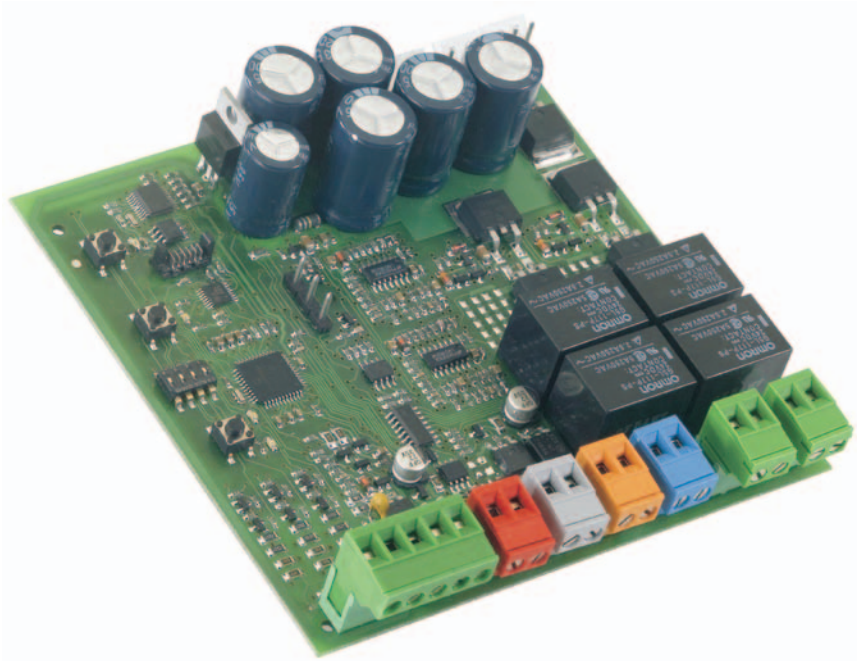
GENIUS®

AUTOMATISMI PER CANCELLI

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

BRAIN 1/5



ISTRUZIONI PER L'USO - INSTRUCTIONS FOR USE
INSTRUCTIONS POUR L'USAGER - INSTRUCCIONES PARA EL USO
GEBRAUCHSANLEITUNG - GIDS VOOR DE GEBRUIKER

CE

ITALIANO

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 antischiacciamento costituita da un controllo di coppia. E' 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.

ENGLISH

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.

FRANÇAIS

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.

1. Lire attentivement les instructions avant d'installer le produit.
2. 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.
3. Conserver les instructions pour les références futures.
4. 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.
5. GENIUS décline toute responsabilité qui dériverait d'usage impropre ou différent de celui auquel l'automatisme est destiné.
6. Ne pas installer l'appareil dans une atmosphère explosive: la présence de gaz ou de fumées inflammables constitue un grave danger pour la sécurité.
7. Les composants mécaniques doivent répondre aux prescriptions des Normes EN 12604 et EN 12605.
8. 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.
9. 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.
10. L'installation doit être effectuée conformément aux Normes EN 12453 et EN 12445. Le niveau de sécurité de l'automatisme doit être C+D.
11. Couper l'alimentation électrique et déconnecter la batterie avant toute intervention sur l'installation.
12. Prévoir, sur le secteur d'alimentation de l'automatisme, un interrupteur omnipolaire avec une distance d'ouverture des contacts égale ou supérieure à 3 mm. On recommande d'utiliser un magnétothermique de 6A avec interruption omnipolaire.
13. Vérifier qu'il y ait, en amont de l'installation, un interrupteur différentiel avec un seuil de 0,03 A.
14. Vérifier que la mise à terre est réalisée selon les règles de l'art et y connecter les pièces métalliques de la fermeture.
15. 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.
16. 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.
17. On recommande que toute installation soit doté au moins d'une signalisation lumineuse, d'un panneau de signalisation fixé, de manière appropriée, sur la structure de la fermeture, ainsi que des dispositifs cités au point "16".
18. GENIUS décline toute responsabilité quant à la sécurité et au bon fonctionnement de l'automatisme si les composants utilisés dans l'installation n'appartiennent pas à la production GENIUS.
19. Utiliser exclusivement, pour l'entretien, des pièces GENIUS originales.
20. Ne jamais modifier les composants faisant partie du système d'automatisme.
21. L'installateur doit fournir toutes les informations relatives au fonctionnement manuel du système en cas d'urgence et remettre à l'Usager qui utilise l'installation les "Instructions pour l'Usager" fournies avec le produit.
22. Interdire aux enfants ou aux tiers de stationner près du produit durant le fonctionnement.
23. Ne pas permettre aux enfants, aux personnes ayant des capacités physiques, mentales et sensorielles limitées ou dépourvues de l'expérience ou de la formation nécessaires d'utiliser l'application en question.
24. Eloigner de la portée des enfants les radiocommandes ou tout autre générateur d'impulsions, pour éviter tout actionnement involontaire de l'automatisme.
25. Le transit entre les vantaux ne doit avoir lieu que lorsque le portail est complètement ouvert.
26. L'utilisateur doit s'abstenir de toute tentative de réparation ou d'intervention et doit s'adresser uniquement et exclusivement au personnel qualifié GENIUS ou aux centres d'assistance GENIUS.
27. Tout ce qui n'est pas prévu expressément dans ces instructions est interdit.

