

LYNX 08 24V

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



ITALIANO

AVVERTENZE PER L'INSTALLATORE OBBLIGHI GENERALI PER LA SICUREZZA



ATTENZIONI! 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 omipolare con distanza d'apertura dei contatti uguale o superiore a 3 mm. È consigliabile l'uso di un magnetotermico da 6A con interruzione omipolare.
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 antischacciamento costituita da un controllo di coppia. E' comunque necessario verificarne le soglie 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, cesoimento.
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'un 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 omipolaire avec une distance d'ouverture de contacts égale ou supérieure à 3 mm. On recommande d'utiliser un magnétothermique de 6A avec interruption omipolaire.
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 de fournir à l'utilisateur un panneau de signalisation fixe, 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



ATENCIÓN! 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. Leer detenidamente las instrucciones antes de instalar el producto.
2. Los materiales del embalaje (plástico, poliestireno, etc.) no deben dejarse al alcance de

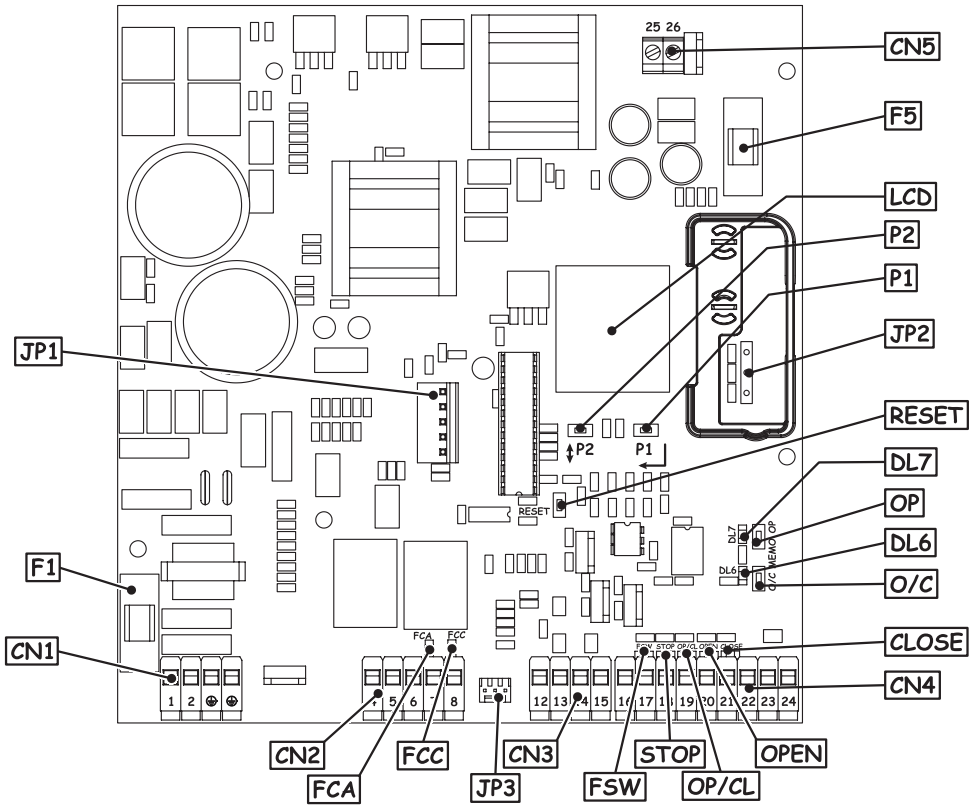


Fig. 01

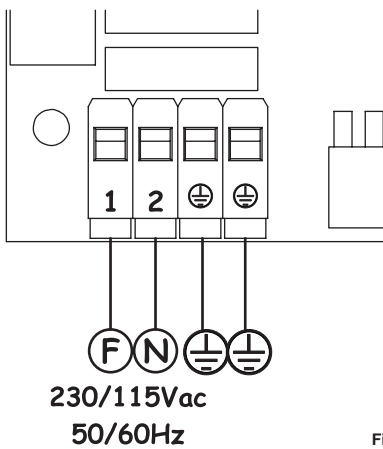


Fig. 02

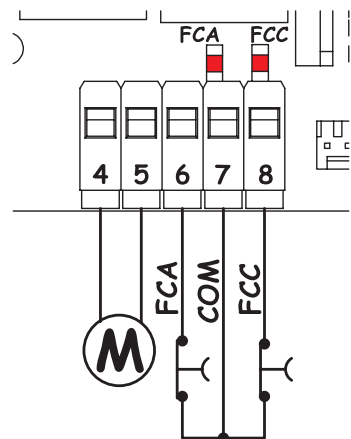


Fig. 03



Lampeggiante-Flashing lamp
 Lampe clignotante-Destellador
 Blinkleuchte-Waarschuwingslamp
 24Vdc 15W max.

Lampada spia-Indicator light
 Lampe témoin-Lluz testigo
 Kontrollleuchte-Verklikkerlampje
 24Vdc 5W max.

Luce asta-Beam light
 Éclairage lisse-Luces barra
 Stangenleuchten-Lichten staaf
 24Vdc 20W max.

