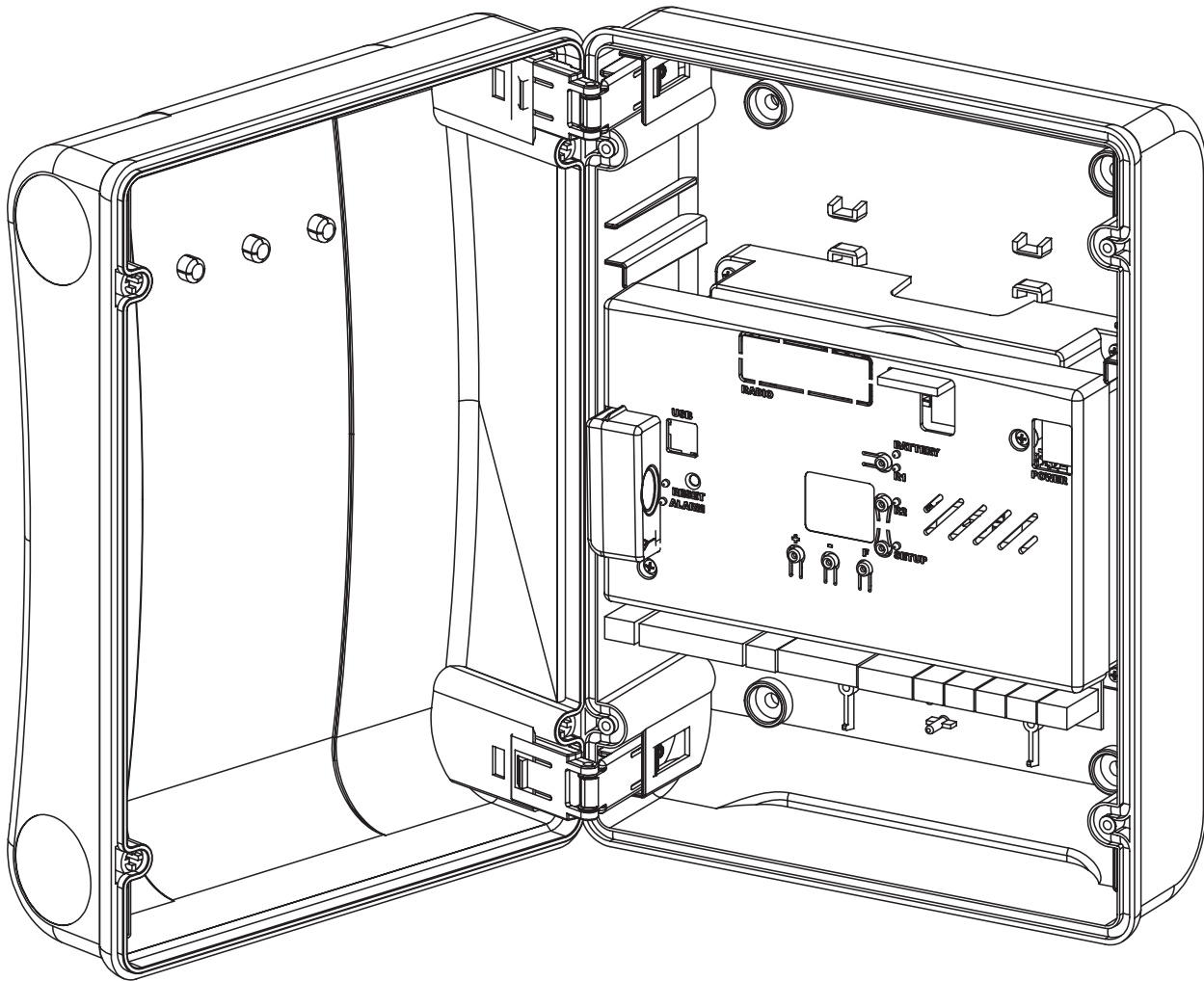




GENIUS[®]

AUTOMATISMI PER CANCELLI

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



BRAIN 18

GUIDA PER L'INSTALLATORE - GUIDE FOR THE INSTALLER



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.

1. Leggere attentamente le istruzioni prima di iniziare l'installazione del prodotto.
2. I materiali dell'imballaggio (plastica, polistirolo, ecc.) non devono essere lasciati alla portata dei bambini in quanto potenziali fonti di pericolo.
3. Conservare le istruzioni per riferimenti futuri.
4. 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.
5. GENIUS declina qualsiasi responsabilità derivata dall'uso improprio o diverso da quello per cui l'automatismo è destinato.
6. Non installare l'apparecchio in atmosfera esplosiva: la presenza di gas o fumi infiammabili costituisce un grave pericolo per la sicurezza.
7. Gli elementi costruttivi meccanici devono essere in accordo con quanto stabilito dalle Norme EN 12604 e EN 12605.
8. Per i Paesi extra-CEE, oltre ai riferimenti normativi nazionali, per ottenere un livello di sicurezza adeguato, devono essere seguite le Norme sopra riportate.
9. GENIUS non è responsabile dell'inosservanza della Buona Tecnica nella costruzione delle chiusure da motorizzare, nonché delle deformazioni che dovessero intervenire nell'utilizzo.
10. L'installazione deve essere effettuata nell'osservanza delle Norme EN 12453 e EN 12445. Il livello di sicurezza dell'automazione deve essere C+D.
11. Prima di effettuare qualsiasi intervento sull'impianto, togliere l'alimentazione elettrica e scollegare le batterie.
12. 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.
13. Verificare che a monte dell'impianto vi sia un interruttore differenziale con soglia da 0,03 A.
14. Verificare che l'impianto di terra sia realizzato a regola d'arte e collegarvi le parti metalliche della chiusura.
15. L'automazione dispone di una sicurezza intrinseca antisciacchiamento costituita da un controllo di coppia. È comunque necessario verificarne la soglia di intervento secondo quanto previsto dalle Norme indicate al punto 10.
16. 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.
17. 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".
18. 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.
19. Per la manutenzione utilizzare esclusivamente parti originali GENIUS.
20. Non eseguire alcuna modifica sui componenti facenti parte del sistema d'automazione.
21. 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.
22. Non permettere ai bambini o persone di sostare nelle vicinanze del prodotto durante il funzionamento.
23. L'applicazione non può essere utilizzata da bambini, da persone con ridotte capacità fisiche, mentali, sensoriali o da persone prive di esperienza o del necessario addestramento.
24. Tenere fuori dalla portata dei bambini radiocomandi o qualsiasi altro datore di impulso, per evitare che l'automazione possa essere azionata involontariamente.
25. Il transito tra le ante deve avvenire solo a cancello completamente aperto.
26. L'utente utilizzatore deve astenersi da qualsiasi tentativo di riparazione o d'intervento e deve rivolgersi solo ed esclusivamente a personale qualificato GENIUS o centri d'assistenza GENIUS.
27. Tutto quello che non è previsto espressamente in queste istruzioni non è permesso.
- 28.

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.

1. Carefully read the instructions before beginning to install the product.
2. Do not leave packing materials (plastic, polystyrene, etc.) within reach of children as such materials are potential sources of danger.
3. Store these instructions for future reference.
4. 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.
5. GENIUS declines all liability caused by improper use or use other than that for which the automated system was intended.
6. Do not install the equipment in an explosive atmosphere: the presence of inflammable gas or fumes is a serious danger to safety.
7. The mechanical parts must conform to the provisions of Standards EN 12604 and EN 12605.
8. For non-EU countries, to obtain an adequate level of safety, the Standards mentioned above must be observed, in addition to national legal regulations.
9. 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.
10. The installation must conform to Standards EN 12453 and EN 12445. The safety level of the automated system must be C+D.
11. Before attempting any job on the system, cut out electrical power and disconnect the batteries.
12. 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.
13. Make sure that a differential switch with threshold of 0.03 A is fitted upstream of the system.
14. Make sure that the earthing system is perfectly constructed, and connect metal parts of the means of the closure to it.
15. 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.
16. The safety devices (EN 12978 standard) protect any danger areas against mechanical movement Risks, such as crushing, dragging, and shearing.
17. 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".
18. GENIUS declines all liability as concerns safety and efficient operation of the automated system, if system components not produced by GENIUS are used.
19. For maintenance, strictly use original parts by GENIUS.
20. Do not in any way modify the components of the automated system.
21. 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.
22. Do not allow children or adults to stay near the product while it is operating.
23. The application cannot be used by children, by people with reduced physical, mental, sensorial capacity, or by people without experience or the necessary training.
24. Keep remote controls or other pulse generators away from children, to prevent the automated system from being activated involuntarily.
25. Transit through the leaves is allowed only when the gate is fully open.
26. The User must not in any way attempt to repair or to take direct action and must solely contact qualified GENIUS personnel or GENIUS service centres.
27. Anything not expressly specified in these instructions is not permitted.

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CE DECLARATION OF CONFORMITY

Manufacturer: GENIUS S.p.A.
Address: Via P. Elzi, 32 - 24050 - Grassobbio - Bergamo - ITALY
Declares that: The BRAIN 18 control unit

- conforms to the essential safety requirements of the following EEC directives

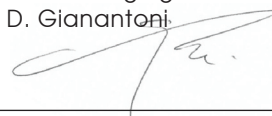
2006/95/EC Low Voltage Directive
 2004/108/EC Electromagnetic Compatibility Directive

Additional note:



This product underwent tests in a typical uniform configuration
 (all products manufactured by GENIUS S.p.A.).

Bologna, 01 - 03 - 2011

The Managing Director
 D. Gianantoni



WARNINGS

- Important! For the safety of people, it is important that all the instructions be carefully observed.
- Incorrect installation or incorrect use of the product could cause serious harm to people.
- Carefully read the instructions before beginning to install the product and keep them for future reference.
- The symbol  indicates notes that are important for the safety of persons and for the good condition of the automated system.
- The symbol  draws your attention to the notes on the characteristics and operation of the product.

1 WARNINGS

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

- Install, upstream of the system, a differential thermal breaker with adequate tripping threshold,
- Connect the earth cable to the relevant terminal (see fig.5).
- Always separate power cables from control and safety cables (push-button, receiver, photocells, etc.). To avoid any electrical disturbance, use separate sheaths or a screened cable (with the screen earthed).