ESPAÑOL

ADVERTENCIAS PARA EL INSTALADOR
REGLAS GENERALES PARA LA SEGURIDAD

ATENCION! Es sumamente importante para la seguridad de las personas seguir atentamente las presentes instrucciones. Una instalación incorrecta o un uso impropio del producto puede causar graves daños a las personas.

1. Lean detenidamente las instrucciones antes de instalar el producto.
2. Los materiales del embalaje (plástico, poliestireno, etc.) no deben dejarse al alcance de los niños, ya que constituyen fuentes potenciales de peligro.
3. Guarden las instrucciones para futuras consultas.
4. Este producto ha sido proyectado y fabricado exclusivamente para la utilización

ENGLISH

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CE DECLARATION OF CONFORMITY

Manufacturer: GENIUS S.p.A.

Address: Via Padre Elzi, 32 - 24050 - Grassobbio- Bergamo - ITALY

Declares that: Control unit mod. **BRAIN 15**

- conforms to the essential safety requirements of the following EEC directives:
  - 2006/95/EC Low Voltage directive.
  - 2004/108/EC Electromagnetic Compatibility directive.

Additional information:
This product underwent a test in a typical uniform configuration (all products manufactured by GENIUS S.p.A.).

Grassobbio, December 30, 2009

Managing Director
D. Gianantoni

Notes on reading the instruction
Read this installation manual to the full before you begin installing the product.
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.