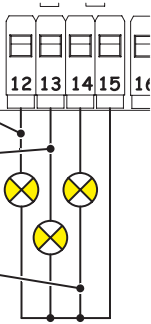


Fig. 04

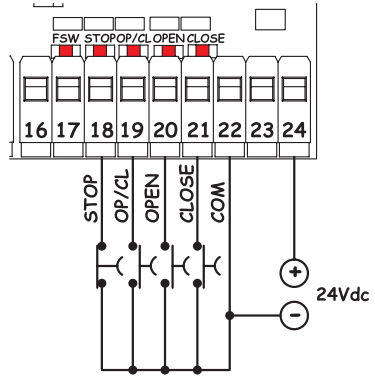


Fig. 05

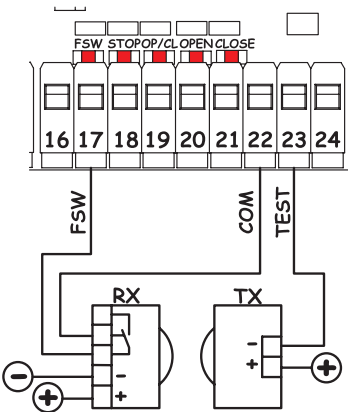
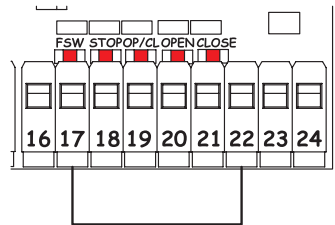


Fig. 06

NO FSW





CONTROL UNIT A

CONTROL UNIT B

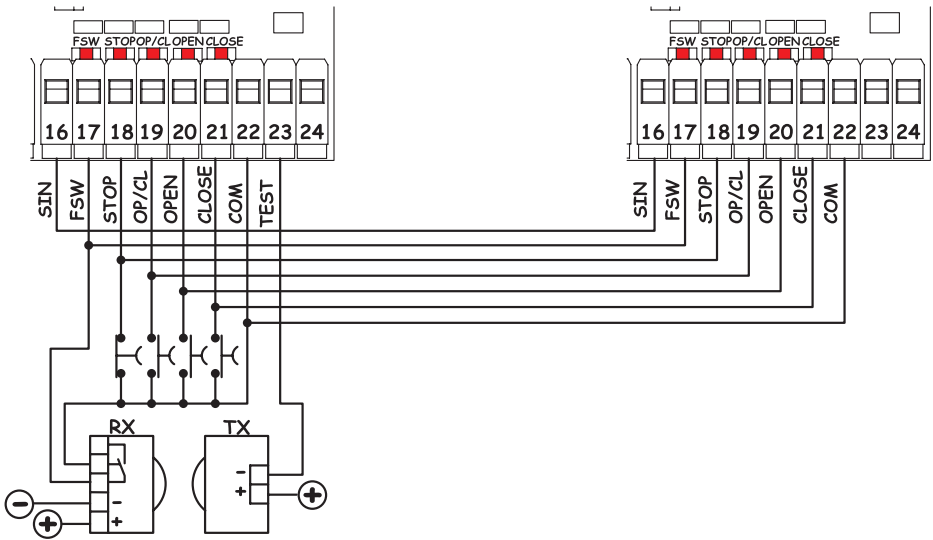


Fig. 07

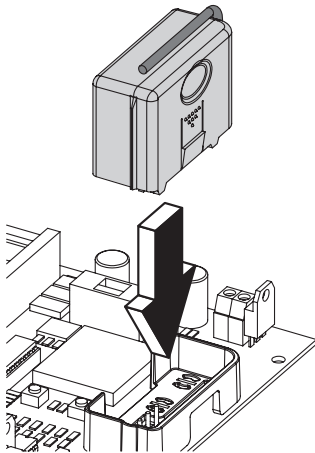


Fig. 08





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CE DECLARATION OF CONFORMITY

Manufacturer: GENIUS S.p.A. con Socio Unico
Address: Via Padre Elzi, 32 - 24050 - Grassobbio- Bergamo - ITALY
Declares that: The control unit mod. **LYNX 08 24V**

- 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, June 14, 2011

The Managing Director
Ennio Nardi

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.



1. GENERAL CHARACTERISTICS

Thank you for choosing our product. GENIUS is sure you will get the performances you expect to satisfy your requirements. All our products are the result of a many years' experience in the field of the automated systems, strengthened by being part of a world leading group in this sector.

The LYNX 08 control unit was developed and realized to control electro-mechanical barriers for vehicle access control.

Thanks to the innovative switching supply system, the control unit is able to automatically adapt to different input voltages (230 V~ o 115 V~) keeping unchanged the outputs value on both the motor and the accessories, without suffering any variations.

The very simple programming of the main functions enables reduced installation times, while a series of built-in LEDs provides for a rapid and safe diagnostics on the status of safety devices and control devices connected to the control unit.

Thanks to the encoder management, this control unit, if correctly installed and adjusted, enables you to reduce the number of devices necessary for the realization of an installation in compliance with current safety standards.

⚠ To ensure people's safety, all warning and instructions in this booklet must be carefully observed. Incorrect installation or incorrect use of the product could cause serious harm to people.

⚠ Carefully read this manual before installing the product.

⚠ Store these instructions for future references.

2. TECHNICAL SPECIFICATIONS

Power supply voltage and frequency	230 V~ 50 Hz / 115 V~ 60 Hz
Absorbed power	5 W
Max. power at thrust	480 W
Accessories max. load	500 mA
Operating ambient temperature	↓-20°C ↑+55°C
Protective fuses	2 fuses, replaceable + 4 fuses, self-resetting
Function logics	Automatic (A) / Step-by-step automatic (AP) / Manual (E) / Step-by-step manual (EP) / Condo (D)
Opening/Closing max. time	60 seconds
Pause time	Adjustable on 7 levels of 5 seconds up to 4 minutes
Encoder sensitivity	Adjustable on four levels
Terminal board inputs	Mains power supply (230/115 V~) / FCA and FCC travel limits/ Photocells / Stop/ Open-Close / Open / Close / Safety dev. test / Battery
Rapid connector	3-pin molex coupling for encoder / 3-pin molex coupling for receiving module
Terminal board outputs	Motor power supply 24V== / Flashing lamp 24V== / Indicator light 24V== max. 5W / Rod lights 24V== / Power supply to accessories / Battery charger
Board dimensions	168 mm x 176 mm

3. PREPARATIONS

- Make sure that an adequate differential switch is installed upstream of the system as specified by current safety standards.
- On the power supply mains install a thermal breaker with omnipolar switching.
- Make sure that an adequate earthing system is available.
- To lay cables, use adequate rigid and/or flexible tubes.
- Always separate the 230/115 V~ power cables from low voltage connections, using separate sheaths to avoid possible interference.