2 LAYOUT AND COMPONENTS OF BRAIN 18

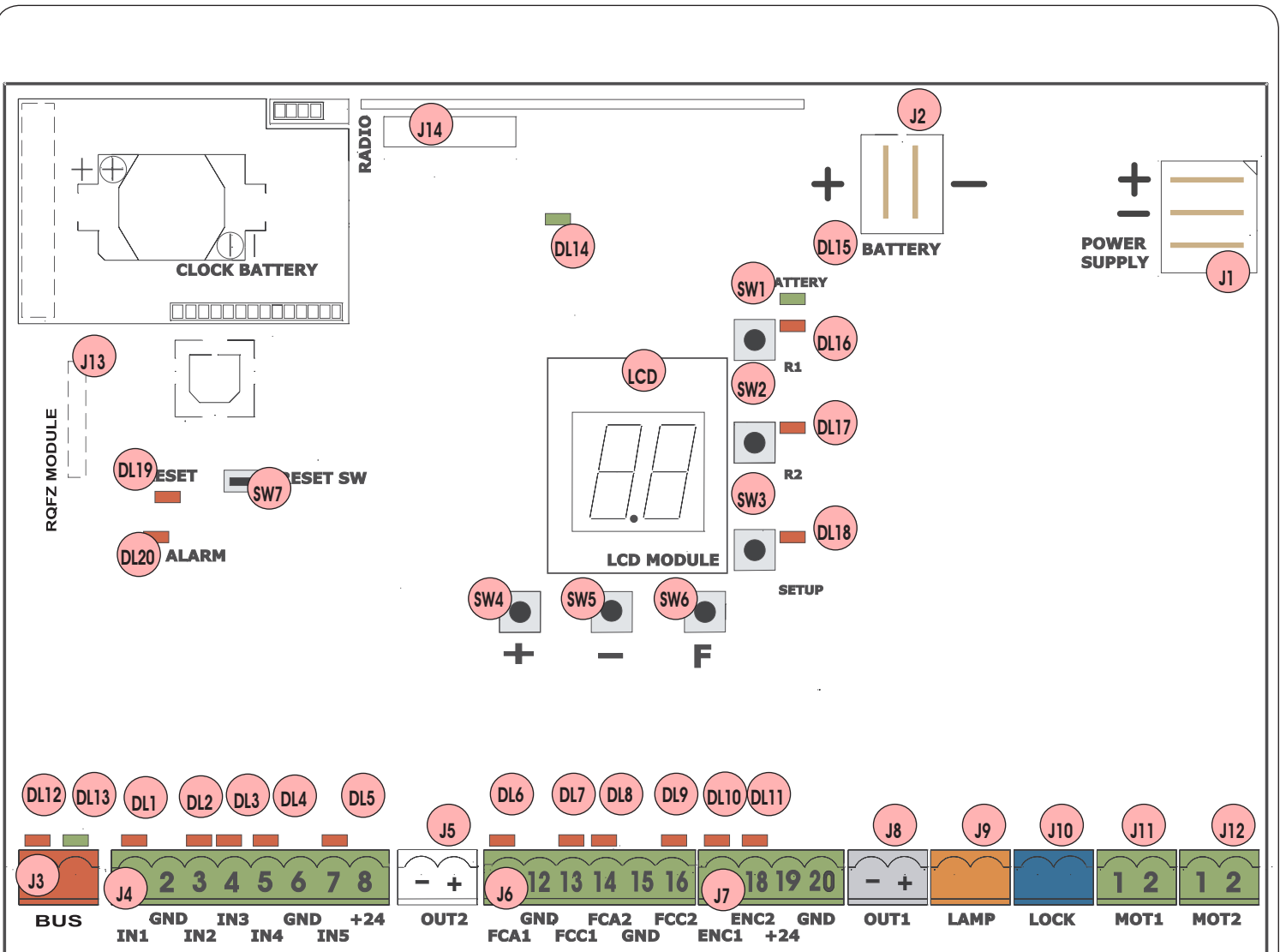


Fig. 1

2.1 INPUTS DEFAULT SETTING

Terminal-board J4

IN1	OPEN A	N.O. contact
IN2	OPEN B	N.O. contact
IN3	STOP	N.C. contact
IN4	FSW OP	N.C. contact
IN5	FSW CL	N.C. contact

Connector J13 – RQFZ Module

Channel 1	OPEN A
Channel 2	OPEN B

Connector J14 - Radio

Channel 1 RP	OPEN A
Channel 2 RP2	OPEN B

2.2 DESCRIPTION OF COMPONENTS

LCD	SIGNALS AND PROGRAMMING DISPLAY
SW1	"R1" PROGRAMMING PUSH-BUTTON
SW2	"R2" PROGRAMMING PUSH-BUTTON
SW3	"SETUP" PUSH-BUTTON
SW4	"+" PROGRAMMING PUSH-BUTTON
SW5	"-" PROGRAMMING PUSH-BUTTON
SW6	"F" PROGRAMMING PUSH-BUTTON
SW7	"RESET SW" SOFTWARE RESET PUSH-BUTTON
DL1	INPUT STATUS CONTROL LED "IN1"
DL2	INPUT STATUS CONTROL LED "IN2"
DL3	INPUT STATUS CONTROL LED "IN3"
DL4	INPUT STATUS CONTROL LED "IN4"
DL5	INPUT STATUS CONTROL LED "IN5"
DL6	INPUT STATUS CONTROL LED "FCA1"
DL7	INPUT STATUS CONTROL LED "FCC1"
DL8	INPUT STATUS CONTROL LED "FCA2"
DL9	INPUT STATUS CONTROL LED "FCC2"
DL10	INPUT STATUS CONTROL LED "ENC1"
DL11	INPUT STATUS CONTROL LED "ENC2"
DL12	SIGNALLING LED FOR DEVICE BUS ACTIVE
DL13	SIGNALLING LED FOR BUS DIAGNOSTICS
DL14	LED SIGNALLING PRIMARY POWER ON
DL15	LED SIGNALLING SECONDARY POWER ON (See chap.8)

DL16	SIGNALLING LED FOR "SW1" PUSH-BUTTON (R1 PUSH-BUTTON)
DL17	SIGNALLING LED FOR "SW2" PUSH-BUTTON (R2 PUSH-BUTTON)
DL18	SIGNALLING LED FOR "SW3" PUSH-BUTTON (SETUP PUSH-BUTTON)
DL19	PRESSURE SIGNALLING LED "RESET SW" PUSH-BUTTON
DL20	ALARM SIGNALLING LED "ALARM"
J1	POWER FEEDER SWITCHING CONNECTOR (PRIMARY POWER)
J2	SECONDARY POWER SELECTOR
J3	CONNECTOR FOR CONNECTION TO BUS DEVICES
J4	CONNECTOR FOR TERMINAL BOARD INPUTS (see chap.3.1)
J5	CONNECTOR FOR OUT2 OUTPUT (see 2nd level prog.)
J6	TRAVEL LIMITS CONNECTOR
J7	CONNECTOR FOR LEAF 1 AND LEAF 2 ENCODER INPUTS
J8	CONNECTOR FOR OUT1 OUTPUT (see 2nd level prog.)
J9	FLASHING LAMP OUTPUT CONNECTOR
J10	CONNECTOR FOR ELECTRICAL LOCK OUTPUT
J11	LEAF 1 MOTOR CONNECTOR
J12	LEAF 2 MOTOR CONNECTOR
J13	CONNECTOR FOR RECEIVER MODULE RQFZ
J14	CONNECTOR: 5 PIN RECEIVER



Flashing LED ALARM indicates alarm in progress (a situation which does not prejudice gate operation)



LED ALARM on steady light indicates error in progress (a situation which blocks operation until cause of error is eliminated)

4 TECHNICAL SPECIFICATIONS

Primary power feed from mains	with switching power feed 230/115 V~ - 50/60 Hz
Secondary power feed	24 Vdc - 16 A max. (min. 20 Vdc. - max. 28 Vdc.)
Power absorbed from mains	stand-by = 4W max. ~ 400 W
Max. load for motor	7 A
Power feed for accessories	24 Vdc
Accessories max. current	24Vdc max. 500 mA BUS max. 500 mA
Battery charge current	180 mA
Operating ambient temperature	(-20 - +55) °C
Protective fuses for unit	All self resetting
Protective fuses for power pack	2.5 A

Function logics	Semiautomatic, Automatic, "step-by-step" Semiautomatic, Automatic with reverse during pause, Automatic step-by-step, Safety devices automatic, Safety devices step-by-step automatic, "b" Semiautomatic, mixed logic "bC", Dead-man, Automatic with timer function
Work time	Programmable (from 0 to 9 min 50 sec)
Pause time	Programmable (from 0 to 9 min 50 sec)
Motor power	Programmable on 50 levels
Motor speed	Programmable on 10 levels
Connector inputs	Switching feeder, Battery, 5 pion receiver, module RQFZ
Terminal board inputs	BUS, Inputs from IN1 to IN5 (see par. 4), Travel limit device, Encoder.
Terminal board outputs	Flashing lamp, Motors, Electrical lock, OUT1, OUT2 (programmable), power feed to accessories
Programming	1st and 2° lev. with 3 keys (+, -, F) and LCD display.

4 TERMINAL BOARDS, CONNECTORS, INPUTS AND SIGNALS

4.1 TERMINAL BOARD J3 – CONNECTION TO BUS-2EASY ACCESSORIES

Terminal for connection of BUS-2EASY accessories. see par. 6.2

4.2 TERMINAL BOARD J4 – SIGNALS INPUTS

Connection of 2 N.O. contacts in parallel

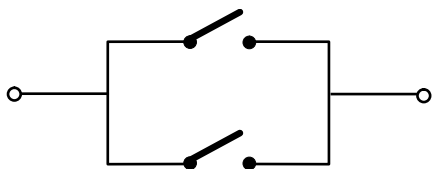


Fig. 2

Connection of 2 NC contacts in series

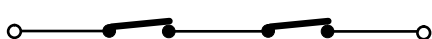


Fig. 3

IN1 - OPEN A - "Opening" Command (N.O. - terminal 1):

this refers to any pulse generator (e.g.: push-button) which, by closing a contact, commands **TOTAL OPENING**.

To install several total opening pulse generators, connect the N.O. contacts in parallel

Other more detailed programming possibilities are feasible by programming with a PC (see dedicated instructions).

IN2 - OPEN B - Partial Opening" command (N.O. - terminal 3):

this refers to any pulse generator (e.g.: push-button) which, by closing a contact, commands **PARTIAL OPENING**.

For double leaf systems, OPEN B commands an opening of leaf 1 (motor 1) corresponding to 100% of total opening

To install several partial opening pulse generators, connect the N.O. contacts in parallel

Other more detailed programming possibilities are feasible by programming with a PC (see dedicated instructions).

If you select one of the following logics (b, bC, C) input IN2 automatically becomes CLOSE (N.O).

IN3 - STOP contact command (N.C. - terminal 4): this refers to any device (e.g.: push-button) which, by opening a contact, can stop the motion of the automated system.

To install several STOP devices, connect the N.C. contacts in series.

If stop safety devices are not connected, jumper connect the STOP and GND terminals.

IN4 - Opening safety-devices contact (N.C. - terminal 5): see paragraph 5.1.

To install several opening safety devices, connect the N.C. contacts in series.

If opening safety devices are not connected, jumper connect terminals IN4 and GND, if the FOTOTEST safety device is not active, otherwise jumper connect IN4 and -OUT1.

IN5 - Closing safety-devices contact (N.C. - terminal 7): see paragraph 5.1.

To install several closing safety devices, connect the N.C. contacts in series

If closing safety devices are not connected, jumper connect terminals IN5 and GND, if the FOTOTEST safety device is not active, otherwise jumper connect IN5 and -OUT1.

GND - (terminals 2-6): Negative for powering accessories
+24 - (terminal 8): Positive to power feed accessories

The max. load of the accessories is 500mA, subdivided among terminal boards J4 and J7. To calculate maximum absorption, refer to the instructions for individual accessories.

4.3 TERMINAL BOARDS J5, J8 – OUT1 AND OUT2

The two outputs can be set in one of the functions described in 2nd level programming (see par.6.2.). The default value is:

OUT1 = ALWAYS ACTIVE

OUT2 = INDICATOR LIGHT.

Maximum load applicable on every output: 24 Vdc with 100 mA.

4.4 TERMINAL BOARD J6 – OPENING AND CLOSING TRAVEL LIMIT DEVICE

Terminal board for connection of the opening (FCA1 and FCA2) and closing (FCC1 and FCC2) travel limit device.

The travel limit contacts FCC1, FCA1, FCC2 and FCA2 are all NC contacts. See 2nd level programming for the various configurations applicable to the travel limit inputs.

If they are not used, do not jumper connect the contacts of the limit switches FCC1, FCA1, FCC2, FCA2

4.5 TERMINAL BOARDS J7 - ENCODERS

Encoders with an open collector signal referred to earth (e.g. Gatecoder) can be connected to detect the leaf's angular position. For connections, see fig. 4.

The configuration indicated in the drawing is the maximum one. Only 1 Timecoder can be used. In this case, the unused inputs do not have to be jumper connected to earth

The default obstacle detection and stop point times are 2 and 4 seconds respectively.