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1. WARNINGS

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,

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 CONNECTIONS

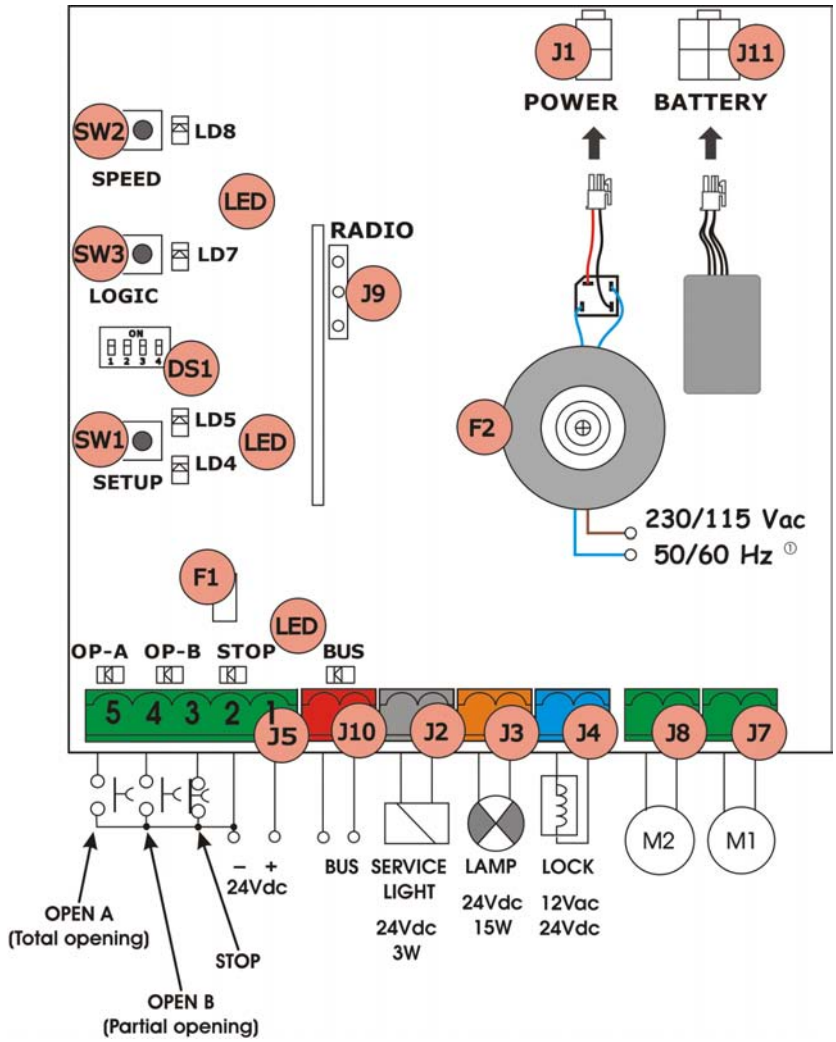

Fig. 1

① The power supply is related to the BRAIN 15 purchased version.

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3. TECHNICAL SPECIFICATIONS

Power supply voltage ①	230Vac (+6% -10%) - 50Hz **or** 115Vac (+6% -10%) - 60Hz
Supply voltage of control unit ②	24 Vac nominal
Absorbed power	4W
Motor max. load	150W x 2
Accessories max. current (+24V)	250 mA
BUS Accessories max.current	400 mA
Operating ambient temperature	-20°C... +55°C
Fuses ①	F1 = self-resetting; F2 = T2A-250V **or** T4A-120V
Function logics	A, E, AP, EP,A1,B,C
Work time (time-out)	1 minute (maximum)
Pause time	Varies according to learning (max. 10 min.)
Terminal board inputs	Open A, Open B, Stop, BUS (I/O)
Connector inputs	Power supply, battery radio module 3 pins
Terminal board outputs	Motors, flashing lamp, power supply to accessories, electric lock, service light contact (90 sec fixed)
Programmable functions	Logic (A, E, AP, EP,A1,B,C), Speed (High - Low)
Learning functions	Pause time, leaf closing delay

① **The power supply and the fuse are related to the purchased version.**

② ***Different output values can be obtained on the board supply terminals depending on the mains voltage value. Before start-up always check if the output voltage on the transformer secondary winding is between 20 Vac and 26 Vac. Voltage must be measured load free.***

3.1. Description of components

J1	POWER SUPPLY connector
J2	SERVICE LIGHT command terminal-board
J3	FLASHING LAMP terminal-board
J4	ELECTRIC LOCK terminal-board
J5	COMMANDS terminal-board
J7	MOTOR 1 terminal-board
J8	MOTOR 2 terminal-board
J9	Rapid connection for RADIO MODULE 3 pins
J10	BUS terminal-board
J11	BATTERY connector
SW1	SET UP push-button
SW2	SPEED push-button
SW3	LOGIC push-button
DS1	Programming Dip-switch
F1	Accessories protective fuse
F2	Fuses protecting transformers and motors
LED	Signalling LEDs

3.2. Description of terminal-boards

Terminal and/or terminal-board		Descrip-tion	Device connected
1	J5	+24V	Power supply for accessories
2		GND	Negative
3		STOP	Device with NC contact which causes the automated system to shut down
4		OPEN B	Device with N.O contact (see chap. FUNCTION LOGICS)
5		OPEN A	
J10 RED terminal		BUS	Safety devices with BUS technology
J2 GREY terminal		SERVICE LIGHT	Service Light control output (connect a relay coil at 24Vdc-100mA max)
J3 ORANGE terminal		LAMP	Flashing lamp 24Vdc - 15W
J4 BLUE terminal		LOCK	Electric lock 12Vac or 24 Vdc (to be installed on leaf 1)
J7		MOT1	Motor 1 (leaf 1)
J8		MOT2	Motor 2 (leaf 2)

The service light control is active during the entire gate opening or closing movement and for the successive 90 seconds.

Leaf 1 means the leaf which opens first during the opening operation.