4. BOARD LAYOUT

With reference to figure 1:

Pos.	Description	Pos.	Description
CN1	Power supply terminal board	OP	OPEN input radio programming push-button
CN2	Motor and travel-limit terminal board	O/C	OPEN/CLOSE input radio programming push-button
CN3	Light outputs terminal board	FCA	FCA input signalling LED
CN4	Inputs terminal board	FCC	FCC input signalling LED
CN5	Battery terminal board	FSW	SAFETY DEVICES input signalling LED
JP1	Not used	STOP	STOP input signalling LED
JP2	Radio module rapid coupling	OP/CL	OPEN/CLOSE input signalling LED
JP3	Encoder connection Molex	OPEN	OPEN input signalling LED
F1	Power supply 230/115V~ circuit fuse	CLOSE	CLOSE input signalling LED
F5	Motor power supply circuit fuse	DL6	OPEN/CLOSE radio input signalling LED
P1	Parameter selection push-button	DL7	OPEN radio input signalling LED
P2	Parameter adjustment push-button	LCD	Display
RESET	Reset push-button		



5. CONNECTIONS AND OPERATION

5.1. CN1 TERMINAL BOARD

5.1.1. POWER SUPPLY (FIG. 2)

Terminals "1 & 2". Connect, to these terminals, the two cables coming from the 230 V~ or 115 V~ power supply line. Connect the neutral wire to terminal "2" and the phase to terminal "1".

5.1.2. EARTHING (FIG. 2)

Terminals "⊕". Connected to the terminal free the yellow-green supply line.

⚠ This connection is absolutely necessary for correct operation of the control unit.

5.2. CN2 TERMINAL BOARD

5.2.1. MOTOR (FIG. 3)

Terminals "4 & 5". 24 V_~ output. Connect the motor power cables to these terminals. The following table shows the connection sequence for the motor cables according to the installation type:

Installation type	Cable colour	
	Terminal 4	Terminal 5
Left hand installation (the beam closes on the operator right)	Blue	Brown
Right hand installation (the beam closes on the operator left)	Brown	Blue

5.2.2. OPENING TRAVEL LIMIT FCA (FIG. 3)

Terminal "6". Connect, to this terminal, the wire of the NC contact of the opening travel limit. The activation of this contact enables to identify the beam in open position. The status of this input is signalled by LED FCA.

5.2.3. TRAVEL LIMIT COMMON CONTACT COM (FIG. 3)

Terminal "7". Connect, to this terminal, the wires of the common contact of both travel limits FCA and FCC.

⚠ This input must be used only for the connection of both travel limits common contact. Do not use it as a negative contact of other accessories.

5.2.4. CLOSING TRAVEL LIMIT FCC (FIG. 3)

Terminal "8". Connect, to this terminal, the wire of the NC contact of the closing travel limit. The activation of this contact enables the identification of the beam in closed position. The status of this input is signalled by LED FCC.

⚠ Both travel limits FCC and FCA are only used to identify the rod position.

⚠ The connection of both travel limits is absolutely necessary for correct operation of the control unit.

The table below shows the connection sequence of both travel limit wires according to the installation type:

Installation type	Cable colour		
	Terminal 6	Terminal 7	Terminal 8
Left hand installation (the beam closes on the operator right)	Brown	Blue	Black
Right hand installation (the beam closes on the operator left)	Black	Blue	Brown

5.3. CN3 TERMINAL BOARD

5.3.1. FLASHING LAMP (FIG. 4)

Terminals "12 & 15". Output 24 V_~ max.15 W. Connect, to these terminals, the power cables of both luminous strips (sold as separate parts) which must be positioned on the operator's sides. Both strips stay OFF when the rod is at rest, both at opening and closing, whereas they flash when the rod is moving. Before each manoeuvre, the strips pre-flash for 0.5 seconds (not modifiable) to indicate the upcoming beam movement.

If the "service request" function was activated (see paragraph 9), the strips perform a rapid pre-flashing sequence of 5 seconds at the end of the closing movement. See paragraph 9.1 for the operation of this function and for the cycle resetting.

As an alternative you can connect an external steady light flashing lamp with max. power supply of 24 V_~ 15 W. The flashing operation is controlled by the control unit.

🔧 During the control unit programming phase and the adjustment of the function parameters, the flashing lamp stays ON with steady beam.

⚠ When connecting the lamp, please observe the polarity of the terminals - terminal 12 is the positive pole.

5.3.2. INDICATOR LIGHT (FIG. 4)

Terminals "13 & 15". Output 24 V_~ max. 5 W. Connect, to these terminals, the lamp (if any) for the remote monitoring of the beam status. After connection, the lamp will operate as follows:

- Indicator light OFF = Automated system closed
- Indicator light ON = Rod open
- Indicator light flashing rapidly = Rod opening
- Indicator light flashing slowly = Rod closing



 **The max. load that can be applied to these contacts cannot exceed 5 W.**

 **When connecting the lamp, please observe the polarity of the terminals - terminal 13 is the positive pole.**

5.3.3. ROD LIGHTS (FIG. 4)

Terminals "14 & 15". Output 24 V= max. 20 W. Connect, to these terminals, the luminous strip that must be positioned on the rod (sold as a separate part). The luminous strip on the rod remarkably increases rod visibility. The behaviour of the strip is controlled by parameter "G", see paragraph 9.