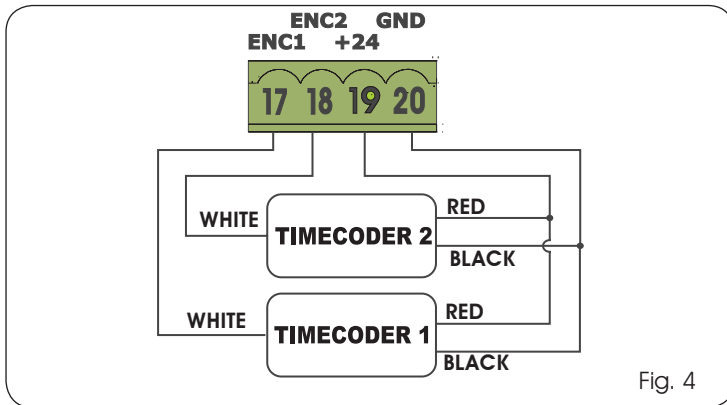


Fig. 4

4.6 TERMINAL BOARD J9 - FLASHING LAMP

Output for 24Vdc flashing lamp

Maximum applicable load: 24 Vdc - 15 W

4.7 TERMINAL BOARD J10 - ELECTRIC LOCK

Output for 12V ac or 24V dc electric lock

5.8 TERMINAL BOARD J11, J12 - MOTORS

J11 (MOT1): Connection of motor connected to leaf 1, i.e. the leaf which opens first during an opening operation.

J12 (MOT2): Connection of the motor connected to leaf 2, i.e. the leaf which opens second.

If only one motor is connected, it must be connected to terminal J11 (MOT1).

If, during the first movement of the SETUP procedure, the leaves open instead of closing, the motor connection cables must be changed over.

4.9 CONNECTOR J1 - PRIMARY POWER FEED FROM 230/115 V MAINS

J1: Select the correct power feed, by turning the power switching selector to its correct position (Default 230 Vac.)

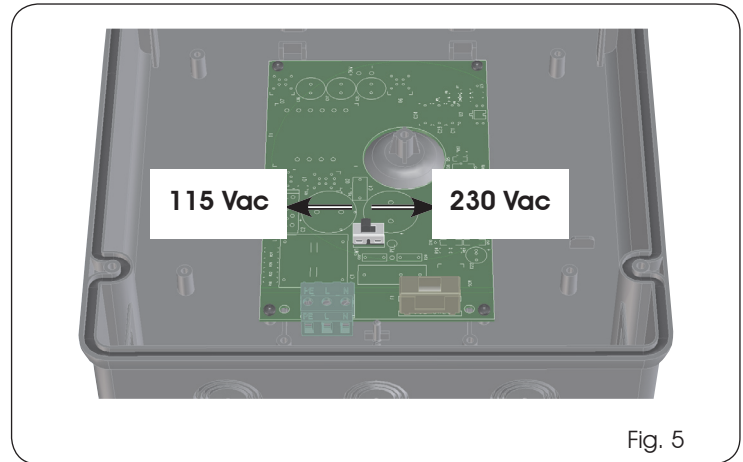


Fig. 5

To ensure correct operation, the switching feeder must be connected to the earth conductor in the system. Install an adequate differential thermal breaker upstream of the system.

4.10 CONNECTOR J2 - SECONDARY POWER FEED

J2: In the absence of a primary feed from the mains, the control unit can be fed by a secondary low voltage (24Vdc) power feed. Power can be supplied by a pack of batteries, recharged by a battery charger integrated in the board, or by a stabilised power feeder. In both cases, the power supply must have the following characteristics:

Voltage: (24 ± 4) Vdc

Current: 16 A max.

If you use an external stabilised feeder, you must disable the "battery charger" function via the PC (see dedicated instructions).

4.11 CONNECTOR J13 – RQFZ MODULE RAPID CONNECTION

The control unit has an integrated 2-channel decoding system. This system makes it possible to save – through an extra receiver module – RQFZ433 or RQFZ868 (Fig.6 ref.①) – radio commands of the same frequency, but of a different type. It is possible to save both total opening (OPEN A) and partial opening (OPEN B) of the automated system, up to a maximum of 256 channels.

To save the radio commands, refer to Chap.7.

The function of the 2nd channel (by default OPEN B) can be changed if associated with the activation of a programmable output.
(see 2ND LEVEL progr. **o1** and **o2** parameter 14-15)

Insert and remove the boards only after cutting power.

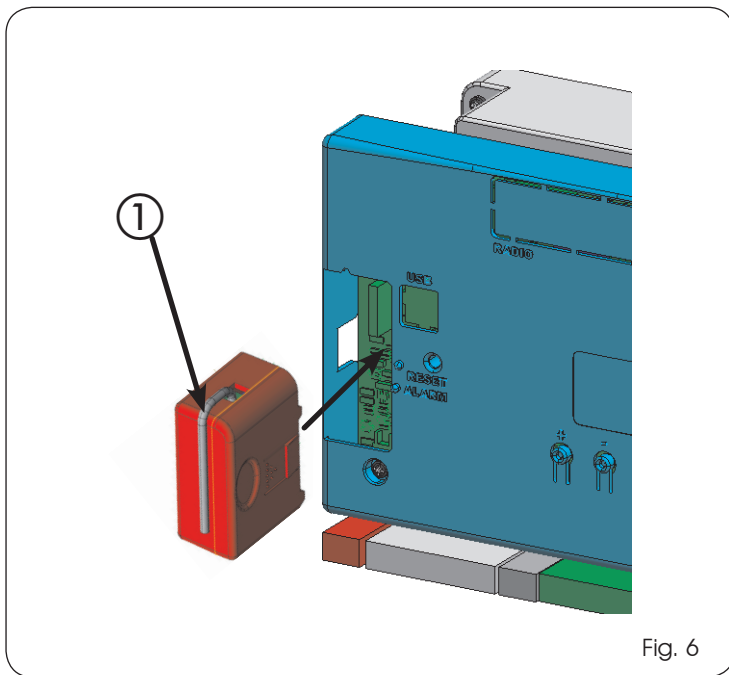


Fig. 6

4.12 CONNECTOR J14- FOR RAPID CONNECTION OF 5 PIN RECEIVER

It is used for rapid connection of 5 pin Receivers.

If you are using a twin-channel receiver, you will be able to directly command two different radio channels, OPEN A and OPEN B of the automated system from a twin-channel radio control.

If using a single-channel, you can command only one radio channel, OPEN A.

Fit the accessory with the components side directed toward the board interior.

Insert and remove the boards ONLY after cutting power.

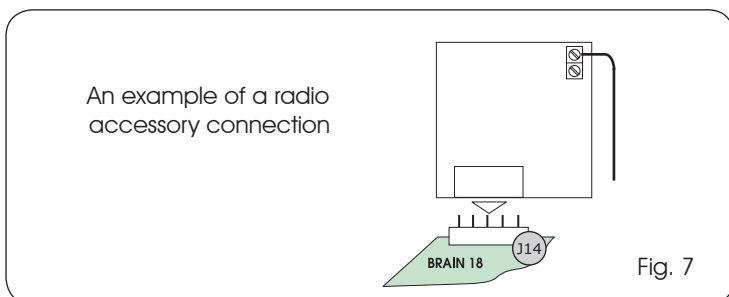
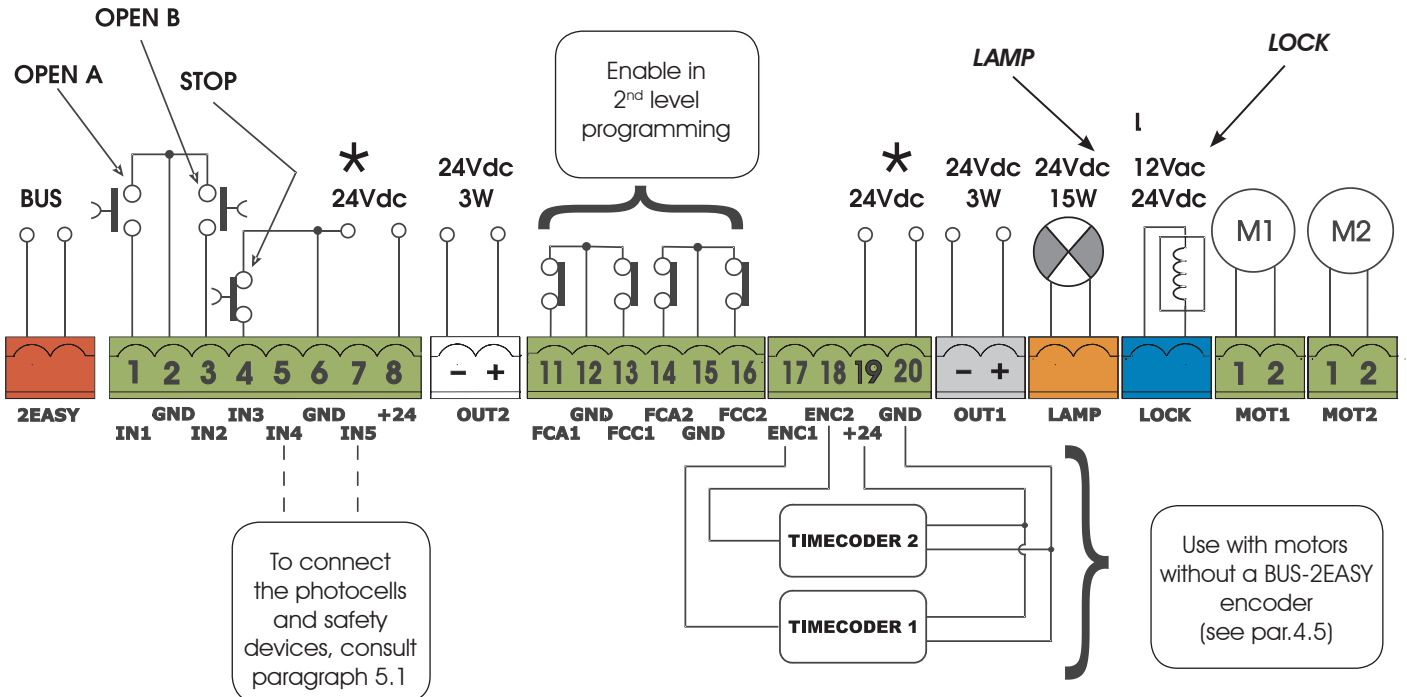


Fig. 7

5 ELECTRICAL CONNECTIONS



ENGLISH

Fig. 8

With the BRAIN 18 control unit, you can use both traditional photocells (N.C. contact with relay) and/or photocells with BUS (open collector contact). The positioning of the photocells and their operation is schematised in Fig. 9.

5.1 TRADITIONAL PHOTOCELLS

Before you connect the photocells we advise you to select the type of operation according to the movement zone they have to protect:

Closing safety devices: they are tripped only during the automated system closing movement, and, therefore, are suitable for protecting the closure zone against the risk of impact.

Opening safety devices: they are tripped only during the automated system opening movement, and, therefore, are suitable for protecting the opening zone against the risk of impact.

Opening /closing safety devices: they are tripped during the automated system opening and closing movement, and, therefore, are suitable for protecting the entire movement zone against the risk of impact.