3.3. Anti-crushing function

The electronic anti-crushing function is obtained by controlling the current consumption or the encoder of the motors connected to the BRAIN 15 equipment.
If the gate detects an obstacle during the opening or closing movement, the anti-crushing function activates and reverses the sense of direction of the operator, thus increasing the safety degree of the automated system.

3.4. Over pushing stroke

If you enable this function, at every OPEN pulse the leaf on which the electric lock is installed starts its closing movement for a few seconds. This facilitate release of the electric lock.

4. PROGRAMMING OF THE LOGIC

Repeatedly press the SW3 LOGIC push-button to select one of the 7 programming logics available.
The selected logic is signaled by the LD7 LED:
The number of blinkings corresponds to the number of the selected logic.
See paragraph 6.3.3.

5. PROGRAMMING THE SPEED

The function speed can be adjusted at any time by pressing push-button SW2.
The selected logic is then displayed on LED LD8:

Led on = HIGH speed
Led off = LOW speed

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6. START-UP

6.1. Leds check

The following table shows that status of the LEDs in relation to the status of the inputs (the closed at rest automated system condition is shown in bold).
Check the status of the signalling LEDs as per table below:
Tab. 1 - Operation of inputs status LEDs

LED	ON (closed contact)	OFF (open contact)
STOP	**Command disabled**	Command enabled
OPEN A	Command enabled	**Command disabled**
OPEN B	Command enabled	**Command disabled**
BUS	See par. 7.2	

6.2. Programming the Dips-switch

The settings of the DS1 dip-switch for programming the force and the type of motor are shown in the following table.
Tab. 2 - DS1 programming (default settings in bold)

Dip-switch	Description
	**LOW FORCE**
	MEDIUM - LOW FORCE
	MEDIUM - HIGH FORCE
	HIGH FORCE
	**COMPAS**
	MISTRAL 324 ENV G-BAT 324 ENV / G-BAT 424 ENV
	MISTRAL 324 / MISTRAL 324 LS MISTRAL 424 / MISTRAL 424 LS SIROCCO 2524 / SIROCCO 2524 LS ELITE 324 / ELITE 424 G-BAT 324 / G-BAT 424 TRIGON 02-24 ROLLER 24
	NOT USED

Before performing the Setup, select the operator connected to the BRAIN 15 equipment with the DS3 and DS4 dip-switches.

6.3. Time - setup learning

Before any manoeuvre is executed, a SETUP cycle must first be run.

If the motor type is changed with the DS3 and DS4 dip-switches after the SETUP, a new SETUP is requested.

When the board is powered up and a SETUP cycle has never been executed, LEDs LD4 and LD5 begin to flash slowly to signal that a SETUP cycle must be executed.
There are two possible types of SETUP: AUTOMATIC and MANUAL

6.3.1. AUTOMATIC SETUP

1. Set the operators for manual operation and take them to approx. half of the required opening.
2. Lock the operators again and make sure that they cannot be moved by hand.
3. Press and hold down the SETUP key until the LEDs LD 4 and LD 5 light on a steady beam.
4. Release the Setup key. The leaves start, one at a time, the opening movement until they reach the mechanical stop point.

If one or both leaves start moving with a closing manoeuvre, cut power to the system and reverse the power cables of the connected motor/motors. Supply power to the system and resume from point 1.

5. After having reached the opening stop point, the leaves start, one at a time again, the closing phase until the gate is completely closed.
6. After a short pause the leaves start, one at a time, an opening phase until they reach the mechanical stop point.
7. When the opening position has been reached, the setup phase is completed. If it has been performed correctly, the LEDs LD4 and LD5 turn off. If this is not the case, the LEDs LD4 and LD5 flash and the setup procedure must be repeated.

With the AUTOMATIC SETUP procedure, the leaf delay at closure and the pause time are set by default. To change these values, a second level programming must be executed (see paragraph 6.3.4.).

6.3.2. MANUAL SETUP

1. Set the operators for manual operation and take them to approx. half of the required opening.
2. Lock the operators again and make sure that they cannot be moved by hand.
3. Press and hold down the SETUP key until the leaves start, one at a time, an opening movement until they reach the mechanical stop point.