 *During viewing/programming phase of the operating parameters, the light on the rod flashes rapidly.*

 **These terminals must only be used for the application of the luminous strip. Do not connect other devices.**


 **When connecting the lamp, please observe the polarity of the terminals - terminal 14 is the positive pole.**

5.4. CN4 TERMINAL BOARD

5.4.1. SYNCHRONISATION OF OPPOSING BARRIERS (FIG. 7)

Terminals "16 & 22". These terminals are used to synchronise the movement of two barriers in applications with opposing barriers. These terminals must be connected to the respective terminals on the second board, that is the terminals of both boards must be jumper connected. Beside connecting these terminals, all pulse generators and safety devices must be connected in parallel. The complete wiring diagram is shown in figure 7.

 **There is no need to connect terminal 23, fototest, in parallel.**


 **The function parameters, including the operating logic and the pause time, of both control units must be set in the same way.**

 **The programming procedure must be carried out on both control units.**

 **For applications with opposing barriers you are recommended to use an external receiver connected in parallel on both boards for the operation with radio controls.**

5.4.2. SAFETY DEVICES FSW (FIG.6)


Terminals "17 & 22". NC contact. Connect, to these terminals, any obstacle detection device (i.e. photocells) which, by opening the contact, commands the movement of the automated system. Use parameter "L", see paragraph 9, to select the way in which the safety devices must operate: active only at closing or active both at closing and at opening. The status of this input is signalled by LED FSW.

 *If no safety devices are connected, this input must be jumper-connected, LED FSW must be ON.*

 *Several safety devices must be connected in series.*

5.4.3. STOP (FIG. 5)

Terminals "18 & 22". NC contact. Connect, to this terminal, any pulse generator (i.e. push-button, key selector) which, by opening the contact, commands immediate stop of the automated system, and deactivation of any automatic functions. After a STOP pulse, you need to send an OPEN pulse to resume normal operation of the automated system. The status of this input is signalled by LED STOP.

 **The safety device of the door (NO contact always active) is already connected to these terminals. Do not remove the connection.**

 *Several STOP devices must be connected in series.*

5.4.4. OPEN / CLOSE (FIG. 5)

Terminals "19 & 22". NO contact. Connect, to these terminals, any pulse generator (i.e. push-button, key selector) which, by closing the contact, commands opening or closing of the automated system. The behaviour of this input is controlled by parameter "d", see paragraph 9. The status of this input is signalled by LED OP/CL.

 *Several pulse generators with this function must be connected in parallel.*


5.4.5. OPEN (FIG. 5)

Terminals "20 & 22". NO contact. Connect, to these terminals, any pulse generator (i.e. push-button, key selector) which, by closing the contact, commands an opening of the beam. This input only controls the opening of the beam, therefore it has no effect when the rod is open. The status of this input is signalled by LED OPEN.

 *Several pulse generators with this function must be connected in parallel.*

5.4.6. CLOSE (FIG. 5)


Terminals "21 & 22". NO contact. Connect, to these terminals, any pulse generator (i.e. push-button, key selector) which, by closing the contact, commands a closing of the beam. This input only commands the closing of the beam, therefore it has no effect when the rod is closed. The status of this input is signalled by LED CLOSE.

 *Several pulse generators with this function must be connected in parallel.*




5.4.7. FOTOTEST (Fig. 6)

Terminal "23". Connect, to this terminal, the negative pole of the power supply for the photocell transmitters. This contact is used by the **FOTOTEST** function to check the correct operation of the photocells before every opening movement of the automated system. This function can be activated or disabled by adjusting parameter "5", see paragraph 9.

 **This input must only be used for the negative pole of the photocell transmitters. Do not connect other devices.**

5.4.8. POWER SUPPLY TO ACCESSORIES (Fig. 5)

Terminals "22 & 24". Output 24 V $\overline{=}$ max. 500 mA. Use this output for the power supply to external accessories with 24 V $\overline{=}$.

 **The maximum load that can be applied to this output is 500 mA.**


 **Observe the polarity of the power supply - terminal 24 is the positive pole.**


5.5. CN5 TERMINAL BOARD

5.5.1. BATTERIES

Terminals "25 & 26". Connect, to these terminals, the wires coming from any buffer batteries (not supplied). Buffer batteries enable to compensate for any power supply cut. During normal operation, the control unit keeps the batteries charged thanks to the built-in battery-charger circuit. The batteries operate whenever the power supply is interrupted.

Use parameter "J", see paragraph 9, to select the behaviour of the automated system when mains power supply is cut.

 **The number of cycles that can be performed when the automated system is supplied by buffer batteries directly depends on the battery charge, on the time elapsed from the interruption of the mains power supply, on the type and number of accessories connected, on the rod type and on the accessories fitted to it.**

 **Refer to the instructions of the automated system for the type of batteries that can be used.**

 **When connecting the batteries, observe the terminal polarity - terminal 26 is the positive pole.**

5.6. JP2 CONNECTOR

3-pin rapid connector. This connector is used to connect the receiving module with 433 or 868 Mhz. Fit the receiving module observing the direction indicated by its compartment (Fig. 8)

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

5.7. JP3 CONNECTOR

The JP3 rapid connector is used to connect the encoder for the motor control.


During closing phase

If an obstacle is detected during the closing phase of the automated system, the encoder operates thus reversing movement up to the complete opening of the automated system, without disabling any automatic closure.

If it operates three consecutive times, after having reached the opening position, the automated system changes to **STOP**, and disables any automatic re-closure. To resume normal operation, send an **OPEN** or a **CLOSE** command.