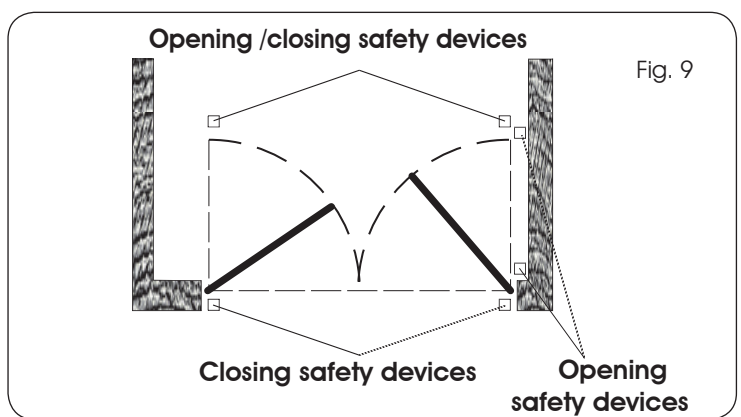


Fig. 9

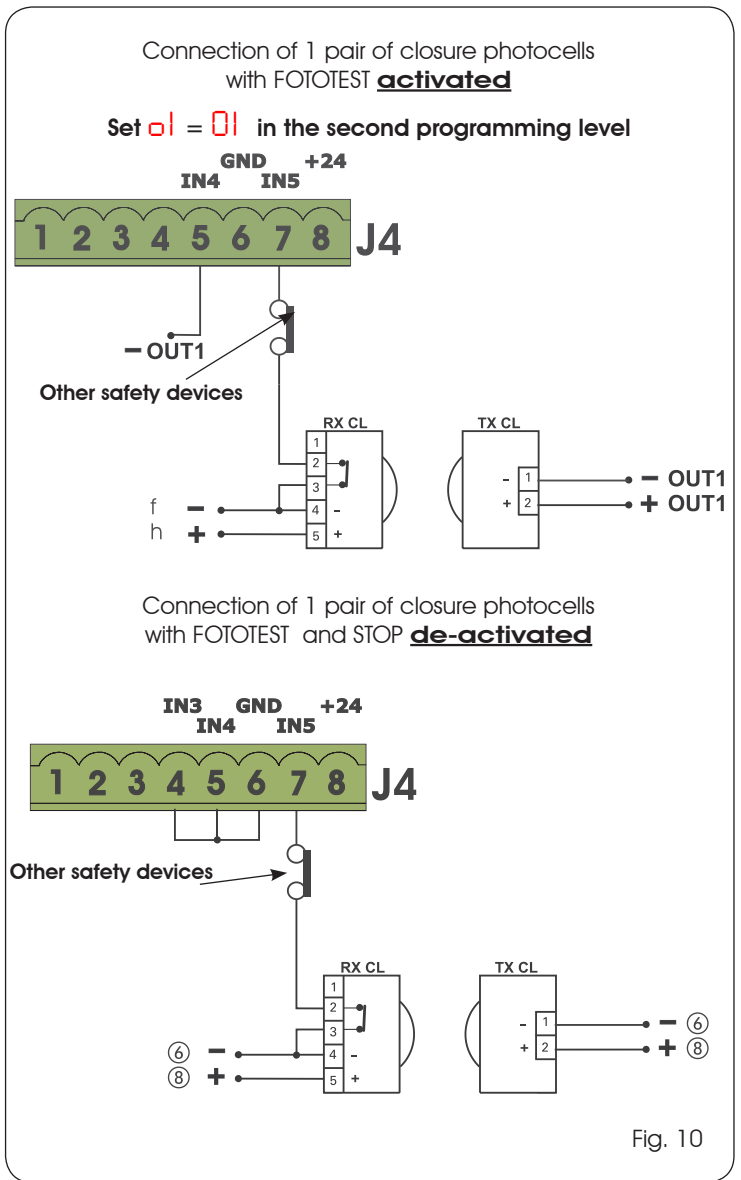


Fig. 10

Connection of 2 pairs of photocells

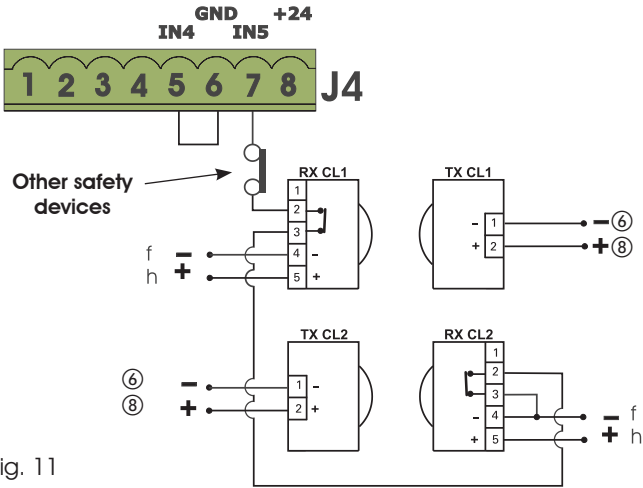


Fig. 11

Connection of a pair of closing photocells, a pair of opening photocells and a pair of opening/closing photocells

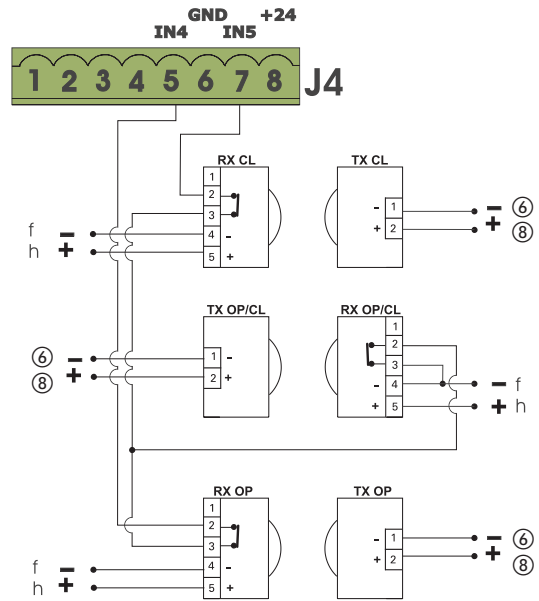


Fig. 15

Connection of 1 pair of opening photocells

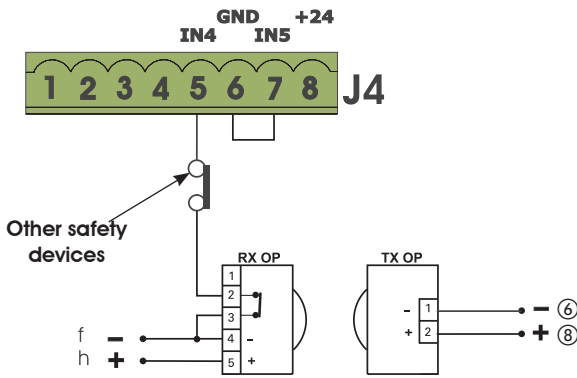


Fig. 12

Connection of a pair of opening and a pair of closing photocells

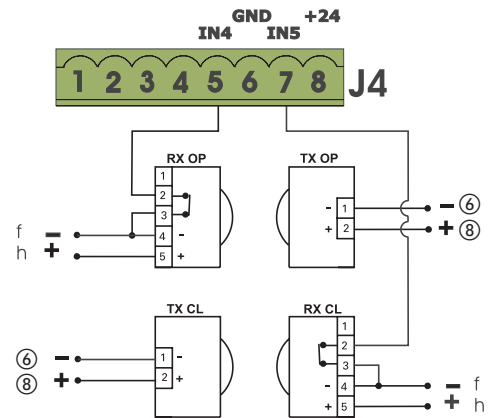


Fig. 16

Connection of one closing safety device and one opening safety device

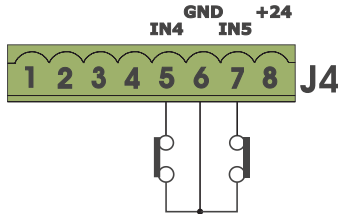


Fig. 13

Connection of no safety device and stop

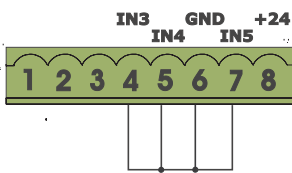


Fig. 14

Connection of a pair of closing and a pair of opening/closing photocells

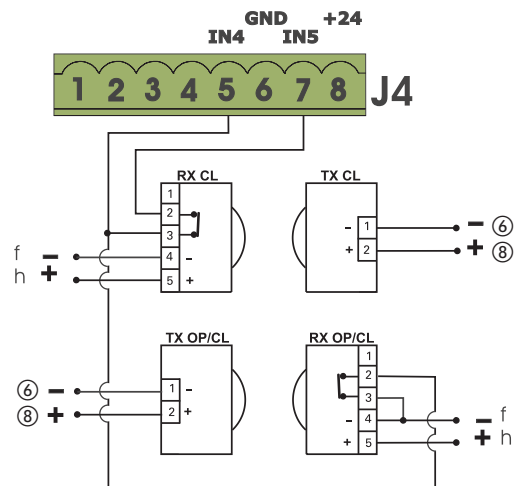


Fig. 17

- If you **do not** use the FOTOTEST device, you must connect the transmitters power feed to terminals 6 and 8 of J4.*
- If you use the FOTOTEST device, connect the transmitters power feed to OUT1 after you have set it appropriately (see 2nd level programming and fig. 10).*
- If you use the FOTOTEST device, the non-used safety inputs too must be jumper connected to the OUT1 negative (see Fig.10).*

5.2 PHOTOCELLS BUS

This board is supplied with a **BUS** circuit enabling easy connection of a high number of BUS-2EASY safety auxiliary devices (e.g. up to 16 photocells pairs), appropriately programmed, using only two cables without polarity.

Before connecting the photocells, we advise you to select the type of operation (Fig.18) according to the movement zone they must protect and position – **both on the transmitter and receiver** - the dip-switches as shown in Tab.1:

Closing photocells: they are tripped only during the automated system closing movement, and, therefore, are suitable for protecting the closure zone against the risk of impact.

! *If you have to connect two or more BUS closing photocells, choose different addresses for each pair used.*

Opening photocells: they are tripped only during the automated system opening movement, and, therefore, are suitable for protecting the opening zone against the risk of impact.

! *If you have to connect two or more BUS opening photocells, choose different addresses for each pair used.*

Opening /Closing photocells: they are tripped during the automated system opening and closing movement, and, therefore, are suitable for protecting the entire movement zone against the risk of impact.

! *If you have to connect two or more BUS closing/opening photocells, choose different codes for each pair used.*

Pulse generators: used as pulse generators to open the automated system.

A maximum of 16 pairs of BUS photocells can be connected to the board.

The photocells are split into groups:

Opening photocells:	max 6
Closing photocells:	max 7
Opening /Closing photocells:	max 2
Photocell used as an OPEN pulse:	max 1

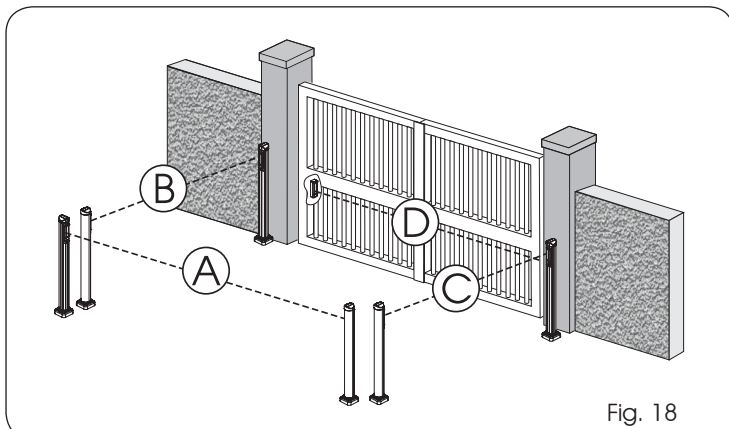


Fig. 18

Fig. 16 shows a 2-swing leaf automated system indicating the coverage beams of the photocells:

- A: Photocells with OPENING and CLOSING action
- B: Photocells with OPENING action
- C: Photocells with OPENING action
- D: Photocells with CLOSING action

5.2.1 ADDRESSING THE BUS-2EASY PHOTOCELLS

! *Important: the same address must be given to both transmitter and receiver. (the same DIP-SWITCH setting)*

! *Make sure that there are not two or more photocell pairs with the same address. (the same DIP-SWITCH setting)*

! *If you are not using any BUS accessory, leave free connector BUS (J3- fig. 1).*

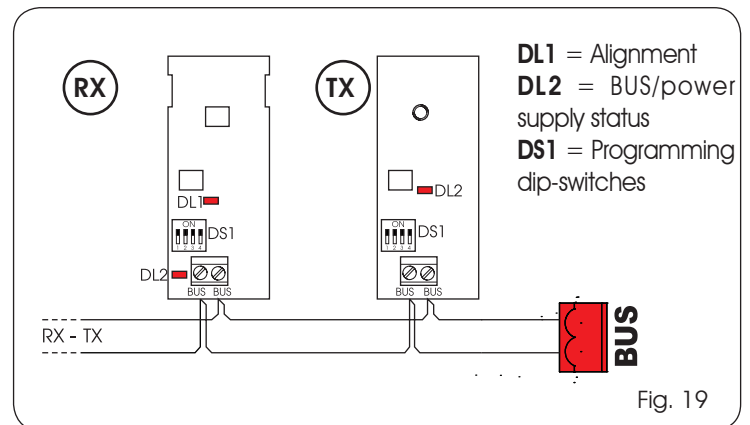


Fig. 19

Table 1 shows the programming operations of the dip-switch inside the transmitter and the BUS photocells receiver.