If one or both leaves start moving with a closing manoeuvre, cut power to the system and reverse the power cables of the connected motor/motors. Supply power to the system and resume from point 1.

4. After having reached the opening stop point, the leaves start, one at a time again, the closing phase until the gate is completely closed.
5. After a short pause, leaf 1 starts an opening phase.
6. Send an OPEN command to determine the start of the decelerated part and wait until the opening mechanical stop point is reached.
7. Leaf 2 starts the opening phase.
8. Send an OPEN command to determine the start of the decelerated part and wait until the opening mechanical stop point is reached.
9. When at rest, leaf 2 starts the pause time count. At the end of the required time, send an OPEN command.

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10. Leaf 2 starts the closing phase.
11. Send an OPEN command to determine the start of the decelerated part and wait until the closing mechanical stop point is reached.
12. Leaf 1 starts the closing phase.
13. Send an OPEN command to determine the start of the decelerated part and wait until the closing mechanical stop point is reached.
14. When leaf 1 reaches the closing mechanical stop point, the setup phase is completed. If it has been performed correctly, LEDs LD4 and LD5 turn off. If this is not the case, LEDs LD4 and LD5 flash and the setup procedure must be repeated.

With the MANUAL SETUP procedure, the leaf delay at closure is set by default. To change it, execute a second level programming (see paragraph 6.3.4.).

Pause time and leaf delay values can be modified, both at closure and at opening, by simply programming the second level parameters, without repeating the setup procedure.

6.3.3 Programming of the logic

Repeatedly press the SW3 push-button to select one of the 7 programming logics available. The selected logic is signaled by the LD7 LED. The number of blinkings corresponds to the number of the selected logic:

Tab. 3 - Selection logic

Logic	N° pressure SW3	N° blinkings LD7
"A" Automatic	1	1
"E" Semi-automatic	2	2
"AP" "Stepped" automatic	3	3
"EP" "Stepped" semi-automatic	4	4
"A1" Automatic 1	5	5
"b" Semi-automatic "b"	6	6
"C" Dead man	7	7

6.3.4. Second level programming

To enter the second level menu, keep the SW2 SPEED push-button pressed for more the 2.5 seconds. The two SETUP LEDs are permanently lit. In this mode, the SPEED push-button is used to scroll the menus. The different menus are identified by the number of blinkings.
The parameter value is set with the LOGIC push-button. The menu is scrolled sequentially. Keep the SPEED push-button pressed for 2.5 seconds to exit the second level menu.

Tab. 4 - Programming features

Menu	Function	N° pressure SW2	N° flashes LD8	LD7 on	LD7 off
1	Wind-proof facility	1	1	YES	NO
2	Over pushing stroke	2	2	SI	NO
3	Soft-touch	3	3	SI	NO
4	Preliminary blinking	4	4	SI	NO
5	Leaf opening delay	5	5	SI	NO
6	Leaf closing delay	6	6	counting of delayed leaf	—
7	Pause time	7	7	counting time break	—

With menus 6 and 7, keep the LOGIC push-button pressed until reaching the time to be set. The time can be set between 0 and 4.25 minutes.

6.3.5. Return to default setting

1. Keep the SETUP push-button pressed to switch the board ON.
2. The two SETUP LEDs are alternately lit ("level crossing" mode).
3. The board resets the parameters.
4. Until the SETUP push-button is pressed, movements are inhibited.
5. When the SETUP push-button is released, the two LD4 and LD5 LEDs blink.
6. The default configuration is reset and the new Setup can be started.

6.3.6. Default parameters

Here the default parameters:

Wind-proof facility	NO
Over pushing stroke	NO
Soft-touch	NO
Preliminary blinking	NO
Leaf opening delay	YES
Leaf closing delay	10 sec
Pause time	30 sec.

7.INSTALLATION OF BUS ACCESSORIES

This board is supplied with a BUS circuit enabling easy connection of a high number of BUS accessories (e.g. up to 16 photocells pairs), appropriately programmed, using only two cable without polarity.
Below we describe the addressing and memory storage of the BUS photocells.
For other future accessories, refer to the specific instructions.

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7.1. Addressing the BUS photocells

The same address must be given to both transmitter and receiver.

Make sure that there are no two or more photocells pairs with the same address.

If no BUS accessory is used, leave the BUS connector free (J10 - fig. 1).

