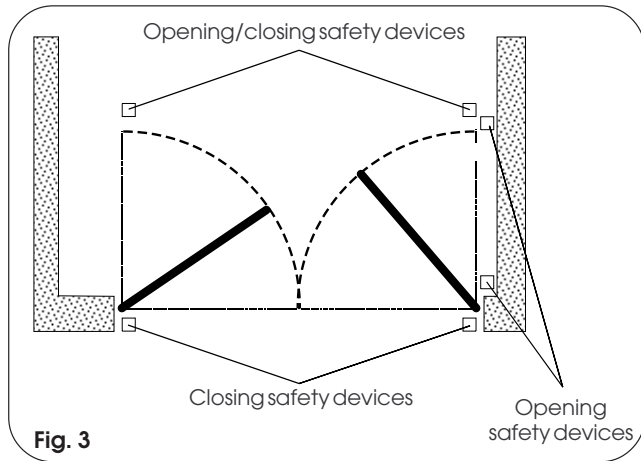
NB.: Capacitors are supplied with the operators.

4.1. Connection of photocells and safety devices

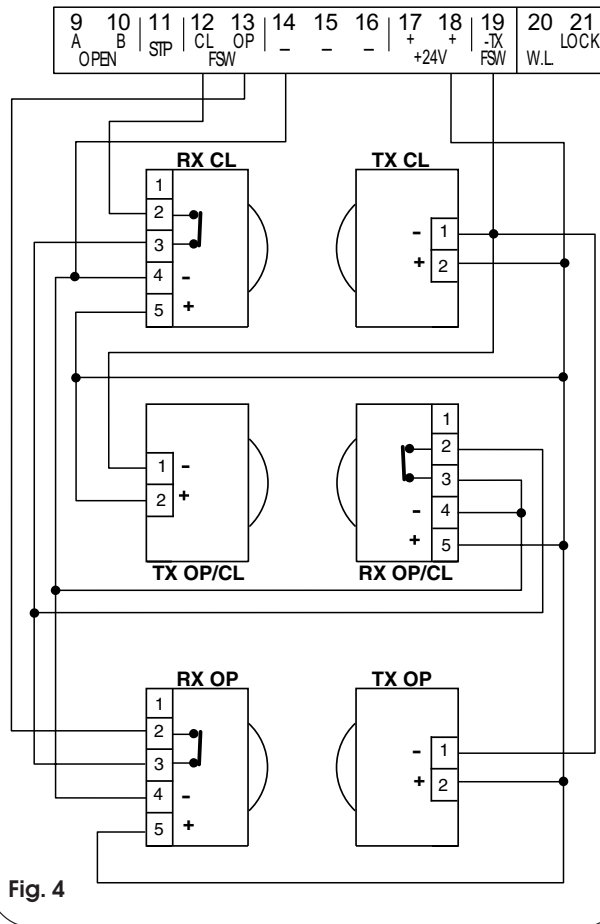
Before connecting the photocells (or other devices) we advise you to select the type of operation according to the movement area they have to protect (see fig.3):

Opening safety devices: they operate only during the gate opening movement and, therefore, they are suitable for protecting the area between the opening leaves and fixed obstacles (walls, etc) against the risk of impact and crushing.

Closing safety devices: they operate only during the gate closing movement and, therefore, they are suitable for protecting the closing area against the risk of impact.



Connection of a pair of closing photocells, a pair of opening photocells and a pair of opening/closing photocells (recommended lay-out)

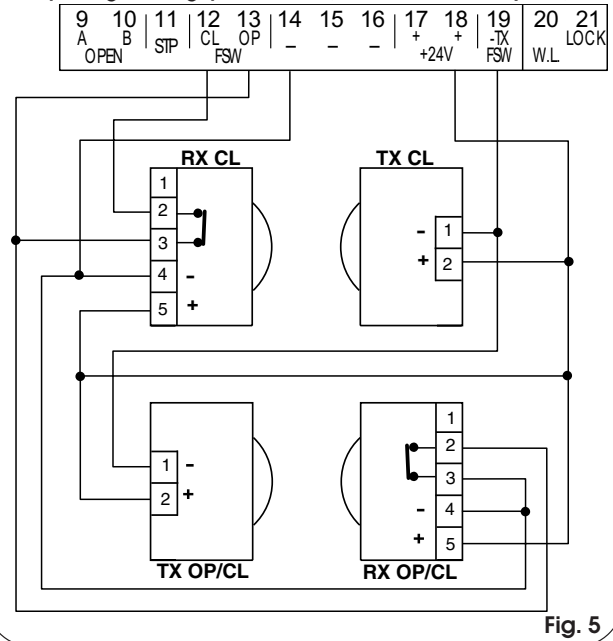


Opening/closing safety devices: they operate during the gate opening and closing movements and, therefore, they are suitable for the opening and closing areas against the risk of impact.