Tab. 1 - Addressing the BUS photocells

Dip1	Dip2	Dip3	Dip4	Ref.	Type
OFF	OFF	OFF	OFF	B - C	OPENING
OFF	OFF	OFF	ON		
OFF	OFF	ON	OFF		
OFF	OFF	ON	ON		
OFF	ON	ON	OFF		
OFF	ON	ON	ON		
ON	OFF	OFF	OFF	D	CLOSING
ON	OFF	OFF	ON		
ON	OFF	ON	OFF		
ON	OFF	ON	ON		
ON	ON	OFF	OFF		
ON	ON	OFF	ON		
ON	ON	ON	OFF	A	OPENING and CLOSING
OFF	ON	OFF	OFF		
OFF	ON	OFF	ON		
ON	ON	ON	ON	/	OPEN PULSE

5.2.2 MEMORY STORAGE OF BUS ACCESSORIES

You can add the BUS accessories to the system at any time, simply by memory-storing them on the board, observing the following procedure:

1. Install and program the accessories using the required address (see parag. 5.2.1).
2. Cut power to the board.
3. Connect the two cables of the BUS accessories to the red terminal-board J3 (any polarity will do).
4. Power the board, taking care to first connect plug J1 of the main power supply (coming from the switching feeder) and then, connector J2 of any batteries.
5. Quickly press once only the SETUP (SW3) push-button, to execute learning. Check operation of the installed BUS devices.

The board has memory stored the BUS accessories. Follow the instructions in the table below to check if the BUS-2EASY connection is correct.

Tab. 2 - Description of LED DL12 (RED)

ON	Safety device engaged or pulse generator active
OFF	NO safety device engaged and NO pulse generator active

Tab. 3 - Description of LED DL13 (GREEN)

Steady light	Normal activity (LED Lighted even if no photocells)
OFF	Line BUS short circuiting (flash every 2.5 sec.)
Fast flashing	Error detected in BUS connection error, repeat the acquisition procedure. If the error is repeated, make sure that there is not more than one accessory with the same address in the system (also see the accessories instructions).

6. PROGRAMMING

To program the operation of the automated system, you must access the "PROGRAMMING" mode.

Programming is in two parts: 1st LEVEL, 2nd LEVEL.

On activation of the board, the display shows $b \square$ and, for 3 seconds, the fw version of the board.

The status of the automated system is shown on the display. If "PC" appears on the display when the F push-button is pressed, this means that programming with the PC is loaded on the board. If no password was set, you can only modify parameters $L \square - P A - P b$. To modify the other programming parameters, reload the default of the motor used (in this case the PC programming will be replaced by the default parameters of the board)

If dF appears on the display when you press key F (and hold it down), this means that you have entered 1st level programming (see parag. 6.1).

Modification of the programming parameters is immediately effective, whereas definitive memory-storage occurs only on exiting programming and returning to the view of the inputs status. If you cut power to the equipment before returning to view the inputs status, all the modifications made will be lost.

You can return to the inputs status display, and save all the parameters modified up till then, from any point of 1st and 2nd level programming by simultaneously pressing keys **F** and **-**.

To restore the default settings, recharge the required default during the first passage of 1st level programming.

6.1. 1ST LEVEL PROGRAMMING

If **PC** appears when you press any button on the display, this means that programming from the PC with a protection password is loaded on the board. Nothing can be modified without the PC and relevant protection password. Connect the PC to the USB to view and/or modify programming, using the dedicated instruction.

Press push-button **F** to access 1st level programming.

- If you press key **F** (and hold it down) the name of the function appears on the display.
- If you release the push-button, the display shows the value of the function, which can be changed with keys **+** and **-**.
- If you press **F** again (and hold it down), the display shows the name of the next function, etc.
- When you have reached the last function, press key **F** to exit programming and save the parameters. The display resumes showing the automated system status.

1 ST LEVEL PROGRAMMING		Default 0	Default 1	Default 2
dF	<p>DEFAULT:</p> <p>0 Configures the parameters with DEFAULT values corresponding to an installation with non-GENIUS operators. (see default column 0).</p> <p>01 Configures the parameters with DEFAULT values corresponding to an installation with operators GENIUS EUROBAT/G-BAT/MISTRAL/SIROCCO/ROLLER/TRIGON (see default column 1).</p> <p>02 Configures the parameters with DEFAULT values corresponding to an installation with operators GENIUS COMPAS (see default column 2).</p> <p>03 NOT USED</p> <p>04 NOT USED</p> <p>05 NOT USED</p> <p>CU If the CU value appears when you release the F push-button, this means that a standard configuration modified by push-buttons and display was selected. If you wish to maintain this programming, press push-button F again.</p> <p>PC If the PC value appears when you release the F push-button, this means that programming from the PC was effected with the default password (0000). By pressing the + and - keys, you can load a default configuration from among those listed above. If you wish to maintain programming from the PC, press push-button F again.</p>	0 1 2	1	2
MO	<p>TYPE OF MOTOR:</p> <p>00 non-Genius operators.</p> <p>01 operators Genius Eurobat/G-Bat/Mistral/Sirocco/Roller/Trigon</p> <p>02 operators Genius Compas</p> <p>03 Not Usedf</p> <p>04 Not Usedf</p> <p>05 Not Usedf</p> <p> <i>View only parameter, cannot be modified</i></p>	00 01 02	01	02
LO	<p>FUNCTION LOGICS:</p> <p>E Semi-automatic.</p> <p>EP Semi-automatic "Step by step".</p> <p>SA "Safety devices" automatic.</p> <p>SP Automatic with in-pause reversing.</p> <p>SP "Step-by-step safety devices" automatic.</p> <p>AI Automatic 1.</p> <p>A Automatic.</p> <p>AP Automatic "Step-by-step".</p> <p>At Automatic with timer function.</p> <p>b Semi-automatic "b".</p> <p>bC Mixed (OP at impulse/CL Dead-man).</p> <p>CU Dead-man.</p> <p>CU Custom.</p>	E E E	E	E
PA	<p>PAUSE TIME A:</p> <p>Pause time following a TOTAL opening command. It has only effect if a logic with pause time was selected. Can be adjusted from 0 to 59 sec. in one-second steps. Next, the viewing changes in minutes and ten seconds (separated by a dot) and time is adjusted in 10-second steps, up to the maximum value of 9.5 minutes. E.g.: if the display shows 2.5, the pause time will be 2 min. and 50 sec.</p>	20 20 20	20	20
Pb	<p>PAUSE TIME B:</p> <p>Pause time following a PARTIAL opening command. It has only effect if a logic with pause time was selected. Can be adjusted from 0 to 59 sec. in one-second steps. Next, the viewing changes in minutes and ten seconds (separated by a dot) and time is adjusted in 10-second steps, up to the maximum value of 9.5 minutes. E.g.: if the display shows 2.5, the pause time will be 2 min. and 50 sec.</p>	20 20 20	20	20




1 ST LEVEL PROGRAMMING		Default 0	Default 1	Default 2														
F1	MOTOR 1 POWER: Adjusts the maximum power level of motor 1. 01 = minimum power 50 = maximum power <i>If the power value is changed, we advise you to execute a new SETUP (see parag.9.1)</i>	25	25	25														
F2	MOTOR 2 POWER: Adjusts the maximum power level of motor 2. 01 = minimum power 50 = maximum power <i>If the power value is changed, we advise you to execute a new SETUP (see parag.9.1)</i>	25	25	25														
SP	SPEED: Adjusts the motion speed of the motors. There are 10 levels. The value is relative and not absolute, because the speed value refers to the weight of the leaf measured during the SETUP cycle 01 = minimum speed 10 = maximum speed	08	08	08														
RL	DECELERATION: Adjusts deceleration space as a percentage of the total travel of the leaves. Adjustable from 00 to 99 %. in 1% steps. 00 = no deceleration 01 = minimum deceleration space 99 = maximum deceleration space	30	30	30														
St	AUTOMATED SYSTEM STATUS: Exit from programming, storage of data and return to the automated system status view <table style="width: 100%; border: none;"> <tr> <td style="width: 50%;">00 = CLOSED</td> <td style="width: 50%;">07 = FAIL SAFE in progress</td> </tr> <tr> <td>01 = OPEN</td> <td>08 = verification of BUS-2EASY devices in progress</td> </tr> <tr> <td>02 = Idle then "OPENS"</td> <td>09 = Pre-flashing then "OPENS"</td> </tr> <tr> <td>03 = Idle then "CLOSES"</td> <td>10 = Pre-flashing then "CLOSES"</td> </tr> <tr> <td>04 = In "PAUSE"</td> <td>11 = Opening in EMERGENCY status</td> </tr> <tr> <td>05 = At opening stage</td> <td>12 = Closing in EMERGENCY status</td> </tr> <tr> <td>06 = At closing stage</td> <td></td> </tr> </table>				00 = CLOSED	07 = FAIL SAFE in progress	01 = OPEN	08 = verification of BUS-2EASY devices in progress	02 = Idle then "OPENS"	09 = Pre-flashing then "OPENS"	03 = Idle then "CLOSES"	10 = Pre-flashing then "CLOSES"	04 = In "PAUSE"	11 = Opening in EMERGENCY status	05 = At opening stage	12 = Closing in EMERGENCY status	06 = At closing stage	
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6.2. 2nd LEVEL PROGRAMMING



To access 2ND LEVEL PROGRAMMING, press push-button **F** and, while holding it down, press push-button **+** :

- if you release the **+** key, the display shows the name of the first second level function (if the **dF** value persists, this means that programming was effected from the PC).
- if you also release the **F** push-button, the display shows the value of the function, which can be changed with keys **+** and **-**.
- if you press the **F** key (and hold it down), the display shows the name of the next function; if you release it, the values is shown and can be modified with keys **+** and **-**.
- when you reach the last function, press the **F** push-button to exit programming, and the display resumes showing the automated system status.

If programming via the PC with personalised password was effected, you CANNOT enter 2nd level programming.

2 nd LEVEL PROGRAMMING  + 		Default 0	Default 1	Default 2
bo	MAXIMUM POWER AT THRUST: The motors run at maximum power for the time set (ignoring the selected power level F1 and F2) during motion thrust. Adjustable from 00 to 06 seconds in 1-second steps.	02	02	02
EL	ELECTRIC LOCK ON LEAF 2: The board has a terminal dedicated to the connection of an electric lock. Normally the electric lock must be connected to leaf 1. If the electric lock is located on leaf 2, adjust the parameter. y = electric lock on leaf 2 no = electric lock on leaf 1	no	no	no
cd	LEAF DELAY AT CLOSING: Adjusts leaf delay at closing. Adjustable from 00 to 60 seconds in 1-second steps. 00 = no delay 01 = minimum delay 60 = maximum delay	05	05	05
od	LEAF DELAY AT OPENING: Opening of leaf 2 is delayed with respect to leaf 1, avoiding thus interferences between the leaves. y = active no = excluded	y	y	y
t	WORK TIME (time-out): We advise you to set a value longer than the time required by the gate to open and close completely. Can be adjusted from 01 to 59 sec. in 1 second steps. Next, the viewing changes in minutes and ten seconds (separated by a dot) and time is adjusted in 10 second steps, up to the maximum value of 9.5 minutes.	4.1	4.1	4.1
r8	SPACE OF TRAVEL STOP SEARCH: The set level, from 01 to 50 , adjusts the space of the search for the travel stop referred to total travel of the leaves. For the default values 0-1-2-4 , the value 50 corresponds to 40% of total travel, whereas for the default values 3-5 , the value 50 corresponds to 20% of total travel. Leaves do not reverse in the space of the search for the travel stop in the event of an obstacle.	20	20	20
cs	FINAL CLOSING THRUST: The motors are run at maximum power to facilitate coupling with the electric lock (over pushing stroke). y = active no = excluded	no	no	no
rs	REVERSING STROKE AT OPENING: When the gate is closed before opening, the motors push to close to facilitate uncoupling the electric lock (reversing stroke). y = active no = excluded	no	no	no
SF	SOFT TOUCH: After touching the travel stop point, the leaves reverse and then rest gently. y = active no = excluded  <i>This function can be useful to respect the impact curve specified by current standards.</i>	no	no	no