During opening phase


If an obstacle is detected during the opening phase of the automated system, the encoder operates thus stopping the movement of the automated system and performing a brief reversal (approx. 10°), then the control unit changes to **STOP**, disabling any automatic re-closure. To resume the normal memory-stored operation, send an **OPEN** or a **CLOSE** command.

 **The connection of the encoder is absolutely necessary for a correct operation of the control unit.**

6. MEMORY STORING THE RADIO CODE


The control unit has an integrated two-channel decoding system. This system makes it possible to memory store – via the receiving module – both the **OPEN** and the **OPEN/CLOSE** 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 8.3), replace the receiving module and repeat the programming stages.**

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

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

 **Before proceeding with memorising the radio controls, we recommend you follow the deletion procedure, as described in par. 6.3.**

6.1. Memory storing the 868 MHz radio controls

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

1. On the radio control simultaneously press and hold down push-buttons **P1** and **P2** (see the instructions of the radio control).
2. After about one second, the LED of the radio control begins to flash.
3. Release both push-buttons.
4. Press and hold down push-button **OP** or **O/C** on the board to memory store, respectively the **OPEN** or **OPEN/CLOSE** channel. The




relevant LED begins to flash.

5. Simultaneously press the push-button of the radio control with which you wish to associate the selected command.
6. Check if the LED relating to the command being memory stored (**DL7** for the **OPEN** channel or **DL6** for the **OPEN/CLOSE** channel) lights up with steady beam for about two seconds to confirm correct memory storage.
7. To finish programming, press twice, in brief 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.**

8. To memory store the other channel, repeat the whole 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, observing the following procedure:*

- On the memory-stored radio control, simultaneously press and hold down push-buttons **P1** and **P2** (see instructions of the radio control).
- The LED of the radio control 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 LED of the radio control 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 brief 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.**

6.2. Memory storing the 433 MHz radio controls

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

1. On the control unit, press the push-button of the channel you wish to memory store, **OP** for the **OPEN** channel or **O/C** for the **OPEN/CLOSE** channel.
2. The relevant LED on the control unit begins to flash – release the push-button.
3. On the radio control, press the push-button with which you wish to associate the selected channel.
4. 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.
5. During this stage further radio controls can be stored in the memory.
6. After about 10 seconds the control unit automatically exits the learning phase.
7. To add other radio controls or to memory store the second channel, repeat the operations from point 1

6.2.1. REMOTE MEMORY STORAGE OF 433 MHZ RADIO CONTROLS


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

1. Get a radio control already memory stored on one of the 2 channels.
2. Step near the automated system.
3. Simultaneously press and hold down push-buttons **P1** and **P2** (see instructions of the radio control) for about 5 seconds.
4. 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 phase for the selected channel is activated on the control unit.
5. Within 5 seconds, press on the new radio control, the push-button you wish to associate with the selected channel.
6. 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.
7. During these 5 seconds, other radio controls can be memory stored on the control unit, as ever associated with the activated channel.
8. When 5 seconds have elapsed from memory-storage of the last radio control, the control unit automatically exits the learning stage.
9. To check if the radio control was correctly memory stored, wait for 5 seconds after sending the code.

6.3. Deleting the radio codes

To delete **all** the radio control codes stored in the memory, perform the following procedure:

1. Press and hold down one of the two push-buttons **OP** or **O/C**.
2. The relevant LED begins to flash.
3. After five seconds, the LED starts to flash at high speed.
4. After other five seconds both LEDs, **DL6** and **DL7** light up on steady beam.
5. Release the push-button.

 **This operation is irreversible, and all radio controls associated with both the **OPEN** and the **OPEN/CLOSE** command will be deleted.**





7. CONTROL LEDs

There are 9 control LEDs on the control unit displaying the input status continuously. The meaning of the LEDs is shown on the table below.

LED	ON	OFF
FCA - Opening travel limit FCA	Travel limit not engaged	Travel limit engaged
FCC - Closing travel limit FCC	Travel limit not engaged	Travel limit engaged
FSW - Photocells input	Safety devices not engaged	Safety devices engaged
STOP - STOP command input	Command not active	Command active
OP/CL - Open/Close command input	Command active	Command not active
OPEN - Open command input	Command active	Command not active
CLOSE - Close command input	Command active	Command not active
DL6 - Open/Close command radio input	Radio input active	Radio input not active
DL7 - Open command radio input	Radio input active	Radio input not active

 The bold print indicates the condition of the LEDs with the automated system closed at rest.

 The **STOP** LED must always be ON; it turns off when the command is activated.

 If safety devices are not connected, make a connection between terminals 17 & 22. **FSW** LED must always be ON; it turns off when the safety devices are engaged.

8. OPERATION OF THE DISPLAY

The control unit has a back-lit large display enabling you to view and program the operating parameters of the automated system. Furthermore, it always shows the status of the automated system during normal operation. The following table shows all indications on the display during normal operation:

Displayed value	Status of the automated system / description
- -	Automated system closed at rest
□ P	Automated system opening or open
⏸ c	Automated system open in pause (only with the selected automatic re-closure)
⏸ L	Automated system closing
R S	Service request: it is shown only if the function was enabled, see paragraph 9 and if the number of set cycles has been reached.
P r	Control unit in work cycle learning phase

9. OPERATING PARAMETERS

The operating parameters and their programming are shown on the display of the control unit with two characters: a letter, lower case or upper case, and a number. The letter indicates the operation of the operating parameter you are modifying, whereas the number indicates the set value. For example, if you read "b2" on the display, this means you are modifying parameter "b", motor power and obstacle detection sensitivity, and that it is currently set on "2".