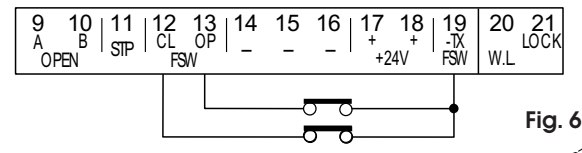
It is recommended use of the lay-out in fig. 4 (in the event of fixed obstacles at opening) or in fig. 5 (no fixed obstacles).

N.B. If two or more devices have the same function (opening or closing), they should be connected to each other in series (see fig. 12). N.C. contacts must be used.

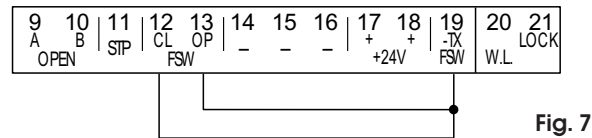
Connection of a pair of closing photocells and a pair of opening/closing photocells (recommended lay-out)



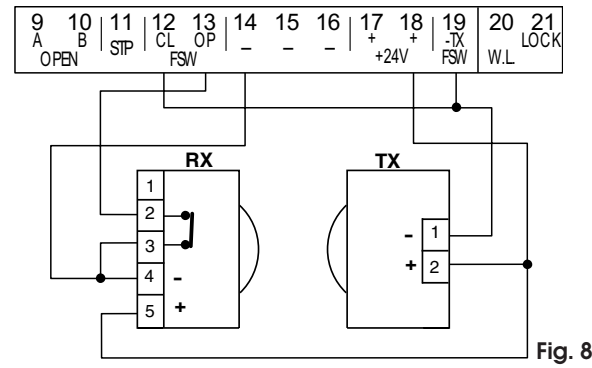
Connection of a closing safety device and an opening safety device

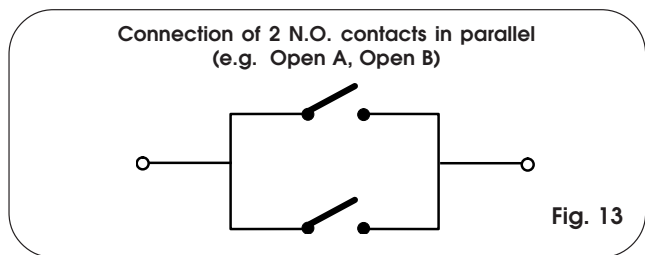
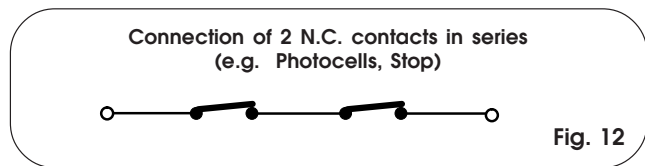
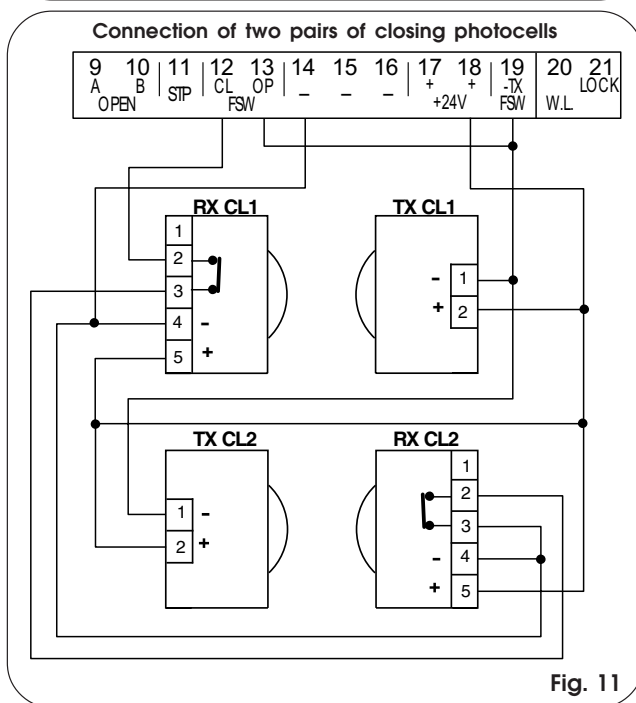
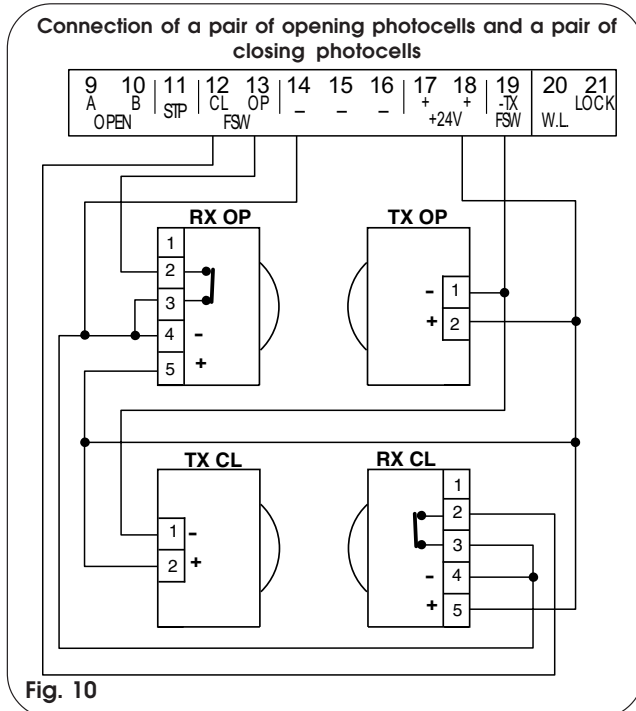
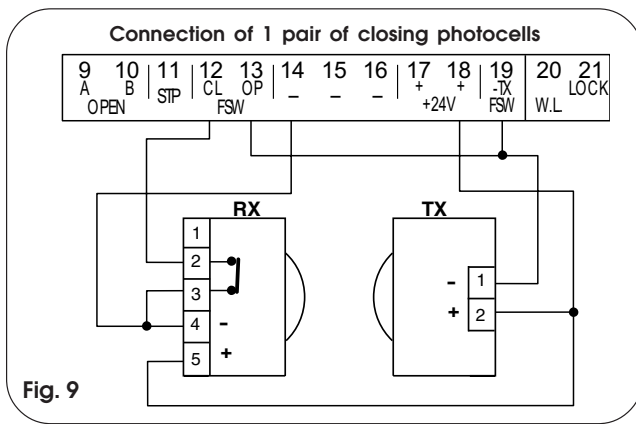