2 nd LEVEL PROGRAMMING +		Default 0	Default 1	Default 2
PF	PRE-FLASHING: Enables you to select 5 types of pre-flashings of 3 sec. duration. no = no pre-flashing. 00 = pre-flashing before every movement. 01 = pre-flashing before a closing motion. 02 = pre-flashing before an opening motion. 03 = pre-flashing at end of pause only	no	no	no
FA	TRAVEL-LIMIT STOP AT OPENING: The use of travel limit stops at opening enables us to indicate the point after which the equipment search for the mechanical stop point (01, 02, 03) or to immediately stop the automated system (04, 05, 06): 00 = no travel limit device at opening for both leaves 01 = searches for stop point of leaf 1 and 2 02 = searches for stop point of leaf 1 03 = searches for stop point of leaf 2 04 = stops movement of leaf 1 and 2 05 = stops movement of leaf 1 06 = stops movement of leaf 2 <i>By changing limit switches setting, the letters 50 together with the SETUP (DL18) LED flash on the display, to indicate that the SETUP must be executed when exiting the programming menu. If the limit switch is used, the SOFT-TOUCH function, if enabled, is not carried out.</i>	00	00	00
FC	TRAVEL-LIMIT STOP AT CLOSING: The use of travel limit stops at closing enables us to indicate the point after which the equipment search for the mechanical stop point (01, 02, 03) or to immediately stop the automated system (04, 05, 06): 00 = no travel limit device at closing for both leaves 01 = searches for stop point of leaf 1 and 2 02 = searches for stop point of leaf 1 03 = searches for stop point of leaf 2 04 = stops movement of leaf 1 and 2 05 = stops movement of leaf 1 06 = stops movement of leaf 2 <i>By changing limit switches setting, the letters 50 together with the SETUP (DL18) LED flash on the display, to indicate that the SETUP must be executed when exiting the programming menu. If the limit switch is used, the SOFT-TOUCH function, if enabled, is not carried out.</i>	00	00	00
SE	OBSTACLE SENSITIVITY: Change this parameter to set the time after which, in the event of an obstacle, the board commands leaf reversal, or leaf stop if the leaves are within the space for the travel limit search (see parameter r8). The fourth consecutive obstacle detected in the same direction is considered as the travel stop and the leaf stops in that position. 01 = minimum sensitivity 10 = maximum sensitivity	10	08	08
US	ULTRA-SENSITIVITY: This function activates an obstacle detection system, based on the control of the variation of the current absorbed by the motor, causing immediate leaf reversal. 1 = active no = exclude	no	no	no

2 nd LEVEL PROGRAMMING  + 		Default 0	Default 1	Default 2
Ph	CLOSING PHOTOCELLS: Enable this function is you want the closing photocells to stop movement or reverse it at disengagement. If this function is excluded, normally the tripping of the photocells at closure causes the leaves to reverse immediately. y = reversal at disengagement no = immediate reversal at opening	no	no	no
Ad	ADMAP FUNCTION: This is used to activate operation according to French regulations NFP 25/362. y = active no = excluded	no	no	no
o1	OUT 1: Used for setting the OUT1 output (open collector N.O.): 00 = Always active 01 = FOTOTEST 02 = INDICATOR LIGHT (off when closed, lighted during opening and open/pause, flashes during closing) 03 = COURTESY LIGHT (see next parameter) 04 = ALARM on BATTERY operation 05 = gate OPEN or in PAUSE 06 = gate CLOSED 07 = gate MOVING 08 = gate in EMERGENCY status 09 = gate OPENING 10 = gate CLOSING 11 = ELECTRIC LOCK command before CLOSURE (you have to interface with relay 24V – 100mA) 12 = safety device ACTIVE 13 = 'TRAFFIC LIGHTS' function (activates during OPENING and when gate OPEN) 14 = timed output; it can be activated from the second radio channel (see next parameter) 15 = this output can be activated from the second radio channel (step-by-step function) 16 = electric lock before an OPENING (you have to interface with relay 24V – 100mA)	00	00	00
t1	TIMING OUT 1 (only visible if at the previous step o1 the item 03-11-14 -16 was selected): Adjusts the timing of output OUT 1 if a timed function from 1 to 99 minutes in 1-minute step was selected for the functions 03-14 and from 1 to 99 seconds in 1-second step for the functions 11-16.	02	02	02

2 nd LEVEL PROGRAMMING +		Default 0	Default 1	Default 2
02	OUT 2: Consente di impostare l'uscita OUT2 (open collector N.A.) attiva in una delle seguenti funzioni: 00 = Sempre attiva 01 = FOTOTEST 02 = LAMPADA SPIA (spenta da chiuso, accesa in apertura e aperto/pausa, lampeggiante in chiusura) 03 = LUCE DI CORTESIA (vedi parametro successivo) 04 = ALLARME funzionamento a BATTERIA 05 = cancello APERTO od in PAUSA 06 = cancello CHIUSO 07 = cancello in MOVIMENTO 08 = cancello in EMERGENZA 09 = cancello in APERTURA 10 = cancello in CHIUSURA 11 = comando ELETTROSERRATURA prima di una CHIUSURA (necessario interfacciarsi con relay 24V - 100mA) 12 = sicurezza ATTIVA 13 = funzione SEMAFORO (attiva in APERTURA e a cancello APERTO) 14 = uscita temporizzata attivabile dal secondo canale radio (vedi parametro successivo) 15 = uscita attivabile dal secondo canale radio (funzione passo-passo) 16 = comando ELETTROSERRATURA prima di una APERTURA (necessario interfacciarsi con relay 24V - 100mA)	02	02	02
62	TEMPORIZZAZIONE OUT 2 (visibile solo se al passo precedente 02 è stata selezionata la voce 03-11-14 -16): Consente di regolare la temporizzazione dell'uscita OUT 2 nel caso sia stata selezionata una funzione a tempo da 1 a 99 minuti a passi di 1 minuto per le funzioni 03-14 e da 1 a 99 secondi a passi di 1 secondo per le funzioni 11-16.	02	02	02
X	NOT USED leave the value no	no	no	no
AS	ASSISTANCE REQUEST – CYCLES COUNTER (coupled to the next two functions): 4 = When the number of cycles settable with the following nc and nd functions is reached, this facility pre-flashes for 8 sec. (in addition to the pre-flashing already set with the PF function) before every movement. <i>If, from the PC, an assistance request is set, with a number of cycles greater than 99.990, the next two functions nc and nd will respectively show 99 and 99.</i> no = the following functions nc and nd indicate how many cycles the system effected up to a maximum displayable amount of 99.990. <i>If the number of effected cycles is greater than 99.990, the next two functions nc and nd will respectively show 99 and 99.</i> This function can be useful to set routine maintenance or to check the effected work cycles.	no	no	no
nc	CYCLE PROGRAMMING (THOUSANDS): If AS = 4, the display indicates the number of the thousands of cycles after which assistance is requested (settable from 0 to 99). If AS = no, the display indicates the number of the thousands of effected cycles. The displayed value updates itself as the cycles follow, interacting with the nd values. <i>If AS = no by pressing keys + and - for 5 sec., the cycles counter is reset.</i>	00	00	00

2 nd LEVEL PROGRAMMING +		Default 0	Default 1	Default 2		
nd	CYCLE PROGRAMMING (TENS): If AS = 4 , the display indicates the number of tens of cycles after which assistance is requested (settable from 0 to 99). If AS = no , the display indicates the number of the tens of effected cycles. The displayed value updates itself as the cycles follow, interacting with the nc values. <i>Example: If the system has performed 11.218, nc = 11 and nd = 21 will be shown</i>	00	00	00		
m1	MOTOR 1 DRIVE (dead-man function) Hold down push-button + opening oP Hold down push-button - closing cL	--	--	--		
m2	MOTOR 2 DRIVE (dead-man function) Hold down push-button + opening oP Hold down push-button - closing cL	--	--	--		
St	AUTOMATED SYSTEM STATUS: Exit from programming, storage of data and return to the automated system status view. <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; vertical-align: top;"> 00 = CLOSED 01 = OPEN 02 = Idle then "OPENS" 03 = Idle then "CLOSES" 04 = In "PAUSE" 05 = At opening stage 06 = At closing stage </td> <td style="width: 50%; vertical-align: top;"> 07 = FOTOTEST in progress 08 = verification of BUS devices in progress 09 = Pre-flashing then "OPENS" 10 = Pre-flashing then "CLOSES" 11 = Opening in EMERGENCY status 12 = Closing in EMERGENCY status </td> </tr> </table>				00 = CLOSED 01 = OPEN 02 = Idle then "OPENS" 03 = Idle then "CLOSES" 04 = In "PAUSE" 05 = At opening stage 06 = At closing stage	07 = FOTOTEST in progress 08 = verification of BUS devices in progress 09 = Pre-flashing then "OPENS" 10 = Pre-flashing then "CLOSES" 11 = Opening in EMERGENCY status 12 = Closing in EMERGENCY status
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7. MEMORY STORING THE RADIO CODE

The control unit has an integrated 2-channel decoding system. The system makes it possible to memory store - via the receiver module - both the **OPEN A** command and the **OPEN B** command.

The decoding system makes it possible to memory store both the radio controls with a frequency of 868 MHz and the radio controls with a frequency of 433 MHz.

Only one radio code can be used at a time. To change over from one code to the other, delete the existing radio code (see paragraph 7.3), replace the receiver module and repeat the programming stages.

Fitting and, if necessary, removing the receiver module must be done only after cutting power to the board.

The receiver module can only be inserted in one position. Orient the module correctly without forcing.

7.1. MEMORY STORAGE OF 868 MHz RADIO CONTROLS

Before you save the radio control, we advise you to run a deletion procedure - see paragraph 7.3.

You can memory store up to a maximum of **250 codes**, subdivided between the two channels, **OPEN A** and **OPEN B**.

- On the radio control, simultaneously press and hold down push-buttons **P1** and **P2** (see radio control instructions).
- After about one second, the LED of the radio control begins to flash.
- Release both push-buttons.

- Press and hold down push-button **R1 (SW1)** or **R2 (SW2)** on the board, according to the input you wish to save (input of **OPEN A** or **OPEN B**). When the relevant LED begins to flash - release the push-button.
- Simultaneously press the push-button of the radio control with which you wish to associate the selected command.
- Check if the LED relating to the command being memory stored lights up on steady beam for about two seconds to confirm correct memory storage.
- To finish programming, press twice in close succession, the push-button of the memory stored radio control.

The automated system will perform an opening manoeuvre - make sure that there are no obstacles inside the operating range.

- To memory store the other channel, repeat all the procedure from point 1.

To add other radio controls, transfer the code of the memory-stored push-button of the radio control to the relevant push-button of the radio controls to be added, repeating the memory storage procedure or observing the following procedure:

- On the memory stored radio control, simultaneously press and hold down push-buttons **P1** and **P2** (see radio control instructions).
- The radio control LED begins to flash.
- Release both push-buttons.
- Put the two radio controls frontally **into contact**.
- On the memory stored radio control, press and hold down the push-button relating to the channel you wish to transfer - the radio control LED lights up on steady beam.
- On the radio control to be memory stored, press the required push-button and release it after the radio control

has flashed twice.

- To finish programming, press twice in close succession, the push-button of the memory stored radio control.

⚠ The automated system will perform an opening manoeuvre - make sure that there are no obstacles inside the operating range.

7.2. MEMORY STORAGE OF 433 MHz RADIO CONTROLS

Before you save the radio control, we advise you to run a deletion procedure – see paragraph 7.3.