To access the programming phase of the operating parameters, at first start-up, observe the following procedure:

1. Power up the system and check that all LEDs in the control unit are in the situation indicated in paragraph 7.
2. Make sure that the display shows value "- -", automated system at rest.
3. Press and hold down push-button **P1** until the name of the first parameter appears on the display with the relevant value.
4. Press push-button **P2** to modify the set value.
5. To move on the next parameter, press push-button **P1**.
6. When 60 seconds have elapsed without any push-button being pressed, the control unit automatically exits the adjustment mode and any modifications are memory stored. You can manually exit the adjustment phase by scrolling all the parameters with push-button **P1**. When the display shows value "- -" you have returned to normal operation.

The following table summarises all settable operating parameters and the assignable values:



Display		Description
Parameter	Value	
Motor power / encoder sensitivity: This function controls the encoder sensitivity when detecting an obstacle. The encoder sensitivity is inversely proportional to motor power.		
b	1	High encoder sensitivity, minimum motor power
	2	Medium-high encoder sensitivity, medium-low motor power
	3	Medium-low encoder sensitivity, medium-high motor power
	4	Low encoder sensitivity, high motor power
Automatic re-closure: This parameter is used to enable or disable the automatic re-closure of the barrier and to select the relevant pause time.		
c	0	Automatic re-closure disabled
	1	Automatic closure enabled with a 5-second pause
	2	Automatic closure enabled with a 10-second pause
	3	Automatic closure enabled with a 20-second pause
	4	Automatic closure enabled with a 40-second pause
	5	Automatic closure enabled with a 60-second pause
	6	Automatic closure enabled with a 120-second pause
7	Automatic closure enabled with a 240-second pause	
Function of the OPEN/CLOSE command: This function determines the behaviour of the OPEN/CLOSE command.		
d	0	Opens/Closes/Opens/.....
	1	Opens/Stop/Closes/Stop/Opens/.....
Condo function: This parameter activates the condo function. If this function is activated, during the opening phase, the control unit ignores any OPEN or OPEN/CLOSE commands.		
E	0	Condo function disabled
	1	Condo function activated
Rod light: This parameter is used to select the operating type of the luminous strip on the rod, if any.		
G	0	Rod light ON with open or closed rod, it flashes when the rod is moving.
	1	Rod light OFF with open or closed rod, it flashes when the rod is moving
Slow-down percentage: This parameter is used to select the length of the decelerated section before the travel limit operates, on four pre-set levels.		
H	1	Short slow-down
	2	Medium-short slow-down
	3	Medium-long slow-down
	4	Long slow-down (Compulsory selection when using two "strong" type springs)
Slow motion speeds: With this parameter you can select the speed of the bar during the downturn.		
I	0	Low Speed
	1	High Speed



Display		Description
Parameter	Value	
Behaviour in the event of a power cut: This parameter is used to select the behaviour of the automated system when mains power is cut.		
D	<input type="checkbox"/>	Without battery kit: If mains power fails, the automated system remains in the position it is in that moment. When the mains power is present again, the control unit automatically commands, after two seconds, a beam re-closure and prepares for normal operation. The first opening movement performed by the automated system occurs at decelerated speed.
		Without battery kit: If mains power fails, the automated system remains in the position it is in that moment. When mains power is present again, send an OPEN or OPEN/CLOSE pulse to resume normal operation of the automated system. When mains power is present again, the first two (closing and opening) movements performed by the automated system occur at decelerated speed. The automated system resumes normal operation only after having carried out an opening movement at decelerated speed.
	<input type="checkbox"/>	With battery kit: In the event of a mains power failure, the automated system continues its normal operation. At the end of every opening movement, the flashing lamp (external flashing lamp or the luminous strip on the upright sides) flashes twice in succession with a 3-second interval for a max. time of 15 seconds indicating thus that the automated system is only powered by batteries. The battery charge level is constantly monitored by the control unit: when the batteries are almost flat, the control unit stops the beam in open position. It resumes normal operation when mains power is present again. When the batteries are completely flat, the automated system behaves as if buffer batteries were not connected.
		With battery kit: If mains power fails, the control unit automatically commands an opening movement of the automated system and stops the rod in opening position disabling all commands. When the mains power is present again, if automatic re-closure was selected, the control unit automatically commands the beam re-closure and sets for normal operation. If the automatic re-closure was not selected, when the mains power is present again, the automated system waits for a CLOSE or OPEN/CLOSE command to resume normal operation. When batteries are flat, the automated system behaves as buffer batteries have not been connected.
Immediate closure: If this function is activated, when the automated system is open in pause and the photocells detect a transit, the photocells command an automatic re-closure of the automated system without waiting for the pause time to elapse [Ⓞ] .		
O	<input type="checkbox"/>	Immediate closure disabled
		Immediate closure activated
Immediate closure/Timer: This function is used to select the immediate re-closure of the automated system or stop with the OPEN/CLOSE input [Ⓞ] .		
P	<input type="checkbox"/>	Immediate closure: When the automated system is open in pause, an impulse of the OPEN/CLOSE command causes the automated system to start the closing phase without waiting for the pause time to elapse.
		Timer function: When the automated system is open in pause, an impulse of the OPEN/CLOSE input causes the control unit to resume the pause time count. If the OPEN/CLOSE command is held down, the pause time count stops. When the command is released, the control unit resumes the pause time count and then closes.
Fototest: If this function is activated, the control unit performs a check of the correct operation of the connected safety devices before each opening movement [Ⓞ] .		
S	<input type="checkbox"/>	Fototest function disabled
		Fototest function activated
Safety devices: This function is used to select the type of activation of the connected safety devices: active only during the closing movement of the automated system or active during opening, too.		
4	<input type="checkbox"/>	Safety devices active only during the closing movement of the automated system
		Safety devices active during the closing and opening phase of the automated system