Connection of no safety device



Connection of 1 pair of opening photocells





4.2. Terminal board J3 - Power supply (fig. 2)

- PE: Earth connection
- N : 230 V~ power supply (Neutral)
- L : 230 V~ power supply (Line)

NB.: For correct operation, the board must be connected to the earth conductor in the system. Install an adequate differential thermal breaker (RCD) upstream of the system.

4.3. Terminal board J4 - Motors and flashing lamp (fig. 2)

- M1** : Terminals 1/2/3 = COM/OP/CL: Connection to Motor 1
Can be used in the single-leaf application
- M2** : Terminals 4/5/6 = COM/OP/CL: Connection to Motor 2
Cannot be used in the single-leaf application
- LAMP** : Terminals 7/8 = Flashing lamp output (230 V ~)

4.4. Terminal board J1 - Accessories (fig. 2)

OPEN A - Terminal 9 plus a negative = "Total Opening" command (N.O.): any pulse generator (push-button, detector, etc.) which, by closing a contact, commands opening and/or closing of both gate leaves.

To install several full opening pulse generators, connect the N.O. contacts in parallel (see fig. 13).

OPEN B - Terminal 10 plus a negative = "Partial Opening" command (N.O.) / Closing: any pulse generator (push-button, detector, etc.) which, by closing a contact, commands opening and/or closing of the leaf driven by motor M1. In the B and C logics, it always commands closing of both leaves.

To install several partial opening pulse generators, connect the N.O. contacts in parallel (see fig. 13).

STP - Terminal 11 plus a negative = STOP contact (N.C.): any device (e.g. a push-button) which, by opening a contact, is able to stop gate movement. To install several STOP devices, connect the N.C. contacts in series (see fig. 12).

NB.: If STOP devices are not connected, jumper connect the STP terminals and - common.

CLFSW - Terminal 12 plus a negative = Closing safety devices contact (N.C.): The purpose of the closingsafety devices are to protect the leaf movement area during closing. During closing, in the **A-SP-E-EP** logics, the safety devices reverse the movement of the gate leaves, or stop and reverse the movement when they are released (see programming of microswitch **DS2-SW2**). During the closing cycle in logics **B** and **C**, they interrupt movement. They never operate during the opening cycle. If the **closing safety devices** operate when the gate is open, they prevent the leaf closing movement.

NB.: If no closing safety devices are connected, jumper connect terminals CL and -TX FSW (fig. 7).