You can memory store up to a maximum of **250 codes**, subdivided between the two channels, **OPEN A** and **OPEN B**

- On the control unit, press the push-button of the channel you wish to memory store, **R1 (SW1)** for the **OPEN A** channel or **R2 (SW2)** for the **OPEN B** channel.
- The relevant LED on the control unit begins to flash - release the push-button.
- On the radio control, press the push-button with which you wish to associate the selected channel.
- The LED on the control unit lights up on steady beam for about one second, signalling that the radio control was stored in the memory, then it resumes flashing.
- During this stage further radio controls can be stored in the memory.
- After about 10 seconds, the control unit automatically exits the learning stage.
- To add other radio controls or memory store the second channel, repeat the operations from point 1

7.2.1. Remote memory storage of 433 MHz radio controls

Other radio controls can be remotely stored only with the 433 radio controls, i.e. without using the push-buttons of the control unit, but using a previously stored radio control.

- Get a radio control already memory stored on one of the 2 channels.
- Step near to the automated system.
- Press and hold down push-buttons **P1** and **P2** (see radio control instructions) simultaneously for about 5 seconds.
- Within 5 seconds, press, on the memory stored radio control, the push-button you wish to transfer to the new radio control. In this way the learning stage on the selected channel is activated on the control unit.
- Within 5 seconds, press, on the new radio control, the push-button you wish to associate with the selected channel.
- After the new radio control has been stored in the memory, the control unit keeps the learning mode active on the selected channel for about 5 seconds.
- During these 5 seconds, other radio controls can be memory stored on the control unit, as ever associated with the activated channel.
- When 5 seconds have elapsed from memory-storage of the last radio control, the control unit automatically exits the learning stage.
- To check if the radio control was correctly memory stored, wait for 5 seconds after sending the code.

7.3 RADIO CONTROLS DELETION PROCEDURE

To delete **ALL** the input codes of the radio controls just press push-button R1 (SW1) and R2 (SW2) for 10 sec.

- The 2 LEDs DL16 and DL17 flash quickly for the following 10 sec.
- Both LEDs light steadily for 2 sec and then go OFF (deletion

effected).

- Release both push-buttons.

⚠ This operation is NOT reversible. All codes of radio controls stored as OPEN A and OPEN B will be deleted.

8 CONNECTION TO EMERGENCY BATTERIES (OPTIONAL)

The emergency batteries will activate the automated system also in the event of a power cut.

The batteries (Lead 12V- 4 Ah/90x70x 108 mm) are normally charged by a battery charger built into the board and start operating when a mains power cut occurs.

Connect the connector to the batteries, only after you have connected the primary power supply connector to J1.

The emergency batteries can be inserted inside the container of the control board, laying them against a specific support.

When changing to battery operation, the automated system operates in normal mode up to the minimum reserve charge (16V dc- below this threshold the board goes into "SLEEP" function until mains voltage is restored). In this condition the board operation is inhibited. The "SLEEP" function is shown by the board with a flashing every 4 seconds of the input LEDs and with the display switching OFF.

At changeover to battery operation, the flashing light flashes faster with respect to operation on power from the mains.

To check correct battery charge, control the LED referring to the secondary power supply DL15:

Tab. 5 - LED DL15 during operation on the mains supply:

LED on	Battery charged
LED flashing	Battery being recharged. The LED continues to flash until the battery has recharged sufficiently.
LED off	Battery discharged

Tab. 6 - LED DL15 during operation on the battery:

LED on	Battery charged
LED flashing	Battery almost flat
LED off	Battery discharged

9 START-UP

9.1 LEDS CHECK

After you have made all the connections and powered up the board, check with the table below the status of the LEDs in relation to the status of the inputs (condition of automated system closed and at rest in **bold**).

Check the status of the signalling LEDs as per table below

Note that:

LED ON = contact closed
LED OFF = contact open

Tab. 7 - Operation of status signalling LEDs with configuration

LED	Description	ON (contact closed)	OFF (contact open)
DL1	IN1 - OPEN A	Command enabled	Command disabled
DL2	IN2 - OPEN B	Command enabled	Command disabled
DL3	IN3- STOP	Command disabled	Command enabled
DL4	IN4 - FSW OP	Safety devices disabled	Safety devices tripped
DL5	IN5 - FSW CL	Safety devices disabled	Safety devices tripped
DL6	FCA1	Opening travel-limit devices free	Opening travel-limit devices engaged
DL7	FCC1	Closing travel-limit devices free	Closing travel-limit devices engaged
DL8	FCA2	Opening travel-limit devices free	Opening travel-limit devices engaged
DL9	FCC2	Closing travel-limit devices free	Closing travel-limit devices engaged
DL10	ENC1	Flashing during operation	
DL11	ENC2	Flashing during operation	

- When the opening mechanical stop point is reached, both leaves stop and leaf 2 (if present) automatically restarts to close at full speed, followed by leaf 1. At this stage, **55** flashes on the display (setup: FAST CLOSE).
- When the closing mechanical stop point is reached, both leaves stop and leaf 1 restarts to open automatically at full speed followed by leaf 2 (if present). At this stage, **56** flashes on the display (setup: FAST OPEN).
- If an automatic logic was selected, the board counts the set pause and automatically closes the gate. Otherwise, give an OPEN pulse to close the gate.



When the SETUP procedure has been started, if the leaves at point 2 and 3 open instead of closing, the motor power supply cables must be changed over.

10 AUTOMATED SYSTEM TEST

When you have finished installation and programming, check if the system is operating correctly. In particular check if the safety devices intervene correctly, and make sure that the system satisfies current safety regulations. Close the cover in its seat with a seal.

Next, tighten the four supplied screws to guarantee the degree of protection against external agents (Fig. 20).

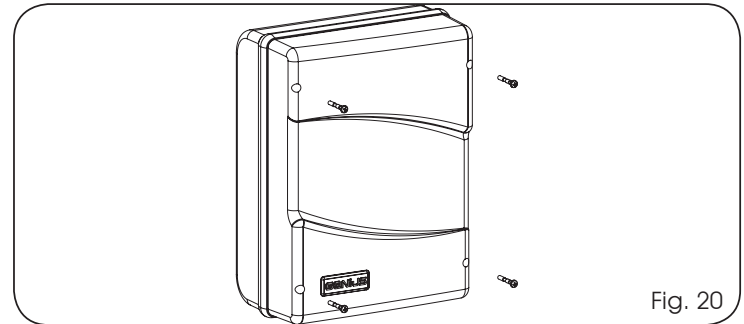


Fig. 20

9.2 TIME LEARNING - SETUP

The opening and closing time is determined by a time learning procedure (SETUP).



This procedure is the same for all selectable defaults.

When the encoders (J3 or J7) are connected to the relevant inputs, the board automatically recognises the presence of these accessories.



*By powering up the board if a SETUP was never executed, or if the board requests it, the letters **50** together with the SETUP (DL18) LED flash on the display, to indicate that the SETUP must be executed.*



Before performing the set-up phase, select the type of motors used.

To execute time learning, follow the steps below:

- Take the leaves to halfway their travel (very important for a successful SETUP).**
- Hold down the SETUP (SW3) push-button, until the SETUP (DL18) LED goes OFF and leaf 2 (if present) begins the slowed down closing movement, stopping when it reaches the mechanical stop point. At this stage, **51** flashes on the display (setup: FIRST CLOSURE LEAF 2)
- Leaf 1 starts the slowed down closing movement, stopping when it reaches the closing mechanical stop. At this stage, **52** flashes on the display (setup: FIRST CLOSURE LEAF 1)
- Leaf 1 begins the slowed down opening movement, followed by leaf 2 (if present) also slowed down. At this stage, **54** flashes on the display (setup: OPEN)

11 ALARM AND ERROR SIGNALS

If **alarms** (conditions not prejudicing gate operation) or **errors** (conditions preventing the gate from operating), the display shows the number referring to the condition.



These signals will disappear during the following cycle only if the cause is removed.

11.1 ALARMS



When an ALARM occurs, LED DL20 starts to flash. If you simultaneously press keys + and - the display will show the number of the fault in progress

All the alarms shown on the display are indicated in Tab.8.

Tab. 8 - Alarms

20	Obstacle on MOTOR 1
21	Obstacle on MOTOR 2
22	MOTOR 1 current limited
23	MOTOR 2 current limited
24	LAMP output short circuited
25	LOCK output short circuited
30	radio codes RQFZ memory full
35	Timer function active

40	Service request
45	Battery operation
50	HOLD CLOSE function in operation (activated by PC)

11.2 ERRORS

When an ERROR occurs, LED DL20 goes ON at steady beam. If you simultaneously press keys + and - the display will show the number of the fault in progress

All the errors shown on the display are indicated in Tab.9.
Tab. 9 - Errors

01	Board failure
02	Thermal protection active (wait for reset)
03	Motor 1 failure
04	Motor 2 failue
08	BUS device error
10	Motor 1 limit switch error
11	Motor 2 limit switch error
15	Time-out elapsed
17	Motor 1 encoder faulty
18	Motor 2 encoder faulty
19	Incorrect memory data

12 FUNCTION LOGICS

CLOSE command can only be active from PC

Tab. 10/a

LOGIC "E"	PULSES							
	AUTOMATED SYSTEM STATUS	OPEN A	OPEN B	CLOSE	STOP	FSW OP	FSW CL	FSW CL/OP
CLOSED	opens the leaves	opens released leaf	no effect	no effect (OPEN disabled)	no effect (OPEN disabled)	no effect	no effect	no effect (OPEN disabled)
OPENING	stops operation (1)	stops operation	rerecloses leaves immediately	stops operation	immediately reverses at closure	no effect	stops and opens at release (OPEN stops - saves CLOSE)	
OPEN	rerecloses leaves immediately (1)	rerecloses leaves immediately	rerecloses leaves immediately	no effect (OPEN/CLOSE disabled)	no effect	no effect (CLOSE disabled)	no effect (OPEN/CLOSE disabled)	
CLOSING	reopens leaves immediately	reopens leaves immediately	no effect	stops operation	no effect	reverses at opening (see 2 nd level prog.)	stops and opens at release (OPEN stops - saves CLOSE)	
BLOCKED	closes leaves	closes leaves	closes leaves	no effect (OPEN/CLOSE disabled)	no effect (OPEN disabled)	no effect (CLOSE disabled)	no effect (OPEN stops - saves CLOSE)	

Tab. 10/b

(1) if the cycle began with OPEN-B (released leaf), both leaves are activated at opening

LOGIC "A"	PULSES							
	AUTOMATED SYSTEM STATUS	OPEN A	OPEN B	CLOSE	STOP	FSW OP	FSW CL	FSW CL/OP
CLOSED	opens and closes after pause time	opens released leaf and closes after pause time	no effect	no effect (OPEN disabled)	no effect (OPEN disabled)	no effect	no effect	no effect (OPEN disabled)
OPENING	no effect (1)	no effect	recloses leaves immediately	stops operation	reverses at closure	no effect	stops and opens at release (saves CLOSE)	
OPEN IN PAUSE	recharges pause time (1)	recharges pause time of released leaf	recloses leaves immediately	stops operation	no effect	recharges pause time (CLOSE disabled)	recharges pause time (CLOSE disabled)	
CLOSING	reopens leaves immediately	reopens leaves immediately	no effect	stops operation	no effect	reverses at opening (see 2 nd level prog.)	stops and opens at release (saves CLOSE)	
BLOCKED	closes leaves	closes leaves	closes leaves	no effect (OPEN/CLOSE disabled)	no effect (OPEN disabled)	no effect (CLOSE disabled)	no effect (OPEN/CLOSE disabled)	

(1) if the cycle began with OPEN-B (released leaf), both leaves are activated at opening