Display		Description
Parameter	Value	
Service request: This function is used to activate a maintenance request after a selected number of cycles. When the set number of cycles has been reached, the flashing lamp or the luminous strips on the upright sides flash rapidly for about five seconds and the value "RS" is shown on the control unit display. To reset the number of cycles operate as shown in paragraph 9.1 [®] .		
U	□	Service request disabled
		Service request after 20,000 cycles
	2	Service request after 40,000 cycles
	3	Service request after 60,000 cycles
	4	Service request after 80,000 cycles
	5	Service request after 100,000 cycles
	6	Service request after 120,000 cycles
	7	Service request after 140,000 cycles
	8	Service request after 160,000 cycles
9	Service request after 180,000 cycles	
Cycle counter: The number of cycles, in thousands, performed by the automated system is displayed. For example, if value "01" is shown on display, this means that the automated system has performed 10,000 cycles, if value "12" is shown, the automated system has performed 120,000 cycles [®] .		
□□	Shows the number of cycles performed	
<p>① The immediate closure function can be activated only if the automatic re-closure of the automated system has been selected and with photocells active only at closing, parameter "4 □".</p> <p>② The immediate closure/Timer function can be activated only if the automatic re-closure of the automated system has been selected.</p> <p>③ For the operation of the fototest function, connect the negative pole of the power supply of the photocell transmitters to terminal "23".</p> <p>④ When the set number of cycles has been reached, normal operation of the automated system is not inhibited.</p> <p>⑤ The counter can count up to 180,000 cycles max.; value "18" is displayed. Afterwards, the count stops.</p>		



The conditions shown on the table refer to default values of the control unit. We recommend you to make a note of the modifications carried out in order to restore them if the control unit is replaced.



You can access and modify the operating parameters only when the automated system is closed and at rest. The display must indicate value "--".



Every time you modify the operating parameters, it is advisable to perform a new programming operation of the control unit.

9.1. Resetting the cycle number for service request

When the set number of cycles has been reached, you need to reset the counter manually, performing the following procedure:

1. Access the adjustment phase of the operating parameters, see paragraph 9.
2. Scroll all the parameters until the number of cycles is displayed.
3. Press and hold down push-buttons **P1** and **P2** for about 10 seconds.
4. When value "□□" appears on the display, this means that the deletion has been performed.
5. Press again push-button **P1** or wait 60 seconds to return to normal operation of the automated system.

10. PROGRAMMING

At first start-up of the control unit, you need to perform a programming procedure to memory store the required operating cycle. Observe the following instructions for the programming procedure:

1. Move the rod up to half the required opening
2. Power up the system and press push-button **P1** until the first parameter is shown.
3. Send an OPEN/CLOSE pulse using any device connected to this input, the control unit enters the programming mode and value "P-" appears on the display.
4. The automated system begins to close until it reaches the closing mechanical stop point.



If the first movement of the automated system is an opening manoeuvre, stop the beam movement by pressing the **RESET** push-button. Cut power to the system, check the sequence of the cables connected to terminals 4 & 5, according to the instructions given in paragraph 5.2.1., and resume from point 1.

5. When the closing position has been reached, the automated system begins an opening phase until it reaches the opening mechanical stop point, without any deceleration.
6. When the opening mechanical stop point has been reached, the control unit stays at rest waiting for an OPEN/CLOSE pulse to start the closing movement. The programming phase is thus completed.



As long as the programming phase is in progress, the control unit shows value "P-".



11. PROTECTIVE FUSES

6 protective fuses are located on the control unit: 4 of which are self-resettable. The following table summarises the value of each fuse and the part of the protected circuit:

Fuse	Protection	Fuse	Protection
F1=T3.15A 250V 5x20	Primary power supply	RV2=350mA Self-resetting	Power supply to accessories
F5=T10A 250V 5x20	Motor power supply	F2=700mA Self-resetting	Flashing lamp output
RV1=750mA Self-resetting	Power supply to battery-charger circuit	F3=700mA Self-resetting	Indicator light output
F4=700mA Self-resetting	Rod light output		

12. DISPOSAL



The trash container symbol shown on the product label, on the product or in the instructions indicates that the product, at the end of its life, must be disposed of separately from other waste products.

The user must therefore bring the equipment that has reached the end of its life to an authorised electrical and electronic waste disposal centre, or return it to the dealer when new equivalent equipment is purchased, on a one-to-one basis.

Proper separate collection for the recycling, treatment or compatible environmental disposal of the equipment no longer in use contributes to avoiding negative effects on the environment and health and favours reuse and/or recycling of the materials with which the equipment is made.

Unlawful disposal of the product by the user is subject to fines provided for by the regulations in force.