OPFSW - Terminal 13 plus a negative = Opening safety devices contact (N.C.): The purpose of the opening safety devices are to protect the leaf movement area during opening. During opening, in the **A-SP-E-EP** logics, the safety devices stop the movement of the gate leaves and reverse the movement when they are released. During the opening cycle in logics **B** and **C**, they interrupt movement. They never operate during the closing cycle.

If the **openingsafety devices** operate when the gate is closed, they prevent the leaf opening movement.

NB.: If no opening safety devices are connected, jumper connect inputs OP and -TX FSW (fig. 7).

- - Terminal 14/15/16 = Negative for power supply to accessories, are all negative.

+ - Terminal 17/18 = 24 Vdc - Positive for power supply to accessories, are all positive.

Important: Accessories max. load is 500 mA. To calculate absorption values, refer to the instructions for individual accessories.

-TX FSW - Terminal 19 = Negative for power supply to photocell transmitters.

If you use this terminal for connecting the negative for supplying power to the photocell transmitters, you may, if necessary, also use the FAIL SAFE function (see programming of microswitch **DS2 - SW3**).

If this function is enabled, the equipment checks operation of the photocells before every opening or closing cycle.

4.5. Terminal board J5 - Indicator-light and Electric lock (fig.2)

W.L. - Terminal 20 = Power supply to indicator-light

Connect a 24 Vdc - 3 W max. indicator-light, if required, between this terminal and the +24V supply. To avoid compromising correct operation of the system, **do not exceed** the indicated power.

LOCK - Terminal 21 = Power supply to electric lock

If required/necessary, connect a 12 V ac electric lock between terminal 21 and the terminal 18 the +24V supply.

4.6. Connector J2 - Rapid connector 5 pins

This is used for rapid connection. Connect the accessory, with the components side facing the inside of the card. Insert and remove only after switching off power.

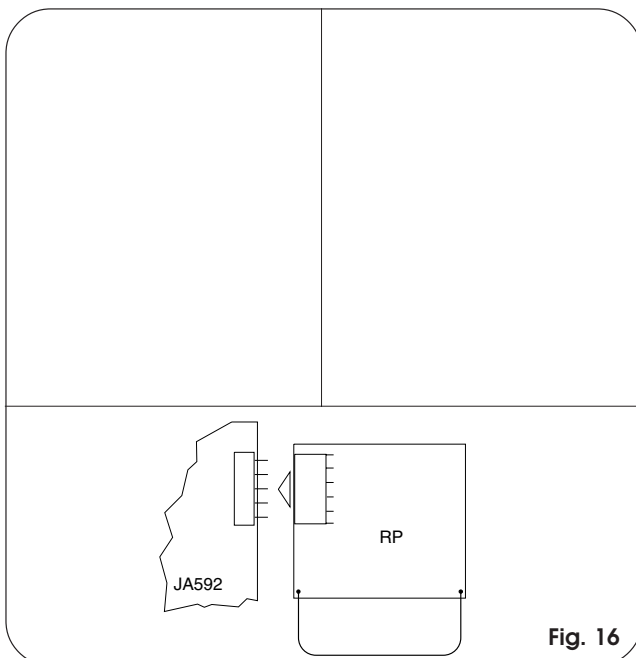


Fig. 16

4.7. Terminal board J6 - Limit-switches and/or encoder (fig.2)

These inputs are designed for connection of opening and closing limit-switches which, according to type of programming - can command either leaf stop or start of deceleration. Unconnected limit-switches must be jumper connected (if none are connected, this is not necessary).

Encoders can also be used to detect the leaf's angular position and to thus obtain deceleration and stop positions independent of work time.