Tab. 10/c

LOGIC "A1"	PULSES						
AUTOMATED SYSTEM STATUS	OPEN A	OPEN B	CLOSE	STOP	FSW OP	FSW CL	FSW CL/OP
CLOSED	opens and closes after pause time	opens the gate partially and closes after pause time	no effect	no effect (OPEN disabled)	no effect (OPEN disabled)	no effect	no effect (OPEN disabled)
OPENING	no effect (1)	no effect	re-closes the gate	stops operation	(see 2 nd level prog.)	continues to open and recloses immediately	stops and on release opens, then closes immediately
OPEN IN PAUSE	recharges pause time (1)	recharges pause time B	re-closes the gate	stops operation	no effect	stops and closes immediately on release	at the end of the pause, closes on release
CLOSING	re-opens the gate	re-opens the gate	no effect	stops operation	no effect	reverses at opening (see 2 nd level prog.)	stops and opens on release, closes after pause time
BLOCKED	closes the gate	closes the gate	closes the gate	no effect (OPEN/CLOSE disabled)	no effect (OPEN disabled)	no effect (CLOSE disabled)	no effect (OPEN/CLOSE disabled)

Tab. 10/d

(1) During the partial opening cycle an OPEN A pulse causes total opening

LOGIC "EP"	PULSES						
AUTOMATED SYSTEM STATUS	OPEN A	OPEN B	CLOSE	STOP	FSW OP	FSW CL	FSW CL/OP
CLOSED	opens the leaves	opens released leaf	no effect	no effect (OPEN disabled)	no effect (OPEN disabled)	no effect	no effect (OPEN disabled)
OPENING	stops operation (1)	stops operation	recloses leaves immediately	stops operation	immediately reverses at closure	no effect	stops and opens at release (OPEN stops - saves CLOSE)
OPEN	recloses leaves immediately (1)	recloses leaves immediately	recloses leaves immediately	no effect (OPEN/CLOSE disabled)	no effect	no effect (CLOSE disabled)	no effect (OPEN/CLOSE disabled)
CLOSING	stops operation	stops operation	no effect	stops operation	no effect	reverses at opening (see 2 nd level prog.)	stops and opens at release (OPEN stops - saves CLOSE)
BLOCKED	restarts moving in opposite direction. Always closes after STOP	restarts moving in opposite direction. Always closes after STOP	closes leaves	no effect (OPEN/CLOSE disabled)	no effect (OPEN disabled)	no effect (CLOSE disabled)	no effect (OPEN stops - saves CLOSE)

(1) if the cycle began with OPEN-B (released leaf), both leaves are activated at opening

Tab. 10/e

LOGIC "SA"	PULSES						
AUTOMATED SYSTEM STATUS	OPEN A	OPEN B	CLOSE	STOP	FSW OP	FSW CL	FSW CL/OP
CLOSED	opens and closes after pause time	opens released leaf and closes after pause time	no effect	no effect (OPEN disabled)	no effect (OPEN disabled)	no effect	no effect (OPEN disabled)
OPENING	no effect (1)	no effect	recloses leaves immediately	stops operation	reverses at closure	no effect	stops and opens at release (saves CLOSE)
OPEN IN PAUSE	recloses leaves immediately (1)	recloses leaves immediately	recloses leaves immediately	stops operation	no effect	recharges pause time (CLOSE disabled)	recharges pause time (CLOSE disabled)
CLOSING	reopens leaves immediately	reopens leaves immediately	no effect	stops operation	no effect	reverses at opening (see 2 nd level prog.)	stops and opens at release (saves CLOSE)
BLOCKED	closes leaves	closes leaves	closes leaves	no effect (OPEN/CLOSE disabled)	no effect (OPEN disabled)	no effect (CLOSE disabled)	no effect (OPEN/CLOSE disabled)

(1) if the cycle began with OPEN-B (released leaf), both leaves are activated at opening

Tab. 10/f

LOGIC "AP"	PULSES						
AUTOMATED SYSTEM STATUS	OPEN A	OPEN B	CLOSE	STOP	FSW OP	FSW CL	FSW CL/OP
CLOSED	opens and closes after pause time	opens released leaf and closes after pause time	no effect	no effect (OPEN disabled)	no effect (OPEN disabled)	no effect	no effect (OPEN disabled)
OPENING	stops operation (1)	stops operation	recloses leaves immediately	stops operation	reverses at closure (saves OPEN)	no effect	stops and opens at release (OPEN stops - saves CLOSE)
OPEN IN PAUSE	stops operation (1)	stops operation	recloses leaves immediately	stops operation	no effect	recharges pause time (CLOSE disabled)	recharges pause time (CLOSE disabled)
CLOSING	reopens leaves immediately	reopens leaves immediately	no effect	stops operation	no effect	reverses at opening (see 2 nd level prog.)	stops and opens at release (OPEN stops - saves CLOSE)
BLOCKED	closes leaves	closes leaves	closes leaves	no effect (OPEN/CLOSE disabled)	no effect (OPEN disabled)	no effect (CLOSE disabled)	no effect (OPEN/CLOSE disabled)

(1) if the cycle began with OPEN-B (released leaf), both leaves are activated at opening

Tab. 10/g

LOGIC "S"	PULSES							
	AUTOMATED SYSTEM STATUS	OPEN A	OPEN B	CLOSE	STOP	FSW OP	FSW CL	FSW CL/OP
CLOSED	opens and closes after pause time	opens released leaf and closes after pause time	no effect	no effect (OPEN disabled)	no effect (OPEN disabled)	no effect	no effect	no effect (OPEN disabled)
OPENING	reverses at closure	reverses at closure	recloses leaves immediately	stops operation	reverses at closure	continues to open and recloses immediately	stops and opens at release (saves CLOSE)	
OPEN IN PAUSE	recloses leaves immediately (1)	recloses leaves immediately	recloses leaves immediately	stops operation	no effect	stops and, at release, closes	stops and, at release, closes	
CLOSING	reopens leaves immediately	reopens leaves immediately	no effect	stops operation	no effect	reverses at opening (see 2 nd level prog.) and closes immediately at end	stops and opens after release and closes immediately at end	
BLOCKED	closes leaves	closes leaves	closes leaves	no effect (OPEN/CLOSE disabled)	no effect (OPEN disabled)	no effect (CLOSE disabled)	no effect (OPEN/CLOSE disabled)	

(1) if the cycle began with OPEN-B (released leaf), both leaves are activated at opening

Tab. 10/h

LOGIC "SP"	PULSES							
	AUTOMATED SYSTEM STATUS	OPEN A	OPEN B	CLOSE	STOP	FSW OP	FSW CL	FSW CL/OP
CLOSED	opens and closes after pause time	opens released leaf and closes after pause time	no effect	no effect (OPEN disabled)	no effect (OPEN disabled)	no effect	no effect	no effect (OPEN disabled)
OPENING	stops operation (1)	stops operation	recloses leaves immediately	stops operation	reverses at closure	continues to open and recloses immediately	stops and opens after release and closes immediately at end (OPEN stops - saves CLOSE)	
OPEN IN PAUSE	recloses leaves immediately (1)	recloses leaves immediately	recloses leaves immediately	stops operation	no effect	stops and, at release, closes	stops and, at release, closes	
CLOSING	stops operation	stops operation	no effect	stops operation	no effect	reverses at opening (see 2 nd level prog.)	stops and opens at release (saves CLOSE)	
BLOCKED	restarts moving in opposite direction. Always closes after STOP	restarts moving in opposite direction. Always closes after STOP	recloses leaves immediately	no effect (OPEN/CLOSE disabled)	no effect (OPEN disabled)	no effect (CLOSE disabled)	no effect (OPEN/CLOSE disabled)	

Tab. 10/i

LOGIC "B"	PULSES							
	AUTOMATED SYSTEM STATUS	OPEN A	OPEN B	CLOSE	STOP	FSW OP	FSW CL	FSW CL/OP
CLOSED	opens the leaves	no effect	no effect	no effect (OPEN disabled)	no effect (OPEN disabled)	no effect	no effect	no effect (OPEN disabled)
OPENING	no effect	closes leaves	closes leaves	stops operation	reverses at closure	no effect	stops and, at release, closes (saves OPEN/CLOSE)	
OPEN	no effect	closes leaves	closes leaves	no effect (OPEN/CLOSE disabled)	no effect	no effect (CLOSE disabled)	no effect (OPEN/CLOSE disabled)	
CLOSING	opens the leaves	no effect	no effect	stops operation	no effect	reverses at opening (see 2 nd level prog.)	stops and opens at release (saves OPEN/CLOSE)	
BLOCKED	opens the leaves	closes leaves	closes leaves	no effect (OPEN/CLOSE disabled)	no effect (OPEN disabled)	no effect (CLOSE disabled)	no effect (OPEN/CLOSE disabled)	

(1) if the cycle began with OPEN-B (released leaf), both leaves are activated at opening

Tab. 10/l

LOGIC "bC"	PULSES AT OPENING / COMMANDS MAINTAINED AT CLOSURE			PULSES			
	AUTOMATED SYSTEM STATUS	OPEN A	OPEN B	CLOSE	STOP	FSW OP	FSW CL
CLOSED	opens the leaves	no effect	no effect	no effect (OPEN disabled)	no effect (OPEN disabled)	no effect	no effect (OPEN disabled)
OPENING	no effect	closes leaves	closes leaves	stops operation	reverses at closure	no effect	stops and, at release, closes (saves OPEN/CLOSE)
OPEN	no effect	closes leaves	closes leaves	no effect (OPEN/CLOSE disabled)	no effect	no effect (CLOSE disabled)	no effect (OPEN/CLOSE disabled)
CLOSING	opens the leaves	no effect	no effect	stops operation	no effect	reverses at opening (see 2 nd level prog.)	stops and opens at release (saves OPEN/CLOSE)
BLOCKED	opens the leaves	closes leaves	closes leaves	no effect (OPEN/CLOSE disabled)	no effect (OPEN disabled)	no effect (CLOSE disabled)	no effect (OPEN/CLOSE disabled)

(1) if the cycle began with OPEN-B (released leaf), both leaves are activated at opening

Tab. 10/m

LOGIC "C"	MAINTAINED COMMANDS			PULSES			
	AUTOMATED SYSTEM STATUS	OPEN A	OPEN B	CLOSE	STOP	FSW OP	FSW CL
CLOSED	opens the leaves	no effect	no effect	no effect (OPEN disabled)	no effect (OPEN disabled)	no effect	no effect (OPEN disabled)
OPENING	no effect	closes leaves	closes leaves	stops operation	reverses at closure	no effect	stops and, at release, closes (saves OPEN/CLOSE)
OPEN	no effect	closes leaves	closes leaves	no effect (OPEN/CLOSE disabled)	no effect	no effect (CLOSE disabled)	no effect (OPEN/CLOSE disabled)
CLOSING	opens the leaves	no effect	no effect	stops operation	no effect	reverses at opening (see 2 nd level prog.)	stops and opens at release (saves OPEN/CLOSE)
BLOCKED	opens the leaves	closes leaves	closes leaves	no effect (OPEN/CLOSE disabled)	no effect (OPEN disabled)	no effect (CLOSE disabled)	no effect (OPEN/CLOSE disabled)

(1) if the cycle began with OPEN-B (released leaf), both leaves are activated at opening

Tab. 10/n

LOGIC "At" (2)	PULSES						
	AUTOMATED SYSTEM STATUS	OPEN A	OPEN B	CLOSE	STOP	FSW OP	FSW CL
CLOSED	opens and closes after pause time	opens released leaf and closes after pause time	no effect	no effect (OPEN disabled)	no effect (OPEN disabled)	no effect	no effect (OPEN disabled)
OPENING	no effect (1)	no effect	recloses leaves immediately	stops operation	reverses at closure	no effect	stops and opens at release (saves CLOSE)
OPEN IN PAUSE	recharges pause time (1)	recharges pause time	recloses leaves immediately	stops operation	no effect	recharges pause time (CLOSE disabled)	recharges pause time (CLOSE disabled)
CLOSING	reopens leaves immediately	reopens leaves immediately	no effect	stops operation	no effect	reverses at opening (see 2 nd level prog.)	stops and opens at release (saves CLOSE)
BLOCKED	closes leaves	closes leaves	closes leaves	no effect (OPEN/CLOSE disabled)	no effect (OPEN disabled)	no effect (CLOSE disabled)	no effect (OPEN/CLOSE disabled)

(2) At power up, the board verifies the inputs, and if an OPEN A or B command is active, it opens the leaf or leaves – otherwise it closes.

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