A maximum of 16 BUS photocell pairs 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

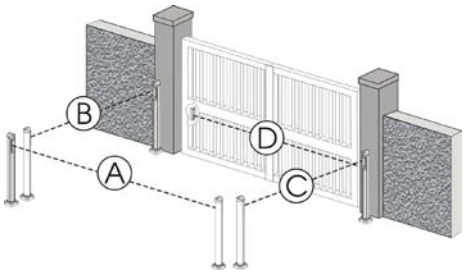

Fig. 2

Fig. 2 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

Table 5 shows the programming operations of the dip-switch inside the transmitter and of the BUS Photocells receiver.

Tab. 5 - Addressing of BUS Photocells

Dip1	Rif.	Tipologia
	B - C	OPENING
		
		
		
		
		
	D	CLOSING
		
		
		
		
		
		
	A	OPENING and CLOSING
		
	/	OPEN PULSE

7.2. Memory storage of BUS accessotries

You can add the BUS photocells 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 paragraph 7.1)
2. Cut power to the board.
3. Connect the two accessories cables to the red terminal-board J10 (any polarity will do).
4. Power up the board, taking care to first connect the main power supply (transformer output) and then any batteries.
5. Quickly press once only the SW1 (SETUP) push-button,

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to execute learning. The BUS LED flashes.

6. Give an OPEN impulse, leaves will move and the BUS learning procedure is over.

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

Tab. 6 - Description of BUS LED

Steady light	Normal operation (LED ON even in the absence of photocells)
Slow flashing lamp (flash every 0.5 sec)	At least one input engaged: photocell engaged or not aligned, Open A or Open B or Stop input engaged
Light OFF (flash every 2.5 sec)	BUS line short circuited
Fast flashing lamp (flash every 0.2 sec)	If you have detected a 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)

8. MEMORY STORING THE RADIO CODE

The control board has an integrated 2-channel decoding system. This system makes it possible to memory-store both total opening (OPEN A) and partial opening OPEN B) of the automated system - this is made possible by an additional receiver module (fig.3 ref. ①) and radio controls on the same frequency.

- **Only one** *radio code can be used at a time.*
- *To change over from one code to another, you must delete the existing one (see paragraph on deletion), and repeat the memory-storage procedure.*

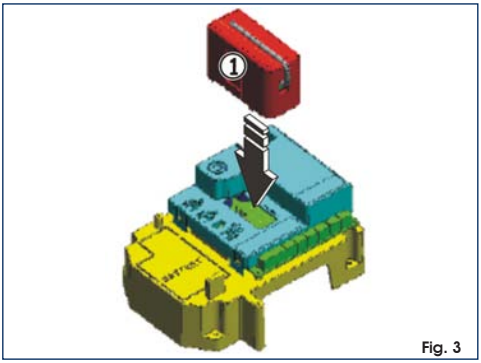

Fig. 3

8.1. Memory storage of 868 radio controls

A maximum of 250 codes can be memory stored, split between OPEN A and OPEN B.

1. On the radio control, simultaneously press and hold down push-buttons P1 and P2.
2. The radio control LED begins to flash.
3. Release both push-buttons.
4. Press the LOGIC (SW3) or SPEED (SW2) push-button, to memory store respectively total opening (OPEN A) or partial opening (OPEN B), and as you hold it down, also press the SETUP (SW1) push-button. The relevant LED starts to flash slowly for 5 sec.
5. Release both push-buttons.
6. Within these 5 sec., while the radio control LED is still flashing, press and hold down the required push-button on the radio control (the radio control LED lights up on steady beam).
7. The LED on the board lights up on steady beam for 1 second and then goes OFF, indicating that storage was executed.
8. Release the radio control push-button.
9. Quickly press twice the memory stored radio control push-button.

The automated system performs one opening operation. Make sure that the automated system is free of any obstacle created by persons or things.

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, observing the following procedure:

- On the memory stored radio control, simultaneously press and hold down push-buttons P1 and P2.
- The radio control LED begins to flash.
- Release both push-buttons.
- Press the memory stored push-button and hold it down (the radio control LED lights up on steady beam).
- Bring the radio controls near, press and hold down the push-button of the radio control to be added, releasing it only after the double flash of the radio control LED, which indicates memory storage executed.
- Quickly press twice the push-button of the memory stored radio control.