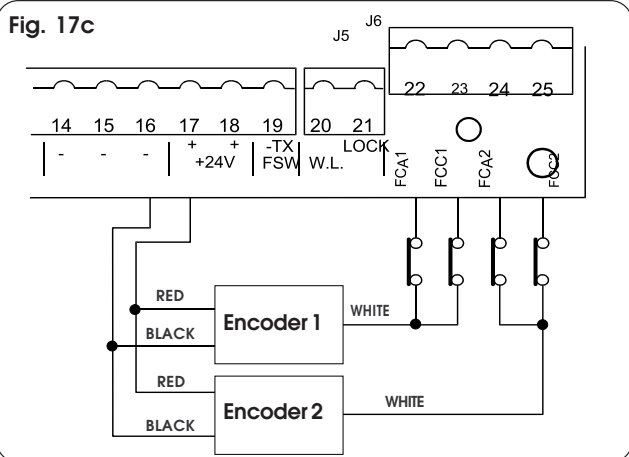
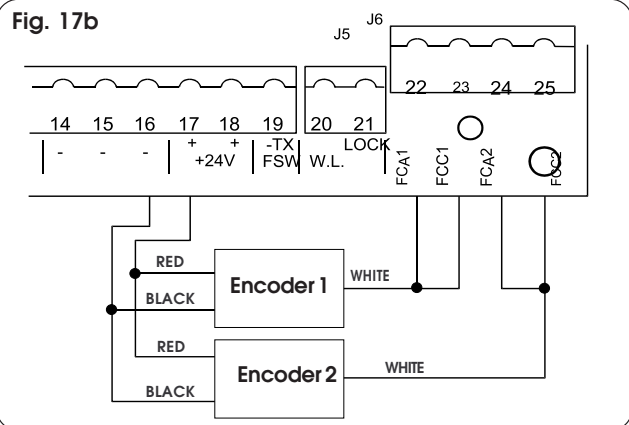
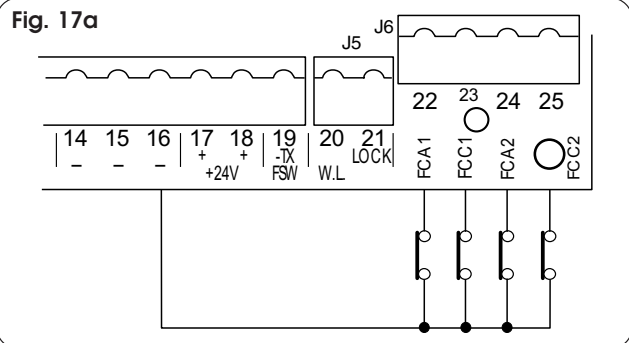
Limit-switches and encoders can also be used in combination to stop movement before the mechanical stop limit is reached. To wire, see fig. 17a, 17b and 17c.

FCA1 - Leaf 1 opening limit-switch

FCC1 - Leaf 1 closing limit-switch

FCA2 - Leaf 2 opening limit-switch

FCC2 - Leaf 2 closing limit-switch



N.B.: Maximum configurations are shown on the drawings. All intermediate configurations are allowed, using only some elements (only 1 encoder, only 1 limit-switch, 2 encoders and 2 limit-switches etc.).