13. OPERATING LOGICS

Logic "A" Automatic C=from 1 to 7 d=0 E=0

Inputs

Automated system status	Inputs				Safety devices	
	Open/Close	Open	Close	Stop	Closing safety devices y=0	Opening and closing safety devices y=1
Closed	Opens and re-closes after pause time	Opens and re-closes after pause time	No effect	No effect (if active, it disables all commands)	No effect	Disables Open commands
	P=0 Closes immediately	P=0 No effect	P=0 Closes immediately	P=0 Stops operation	P=0, o=0 On release, re-closes after 5 seconds, after pause time. P=1, o=0 On release, re-closes after 5 seconds when pause time has elapsed. When the safety device is engaged, if it receives a CLOSE or OP/CL command, it memory-stores the command and recharges pause time.	P=0 On release, re-closes after 5 seconds, after pause time. P=1 On release, re-closes after 5 seconds when pause time has elapsed. When the safety device is engaged, if it receives a CLOSE or OP/CL command, it memory-stores the command and recharges pause time.
Open in pause	P=1 Recharges pause time, if pressed stops operation of the automated system, on release re-closes after pause time.	P=1 Recharges pause time, if pressed stops operation of the automated system, on release re-closes after pause time.	P=1 Recharges pause time, if pressed stops operation of the automated system, on release re-closes after pause time.	P=1 Stops operation	P=0, o=1 Re-closes immediately on release P=1, o=1 Re-closes immediately on release	P=1 On release, re-closes after 5 seconds when pause time has elapsed. When the safety device is engaged, if it receives a CLOSE or OP/CL command, it memory-stores the command and recharges pause time.
	Reverses movement to opening	Reverses movement to opening	No effect	Stops operation	Reverses movement to opening	Stops operation and reverses on release
At closure	Reverses movement to closure	No effect	Reverses to closure	Stops operation	No effect	Stops operation and resumes on release



Logic "AP" Step-by-step automatic C=from 1 to 7 d=1 E=0

Inputs

Automated system status	Inputs			Safety devices		
	Open/Close	Open	Close	Stop	Closing safety devices y=0	Opening and closing safety devices y=1
Closed	Opens and re-closes after pause time	Opens and re-closes after pause time	No effect	No effect (if active, it disables all commands)	No effect	Disables Open commands
	Closes immediately	P=0 No effect	P=0 Closes immediately	P=0 Stops operation	P=0, o=0 On release, re-closes after 5 seconds, after pause time. P=1, o=0 On release, re-closes after 5 seconds when pause time has elapsed. When the safety device is engaged, it receives a CLOSE or OP/CL command, it memory-stores the command and recharges pause time.	P=0 On release, re-closes after 5 seconds, after pause time. P=1 On release, re-closes after 5 seconds when pause time has elapsed. When the safety device is engaged, it receives a CLOSE or OP/CL command, it memory-stores the command and recharges pause time.
Open in pause	P=1 Recharges pause time, if held down stops operation of the automated system, on release re-closes after pause time	P=1 Recharges pause time, if held down stops operation of the automated system, on release re-closes when pause time has elapsed.	P=1 Recharges pause time, if held down stops operation of the automated system, on release re-closes when pause time has elapsed.	P=1 Stops operation		
	Stops operation, opens on next pulse.	Reverses movement to opening	No effect	Stops operation	P=0, o=1 Re-closes immediately on release P=1, o=1 Re-closes immediately on release	Stops operation and reverses on release
At opening	Stops operation, closes on next pulse	No effect	Reverses movement to closure	Stops operation	No effect	Stops operation and resumes on release



Logic "E" Manual C=0 d=0 E=0

Automated system status	Inputs				Safety devices	
	Open/Close	Open	Close	Stop	y=0 Closing safety devices	y=1 Opening and closing safety devices
	Closed	Opens the rod	Opens the rod	No effect	No effect (if active, it disables all commands)	No effect
Open	Closes the rod	No effect	Closes the rod	No effect (if active, it disables all commands)	Disables commands	Disables commands
At closure	Reverses movement to opening	Reverses movement to opening	No effect	Stops operation	Reverses movement to opening	Stops operation and reverses on release
At opening	Reverses movement to closure	No effect	Reverses movement to closure	Stops operation	No effect	Stops operation and resumes on release

Logic "EP" Step-by-step manual C=0 d=1 E=0

Automated system status	Inputs				Safety devices	
	Open/Close	Open	Close	Stop	y=0 Closing safety devices	y=1 Opening and closing safety devices
	Closed	Opens the rod	Opens the rod	No effect	No effect (if active, it disables all commands)	No effect
Open	Closes the rod	No effect	Closes the rod	No effect (if active, it disables all commands)	Disables commands	Disables commands
At closure	Stops operation, opens on next pulse.	Reverses movement to opening	No effect	Stops operation	Reverses movement to opening	Stops operation and reverses on release
At opening	Stops operation, closes on next pulse	No effect	Reverses movement to closure	Stops operation	No effect	Stops operation and resumes on release



Logic "D" Condo C=da 1 a 7 d=0 E=1						
Automated system status	Inputs			Safety devices		
	Open/Close	Open	Close	Stop	Closing safety devices y=0	Opening and closing safety devices y=1
Closed	Opens and re-closes after pause time P=0 Closes immediately	Opens and re-closes after pause time P=0 No effect	No effect P=0 Closes immediately	No effect (if active, it disables all commands) P=0 Stops operation	No effect P=0, 0=0 On release, re-closes after 5 seconds, after pause time. P=1, 0=0 On release, re-closes after 5 seconds when pause time has elapsed. When the safety device is engaged, if it receives a CLOSE or OP/CL command, it memory-stores the command and recharges pause time.	Disables Open commands P=0 On release, re-closes after 5 seconds, after pause time. P=1 On release, re-closes after 5 seconds when pause time has elapsed. When the safety device is engaged, if it receives a CLOSE or OP/CL command, it memory-stores the command and recharges pause time.
Open in pause	P=1 Recharges pause time, if pressed stops operation of the automated system, on release re-closes after pause time.	P=1 Recharges pause time, if pressed stops operation of the automated system, on release re-closes after pause time.	P=1 Recharges pause time, if pressed stops operation of the automated system, on release re-closes after pause time.	Stops operation P=1	P=0, 0=1 Re-closes immediately on release P=1, 0=1 Re-closes immediately on release	Stops operation and reverses on release Stops operation and resumes on release
At closure	Reverses movement to opening	Reverses movement to opening	No effect	Stops operation	Reverses movement to opening	Stops operation and reverses on release
At opening	No effect	No effect	No effect	Stops operation	No effect	Stops operation and resumes on release



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