The automated system performs one opening operation. Make sure that the automated system is free of any obstacle created by persons or things.

8.2. Memory storage of 433 radio controls

A maximum of 250 codes can be memory stored, split between OPEN A and OPEN B.

1. Use 433 remote controls only with receiver module at 433 MHz.
2. Press the LOGIC (SW3) or SPEED (SW2) push-button, to memory store respectively total opening (OPEN A) or partial opening (OPEN B), and as you hold it down, also press the SETUP (SW1) push-button. The relevant LED starts to flash slowly for 5 sec.
3. Release both push-buttons. Within these 5 sec., press the appropriate push-button on the remote control.
4. The LED lights up on steady beam for 1 second, indicating memory storage executed, and then resumes flashing for another 5 sec., during which another radio control (point 4) can be memory stored.
5. When the 5 sec. have elapsed, the LED goes OFF indicating the end of the procedure.
6. To add other radio controls, repeat the operation at point 1.

8.2.1. Remote memory storage of 433 radio controls

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

1. Get a radio control already stored on one of the 2 channels (OPEN A or OPEN B).
2. Press and hold down push-buttons P1 and P2 simultaneously until both the LEDs flash slowly for 5 sec.
3. Within 5 sec. press the push-button of the radio control that had been memory stored to enable learning on the selected channel.
4. The LED on the board relating to the channel being learned flashes for 5 sec., within which time the code of another radio control must be transmitted.
5. The LED lights up on steady beam for 2 seconds, indi-

cating memory storage executed, and then resumes flashing for 5 sec., during which other radio controls can be memory stored, and then goes OFF.

8.3. Radio controls deletion procedure

To delete ALL the input radio control codes, press push-button LOGIC (SW3) or SPEED (SW2) and, while holding it down, also press push-button SETUP (SW1) for 10 sec.

1. The LED relating to the pressed push-button flashes for the first 5 sec, and then flashes more quickly for the next 5 sec.
2. Both LEDs light up on steady beam for 2 sec and then go OFF (deletion completed).
3. Release both push-buttons.

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

9. BATTERY KIT (OPZIONAL)

The buffer battery kit was built for insertion inside the control board support.
This support (Fig.4 ref. ①) was pre-moulded to permit the battery housing to be opened.

1. Remove the board support material covering the battery housing, cutting the material connections along the perimeter.

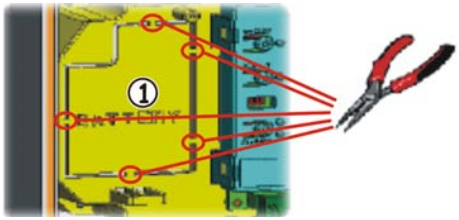

Fig. 4

2. Insert the battery in the housing you have just created, and secure it on the anchoring supports (Fig. 5).

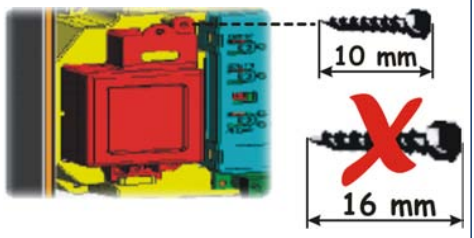

Fig. 5

3. To correctly fasten and connect the kit to the control unit, consult the instructions enclosed with the battery kit.

10. AUTOMATED SYSTEM TEST

When you have finished programming, check if the system is operating correctly. In particular, check if the safety devices are operating correctly.

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11. FUNCTION LOGICS

Tab. 7

LOGIC "A"	PULSES					
AUTOMATED SYSTEM STATUS	OPEN A	OPEN B	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 (OPEN disabled)	no effect (OPEN disabled)	no effect	no effect (OPEN disabled)
OPENING	no effect ①	no effect	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	stops operation	no effect	recharges pause time (CLOSE disabled)	recharges pause time (CLOSE disabled)
CLOSING	reopens leaves immediately	reopens leaves immediately	stops operation	no effect	reverses at opening	stops and opens at release (saves CLOSE)
BLOCKED	closes leaves	closes leaves	no effect (OPEN/ CLOSE disabled)	no effect (OPEN disabled)	no effect (CLOSE disabled)	no effect (OPEN/ CLOSE disabled)