5. MICROSWITCH PROGRAMMING

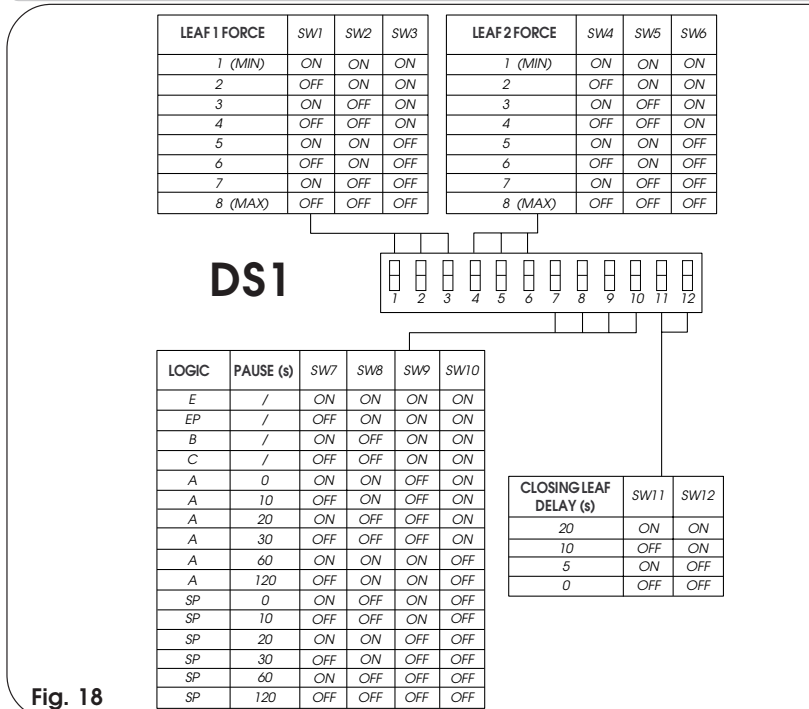


Fig. 18

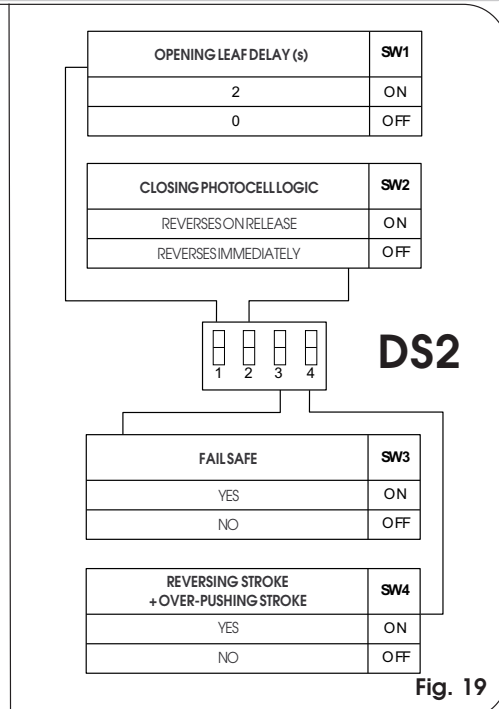


Fig. 19

The equipment is endowed with two groups of microswitches - DS1 (fig. 18) and DS2 (fig.19) - which make it possible to program the gate operation parameters.

5.1. MICROSWITCHES DS1 (fig. 18)

Leaf 1 and 2 force

By using microswitches SW1, SW2 and SW3, the force (and thus anti-crushing safety) of the operator connected to leaf 1 can be programmed. The same operation has to be repeated on the motor connected to leaf 2, by using microswitches SW4, SW5 and SW6.

Function logic

The automated system's function logic can be selected with microswitches SW7, SW8, SW9 and SW10. By selecting an automatic logic (A, SP), the combination of microswitches enables selection of pause time too (waiting time, in opening position, before automatic re-closing).

The available logics - their operation is described in tables 3/a-b-c-d-e-f, are as follows: A - SP (Automatic), E - EP - B (Semi-automatic), C (Dead-man).

Closing leaf delay

Programming of microswitches SW11 and SW12 enables delay of the closing start of leaf 1 with respect to leaf 2, in order to avoid the leaves overlapping during movement, and thus increase the safety of the system.

5.2. MICROSWITCHES DS2 (fig. 19)

Opening leaf delay

Programming of microswitch SW1 enables delay of the opening start of leaf 2 with respect to leaf 1, in order to avoid the leaves obstructing each other during the initial stage of movement.

Closing photocells logic

By using microswitch SW2, you can select the type of behaviour of the automated system if the photocells protecting the gate closing movement are engaged. You can obtain either immediate reversing of the leaves or a stop followed by reversing when the photocells are disengaged.

Fail safe

Programming the microswitch SW3 makes it possible to activate or de-activate the photocells control test. When Fail safe is active, the equipment checks the photocells before every opening or closing movement.

Reversing stroke + over-pushing stroke

By using the microswitch SW4, you can activate the "reversing stroke" and the "over-pushing stroke". The "reversing stroke" pushes the leaves to close for a few moments before opening the gate, thus facilitating release of the electric lock. The "over-pushing stroke" commands a closing thrust at full force when the gate has already reached its stop limit, thus facilitating the locking of the electric lock.

6. START-UP

6.1. LED CHECK

The table below shows the status of the LEDs in relation to the status of the inputs.

Note the following: **LED LIGHTED** = closed contact

LED OFF = open contact

Check the state of the LEDs as per Table.

Operation of the status signalling LEDs

LEDs	LIGHTED	OFF
OP_A	Command activated	Comando inattivo
OP_B	Command activated	Comando inattivo
STOP	Command inactive	Command activated
FSWCL	Safety devices disengaged	Safety devices engaged
FSWOP	Safety devices disengaged	Safety devices engaged
FCA1 (if used)	Limit-switch free	Limit-switch engaged
FCC1 (if used)	Limit-switch free	Limit-switch engaged
FCC2 (if used)	Limit-switch free	Limit-switch engaged
FCA2 (if used)	Limit-switch free	Limit-switch engaged

NB.: The status of the LEDs while the gate is at rest are shown in bold.

Furthermore, the DL10 LED is on the board and functions as detailed in the following table:

DL10		
Gate closed at rest: OFF	Gate moving or on pause: like indicator-light	Time learning: flashes rapidly

6.2. ROTATION DIRECTION AND FORCE CHECK

- 1) Program the functions of the control board according to need, as shown in Chapter 5.
- 2) Cut power to the electronic control equipment.
- 3) Release the operators and manually move the gate to the mid-point of the opening angle.
- 4) Re-lock the operators.
- 5) Restore power.
- 6) Send an opening command on the OPEN A input (fig.2) and check if the gate leaves are being commanded to open.

N.B.: If the first OPEN A pulse commands a closing, cut power and change over the phases of the electric motor (brown and black wires) on the terminal board.

- 7) Check power setting of the motors and, if necessary, modify it (see Chapter 5.1).

N.B.: If using hydraulic operators, force should be programmed to maximum level (8)

- 8) Stop leaf movement with a STOP command.
- 9) Release the operators, close the leaves and re-lock the operators.

6.3. LEARNING OF OPERATING TIMES

WARNING: during the learning procedure, the safety devices are disabled! Therefore any transit must be avoided in the leaf movement area when this operation is carried out.

Opening/closing time is established by a learning procedure which varies slightly according to whether you are using limit-switches.

6.3.1. LEARNING OF NORMAL TIMES

- SIMPLE LEARNING:

Check if the leaves are closed, and then press F push-button for one second: DL10 LED begins flashing and the leaves begin the opening movement.

Wait for the leaf to reach the opening stop limit and then supply an OPEN A pulse (with the radio control or with the key controlled push-button) to stop the movement: the leaves stop and the DL10 LED stops flashing.

The procedure has ended and the gate is ready to operate. Next pulse closes leaves and they stop on automatically reaching closed position.

- ADVANCED COMPLETE LEARNING:

Check if the leaves are closed, and then press F push-button for more than 3 seconds: DL10 LED begins flashing and the leaf 1 begins the opening movement. The following functions can be commanded by the OPEN A pulses (by radio control or key controlled push-button):

- 1° OPEN - Deceleration at opening of leaf 1
- 2° OPEN - Leaf 1 stops at opening and leaf 2 begins its opening movement
- 3° OPEN - Deceleration at opening of leaf 2
- 4° OPEN - Leaf 2 stops at opening and immediately begins its closing movement
- 5° OPEN - Deceleration at closing of leaf 2
- 6° OPEN - Leaf 2 stops at closing and leaf 1 begins its closing movement
- 7° OPEN - Deceleration at closing of leaf 1
- 8° OPEN - Leaf 1 stops at closing

The DL10 LED stops flashing and the gate is ready for normal operation.

- Notes:**
- If you wish to eliminate deceleration in certain stages, wait for the leaf to reach its stop-limit and supply 2 consecutive Open pulses (by 1 second).
 - If only one leaf is present, the entire sequence must nevertheless be effected. When the leaf has finished opening, supply 5 Open pulses until the leaf begins to close, and then resume normal operation.
 - If wind effected areas it is best to allow 2 second after the leaf reaches open stop before supplying Open A to ensure full closing.

• Limit switches or encoder must be used in condominium applications in order to guarantee the repeatability of the slow-down. Otherwise the leaf could not reach the limit stop with slow-down.

• If, during closing / opening, the cycle stops for more consecutive times, the leaf could not reach the limit stop with slow-down. At the first complete cycle without interruptions, the system recognizes the limit stops and carries out again the programmed slow-downs.

6.3.2. LEARNING WITH LIMIT-SWITCHES

Learning with limit-switches can be done in two different ways:

- SIMPLE LEARNING:

Check if the leaves are closed, and then press F push-button for 1 second: DL10 LED begins flashing and the leaves begin the opening movement.

The motors stop automatically when the opening limit-switches are reached, but an OPEN A pulse must be given (by radio control or key push-button) to end the cycle; the leaves stop and the DL10 LED stops flashing.

The procedure has ended and the gate is ready to operate. Next pulse closes leaves and they stop on automatically reaching closed position.

- ADVANCED COMPLETE LEARNING:

Check if the leaves are closed, and then press the F push-button for more than 3 seconds: DL10 LED begins flashing and leaf 1 begins the opening movement. The leaves automatically decelerate when they reach the limit-switches, and therefore, it is sufficient to inform the equipment that the stop limits have been reached by means of OPEN A pulses (by radio control or key push-button):

- FCA1 - Deceleration at opening of leaf 1
- 1° OPEN - Leaf 1 stops at opening and leaf 2 begins its opening movement
- FCA2 - Deceleration at opening of leaf 2
- 2° OPEN - Leaf 2 stops at opening and immediately begins its closing movement
- FCC2 - Deceleration at closing of leaf 2
- 3° OPEN - Leaf 2 stops at closing and leaf 1 begins its closing movement
- FCC1 - Deceleration at closing of leaf 1
- 4° OPEN - Leaf 1 stops at closing

the DL10 LED stops flashing and the gate is ready for normal operation

Notes: • If you wish to eliminate deceleration in some stages, you must supply an Open pulse within 1 second of reaching the limit-switch.

• If some limit-switches are not installed, start the corresponding deceleration by supplying an Open pulse (which replaces the limit-switch).

• If only one leaf is present, the entire sequence must nevertheless be effected. When the leaf has finished opening, supply 5 Open pulses until the leaf begins to close, and then resume normal operation.

• If wind effected areas it is best to allow 2 second after the leaf reaches open stop before supplying Open A to ensure full closing.