Tab. 8

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

Tab. 9

LOGIC "AP"	PULSES					
AUTOMATED SYSTEM STATUS	OPEN A	OPEN B	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 (OPEN disabled)	no effect (OPEN disabled)	no effect	no effect (OPEN disabled)
OPENING	stops operation ①	stops operation	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	stops operation	no effect	recharges pause time (CLOSE disabled)	recharges pause time (CLOSE disabled)
CLOSING	reopens leaves immediately	reopens leaves immediately	stops operation	no effect	reverses at opening	stops and opens at release (OPEN stops - saves CLOSE)
BLOCKED	closes leaves	closes leaves	no effect (OPEN/ CLOSE disabled)	no effect (OPEN disabled)	no effect (CLOSE disabled)	no effect (OPEN/ CLOSE disabled)

Tab. 10

LOGIC "EP"	PULSES					
AUTOMATED SYSTEM STATUS	OPEN A	OPEN B	STOP	FSW OP	FSW CL	FSW CL/OP
CLOSED	opens the leaves	opens released leaf	no effect (OPEN disabled)	no effect (OPEN disabled)	no effect	no effect (OPEN disabled)
OPENING	stops operation ①	stops operation	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	no effect (OPEN/ CLOSE disabled)	no effect	no effect (CLOSE disabled)	no effect (OPEN/ CLOSE disabled)
CLOSING	stops operation	stops operation	stops operation	no effect	reverses at opening	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	no effect (OPEN/ CLOSE disabled)	no effect (OPEN disabled)	no effect (CLOSE disabled)	no effect (OPEN stops - saves CLOSE)

Tab. 11

LOGIC "A1"	PULSES					
AUTOMATED SYSTEM STATUS	OPEN A	OPEN B	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 (OPEN disabled)	no effect (OPEN disabled)	no effect	no effect (OPEN disabled)
OPENING	no effect ①	no effect	stops operation	reverses	continues to open and recloses after 5 s	stops and opens at release (saves CLOSE)
OPEN IN PAUSE	restores pause time ①	restores pause time ①	stops operation	no effect	locks and closes on disengagement after 5 s	recharges pause time (CLOSE disabled)
CLOSING	reopens leaves immediately	reopens leaves immediately	stops operation	no effect	reverses at opening	stops and opens at release (saves CLOSE)
BLOCKED	closes leaves	closes leaves	no effect (OPEN/ CLOSE disabled)	no effect (OPEN disabled)	no effect (CLOSE disabled)	no effect (OPEN/ CLOSE disabled)

Tab. 12

LOGIC "B"	PULSES					
AUTOMATED SYSTEM STATUS	OPEN A	OPEN B	STOP	FSW OP	FSW CL	FSW CL/OP
CLOSED	opens the leaves	no effect	no effect (OPEN disabled)	no effect (OPEN disabled)	no effect	no effect (OPEN disabled)
OPENING	no effect	locks operation	stops operation	locks operation	no effect	locks operation
OPEN	no effect	closes leaves	no effect (OPEN/ CLOSE disabled)	no effect	no effect (CLOSE disabled)	no effect (OPEN/ CLOSE disabled)
CLOSING	opens the leaves	no effect	stops operation	no effect	locks operation	locks operation
BLOCKED	opens the leaves	closes leaves	no effect (OPEN/ CLOSE disabled)	no effect (OPEN disabled)	no effect (CLOSE disabled)	no effect (OPEN/ CLOSE disabled)

Tab. 13

LOGIC "C"	MAINTAINED COMMANDS		PULSES			
AUTOMATED SYSTEM STATUS	OPEN A	OPEN B	STOP	FSW OP	FSW CL	FSW CL/OP
CLOSED	opens the leaves	no effect	no effect (OPEN disabled)	no effect (OPEN disabled)	no effect	no effect (OPEN disabled)
OPENING	no effect	closes leaves	stops operation	locks operation	no effect	locks operation
OPEN	no effect	closes leaves	no effect (OPEN/ CLOSE disabled)	no effect	no effect (CLOSE disabled)	no effect (OPEN/ CLOSE disabled)
CLOSING	opens the leaves	no effect	stops operation	no effect	locks operation	locks operation
BLOCKED	opens the 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

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