6.3.3. LEARNING TIMES WITH ENCODER

Learning with the encoder can be done in two different ways:

- SIMPLE LEARNING:

Check if the leaves are closed, and then press F push-button for 1 second: DL10 LED begins flashing and the leaves begin the opening movement.

The movement stops automatically when the opening stop limit is reached and the DL10 LED stops flashing.

The procedure has ended and the gate is ready to operate, using fixed deceleration.

Table 3/c

LOGIC "E"		PULSES				W.L.
GATE STATUS	OPEN-A	OPEN-B	STOP	OPENING SAFETY DEVICES	OP/CLOS. SAFETY DEVICE	W.L.
CLOSED	Opens the leaves	Opens the free leaf	No effect (OPEN disabled)	No effect	No effect (OPEN disabled)	OFF
OPEN	Re-closes the leaves immediately	Re-closes the leaf immediately	Stops operation	No effect	No effect (OPEN disabled)	lighted
AT CLOSING	Re-opens the leaves immediately	Re-opens the leaf immediately (1)		No effect (saves OPEN)	see paragraph 5.2	Locks and, on release, reverses at opening
AT OPENING	Stops operation	Stops operation	No effect (OPEN disabled)	No effect	Locks and, on release, continues opening	lighted
LOCKED	Closes the leaf/leaves (with CLOSING SAFETY DEVICES active, opens at 2nd pulse)		No effect	No effect	No effect (OPEN disabled)	lighted

Table 3/d

LOGIC "E"		PULSES				W.L.
GATE STATUS	OPEN-A	OPEN-B	STOP	OPENING SAFETY DEVICES	OP/CLOS. SAFETY DEVICE	W.L.
CLOSED	Operates the leaves	Operates the free leaf	No effect (OPEN disabled)	No effect	No effect (OPEN disabled)	OFF
OPEN	Re-closes the leaf/leaves immediately	Re-closes the leaf/leaves immediately	Stops operation	No effect (OPEN disabled)	No effect (OPEN disabled)	lighted
AT CLOSING	Stops operation	Stops operation		No effect (saves OPEN)	see paragraph 5.2	Locks and, on release, reverses at opening
AT OPENING	Stops operation	Stops operation	No effect	No effect	Locks and, on release, continues opening	lighted
LOCKED	Restarts moving in reverse direction (always closes after a Stop)		No effect (OPEN disabled)	No effect (if it must open, it disables OPEN)	No effect (OPEN disabled)	lighted

Table 3/e

LOGIC "B"		PULSES				W.L.
GATE STATUS	OPEN-A	OPEN-B	STOP	OPENING SAFETY DEVICES	OP/CLOS. SAFETY DEVICE	W.L.
CLOSED	Operates the leaf or leaves	No effect	No effect (OPEN-A disabled)	No effect (OPEN-A disabled)	No effect (OPEN-A disabled)	OFF
OPEN	No effect	Closes the leaves or leaf	No effect (OPEN-B disabled)	No effect (OPEN-B disabled)	No effect (OPEN-B disabled)	lighted
AT CLOSING	Reverses at opening	No effect	Stops operation	Stops operation (OPEN-B disabled)	Stops operation (OPEN-A/B disabled)	flashing
AT OPENING	No effect	No effect	No effect	No effect	Stops operation (OPEN-A/B disabled)	lighted
LOCKED	Operates the leaf or leaves	Closes the leaves or leaf	No effect (OPEN-A/B disabled)	No effect (OPEN-B disabled)	No effect (OPEN-A/B disabled)	lighted

Table 3/f

LOGIC "C"		PULSES				W.L.
COMMANDS ALWAYS PRESSED		PULSES				W.L.
GATE STATUS	OPEN-A	OPEN-B	STOP	OPENING SAFETY DEVICES	OP/CLOS. SAFETY DEVICE	W.L.
CLOSED	Operates the leaf or leaves	No effect	No effect (OPEN-A disabled)	No effect (OPEN-A disabled)	No effect (OPEN-A disabled)	OFF
OPEN	No effect	Closes the leaves or leaf	No effect (OPEN-B disabled)	No effect (OPEN-B disabled)	No effect (OPEN-B disabled)	lighted
AT CLOSING	Stops operation	Stops operation	Stops operation	Stops operation (OPEN-B disabled)	Stops operation (OPEN-A/B disabled)	flashing
AT OPENING		Stops operation	Stops operation (OPEN-A disabled)	No effect	Stops operation (OPEN-A/B disabled)	lighted

(1) If maintained, it prolongs the pause until disabled by the command (timer function)

(2) If remaining pause time is shorter than 5 sec., when safety devices are released, it closes after 5 sec.

NB.: Effects on other active pulse inputs in brackets.